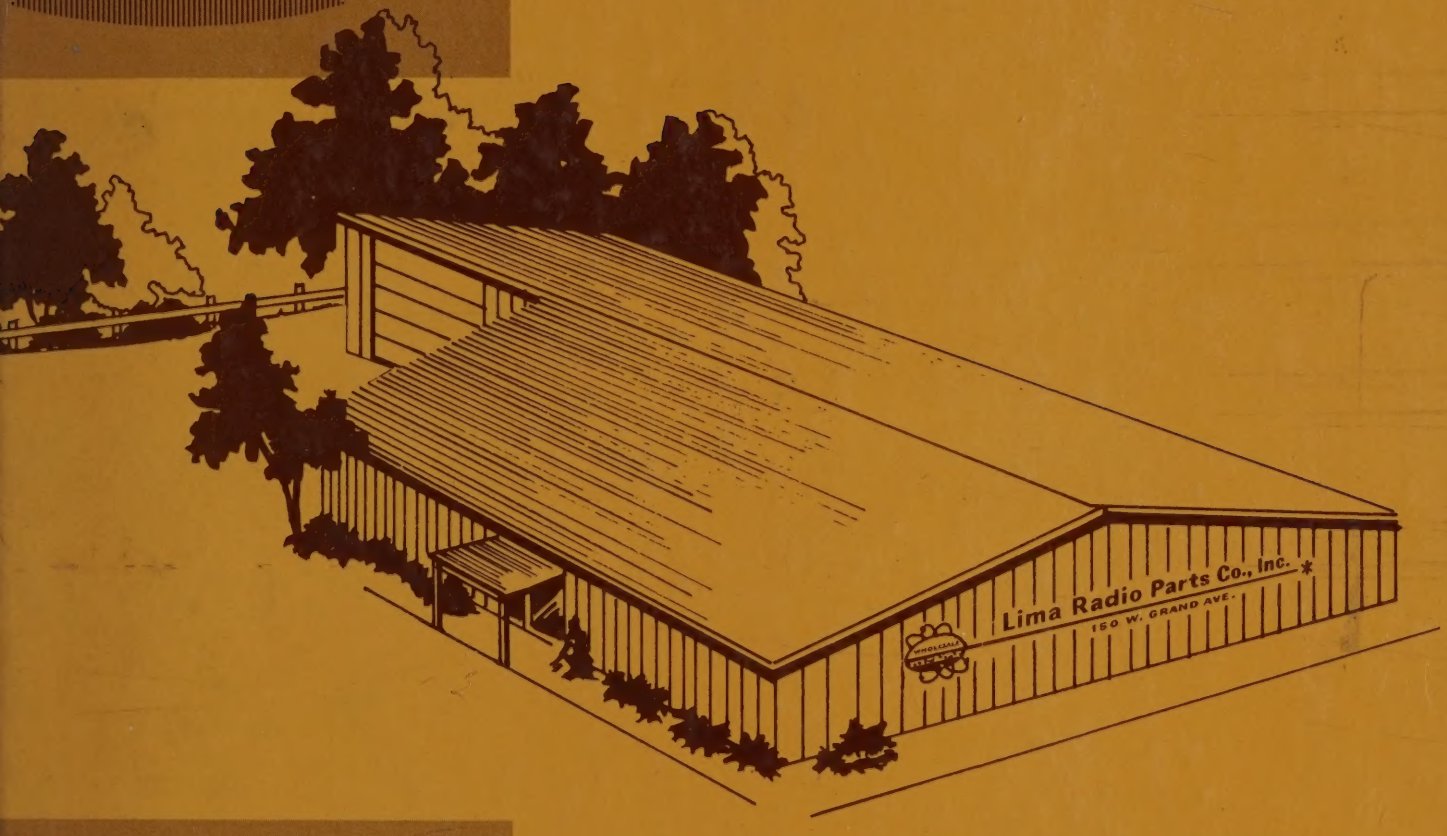
THE '72
RADIO-ELECTRONIC
MASTER
A United Technical Publication
36th EDITION



WHOLESALE
ELECTRONICS

Lima Radio Parts Co., Inc.

150 West Grand Avenue
Lima, Ohio 45801
PHONE (419) 228-1220



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

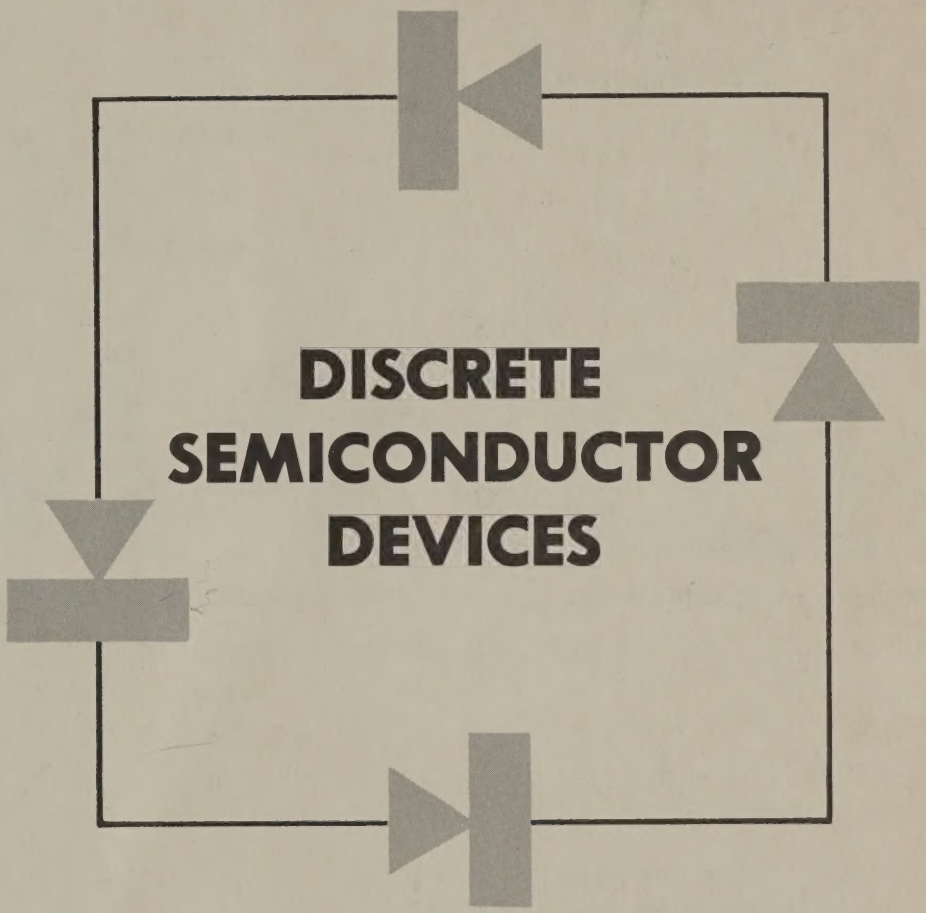
It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

NEW!

1972 JEDEC DIRECTORY



DISCRETE SEMICONDUCTOR DEVICES

■ More than 12,000 types of semiconductors: transistors, diodes, zeners, Darlingtons, FET's, phototransistors, rectifiers, SCR's, tetrodes, unijunctions, and light-sensitive devices . . . JAN and MIL Types.

■ Cross-references JEDEC type numbers to leading manufacturers.

See Yellow Section preceding Section 4800—following page 960



THE RADIO-ELECTRONIC MASTER

OFFICIAL Catalog of Electronic Parts, Instruments and Equipment sold through distributors

Descriptions / Specifications / Illustrations / Prices

UNITED TECHNICAL PUBLICATIONS
Division of Cox Broadcasting Corporation
645 Stewart Avenue, Garden City, N.Y. 11530
(516) 248-9700

Other Publications and Services:

EEM-Electronic Engineers Master

Electronic Products Magazine
Office Products News
Industrial Machinery News
Floor Covering Weekly

United Pricing Reports
United Cost Service
Audio-File
National Auto Research Publications
Retirement Advisors

Amphoto Books



Copyright United Technical Publications, Inc., 1971

FOREWORD

The RADIO-ELECTRONIC MASTER is the Official Buying Guide and Reference Book for electronic parts, instruments and equipment sold by distributors.

Prices are furnished for information only — they are not offered as quotations.

WHERE LIST PRICES ARE SHOWN, TRADE DISCOUNTS APPLY IN MOST CASES . . . PHONE OR WRITE YOUR DISTRIBUTOR FOR LATEST PRICES AND DELIVERY.

Participating manufacturers reserve the right to make changes in specifications, to change prices or withdraw items without notice.

While every precaution has been taken to insure accuracy in content, the publisher cannot be responsible for manufacturers' claims and representations; nor can any guarantee be made against the possibility of error or omission.

When ordering, please mention The MASTER, 36th EDITION, also the page number on which the item appears and specific catalog or code number, if any. This will help to expedite the filling of your order and lessen the chance of error.

important

While most distributors maintain a large and varied stock, they do not represent that they necessarily stock all manufacturers' products cataloged in this MASTER.



No part of this book may be reproduced without express permission of the publishers.
Library of Congress Catalog Card No. 39-15586
Printed in U.S.A.

GUIDE TO PRODUCT SECTIONS

As publishers of The Radio-Electronic MASTER, we take great pride in the fact that this publication has reflected the progress and growth of the electronics industry for more than 36 years.

This MASTER catalog is divided into the **32 Product Sections** described below. These Product Sections broadly categorize related electronic products and services so that you can quickly compare similar items within each section. However, to locate specific items, always refer to the General Index on the following pages. NOTE: Catalog pages are arranged alphabetically by manufacturers' names within each section wherever possible.

Sec. 1200 Pages 19 thru 23	Antennas, Towers & Accessories
Sec. 1300 Pages 24 thru 53	Audio: High Fidelity Tuners, Amplifiers, Broadcast & Sound Systems, Intercoms, Megaphones, Kits
Sec. 1320 Pages 54 thru 93	Audio: Speakers & Systems, Enclosures, Microphones, Headphones, Accessories
Sec. 1340 Pages 94 thru 105	Audio: Recording & Playback Equipment, Magnetic Tape, Accessories
Sec. 1400 Pages 106 thru 164	Cabinets, Chassis, Racks, Containers, etc.
Sec. 1500 Pages 165 thru 234	Capacitors (All Types)
Sec. 1600 Pages 235 thru 242	Chemicals, Adhesives, Cleaners, Coatings, Paints, Varnishes, Lubricants, etc.
Sec. 1700 Pages 244 thru 258	Circuit Assemblies, Circuit Boards, Breadboards & Breadboarding Kits
Sec. 1800 Pages 259 thru 276	Coils (Inductors, Toroids), Assemblies, Forms
Sec. 1900 Pages 277 thru 292	Communications Equipment (Car Radios, Citizen's Band, Amateur)
Sec. 2100 Pages 293 thru 531	Connectors (Electrical): Clips, Plugs, Jacks, Receptacles, Sockets, Terminals, Terminal Boards
Sec. 2200 Pages 532 thru 544	Controls, Timers, Alarms, Counters, Control Components & Systems
Sec. 2300 Page 545	Crystals & Tuning Forks, Mechanical Resonators
Sec. 2400 Pages 546 thru 567	Panel Components (Including Lighting)
Sec. 2600 Pages 568, 569	Fans, Blowers, Cooling Equipment
Sec. 2700 Pages 570-573	Filters — General Purpose
Sec. 2800 Pages 574 thru 588	Hardware (Non-Current Carrying): Bolts, Clamps, Fasteners, Nuts, Screws, Washers, etc.
Sec. 2900 Pages 589 thru 674	Instruments (Electrical Measuring & Test)
Sec. 3100 Pages 675 thru 679	Insulators, Insulating Material & Parts
Sec. 3500 Pages 681 thru 684	Motors, Rotating Components, Accessories
Sec. 3700 Pages 685 thru 689	Photoelectric Equipment, Components & Controls
Sec. 4000 Pages 690 thru 793	Power Supplies, Converters, Inverters, Vibrators, Batteries, Flashlights, etc.
Sec. 4200 Pages 794, 795	Publications: Textbooks, Reference Handbooks, etc.
Sec. 4500 Pages 796 thru 918	Relays, Solenoids
Sec. 4700 Pages 919 thru 949	Resistors, Fixed
Sec. 4750 Pages 950 thru 960	Resistors, Variable (Potentiometers, Rheostats)
Sec. 4800 Pages 961 thru 992	Semiconductor Devices (Diodes, Transistors), Rectifiers (Non-Tube Types), Heat Dissipators for Semiconductors
Sec. 5100 Pages 994 thru 1055	Switches, Circuit Breakers, Fuses
Sec. 5400 Pages 1056 thru 1095	Tools (Hand & Power), Soldering Equipment
Sec. 5600 Pages 1097 thru 1238	Transformers, Chokes, Reactors, etc.
Sec. 5700 Pages 1239 thru 1313	Tubes, Tube Parts, Shields, Inserts, etc.
Sec. 6000 Pages 1314 thru 1437	Wire, Cable, Lacing Cords, Cord Reels, Plastic Tubing, Harnesses & Harnessing Supplies, etc.

1972 JEDEC Directory of Discrete Semiconductor Devices — Yellow pages following p. 960

GENERAL INDEX

A

Page

ADC PRODUCTS 293-297
AKG MICROPHONES (see North American P. A. Ilips)
AMF POTTER & BRUMFIELD 887-913
ATR ELECTRONICS, INC. 690-693
AVA ELECTRONICS & MACHINE CORP. 325
AVX AEROVOX CORPORATION 165
Acc-Log Meters 653
Acousta-Master P.A. Amplifiers 26
Acoustifoam Microphone Windscreens 68
Acrasil Resistors 948
Add-A-Rack Cabinets 112
Add-A-Tester Adapters 651
Adhesives 237, 239-241
Adjustoroid Variable Toroids 270
Admiral Headsets 60
Aero-Kleen Oil Spray 240
AEROTRON, INC., AMECO-GONSET DIV. 277
AKRO-MILS, DIV. OF MYERS INDUSTRIES 106-108
Al-Cab Cabinets 131
ALCO ELECTRONIC PRODUCTS, INC.
- Interphone & Speaker Systems 24
- Display Devices, Pilot Lights, Knobs 546-548
- Switches 998-1000

Alpha-Fit Shrinkable Tubing 1337
Alarms & Alarm Systems 52, 532, 688, 689
Alligator Clips (See Clips, Alligator)
ALPHA WIRE & CABLES
- Chassis 109
- Wire & Cable 1314-1344

Aluminax Cables 1437
AMECO DIV. OF AEROTRON, INC. 277
AMERICAN COMMUNICATIONS, DIV. OF TOTEL SYSTEMS CORP. 52, 53
AMERICAN RADIO RELAY LEAGUE, INC. 794
AMERICAN ZETTLER, INC. 799-802
Amp-Clamp AC Ammeter Adapter 651
AMPEREX ELECTRONIC CORP.
- Speakers 55
- Tubes 1239-1247

AMPERITE CO., INC. 796-797
AMPHENOL DISTRIBUTOR DIVISION
- Connectors 298-315
- Sockets, Plugs, Receptacles & Connectors 316-323
- Switches 994-997

Amplifiers
- A-F 26-31, 38, 41, 42, 44-49, 93
- Antenna 21
- Distribution 20, 25
- Line 25
- Magnetic 1161, 1232
- Master Antenna (See Amplifiers, Distribution)
- Microphone (See Amplifiers, A-F)
- Photocell 688, 689
- Power 31, 38, 45, 46, 48, 50, 93
- Public Address (See Amplifiers, A-F)
- R-F 277
- Servo 31

AMPROBE INSTRUMENT 590-592
Anniversary Soldering Tips 1087

Page

Antennas
- Airborne 22
- Ground Plane 22
- Log-Periodic 20, 21
- Mobile 22
- Parabolic 21
- Telescopic 22, 23, 105

ARCO ELECTRONICS, INC., DIV. OF LORAL CORP. 166, 167
Arcolytic Capacitors 167
ARNOUX CORPORATION 589
Arresters, Electrical Surge 1249
ASTATIC CORPORATION 56, 57
ATLAS SOUND, DIV. OF AMERICAN TRADING & PRODUCTION CORP. 58, 59
Atom Capacitors 197, 198
Attenuators, Audio 25, 62, 77, 91, 105
Attenuators, Variable 25
Audio Equipment (See Amplifiers; Microphones; Speakers; etc.)
Audiotex Hi-Fi & Stereo Accessories 94, 95
Auto-Boost Voltage Booster 1170
Autotransformers (See Transformers, Autotransformers)
AUTOTRON, INC. 685
Avikrimp Terminals 524

B

B-Neg Drafting System 248
Baluns (See Transformers, Matching)
BARKER & WILLIAMSON, INC. 259
Bars, Shorting 418, 426, 462, 472
Baseline Timing Relays 862
Batteries
- Carbon Zinc 702
- Dry, Flashlight, Transistor, etc. 694, 695, 701-705, 782, 783
- Lead-Acid 705
- Manganese Alkaline 782, 783
- Mercury 694, 701-705
- Nickel-Alkaline 701
- Nickel-Cadmium 694, 695, 702-704, 782, 783
- Photoflash 694, 695, 702-704, 782, 783
- Silver-Cadmium 702-704
- Standard Cell 694, 695
- Storage 701, 782, 783
- Transistor (See Batteries, Dry, Flashlight, Transistor, etc.)

Bearings 280, 362, 490
Bel Chemical Fuses 925
Bells, Buzzers, Gongs, Sirens & Aural Warning Devices 532, 688, 689, 871
Belts, Drive (All Types) 94, 105
Benches, Consoles, Stools, Tables (Lab & Shop) (Also See Cabinets & Accessories, Metal) 137, 149, 522, 523
Bezels, Shielded & Unshielded 281, 284, 285, 564, 565, 632
Big Jim Lanterns 699
Big Look Elapsed Time Meters 600
Binding Posts (See Posts, Binding)
Birflon Shrinkable Tubing 1346
BIRNBACH COMPANY, INC.
- Jacks, Posts, Plugs, Etc. 326-331
- Tubing, Wire, Etc. 1346-1356

Bit-250 Transformers 1226
Bit-P Pulse Transformers 1226
Black Beauty Capacitors 208, 209
Blast Off Tape Head Cleaner 95

© United Technical Publications

Page
Blocks, Terminal 297, 345, 346, 357, 416, 515, 1417
Blowers & Fans & Accessories 112, 139, 142, 151, 568, 569
Blue Jacket Resistors 946, 947
Blue Ribbon Connectors 338
BLUM & CO., INC., JULIUS 675
Boards, Plug-In 250, 253-255
Boards, Programming 453, 1014, 1015
Boards, Terminal 252, 253, 362, 392, 393, 414, 487, 1000
BOGEN DIV. LEAR SIEGLER, INC. 26-34
Bold-Vue Panel Meters 635
Books (See Technical Books)
Booms, Stands, Holders & Accessories, Microphone 32, 33, 40, 58, 61-63, 68, 81, 88, 92, 105, 412
Boxes, Junction & Wall Plate 85, 101, 321, 325, 383, 509, 518-521
Boxes, Plug-In (See Plug-In Module Enclosures)
Boxes & Strips, Power Outlet (See Boxes & Strips, Junction & Wall Plate)
Braid, Cable & Wire Shielding 1336, 1356, 1391, 1396, 1431, 1433, 1434
Brand Five Cassettes 98
Bridges
- Capacitance 660
- Inductance 660
- Q 660
- Resistance 660
- Silicon Cell 968, 984, 992, 993

BRITISH INDUSTRIES CO.
- Garrard Turntables 96
- Multicore Solder 1077
- Wharfedale Speaker Systems 80

Brown Devil Resistors 935
BUD RADIO, INC. 110-129
Bumpers 280, 478, 579, 580, 583, 587
BURGESS BATTERY/GOULD, INC. 694, 695
Burnishers, Contact 1064, 1068, 1069
Bus Bars & Systems 1349, 1390
Bushings, Glass, Plastic, Metal, etc. 327, 360, 362, 442, 448, 478, 483, 575
Buss Fuseholders 1006
BUSSMANN MANUFACTURING DIV. 1002-1007
Button-Switch Switches 1048

C

CATV Systems (See Television Systems, Cable Antenna)
Cabinet Coolers, Blowers & Fans (See Blowers & Fans)
Cabinets & Accessories, Metal....45, 47, 51, 106-117, 119-125, 128, 129, 133, 134, 136, 137, 139, 140, 142-144, 146-149, 153-159
Cabinets, Metal Shielded 133
Cabinets, Plastic 106-108, 133
Cable
- Audio 94, 499, 511, 1322-1326, 1329, 1353-1355, 1358-1362, 1374, 1375, 1377, 1378, 1401, 1406, 1408-1411, 1413, 1414, 1421, 1422, 1425, 1429, 1430, 1436
- Battery Booster 395
- Coaxial 21, 499, 1330, 1366, 1372, 1379-1382, 1410, 1418, 1437
- Control (See Cable, Multiconductor)
- Flat, Collated (Flat or Round Conductors) 1316, 1334
- Flat, Etched 1407
- High Voltage 1316, 1334, 1372, 1380, 1391, 1403, 1404, 1407, 1420, 1428, 1431-1434
- Low-Capacitance 1330, 1375, 1413, 1423
- Microphone 44, 1326, 1363, 1364, 1376-1378, 1410, 1413, 1422
- Multiconductor 499, 1316, 1321, 1322, 1324, 1327-1329, 1334, 1351, 1355, 1358, 1362, 1365, 1373, 1374, 1376-1378, 1389, 1400-1402, 1405-1410, 1412-1414, 1421-1424, 1426-1428, 1430-1434, 1436, 1437
- Power 1409, 1411, 1412
- Retractile (See Cords, Retractile)
- Rotator, Antenna 1368, 1414
- Shielded 94, 1316, 1318, 1323, 1325, 1326, 1329, 1353-1355, 1358, 1360, 1361, 1363-1366, 1374, 1376-1378, 1380, 1383, 3189, 1401, 1402, 1410-1413, 1418-1420, 1422, 1423, 1425, 1428, 1436, 1437, 1430-1434
- Solid Dielectric 1321-1323, 1330, 1373, 1379
- TFE Insulated 1318, 1330, 1381, 1382, 1389, 1404, 1410, 1420, 1434
- TV Camera 1422
- Telephone 1375, 1408, 1411, 1413
- Transmission Line 1327, 1330, 1366, 1367, 1369, 1373, 1375, 1383, 1397, 1410, 1424
- Triaxial 1380, 1419
- Assemblies & Harnesses 94, 105, 325, 397, 439, 440, 511, 1065
- Clamps & Clips (See Clamps & Clips, Cable)

Cadet Switches 1030
Caeon Cleaning Solvent 235
Cages, Circuit Board (See Racks, Circuit Board)
CAIG LABORATORIES, INC.
- Cleaners 235
- Solder Baths 1058

Calibrators, Crystal 625
Cannon-Ball Headsets 60
CANNON CO., C. F. 60
Cans, Relay 485
Capacitors, Fixed
- Bathtub 172, 173, 211, 216
- Ceramic 165, 168, 232, 233
- Ceramic Disc 167, 226-231
- Electrolytic (All Types) 167, 174-207, 216
- Feedthru 165, 225, 571
- Film 165, 174, 208-210, 218-223
- Glass 168, 173
- High Capacitance - Low Voltage ..165, 167, 168, 172, 174, 176-192, 194-207, 216-218, 220, 221, 223, 224, 231-233
- High Temperature 165, 168, 172, 174, 180, 181, 183, 185, 186, 188, 191-193, 200, 211-215, 218, 224, 232, 233
- High Voltage 165-167, 172, 173, 197-200, 209-211, 214-216, 218, 222, 226-228, 231
- Mica 166, 208, 209, 234
- Mylar 166
- Mylar, Metallized 172
- Oil 211, 216, 217
- Paper 165, 166, 208-210, 212-216, 219, 222
- Paper, Metallized 217-219
- Polycarbonate 224
- Silvered Mica 166, 234
- Tantalum 174-193
- Temperature Compensating 167, 223, 229, 230, 232, 233

Capacitors, Variable
- Air 170, 171
- Ceramic 169
- High Temperature 169, 170
- Padder 166
- TFE 169
- Trimmer (All Types) 166, 169

Caps, Connector 300, 301, 303, 305, 311, 319, 322, 498
Caps, Forms & Tapes, Heat Shrinkable (Also See Tubing, Heat Shrinkable) 1341
Caps, Lens, Indicator Light 552, 553, 1028

GENERAL INDEX
CONTINUED

Page

Captain Flashlights 699
Cards, Linear Function (With IC's) 25
Cards, Logic (With Discrete Components) 684
CARLING ELECTRIC, INC. 1008-1011
CARTER MOTOR COMPANY
- Converters 696
- Motors 681

Cartridge & Cassettes & Accessories 57, 97-99, 103, 500
Cartridges
- Microphone 44
- Phone, Ceramic 56
- Phono, Crystal 56

Carts, Instrument & Equipment 138, 150, 523
Cases, Equipment, Instrument, Meter (Portable) 121, 123, 131, 133, 142, 160, 161, 428-433, 487, 561, 591, 658, 659
Cases, Equipment, Instrument, Meter (Stationary) 121, 123, 141, 133, 139, 141, 160, 161, 428-433
Castors 118
Cat Transformers 1230
Cells, Photoconductive 687, 688, 1246
Century Panel Meters 636, 637
Cera-Mite Capacitors 226-230
Ceralam Multilayer Ceramic Capacitors 165
Challenger Battery Chargers 788
Chanalyst Generators 624
CHANNELLOCK, INC. 1056, 1057
Chargers, Battery 709, 788, 949
Chassis, Circuit Board Mounting 130, 131
Chassis, Metal 109, 121, 124, 125, 130-132, 139, 142, 162, 276, 1137, 1208
CHEMICAL ELECTRONIC ENGINEERING, INC. 238
Chemical, Etching 246, 249
Chemicals, Photosensitive 246
Chemicals, Wire Stripping 239
CHEMTRONICS 236, 237
Chief Headsets 60
Chief Intercom Systems 38
Chill-It Refrigerant Spray 240
Chokes, R-F 259, 276
Chokes, Swinging 1134-1137, 1215, 1231, 1234, 1236
CINCH DIVISION OF TRW INC. 332-356
Circuit Board Racks (See Racks, Circuit Board)
Circuit Board Sub-Elements, Adhesive Backed 244, 245
Circuit Boards, Stamped (Without Components) 250, 251, 433
Circuit Breakers 522, 949
CIRCUIT-STIK INC. 244, 245
Circuit Testers (See Testers, Signal Tracing)
Circuitracer Testers 593
CLAIREX ELECTRONICS 686, 687
Clamps & Clips, Cable (Also See Wire & Cable Ties) 325, 349, 355, 492, 493, 574, 1415, 1416, 1435
Clamps, Component 281, 390, 586, 1056, 1094
Clarac Power Relays 813
CLARE & CO., C. P. 803-817
Clareed Relays 809
Classic Gearmotors 681
Classic Speakers 75
Cleaners & Solvents 94, 235-242, 949, 1069
Cleaners, Mechanical, Magnetic Tape 94, 100
Cleap Connectors 493

Page

Clip-Ac Power Conditioners 793
Clipper Switches 1030
Clips, Alligator 360, 361, 377, 394-396, 408, 409, 425, 464, 465, 1414
- Battery 355, 376-378, 395, 396, 464
- Boards, Harness 366
- Component 574, 930
- Fahnestock, Spring Wire 493, 578, 586
- Test 376, 377, 394, 395, 435, 465, 1065

Clips & Caps, Grid & Plate 319, 413
Clips & Holders, Fuse (Also See Panels, Fuse) 414, 493, 578, 1002-1007
Closed Circuit TV Systems & Equipment 52
Cloverleaf Receptacles 442
Coatings
- Anti-Static 237, 239, 240, 591
- Films, Transfers, etc., Etchant-Resisting 258
- Fungicidal 239, 240
- Insulating 235-237, 239
- Protective 235, 236, 238, 239, 242, 549
- Weatherproofing 239, 242

Cobreflex Speakers 91
Coils
- A-F 261, 1199, 1230, 1236
- Antenna Loading 1164
- Broadcast 261
- Chip 264
- Degausing 1065
- High-Q, Low-Frequency 259-264, 267, 270-275, 1164, 1165, 1198, 1199, 1226
- Metallized Glass 1199
- Molded 260, 263, 267-268
- Oscillator, Phono Test 1199
- R-F 259-261, 263, 265, 266, 268, 269, 271-273
- Saturable Reactor 1164
- Shielded 261-264, 266, 268-271, 273
- Toroidal 270, 274, 275, 1097, 1123, 1151, 1163, 1198, 1199, 1220, 1221
- Transformer 259, 1192, 1199
- TV (All Types) 261, 271
- Variable 259, 261, 270, 272, 273, 275

Colorama Picture Tubes 1308
COLUMBIA ELECTRONIC CABLES 1358-1370
Comm. Systems
- Portable 34, 36, 41, 42, 44, 48, 49, 72
- Selective Paging 34, 36-38, 51
- Telephone 24, 34, 37, 38, 53

Commander Flashlights 699, 700
Communicator Microphones 57
Compact Switches 1030
Con-Hex Connectors 450, 451
Conco-Foam Color TV Cable 1383
Conductive Plastic (See Materials, Conductive Plastic)
Connector Adapters 102, 299-305, 310-312, 314, 315, 325, 361, 365-369, 377, 381, 382, 397, 420, 421, 427, 428, 455, 470, 471, 473, 502
Connector Boxes & Strips, Power Outlet 119, 139, 163, 383, 518-521
Connectors & Terminals, Push-On, Quick Disconnect 252, 253, 339, 363, 455, 486, 517, 525, 1013
Connectors
- Audio 47, 50, 321-323, 382, 498, 509, 510, 530
- Chassis, Rack & Panel 323, 335-344
- Heavy Duty, Power 339
- High Voltage 339, 342-344

© United Technical Publications

Page

Connectors (continued)
Miniature, Subminiature & Microminiature 298, 304, 306, 310, 323, 364, 385, 411, 450-452, 526, 527
Missile (Umbilicals, Interstage, Post Boost) 335
Printed Circuit 254, 332-334, 364, 386, 480, 526, 527, 529
RF, Coaxial & Triaxial 298-315, 355, 385, 450-452, 470, 819
Switch 531
Consoles, Cabinet (See Cabinets & Accessories, Metal)
CONSOLIDATED WIRE & ASSOC. CORPS. 1372-1391
Contact Strips, Finger 412
Containers, Shielded (All Types) 429-433
Contempo Racks & Cabinets 136
Control-O-Matic Electrical Outlet Control Center 383
Controls
Counting & Sorting 685, 688
Density 688
Door Opening & Closing (Industrial) 688
Level, Liquid 842
Motor Speed 521, 537, 684, 1202
Oscillator 1025
Photoelectric 685, 688, 689
Positioning 684, 688
Proximity (Also See Controls, Capacitance Operated) 685
Remote 47, 684, 685, 688, 689
Stepping Motor 684
Temperature 1058
Volume & Tone 52, 76, 85, 93
Converters
A-C To D-C 105
D-C To D-C 1161
D-C To Frequency 696, 788, 789
Coolants, Circuit & Component 236, 239-241
Cord-Switch Switches 1047
Cordmaster Pendant Switches 1047
Cords & Tapes, Lacing 492, 1348, 1415
Cords
Line & Set Extension.....522, 1331, 1334, 1353, 1370, 1409, 1414
Patch 52, 102, 257, 294, 296, 427, 434, 436, 439, 469-471, 474-477, 505, 506, 511, 513, 514
Retractile 102, 467, 1332, 1333,1353, 1411, 1412, 1414
CORNING ELECTRONICS, DIV. OF CORNING GLASS
Capacitors 168
Resistors 919
Corrib Resistors 937
Counters
Directional 536
Electro-Magnetic 536
Frequency 536, 609, 660
Preset 533
Couplers, Antenna 20, 21
Couplings, Shaft, Rigid & Flexible 279, 490
Covers, Chassis 47, 130-132
Covers, Protective 44
Crown Royal Enclosures 134
Crystals
Frequency Control 545
Piezoelectric 545
Quartz 545, 965
CRYSTEK, DIV. OF WHITEHALL ELECTRONICS 545
Cutters, Hole, Hand Operated 1067

Page

CURTIS DEVELOPMENT & MFG. CO. 357
Cutters, Wire, Hand (See Wire Cutters, Hand Operated)

D

DABURN ELECTRONICS & CABLE CORP.
Hardware 574, 575
Insulators, Etc. 676, 677
Jacks, Plugs, Etc. 358-363
Switches 1012, 1013
Tubing, Wire, Etc. 1392-1415
Daflex Plastic Tubing 1392, 1393
Daflon Tubing 1392-1395
DALE ELECTRONICS, INC.
Coils, Inductors 260
Connectors 364
Potentiometers 950, 951
Resistors 921-923
Dalite Wire 1406
Daprene Heat Shrinkable Tubing 1396
DATAK CORP., THE 549
Datalite Indicator Lights 551, 552
De-Ox-Id Cleaner 239
Decade Boxes, Inductance 274, 572
Decade Boxes, Resistance 942
Decalcomania (Also See Labels, Pressure Sensitive) 549
Deci-Ductor Coils 269
Decoders, Audio Tone 1025
Delay Lines
Distributed, Constant (Fixed) 267
Lumped-Constant (Fixed) 267
Miniature & Subminiature 267
Delays, Time (Excluding Delay Lines) 538, 539, 688
DELCO RADIO, DIV. OF GENERAL MOTORS 961-964
Demagnetizers 94, 1170
Deltafilm Capacitors 224
DESCO MANUFACTURING CO.
Circuitracer 593
Miniature Tools 1059
Desoldering Tools & Equipment
(See Soldering Accessories; Soldering Equip.; Soldering Guns; etc.)
Detectors, Voltage 786, 858
Determ-Ohm Resistance Boxes 942
Dialco Indicator Lights 551-555
DIALIGHT CORP. 551-555
Dials, Instrument, Metal, Plastic, etc. 288, 292, 479, 563
Dials, Turns-Counting 960
Dies & Taps 1065, 1076
Difilm Capacitors 218
Digital Voltmeters (See Meters, Volt, Digital)
Diode Arrays 919
Diodes
Light-Emitting (Led) 567
Photoelectric 1245
Zener 963-965, 977, 984
Disk-Whisk Anti-Static Record Cleaner 101
Dividohm Adjustable Resistors 934
Dividers, Voltage 934
Double-Wipe Slide Switches 1051
DOW KEY, SUBS. OF KILOVAC 818, 819
Drafting Symbols, Dry Transfer, Pressure Sensitive, etc. 245-248, 549, 583
DRAKE COMPANY, R. L. 570

GENERAL INDEX
CONTINUED

Page

Drawers, Sliding 107, 115, 125, 135, 138, 150
Drivers, Nut 1057, 1059, 1071, 1076, 1083-1085, 1091, 1094, 1095
Drivers, Speaker 32, 70, 88,90, 91
Drivers & Decoders For Readouts 547
Drives, Dial 278, 490
Drivers & Drive Mechanisms 278, 684
Dry-Blow Cleaning Spray 241
Dual-Trol Timers 541
Ducts, Wiring 1417, 1435
Duplex Switches 1031
Durafoam Cable 1367
DUTREX INDUSTRIES, INC. 1248
DVM's (See Meters, Volt, Digital)
Dyn-A-Mite Battery Chargers 788
Dynasonic Auto Alarm System 532

E

E-Z-HOOK TEST PRODUCTS 365-369
E-Z-Mini-Hook Connectors & Jumpers 365
E-Z-Strip Lamp Cords 1334
Earphones (See Headphones & Headsets)
Ecliptic Tachometer Generators 681
Econoline Transistors 980
Econo-Trim Potentiometers 950
Editing Equipment 99, 100
EDSYN INC. 1060
Ejbord Plug-In Boards 254
ELECTRO CORP. 697
ELECTRO-MECHANICAL INSTRUMENT, DIV VLN CORP. 594, 595
ELECTRO-VOICE INC. 61-72
ELECTRONIC CONTROLS, INC. (See T-Bar)
ELECTRONS COMPANY 1249
ELECTROVERT INC. 1416, 1417
Elfin Readouts 547
Eliminator Speakers 71
Eliminators, Battery (Also See Power Supplies) 693, 706, 707
Elmenco Capacitors 166
Emico Meters 594, 595
Empire Headsets 60
Enclosures, Speaker 77, 80, 120
Engineering Reference Books (See Technical Books)
ENTERPRISE DEVELOPMENT CORP. 1061
Equalizers, Audio 25
Erasers, Magnetic Tape (Bulk) 100, 1170
Escutcheons 285, 1050
ESSEX INTERNATIONAL INC.
- Controls Div., RBM Controls 821-839
- Controls Div., Stancor Products 1096-1152
- Electronic Wire & Cable Div. 1418-1420

EVEREADY 699-705
Ever-Quiet Contact Cleaner 238
Excellite Audio Plugs & Receptacles 321
Executive Switches 1031
Extralytic Capacitors 201-203
Eyelets 392, 393, 578

F

FAIRCHILD SOUND EQUIPMENT, SUB. OF ROBINS INDS. 25
5-Way Binding Posts 455
Falcon Inverters 788
Fastemp Thermometers 591
Fasteners, Metal 163, 354, 360, 400, 448, 490, 494, 576-581,584-588

Page

Fasteners, Non-Metallic 280, 281, 327, 478, 575, 580, 581, 949
Feather-Lever Switches 1049
FEDTRO, INC.
- Auto Alarm Systems 532
- Megaphones 35
- Multiple Electric Outlets 383
- Speakers 73

Feedthrus & Seals, Environmental 678
Filmite Capacitors 219, 223
Films, Masking (Incl. Photographic) 249
Filterol Filters 225, 571
Filters
- A-F 570
- Antenna 20, 570
- Band Elimination 572
- Band Pass 572, 573, 1162, 1200
- Comb 225
- Electric Wave Section 572, 573
- High-Pass 570, 572, 573, 1162, 1200
- I-F 571
- Interference 165, 225, 570, 571
- Line 225, 570-573, 1200
- Low-Pass 570, 572, 573, 1162, 1200
- Reactor 1134-1136
- Telemetering 573, 1162, 1200
- Tone, Telegraph 573

Fire Detection & Fighting Equipment 239, 688
Fit Soldering Sleeves 1343
Five-Star Tubes 1253, 1261
Flashers 863
Flashlights & Lanterns 699, 700
Flat-Plug Phone Plugs 508
Flats — Electric Wave Filters 572
FLEISHMAN ELECTRIC 1154-1157
Flip-Top Cabinets 117
Flux, Brazing & Soldering 235, 239, 241, 1060, 1072, 1075, 1077
Fotoelectric Controls 688, 689
Frames, Cabinets & Rack 111, 112, 119, 120, 128, 129, 137, 143-146
FREED TRANSFORMER CO., INC. 1158-1167
Full Power Transmission Line Cables 1366
Fuse Clips (See Clips & Holders, Fuse)
Fuses 522, 925, 949, 1002-1007
Fuses, Failure Indicating 1002-1007
Fustat Fuses 1005
Fusetron Fuses 1002
Futura Cabinets 116

G

GTE SYLVANIA, INC. 1281-1305
G-C ELECTRONICS CO.
- Audiotex Hi-Fi Stereo Accessories 94
- Chemicals & Kits 239
- Drafting Aids, Material & Accessories 247-249
- Hardware 576-581
- Jacks, Plugs, Etc. 370-382
- Resistive Devices 925
- Tape Accessories 95
- Telco TV-Hardware Mounts 19
- Tools & Service Aids 1064-1066
- Walsco 94, 1064

G-V CONTROLS, DIV. SOLA BASIC IND. 861-863

 © United Technical Publications

Page

GAMBLE INDUSTRIES, CHARLES T. 924
GARRARD TURNTABLES 96
GATES ELECTRONIC CO., INC. 706-709
Gauges, Tension 1069
Gears & Gear Mechanisms 278
Gemini Inverters 788
GENERAL ELECTRIC COMPANY
- Meters 596-601
- Power Supplies, Voltage Regulators 710-713
- Semiconductors 965
- Soldering Irons 1062, 1063
- Transformers 1168, 1169
- Tubes 1250-1280
- Tube Interchangeability Listing 1273-1280

GENERAL TIME CORP., INDUSTRIAL CONTROLS DIV. 533-535
Generators
- A-M/F-M 619
- Audio 619-621
- Color TV 608, 623
- Cross Hatch 608, 623
- D-C 664
- Emergency Power 696
- F-M & F-M/Stereo 609, 622
- Interference Raster 623
- Low-Frequency 620, 621
- Marker 609, 624, 625
- R-F 609, 619
- Sawtooth 619
- Signal, Standard Type 609
- Sine-Wave 609, 620, 621
- Square-Wave 609, 620, 621
- Sweep 609, 619, 624
- TV Signal 608, 624
- TV Synch 623

Glass-K Capacitors 168
Glo-Bar Thermistors 925
Glo-Button Pushbuttons 1041
Globar Resistors 949
Gold-Brand Tubes 1289
GONSET DIV. OF AEROTRON, INC. 277
GOULD INC., BURGESS DIVISION 694, 695
Grand Prix Cabinets 116
Greases (Also See Lubricants) 949
GREENLEE TOOL CO. 1067
GRIFFITH PLASTICS CORP., NOBEX DIV. 560-565
Grilles, Speaker 77
Grommets 478, 492, 579, 580, 583, 1417
GUARDIAN ELECTRIC MFG. CO. 841-860
Guides, Circuit Board 254, 256
Guns, Soldering (See Soldering, Guns)

H

Handi-Vom Meters 652
Handles For Cabinets, Circuit Boards, Racks, etc. 126, 139, 163, 164, 251, 281, 491
Handsets, Chestsets, Operator Sets & Accessories 52, 53, 66, 84, 85
Hardware (See Brackets; Clamps; Fasteners; Terminals; etc.)
Headphones & Headsets 40, 84, 85
Heads, Erase 97
Heads, Recording/Playback, Audio & Stereo 97
Heat Dissipators (See Transistor & Diode Heat Dissipators)

Page

Heat Guns, Production 358, 1074, 1080, 1087, 1342, 1343, 1346, 1393
Heat Shrinkable Plastics (See Caps, Forms & Tapes, Heat Shrinkable — Also See Tubing, Heat Shrinkable)
Heat Sinks, Soldering 1056
HECON CORPORATION 536
HEEGER, INC. (See LMB)
Hercules Lanterns 699, 700
Hercules Switches 1031
Hi-Lite Color Picture Tubes 1308
Hipermalloy Transformers 1233
Hippo-Clip Battery Clips 395
Holders & Carriers, IC (Packaged) 251
Holders, Fuse (See Clips & Holders, Fuse)
Holders, Lamp (See Sockets, Lamp & Lamp Assemblies)
Hole Cutters (See Cutters, Hole)
Hoods, CRT Viewing (See Viewing Hoods, Cathode-Ray Tube)
Hook Switch Switches 1052
Horns, Speaker 38
Hot Shot Batteries 701
Hot Vac Desoldering & Cleaning Tool 1079
Housings, Instrument & Meter (See Cabinets; Cases)
Housings, Metal (See Cabinets; Cases)
Hush TV Tuner Cleaner 238
Hypass Capacitors 225, 571
Hypercon Capacitors 231

I

I-DI-T Transformers 1238
Imp-Clip Sockets 253
Imperial Soldering Tools 1081
Inbord Pins 253
Indicator Lights (See Lights, Dial, Panel, etc.)
Indicators
- Elapsed Time 534, 600, 604, 605, 645
- Smoke & Combustion 688
- Vacuum (Also See Gauges, Vacuum 246, 250, 252, 258

INDUSTRIAL DEVICES, INC. 556, 557
INDUSTRIAL ELECTRONIC ENGINEERS, INC. (IEE) 558
INDUSTRIAL TIMER CORP. (SINGER) 538-544
INJECTORALL ELECTRONICS CORP.
- Chemicals & Tools 240
- Printed Circuits 246

Inks, Marking 239
Instamatic Electric Outlets 383
Instant Circuit Board Adhesive-Backed Copper Patterns 244, 245
Instrument Cases (See Cabinets; Cases, Instrument)
Insulating Compounds
- Acrylic 239
- Coil Dope 239
- Lacquer 163, 235, 239
- Silicone 239
- Varnish 239

Insulation Materials, Plastic (Misc.) 675
Insulation Materials, Polystyrene 675
Insulation Parts
- Ceramic 327, 678
- Glass 678
- Plastic 463

Insulators, Antenna & Spring Assemblies 23, 678
Insulkrimp Terminals 524, 525
Integra Audio Building Blocks 25

© United Technical Publications

GENERAL INDEX
CONTINUED

Page

Intercommunication Systems 24, 34, 36-38, 51, 53
INTERNATIONAL ELECTRONICS CORPORATION 174
INTERSWITCH 1014, 1015
Inverters, D-C To A-C, D-C To D-C 690-693, 696, 788, 789, 791, 792, 1161
Isofarad Capacitors 223
Isotap Transformers 627

J

J-B-T INSTRUMENTS INC.
Meters, Testers 602-606
Switches 1017-1025
Jack Adapters (All Types) 52, 94, 102, 331, 356, 381, 397, 401, 419, 421, 458, 468, 476, 502-504, 508, 511
Jack Covers 280, 502, 503
Jacks (All Types) — Also See Connectors 52, 94, 102, 105, 293, 295, 296, 319, 331, 355, 356, 359, 361, 372-374, 379-382, 387-389, 399-403, 411, 412, 422, 424, 426, 446, 458, 459, 461, 476, 482, 486, 501-504, 507, 508, 510, 511, 513, 514
JAN HARDWARE MFG. CO., INC. 278-292
JERROLD ELECTRONICS 20, 21
JOHNSON COMPANY, E. F.
Capacitors 169-171
Connectors, Plugs & Jacks 385-389
JONARD INDUSTRIES, CORP. 1068, 1069
Jumpers, Bonding 349
Jumpers, Circuit Board 436, 469
Junction Boxes (See Boxes, Junction & Wall Plate)

K

KEDMAN COMPANY 1071
Kep Fasteners 588
KESTER SOLDER CO. 1072, 1073
Keyboard Pre-Punched Terminal Boards 392, 393
KEYSTONE ELECTRONICS CORP. 390-393
KILOVAC CORP., DOW KEY DIV. 818, 819
Kits
Antenna 358
Marking (Dial, Instrument, Equipment, etc.) 549
Power Supply 715, 748-768
Printed Circuit 239, 549
Switch Assembling 1049
Terminal 470, 485, 516, 517
Training Aid 259
Kleen-Tex Cleaner 239
Kleen Tip Sponges 1079
Klipvolt Surge Suppressors 970
Knives & Knife Sets 1057, 1093
Knobs 288-291, 479, 548, 562, 563, 1041
Koolohm Resistors 944, 945
Korner Baffles 77
Krimptite Terminals 524, 525

L

LMB HEEGER, INC.
Box Chassis 130-134
Chemicals 241
LPS RESEARCH LABS., INC. 242
Lab-On-Wheel Scope Carts 523
Labels, Pressure-Sensitive 99, 103, 391, 498, 549
Lacing, Cable (See Cords & Tapes, Lacing)
LAMBDA ELECTRONICS CORP. 715-779
Lambda-Pak Power Supplies 734
Lamp Holders (See Sockets, Lamp & Lamp Assemblies)

Page

Lamps
Dial & Pilot, Incandescent 546, 554-557, 1044
Miniature & Subminiature 546, 554-556
Neon 546, 551-553, 555
LEADER INSTRUMENTS CORP. 608, 609
Leads, Test (See Test Leads)
Lectro-Kleen Tuner/Contact Cleaner 413
LEECRAFT MANUFACTURING COMPANY, INC. 559
Lektro-Lok Switches 1031
Lens Kleen Plastic Cleaner 240
Lev-R Switches 1048, 1050
Lever-Lite Switches 1050
LICON, DIV. ILLINOIS TOOL WORKS 1026-1029
Lighting Equipment, Emergency 693
Lights
Dial, Panel, Pilot & Accessories 522, 546, 551-557, 559
Edge Lighting, Panel 281, 551-555
Stroboscopic Source 95, 662, 664, 1302, 1303
Limit Stops, Mechanical 278, 281
Limiters, Noise 25
Limiten Attenuators 25
Limitimer Controls 281
LINE ELECTRIC CO. 864-871
LINEMASTER SWITCH CORP. 1030, 1031
Line Radiator Speakers 69
Littel-Jax Phone Jacks 502
Littel-Key Switches 1049
Littel-Lite Switches 1046
Littel-Plug Phone Plugs 508
Lyttl-Lytic Capacitors 196
Little-Champ Pliers 1057
Little Devil Resistors 938, 940
Little-Jim Flashlights 700
Little-Rebel Resistors 941
Lo-Cap Switches 1049
Loc-Jaw Adhesive 241
Locks, Dial & Shaft 280, 490
Lubricants 94, 235-240, 242, 1069
Lug-Plug Phone Plugs 508
Lugs (See Terminals, Lug)
Luma Switch Push Button Switches 557

M

Machines, Solderability Testing 1077
MAGNECRAFT ELECTRIC CO. 872-880
MANHATTAN ELECTRIC CABLE CORP. 1421-1430
Mark III Power Supplies 793
Mark T Cabinets 120
Markers, Wire, Tab & Sleeve (See Wire Markers)
Markit Dri-Transfer Lettering 583
Marksman Soldering Irons 1089
Mask-N-Glas Glass & Plastic Cleaner 237
MASTER APPLIANCE CORP. 1074
Master Headsets 60
Mat Magnetic Amplifiers
Master Antenna TV Systems & Equipment 20, 21, 325
Megaphones 35
Megohmer Insulation Testers 664
Meters
Ampere, A-C 590-592, 594, 599, 631, 634, 637, 639, 641, 647-649, 651, 656, 658, 661, 664, 666, 671

© United Technical Publications

Meters (continued) Page
- Ampere, D-C 594, 595, 597, 598, 600, 601, 614, 631, 632, 635, 636, 638, 641, 643, 644, 656, 664, 667, 671, 672
- Ampere, R-F 634, 637, 639
- Audio Level 610, 634, 637, 640
- Capacitance 658, 661
- Decibel Indicating 610, 634, 637, 640, 656, 667, 671
- Edge-Wise 522, 595, 600, 630, 631, 644, 645, 647
- Field Strength 21, 609, 630
- Flutter & Wow 608
- Frequency 589, 602-605, 625, 642, 664
- Frequency Digital 609
- Galvanometer 634, 637, 639
- Grid Dip 609
- Megohm 611-614, 654, 658, 664, 669
- Microampers 592, 597, 599-601, 612, 613, 630-633, 635, 636, 638-641, 643-645, 647-649, 656, 673
- Milliampere 592, 594, 596, 597, 599-601, 613, 614, 631-641, 643-645, 647-649, 656, 673
- Milliohm 651
- Millivolt 608, 633, 635, 636, 638, 641, 643-645, 647-649, 655
- Miniature 664
- Multitester 105, 656
- Multitester (Digital) 660
- Null 673
- Ohm 590, 611, 612, 614, 656, 671, 673
- Panel (D'Arsonval Movement) 594-600, 630-642, 664, 673
- Panel (Digital) 672
- Pocket 591, 630, 631
- Pyrometer 606, 643
- Ratio 658
- Recording 592
- S-Units 630
- Temperature, Dial-Type (Contacting) 591, 630, 648, 671
- Thermocouple 606
- Vacuum Tube Volt (VTVM) 651, 654
- Vibration 664
- Volt 105, 522, 557, 590-592, 594-596, 598-601, 611-614, 630-632, 634-645, 647-649, 656, 671, 673, 747
- Volt, Digital (DVM) & Accessories 649, 660, 665, 672
- Volt, True RMS 611-613, 642
- Volt-Ammeter 592
- Volt-Ohm 611-613, 630, 654, 656, 669, 671
- Volt-Ohm-Milliampere (VOM) 105, 590, 610, 615, 650-654, 658, 660, 661, 665-671, 674
- VU 44, 47, 634, 635, 637, 640, 673
- Watt 570, 634, 637, 639, 656

Metfilm Capacitors 222
Micro-Gator Clips 394, 396
Micro-Jax Phone Jacks 502
Micro-Klip Terminals 253
Micro-Plug Phone Plugs 508
Micro-Ribbon Connectors 338
Microclareed Relays 810, 811
Microdial Counting Dials
MICROFLAME, INC. 1075

Microphones
- Aircraft Type 67, 86
- Carbon 67, 86
- Cardioid 54, 56, 57, 61-64, 67, 81-83, 87, 92, 105
- Ceramic 56, 57, 67, 68, 86
- Condenser 54, 65
- Crystal 44, 56, 57, 66, 68, 105

Microphones (continued) Page
- Differential 67
- Dynamic 40, 44, 54, 56, 57, 62-67, 81-83, 86, 87, 92, 105
- Lapel **105**
- Lavalier 56, 61, 62, 66, 81, 87, 92
- Magnetic 56
- Noise-Cancelling 54, 57, 66, 67, 83, 87
- Pressure 86
- Ribbon 81
- Transistorized 66, 67, 86

Microspec Transformers 1195
MICROTRAN CO., INC. 1170
Mighty Midget Soldering Irons 1063
Mike-O-Meter Motor Capacitor Analyzer 663
Mili-Ductor Coils 266
Mini-Gator Clips 394, 396
Mini-Slide Pilot Light Assemblies 557
Miniductor Coils 275
Minifilter Electric Wave Filters 573
Miniklip Terminals 252
Miniwrap Terminals 253
Mixers, Audio 25, 31, 46, 48, 93, 105
Mixing Consoles 25
Monarch Converters 696

Monitors
- Phase Sequence & Loss 592
- Power, A-C & D-C 616
- Temperature (Also See Controls, Temperature.. 655

Monochrome TV Picture Tubes 1252
Monolythic Capacitors 232, 233
MOODY MACHINE PRODUCTS CO., INC. 1076

Motors
- A-C & D-C 681
- Brushless, D-C 105
- Control 681
- Fractional HP (Including 400 CPS) 105, 681
- Gearhead 364, 681, 683
- Hysteresis 364
- Induction 681
- Permanent Magnet 681-683
- Stepping 682, 683
- Synchronous 364, 682, 683
- Torque 683
- Vacuum 683

Mounts, Antenna 19, 22, 23
MUELLER ELECTRIC COMPANY 394-396
Multi-Mod Cases 256
Multi-Slide Switches 1041
Multi-Switch Switches 1042, 1045
MULTICORE SOLDER 1077
Multidial Turns-Counting Dials 960
Multipliers, Meter 646
Musi-Kleen Cassette Tape Head Cleaner 95
Musicaster Speakers 72
Mustang Speakers 91

N

NT-T SALES, DIV. OF NATIONAL TEL-TRONICS CORP. 397-416
Nanospec Transformers 1196
NATIONAL WIRE AND CABLE CORPORATION 1431-1434
Nautilus Switches 1031

GENERAL INDEX
CONTINUED

Page

Networks
- Crossover 91
- Ladder 924
- LC 267, 919
- Pulse Forming 924
- Resistance 919, 924

NEWCOMB AUDIO PRODUCTS CO. 39-51
NEW PRODUCT ENGINEERING, INC.
A SUB. OF WABASH MAGNETICS, INC. 918
No-Arc HV Insulating Spray 236
NOBEX DIVISION — GRIFFITH PLASTICS CORP. 560-565
No-Mar Clamps 281
NORTH AMERICAN PHILLIPS CORP. 54
NORTH HILLS ELECTRONICS, INC. 261
NORTRONICS COMPANY, INC. 97
Nu-Base Power Transistors 961, 962
Nuvi-Tran Tuner Cleaner 239
NYTRONICS INC. 262-273

O

OAKTRON INDUSTRIES, INC. 74-77
OHMITE MANUFACTURING CO.
- Chokes, Suppressor, Meter Saver 276
- Controls 537
- Relays 882-886
- Resistors 929-942
- Switches 1032, 1033
- Transformers 1172-1174
- Trimmers, Potentiometers 953-956

Ohmitran Transformers 1172
Ohmitrol Motor Speed Controls 537
Omni-Glow Lights 556
OMTRONICS MFG., INC. 926, 927
Orange Drop Capacitors 210, 219-221
ORYX (See Telvac Instrument Co.)
Oryx Soldering Equipment 1078
Oscillators, Audio 25
Oscilloscope Probes 617, 618, 659
Oscilloscopes, General Purpose 608, 617, 618, 657
Oscilloscopes, Wide-Band 608, 617, 618
Ouncer Transformers 1235

P

PSG INDUSTRIES, INC. 881
Pacer Capacitors 219
Pads, Transistor Mounting 982
Paints, Luminous 240
Paints, Metallic 240
Palychromatron Transformers 1115
PAMOTOR, INC. 568, 569
Pan-Ty Cable Ties 1435
Panduct Wiring Duct 1435
PANDUIT CORP. 1435
Panels, Jack 52, 257, 293, 294, 505, 506, 513, 514
Panels, Relay Rack 133
Paracyl Antennas 21
Paper, Graphic Recording 592
Paraformer Power Conditioners 793
PAR-METAL PRODUCTS, DIV. OF EON CORP. 136-139
Pathfinder Public Address Equipment 48-51
Pedaline Foot Switches 871
Pee-Cee Ductor Coils 264
Pee Wee Ductor Coils 262

Page

Penline Soldering Irons 1062
Pentaflow Fans 568
Permafoam Cable 1367
Phonograph Parts & Accessories 39, 40, 44, 94, 101, 239, 511
Phonographs 39-42, 44, 48, 93, 96
Photomod Photocell Lamp Assemblies 687
Pickups, Telephone (For Recording) 1170
Picoreed Relays 808, 809
Piggy-Back Snap-Switch Modules 1044
Pin Straighteners, Tube 1065
Pins, Electrically Conductive 251, 352
Pip Pulse Transformers 1228
Pirgo Transistors 981
Plas-T-Pair Plastics Repair Kit 237
Plasti-Grip Terminals 486
PLASTIC CAPACITORS, INC.
- Capacitors 172, 173
- Power Supplies 780

Plates, Switch Mounting 998, 1009
Pliers 1056, 1057, 1065, 1068, 1069, 1084, 1085, 1094
Plug Adapters 94, 105, 328-331, 356, 359, 376, 381, 397, 408, 418-421, 425, 427, 439, 455-457, 464, 466, 468, 472-475, 477, 482, 504, 508, 511
Plug & Jack Sets 503, 504, 508, 511
Plug Caps & Shells 319, 423, 510
Plug-In Module Enclosures 257, 428, 485
Plugbord Plug-In Boards 254
Plugs, Electrical (All Types) 94, 102, 105, 294, 296, 320, 327-331, 355, 356, 359-361, 370-373, 378-380, 386, 387, 398, 399, 402, 403, 409, 410, 412, 418, 419, 423-425, 455-457, 460, 461, 463, 470, 472, 474, 477, 482, 498, 501, 503-511, 513, 514, 1039
Poly-Pedance Transformers 1114
POMONA ELECTRONICS 418-440
Portacab Instrument Cabinets 121
Posts
- Binding 302, 326, 327, 360, 374-376, 389, 413, 414, 418-422, 425, 426, 455, 462-464, 473, 477, 560
- Harness Board 326, 462, 463
- Spring Binding 326, 360, 375, 413, 462-464

Potentiometers
- Ceramic-Metal (Cermet) 954, 955, 959, 960
- Composition, Carbon 956
- Conductive Plastic 959, 960
- Hot Molded 953
- Metal Film 951
- Rectilinear 953
- Servo Mount 292, 960
- Trimmer, Ceramic-Metal (Cermet) 958, 959
- Trimmer, Metal Film 950, 951
- Trimmer, Wirewound 953, 958, 959
- Wirewound 292, 951, 954, 955, 959, 960

POTTER & BRUMFIELD 887-913
Pow' Riveter Riveting Tools 1085
Power Line Amplifiers 93
Power Supplies
- AC Output — 60 CPS 715, 735, 788, 1203
- AC Output — 400 CPS 1203
- D-C Output, Other Than 60 or 400 CPS Input 707, 712, 715, 726-728
- 60 or 60/400 CPS Input, Up To 30 VDC Output, Voltage Regulated 25, 105, 697, 706-709, 712, 715-734, 736-747, 771-773, 780, 781, 785, 793

© United Technical Publications

Power Supplies (continued) Page
60 or 60/400 CPS Input, Up to 100 VDC Output, Voltage Regulated 697, 706-709, 712, 715-733, 736-747, 780, 781, 785, 792, 793
60 or 60/400 CPS Input, Up To 1,000 VDC Output, Voltage Regulated 706-709, 712, 715, 720, 722, 737, 738, 743-747, 780, 785, 792, 793
60 or 60/400 CPS Input, Up To 10,000 VDC Output, Voltage Regulated..780
60 or 60/400 CPS Input, Up To 50,000 VDC Output, Voltage Regulated..780
60-400 CPS Input, Unregulated D-C Output 708, 715, 720
400 CPS Input Only, D-C Output, Voltage Regulated 715, 726-728, 731
60 or 400 CPS Input, D-C Output, Current Regulated 715, 737-747
D-C Welding 793
Electroplating Equipment 707, 709
Integrated Circuit 734, 793
Lab, Multiple Output 105, 697, 715, 718, 736-747, 781, 792, 793
Programmable 715-728, 730-733, 735, 737-747
Readout & Display 547, 715, 717, 723-725, 734, 793
Strain Gauge & Transducer 715, 723-725
Powerhouse Auto Alarm Systems 532
Powerhouse Megaphones 35
Powerhouse Speakers 73
Powerkote Coils 1203
Powerlytic Capacitors 204-207
Powerstat Variable Transformers 1202, 1204, 1205
Powr-Rib Resistors 937
Preamplifiers
Audio 25, 28, 31
Microphone 31, 45, 46, 48, 50, 93
Receiver 277
R-F 277
PREMAX PRODUCTS DIV., OF CHRISHOLM-RYDER CO., INC. 22, 23
PREMIER METAL PRODUCTS CO. 140-164
Premier Microphones 57
Press-Fit Terminals 442-449
Prestige Cabinets 119, 122
Princess Soldering Tools 1080
Printed Circuit Boards, Etched Process (Without Components) 246, 249, 250, 252, 258, 481
Printed Circuit Etchants 246, 258, 480
Probes
High-Voltage 330, 438, 466, 609, 610, 659, 1065
Temperature 659
Test Lead 329-331, 360, 366-369, 377, 404, 405, 437, 446, 456, 459, 466, 501, 591, 593, 659, 1065
Propellon Spray Refrigerant 241
Protectors, Surge (Also See Suppressors, Arc; Arresters, Electrical Surge 276
Public Address Systems 34, 36-38, 40-42, 44-46, 48, 49, 51
Pullers
Circuit Board 1069
Fuse 1065
Lamp 1065, 1068
Tube 1065
Punches, Chassis 499, 1064, 1067
Push-Lite Switches 1044
Pyrometers
Recording 592
Resistance-Type 673
Thermocouple-Type 606

Q

QUAM-NICHOLS CO. 78, 79
Quick-Clamp Terminals 349
Quick Snap Antenna Clips 1065
Quick-Wedge Screwdrivers 1071

R

Page
RAACO CORPORATION 135
RBM CONTROLS (See Essex International)
RCA CORPORATION, ELECTRONIC COMPONENTS
Meters & Test Equipment 610-628
Microphones 81-83
Power Supplies, Batteries 781-783
Recording Tape & Accessories 103
Technical Literature 795
Tubes 1306-1312
Tube Interchangeability Guide 1308, 1309
Racks
Cabinet 47, 51, 110-117, 119, 120, 122, 136, 142-147, 155
Desk & Console 148, 1065
Circuit Board 153, 254, 256, 480
Module (Also See Racks, Circuit Board) 153, 256
Relay & Mounting 118, 119, 138, 139, 142, 156, 157
Rayovin Hook-Up Wire 1320
Reactors, Filter 1134-1136, 1151, 1152, 1159, 1164, 1185, 1213
Readouts
Edge-Lighted 547
Lighted, Segmented 547, 1249
Semiconductor Type Incl. Light-Emitting Diodes & Switches 567
Receivers
A-M (Precision Test) 570
Communication & Amateur 570
F-M (Precision Test) 570
Monitoring, Communications 44, 51
Recorders
Event 661
Magnetic Tape 39, 50
Strip-Chart 592, 657, 661
Temperature (Electronic) 592, 655, 661
Rectifier Power Units (Power Supply Type) 706-709, 785, 1218
Rectifiers
Germanium 965
Selenium 965, 966
Selenium Stack 966, 984
Silicon 965, 967, 969, 972, 973, 977, 984, 985, 988, 989
Silicon Stack 967, 968
Red-X TV Corona Dope 239
Red Hi-Volt Insulator 240
Red Seal Tapes 103
Red Top Capacitors 178
Reference Books (See Technical Books)
Regent Motors 681
Regulators, Current 787
Regulators & Stabilizers, Voltage 710, 711, 713, 715, 771-779, 784-788, 792, 793, 971, 977, 1155, 1170, 1202-1204, 1237
Relays
Current Sensing 857
Differential 857, 899, 912
Frequency Selective 605, 857, 913, 1025
General Purpose 799-801, 803, 804, 812, 813, 817, 821, 827-829, 850, 853, 854, 864-869, 872, 873, 882-886, 888-895, 914, 917, 1000
High-Speed 805-811, 821, 837, 855, 856, 869, 876, 900, 902-904, 906, 918
High Voltage 868, 878
Impulse 896, 898, 902
Indicating Light 812, 852, 853, 864, 882, 883, 891
Latching, Magnetic 808-811, 873, 876-878, 882-886, 897, 898, 901, 904, 914, 915, 918

GENERAL INDEX
CONTINUED

Relays (continued) Page
- Latching, Mechanical 849, 868, 915
- Mercury Displacement 880
- Mercury-Wetted Contacts 803, 805-807, 877, 906, 907
- Meter 601, 647-649
- Miniature & Subminiature 788, 796, 797, 799-802, 808-811, 817, 821, 836, 837, 853, 855, 864-867, 870, 871, 874-876, 888, 889, 897, 900, 901, 903, 904
- Multi-Pole (8 or More Poles) 815, 889, 917
- Overload 886, 897, 915
- Over-Frequency & Under-Frequency 913
- Over-Voltage & Under-Voltage 857, 912
- Phase-Sensing 857, 913
- Plate Circuit 850, 852, 864-866, 869, 882-884, 886
- Plunger 828, 830, 834, 845, 881, 917
- Polarized 900, 901, 906
- Power 821, 829, 831-834, 842, 850, 852, 855, 867, 868, 870, 872, 873, 880, 883, 886, 891, 892, 895-897, 910
- R-F (Including Antenna & Coaxial) 818, 874, 897, 900, 996
- Reed 803, 808-811, 821, 830, 837, 842, 855, 856, 869, 875-878, 903-905, 918
- Reverse-Current 821, 832
- Rotary 915
- Sensitive 800, 802, 805-810, 821, 835, 836, 855, 866, 886, 898-900, 902, 903, 905, 914
- Sequence 848, 849, 896
- Solid-State 803, 833, 842, 854, 858, 870, 878-881, 902, 905, 908, 909, 911, 912
- Stepping, Ratchet 364, 842, 848, 849, 858, 896, 898, 915
- Telephone 803, 814, 815, 871, 874, 899, 900
- Thermal 796, 797, 833
- Time-Delay 533, 534, 796, 797, 821, 833, 842, 856-858, 861-863, 870, 878-880, 908-911
- Vibrating Reed 1025
- Voltage Sensitive 858, 863, 898, 899, 912, 913

Resistors
- Adjustable (Also See Potentiometers) 921, 934, 937, 954, 955
- Carbon Film 941
- Ceramic 929
- Composition, Carbon 923, 938-940, 943
- Film, Metal 923
- Fuse 949
- High Megohm 919, 923, 938-940, 943
- High Temperature 919, 923, 927, 930, 943
- High Voltage 922, 923, 925-927
- Hot Molded 922, 931, 932, 938-940
- Integral Heat Dissipator 923, 927
- Low Temperature Coefficient 919, 923, 924, 927, 929
- Non-Inductive 921, 922, 924, 926, 944-946
- Plug-In 418
- Power 921-926, 933-935, 937, 945, 946, 948
- Tapped 924, 933
- Tin Oxide 919
- Wirewound 921-924, 927, 930, 933, 935-937, 942, 944-949

Retainers
- Battery 390, 391
- Relay 916
- Transistor & Diode 677, 982

Reverberation Systems 25

Rheostats 954, 955

Rib-Loc Terminals & Jacks 388, 389

Riteohm Resistors 932

Rivet-Loc Terminals 447

Rivets 578, 1085

ROBINS INDUSTRIES CORP. 25, 98-102

Page

Rob-O-Stat Record Cleaning Kit 101

Rods & Clamps, Ground 23, 325, 395

Rotomite Steppers 849

Royal Crest Tubes 1313

Ruf-Koat Wrinkle Varnish 239

Rugged Seal Panel Meters 641

RUSSELL INDUSTRIES, INC.
- Bumpers, Grommets, Etc. 583
- Tubing 678, 679

S

Sal-Met Soldering Flux 241

SANFORD MILLER CORP.
- Rectifiers 966, 967
- Transformers 1171

SARKES TARZIAN, INC. 968-971

Savbit Solder 1077

SAXTON PRODUCTS INC. 1436, 1437

SCHRACK ELECTRICAL SALES CORP. 914-916

Screwdrivers 1057, 1059, 1065, 1071, 1076, 1083, 1084, 1090-1095

Screws (See Fasteners)

Scrulok Phone Tips 330

Scrulox Screwdrivers 1090

SEALECTRO CORPORATION 442-454

Sealectroboard Program Boards 453

Sealectroswitch Program Switches 454

Sealectrotimer Programming Switch 454

Semiconductors (See Diodes; Rectifiers; Transistors)

SEMITRONICS CORP. 977

Senior Switches 1031

Sentry Speakers 62

Services, Assembly & Fabrication 86, 1181

Shadow Cabinets 122

Shafts & Adapters, Flexible 280, 490

Shafts, Threaded 492

Shav-Pak Inverters 693

Shields
- Cathode-Ray Tube 281, 286, 287
- Indicator Light 403, 493, 1050
- Magnetic 286, 287, 1012
- R-F 286, 287
- Switch 1012
- Tube 287, 354, 355, 493

Shorting Bars (See Bars, Shorting)

Shunts, Meter 276, 646, 659

SHURITE METERS 630, 631

SIGNAL TRANSFORMER CO., INC. 1175-1187
- Fleischman Electric 1154-1157

SIMPSON ELECTRIC CO. 632-661

SINGER
- Industrial Timer Corp. 538-544
- Line Electric Co. 864-871

Single-D Microphones 64

SLAUGHTER COMPANY 662

Slide 'N Switch Programming Circuit Selector 453

Slidelite Indicator Lights 559

Slides, Cabinet & Chassis 124, 127, 138, 139, 142, 152, 163

Slim-Jim Test Leads 467

Slo-Syn Motors & Controllers 682-684

© United Technical Publications

Page

SMITH INC., HERMAN H. 456-501
Socket Adapters 257
Sockets
- Breadboard 253, 257
- Capacitor 353
- Crystal 354, 355, 493
- Diode 949
- Integrated Circuit 253, 350, 449, 480, 530
- Lamp & Lamp Assemblies 319, 493, 515, 546, 551, 559
- Relay 281, 316, 317, 319, 352, 354, 357, 531, 852, 853, 882, 883, 889, 891, 894, 916
- SCR 319
- Test 257, 350, 949, 1065
- Transistor 253, 349, 352, 419, 449, 480, 949
- Transmitting & Industrial Tube 319, 351
- Tube 257, 316-318, 351-353, 493

SOLA ELECTRIC, DIV. SOLA BASIC IND.
- Power Supplies 784, 785
- Transformers 1188
- G-V Controls Div. 861-863

Solatron Line Voltage Regulators 784
Soldapullit Desoldering Tools 1060
Solder (All Types) 235, 237, 1072, 1077
Solder Pots 1058
Soldercon Terminals Socket 530
Soldering Accessories 235, 239, 241, 1060-1066, 1077-1081, 1087-1089
Soldering Equipment
- Printed Circuit 1058, 1062, 1063, 1080, 1087, 1088
- Reflow 1058
- Resistance 1063
- Temperature Controlled 1058, 1062, 1078, 1080, 1088

Soldering Guns 1060, 1081, 1087-1089
Soldering Irons 1060, 1062, 1063, 1078-1081, 1087-1089
Soldering Sleeves 1343
Solenoids 842-847
SOLID STATE DEVICES, INC. 972-976
Solistrand Terminals 486
Sonoramic Cassettes 98
Spacers 282, 283, 327, 362, 416, 442, 483, 499, 575, 581
Spark Gaps 231, 1249
Speaker Cones & Parts 52
Speaker Control Centers 24
Speaker Systems 43, 49, 62, 69, 71, 79, 80
Speakers
- Ceramic 55, 74, 75, 78
- Column 43, 49, 69, 90
- Dynamic 55, 62, 74-76, 78, 79, 88-91
- Horn 38, 43, 59, 70, 71, 73, 79, 88, 91
- Paging & Talk Back 32, 33, 59, 70, 71, 76, 79, 89
- Weatherproof 33, 69-71, 73, 74, 79, 88, 90

SPECIALTIES MFG. CO. 1034-1039
SPECTROL ELECTRONICS CORP. 958-960
Speedex Fuse Pullers 1065
Speedex Wire Strippers 1064
Speedi-Mount Jacks 458
Spemco Switches 1034
Sphericon Speakers 91
Splicers, Wire (Butt & Cap Types) 485, 486, 493, 525
Splicing Equipment, Magnetic Tape 94, 95
Spokesman Microphones 57
Spotlight Relays 864

Page

SPRAGUE PRODUCTS CO.
- Capacitors 175-234
- Filters 571
- Panel Components 567
- Resistors 944-948
- Semiconductors 978-981
- Test Equipment 663
- Transformers 1189

Springs (All Types) 578
Stabiline Voltage Regulators 786, 787
Stabiltron AC Voltage Stabilizers 711
STACO, INC. 1201
STACKPOLE CARBON CO. 943
STANCOR (See Essex International)
Standco Tachometers 664
Statusfone Room Status System 53
STERLING TRANSFORMER CORP. 1190-1200
STICHT CO., INC., HERMAN H. 664
Stik-It Glue 240
Stik Klip Clips 574
Strain Reliefs, Cable & Wire 478, 482, 527, 579
Strips
- Marker & Fanning 347
- Power Outlet (See Boxes & Strips, Power Outlet)
- Terminal 349, 362, 414, 415, 487, 578, 998, 1417

Stubby Plugs 378
Subminax Cable 1420
Subouncer Transformers 1235
Super Frost Aid Circuit Coolant 236
Super-Tru Screwdriver Tips 1090
Super Wee-Wee-Ductor Shielded Coils 269
Supercaster Speakers 71
Supercon Connectors 455
SUPERIOR ELECTRIC CO.
- Connectors, Posts 455
- Regulators, Controllers 786, 787
- Synchronous Motors 682-684
- Transformers 1202-1205

Suppressors, Arc 925
Suppressors, Noise 276, 925
Suppressors, Transient Voltage (Rectifier Type) 970, 984
SWITCHCRAFT, INC.
- Jacks, Plus, Adapters, Etc. 502-511
- Switches 1041-1052

Switch-O-Let Extension Outlets 383
Switches
- Air Flow Actuated 863
- Antenna Changeover 20, 819, 897
- Cam 515, 542, 543
- Canopy 495, 1037
- Coaxial Cable 818, 819, 994-996
- Crossbar 1014, 1015
- Foot-Pedal, Mat, Ribbon, etc. 871, 1000, 1030, 1031
- High Voltage 522
- Illuminated 557, 559, 842, 849, 999, 1009, 1010, 1028, 1029, 1038, 1041-1047, 1050, 1054, 1055
- Key-Lock 52, 495, 1000, 1013, 1037
- Lever 842, 849, 999, 1023, 1024, 1026, 1027, 1034, 1035, 1039, 1041, 1048-1050, 1052
- Magnetically Actuated 1000, 1012
- Mercury Displacement 522

GENERAL INDEX
CONTINUED

Switches (continued) Page
- Motor-Driven 542, 543
- Power 819, 996, 1000, 1008, 1013, 1032-1037
- Program 453, 454
- Proximity 1000, 1012, 1029
- Pushbutton (All Types) 105, 495-497, 917, 999, 1000, 1011, 1013, 1021, 1026-1029, 1036-1039, 1041-1048, 1054, 1055
- R-F 997
- Reed 821, 837, 1000, 1272
- Rocker 999, 1010, 1051, 1052
- Rotary 495, 960, 999, 1011, 1013, 1022-1025, 1032, 1033, 1037
- Slide 496, 557, 1000, 1011, 1012, 1037, 1039, 1041, 1051, 1052
- Snap-Action (All Types) 1026, 1027, 1029
- Step Type 803, 816
- Thumbwheel 1014, 1015
- Toggle 105, 495-497, 522, 917, 1008, 1009, 1012, 1013, 1017-1021, 1023, 1027, 1029, 1034-1038
- Trigger 1011

T

T-BAR INC. SWITCH/RELAYS 917
Tachometers 664, 665, 681
Tachometers, Stroboscopic 662, 664
TALK-A-PHONE CO. 36-38
Tantalex Capacitors 175-177, 182, 183, 187-193
Tape Editing Equipment (See Editing Equipment)
Tape Recording Accessories 39, 94, 95, 97, 103, 237
Tape Recorders (See Recorders, Magnetic Tape)
Tapes, Recording, Magnetic (All Types) 97, 98, 103
Taps (See Dies & Taps)
Technical Books 794, 795
TEK TEST CO., INC. 365-369
Tel-Ohmike Capacitor Analyzers 663
Telecap Capacitors 209
Telephone Handsets (See Handsets)
Telerite Jacks & Plugs 356
Telever Switches 1050
TELVAC INSTRUMENT CO. 1078
Tempest Inverters 788
TERADO CORPORATION 788
Terminal Blocks (See Blocks, Terminal)
Terminal Boards (See Boards, Terminal)
Terminal Strips (See Strips, Terminal)
Terminals
- Feedthru 389, 393, 442, 444, 445, 447, 474
- Lug 360, 362, 363, 376, 403, 407, 414, 419, 462, 463, 484, 486, 516, 524, 525, 528, 576, 588
- Printed Circuit Board 246, 252, 358, 392, 393, 449, 481
- Push-On (See Connectors & Terminals, Push-On, Quick Disconnect)
- Solderless 246, 252, 363, 392, 393, 484, 486, 501, 516, 517, 528
- Standoff 282, 283, 389, 443, 444, 447, 474, 483, 499, 524, 525
- Threaded 358, 499
- Turret 327, 358, 389, 392, 393, 442-445, 447, 449, 462, 474, 488, 489, 501, 528

Test Equipment, Color TV 608, 609, 657
Test Equipment, Component Substituting 628
Test Lead Probes (See Probes, Test Lead)
Test Leads & Adapters 105, 365-369, 377, 405, 406, 421, 423, 435-440, 466-469, 471, 476, 477, 593, 659, 1065
Test Sets, Multipurpose 606
Testers
- Battery 630, 656
- Capacitor 657, 663

Testers (continued) Page
- Circuit (See Testers, Signal Tracing)
- Diode 593, 628
- Insulation Breakdown 662, 664
- Leakage 657, 662
- Shock 281
- Signal Tracing 557, 591, 593, 657, 674, 949, 1065, 1084
- Transistor 593, 609, 626, 628, 651, 949

THERMALLOY CO. 982, 983
Thermistors 925
Thermacote Thermal Joint Compound 983
Thermocouples, Elements & Accessories 606, 646
Thermometers, Resistance 591
Thermostats 495, 861
Thin Resistors 936
Thin-Finger Plugs 378
Thinpak Relays 802
Thyristors (Includes Silicon Controlled Rectifiers) 963-965, 977, 984, 986, 987
Ties, Wire & Cable (See Wire & Cable Ties)
Tilt-A-View Cabinets 120
Timers
- Cycle 533, 534, 539, 541-543
- Interval 533-535, 538, 540, 541, 544, 600, 664
- Programmed 281, 542, 543
- Reset 533
- Sequence 1216
- Solid State 534, 535
- Thermal 539

Tineon Indicator Lights 559
Tini-Jax Phone Jacks 502
Tini-Plug Phone Plugs 508
Tini-Telephone Jack Panels 506
Tiny-Switch Pushbutton Switches 1047
Tippette Switches 1010
Titan Inverters 788
TODD SYSTEMS INC. 1206-1209
Tool Kits & Sets 1057, 1059, 1065, 1068, 1069, 1076, 1084, 1085, 1092, 1093, 1095
Tools
- Alignment & Tuning 240, 407, 1064, 1083, 1084
- Crimping 315, 325, 339, 485, 517, 525, 1059
- Relay Servicing 1068

Toroids (See Coils, Toroidal)
Totalizers, Digital 536
TOTEL SYSTEMS CORP. 52, 53
Tracers, Signal (See Testers, Signal Tracing)
Trans-aire Blowers 112
Transformers
- Audio 1097, 1104, 1111, 1118, 1149, 1150, 1158, 1159, 1194-1196, 1210-1213, 1215-1219, 1226, 1227, 1231, 1233-1236
- Autotransformer 627, 1097, 1145, 1146, 1154, 1156, 1157, 1166, 1172, 1173, 1180, 1181, 1197, 1201, 1209, 1213, 1214, 1216, 1218, 1234, 1237
- Bias 1130, 1229, 1234, 1236
- Bridging 47, 1180, 1212, 1215
- Chopper 1219, 1227, 1235
- Constant Voltage 77, 1110, 1161, 1182, 1183, 1188, 1213
- Control 785, 881, 1097, 1140, 1143-1145, 1168, 1172, 1184, 1190, 1191, 1237
- Converter, D-C to D-C 1161, 1211, 1227
- Driver 1104, 1114-1116, 1150, 1160, 1196, 1218, 1221, 1226-1228, 1236, 1238

© United Technical Publications

Transformers (continued) Page
Filament 1097, 1131-1133, 1149, 1152, 1159, 1166, 1169, 1188, 1211, 1212, 1214-1216, 1219, 1229, 1230, 1236
400 CPS 1159, 1161, 1190, 1191, 1229
Flyback 1103
HV 1205, 1215
Input 47, 1112, 1115-1122, 1124-1130, 1148-1150, 1152, 1195, 1218, 1219, 1221, 1227, 1228, 1231, 1235, 1236, 1238
Instrument 646, 649, 1140, 1160, 1172-1174, 1176, 1177, 1179, 1180, 1183, 1192, 1202-1207, 1214, 1219
Interstage 1113, 1115-1122, 1150, 1159, 1160, 1195, 1196, 1211, 1215, 1218, 1221, 1226-1228, 1230, 1231, 1233, 1235, 1238
Isolation 627, 1097, 1121, 1146, 1152, 1156, 1157, 1166, 1181, 1183, 1184, 1190, 1191, 1196, 1197, 1201, 1208, 1213-1215, 1218, 1221, 1226, 1227, 1232, 1237
Line 57, 72, 77, 105, 1105, 1108, 1111-1113, 1122, 1149, 1150, 1156, 1158, 1159, 1195, 1204, 1208, 1212, 1213, 1215, 1218, 1219, 1231-1233, 1235
Matching 21, 33, 57, 93, 1114, 1158-1160, 1170, 1211, 1212, 1218, 1219, 1226-1228, 1231, 1233, 1235, 1236, 1238
Metered 1173, 1174, 1201, 1205, 1213, 1214
Microphone 1111-1114, 1119-1122, 1149, 1158, 1194, 1215, 1219, 1231
Mixing 1158, 1212, 1231, 1235
Modulation 1114, 1116, 1218, 1236
Output 93, 1105-1110, 1115-1122, 1150, 1159, 1160, 1184, 1185, 1195, 1196, 1212, 1216-1219, 1221, 1226, 1227 1230, 1231, 1235, 1236, 1238
Photoflash Power 1130, 1213, 1237
Plate 1097, 1113, 1114, 1147-1149, 1158, 1159, 1188, 1211, 1215-1217, 1219, 1230, 1231, 1233, 1234, 1236
Power 1097, 1124-1130, 1138, 1140-1144, 1149, 1157, 1159, 1168, 1169, 1172-1177, 1181, 1184, 1185, 1201-1204, 1212, 1214, 1217, 1230, 1231, 1233, 1234, 1237
Printed Circuit Mounting 1175, 1184, 1185, 1192-1194, 1211, 1221, 1226-1229, 1235, 1236
Pulse 1151, 1160, 1190, 1213, 1226, 1228, 1232
Rectifier 1097, 1138-1143, 1151, 1171, 1176, 1177, 1180, 1212, 1214, 1217, 1218
Reference 1228
Saturable 1134-1136, 1161, 1227, 1232
Servo 1190, 1191
Step-Down, Step-Up 627, 785, 1063, 1124-1133, 1140, 1143, 1145, 1146, 1148, 1152, 1154, 1155, 1157, 1166, 1168, 1169, 1171, 1176, 1177, 1179-1181, 1184, 1185, 1190, 1191, 1193, 1195, 1197, 1206, 1207, 1209, 1212-1214, 1228-1230, 1237
Toroidal 1202, 1210, 1213, 1220
Transistor 1097, 1116-1122, 1141-1143, 1150, 1158, 1159, 1170, 1192-1196, 1204, 1210, 1211, 1215, 1219, 1221, 1227-1230, 1232, 1235, 1237, 1238
Variable 627, 881, 1168, 1169, 1172-1174, 1201-1205, 1234
Vibrator 1097
Voltage-Dividing 1124, 1140, 1173
Voltage-Regulating ..710, 713, 1172-1174, 1180-1182, 1201-1204, 1209, 1214
Transicase Instrument Cases 121
Transistor & Diode Heat Dissipators 677, 964, 982, 983
Transistors
Field-Effect 965
Germanium, Power 949, 961-963, 977, 979
Germanium, R-F 965, 977, 979
Germanium, Switching 977, 979
Silicon, Photo 686, 978, 979
Silicon, Power 949, 961, 962, 974-977, 981, 984, 989-993
Transistors (continued) Page
Silicon, R-F 965, 977, 979, 980
Silicon, Switching 949, 977-980, 984, 988, 989
Unijunction 984
Trantracer Testers 593
Treadlite Switches 1030
Triacs (See Thyristors)
TRIAD DISTRIBUTOR DIV. LITTON INDS. 1210-1224
Trig-R-Heat Soldering Guns 1087
Trigate Pulse Transformers 1189
Trijet Transformers 1210
Trimline Enclosures 140, 141
TRIMM, INC.
Adapters, Jacks, Plugs, Etc. 513-515
Headphones, Etc. 84, 85
TRIPLETT CORP. 665-673
TRIPP-LITE (TRIPPE MFG. CO.) 789
Tron Fuses 1002, 1004
Tube Parts 319
Tubes
Cathode-Ray, Data-Storage 1299, 1300
Cathode-Ray, Instrument Use 1248, 1297-1301
Cathode-Ray, Multiple Gun 1297-1299
Cathode-Ray, Scan Conversion 1300
Cathode-Ray, Studio or Theatre 1262, 1263
Cathode-Ray, TV Picture & Color 1252, 1262, 1263, 1301, 1308, 1309
Ceramic (Electron) 1239-1242, 1244, 1270, 1271
Counting 1245, 1304
Electrometer 1287
Electron Multiplier 1240, 1241, 1244
Flash 1303
Gas 1242-1244, 1253-1255, 1265, 1267-1269, 1306, 1307, 1312
Ignitron 1267-1269, 1295, 1306, 1307, 1312
Image Converter 1262, 1263, 1306, 1307, 1312
Indicator 1243, 1245, 1287
Industrial Power ....1239-1242, 1244, 1248, 1253-1259 ,1263-1266, 1306, 1307, 1312
Magnetron 1239-1242, 1244, 1246, 1247, 1306, 1307, 1312
Microwave 1239-1242, 1244, 1306, 1307, 1312
Noise Source 1286
Photomultiplier 1246, 1248, 1303, 1306, 1307, 1312
Readout (CRT, Cold-Cathode, Vacuum Fluorescent, Etc.) 547, 1245, 1304
Receiving 1239-1245, 1250, 1251, 1253-1259, 1286-1288, 1291, 1313
Rectifying, Gas-Filled 1242-1245, 1248, 1253-1255, 1265, 1267-1269, 1286, 1287, 1289-1291, 1296, 1306, 1307, 1213, 1313
Rectifying, Vacuum 1243-1245, 1248, 1253-1258, 1265, 1296, 1306, 1307, 1312, 1313
TV Camera Pickup 1262, 1263, 1301, 1306, 1307, 1312
Thyratron 1242, 1249, 1253-1256, 1265, 1266, 1288, 1290, 1294, 1306, 1307, 1312, 1313
Transmitting 1241, 1248, 1253-1259, 1263-1265, 1292, 1293, 1306, 1307, 1312
Traveling Wave Amp. 1241, 1247, 1306, 1307, 1312
Voltage Reference or Regulating 1246, 1253, 1288, 1290, 1291
Tubing
Glass Fiber Insulation 1341, 1347, 1393, 1394
Heat Shrinkable (Also See Caps, Forms & Taps, Heat Shrinkable) 678, 679, 1337, 1338, 1340, 1342, 1344, 1346, 1394-1396
Plastic (Also See Tubing, Spaghetti) 675, 1388, 1340, 1346, 1392, 1393
Precious Metal 1347
Shrinkable (See Tubing, Heat Shrinkable)
Spaghetti 358, 498, 1065, 1338, 1347, 1348, 1392-1394

© United Technical Publications

GENERAL INDEX
CONTINUED

Page

Tubing (continued)
- Spiral Wrap 358, 1417
- TFE (Also See Tubing, Spaghetti) 498, 1339, 1346, 1348, 1392, 1393
- Zipper 1339

Tun-O-Brite Tuner Cleaner/Contact Polisher 236
Tun-O-Foam Tuner Cleaner & Lubricant 236
Tun-O-Wash Tuner Degreaser 236
TURNER MICROPHONE CO. 86, 87
Turntables, Recording & Transcription 96
Tweezers, Hand & Vacuum 1065
Twist-Lok Capacitors 199, 200
Tykon Edge Connectors 333

U

Ucinite Test Jacks 356
Ultracolor TV Picture Tubes 1252
Ultracompact Transformers 1233
UNGAR, DIV. OF ELDON INDUSTRIES 1079-1081
UniJax Phone Jacks 502
Uniline Speaker Columns 90
UNION CARBIDE CORP., CONSUMER PRODUCTS DIV. (EVEREADY) 699-705
Uniswitch Switches 1046
UNITED TRANSFORMER CO. DIV. OF TRW, INC.
- Coils & Inductors 274, 275
- Filters 572, 573
- Transformers 1226-1238

UNITRODE CORP. 984
UNIVERSITY SOUND (ALTEC DIV. OF LTV, LING ALTEC, INC.) 88-93

V

Vac-U-Sel Double/Diodes 965
VACO PRODUCTS CO.
- Terminals, Connectors 516, 517
- Tools 1083-1085

Vacombo Tool Kits 1085
Vari-Fine Motor Speed Controllers 521
Vari-Power-Trol Controls 881
Variable-D Microphones 64
Variductor Coils 275
Variflex Speaker Systems 80
Varipower Autotransformers 1234
VARO SEMICONDUCTOR DIVISION 985
VECTOR ELECTRONIC CO., INC. 252-258
Vectorboard Breadboards 252
Velvet Voice Microphones 57
VERO ELECTRONICS, INC. 250, 251
Veroboard Kits 250
Versakkrimp Terminals 524
Verti-Lytic Capacitors 195
Vibrakrimp Terminals 524
Vibrators (Frequency Converting) 693, 788, 949
Viewing Hoods, Cathode Ray Tube 281
VIP Intercom Systems 24
Vitamin Q Capacitors 212, 213
Volt-Pac Voltage Regulators 713
Volt-Pac Variable Transformers 1168, 1169
Voltage Regulators (See Regulators & Stabilizers, Voltage)
Voltbox A-C Power Supplies 1203
Volt Ohym
VoltOhmyst Meters 611-614
Voltprobe Voltage Tester 591

W

WABER ELECTRONICS, A SUBSIDIARY OF SGL INDUSTRIES INC. 518-523

Page

WALDOM ELECTRONICS, INC.
- Connectors, Terminals 524-531
- Hardware 584-588
- Switches 1054, 1055

WALL MANUFACTURING CO. 1087
WANLASS ELECTRIC COMPANY, DIV. OF AMBAC 792, 793
Washers (See Fasteners)
Wee-Bit Delay Line Sections 267
Wee-Chip Coils 264
Wee-Ductor Shielded Coils 271
Wee Wee-Ductor Coils 266
WELLER ELECTRIC CORP.
- Soldering Guns 1089
- Soldering Tools 1088

WELTRON COMPANY, INC. 105
Wescolite Solder Kits 235
WESTINGHOUSE ELECTRIC CORP., SEMICONDUCTOR DIVISION 986-993
WESTON INSTRUMENTS INC. 674
WHARFEDALE SPEAKERS 80
Wheel 'N' Reel Mobil Wire Racks 523
Wide-Vue Panel Meters 632-634
WILMORE ELECTRONICS COMPANY INC. 791
Wire
- Antenna (All Types) 1335, 1349, 1397, 1414
- Bare, Copper 1335, 1349, 1390, 1397
- Bare, Nickel-Chrome 1390
- Bare, Silver-Plated 1352
- Braid (Excluding Shielding) 1396, 1397
- Glass Insulated 1350, 1384, 1385, 1398, 1402
- Guy 358
- High Temperature 1318, 1320, 1388, 1399, 1400, 1402, 1404-1406
- High Voltage 1314, 1315, 1350-1352, 1384-1388, 1398-1400, 1402-1404, 1420
- Hookup-Pushback (All Types) 499, 1314, 1315, 1319, 1320, 1350-1352, 1355, 1384-1389, 1397-1401, 1403, 1406
- Irradiated 1325
- Lead-In & Ground 1405
- Magnet 1349, 1390, 1397
- Potentiometer Winding Resistance & Filament 1390
- Shielded 1325, 1350, 1351, 1384, 1385, 1387, 1399, 1400, 1403, 1405
- TFE Insulated 1317, 1335, 1388, 1402, 1406
- Test Lead 499, 1319, 1352, 1361, 1391, 1403, 1411, 1412, 1414
- Transmission (See Cable, Transmission Line)

Wire & Cable Ties 492, 574, 1415-1417, 1435
Wire Cutters, Hand Operated 1056, 1094
Wire Markers (All Types) (Also See Strips, Marker & Fanning) 1342, 1416, 1435
Wire Measuring & Cutting Machines 1356
Wire-Measuring Gauges 1069
Wire Shielding 1356, 1391, 1396
Wire Strippers, Automatic 1064
Wire Strippers, Hand Operated 1056, 1064
WORKMAN ELECTRONIC PRODUCTS INC. 949
WORNER ELECTRONIC DEVICES 688, 689
Wrapid Jacks 295
Wrenches 492, 1057, 1065, 1069, 1076, 1084, 1085, 1091
Wrapid Terminal Blocks 297

X-Y-Z

XCELITE INC. 1090-1095
Yokes, Deflection, Cathode-Ray Tube 1065, 1103
Zener Diodes (See Diodes, Zener)
ZENITH SALES CO. 1313
Zero-Mist Circuit Coolant 239
Zipper Tubing (See Tubing, Zipper)

© United Technical Publications

GC-TELCO TV HARDWARE - MOUNTS

GC ELECTRONICS

TV ANTENNA ROOF MOUNTS



TELCO ALL-PURPOSE ANTENNA MOUNT

Mast will mount vertically on roof or horizontally on house wall

For angle of flat roofs and corners. Will support masts up to 1¾" diameter. Made of extra heavy gauge steel, zinc plated, clear chromate dipped — doubly protected against rust. Salt spray and corrosion resistant.

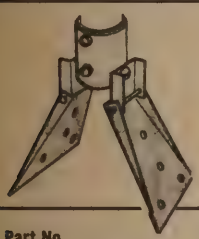
Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
8575	All purpose antenna mount	30 lbs.	12	3.13



HEAVY DUTY ALL-POSITION MAST BRACKET

Mast holder swivels 360 degrees to mount bracket in any posiiton. Ideal for ground-up mast installations. For use with push-up (telescoping) masts. Made of heavy duty steel stock, accommodates large masts up to 3" O.D.

Part No.	Description	Std. Pkg.	Net
9028	Heavy duty all-position bracket	6	2.63



TELCO HINGED TYPE RIDGE MOUNT

Adjustable to peaked or flat roofs and side walls. Made of extra heavy gauge steel with heavy pipe supports. Zinc plated and clear chromate dipped for double rust protection.

Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
9021	Fits masts up to 1½"	19 lbs.	12	2.20
9022	Fits masts up to 2"	22 lbs.	12	3.83
9019	Fits masts up to 2¼"	28 lbs.	12	3.29

CHIMNEY MOUNTS



TELCO "SNAP-IN" CHIMNEY MOUNT

Fits masts up to 1¾" diameter. Extra heavy gauge steel construction. Doubly protected against rust. Zinc plated and clear chromate dipped for long life. Chimney clearance of 4". Simply "Snap" mast in place and tighten bolts. Easy to handle. Complete with straps and necessary hardware.

Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
	GALVANIZED STEEL STRAPPING—Heavy Duty Strap Clamp			
8612	Mount with Two ¾" x 10' Straps	43 lbs.	12	3.30
8610	Mount with Two ¾" x 12' Straps	43 lbs.	12	3.40
8610-L	Mount with Two ¾" x 18' Straps	49 lbs.	12	4.05
	GALVANIZED STEEL STRAPPING—Speed-E Strap Clamp			
8610-F	Mount with Two ¾" x 12' Straps	43 lbs.	12	3.40
8610-LF	Mount with Two ¾" x 18' Straps	49 lbs.	12	4.05
	STAINLESS STEEL STRAPPING—Heavy Duty Strap Clamp			
8614	Mount with Two ¾" x 10' Straps	43 lbs.	12	4.02
8930	Mount with Two ¾" x 12' Straps	43 lbs.	12	4.90
8930-L	Mount with Two ¾" x 18' Straps	44 lbs.	12	6.10



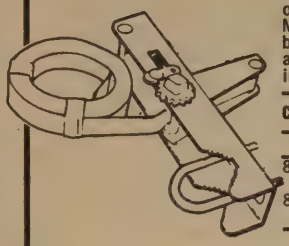
HEAVY DUTY GOLD FINISHED SNAP-IN CHIMNEY MOUNTS

Zinc di-chromate gold finish for long life and beauty. Steel strapping and mounting hardware included.

Part No.	Description	Std. Pkg.	Net
	GALVANIZED STEEL STRAPPING		
8646	Mount with two ¾" x 12' straps	12	3.40
8646-L	Mount with two ¾" x 18' straps	12	4.05
	STAINLESS STEEL STRAPPING		
8946	Mount with two ¾" x 12' straps	12	4.90
8946-L	Mount with two ¾" x 18' straps	12	6.10

GOLD RATCHET CHIMNEY MOUNT

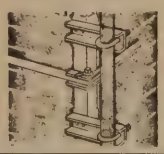
HEAVY GAUGE NON-STRIP RATCHET



A new concept in antenna mounts. Easily installed, supplied with 2 brackets per set. A quality constructed chimney mount designed to withstand high winds and adverse weather conditions. Requires only a wrench to fasten to chimney. The Ratchet Mount is Gold dichromate dipped for long life and beauty. Accepts masts up to 1½" in diameter. Available in stainless steel or galvanized ¾" strapping in 12 or 18 foot lengths.

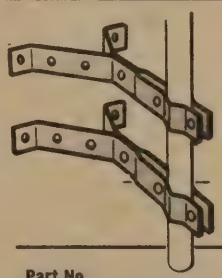
Cat. No.		Weight per Std. Ctn.	Std. Ctn.	Net
	GALVANIZED STRAPPING			
8011	Mount with two 12 ft. lengths of strapping	42 lbs.	12	4.61
8012	Mount with two 18 ft. lengths of strapping	48 lbs.	12	5.25
	STAINLESS STEEL STRAPPING			
8013	Mount with two 12 ft. lengths of strapping	42 lbs.	12	5.50
8014	Mount with two 18 ft. lengths of strapping	48 lbs.	12	6.51

HEAVY DUTY SINGLE STRAP CHIMNEY MOUNT WITH RATCHET



One piece rugged construction, single triple-duty ratchet strap. Faster, easier, safer and neater than regular two bracket type mounts. All materials are extra heavy duty. Includes aluminum chimney corner guards.

Part No.	Description	Std. Pkg.	Net
8010	Dual mount with ratchet and 12' of stainless steel strapping	6	7.21
8010-L	Dual mount with ratchet and 18' of stainless steel strapping	6	7.65



TV ANTENNA WALL MOUNTS

TELCO "SNAP-IN" WALL MOUNT

Simply snap mast into brackets, tighten, and the job is done. brackets made of heavy gauge steel, zinc plated and clear chromate dipped for long life. Individually boxed, all hardware included. Accepts masts up to 1¾" diameters.

Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
8302	Wall Mounts, 2¼" Clearance	35 lbs.	24	1.52
8304	Wall Mount, 4" Clearance	21 lbs.	12	1.95
8306	6" Snap-In Wall Mount	28 lbs.	12	2.43



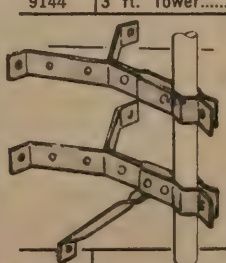
TRI-POD TOWER ANTENNA BASES

1¼" diameter galvanized steel legs offer superior strength and quality. Mount accepts masts up to 1¾" in diameter to support large antenna configurations.

EASY INSTALLATION:

1. Mount tower on roof.
2. Remove nut and bolt from leg.
3. Tilt tower to install antenna.
4. After installing antenna, raise tower, replace nut and bolt.

Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
9143	5 ft. Tower	13 lbs.	1	10.30
9144	3 ft. Tower	11 lbs.	1	6.30



TELCO MASTER DELUXE "SNAP-IN" WALL MOUNT

Brackets are spaced 16" wide for fastening to 16" 2 x 4 centers. Eliminates "side sway" of antennas. Made of extra heavy gauge steel zinc plated and clear chromate dipped for duble weather protection. Will accept masts up to 1¾" diameter. Individually boxed, all hardware included.

Part No.	Description	Wt. per Std. Ctn.	Std. Ctn.	Net
8308	8" Snap-In Wall Mount	40 lbs.	12	3.09
8312	Wall Mount, 12" Clearance	57 lbs.	12	4.20
8318	Wall Mount, 18" Clearance	72 lbs.	12	5.51
8324	Wall Mount, 24" Clearance	62 lbs.	6	7.61

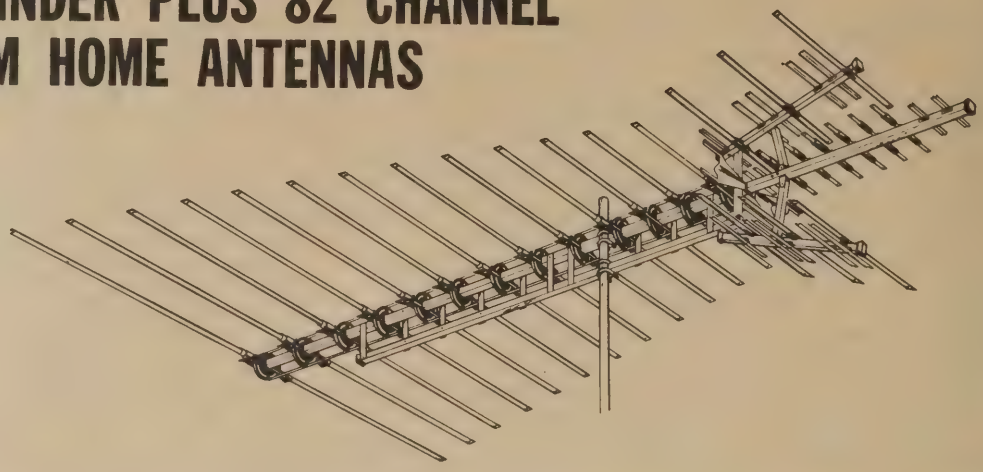
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

Net

JERROLD ANTENNAS & TV

VU FINDER PLUS 82 CHANNEL TV/FM HOME ANTENNAS



High gain periodic antennas. Unusually flat response. FS frequency splitter included to provide separate UHF and VHF inputs to the TV set.

VU-931 For local areas. 4 driven VHF elements plus 11 driven UHF elements. FS included. **$18.03** net

VU-932 For metropolitan areas. 5 driven VHF elements plus 2 parasitics. 11 driven UHF and 6 parasitics. FS included. **$23.98** net

VU-933 For Suburban areas, 7 driven VHF elements, 2 parasitics; 11 driven UHF, 6 parasitics. Includes FS. **$33.08** net

VU-934 Suburban to Fringe. 8 driven VHF, 4 parasitics; 11 driven UHF, 10 parasitics. FS included. **$41.13** net

VU-935 Deep Fringe. 9 driven VHF, 8 parasitics; 11 driven UHF, 21 parasitics. FS included. **$51.28** net

VU-936 Deeper Fringe. 10 driven VHF, 14 parasitics; UHF extended resonance dipole* plus 30 parasitics. FS included. **$68.43** net

VU-937 Deepest Fringe. 13 driven VHF, 13 parasitics. UHF extended resonance dipole*, plus 44 parasitics. FS included. **$87.50** net

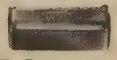
VU-8PZ UHF power-zoom. Attaches to any VU finder plus. Adds up to 60% UHF gain. **$4.55** net

* Unique dipole. Patent No. 3,369,245

J-SERIES — 82 CHANNEL MATV ANTENNA

J-283X Ruggedized to withstand most severe climatic conditions. High gain across entire UHF, VHF and FM spectrum. 75 OHM OUTPUT. **$100.00** net

ANTENNA MIXER/SPLITTERS



YC-SERIES OF YAGI COUPLERS. Use to combine single channel antennas or single channel with Broadband. Low combining loss. High isolation. YC-75 is 75 ohm and YC-300 is 300 ohm. Order by channel to be combined. **$7.77** net

1460C Splitter/Mixer. Combines UHF and VHF signals into single downlead. Also splits U and V at TV set. **$3.17** net

1425C Mixer. Combines High Band and Low Band VHF antennas into single downlead. **$3.67** net

TX-FM Enables you to connect FM receiver to TV/FM antenna. Very Low Loss. Does not disturb color reception. **$5.08** net

FS-1314 Splits downlead from 82 Channel Antenna to provide separate inputs to VHF and UHF antenna terminals. **$2.17** net

FS-1314-FM Similar to FS-1314, but provides extra output for FM set. **$2.33** net

ANTENNA SIGNAL TRAPS



1435A Series. Used to eliminate interference. Provide 23 dB rejection of any specified VHF-TV channel. Specify channel. **$5.97** net

FMR-300 Traps entire FM Band. 20 dB rejection. **$5.80** net

FMR-75 Similar to FMR-300, but for coax installations. **$8.34** net

ANTENNA SWITCHES

823 2 position slide switch provides selection between 2 antennas feeding one set. **$1.97** net

873 3 position slide switch provides selection between 3 antennas feeding one set. **$3.80** net

MATV HEAD END AMPLIFIERS



4330 Broadband, UHF/VHF/FM, solid state. Accepts separate or combined VHF/UHF inputs. Gain, VHF — 22 dB; UHF — 26 dB. Output capability, VHF — 35 dBmV; VHF — 40 dBmV. **$82.00** net

4400 Broadband, UHF/VHF/FM, solid state. Powerful enough for the largest systems. Gain, VHF — 32 dB; UHF — 36 dB. Output capability, VHF — 42 dBmV; UHF — 45 dBmV. **$197.00** net

3441 Broadband, VHF/FM, solid state. 22 dB gain. 42 dBmV output capability. **$61.70** net

MULTI-SET COUPLERS

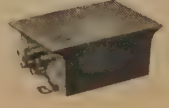
MF-82 Combines two All Channel Antennas into single downlead, or splits signal so one antenna serves 2 TV sets. **$3.10** net

MF-84 Similar to MF-82, but handles 4 antennas or 4 TV sets. **$3.85** net

HOME ANTENNA SYSTEM AMPLIFIERS

TA-84 4-Set Amplifier Coupler for UHF/VHF and FM. Supplies 4 sets from one antenna. 4 to 8 dB gain to each set. Tunable FM trap. 300 ohm input and outputs. **$30.56** net

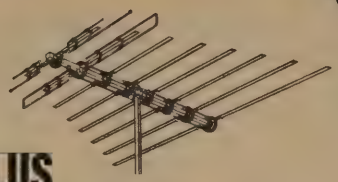
TAC-84 75 ohm Coaxial Version of TA-84. **$37.46** net



Net

© United Technical Publications

DISTRIBUTION EQUIPMENT



PARALOG PLUS VHF/FM HOME ANTENNAS

High gain. FLAT RESPONSE. Excellent color reception. Easily convertible from 300 ohm to 75 ohm Coloraxial downlead by snap-on transformer, STO-82.

VIP-301 Local. 4 driven elements. **$13.27** net
VIP-302 Metropolitan. 5 driven elements and 1 parasitic. **$19.57** net
VIP-303 Suburban. 7 driven elements and 1 parasitic. **$26.08** net
VIP-304 Near Fringe. 8 driven elements and 2 parasitics. **$33.25** net
VIP-305 Fringe. 10 driven elements and 3 parasitics. **$40.57** net
VIP-306 Deep Fringe. 10 driven elements and 5 parasitics. **$47.57** net
VIP-307 Super Fringe. 10 driven elements and 9 parasitics. **$62.27** net

J-SERIES HIGH GAIN MATV RUGGEDIZED VHF/FM ANTENNAS — 75 OHM OUTPUT

J55-LO For channels 2 thru 6. **$87.00** net
J55-FM For FM. **$44.00** net
J105-HI For channels 7 thru 13. **$87.00** net
J55-* Cut-To-Channel Yagi.* Order by channel number. **$44.00** net
J105-* Cut-To-Channel Yagi.* Order by channel number. **$44.00** net



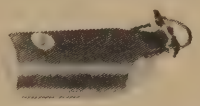
PARACYL UHF ANTENNAS

Cylindrical Parabolics. High Gain. Large Vertical Capture Area
JUP-2 Suburban. 36" Reflector. **$10.85** net
JUP-3 Fringe. 48" Reflector. **$27.65** net
JUP-4 Deep Fringe. 72" Reflector. **$36.75** net

FM ANTENNAS

C-677M Golden Turnstile. OMNI-Directional. Excellent for FM Stereo. **$10.15** net
G 626-A S-Type OMNI-Directional **$6.13** net
FM-5 5 Element Yagi. **$11.55** net
FM-10 10 Element Yagi. **$17.85** net

MAST MOUNTED PREAMPLIFIERS



These POWERMATE PLUS preamplifiers melt away snow even in deep fringe areas. Each unit comprises a mast mounted preamp and an indoor remote power supply. Rugged, reliable and easy to install. Won't overload.
4214 For VHF and FM. 13 to 16 dB gain. 300 ohm twinlead input and output. 2-set output. **$24.71** net
4283 Similar to 4214, but amplifies UHF, VHF and FM. **$32.96** net
4287-S For UHF/VHF & FM. 300 ohm input. 75 ohm coaxial downlead and output. High gain. **$37.69** net
DSS-* Single Channel VHF "DESNOWER" preamplifiers. Very Low noise. 30 dB gain. 75 ohms. *Order by channel number. **$95.38** net

MATV SPLITTERS



1596A 2-way, Hybrid, 82 Channel. Splits 75 ohm cable from Head End into 2 trunklines. Low loss, High Isolation. **$6.17** net
1597 4-way, Hybrid, 82 Channel. Splits cable into 4 trunklines. **$11.67** net
1563 2-way, Economy Hybrid. **$4.64** net

TAPOFFS



OMNI-TAPS Two taps cover all MATV needs. Isolation is variable — can be changed with the turn of a screw. Insertion loss is low.
VT-75U 75 ohm output **$2.40** net
VT-300U 300 ohm output **$2.22** net

MATCHING TRANSFORMERS

MUV-382 UHF/VHF FM Matching Transformer. Snaps onto any antenna boom. Matches 300 ohm antenna to 75 ohm coaxial cable. **$2.33** net
T-1000 VHF/FM .Indoor Matching Transformer. Matches 57 ohm cable to 300 ohm TV set. **$1.47** net
T-2000 UHF/VHF/FM Indoor Matching Transformer **$1.77** net

COLORAXIAL CABLES

82 CHANNEL CABLES — Engineered for superior shielding, low loss and greater mechanical strength. Thick tough mylar — aluminum foil tape covered by tightly woven aluminum braid provides 80 dB shielding to keep signal in, interference out.

CAC-6-500 500' reel of cable. **$46.70** net

CAC-6-1000 1000' reel of cable. **$90.00** net

CAD-50DP 50' cable with connectors and weatherboot. **$6.90** net

CAD-75DP 75' cable with connectors and weatherboot. **$8.94** net

CAD-100DP 100' cable with connectors and weatherboot. **$11.11** net

CAC-11-1000 1000' reel of RG-11 size Coloraxial cable. **$140.00** net



FIELD STRENGTH METERS

747 Professional quality solid state portable FSM. Extended range (50 to 260; 470 to 890 MHz), measures all UHF, VHF and FM signals, plus midband and super band CATV channels. Accurate and easy to operate. **$450.00** net

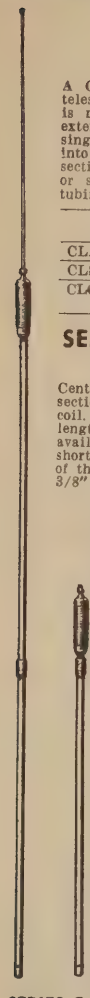
AIM 718 Economy FSM for antenna installers. Portable, solid state, light. 82 channel. **$219.50** net

PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

SERIES C CENTER-LOADED MARINE ANTENNAS

A Center-Loaded Collapsible type Antenna, consisting of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section, giving a total extended length of about 19 feet. This Antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 feet. The sections are of seamless aluminum, polished or gold anodized, or stainless steel and the coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof coating.

No.	Type	Base O.D.	Base I.D.	Wt. Lbs.	Net Selling Price
CLA-619	Aluminum	1.000"	.834"	5	$39.00
CLS-1119	Stainless	1.000"	.900"	7	72.00
CLGA-619	Gold Anodized Aluminum	1.000"	.834"	5	42.00

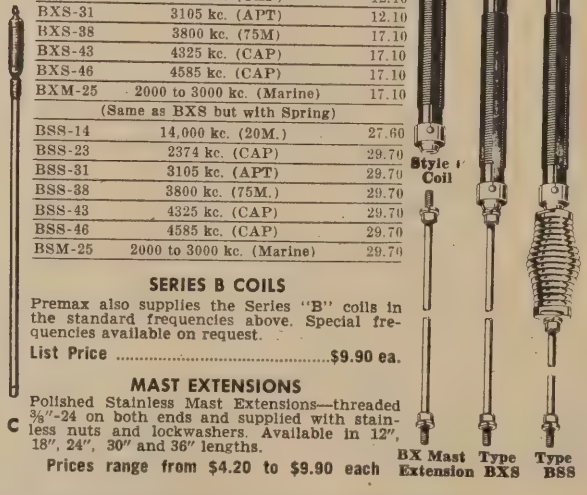


SERIES C

SERIES B CENTER-LOADED ANTENNAS FOR MOBILE & MARINE USE

Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any 3/8" x 24-thread mounting.

NO.	FREQ.	Net Selling PRICE
BXS-14	14,000 kc. (20M.)	$16.50
BXS-23	2374 kc. (CAP)	12.10
BXS-31	3105 kc. (APT)	12.10
BXS-38	3800 kc. (75M)	17.10
BXS-43	4325 kc. (CAP)	17.10
BXS-46	4585 kc. (CAP)	17.10
BXM-25	2000 to 3000 kc. (Marine)	17.10
	(Same as BXS but with Spring)	
BSS-14	14,000 kc. (20M.)	27.60
BSS-23	2374 kc. (CAP)	29.70
BSS-31	3105 kc. (APT)	29.70
BSS-38	3800 kc. (75M.)	29.70
BSS-43	4325 kc. (CAP)	29.70
BSS-46	4585 kc. (CAP)	29.70
BSM-25	2000 to 3000 kc. (Marine)	29.70



BX Mast Extension | Type BXS | Type BSS

SERIES B COILS

Premax also supplies the Series "B" coils in the standard frequencies above. Special frequencies available on request.

List Price .....$9.90 ea.

MAST EXTENSIONS

Polished Stainless Mast Extensions—threaded 3/8"-24 on both ends and supplied with stainless nuts and lockwashers. Available in 12", 18", 24", 30" and 36" lengths.

Prices range from $4.20 to $9.90 each

MOBILE VHF WHIPS

Style CD-11 Series—Permanent type. Porcelain insulator mounts thru ½" hole in rooftop.

Style CD-21 Series—Emergency type. Attaches by heavy duty suction cup.

NO.	FREQ.	Net Selling PRICE
CD-112	108 to 120 mc.	$3.90
CD-114	144 mc.	3.90
CD-115	152 to 162 mc.	3.90
CD-212	108 to 120 mc.	2.76
CD-214	144 mc.	2.76
CD-215	152 to 162 mc.	2.76



CD-11



CD-21

GROUND PLANE ANTENNAS FOR POINT-TO-POINT USE

For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard 1/2" pipe. Cable carries down thru pipe.

NO.	FREQ.	USE	PRICE
GP-312	120 mc.	For aircraft and CAP.	$8.10
GP-314	140 mc.	For 2 meter and CD.	8.10
GP-315	150 mc.	For police and taxi	8.10

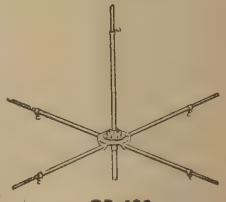


GP-3

PREMAX ADJUSTABLE GROUND PLANE ANTENNAS 20-60 mc

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

GP-430	Adjustable 20-40 mc.	$49.50
GP-450	Adjustable 40-60 mc.	39.00



GP-400 Series

MOBILE MOUNTINGS FOR USE WITH WHIPS WITH 3/8"—24 MALE THREAD



Type CA

CA BUMPER MOUNTING

"Chain Style — clamps on any bumper with 1" clearance; no drilling; theft-proof.

Price $9.90



Type SA-2

SA-2 SPRING ADAPTOR

Stainless steel Spring Adaptor—can be attached to types R-2, R-3, L-1, CA and NA-1 to provide greater flexibility. Height 4¼", diameter 2⅝".

Price $10.80



Type R-2

R-2 UNIVERSAL COAX TYPE MOUNTING

Solid Polished Aluminum splitball can be adjusted to any angle. Has shielded coax connection and stainless hardware

Price $12.60



Type R-3

R-3 UNIVERSAL MOUNTING

Solid Polished Aluminum Swivel Ball. Heavy stainless steel backup plate with grounding screws. Stainless steel hardware.

Price $15.90



Type NA-1

TYPE NA-1

Bumper mounting with ceramic cone insulator and steel bracket.

Price $9.00



Type RS-2

TYPE RS-2 COMBINATION

Similar to R-2 except has spring as shown under SA-2.

Price $27.00



Type F

TYPE F

30° adjustable mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.

Price $15.00



Type V

TYPE V

Thru-deck mounting designed for Style BX and BS Center-Loaded Marine Antennas. White porcelain cones with a maximum opening for 1-1/2" deck. Stud threaded 7/16"-24.

Price $9.00

MINI-MOBILE ANTENNAS

Model CBMSF-27 25-50 MHz

New from Premax — Mini CB Spring and Chrome-plated Adjustable 30° Mounting for roof, fender or trunk. Overall height only 27". Stainless steel Whip, chrome-plated brass base with heavy phenolic insulator. Complete with 16' RG-58/U 50-OHM coaxial cable with connector and adapter.

Price $24.00

Model CBMS-25

Same as CBMSF-27 but without Adjustable Mount.

Price $15.00

Model CBF-24

Same as CBMSF-27 but without Spring.

Price $21.00

CITIZENS BAND 27 MHz WHIP MOBILE ANTENNAS

Model CB-4 includes type RS-2 Mobile Mounting and Style VS-9108 Whip Antenna.

Price $35.10

Model CB-5

Same as above but with type S-2 Mobile Mounting and Style TS-8108 Whip Antenna.

Price $24.00

Model CB-3

Same as CB-4 but without spring.

Price $20.70



CB-4



CBMSF-27

ALSO AVAILABLE: CITIZEN BAND BUMPER MOUNTINGS WITH FULLY ADJUSTABLE CHAIN TO FIT ANY BUMPER CONTOUR. AVAILABLE WITH OR WITHOUT SPRING.

PREMAX PRODUCTS DIV., CHISHOLM-RYDER CO., INC.

Net

© United Technical Publications

PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

VERTICAL TELESCOPING ANTENNAS
PREMAX STAINLESS STEEL ANTENNAS

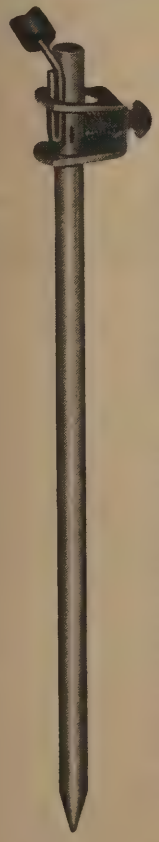
Premax stainless steel antennas, fully telescoping and adjustable, have a locking device that holds the sections firmly at any desired point insuring a perfect electrical contact. Made of a high grade polished stainless steel tubing, hard-drawn to an extremely high tensile and yield strength, they are well suited for the most severe strains from high seas or winds.

PREMAX ALUMINUM ANTENNAS

Premax aluminum antennas are lightweight, corrosion resistant and have adequate strength to meet practically all needs for marine, commercial and mobile installations that demand convenience in erecting and dependable performance. They are constructed of highly polished, specially tempered aluminum tubing engineered to withstand wind velocities up to 60 miles per hour. Also available in gold anodized finish.

SPECIFICATIONS & DESCRIPTIONS OF TELESCOPING VERTICALS

NO.	DESCRIPTION	EXTD.	COLL.	BASE O.D.	BASE I.D.	WGT.	PRICE
SS-1118	3-Sec. Stainless	18'4"	6'3"	.750"	.680"	6	$ 57.00
SS-1124	4-Sec. Stainless	24'3"	6'3"	1.000"	.900"	9	84.00
SS-1130	5-Sec. Stainless	30'0"	6'4"	1.250"	1.120"	13	117.00
SS-1135	6-Sec. Stainless	35'7"	6'4"	1.500"	1.370"	19	159.00
AL-312	2-Sec. Aluminum	12'4"	6'4"	.500"	.334"	1½	9.90
AL-518	3-Sec. Aluminum	18'5"	6'4"	.750"	.584"	3	21.00
AL-324	4-Sec. Aluminum	24'4"	6'4"	1.000"	.834"	5	30.00
AL-530	5-Sec. Aluminum	30'0"	6'5"	1.250"	1.084"	7	39.00
AL-535	6-Sec. Aluminum	35'8"	6'5"	1.500"	1.310"	12	54.00
Gold anodized aluminum finish ..... $13.20 to $63.00							



GET POSITIVE PROTECTION FOR YOUR EQUIPMENT WITH A PREMAX GROUND ROD

High quality, low cost Premax Ground Rods make it impractical to fuss with makeshift grounding methods. Made of smooth drawn steel with newly designed pencil-point tip for easier driving. Heavy copper plate prevents rust and assures sensitive electrical contact. Available in 4 ft. to 8 ft. lengths; ⅜", ½" and ⅝" diameters. Styles J and G have simple clamp with set-screw for attaching ground lead. Style H has a ⅛" hole drilled in rod through which ground lead can be fastened. Style X is a plain rod to which ground lead can be clamped or soldered.

Size	Weight per 100 Pieces	STYLE J & G Screw Clamp No.	Price	STYLE H With Hole No.	Price	STYLE X Plain No.	Price
⅜"x4'	160	J-64	.99				
¾"x6'	230	J-66	1.26				
⅜"x8'	320	J-68	1.50				
½"x6'	400	G-86T	2.04	H-86T	2.10	X-86T	1.80
½"x8'	540	G-88T	2.40	H-88T	2.46	X-88T	2.16
⅝"x6'	630	G-106T	2.91	H-106T	3.00	X-106T	2.70
⅝"x8'	840	G-108T	3.60	H-108T	3.72	X-108T	3.42

GALVANIZED RODS QUOTED ON REQUEST

Freight Allowance of up to $2.00 per cwt. granted on all Ground Rods based on lowest rail freight rate.

BASE MOUNTINGS FOR VERTICALS



TYPE 1 BASE INSULATOR

Heavy-duty type Base Mounting Insulator with compression rating up to 10,000 lbs. Has wet-process brown-glazed porcelain cones. Available in galvanized malleable iron, gold anodized aluminum, and chrome-plated brass, in rigid-post, hinged-post. Ht. to post base, 7 to 9 inches. Wt. 8 lbs. Alum. 5 lbs.

Price .....$36.00 to $72.00



TYPE 6 BASE INSULATOR

For marine, mobile unit, roof-top or tower. Lead-thru construction permits connections below deck. Flanges 6" in diameter with 6 bolts on a 5" circle. For ½" to 3" deck. Available in galvanized malleable iron, gold anodized aluminum, and chrome-plated brass. Rigid post, and hinged post styles. Ht. from flange to post base, 3" to 5". Wt. 11½ lbs. Alum. 8 lbs.

Price .....$54.00 to $111.00

STANDOFF INSULATORS



TYPE 10-S

A heavy-duty Insulator with chrome-plated brass base and head caps—regular or hinged clamps. Insulator is brown-glazed porcelain in extra heavy style. Ht. to center of clamp, about 4½". Wt., 3 lbs.

Price .....$57.00 to $96.00



TYPE 13-S

Heavy, rugged cast caps and base plates in aluminum, plain or gold anodized, or chrome-plated brass. Heavy brown-glazed porcelain insulator, 3 inches in diameter. Ht. to center of clamp, 4¾". Wt., 2½ lbs.

Price .....$13.20 to $34.80

MOBILE WHIP ANTENNAS

HEAVY DUTY TAPERED STAINLESS—TYPE ES

Solid one-piece taper-ground whips, ¼" at base tapering to 3/32" at tip with top ball. High-tensile stainless steel fabricated by special formula, comparing favorably with the best spring steel, yet having excellent corrosion-resistant properties.

STANDARD WEIGHT TAPERED STAINLESS WHIP WITH NON-REMOVABLE ADAPTOR—TYPE TS

Stainless steel whips of extremely high tensile strength with a permanent type stainless adaptor, with ⅜" male thread.

STANDARD WEIGHT WHIP WITH REMOVABLE ADAPTOR—TYPE VS

Same whip as above except supplied with a removable adaptor locked in place by dual set screws.

NO.	LENGTH	PRICE
ES-760	60"	$7.20
ES-772	72"	7.20
ES-784	84"	8.10
ES-796	96"	8.10

AD-700 — Separate Stainless Adaptor with ⅜" male thread for ES and ES series whips $2.25

NO.	LENGTH	PRICE
TS-860	60"	$7.20
TS-872	72"	7.20
TS-884	84"	7.50
TS-896	96"	7.50
TS-8108	108"	8.10
VS-960	60"	8.10
VS-972	72"	8.10
VS-984	84"	8.40
VS-996	96"	8.40
VS-9108	108"	9.00

AD-900 Same as AD-700 except drilled for VS series whips. $2.25

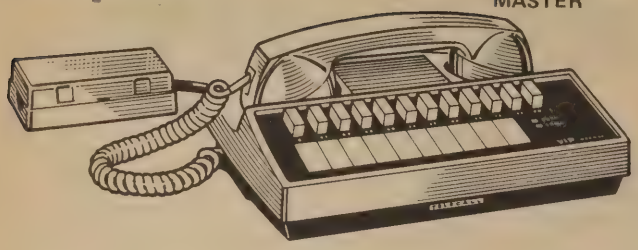
PRICES EFFECTIVE AT TIME OF PRINTING AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.

PREMAX PRODUCTS DIV., CHISHOLM-RYDER CO., INC.

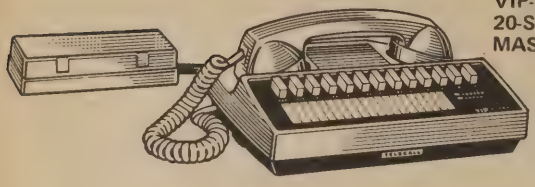
ALCO®

NEW VIP System INTERPHONE

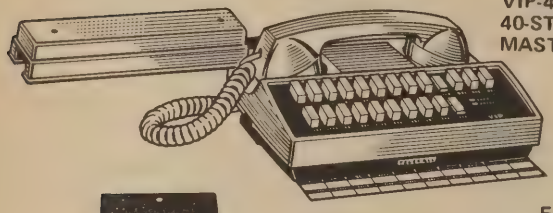
VIP-10
10-STATION
MASTER



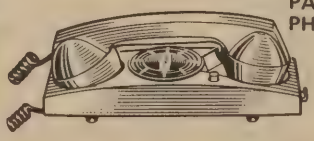
VIP-20
20-STATION
MASTER



VIP-40
40-STATION
MASTER

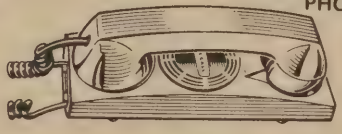


ET-P
PAGING
PHONE





ET-R
REMOTE
PHONE



PSA-5/10
POWER SUPPLY
& AMPLIFIER

ALCO VIP-Series is one of the most versatile and advanced telephone intercom systems designed to replace leased phones and other intercoms. Saves tying up expensive telephone lines and switchboards...and permits instant, high quality voice communications throughout your building. The VIP System can be used up to 40 stations, in any combination of masters and remotes. All masters and remotes include the telephone handset for private conversation and to prevent eavesdropping.

VIP-10 MASTER: With the VIP-10 a maximum of 11 stations can be interconnected for individual conversations, paging to all stations, and conference calls. The mating series has 2-tone molded cases and attractive station selector buttons. The simple "touch" push button station selection rings an electronic tone when making private calls or paging is possible through the self-contained speakers. The full traffic VIP System carries telephone conversations between all stations separately and simultaneously. Operates from a 12-volt supply (see below). Handset has 40" extended coiled cord. Two-tone light and dark brown master station can be used on desk or wall-mounted. 15-Conductor cable is needed. Size: 10.6" W. x 7" D. x 4" H. Shipping weight, 5 lbs.
VIP-10 Ten Station Master..... **List $99.00 each**

VIP-20 MASTER: Same features as VIP-10, but with capability of a 21 station system. Requires 25-Conductor cable.
VIP-20 Twenty Station Master..... **List $129.00 each**

VIP-40 MASTER: Same features as VIP-10, but with 41 station capability. Requires 45-Conductor cable.
VIP-40 Forty Station Master..... **List $189.00 each**

ET-R REMOTE: Use with any VIP Master. Has simultaneous talk with handset, press-to-call electronic tone, and speaker on base to receive paging calls. Number of conductors, "4". For desk use or wall mounting. Size: 3" W. x 9.5" L. x 3.5" H. Wt. 2.5 lbs.
ET-R Remote..... **List $44.00 each**

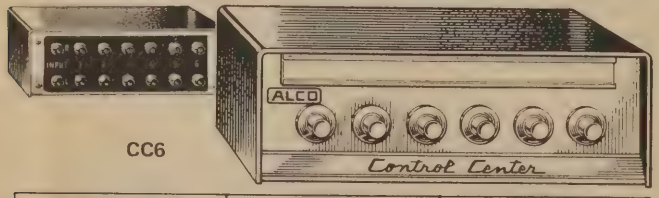
ET-P PAGING PHONE: Used in conjunction with PSA-5/10 and horn speakers for larger area paging. Number of conductors, "5". Other features similar to ET-R.
ET-P Paging Phone..... **List $42.00 each**

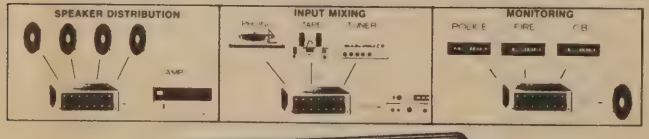
ET-PW POWER SUPPLY, 115 VAC to 12 VDC.....**List $44.00 each**

POWER SUPPLY with 20 watt amplifier
PSA-5 (For 25 stations).....**List $99.00 each**
PSA-10 (For 50 stations).....**List $119.00 each**

Control Centers

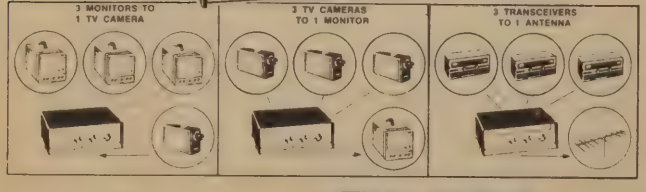
CC6





CCV3





Designed for home and professional sound installations, allows stereo speaker systems to be selected for simultaneous operation. Provides full stereo sound in every room throughout the house with "push-ON and push-to-RELEASE" switches to optionally select speaker pairs. The decorator styling enables placement with any of the newest audio component equipment. Black finish metal case has the appearance of leather. Brushed aluminum escutcheon plate is enhanced with ivory white push buttons, and identification plate. Rubber "protectors" at the bottom surface eliminate scratches on furniture and cabinets. May be mounted in an inverted position under the shelf. Has easy access rear panel plug-in connector type to suit your systems. No external power is required. No internal resistor that may affect impedance matches. Useable in low or high impedance circuits. Size: 5 5/8" x 2 1/8" x 3 9/16".

CCV3UHF is a communication control center that enables you to arrange video systems and R-F layouts. Uses standard "M" type (SO-239) connectors on input and all outputs.

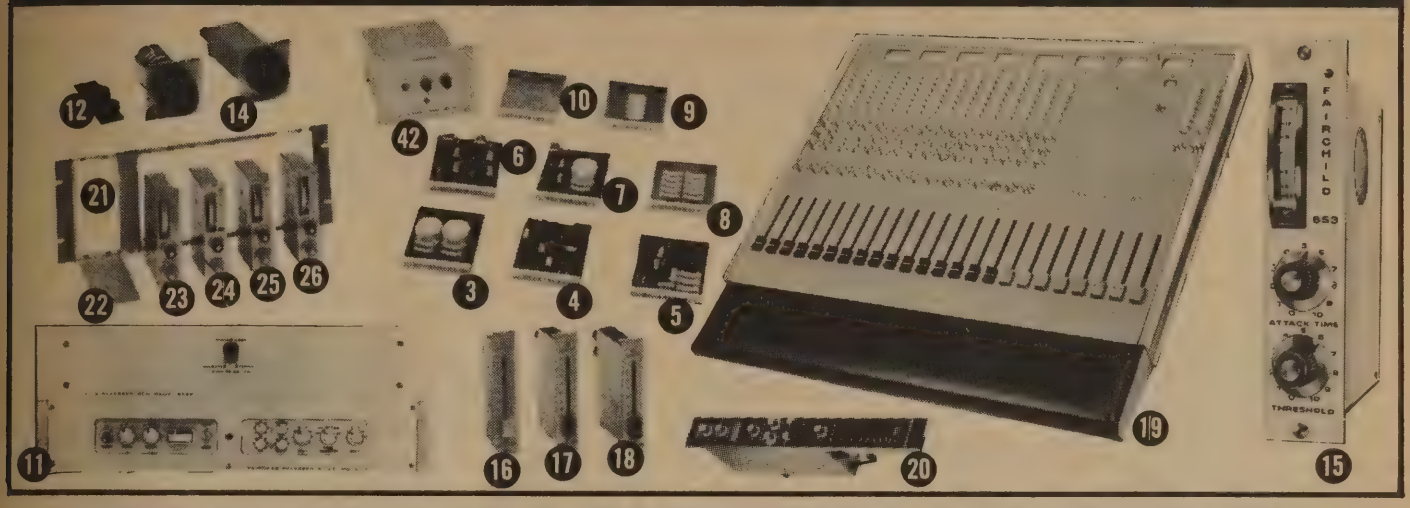
Model	Use	No. Stations	Connections	User Net
CC4RCA	Audio	4	RCA	$19.95
CC4PHM	Audio	4	Phone (Miniature)	21.95
CC4PHS	Audio	4	Phone (Standard)	22.95
CC6RCA	Audio	6	RCA	26.95
CC6PHM	Audio	6	Phone (Miniature)	28.95
CC6PHS	Audio	6	Phone (Standard)	29.95
CCV3UHF	Video	3	SO-239 Connector	19.95

ALCO ELECTRONIC PRODUCTS, INC.

Trade Discount Applies To List Prices Only
© United Technical Publications

FAIRCHILD SOUND EQUIPMENT CORP.

SUBSIDIARY OF ROBINS INDUSTRIES CORP.



BROADCAST AND PROFESSIONAL QUALITY AUDIO COMPONENTS, CONSOLES AND SYSTEMS

LUMITEN SERIES NOISE FREE ATTENUATORS

The only line of remotely controlled professional audio faders. Noiseless. Infinite resolution, 0-inf. No moving parts. Several channels can be controlled remotely from one actuator. **Attenuation range:** 0-125 dB. **Insertion loss:** 3 db, 600 ohms. **Impedance:** 600 or 150 ohms: max impedance variation 15% over entire range. Power required: 6.3 V DC, Slide faders 1½" W x 7" H.

16 ***668** Vertical slide-type attenuator
17 ***668ST** Vertical slide-type stereo attenuator
668MC 4-channel card. ½ db tracking error
17 ***668ACT** Vertical slide-type remote actuator
14 **669ACT** Rotary remote actuator
18 **668PAN** Pan-pot slide actuator
15 **668RAB** Remote attenuator card
12 **668RSB** Remote stereo attenuator card
18 ***SWL-600** L-pad slider wire fader

* Cue position optional

19 FPC SERIES PORTABLE MIXING CONSOLES

The world's first truly portable professional mixing console. Weighs only 45 pounds, operates on internal batteries or external supply. **Gain:** 90 db. **Input levels:** −55, −40, −30, −20, +4 dbm. **Equalization:** ±15 db control of complete spectrum. **Frequency response:** ±0.5 db 20-20 kHz. **Input noise:** −125 dbm. **Inter-channel separation:** 70 db min. Distortion .3%.

FPC-30 12 inputs — 2 outputs
FPC-34 12 inputs — 4 outputs
FPC-38 16 inputs — 2 outputs
FPC-42 16 inputs — 4 outputs
FPC-50 16 inputs — 8 outputs

INTEGRA I BUILDING BLOCKS

661TL Autoten® Audio actuated gate for automatic attenuation, expansion or ducking. Soft switching with LDRs. Requires 6.3 V AC or DC.
662 Pre/Line amplifier. Gain: 32-50 db. **Output:** +24 dbm. Requires 18 V DC.
662TXI — Same with mic input transformer.
664A Program Equalizer. ±10 db high and low range. 17 db insertion loss. High frequency boost 4, 6, 8, 10, 15 kHz.
664B. Same but boost at 2, 3, 4, 5, 7.5 kHz.
664NL. Same but no-loss, additional gain. Requires 24 V DC @ 6 ma.
26 **663 Compressor.** 20 db compression, slope 2/1. 3 db insertion loss. Requires 6.3 V AC or DC.
26 **663NL.** Same but no-loss, additional gain, requires 24 V DC.
26 **663ST.** Stereo version. Triggers from either channel.
23 **675 De-esser.** Automatically attenuates sibilant sounds.
15 **653 Ambicon.** Controls gain automatically with ambient noise changes. 20 db range. Requires 6-24 V DC.
11 **659 Reverbertron.** Dynamic reverberation system to enhance sound quality. Full range equalization, local and remote selection of 3 degrees of reverberation. Only 7" panel. Self-contained power supply.
610 Monitor amplifier. 10 watts rms with total short circuit and overload protection.
610MI. Same with preamplifier.
870 Monitor amplifier. 70 watts rms across 8 ohm load. Damping factor 20 or more. Total short circuit and overload protection.
DA-415-8 Distribution amplifier. 8 separate isolation amplifiers provide means of distributing one or more sources into 8 separate lines with complete isolation and no loss. High impedance input. Low impedance output. Max. output 15 dbm. Self-contained power supply.

FAIRCHILD INTEGRATED CONTROL MODULES

Complete packaged audio channels for input, output and monitor circuits. Used singly or in multi-channel consoles.

20 **FICM Input module.** Mic and line level inputs, equalization, compression, echo feed and metering.
20 **FICOM Output module.** Equalization compression, echo return, metering and output transformer.
20 **FICMM Monitor module.** Crossbar switching for 10 inputs to 10 outputs, talk-back and slating circuit, preamp and controls, muting.

INTEGRA II BUILDING BLOCKS

INTEGRA II is a complete line of audio processing components designed for professional audio systems. Plug-in cards use discrete components, measure 2½" x 5½". Performance, reliability, low cost. Control all functions remotely.

6 **692A Basic preamp.** 18 dbm output, gain 22-51 db, distortion less than .2%, equivalent input noise — 127 dbm, input z-100k, output z-3 ohms. Requires 24 v at 6 ma.
6 **692ATX1.** Same with mic input transformer.
6 **692AD two amplifiers** on the same card.
6 **692ADTX1.** Same with input transformers.
7 **692B Basic preamp** with remote controlled attenuator circuit and two delegation relays, with mix network on the same card. Requires also 6.3 V DC @ 60 ma for gain control.
7 **692BTX1.** Same with mic transformer.
3 **692C Two remote control attenuator circuits** with four relays and mix nets on one card.
3 **692D.** Same card with attenuator circuits only.
4 **692AGC Remote controlled compressor.** 2/1 compression, 35 db dynamic range, attack 3 msec, release 0.3-5 sec. Remote control panel with meter.
5 **692EQ Remote Control equalizer.** Selection of boost freq. 2-10 kHz. Low and top end shelving curves. Strap gain 0-20 db.
10 **692MNNL Mixing card.** No loss or up to 20 db gain. 16 inputs bridging or matching. +18 dbm output, S/N 85 db.
10 **692MXB.** Passive mixing card.
8 **692SW Switching cards** with reed relays. Up to 10 SPST N.O. relays with mixing network, or up to 5 DPST relays on same card.
6 **692SPA Stereo phono equalized preamp.** NAB or RIAA curves. Gain adjustable, +18 dbm output, S/N 65 db min.
6 **692LA Two line amplifiers** (on one card) +30 dbm output. Requires 48 V DC.
4 **692DAT Two audio actuated gates** (on one card). Opens or closes channel completely or partially with audio signal. Soft switching with LDR's. Requires 6.3 V DC.
8 **692HLIC.** Four separate unity gain isolation amps on one card. Input z-100k, output 3 ohms designed for 600 ohms loads. Max. output 15 dbm.
9 **692DCA Two cue amplifiers** on one card. Each delivers 1 watt into 8 ohm load. Requires 24 V DC @ 0.2 A/channel.
9 **6920SC Test oscillator card.** 7 fixed frequencies or remote sweep.
692PS24 Power supply card. 24 V DC @ 180 0.5 mv ripple. Short proof.
692PS6.3 Power supply card. 6.3 V DC @ 0.5 A at 1 mv ripple. Short proof.

INTEGRA III BUILDING BLOCKS

INTEGRA III designed with IC op amps. Size 2½" x 7". Requires bipolar power supply ±15 V DC. All audio functions for professional audio systems. Reliable, compact low cost card series.

725A Basic amplifier 0-35 db gain, output 20 dbm, input noise — 127 dbm.
725AT same amp with mic transformer. Gain 55 db max.
725AD Two 724As on the same card.
725ADT2 both preamps with transformers.
725LA Line amp, +27 dbm out, gain 35 db, noise — 127 dbm. THD 0.2%.
725LAT with input transformer.
725LAD, two amps on a card.
725M Isomix card for 21 inputs, gain 0-20 db. input z-10k.
725ACL Basic preamp with limiter, limiting threshold 1 db before clipping. Range 40 db, 20/1 slope.
725ADCL, double amp-lim, card.
725ADCLT2 with transformers.
725OSC 25 Hz automation oscillator, 10 dbm out.
725FA 25 Hz active notch filter, no loss, response 50-20 kHz.
725SPA Stereo phono equalized preamp.
725STA Stereo tape equalized preamp.
725RABS Remote stereo gain control, requires 6.3 V DC at 60 ma.
725BPS Bipolar power supply card, ±15 V DC @ 50 ma/section. Ripple 0.2 mv.

POWER SUPPLIES

624 24 V DC @ 2 A., 6.3 V DC @ 3 A.
667B 18/24 V DC @ 100 ma, 6.3 V AC @ 1 A.
667AA 18/24 V DC @ 0.34 A, 6.3 V AC @ 1 A.
66711 15-28 V DC @ 2 A.
667DII 5-9 V DC @ 3 A.
667T24 2X12-24 V DC @ 1 A.

21 ACCESSORIES

Fairchild manufactures a complete line of accessory hardware for mounting components. Included are rack frames, card files, card holders, blank panels, and custom console shells of all sizes.

BOGEN

P.A. AMPLIFIERS

C SERIES

ECONOMY PRICED SOLID STATE PACKAGED AMPLIFIERS

These amplifiers are the result of a Bogen engineering program to combine the many advantages of solid state with the most economical cost. They are among the finest available in their price range and are the logical choice for those seeking maximum value in a solid state amplifier.

All the essentials required for reliability, versatility and quality performance are built in. Advanced transistor design enables these units to operate continuously at extremes of temperature, and greatly increases the overall stability and useful life of the amplifiers. The "C" series offers a unique combination of features, dependability, and value.

FEATURES

- All-silicon solid state.
- Designed for continuous operation at full output from −20°C. (−4°F.) to +50°C. (+122°F.) .
- Advanced complementary transistor circuitry to assure highest reliability of power transistors.
- Simultaneous mixing of 3 input signals; two microphones and a tuner, tape recorder or phonograph (C20 has 1 microphone input).
- Protection against circuit damage caused by accidental shorting or disconnecting of loudspeaker lines.
- Printed circuit board (for all input circuits, intermediate amplifier and controls) is automatically wave-soldered to eliminate human error.
- High impedance microphone inputs.
- Outputs include tape, booster amplifier, balanced 25 v. and balanced 70 v., balanced 4, 8, 16 ohms, 500/600 ohm zero level line with external WMT-1 transformers.
- All microphone inputs equipped with filters to protect against RF interference.
- Can be wired for mic. precedence (i.e. music muting).
- Separate master volume, bass, treble controls (except C20).
- High input sensitivity; low noise and hum.
- Wide frequency response for maximum clarity and intelligibility.
- Memory Markers to aid in returning controls to previously determined levels.
- Constant-voltage output taps.
- Two loudspeaker plug-in sockets, plus screw terminals (one socket in C20).
- Compact, attractive styling.
- Accessories for completely flexible operation.

• SOLID STATE • RELIABILITY • VERSATILITY • ECONOMY • CONSERVATIVE DESIGN • RUGGED CONSTRUCTION

				
	C100 □	**C60 □**	**C35 □**	**C20 □**
Power Output	100 w.	60 w.	35 w.	20 w.
Sensitivity (for full output)	**Mic.** 3 mv **Aux.** 0.5 v.	**Mic.** 3 mv **Aux.** 0.5 v.	**Mic.** 3 mv **Aux.** 0.5 v.	**Mic.** 4 mv **Aux.** 0.35 v.
Hum & Noise (below rated output)	**Mic.** −60 db **Aux.** −70 db	**Mic.** −60 db **Aux.** −70 db	**Mic.** −60 db **Aux.** −70 db	**Mic.** −68 db **Aux.** −70 db
Inputs (Impedance)	**2 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**2 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**2 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**1 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.
Output Impedance	**Bal.** 4, 8 and 16 ohms, 25 v. line (6 ohms) 70 v. line (50 ohms). 2 speaker sockets, screw terminals; tape/booster jack; provision for WMT-1.	**Bal.** 4, 8 and 16 ohms, 25 v. line (10 ohms) 70 v. line (83 ohms). 2 speaker sockets, screw terminals; tape/booster jack; provision for WMT-1.	**Bal.** 4, 8 and 16 ohms, 25 v. line (18 ohms) 70 v. line (142 ohms). 2 speaker sockets, screw terminals; tape/booster jack; provision for WMT-1.	**Bal.** 4, 8 and 16 ohms, 25 v. line (31 ohms) 70 v. line balanced (250 ohms). 1 speaker socket, screw terminals; tape/booster jack; provision for WMT-1.
Tone Control Action	Treble (10 KHz) +11 db to −11 db. Bass (100 Hz) +11 db to −11 db.	Treble (10 KHz) +11 db to −11 db. Bass (100 Hz) +11 db to −11 db.	Treble (10 KHz) +11 db to −11 db. Bass (100 Hz) +11 db to −11 db.	Treble (12 KHz) −14 db.
Semi-conductors	All silicon, 14 transistors, 6 diodes.	All silicon, 12 transistors, 6 diodes.	All silicon, 10 transistors, 6 diodes.	All silicon, 7 transistors, 6 diodes.
Power Consumption	180 w. 105-125 v. 50-60 Hz	100 w. 105-125 v. 50-60 Hz	60 w. 105-125 v. 50-60 Hz	54 w. 105-125 v. 50-60 Hz
Dimensions	14⅝" W x 13¾" D x 3¾" H.	14⅝" W x 13¾" D x 3¾" H.	14⅝" W x 12¾" D x 3¾" H.	11¼" W x 11" D x 3¾" H.
Shpg. Wt.	18 lbs.	16 lbs.	14 lbs.	11 lbs.

□ Solid State. Accessories: Carrying cases, matching phono top (LPC-4) for C100, C60, C35, WMT-1 transformer provides 500/600 ohm telephone line input for wired background music.

© United Technical Publications

BOGEN

P.A. AMPLIFIERS

CHB SERIES

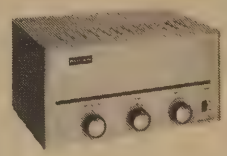
VALUE-PACKED TUBE AMPLIFIERS

Bogen "CHB" amplifiers are the first choice of value-conscious buyers throughout the world. In many respects, these moderately priced units compare favorably even with more expensive amplifiers.

Features such as time-tested circuitry for continuous heavy-duty operation, built-in protection against circuit damage caused by accidental shorting or disconnecting of loudspeaker lines, no "double duty" control devices, built-in remote control circuit, sound level "memory markers," tape output/booster jack, and an abundance of matching accessories, have made the Bogen "CHB" amplifiers the industry standard of their class.







	CHB100	CHB50	CHB35A	CHB20A	CHB10A
Power Output	100 w.	50 w.	35 w.	20 w.	10 w.
Sensitivity	**Mic.** 5 mv **Aux.** .3 v. **Mag. Phono** 15 mv	**Mic.** 5 mv **Aux.** .3 v. **Mag. Phono** 15 mv	**Mic.** 4 mv **Aux.** .2 v. **Mag. Phono** 12 mv	**Mic.** 3 mv **Aux.** .5 v.	**Mic.** 6 mv. **Phono** .2 v.
Hum & Noise (below rated output)	**Mic.** −70 db **Aux.** −80 db	**Mic.** −70 db **Aux.** −80 db	**Mic.** −65 db **Aux.** −80 db	**Mic.** −65 db **Aux.** −80 db	**Mic.** −60 db **Phono** −75 db
Inputs	**2 Mic.** (hi-imped.) **1 Mag. Phono** **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**2 Mic.** (hi-imped.) **1 Mag. Phono** **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**2 Mic.** (hi-imped.) **1 Mag. Phono** **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**1 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1.	**1 Mic.** (hi-imped.) **1 Phono** (hi-imped. hi-level) Provision for WMT-1.
Output Impedance	4, 8 and 16 ohms, 25 v. line bal., (6 ohms) 70 v. line (50 ohms) 2 speaker sockets, screw terminals; tape/booster jack.	4, 8 and 16 ohms, 25 v. line (12 ohms) 70 v. line (100 ohms) 2 speaker sockets, screw terminals; tape/booster jack.	4, 8 and 16 ohms, 25 v. (143 ohms) line (18 ohms) 70 v. line 2 speaker sockets, screw terminals; tape/booster jack.	4, 8 and 16 ohms, 25 v. line balanced (31 ohms) 70 v. line (250 ohms) 2 speaker sockets, screw terminals; tape/booster jack.	4, 8 and 16 ohms, 25 v. line (62 ohms), 70 v. (500 ohms) 1 speaker socket and screw terminal; tape/booster jack.
Tone Control Action	Treble (10 KHz) +12 db to −15 db Bass (50 Hz) +14 db to −9 db	Treble (10 KHz) +10 db to −15 db Bass (50 Hz) +11 db to −10 db	Treble (10 KHz) +10 db to −16 db Bass (50 Hz) +14 db to −10 db	Treble (10 KHz) +10 db to −16 db Bass (50 Hz) +14 db to −10 db	Treble (10 KHz) −24 db
Tubes and Semi-conductors	Total of 7 tubes and silicon rectifier: 1-6EU7, 1-12AX7, 4-7868, 1-6C4.	Total of 5 tubes and silicon rectifier: 1-6EU7, 1-12AX7, 2-6L6GC, 1-6C4.	Total of 5 tubes, 2 silicon rectifiers and 1 silicon diode: 1-6EU7, 2-7868, 1-12AX7, 1-6C4.	Total of 3 tubes, 2 silicon rectifiers and 1 silicon diodes: 1-6EU7, 2-6GW8.	Total of 2 tubes and silicon rectifier: 1-12AX7/ECC 83, 1-7868.
Power Consumption	300 w. 105-125 v. 50-60 Hz	150 w. 115-125 v. 50-60 Hz	125 w. 105-125 v. 50-60 Hz	90 w. 105-125 v. 50-60 Hz	50 w. 105-125 v. 50-60 Hz
Dimensions	6¾" H x 15¾" W x 10" D.	6¾" H x 15¾" W x 10" D.	6¾" H x 15¾" W x 10" D.	6¾" H x 15¾" W x 10" D.	5¾" H x 11¼" W x 8¼" D.
Shpg. Wt.	25 lbs.	22 lbs.	20 lbs.	17 lbs.	12 lbs.

Accessories: matching phono-top, control-guard locking plate, rack panel mounting kits, carrying cases, remote volume controls . . . and more.
WMT-1 transformer provides 500-600 ohm telephone line input for wired background music.

© United Technical Publications

BOGEN

P.A. AMPLIFIERS

CHS SERIES

POPULARLY PRICED SOLID STATE PACKAGED AMPLIFIERS

These moderately priced amplifiers incorporate many professional features found only in higher-priced models: 2 high and low mic. inputs (no transformer required) in CHS35, CHS50, CHS100; CHS20 has 1 mic. input; built-in remote volume control circuit and microphone precedence; optional panel-mounting PMA-2 mic. preamplifier adds 2 mic. inputs. AC/12 VDC operation with CHS35, CHS20. Built-in protection against circuit damage caused by loudspeaker line shorting, memory markers, wide frequency response, low distortion, wave-soldered printed circuit boards. Mic. inputs with adapters accept MC1F or standard phone plugs.

				
	CHS100 □	**CHS50** □	**CHS35** □	**CHS20** □
Power Output	100 w.	50 w.	35 w.	20 w.
Frequency Response	40-20,000 Hz ±2 db	40-20,000 Hz ±2 db	60-15,000 Hz ±2 db	50-15,000 Hz ±2 db
Sensitivity	**Mic.** (Lo-imped.) 0.3 mv **Mic.** (Hi-imped.) 4.0 mv **Aux.** 0.3 v. **Bridging** 1.0 v.	**Mic.** (Lo-imped.) 0.5 mv **Mic.** (Hi-imped.) 3.0 mv **Aux.** 0.2 v. **Bridging** 1.0 v.	**Mic.** (Lo-imped.) 0.6 mv **Mic.** (Hi-imped.) 4.0 mv **Aux.** 0.5 v. **Bridging** 1.0 v.	**Mic.** (Lo-imped.) 0.6 mv **Mic.** (Hi-imped.) 4.0 mv **Aux.** 0.5 v. **Bridging** 1.0 v.
Hum & Noise (below rated output)	**Mic.** 65 db **Aux.** 70 db	**Mic.** 67 db **Aux.** 70 db	**Mic.** 64 db **Aux.** 67 db	**Mic.** 66 db **Aux.** 70 db
Inputs (impedance)	**2 Mic.** (Hi- or Lo-imped. unbal.) (Hi-imped.) 100k ohms (Lo-imped.) 200 ohms **Aux.** (2 inputs on fader) 300k ohms **Bridging** Hi-imped. (1.0 v.)	**2 Mic.** (Hi- or Lo-imped. unbal.) (Hi-imped.) 100k ohms (Lo-imped.) 200 ohms **Aux.** (2 inputs on fader) 300k ohms **Bridging** Hi-imped. (1.0 v.)	**2 Mic.** (Hi- or Lo-imped. unbal.) (Hi-imped.) 100k ohms (Lo-imped.) 200 ohms **Aux.** (2 inputs on fader) 300k ohms **Bridging** Hi-imped. (0.6 v.)	**1 Mic** (Hi- or Lo-imped. unbal.) (Hi-imped.) 100k ohms (Lo-imped.) 200 ohms **Aux.** (2 inputs on fader) 300k ohms **Bridging** Hi-imped. (1.0 v.)
Output Impedance	2, 8, 16 ohms 25 v. bal. (c.t.) = 6 ohms 70 v. bal. = 49 ohms 2 quick-disconnect sockets and screw terminals **Tape/Booster** 10k ohms 5.0 v. **Bridging** Hi-imped. @ 0.5 v.	4, 8, 16 ohms 25 v. bal. (c.t.) = 12 ohms 70 v. bal. = 100 ohms 2 quick-disconnect sockets and screw terminals **Tape/Booster** 10k ohms 5.0 v. **Bridging** Hi-imped @ 0.5 v.	4, 8, 16 ohms 25 v. = 16 ohms 70 v. = 143 ohms 2 quick-disconnect sockets and screw terminals **Tape/Booster** 10k ohms 5.0 v. **Bridging** Hi-imped. @ 0.5 v.	4, 8, 16 ohms 25 v. = 31 ohms 70 v. = 250 ohms 2 quick-disconnect sockets and screw terminals **Tape/Booster** 10k ohms 5.0 v. **Bridging** Hi-imped. @ 0.5 v.
Controls	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Treble Bass Power Switch Provision for remote control or mic. precedence (all inputs).	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Treble Bass Power Switch Provision for remote control or mic. precedence (all inputs).	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Treble Bass Power Switch Provision for remote control or mic. precedence (all inputs).	1 mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Treble Bass Power Switch Provision for remote control or mic. precedence (all inputs).
Tone Controls	**Bass** +10 db to −10 db @ 50 Hz **Treble** +10 db to −10 db @ 10 KHz	**Bass** +10 db to −10 db @ 50 Hz **Treble** +11 db to −12 db @ 10 KHz	**Bass** +8 db to −23 db @ 50 Hz **Treble** +8 db to −15 db @ 10 KHz	**Bass** +8 db to −19 db @ 50 Hz **Treble** +12 db to −15 db @ 10 KHz
Semi-conductors	All-silicon, 10 transistors, 2 diodes.	All-silicon, 10 transistors, 2 diodes.	7 silicon transistors, 2 germanium, 3 diodes.	6 silicon transistors, 2 germanium, 3 diodes.
Power Consumption	105-125 v. 50-60 Hz, 190 w.	105-125 v. 50-60 Hz, 105 w.	105-125 v. 50-60 Hz, 75 w. 12-15 vdc @ 3A	105-125 v. 50-60 Hz, 46 w. 12-15 vdc @ 2A
Dimensions	5½" H x 10½" D x 15¼" W.	5½" H x 10½" D x 15¼" W.	5½" H x 10½" D x 15¼" W.	5½" H x 10½" D x 15¼" W.
Shpg. Wt.	24 lbs.	21 lbs.	17 lbs.	15 lbs.

□ Solid State.

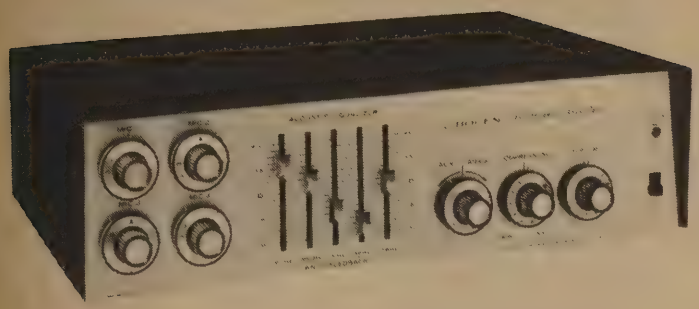
Accessories: PMA-2 panel-mounted preamplifier provides two additional microphone inputs. Matching phono-top, control-guard locking plate, rack panel mounting kits, carrying cases, remote volume controls . . . and more. WMT-1 transformer provides 500/600 telephone line input for wired background music.

© United Technical Publications

BOGEN

P.A. AMPLIFIERS

CT, CTL SERIES



"ACOUSTA-MASTER" SOLID STATE PACKAGED AMPLIFIERS

Unique among packaged PA amplifiers, Bogen "CT" series features built-in controls to overcome two of the major problems encountered in public address applications. Acousta-Master equalizer filter circuitry permits boosting or attenuating any of five selected frequencies to "tune out" acoustic feedback. An electronic compressor assures uniform output regardless of input level variations such as result from poor microphone technique.

Using silicon transistors and diodes exclusively, the "CT" amplifiers offer unmatched features and performance to serve applications that once required custom equipment. The "CTL" models are identical to their "CT" counterparts, but furnished with a built-in 200-ohm transformer for use with low-impedance microphones.

FEATURES

- Five equalizer filters with slide controls provide unique anti-feedback and tone-control circuit.
- Built-in electronic limiter, adjustable by front panel control, assures constant output for a wide variation in input.
- Volume of two MIC and one AUX channels can be controlled from remote point by means of LVP and RVC-2 accessories.
- MIC precedence on two MIC and one AUX channels with LVP.
- Self-restoring cutout in output circuit protects power transistors.
- Plug-in transformer provides balanced microphone inputs at 50, 200 and 500 ohms in CT Series amplifiers.
- CTL Series amplifiers supplied with built-in 200 ohm transformer for balanced low-impedance microphone input.
- All solid state amplifier; silicon transistors and diodes used exclusively.
- 500/600Ω telephone line can be fed either to input or from output by use of accessory WMT-1 transformer.
- Rack panel kit available for rack mounting.
- Line cord terminated in three-prong plug provides automatic grounding of amplifier.
- Three-conductor broadcast type connectors provided for input of each MIC channel.
- Two phone-type quick-disconnect jacks provided for speaker outputs.
- Two similar amplifiers can be bridged together to increase number of inputs and parallel outputs.
- High-level tape outputs provided both before and after equalizer controls.

SPECIFICATIONS

	CT100, CTL100 ☑	CT60, CTL60 ☐	CT30, CTL30 ☐
Power Output	100 w. at 1 kHz at less than 2% distortion.	60 w. at 1 kHz at less than 2% distortion.	30 w. at 1 kHz at less than 2% distortion.
Power Response	100 w. −2 dB, 60 Hz to 12 kHz at 5% distortion.	60 w. −2 dB, 60 Hz to 12 kHz at 5% distortion.	30 w. −2 dB, 60 Hz to 12 kHz at 5% distortion.
Frequency Response	±2 db from 50 Hz to 15 kHz.	±2 db from 50 Hz to 15 kHz.	±2 db from 50 Hz to 15 kHz.
Regulation	2 db.	2 db.	2 db.
Line Fusing	Resettable Circuit Breaker. 4 a.	Resettable Circuit Breaker. 2.5 a.	Resettable Circuit Breaker. 1.25 a.
Sensitivity	HI-Z MIC, 3 mv; LO-Z MIC, 0.3 mv; Bridging Input, 30 mv; AUX. 0.3 v.		
Output Levels	Bridging, 30 mv; Tape, 0.68 v.		
Hum & Noise	MIC, 60 db below rated output for both low and high impedance; AUX, 70 db below rated output; Fundamental, 80 db below rated output.		
Inputs	4 HI-Z MIC inputs, each convertible to LO-Z MIC; CTL models supplied with 200Ω input transformer; 2 AUX inputs with fader control; Bridging input; 500/600Ω telephone line with optional WMT-1 accessory; 3 inputs for remote volume control.		
Outputs	4, 8, 16 ohm speaker taps; 25-volt c.t. and 70 v balanced lines. Tape, booster and bridging outputs, 500/600Ω telephone line output with WMT-1 optional accessory.		
Controls & Indicators	4 MIC Volume; AUX 1/AUX 2 — fader; MASTER VOLUME; 5 Equalizer Filter Slide Controls; 1 Limiter; 1 Power Switch; 1 Indicator Lamp.		
Filter Control Action	±10 db variation at the following frequencies: 80, 300, 1 kHz, 3 kHz, 10 kHz.		
Compression	5 msec. attack time, 2 sec. decay time, max. compression 30 db.		
Semi-conductors	22 silicon transistors, 2 zener diodes, 6 silicon diodes.	20 silicon transistors, 2 zener diodes, 6 silicon diodes.	18 silicon transistors, 2 zener diodes, 6 silicon diodes.
Power Consumption	120 v., 50/60 Hz, 2.9 a., 300 w.	120 v., 50/60 Hz, 1.6 a., 170 w.	120 v., 50/60 Hz, 0.86 a., 96 w.
Dimensions	16⅜" W x 13¾" D x 4¼" H.	16⅜" W x 13¾" D x 4¼" H.	16⅜" W x 12¾" D x 4¼" H.
Shpg. Wt.	26 lbs.	22 lbs.	19 lbs.

☐ Solid State

Accessories: carrying case, phono top, plug-in transformers for low impedance and 500/600 ohm telephone line inputs, rack panel brackets, remote volume control, mic precedence.

© United Technical Publications

BOGEN

P.A. AMPLIFIERS

M SERIES

"FLEX-PAK" PROFESSIONAL QUALITY PACKAGED TUBE AMPLIFIERS

Behind the black and silver panels of these professional quality amplifiers, you'll find circuitry that represents the finest in packaged tube sound equipment.

Flex-Pak, without question, is the industry standard for professional packaged tube amplifiers. Incorporating the most advanced principles of design, these amplifiers offer functions and features that are readily adaptable to a wide variety of applications.

Bogen Flex-Pak amplifiers will accommodate virtually any audio signal source and provide flat frequency response with low distortion.

The controls, logically grouped, include individual volume for each microphone and auxiliary input, master volume, bass, treble and power switch.

Output jacks for driving tape recorders and booster amplifiers are located on the rear of the chassis. A host of accessories is available for utmost operating flexibility.

Flex-Pak . . . engineered for maximum performance.

FEATURES

- Mic. Inputs: MX30A/60A — 5 (4 convert to Lo-Z) M330A/60A/120 — 3 (all convert to Lo-Z) (All mic. inputs are Hi-Z; convert to Lo-Z with TM200, TM500, TM50 transformers).
- Speech Filters: MX30A/60A — 5.
- Remote Vol. Control (optional): MX30A/60A — 4 mic. inputs, aux. and master vol. M330A/60A/120 — All 3 mic. inputs.
- Mic. Precedence (optional): All models.
- Notch Filter: MX30A/60A) Calibrated (variable) low frequency cutoff filter shapes response of all inputs.
- Paralleling: Identical amplifiers MX30A, MX60A only may be paralleled.
- Outputs include tape, booster amplifier, balanced 25 v. and balanced 70 v., balanced 4, 8, 16 ohms; zero level line with WMT-1 transformers (no 4 ohm output on M120).
- Predetermined output limiting with optional LVP-1 plug-in accessory and built-in sensitivity control in MX30A/60A.
- Separate bass, treble, master gain controls.
- Memory markers permit resetting of controls to previously determined levels.
- A host of accessories for completely flexible operation.

					
	MX60A	**MX30A**	**M120**	**M60A**	**M330A**
Power Output	60 w. rms @ 2%, 21-30,000 Hz, −1½ db	30 w. rms @ 2%, 21-30,000 Hz, −1½ db	120 w. rms @ 3%, 50-20,000 Hz, −3 db	60 w. rms @ 3%, 50-20,000 Hz, −3 db	30 w. rms @ 2%, 50-20,000 Hz, −3 db
Freq. Response	±1½ db, 10-38,000 Hz	±2 db, 10-40,000 Hz	±1 db, 20-20,000 Hz	±2 db, 20-20,000 Hz	±2 db, 20-20,000 Hz
Sensitivity	**Mic.** 3.5 mv (high imped) **Mag.** 2 mv **Aux.** 0.15 v.	**Mic.** 3.5 mv (high imped) **Mag.** 2 mv Aux. 0.15 v.	**Mic.** 9 mv **Mag.** 24 mv. **Aux.** 0.4 v.	**Mic.** 9 mv **Mag.** 24 mv **Aux.** 0.4 V	**Mic.** 6 mv **Mag.** 50 mv **Aux.** 0.3 v.
Hum and Noise (below rated output)	**Mic.** −70 db **Aux.** −80 db **Mag.** −55 db	**Mic.** −70 db **Aux.** −80 db **Mag.** −55 db	**Mic.** −65 db **Aux.** −80 db **Mag.** −55 db	**Mic.** −65 db **Aux.** −80 db **Mag.** −55 db	**Mic.** −65 db **Aux.** −80 db **Mag.** −55 db
Inputs	4 mic. (convert to lo-imped. with TM200, TM500 or TM50 transformer); 1 mic. (hi-imped. or mag. tape); 2 aux. (hi-imped. high level/fader); 1 600-ohm balanced telephone line with WMT-1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	4 mic. (convert to lo-imped. with TM200, TM500 or TM50 transformer); 1 mic. (hi-imped. or mag. tape); 2 aux. (hi-imped. high level/fader); 1 600-ohm balanced telephone line with WMT-1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	3 mic. (convert to lo-imped. with TM200, TM500 or TM50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT-1 transformer; 2 mag./tape inputs. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to lo-imped. with TM200, TM500 or TM50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT-1 transformer; 2 mag./tape inputs. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to lo-imped. with TM200, TM500 or TM50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/fader control); 1 600-ohm balanced telephone line with WMT-1 transformer; 2 mag./tape inputs. Note: 4 inputs can be simultaneously mixed and faded.
Output Impedance	4, 8, 16 and 83 ohms, balanced 25 v. line, balanced 70 v. line; tape/booster jack.	4, 8, 16 and 163 ohms, balanced 25 v. line, balanced 70 v. line; tape/booster jack.	8, 16 ohms, balanced 25 v. (5 ohms), balanced 70 v. (41 ohms), balanced 25 v. center tap (1.25 ohms); tape/booster jack.	4, 8, 16 ohms, balanced 25 v. (10 ohms), balanced 70 v. (82 ohms); tape/booster jack.	4, 8, 16 ohms, balanced 25 v. (16 ohms), 70 v. (163 ohms); tape/booster jack.
Controls	4 individual mic. (each with speech filter switch) • 1 mic./mag./tape with speech filter switch • aux. 1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	4 individual mic. (each with speech filter switch) • 1 mic./mag./tape with speech filter switch • aux. 1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic. **Mic. 1:** Switch for Hi-Z-Lo-Z; **Mics 2 & 3:** Switch for Hi-Z-Lo-Z-Mag/tape (with optional transformer).	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic. **Mic. 1:** Switch for Hi-Z-Lo-Z; **Mics 2 & 3:** Switch for Hi-Z-Lo-Z-Mag/tape (with optional transformer).	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic. **Mic. 1:** Switch for Hi-Z-Lo-Z; **Mics 2 & 3:** Switch for Hi-Z-Lo-Z-Mag/tape (with optional transformer).
Tone Control Action	Treble (10 KHz) +13 db to −15 db; Bass (50 Hz) +15 db to −10 db.	Treble (10 KHz) +13 db to −15 db; Bass (50 Hz) +15 db to −10 db.	Treble (10 KHz) +12 db to −14.5 db; Bass (50 Hz) +15 db to −9.5 db.	Treble (10 KHz) +12 db to −15.5 db; Bass (50 Hz) +15 db to −9.5 db.	Treble (10 KHz) +10.5 db to −14.5 db; Bass (50 Hz) +13.5 db to −9 db.
Tubes and Semi-conductors	8 tubes: 3-12AX7A, 3-7247, 2-8417 plus 5 silicon rectifiers.	8 tubes: 3-12AX7A, 3-7247, 2-7868 plus 5 silicon rectifiers.	7 tubes: 4-8417, 1-7247, 2-6EU7 plus 3 silicon rectifiers.	5 tubes: 2-8417, 1-7247, 2-6EU7 plus 2 silicon rectifiers and 1 bias silicon diode.	5 tubes: 2-7868, 1-7247, 2-6EU7 plus 2 silicon rectifiers and 1 bias silicon diode.
Power Consum.	180 w.	125 w.	320 w.	160 w.	120 w.
Dimensions	16½" W x 12" D x 4¾" H.	16½" W x 12" D x 4¾" H.	16½" W x 12" D x 4⅜" H.	14⅞" W x 9⅞" D x 5¾" H.	14⅞" W x 9⅞" D x 5¾" H.
Shpg. Wt.	35 lbs.	34 lbs.	36 lbs.	27 lbs.	23 lbs.

Accessories: phono-tops, monitor-meter and speaker, rack panel mounting kits, remote volume controls and more.

© United Technical Publications

BOGEN

PREAMPLIFIERS

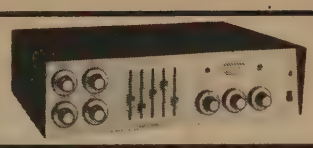


MXM-A MIXER-PREAMPLIFIER

- **5 Mic. Channels**
- **Highest Professional Quality**

Broadcast quality, self-powered tubed unit accommodates 7 input signals simultaneously (5 mics). One mic input converts to an equalized mag. phono cartridge or tape playback head. Two aux. (high imped., high level) are connected to a fader control. Bridging input accepts signals from a remote preamplifier or a zero level line. 3 MXM-A's may be paralleled for 21 inputs. Output level monitored by headset and VU meter. Panel-controlled speech filters for all mic. inputs; separate bass and treble tone controls. Inputs convertible by using plug-in transformers. Optional remote control and precedence plug-in modules. Controllable low-frequency notch filter cuts hum, rumble, etc.

SPECIFICATIONS: Output: 20 v into high imped. load at 1%; 4 v. into 600 ohms at 1%; (from bridging output) 0.1 v. into 1 Meg. **Freq. Response:** 18-38,000 Hz ±1 db. **Output Imped.:** high-imped. (less than 3,000 ohms); 500/600 ohms with TL 600 plug-in transformer. **Sensitivity:** high-imped. 2 mv; low-imped. 0.1 mv Mag., 1 mv; bridging 0.5 v.; Aux., 0.1 v. **Hum: (below rated output)** Mic. 60 db. **Tone Controls:** treble: (10 kHz) +12 db to −12 db; bass: (50 Hz) +14 db to −8 db. **Power Consumption:** 47 w, 117 v.; 50/60 Hz. **Dimen.:** 16½" W x 12" D x 4¾" H. **Shpg. Wt.:** 23 lbs.



CTM, CTM-L ALL-SILICON TRANSISTOR MIXER-PREAMPLIFIER □

Five equalizer filters with slide controls provide unique anti-feedback and tone-control circuit. • Controllable Limiter assures constant output with input variation. • All solid-state construction. • Each CTM mic channel convertible to low-imped. with plug-in transformers. • CTM-L has built-in 200-ohm input transformer. • Remote volume and microphone precedence on two mic and one aux input channel. • 500/600-ohm telephone line input or output with accessory WMT-1 transformer. • May be operated from 120 VAC or external 24 VDC source. • Rack panel mounting kit available. • Has broadcast type 3-conductor mic input conectors. • Two preamplifiers can be paralleled. • High-level tape outputs provided both before and after equalizer controls.

SPECIFICATIONS: Power Output: 6 v. into HI Z; 6 v. into 500/600. **Freq. Response:** ±1 db from 20 Hz to 20 kHz. **Sensitivity:** HI Z mic, 3 mv; LO Z mic, 0.3 mv (500Ω); Aux, 0.5 v.; Bridging, 15 mv. **Hum & Noise:** (below full rated output): mic, 60 db; Aux, 70 db; Fundamental, 80 db. **Inputs:** 4 HI Z mic Inputs (each convertible to LO Z); 2 aux Inputs with fader; Bridging Input; 500/600Ω Telephone Line with WMT-1 Optional Accessory; 3 Inputs for Remote Volume Control. **Outputs:** 600Ω Balanced c.t., 600Ω Unbalanced; 150Ω Balanced, 150Ω Unbalanced; Tape Output; Bridging Output; Monitor Headphone Jack (Front Panel). **Output Imped.:** HI Z less than 1Ω; 600Ω Output 70Ω; Bridging Output: HI Z. **Regulation:** 1 db. **Controls & Indicators:** 4 mic Volume; Aux 1/Aux 2-fader; Master Volume; 5 Equalizer filter slide controls; 1 Limiter; Meter Sensitivity Control; Power Switch; Power Indicator Lamp; Meter. **Filter Control Action:** ±10 db variation at following freq.: 80, 300, 1 kHz, 5 kHz, 10 kHz. **Compression:** See CT series. **Dimen.:** 16⅜" W x 12¾" D x 4" H. **Shpg. Wt.:** 17 lbs.



RTP-1 ALL-SILICON TRANSISTOR REMOTE PREAMPLIFIER □

- **Remote Broadcast Preamp. (2 Mic.)**
- **Operates on 120 VAC or Batteries**

Solid-State broadcast preamp. RTP-1 drives 500/600 ohm line up to several miles. Inputs 2 Mic. (high or low imped.), 2 Aux. on fader control, 1 bridging. Two RTP-1's can be paralleled. Low battery drain. Head-phone monitor jack output meter calibrated in VU and db; 117 vac. or 12 vdc operation with internal batteries or external DC power supply; built-in battery tester. Temp. range −20°C to +70°C (158°F).

SPECIFICATIONS: Output: at 0 db: 1.8 v. into 500 ohms (.1%): at +12 db: 7 v. into 500 ohms (2.5%); output transformer is built-in; no high-imped. output. **Freq. Response:** 20-20,000 Hz ±1 db. **Output Imped.:** 125/150 ohms and 125/150 ohms or 500/600 ohms balanced. **Input Imped.:** Mic.: high- or low-imped. (500 ohms) Mic. 0.5 mv; high-imped. Mic. 5 mv; Aux. .25 v. **Gain:** Mic. 72 db; Aux. 55 db; Bridging 60 db. **Bass Cut:** −12 db at 50 Hz. **Hum:** Mic.: −65 db; Aux. −70 db. **Power Consum.:** 5 w. at 117 vac. 50/60 Hz; 0.3 amps at 12 vdc. **Dimen.:** 9" W x 9¼" D x 3½" H. **Shpg. Wt.:** 7 lbs.



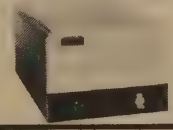
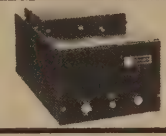
MX6A-T ALL-SILICON TRANSISTOR MIXER-PREAMPLIFIER □

- **4 Mic. Channels**
- **Versatile, Economical**

Adds inputs to any amplifier. The MX6A-T has inputs for 4 high- or low-imped. microphones. Two channels accept tuner or crystal cartridge signals. Excellent for electric guitars and other electronic musical instruments. Output will drive any packaged amplifier. Three units may be paralleled. Temp. range: −20°C to +70°C (158°F).

SPECIFICATIONS: Freq. Response: 50 Hz-20 kHz ±2 db. **Output:** 6 v. at 2%; 4 v. at 1%; 2 v. at 0.5%. **Inputs:** 4 mic. (hi-imped. 150 K) (low-imped. 200 ohms nominal; 50 ohm or 500 ohm mics.) 2 aux. (250 K). **Gain:** mic, (hi-imped. 60 db) 1 mv at 4 v. output, (low-imped. 80 db) 0.4 mv at 4 v. output. Aux. 20 db 0.4 v. at 4 v. output. **Power Consum.:** 1.2 w. at 117 vac 50-60 Hz. **Hum/Noise:** 68 db below 5 v. **Dimen.:** 9¼" W x 6" D x 2⅝" H. **Shpg. Wt.:** 6 lbs.

BOOSTER AMPLIFIERS

					
	M0200A	**M0100A**	**NTB250 □**	**MT100 □**	**MBT60 □**
Power Output	200 w. rms at less than 2% distortion (Full power: 21-50,000 Hz ±1 db at 5%).	100 w. rms at less than 2% distortion (Full power: 21-50,000 Hz ±1 db at 5%).	350 w. rms at less than 5% from 50-12,000 Hz; 250 w. rms at less than 5% from 35-20,000 Hz; 250 w. rms at less than 3% from 40-5000 Hz*.	100 w. rms at less than 1% distortion −20°C to +70°C (158°F). Full power: 29-20,000 Hz ±1 db at 5%	60 W rms at less than 3% distortion −20°C to +70°C (158°F). Full power: 40-10,000 Hz ±2 db at 5%
Freq. Response	8-50,000 Hz ±1 db	8-50,000 Hz ±1 db	20-30,000 Hz ±1 db	15-35,000 Hz ±1 db	12-20,000 Hz ±1 db
Sensitivity	High imped: better than 2 v. Low imped: with TL600 transformer, better than 0.5 v.	High imped: better than 2 v. Low imped: with TL600 transformer, better than 0.5 v.	High imped: 1.4 v. for 250 w. output; 1.8 v. for 350 w. output. Low imped: 600 ohms with TL600 transformer, 0.3 v. for 250 w. output, 0/3 v. for 350 w. output.	High imped: 0.75 v. Low imped: with TL600 transformer, 0.2 v.	High imped: 0.15 v. Low imped: with TL600 transformer, 0.04 v.
Hum	−80 db	−80 db	−83 db below 250 w. −85 db below 350 w.	−80 db	−78 db
Output Impedance	Bal. 8 ohms, bal. 25 v. (3 ohms) c.t., bal. 70 v. (25 ohms) c.t. and 115 v. (66 ohms) (for industrial uses).	Bal. 16 ohms, bal. 25 v. (6.25 ohms) c.t., bal. 70 v. (49 ohms) c.t. and 115 v. (132 ohms) (for industrial uses).	Bal. or Unbalanced for 250 w. output: 25 v. c.t. (.625Ω), 25 v. (2.5Ω), 70 v. c.t. (5Ω), 70 v. (20Ω). 120 v. (57Ω), 8Ω (44.7 v.) For 350 w. output: 70 v. (14.3Ω), 8Ω (53 v.).	16 ohms, bal. 25 v. (6 ohms) c.t., bal. 70 v. (49 ohms) c.t., and 115 v. (132 ohms) bal. (for industrial uses).	Bal. 2.6, 8 and 16 ohms, bal. 25 v. (10.4 ohms) c.t., bal. 70 v. (82 ohms).
Tubes or Transistors	10 tubes and 3 silicon rectifiers: 2-7247, 8-8417.	5 tubes and 3 silicon rectifiers: 1-7247, 4-8417.	29 all silicon transistors, 4 stabistor diodes, 7 rectifier diodes, 2 zener diodes.	14 all silicon transistors, 1 zener diode and 2 silicon rectifiers.	7 all silicon transistors and 7 diodes.
Power Consumption	500 w, 105-125 v. 50/60 Hz.	250 w, 105-125 v. 50/60 Hz.	105-125 v., 50/60 Hz. 565 w. (250 w. output), 700 w. (350 w. output); 24 vdc. @ 25 A (250 w. output).	215 w., 105-125 v., 50/60 Hz; 12 A at 18 vdc.	115 w., 105-125 v., 50/60 Hz.
Dimensions	16" W x 11½" D x 6" H.	8" W x 13" D x 6¾" H.	17⅛" W (19" with furnished brackets) x 11¾" D x 9¼" H.	8" W x 13" D x 6" H.	8" W x 13" D x 6¼" H.
Shpg. Wt.	65 lbs.	33 lbs.	75 lbs.	31 lbs.	22 lbs.

□ Solid State. * @ 120 v. Output Tap, Power Curve is 35 to 5000 Hz.

© United Technical Publications

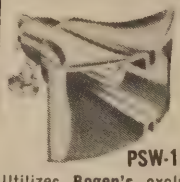
BOGEN

P.A. LOUDSPEAKERS

PS SERIES

12 w. AND 25 w. SPEAKERS FOR SPEECH, TALKBACK

The PS Series includes 15 models (6 shown here). All are designed for speech reproduction and talkback, and characterized by unusually high intelligibility. Unibody construction, using precision machined parts finished to minute tolerances, results in accurate and concentric sound paths for extremely high efficiency and even response. Sturdy and unique Universal Mounting Bracket permits instant installation. The 25 w. models in this series share two significant features: 25 w. Continuous Power Handling Capacity and 250 Hz Low Frequency Cut-off, permitting reproduction of non-critical music as well as speech. Two models (directional and wide-angle) offer built-in transformers — save hours and dollars on most installations. This series offers the widest choice of features such as size, dispersion pattern (wide angle or directional), built-in transformers. You'll find the one right horn speaker for your speech reproduction requirement in the PS Series.

	PS-10	PSW-10	PS-25	PS-25T	PSD-25	PSW-25T
	 The basic model in this series and standard of the industry. High efficiency, unusual intelligibility.	 Utilizes **Bogen's** exclusive Cobra-Flare® dual air column and twin horn design. Solid all-cast aluminum horn eliminates resonance and side wall vibration losses for greatly increased efficiency.	 The basic 25 w. model in this series, workhorse of the industry. Excellent power, smooth response, high efficiency.	 Same as PS-25 but with **Bogen's** exclusive pre-wired built-in Multi-Match model T-30 transformer for use on impedance, 70 v. or 25 v. lines. Built-in molded waterproof terminal block offers external choice of all transformer taps.	 The finest and sturdiest two-way speaker available. Uses one driver unit to radiate sound in two directions. Supplied without unit.	 Utilizes **Bogen's** exclusive Cobra-Flare® (see PSW-10). Pre-wired built-in Multi-Match Model T-30 transformer for use on impedance, 70 v. or 25 v. lines. Built-in molded waterproof terminal block offers external choice of all transformer taps.
Power Rating	12 w.	12 w.	25 w.	25 w.	Depends on Driver	25 w.
Freq. Resp.	350 to 13,000 Hz	350 to 13,000 Hz	250 to 13,000 Hz	250 to 13,000 Hz		250 to 13,000 Hz
Impedance (a)	8 or 45 ohms	8 or 45 ohms	8 or 45 ohms	See T-30 Transformer		See T-30 Transformer
Dispersion (av.)	120°	120° x 60°	90°	90°	90° Each Horn	120° x 60°
Sound Level (b)	116 db	116 db	124 db	124 db	Depends on Driver	124 db
Dimen.	7½" L x 8" Dia.	8½" L x 10" W x 6" H	12" L x 10" Dia.	12" L x 10" Dia.	17" Y x 10" Dia.	15" L x 14" W x 7" H
Shpg. Wt.	3½ lbs.	6½ lbs.	4 lbs.	5 lbs.	4½ lbs.	10½ lbs.

(a) Standard impedance is 8 ohms, indicate 45 ohm impedance where available by adding "45" to model number as in PS-10-45.

For additional models, see your **Bogen** distributor.

(b) Intensity in db relative to $2x10^{-4}$ dyne/cm², measured 4 ft. from mouth of horn with full power input. Reduce by 6 db each time distance is doubled, by 3 db each time input is halved.

D SERIES ECONOMY DRIVER UNITS

These driver units offer excellent performance and power-handling capacities. The economical D-30 features sturdy binding posts which permit instant connect-and-disconnect while heavy aluminum case provides permanent sealing against weather. Trouble-free performance and unusually high efficiency through the all-important middle range of frequencies where intelligibility and clarity are conveyed.

EXTENDED RANGE DELUXE DRIVER UNITS

Truly in the "luxury" class, these drivers are characterized by extended-range reproduction of extreme highs for clarity and fidelity, extreme lows for pleasing tones. All disturbing dips and peaks have been removed for a smooth level response. Models in this series feature sturdy die cast cases, gasketed and weatherproof, and incorporate built-in rear molded waterproof terminal blocks, eliminating the twin problems of corrosion and leakage at unsightly binding posts. The exclusive Self-Install Diaphragm assembly permits in-the-field replacement in the unlikely instance of voice coil damage.

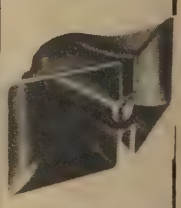
	D-40T D-60T	D-30	D-40T	D-60T
		 Conservatively rated at 30 w. continuous duty. Extremely efficient, highly recommended for the average sound system.	Conservatively rated at 40 w. Used for speech, music and integrated program material at high, medium or low power. So efficient that costly amp power can generally be reduced with no loss in sound output. **Bogen's** exclusive pre-wired built-in Multi-Match Transformer Model T-40 permits use on impedance, 70 v., or 25 v. lines. Built-in rear molded waterproof terminal block offers external choice of al transformer taps.	60 w. continuous duty; breakdown-proof operation in extremely high power application. Extreme efficiency and sensitivity achieve sound level at full input that will project miles. **Bogen's** exclusive pre-wired built-in Multi-Match Transformer Model T-60 permits use on imped., 70 v. or 25 v. lines. Built-in rear molded terminal block offers external choice of all transformer taps.
Power Rating		30 w.	40 w.	60 w.
Freq. Resp.		75 to 7500 Hz	70 to 12,000 Hz	65 to 12,000 Hz
Output Taps Voice Coil Taps (ohms)		16	4, 8, 16	4, 8, 16
70 v. Line Taps (watts)			40, 30, 20, 10, 5, 2.5	60, 30, 20, 10, 5, 2.5
25 v. Line Taps (watts)			15, 5, 4, 2.5, 1.2, 6	7.5, 4, 2.5, 1.2, 6
Sound Level (b)		128 db	131 db	136 db
Dimen.		4¼" Dia. x 4" H	5¾" Dia. x 7¼" H	5¾" Dia. x 7¼" H
Shpg. Wt.		4½ lbs.	9½ lbs.	10 lbs.

HM SERIES DIRECTIONAL HORNS

Bogen's directional trumpets with design features that set a new high for performance. In reentrant models (2 shown below) meticulous attention to the critical areas where the air column bends gives **Bogen** horns extremely high efficiency. Fideliflare® design greatly improves low frequency response, eliminates harshness so often present in Public Address installations. Solid steel mounting brackets, heavy aluminum components and a baked finish assure a lifetime of trouble-free performance.

HWA SERIES WIDE-ANGLE HORNS

Horns in this series utilize **Bogen's** exclusive Cobra-Flare® dual air column and twin horn design. Sound is effectively divided into two separate air columns radiating at an angle to each other. An extremely wide horizontal area is thus covered with minimum loss of sound energy up or down. Horns are solid aluminum castings which effectively eliminate side wall vibration and resonance losses . . . resulting in an output at least 3 db greater than that from any other horn with the same input.

	HM-25	HM-35	HWA-30
	 Highly efficient over a wider range for excellent speech projection and non-critical music reproduction.	 True wide range reproduction makes the HM-35 satisfactory for most high power public address applications requiring reproduction of speech and music.	 Wide-angle Cobra-Flare® horn w/wider response range. Excellent for general purpose use, for speech and incidental music reproduction.
Low Freq. Cutoff	195 Hz	140 Hz	195 Hz
Air Col. Length	2½ ft.	3½ ft.	2½ ft.
Dispersion (av.)	95°	85°	120° x 60°
Dimen.	11½" L x 16½" Dia.	15" L x 21" Dia.	11½" L x 18½" W x 9¼" H
Shpg. Wt.	8 lbs.	12 lbs.	10 lbs.

© United Technical Publications

BOGEN

P.A. LOUDSPEAKERS

HF SERIES

OUTDOOR HIGH FIDELITY SPEAKERS FOR MUSIC & PUBLIC ADDRESS

These models combine the quality of an expensive hi-fi console with the projection and throwing power of a reflex horn speaker. True full-range hi-fi sound reproduction with brilliant highs, resonant full-bodied lows — indoors, outdoors, even in high noise areas. Weather-resistant, HF models are ideal for background music systems in factories — for all uses in theatres, churches, auditoriums, beach clubs — or at your own patio, garden or pool. Completely portable, finished in beautiful metallic copper. HF speakers can be used in playroom or livingroom, brought outside when desired — or the solid steel swivel bracket may be permanently mounted if required. Bracket accommodates low-cost optional transformer and transformer housing.



HF-15

Low in cost, high in efficiency and realism. The single wide range speaker has its output enhanced by the combination horn/housing.



HF-17

Coaxial combination of woofer and horn-loaded compression-type tweeter. Deep powerful lows, brilliant "concert-quality" high and mid-range tones. Separate reflex tweeter construction renders excellent penetration for speech and general announcing.



HF-20

No better music or speech reproduction can be obtained from any outdoor speaker at any price. Components include horn loaded high compliance cone woofer for rich full-bodied lows — a crossover network — and a separate coaxial combination midrange and tweeter horn and driver unit, for unusual intelligibility, penetration.

	HF-15	HF-17	HF-20
Power Rating	15 w.	15 w.	30 w.
Frequency Response	95 to 8000 Hz	95 to 15,000 Hz	60 to 15,000 Hz
Impedance	8 ohms	8 ohms	8 ohms
Dispersion (average)	120°	120°	120°
Sound Level (a)	118 db	118 db	120 db
Dimen.	10¼" Deep x 16" Diam.	10¾" Deep x 16" Diam.	12¾" Deep x 21½" Diam.
Shpg. Wt.	14 lbs.	16 lbs.	21 lbs.

(a) Intensity in db relative to $2x10^{-4}$ dyne/cm², measured 4 ft. from mouth of horn with ful power input. Reduce by 6 db each time distance is doubled, by 3 db each time input is halved.

SOUND COLUMNS

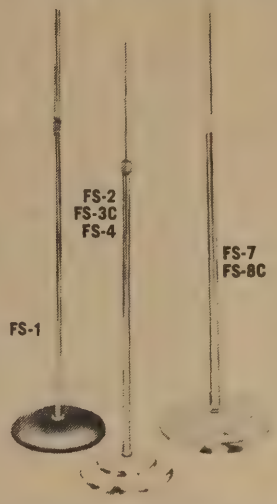
These carefully engineered wall-mounted sound columns provide the practical, economical answers to difficult sound reinforcement installations. By precisely restricting sound projection to a 25° vertical pattern (120° horizontal), the sound columns greatly reduce dispersion of sound into undesirable areas. This effectively minimizes reflections which produce feedback "howl," simplifies microphone placement — and prevents "blasting" of audience near the loudspeakers. Excellent for churches, auditoriums, night clubs . . . and all locations where acoustic conditions present difficult problems which cannot be resolved by the use of conventional loudspeakers.

	SCW80 (oiled walnut)*	SCW35 (oiled walnut)**	SCU20 (baked gray vinyl paint)
Wattage Rating (continuous)	80 w.	35 w.	20 w.
Freq. Resp.	50-15,000 Hz	70-14,000 Hz	120-10,000 Hz
Speakers	six-8", 11 ohms	six-6", 11 ohms	four-5"
Impedance	16 ohms		8 ohms
Dispersion	Vertical 25°; Horizontal 120°		Vert. 45°; Horiz. 90°
Length of effective throw	200'	130'	50'
Terminals	2-screw terminal strips (polarized)		
Construction	¾" plywood, glued and fastened w/mtg. hardware		½" plywood, glued and fastened w/mtg. hardware
Finish	oiled walnut		utility gray
Dimensions	52" H, 7¼" D, 11½" W	42" H, 6" D, 9½" W	20" H, 50" D, 7½" W
Shpg. Wt.	48 lbs.	32 lbs.	12 lbs.

*SCU80 — same as SCW80, but in painted utility finish.
**SCU35 — same as SCW35, but in painted utility finish.

MICROPHONE STANDS

FLOOR STANDS



FS-1 — 35" - 65" adjustable height. Economy model, satisfactory for many uses, gray wrinkle 10" diameter base, 9 lbs.

FS-2 — 35" - 65" adjustable height. Larger, heavier base for greater stability, gray wrinkle, 10" diameter, 13 lbs.

FS-3C — 35" - 65" adjustable height. Similar to FS-2 but chrome base, 10" diameter, 13 lbs.

FS-4 — ALL GOLD Stand, otherwise identical to FS-3. 35" - 65" adjustable height, 10" diameter base, 13 lbs.

FS-7 — 37" - 66" adjustable height. Largest and heaviest base, gray wrinkle, 12" diameter. Similar to FS-6 but larger diameter tube lengths to support heaviest loads, 15 lbs.

FS-8C — 37" - 66" adjustable height, large diameter tube lengths. Similar to FS-7 but chrome base, 12" diameter, 16 lbs.

DESK & TABLE STANDS



DS-1 — Attractive lightweight economy desk model. Height 5", gray wrinkle base diameter 5", 1 lb.

DS-2C — Similar to DS-1 but triple chrome-plated base. Height 5", base diameter 5", 1 lb.

TS-1 — 6"-13" adjustable height. Gray wrinkle 6" diameter base, 2½ lbs.

TS-2C — 6"-13" adjustable height. Similar to TS-1 but with chrome-plated high lustre 6" diameter base, 2½ lbs.

DS-6C — Chrome-plated, 8" diameter die-case base. Height 5", 4 lbs.

BC SERIES ACCESSORIES



To complement one of the finest lines of microphone stands in the world, **Bogen** offers accessories of superb quality and design that will extend the use and increase the versatility of these stands.

Four principles have guided their design: these accessories must be simple, they must be foolproof, they must be attractive, they must be economically priced.

Thousands of hours of design, attention to the most minute and seemingly insignificant detail, insistence on the highest standards of precision manufacturing . . . and the most modern production equipment available have permitted us to offer these accessories, a tribute to success in achieving these goals.

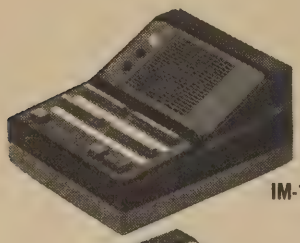
BC-1 Clamp Stand — This sturdy Clamp Stand is actually two items. With the bottom bracket and stud removed and the remaining base fastened to any horizontal or wall surface it is a permanent desk, table, podium or switchboard stand — with the bracket and stud attached it can be temporarily clamped on any shelf, door or table with a thickness of up to 4". The Clamp Stand can be used with goosenecks and other accessories. Tube height 6", 1 lb.

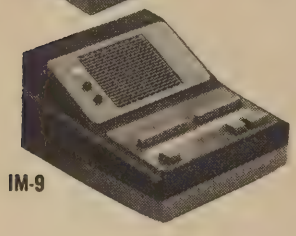
BC-2 Swivel Boom — This precision engineered, carefully balanced, infinitely adjustable Swivel Boom fastens instantly to any floor, desk, table or Clamp Stand. It swivels easily and simply in any direction, tilts to any angle and height and projects the microphone up to 31" from the stand. One wing nut adjusts pressure required for movement or locks boom permanently in any position. 3½ lbs.

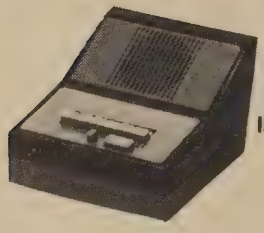
BG-6 6" Gooseneck **Bogen** spring goosenecks are strong, silent and beauti-
BG-13 13" Gooseneck fully chromed. Flexible enough to take any form, they
BG-19 19" Gooseneck permit the microphone to be turned in any direction or placed in any position. And even the longest model is strong enough to maintain that direction or position. **Bogen** goosenecks may be used on desks, floors or Clamp Stand . . . or direct with BA-11 or BA-12 flanges on any horizontal or vertical surface.

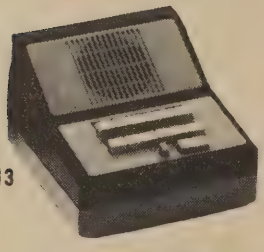
© United Technical Publications

BOGEN
INTERCOMS

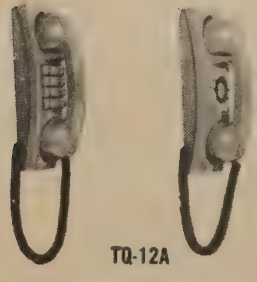

IM-17


IM-9


IE-7


IE-13


IE-4S


TSL-16 TQ-12A

Bogen intercoms include a wide variety of systems — each designed to answer a specific need.

■ **SERIES IM INTERCOMS** — One of the most versatile, powerful solid-state intercoms of its type — the Series IM is everything an intercom should be. And then some. At lower cost than a leased system. And without tying up valuable (and expensive) telephone lines and switchboard. You get instant high quality voice communication between office, stockroom, factory, loading dock. With no dialing, no buzzing, no waiting. Up to 17 stations, in any combination of masters and remotes you want. Master stations are completely private. That means you can't be eavesdropped on. But when you're called, you can switch to "hands-free" operation without the need to operate switches. Unlimited flexibility provides up to eight simultaneous private conversations in a seventeen station system. Remotes can be either private — best for inter-office use — or non-private, so the shop foreman, for example, can answer you "hands-free" from anywhere in the area without interrupting his work. Up to six watts of peak output power from the master means he'll hear you — and vice versa — without the addition of an optional amplifier.

IM-9 MASTER STATION for systems up to 9 stations — all masters or one master and remotes or several masters and remotes. **IM-17 MASTER STATION** for up to 17 stations. **RIM-1 REMOTE** has a non-selective call-initiation switch (to one master), volume control, privacy switch. **RIM-3 REMOTE** similar to RIM-1 but with selective call-initiation switch to three masters. **TBS-45 OUTDOOR/INDOOR REMOTE** speaker functions as a remote in high noise level areas. With CS-1 or CS-3 switch, remote can initiate calls to one or three masters. **WX-6 WALL MOUNTING REMOTE** for office, hall or shop. With CS-1 or CS-3 switch, remote can initiate call to either one or three masters.

■ **SERIES IE INTERCOMS** — One of the hardest-working intercoms you'll find anywhere. With it you can choose an All-Master System that gives you single or conference-call communications with up to thirteen stations, anywhere in your company. In a thirteen station system, six simultaneous private conversations can be held. You can substitute one or two remotes in a stockroom or plant, so that personnel can answer "hands-free" without interrupting their work. You can even cut into your P.A. system for direct paging. And with the addition of our optional TBR-1 relay, the man you call can reply "hands-free" directly through the P.A. loudspeaker—as clearly as if he were in the same room.

IE-7 MASTER STATION for systems up to 7 stations — all masters or single master/multiple remote. **IE-13 MASTER STATION** for up to 13 stations. **RIE-1 REMOTE** has a non-selective call initiation switch to master.

■ **IE-4S ANNUNCIATOR INTERCOM SYSTEM** — The most intercom for your dollar, if your requirements are limited to a few stations. Sophisticated, yet simple. Hard working, yet easy to operate. Functional, yet beautiful. The IE-4S may very well be all the intercom you need. One master and one remote station give you instant, direct and clear communication anywhere in the organization. Add a second or third remote, if your needs call for them. Call any or all remotes, just by pushing the appropriate buttons. For convenience, the remotes can be either private, which prevents eavesdropping, or non-private, for "hands-free" reply with no interruption of work. Unlike other intercoms in its class, calls from remote stations to the master are announced by a discreet beep, and a small annunciator shows which station is calling. If the master is unattended when the call comes in, the annunciator remains on, indicating at a glance who called. It's like having an electronic secretary.

INTERNAL PHONE SYSTEMS — Extremely flexible telephone systems that provide simultaneous conversations without a costly central exchange. No switching, no dialing, no switchboard delay.

■ **SERIES TSL** — As many as eight conversations may take place at the same time in a 16-station system. Up to sixteen individuals can converse in a conference call. 100% trunkage is provided — stations can be used simultaneously without interference.

TSL-16 with 1 ring button and 15 station selector buttons. **TSL-8** with 1 ring button and 7 station selector buttons. **TRC** Phone Page Adapter allows paging from TSL phones.

INL-1 TELEPHONE INTERFACE ADAPTER

- Dramatically extends the use of **Bogen** TSL private phones by connecting them with nationwide Bell System.
- Outside calls made from or received at any TSL private phone, substantially reducing the need for Bell phones.
- Compatible with Bell key telephones and a variety of Bell PBX switchboards; Operator uses same headset for all calls.

The **Bogen** Model INL-1 is a telephone adapter for connecting **Bogen** TSL private telephones to the nationwide Bell System, with the aid of an interface provided by Bell. It is ideally suited for stores, offices and plants that have a high volume of internal calls with relatively few calls outside the building. A typical installation using a Bogen TSL-16 System can connect up to 15 private phones to the Bell System.

■ **SERIES TQ** — Up to 13 stations in a low-cost, fast operating system. Features selective ringing with common-talk line for single conversion or conference call. Series TQ **Bogen**-Phones are available in three models.

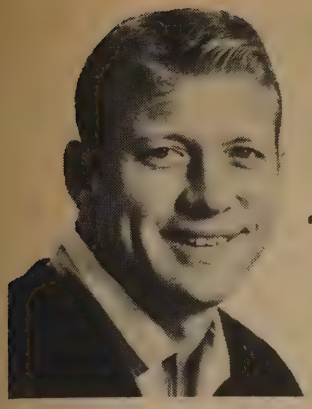
TQ-1A for 2 station systems. **TQ-6A** phone for up to 7 station system. **TQ-12A** phone for up to 13 station system. **TRA** Phone Page Adapter allows paging from TQ phones.

PRS-16A Power supply for TSL Phones. **PRS-1A** Power supply for TQ Phones.

Request Catalogs 431 and 432 for complete details of **Bogen** Intercom and Phone Systems.

■ SOLID STATE All specifications subject to change without notice.

© United Technical Publications



POWERHOUSE™ MEGAPHONES by FEDTRO®

take it from Mickey Mantle†

"FEDTRO...the proven sound of champions"

industry • sports • marine


INDUSTRIAL


MARINE


CONTROL


SUPERVISION


MUNICIPAL

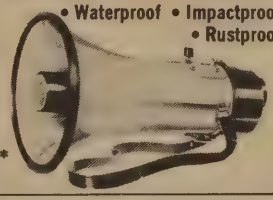
FEDTRO MEG-1000B POWERHOUSE TRANSISTORIZED MEGAPHONE

SPECIAL FEATURES: • All Aluminum Construction • Superior Clarity and Tonal Quality • Durable Carrying Strap • Instant Battery Loading • Noise-Cancelling Microphone • Fingertip Volume Control • Power Packed Amplification

SPECIFICATIONS: • ELECTRIC POWER SOURCE: 6 volts • OUTPUT: 5 watts • BATTERIES: 4 Flashlight "D" cells (Eveready #950, Burgess #2 or equivalent) • DIMENSIONS: Diameter 7¼", Length 12¼" • WEIGHT: 2.7 lbs. • POWER RANGE: Up to 1200 feet... Depending on environment, climatic conditions and existing noise levels. The bell of the MEG-1000B is protected and cushioned with a polyvinylchloride bumper rim. **$49.95***

magnificently finished in gleaming harmonious tones of brilliant red and elegant ebony black

• Waterproof • Impactproof • Rustproof





FEDTRO MEG-1200 MICRO-MEG POWERHOUSE TRANSISTORIZED MEGAPHONE the ultimate in transistorized miniaturization

SPECIAL FEATURES: • Transistorized • Miniaturized . . . only 8½ inches long • Power Packed Amplification • All Aluminum Construction • Fingertip Volume Control • Elegant Wrist-Strap Swivel Chain • Noise-Cancelling Microphone • Instant Battery Loading

SPECIFICATIONS: • ELECTRIC POWER SOURCE: 6 volts • OUTPUT: 5 watts • BATTERIES: 4 Flashlight "C" cells (Eveready #1035 or equivalent) • DIMENSIONS: Diameter 5¼", Length 8⅞" • WEIGHT: 1 lb., 10 ozs. • POWER RANGE: Up to 1200 feet...Depending on environment, climatic conditions and existing area noise levels. The bell of the MEG-1200 is protected and cushioned with a polyvinylchloride bumper rim. **$49.95***

magnificently finished in gleaming tones of iridescent silver smartly trimmed with ebony black

• Waterproof • Impactproof • Rustproof





FEDTRO MEG-3300 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

SPECIAL FEATURES: • Two Dynamic Microphones . . . One Built-in and Additional "Plug-In" Detachable Microphone • Use 4 Ways: • *Over Shoulder* • *Trumpet Grip* • *Thru Regular Mike* • *Thru Detachable Mike* • Super Power Range • Superior Clarity • Perfect Tonal Quality • Hi-Impact PVC Construction • Fingertip Volume Control • Adjustable Carrying Strap & Shoulder Cushion • Instant Battery Loading

SPECIFICATIONS: • ELECTRIC POWER SOURCE: 6 volts • OUTPUT: 14 watts • BATTERIES: 4 Flashlight "D" Cells, (Eveready #950, Burgess #2 or equivalent) • DIMENSIONS: Diameter 7", Length 12¾" • WEIGHT: 2¼ lbs. • POWER RANGE: Up to 3300 feet...Depending on environment, climatic conditions and existing area noise levels. The bell of the MEG-3300 is protected and cushioned with a polyvinylchloride bumper rim. **$59.95***

magnificently finished in gleaming harmonious tones of lustrous ivory and ebony black

• Waterproof • Impactproof • Rustproof





FEDTRO MEG-3600 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

SPECIAL FEATURES: • Superior Power Range • Tonal Quality and Clarity of the Highest Fidelity • Perfectly Balanced Pistol Grip with Trigger Switch and Fingertip Volume Control • All Aluminum Construction • All Weather Durable Handy Carrying Strap • Instant Battery Loading • Special Blast Signal Stops and Starts the Action...Marine Signal...Boat Horn...Fog Horn..."Mayday"...Designed to meet U.S. Coast Guard Distress Signalling Regulations

SPECIFICATIONS: • ELECTRIC POWER SOURCE: 6 volts • OUTPUT: 16 watts • BATTERIES: 4 Flashlight "D" cells. (Eveready #950, Burgess #2 or equivalent) • DIMENSIONS: Diameter 7⅛", Length 12¾" • WEIGHT: 3 lbs. • POWER RANGE: up to 3600 feet...Depending on environment, climatic conditions and existing area noise levels. The bell of the MEG-3600 is protected and cushioned with a polyvinylchloride bumper rim. **$79.95***

magnificently finished in gleaming harmonious tones of brilliant red and lustrous ivory

• Waterproof • Impactproof • Rustproof





FEDTRO MEG-5000 ULTRA DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE the finest instrument of its kind in the world

SPECIAL FEATURES: • Super Range and Power • The Ultimate in Clarity and Tonal Quality • Versatility • Detachable Mike • Use 4 Ways: • *Pistol Grip* • *Over Shoulder* • *Tripod Mount* • *On its own legs* • All Aluminum Construction • Fingertip Volume Control • Adjustable Carrying Strap and Shoulder Cushion • Instant Battery Loading • Special Blast Signal Stops and Starts the Action...Boat Horn...Fog Horn..."Mayday"...Designed to meet U.S. Coast Guard Distress Signalling Regulations • Waterproof • Impactproof • Rustproof

SPECIFICATIONS: • ELECTRIC POWER SOURCE: 9 volts • OUTPUT: 25 watts • BATTERIES: 6 Flashlight "C" cells. (Eveready #1035 or equivalent) • DIMENSIONS: Diameter 8⅜", Length 13½" • WEIGHT: 5½ lbs. • POWER RANGE: Up to 5000 feet...Depending on environment, climatic conditions and existing area noise levels. The bell of the MEG-5000 is protected and cushioned with a polyvinylchloride bumper rim. **$119.95***

magnificently finished in gleaming harmonious tones of brilliant red and lustrous ivory





mickey mantle endorses all Fedtro audio products

© COPYRIGHT 1969 · FEDTRO INC

the world's leading supplier of transistorized megaphones

proven sound around the world®

* Suggested selling price may be slightly higher in Western States.

see other fedtro products: pages 73, 383, 532

TALK-A-PHONE WIRELESS INTERCOM SYSTEMS

TWO WIRELESS SYSTEMS

Two high-quality wireless intercoms, featuring the exclusive TALK-A-PHONE "SONIC GATE" circuit. Provides communication where permanent or wired systems are not practical. For use in offices, factories, stores, homes, apartments, nurseries, farms, etc. Distinctively styled cabinets combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray with brushed chrome side panels. Each station has a translucent indicator which illuminates when "On." All stations must be connected to outlets on the **same electric company service transformer.** Built-in Ground Adapter provides greater sensitivity where electrical wiring is routed over long paths. U.L. Listed.

TALK-A-PHONE 12-STATION SELECTIVE WIRELESS* SYSTEM

• 6 Separate 2-Way Conversations Simultaneously • Selective Paging with Reply • Push-Button Channel Selector • Start a System with any number of Masters and Staffs • With "Sonic-Gate" Circuit

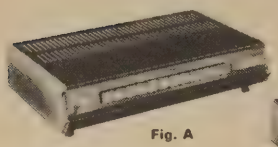


Fig. A

• No Installation
• No Wiring



Fig. B

• No Cables
• Just Plug-in and Talk

*Carrier Current

TLCM-8912. 12-Station Selective Wireless Master. (Fig. A) Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size 14"w x 8¾"d x 3⅛"h. Shipping weight, 12½ lbs.
List Price Per Station $214.00 ..... Net **125.00**

TLCM-8906. 6-Station Selective Wireless Master.
As above except for 6-Station Capacity. Shpg. Wt. 10 lbs.
List Price Per Station $191.00 ..... Net **112.00**

Wireless Staff Stations. (Fig. B) Receive and reply on a single channel only. Does not originate calls.

T-LCS-901 Channel 1	T-LCS-903 Channel 3	T-LCS-905 Channel 5
T-LCS-902 Channel 2	T-LCS-904 Channel 4	T-LCS-906 Channel 6

Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size, 10½"w x 8¾"d x 3¼"h. Shipping weight, 7 lbs.
List Price Per Station $110.00 ..... Net **64.50**

TALK-A-PHONE 2-STATION WIRELESS* SYSTEM (Fig. B)

A complete system of 2 stations, ready to use. Simply place each unit where desired, plug each into nearest electrical outlet, and talk! Add more stations anytime. All stations will receive any messages transmitted from any point. Move units anywhere, plug into electrical outlet and use—no re-wiring or new installation necessary. The original TALK-A-PHONE UNI-TRANS is built in—provides continuous one-way transmission; ideal for dictation, or listening-in on baby. 110-120 V. AC-DC. Size, 10½"w x 8¾"d x 3⅛"h.

T-LC-33. Complete with tubes and instructions. Weight 16 lbs.
List Price Per System $191.00 ..... Net **112.00**

T-LC-17. Additional Single Station. Weight 8 lbs. List Price Each $95.50 ..... Net **56.00**

CRADLEPHONE—Optional for all units above. Add H to model No. when ordering.
List Price per Station add $65.00 ..... Net add **38.00**

TALK-A-PHONE APARTMENT HOUSE INTERCOM SYSTEMS



TA-1

TA-2

The features, the safety, the control, essential in Apartment Buildings. 1 or 2 talking circuits, 1 or 2 door opener buttons.

Provides instant and direct 2-way conversation between any Apartment and Vestibule . . . Greater Performance with Exclusive Talk-A-Phone Features:

• Ample Volume—Whispers, shouts and normal voice are heard clearly without "boom" • Automatic Privacy—On all Apartment Units • Volume Selector—Each Apartment selects own volume. Concealed yet easily accessible • Built-in Buzzer—Pleasant sound, in each Apartment Unit • With one or two independent talking circuits and one or two independent door opener buttons.

TA-1 Apartment Intercom Unit. Less Back Box. 1 talking circuit. 1 door opener button. Front Panel Size 4$^{13}/_{16}$"w x 7$^{3}/_{16}$"h. Wall opening 4¼"w x 6½"h x 1⅞"d. Wt., 2 lbs. List. Ea. **26.00**

TA-2 Apartment Intercom Unit. Less Back Box. 2 talking circuits. 2 door opener buttons. Front Panel Size 4$^{13}/_{16}$"w x 7$^{3}/_{16}$"h. Wall opening 4⅛"w x 6½"h x 3¼"d. Wt., 2 lbs. List. Ea. **29.95**

A-PR Back Box for TA-1 complete with terminal block. Wall opening 4⅛"w x 6½"h x 1⅞"d. Wt., 2 lbs. List. Ea. **3.90**

A-PR-2 Back Box for TA-2 complete with terminal block. Wall opening 4⅛"w x 6½"h x 3¼"d. Wt., 2 lbs. List. Ea. **5.20**

TA-R Vestibule Intercom Unit. Less Back Box. Front Panel Size 4$^{13}/_{16}$"w x 4$^{13}/_{16}$"h. Wall opening 4¼"w x 4¼"h x 1⅞"d. Wt., 3½ lbs. List. Ea. **21.00**

A-PRS Back Box for TA-R. Wall opening, 4⅛"w x 4⅛"h x 1⅞"d. List. Ea. **2.65**

TA-S Speaker mounts on back of bell button panel. Wt., 2 lbs. List. Ea. **6.85**

TA-40 Amplifier-Power Supply Unit. With 50 ft. of #8202 Cable. List. Ea. **129.50**

A-SM Surface Mounting Accessory for TA-R. Wt., 1 lb. List. Ea. **6.35**

A-SML Surface Mounting Accessory for TA-1. Wt., 2 lbs. List. Ea. **7.15**

CABLES: Weatherproof vinyl-plastic 175° F individually covered conductors with overall plastic jacket.

8202 (1 twisted pair) for TA-R or TA-S. Approx. O.D. $^{3}/_{16}$". List, 100 ft. **8.40**

9705 (1 twisted pair #22; 1 single #22; 2 singles #18) for TA-1. Approx. O.D. ½" List, 100 ft. **16.00**

9710 (2 twisted pair #22; 2 singles #22; 4 singles #18) for TA-2. Approx. O.D. ⅝". List, 100 ft. **32.00**

TALK-A-PHONE All-Transistor HOME INTERCOM-RADIO SYSTEMS



HI-9 or HI-8



HI-9R or HI-29R



HI-SM

Housing Assembly with HI-17 or HI-16



HI-4



HI-1



K-LR-2R

This TALK-A-PHONE Intercom System saves the housewife and homeowner miles of tiresome steps, hours of time . . . Makes home life easier, more comfortable and more enjoyable . . .

LISTEN-IN ON BABY, CHILDREN OR SICK ROOM . . . from any room in the house, day or night • ANSWER OUTSIDE DOORS FROM ANY ROOM . . . in any part of the house—without opening doors to strangers • TALK FROM ROOM TO ROOM . . . back and forth, upstairs or downstairs, any time, day or night • YOUR FAVORITE RADIO PROGRAMS . . . follow you throughout the house with the flick of a switch.

TALK-A-PHONE All-Transistor Home Intercom units are beautifully finished in gold, polished and satin silver tones. All Masters and Staff Stations are designed for flush mounting; or with optional Housing Assembly, these stations can be mounted on walls, cabinets, or set on tables, shelves, etc. Plaster Ring included for 8 and 16-Station units require 14$^{1}/_{16}$"w, 4$^{3}/_{8}$"h, 3½"d wall opening. Front panel size: 15¼"w, 5¼"h. HI-4 requires 4$^{1}/_{8}$"w, 6½"h, 2"d wall opening. Front Panel size: 4$^{13}/_{16}$"w x 7$^{3}/_{16}$"h. Sub-Stations are designed for flush mounting only, do not need Plaster Ring. Requires 2" square wall opening, 2" deep. Front Panel size: 3$^{5}/_{16}$"w, 5$^{5}/_{8}$"h. Stations do not plug into electrical outlet. Operates from HI-PS Power Supply Unit or battery. Total capacity: up to 16 stations including Central Master. With full instructions.

CENTRAL MASTER STATIONS. Only one used per system. Contains the All-Transistor Amplifier (and radio when built-in). Place in any room. Master can call and converse with any other station (or stations) in system; can listen-in to any Station that user makes "non-private". If system has Model HI-9R Central Master (built-in radio), the Master and any Staff can listen to standard AM radio broadcasts. "Additional" Masters can be used in rooms where it is desired to listen to AM radio programs different from those tuned in at Central Master.

HI-9 Central Master Station. Without radio, less battery
List Price, Each, $105.00 ..... Net Each **61.50**

HI-9R Central Master Station. With built-in radio. Less battery.
List Price, Each, $163.00 ..... Net Each **95.50**

HI-17 Central Master Station. Same as HI-9 except has total 16 station capacity. Without built-in radio.
List Price, Each, $156.00 ..... Net Each **91.50**

HI-29R Additional Master Station. With built-in radio. Less battery.
List Price, Each, $163.00 ..... Net Each **95.50**

STAFF STATIONS. 4, 8 and 16-Station Capacity Staff Stations can be combined within the same system and used with choice of one 8-station capacity or one 16-station capacity Central Master Station. (When HI-9R is used, any HI-4, HI-8 and HI-16 staff, can listen to radio of HI-9R).

HI-4 Staff Station. Provides same operation as Master. Can call 3 other stations. Can listen to radio of HI-9R.
List Price, Each, $36.00 ..... Net Each **21.00**

HI-8 Staff Station. Provides same operation as Master. Can call 8 other stations. Can listen to radio of HI-9R.
List Price, Each, $59.95 ..... Net Each **35.00**

HI-16 Staff Station. Provides same operation as Master. Can call 16 other stations. Can listen to radio of HI-9R.
List Price, Each, $110.00 ..... Net Each **64.40**

HI-SM HOUSING ASSEMBLY. For enclosing any 8 or 16-Station Capacity Master or Staff, to permit mounting on walls or cabinets, or placing on tables, shelves, etc.
List Price Each $22.00 ..... Net Each **12.90**

HI-1 OUTDOOR SUB-STATION. For front and rear entrance applications. Complete with push-button for connection to regular house chime, bell or buzzer. Has illuminated nameplate. When caller rings bells, any Master or Staff may reply and converse with caller. Caller operates no controls.
List Price, Each, $31.00 ..... Net Each **18.20**

O-SM Surface Mounting Accessory for HI-1. Custom-styled metal casting of satin silver finish. Provides an attractive, coordinated base for mounting HI-1 on surface of wall. 3$^{3}/_{16}$" x 5$^{13}/_{16}$" x 5/8". List Price, Each, $6.30 ..... Net Each **3.70**

K-LR-2R ALTERNATE OUTDOOR SUB-STATION. For flush mounting. Requires wall opening 4$^{1}/_{16}$" square, 2" deep. Stainless steel front panel measures 4$^{13}/_{16}$" square. Complete with plaster ring. Without push button or illuminated nameplate.
List Price. Each. $29.95 ..... Net Each **17.50**

Model K-SM Optional accessory for surface mounting K-LR-2R on wall.
List Price, Each, $7.95 ..... Net Each **4.65**

Model K-SM-L Optional accessory for Surface mounting HI-4 Staff on wall.
List Price, Each, $8.95 ..... Net Each **5.25**

HI-JB8 JUNCTION BOX for connecting Masters and Staffs up to a total of 8 stations. See #2 of "How to Determine Cable Needs."
List Price, Each, $9.40 ..... Net Each **5.50**

HI-JB16 JUNCTION BOX Same as above except for up to 16 stations.
List Price, Each, $16.50 ..... Net Each **9.70**

HI-PS POWER SUPPLY UNIT. One required per system (only when battery is not used). Plugs into any 120 volt, 60 cycle AC electrical outlet in basement, attic, etc.
List Price, Each, $31.00 ..... Net Each **18.20**

BATTERY. Use any 9-volt dry battery, such as ignition or telephone battery; or six standard #6 dry cells in series—available from local sources. *Note: When battery is used, power supply is not required.*

HOW TO DETERMINE CABLE NEEDS

Masters and Staff Stations. Use #6226 cable in one of 2 ways: (1) Measure from 1st unit to 2nd unit only; from 2nd unit to 3rd unit only, etc., until last unit is reached—then total. Cable between last and 1st unit not needed. (2) Place a Common Junction Box (Model HI-JB) in attic, basement, closet, etc. Measure from each Master and Staff to Junction Box and total. Double length #6226 required for 16-Station units. Connect HI-4 to nearest 8 or 16-Station unit or to HI-JB with #6214 cable.

Outdoor Sub-Stations: Connect to nearest Master or Staff only with #6202 cable.

Battery or Power Supply Unit: Connect with #6202 cable to Master Stations only.

CABLE. For indoor or outdoor use.

Type No.	No. Pairs	Approx. O.D.	LIST, Per Ft.	NET, Per Ft.
6226	13	5/8"	76c	**44c**
6214	7	1/2"	39c	**23c**
6202	1	3/16"	8c	**4¾c**

All prices slightly higher west of Rockies—All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

TALK-A-PHONE CO.

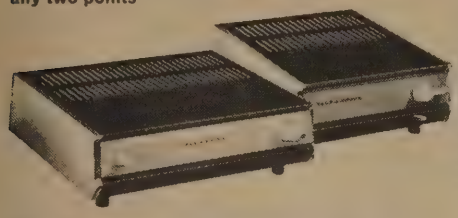
© United Technical Publications

TALK-A-PHONE Deluxe Intercom Systems

Quality intercommunications systems designed for the Office, Business, Plant, House, Farm, Professional Man, or any other private or commercial application. A flick-of-a-finger gives you instant and direct two-way conversation between any two points—anywhere. Masters have translucent indicator which illuminates when system is "on." In cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray and brushed chrome. Resists industrial liquids and atmospheres. Size: Masters, 10½"w x 8¼"d x 3¼"h.; Subs, 7½"w x 8¼"d x 2¼"h. U.L. Listed.

TALK-A-PHONE 2-STATION SYSTEM

2-way voice communication between any two points



K-LC-2 A complete, high-quality intercommunication system. Includes a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable available for distances up to 2000 feet. Easy to install and operate. Master and Sub-Station can originate calls to each other and carry on a 2-way conversation. Sub-Stations can be used "privately" or "non-privately". When "private", Master cannot listen-in on Sub-Station; yet Sub can answer and originate calls. When "non-private", persons at Sub-Station can answer calls at a distance without operating controls, as well as originate calls. Master is equipped with a translucent indicator, illuminated by permanent-type bulb, to show when system is "on". Rugged, high-gain transistorized amplifier is built to withstand continuous use and to require a minimum of maintenance. Adjustable Volume. Only Master plugs into electrical outlet, 110-120 volts, AC or DC. Master in deluxe cabinet finish, Sub-Station cabinet is of same style and color, but is in grained, baked enamel finish. U.L. Listed.

Model K-LC-2 2-Station System complete with easy-to-follow instructions, and 50 feet of cable. Wt. 13 lbs. List Price complete $88.00.....Net complete **51.50**

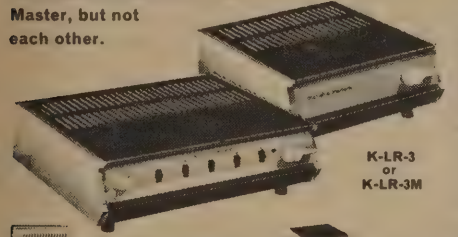
No. 6303 (3 conductor)cable, 175°F. individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use where additional lengths are required between the Master and Sub-Station. List Price per foot 11c.....Net per foot **6½c**

No. 5303 (3 conductor) cable for indoor use. List Price per foot 7c.....Net per foot **4c**

Optional Wall Mounting Brackets for Model K-LC-2 Sub-Station are available. See description below.

TALK-A-PHONE MASTER SELECTIVE SYSTEMS

A system of one Master Station which can communicate with from one to ten Sub-Stations. Subs can call Master, but not each other.



K-LR-3 or K-LR-3M



K-LR-3R

K-ML A system consisting of one Master Station and from one to ten Sub-Stations. Master Station can talk and listen to any one Sub-Station, several Sub-Stations or with all Subs simultaneously. Sub-Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub-Stations and then add later when necessary. Installation of system has optional feature whereby Sub-Stations can be connected "privately," or "non-privately" and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system, persons at Sub-Stations need operate no controls and can reply from a distance. When the system is connected "privately," Master unit cannot "listen in" on Sub-Stations. However, they can reply when called, and also originate calls to the Master. Operates universally on 110-120 volts, AC-DC. U.L. Listed.

K-AC The K-AC-5406 and K-AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for paging. Operates on 120 volts, AC only. U.L. Listed.

Use only one Master in each System.

Optional Wall Mounting Bracket for Models K-LR-3 and K-LR-3M are available. See description below.

Model K-ML-5 Master for 5 Sub-Stations. Wt. 8 lbs. List Price each $85.00.....Net each **49.95**

Model K-ML-10 Master for 10 Sub-Stations. Wt. 8 lbs. List Price each $105.00.....Net each **61.50**

Model K-AC-5406 Master Station. 5 Sub-Station capacity. High Volume Output. Wt. 8 lbs. List Price each $105.00.....Net each **61.50**

Model K-AC-5411 Master Station. 10 Sub-Station capacity. High Volume Output. Wt. 8 lbs. List Price each $125.00.....Net each **73.30**

Model K-LR-3 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each $37.50.....Net each **21.95**

Model K-LR-3M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each $29.95.....Net each **17.50**

Model K-LR-3R Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4⅛" W. x 6⅛" H. Stainless steel front panel measures 4¹³⁄₁₆" W. x 7⅜" H. Complete with plaster ring. List Price each $29.95.....Net each **17.50**

Model K-SM-L Optional accessory for surface mounting K-LR-3R on wall. List Price each $8.95.....Net each **5.25**

Model K-HP-3 Hi-Power Staff Station for wall mounting. Charcoal Gray metal case. Wt. 8 lbs. List Price each $39.50.....Net each **23.20**

Model K-HP-3V Same as above, but with built-in volume control, adjustable to full output. List Price each $48.20.....Net each **28.20**

Model K-C-20 Nine-inch weather proof re-entrant horn. Charcoal Gray color. Wt. 5 lbs. List Price each $56.50.....Net each **33.00**

Model K-C-20V Same as above, but with built-in weather resistant volume control, adjustable to full output. List Price each $73.50.....Net each **43.00**

K-S-100 Wall Switch for origination of call through K-C-20 or K-HP-3. List Price each $8.50.....Net each **4.95**

Model K-S-111 Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with K-HP-3, K-C-20 and K-S-100. Speaker disconnects when in use. List Price each $79.00.....Net each **46.00**

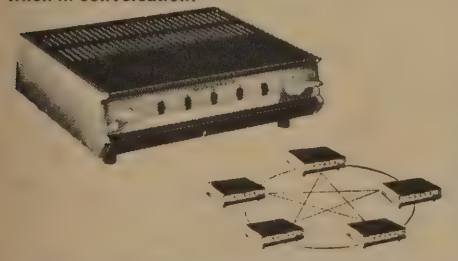
No. 6303 (3 conductor) cable. 175°F. individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use to connect Sub-Station to Master. List Price per foot 11c.....Net per foot **6½c**

No. 5303 (3 conductor) cable for indoor use. List Price per foot 7c.....Net per foot **4c**

All systems above are transistorized and come complete with easy to follow instructions, ready to install.

TALK-A-PHONE SUPER SELECTIVE SYSTEMS

A system of up to ten Master-Stations. Each station can call and communicate with any other. Each station operates controls when in conversation.



K-LS A system of all Master Stations. Any Station can call any other Station in system. Several completely private 2-way conversations are possible at same time. A versatile, low cost intercom system offering extreme flexibility, meeting many requirements in industry, offices, homes, etc. Any Station can call and carry on a conversation with any other Station or Stations in the system with absolute "privacy." Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Stations can be located even 1000 feet apart. Variable volume, adjustable at each unit, controls incoming voice. You can start with two or three masters, and then add later as required. Operates universally on 110-120 volts, AC-DC. U.L. Listed.

K-AC The K-AC-505 and K-AC-510 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for calling many stations at once. K-AC-505 and K-AC-510 Masters cannot be intermixed with any other master. For 120 volts, AC only. U.L. Listed.

Model K-LS-5 Master for five Masters. Wt. 8 lbs. List Price each $85.00.....Net each **49.95**

Model K-LS-10 Master for ten Masters. Wt. 8 lbs. List Price each $105.00.....Net each **61.50**

Model K-AC-505 Master for 5 Masters. Hi-Volume Output. Wt. 8 lbs. List Price $105.00.....Net each **61.50**

Model K-AC-510 Same as K-AC-505 except for 10 Masters. List Price each $125.00.....Net each **73.30**

No. 5506 (6-conductor) Cable for connecting K-LS-5 or K-AC-505 Masters. List Price per foot 19c. Net per foot **11c**

No. 9911 (11-conductor) Cable for connecting K-LS-10 or K-AC-510 Masters. List Price per foot 36c. Net per foot **21c**

All systems above are transistorized and come complete with easy to follow instructions, ready to install.

TALK-A-PHONE COMBINATION SYSTEMS

A system combining one or more Master Stations with one or More Sub-Stations up to a combined total of ten. Masters call any station. Subs reply but Subs cannot originate calls.



K-LR-2 or K-LR-2M



K-LR-2R



A.



B.

K-CL For the more flexible type of communication system requiring the operation of more than one Master Station, along with Sub-Stations which need not originate calls. Personnel can answer incoming calls even though they are 25 to 40 feet from their unit. Master Stations may talk to each other and to all Sub-Stations in the system selectively; or you can have one or more Sub-Stations which are exclusive to only one Master Station (as illustrated in the diagram at left). Master Stations have the option of making themselves "private" or "non-private" at will. You can begin with two stations (at least one must be a Master) and add other units as required. Model K-CL-5 Master Station has a total inter-connecting capacity of five stations, including Masters and Sub-Stations: while Model K-CL-10 Master Station has a total capacity of ten stations. Sub-Stations are not plugged into electric current. U.L. Listed. 120 volts. AC-DC.

Optional Wall Mounting Brackets for Models K-LR-2 and K-LR-2M are available. See description below.

K-AC The K-AC-605 and K-AC-610 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for calling many stations at once. K-AC-605 and K-AC-610 Masters cannot be intermixed with any other master. For 120 volts, AC only. U.L. Listed.

Model K-CL-5 Master for five station use. Wt. 8 lbs. List Price each $102.00.....Net each **59.95**

Model K-CL-10 Master for ten station use. Wt. 8 lbs. List Price each $123.00.....Net each **72.00**

K-AC-605 Master for 5-Station use. Hi-Volume Output. Wt. 8 lbs. Complete with instructions. List Price each $123.00.....Net each **72.00**

K-AC-610 Same as K-AC-605 except for 10-Station use. List Price each $142.00.....Net each **83.30**

Model K-LR-2 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each $37.50.....Net each **21.95**

Model K-LR-2M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each $29.95.....Net each **17.50**

Model K-LR-2R Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4½" square. Stainless steel front panel measures 4¹³⁄₁₆" square. Complete with plaster ring. List Price each $29.95. Net each **17.50**

Model K-SM Optional accessory for surface mounting K-LR-2R on wall. List price each $7.95.....Net each **4.65**

Model K-HP-3 Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs. List Price each $39.50.....Net each **23.20**

Model K-HP-3V Same as above, but with built-in volume control, adjustable to full output. List Price each $48.20.....Net each **28.20**

Model K-C-20 Nine-inch weather proof re-entrant horn. Charcoal gray color. List price ea. $56.50. Net each **33.00**

Model K-C-20V Same as above, but with built-in weather resistant volume control, adjustable to full output. List Price each $73.50.....Net each **43.00**

Model K-S-111 Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with K-HP-3 and K-C-20. Speaker disconnects when in use. List Price each $79.00.....Net each **46.00**

No. 6210 (5 pair) Cable for interconnecting K-CL-5 or K-AC-605 Masters. List Price per foot 34c. Net per foot **20c**

No. 6226 (13 pair) Cable for interconnecting K-CL-10 or K-AC-610 Masters. List Price per foot 76c Net per foot **44c**

No. 6902 (2-conductor) Cable for connecting Sub-Station to K-CL-5, K-CL-10, K-AC-605 or K-AC-610. List Price per foot 4¾c.....Net per foot **2¾c**

No. 6202 Cable. Use in place of No. 6902 where an overall jacket is required. List Price per foot 8c.....Net per foot **4¾c**

All systems above are transistorized and come complete with easy to follow instructions, ready to install.

A. CRADLEPHONE—Optional for any unit above (except K-CL-5, K-CL-10, K-AC-605, K-AC-610, K-C-20(V), K-HP-3(V), K-LR-3R and K-LR-2R.) Add "H" to Model No. when ordering. List Price Per Station, add $65.00 .....Net, add **38.00**

B. WALL MOUNTING BRACKETS—Optional accessory for use with TALK-A-PHONE Models K-LR-3, K-LR-3M, K-LR-2, K-LR-2M, K-C-41, K-C-41M, K-C-42, K-C-42M, and K-LC-2 Sub Station to enable mounting on wall, side of desk, etc. One pair required per station. Permits mounting with front panel upward, downward or sideward.

Model K-W1 Mounting Brackets, per pair. List Price $1.00 Net **60c**

HOW TO DETERMINE CABLE REQUIREMENTS

For Master Selective Systems measure from each Sub-Station to the Master and order total. For **Super Selective Systems**—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For **Combination Systems**—Master cable; measure from first Master to second Master only, from second Master to third Master only, etc., and total; Sub-Station cable; measure from each Sub-Station to nearest Master only. Connect K-S-111 at any convenient point between remote speaker and Master Station.

TALK-A-PHONE CO.

All prices slightly higher west of the Rockies. All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

THE ALL-TRANSISTOR TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" INTERCOMMUNICATION SYSTEMS



"Has Everything . . . Does Everything"

One Model Meets Every Requirement

Setting a high standard in quality, design and performance, the TALK-A-PHONE "CHIEF" and "CHIEF REDI-POWER" meets the intercom needs of office, factory, institution, or any other commercial or private application. "CHIEF" Master Stations of 6, 12, 20, 30, 40 or 50 station capacity can be intermixed with "CHIEF REDI-POWER" Masters of different capacities, together with Staff Stations and Horns within the same system in any desired combination. Masters can talk with any other Master or Staff . . . page . . . and can utilize other optional equipment shown as well. Staffs can answer any Master and can originate calls to one Master, or to two Masters selectively.

ONLY THE TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" GIVE YOU ALL THESE FEATURES

• **DISTINCTIVELY STYLED**—Less than 3-inches high. In cabinets that combine the look and feel of fine-grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome.

• **"PRIVATE" OR "NON-PRIVATE" MASTERS AND STAFFS**—Exclusive Dynasonic Design enables stations to perform "privately" (so no one can listen-in), or "non-privately" (for reply without use of controls). A Master can be "private" to one or more Masters and "non-private" to others, where Staffs need not originate calls to that Master. Staffs can originate only to "private" Masters.

• **INCOMING CALL CHIME**—A standard feature of Masters. Indicates that your station is being called. Caller talks, voice follows.

• **MONITORING SIGNAL**—A standard feature of Masters and Staffs. Visually indicates to a "non-private" station that it is being monitored.

• **BUSY SIGNAL**—A standard feature of Masters and Staffs. Visually indicates when station you call is "busy." All units have facility to override "busy signal" for important calls.

• **DYNASONIC SELECTOR**—An exclusive TALK-A-PHONE feature that permits intermixing of stations and variation of performance. Add to system at anytime without discarding original equipment.

• **MULTI-MAGIC STATION SELECTOR**—A patented, exclusive TALK-A-PHONE feature that enables selection of up to 30 stations with only 12 push buttons . . . 40 and 50 stations with 14 push buttons . . . in the same attractive cabinet style and size.

• **UNI-TRANS DICTATION CONTROL**—No need to operate or hold down controls when one-way transmission is desired or when Cradle Phone is used.

• **EXTERNAL RELAY CONTROL**—A standard feature of Masters. Enables Master to activate external relays for operating siren, gong, light, etc. Use in extremely high noise level areas to signal personnel, who can then communicate with caller from Master in quieter location or in sound booth. Operates simultaneously with chime within Master.

• **RECIPROCAL POWER SUPPLY**—Each Master operates on 120 volts, AC only, and should be plugged-in. Where no electrical outlet is available, up to 30% of the "Chief" Masters in the system can operate without being plugged-in.

• **NOISE-FREE VOICE RANGE POWER**—The rugged, all-transistor high-gain amplifier provides unsurpassed clarity and naturalness of tone. The exclusive, patented TALK-A-PHONE circuit enables performance without noise, hum or distortion when used with TALK-A-PHONE cable.

• **HI-POWER STAFF STATIONS AND HORNS**—For use with any TALK-A-PHONE Master where high volume at Staff locations is needed. Ideal for paging speakers. K-HP-3 provides more than twice the volume of universal Staff; K-C-20 provides about 4 times greater volume . . . more with REDI-POWER Masters.

• **WALL SWITCH**—Combine with TALK-A-PHONE Horn or Hi-Power Staff to add origination-of-call feature.

• **"LD" LONG DISTANCE**—(optional accessory on Masters). For use over cable lines of 2,000 ft., 5,000 ft., 10,000 ft. or more without loss of volume. Functions only between Masters with LD . . . not between an LD Master and Staff. Built-in at factory at additional cost.

• **CRADLE PHONE**—(optional accessory on Masters or Staffs). Has live microphone. Provides listening privacy and greater speaking convenience. Diminishes background noises in noisy areas. Eliminates use of controls in conversation between Masters. Cuts off incoming voice from loudspeaker when in use.

• **WALL MOUNTED CRADLE PHONE**—(optional accessory). For noisy areas and listening privacy. Use with K-HP-3, K-C-20 and K-S-101 or K-S-102. Speaker disconnects when in use.

• **RIGHT-OF-WAY RELAY**—(optional accessory). Use with "CHIEF REDI-POWER" Masters to page any group of stations with a single button. Paged stations can also be used for intercommunication. K-RW-10 capacity, 10 stations, K-RW-20 capacity, 20 stations. Connects to one Master, other Masters also utilize facilities.

• **POWER PAGING BOOSTER**—(optional accessory). Use with "CHIEF" Masters to page a group of speakers with a single button. 50 watts output. Requires its own paging speakers (as K-C-20, K-HP-3). Provides paging facility only . . . paged stations cannot reply or originate calls through paging speakers. Connects to one Master, other Masters can also utilize facilities.

All "CHIEF" and "CHIEF REDI-POWER" Master Stations come complete with junction box and built-in power supply attached by 6' flexible cable. Master size: 14"w, 3½"h, 8¾"d. For 120 volts, AC only. U.L. Listed.

K-C-4906 Master 6 station capacity. Wt. 13 lbs.
List Price Per Station $191.00 ..... Net **112.00**

K-C-4912 Master 12 station capacity. Wt. 14 lbs.
List Price Per Station $214.00 ..... Net **125.00**

K-C-4920 Master 20 station capacity. Wt. 17 lbs.
List Price Per Station $255.00 ..... Net **149.00**

K-C-4930 Master 30 station capacity. Wt. 20 lbs.
List Price Per Station $295.00 ..... Net **173.00**

K-C-4940 Master 40 station capacity. Wt. 23 lbs.
List Price Per Station $335.00 ..... Net **196.00**

K-C-4950 Master 50 station capacity. Wt. 26 lbs.
List Price Per Station $375.00 ..... Net **220.00**

How to Determine Cable Requirements. To inter-connect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., until the last unit in the system is reached, and total. For K-C-4920 and K-CRP-5920, use two lengths of 6226 Cable; and for K-C-4930 and K-CRP-5930 use three lengths of 6226 Cable, etc. To connect K-C-41, K-C-42 or K-HP-3 Staff Stations, measure from Staff Station to the one Master to which Staff Station originates calls. To connect the K-C-42 Staff Station measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each K-C-41 or K-C-42, follow same procedure). Connect K-S-111 at any convenient point between remote speaker and Master Station.

TALK-A-PHONE CO.

TALK-A-PHONE ALL-TRANSISTOR "CHIEF REDI-POWER" MASTERS These units have all the operational features of the "CHIEF," plus the additional feature of built-in extra power (up to 30 watts) for use when and as needed. Provides additional volume for calling many stations at once, or noisy locations singly. Needs no separate power booster, which would eliminate return speech. Return speech is received at normal room volume. REDI-POWER Masters have a self-compensating amount of volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output as you call more stations at once. Use REDI-POWER Masters with "CHIEF" Masters and Staffs in same system. Add K-RW-10 or K-RW-20 and REDI-POWER Masters can page any group of stations with a single selector button. Paged stations can also be used for intercommunication. Operates on 120 volts, AC only. U.L. Listed.

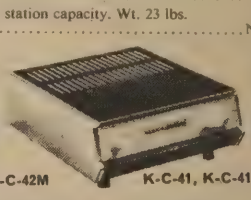
K-CRP-5912 Redi-Power Master station 12 station capacity. Wt. 18 lbs.
List Price Per Station $325.00 ..... Net **191.00**

K-CRP-5920 Redi-Power Master 20 station capacity. Wt. 21 lbs.
List Price Per Station $366.00 ..... Net **214.00**

K-CRP-5930. Redi-Power Master 30 station capacity. Wt. 23 lbs.
List Price Per Station $406.00 ..... Net **237.00**



K-C-42, K-C-42M



K-C-41, K-C-41M



K-C-41R

TALK-A-PHONE "CHIEF" UNIVERSAL STAFF STATIONS For use with any "CHIEF" or "CHIEF REDI-POWER" Master. Like Masters, Staff Stations can be connected "privately" or "non-privately", and can originate calls. When "non-private", calls can be answered at a distance from Staff without using controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether directly connected to them or not). Connected "privately" no one can listen-in to Staff, but any Master can call. "Private" or "Non-Private" Staffs can originate calls to one or two "Private" Masters. Each Staff has "busy signal" and "monitoring signal" features. Staffs do not connect to an electrical outlet . . . are distinctively styled in modern cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Finished in charcoal gray and brushed chrome. Size: 7½"w x 8¾"d x 2⅞"h.

K-C-41. Staff Station for origination-of-call to one Master. Wt. 8 lbs.
List Price, Each $51.00 ..... Net **29.90**

K-C-41M. Same operation as K-C-41 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each $42.00 . . Net **24.50**

K-C-42. Staff Station for origination-of-call to two Masters. Wt. 8 lbs.
List Price, Each $63.20 ..... Net **37.00**

K-C-42M. Same operation as K-C-42 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each $54.50 . . Net **32.00**

K-C-42R. Same as K-C-42, but for flush wall mounting. Stainless Steel Front Panel, 4¹³⁄₁₆" x 7¹³⁄₁₆". Wall Opening: 4⅛" w x 6½" h x 2" d. Wt., 5 lbs.
List Price, Each $54.50 ..... Net **32.00**

K-C-41R. Flush mounted Staff Station for use with any of above Masters. Requires wall opening 4⅛" W. x 6½" H. Stainless steel front panel measures 4¹³⁄₁₆" W. x 7¹³⁄₁₆" H. Complete with plaster ring. List Price, Each $42.00 ..... Net each **24.50**

K-SM-L Optional accessory for surface mounting K-C-41R and K-C-42R on wall. List price, each $8.95 ..... Net each **5.25**

K-HP-3. Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs.
List Price, Each $39.50 ..... Net **23.20**

K-HP-3V. Same as above, but with built-in volume control, adjustable to full output. List Price, Each $48.20 ..... Net **28.20**

K-C-20. Nine-inch weatherproof re-entrant horn. List Price, Each $56.50 . . . Net **33.00**

K-C-20V. Same as above, but with built-in weather resistant volume control, adjustable to full output. List Price, Each $73.50 ..... Net **43.00**

Optional Wall Mounting Brackets for Models K-C-41, K-C-41M, K-C-42 and K-C-42M are available. See description on preceding page.

Optional Equipment

Cradle Phone Available on all Models except K-C-41R, K-C-42R, K-HP-3(V) and K-C-20(V). Add "H" to Model No. when ordering.
List Price, Each—add $65.00 ..... Net add **38.00**

Model K-S-111 Wall Mounted Cradle Phone. List Price, Each $79.00 ..... Net **46.00**

LD Long Distance Feature Available on Master Stations. Add "LD" to Model No. when ordering. List Price, Each—$24.00 ..... Net add **13.95**

Model K-S-101 Wall Switch For origination of call to one Master through K-C-20, or K-HP-3, in Chief systems. List Price, Each $17.50 ..... Net **10.30**

K-S-102 WALL SWITCH. For origination of call to two Masters through K-C-20, or K-HP-3, in Chief systems. List Price, Each $28.50 ..... Net **16.60**

K-RW-10 Right-of-Way Relay. List Price, Each $84.00 ..... Net **49.00**

K-RW-20 Right-of-Way Relay. List Price, Each $155.00 ..... Net **91.00**

K-HP-50 Power Booster. List Price, Each $167.50 ..... Net **98.00**

CABLE. For indoor or outdoor use.

6206 Cable for connecting K-C-41, K-C-42, K-HP-3, K-C-20 with origination of call. List Price per Ft. 19c ..... Net per Ft. **11c**

6214 Cable for inter-connecting K-C-4906 Masters.
List Price per Ft. 39c ..... Net per Ft. **23c**

6226 Cable for inter-connecting K-C-4912, K-C-4920, K-C-4930, K-C-4940, K-C-4950, K-CRP-5912, K-CRP-5920 and K-CRP-5930 Masters.
List Price per Ft. 76c ..... Net per Ft. **44c**

6902 Cable for connecting K-HP-3, K-C-20 without origination of call.
List Price per Ft. 4¾c ..... Net per Ft. **2¾c**

6202 Cable. Use in place of No. 6902 where an overall jacket is required.
List Price per Ft. 8c ..... Net per Ft. **4¾c**

All Prices Slightly Higher West of Rockies—All Prices and Specifications Subject to Change Without Notice. Manufactured under exclusive TALK-A-PHONE Patents.

 © United Technical Publications

NEWCOMB

SCHOOL CLASSROOM PHONOGRAPHS AND TAPE RECORDERS

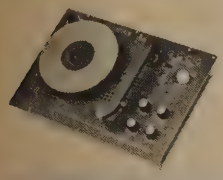
RT & R SERIES

MODEL RTS-40

transistorized
stereophonic phonograph
10 transistors, 40 watts



Compact and easily carried, the RTS-40 is an all-solid-state transformer-powered phonograph with a high compliance plug-in turnover type cartridge that reproduces stereophonic discs in full stereo and also plays monophonic. In the 20-20,000-cycle-response amplifiers, output transistors are specially heat sinked for low distortion and long life. Each of the two 6" x 9" dual-cone high fidelity loudspeakers is equipped with a 10' cord stowed on ball-point hooks. Controls are ganged and have numbered calibrations. It has separate bass and dual-range treble controls, balance, compensated volume control, glow-lighted Pausemaster, jacks for two stereo headphone sets, an output-to-tape-recorder jack that permits full use of the RTS-40's controls. 9⅜" x 10½" x 16¼", 20 pounds. **PROFESSIONAL NET $159.95**



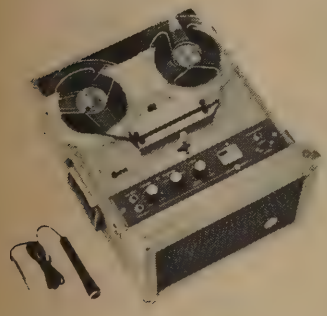
MODEL RTS-40L

40-watt stereophonic library deck
supplied without speaker, headphones or case fits hole 10⅞" x 15⅝". Ventilated bottom cover extends 2⅝" below deck. It has jacks for 4 sets of stereo headphones.

PROFESSIONAL NET $149.95

MODEL RTM-73

transistorized
monophonic tape recorder
13 solid-state elements
25 watts, 3 speeds — 7½, 3¾, 1⅞ IPS



Ruggedly built for dependable daily service in school, church, recreation, and industry, the RTM-73 with up to twice as many transistors as ordinary recorders in this price range has recording ability and audio fidelity to rival far more complex and heavier machines. With its central joystick control, operation is virtually intuitive. 25 clean watts and a big 6" x 9" speaker supply excellent coverage in large classrooms. It has a quartz-gap laminated head, stainless steel tape guides, teflon pressure pad, lighted true meter, 3-digit button-reset counter. Speed selector automatically provides proper speed-frequency equalization. It records from mike and auxiliary inputs simultaneously. NAB record curve. Controls include compensated volume, wide-range dual acting tone control which adjusts for all program material from voice to full symphony, function switch, and an on-off-or-monitor switch for internal speaker. There is an output jack for headphones, speaker, or listening center; input jacks for mike and auxiliary source. Supplied with Newcomb DM-18H omnidirectional mike with lavalier and standard phone plug. 13⅞" x 17¼" x 8½", 25½ pounds.

PROFESSIONAL NET $229.95



MODEL RTM-73L

25 watt monophonic library tape deck
supplied without speaker, microphone, or case fits hole 11⅝" x 11¾". Ventilated bottom cover extends 6" below deck.

PROFESSIONAL NET $214.95

RUGGEDLY BUILT, Newcomb RT and R model cases are ⅜" plywood that is crackproof and warp-proof and covered with heavy gauge, warm gray, washable vinyl. Corners are protected with metal. Come-apart hinges eliminate one of the most vulnerable parts of cabinet construction. Die-formed grilles of perforated metal protect speakers. Phonographs and players rest on spring-floated non-scratch feet to prevent needle skipping due to bumping. Turntables have rubber mats; new cast metal tone arms have finger lift; and an advanced pickup-and-stylus guard stops needle from hitting deck or being put down on wrong side of record. Cases are generously ventilated and provide easy access for servicing.

ALL NEWCOMB RT & R MODELS ARE TRANSFORMER POWERED FOR SAFETY AND PERFORMANCE. ALL ARE UL APPROVED. ALL PRICES AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

ALL MONOPHONIC MODELS ARE STEREO COMPATIBLE



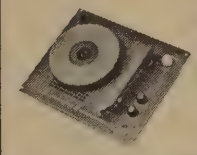
RT-15V

MODEL RT-15

transistorized
monophonic phonograph
6 solid-state elements,
20 watts

Operational simplicity with only the most basic necessary controls, combined with very good coverage and ruggedized construction make the RT-15 an outstanding value. 20 watt output is carefully matched to a big 6" x 9" oval speaker. Ceramic plug-in turnover cartridge safely plays stereo as well as mono records. Equipped with Newcomb's glow-lighted Pausemaster power-pause-pilot switch, highly effective dual-acting tone control, compensated volume control, headphone jack. 14" x 14" x 8", 17 pounds.
4-speed fixed-speed RT-15 **PROFESSIONAL NET $82.95**

MODEL RT-15V *variable speed* has number-calibrated control for reducing speed from normal to −20%. **PROFESSIONAL NET $94.95**



MODEL RT-15L

20-watt monophonic library deck
supplied without speaker, headphones, or case fits hole 11⅛" x 13¼". Ventilated bottom cover extends 2⅝" below deck. Jack accommodates magnetic headphone set with 8 ohms or more impedance.

PROFESSIONAL NET $77.95



RT-20BV

MODEL RT-20B

transistorized
monophonic phonograph
7 solid-state elements,
25 watts

Deluxe features and excellent coverage are combined with economy in this 20-20,000 cycle response model. 6" x 9" oval speaker is driven by an all-transistorized amplifier. It is stereo compatible, has separate wide-range bass and treble tone controls, compensated volume control, numbered calibrations, glow-lighted Pausemaster, output jack for headphones or external speaker, auxiliary input jack, and output-to-tape jack that permits full use of tone and volume controls. 14" x 14" x 8", 17 pounds.
4-speed fixed-speed RT-20B **PROFESSIONAL NET $87.95**

MODEL RT-20BV *variable speed model* has +5% to −15% tempo control and neon-lighted strobe. **PROFESSIONAL NET $103.95**



RT-20V

MODEL RT-20 *transistorized*

deluxe monophonic
phonograph, 7 solid-state
elements, 25 watts

A small additional premium procures sizable advances in audio realism and dynamic range which make the RT-20 an excellent choice for music study. Stereo compatible. Output transistors are super-cooled for long life, low distortion, and maximum performance. Controls include a Newcomb glow-lighted Pausemaster, separate wide-range bass and treble tone controls, compensated volume control. It has a headphone or external speaker jack, auxiliary input jack, output-to-tape recorder jack that permits full use of volume and tone controls. 14" x 14" x 8", 18 pounds.
4-speed fixed-speed RT-20 **PROFESSIONAL NET $92.95**
MODEL RT-20V *variable speed model* has +5% to −15% tempo control and neon-lighted strobe. **PROFESSIONAL NET $108.95**



MODEL R12-C4

vacuum-tube 10-watt
monophonic phonograph
4-speed fixed-speed

A transformer-powered utility model, the widely used R12-C4 offers safety, dependability, and high performance at low cost. It has a 6" x 9" oval speaker, wide-range dual-acting tone control, compensated volume control, output jack for headphones or external speaker. 14⅛" x 14⅛" x 8¼", 19 pounds.

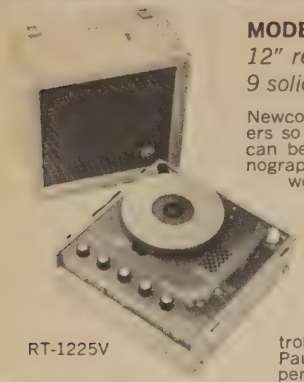
PROFESSIONAL NET $74.95

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

NEWCOMB

SCHOOL PORTABLE COMBINATION RECORD PLAYER/P.A. SYSTEMS, HEADPHONES, MICROPHONES

RT & R SERIES

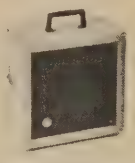


RT-1225V

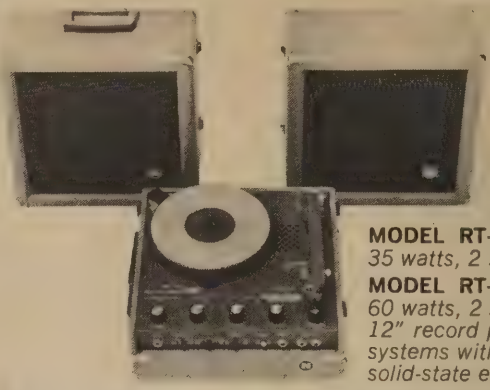
MODEL RT-1225 *monophonic*
12" record player/p.a. system
9 solid-state elements, 25 watts

Newcomb introduces a new series of players so compact and light weight that they can be conveniently used instead of phonographs for daily classroom service as well as for special occasions that call for high power and extensive coverage. This new versatility is the result of Newcomb's ultra-modern solid-state circuitry and designing for 12" records instead of the waning 16" transcription. Carefully matched to the RT-1225's 25 watt amplifier is a fine 12" dual-cone speaker. Controls include the Newcomb glow-lighted Pausemaster, mike volume mixer, compensated phono volume mixer, treble tone, special bass tone that doesn't affect mike, switched voice filter that dosen't affect phono. There are jacks for a high impedance dynamic microphone, auxiliary input, 2 speaker jacks. 13¼" x 13¼" x 11⅛", 19 pounds. 4-speed fixed- speed RT-1225 **PROFESSIONAL NET $129.95**

MODEL RT-1225V *variable speed model* has +5% to −15% tempo control and neon-lighted strobe.
PROFESSIONAL NET $145.95



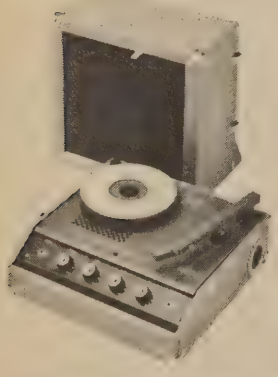
MODEL RT-112 *accessory loudspeaker* for use as a supplementary speaker with RT-1225 or RT-1225V is a 12" speaker in its own case with removable back, 25' cord. 13¼" x 13¼" x 7⅜", 9 pounds.
PROFESSIONAL NET $44.95



MODEL RT-1235V-2
35 watts, 2 speakers
MODEL RT-1260V-2
60 watts, 2 speakers
12" record player/p.a. systems with 13 solid-state elements.

Models in both power ratings have the same features, high performance, superior heat sinking. They have a +5% to −15% tempo control and neon-lighted strobe. Controls include Newcomb glow-lighted Pausemaster, mike volume mixer, compensated phono volume mixer, phono bass tone (doesn't affect mike), two-way treble phono tone, mike high or low impedance selector, 3-position mike control switch for "music," "voice," or "anti-feedback." There are jacks for mike input, auxiliary input, output-to-tape, 2 speakers. Offered only in two-case, two-speaker versions; both have same dimensions: player unit with cover — 13¼" x 13¼" x 7", 15 pounds; speakers snapped together back to back — 13¼" x 13¼" x 10¾", 15 pounds. Total weight 30 pounds.

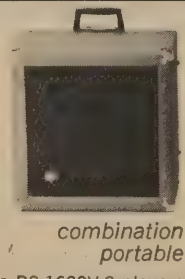
MODEL RT-1235V-2 PROFESSIONAL NET $195.95
MODEL RT-1260V-2 PROFESSIONAL NET $234.95



MODEL R-164 *vacuum tube monophonic portable combination 16" transcription player/p.a. system*

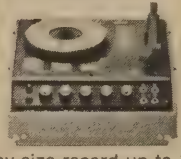
This versatile 12 watt combination plays any size record up to 17¼" masters. It has a 12" dual-cone speaker mounted in case lid with 25' cord. Separate mike and phono volume mixing controls, separate treble and bass tone controls. Phono bass does not affect mike. Output jack for speaker or headphones; mike input jack. Separate power switch also retracts idler. Jeweled pilot light. 15½" x 15½" x 11", 25 pounds. 4-speed fixed-speed R-164 **PROF. NET $109.95**

MODEL R-164V *variable speed model* has a tempo control that varies standard speeds as much as 20%.
PROFESSIONAL NET $124.95



combination portable

MODEL RS-1620V-2
vacuum tube stereophonic





16" transcription player/p.a. system

The RS-1620V-2 plays any size record up to 17¼" masters in full stereo —or mono at the flip of a switch. Combined channels deliver 20 watts to a pair of 12" dual-cone speakers. It has a neon-lighted strobe and +5% to −15% tempo control. There are 2 mike inputs and left and right input jacks for radio or tape. On slanted panel are separate volume mixers for each mike and phono, voice filters, separate bass and treble ganged tone controls; bass does not affect mike channel. Player unit: 15½" x 16½" x 8", 26½ pounds. Speakers snapped together: 16¾" x 16¼" x 13⅛", 21 pounds. **PROFESSIONAL NET $249.95**

NEWCOMB HEADPHONES AND LISTENING CENTER ACCESSORIES



MODEL HP-2
monophonic headphones
Good sound, rugged construction, low cost, HP-2 headphones have plated metal parts, plastic covered spring headband, generous 6' cord designed for easy replacement, standard phone plug.
PROFESSIONAL NET $5.50



MODEL HDPS
stereophonic headphones
Economical general purpose stereo phones with good response, colored red and black, have plastic-covered cables, plated hardware, standard stereo phone plugs, soft neoprene ear cushions that are comfortable on ears, form sound-tight seal.
PROFESSIONAL NET $7.75



MODEL LC8BP *listening center*
Kit includes an 8BP adapter, 8 sets of HP-2 headphones, compartmented carrying case 14¼" x 8-15/16" x 7¾", 10 pounds. **PROFESSIONAL NET $74.95**

MODEL 8BP *circular adapter*
Convenient and space saving, the free-standing 8BP adapter has 10' cord and phone jack for source connection, 8 jacks for HP-2 headphones, an additional jack for another adapter.
PROFESSIONAL NET $17.50



MODEL R-HDB8C *listening center with controls.* Eight sets of HP-2 headphones in vinyl-covered compartmented case with 8 standard headphone jacks and 8 level controls in end panel, 10' source cord and output jack for additional adapter. 14¼" x 8-15/16" x 7¾", 11 pounds. **PROFESSIONAL NET $76.95**

MODEL R-HDB8 *listening center without controls.* This is the same kit as R-HDB8C but without individual volume controls in the end panel. Same dimensions. **PROFESSIONAL NET $66.95**



MODEL RHS-4C *stereophonic listening center.* This deluxe kit contains 4 sets of HDPS phones in compartmented case that has connector panel on one end. There are 4 standard stereo phone jacks on panel and 8 level controls providing volume adjustment for each ear. 10' source cord and plug. Output jack for additional RHS-4C kit. 14¼" x 8-15/16" x 7⅞", 10 pounds.
PROFESSIONAL NET $69.95

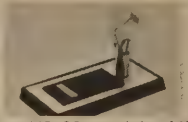
NEWCOMB MICROPHONES



MODEL UD-83
unidirectional dynamic
Its wide-range response makes the UD-83 useful for music as well as voice. Supplied with a stand adapter and standard shielded phone plug. Available with either high impedance (Model UD-83H) or low impedance (Model UD-83L).
PROFESSIONAL NET $24.50



MODEL DM-18
omnidirectional dynamic
Smooth response over wide frequency range makes the DM-18 ideal for general purpose use—music as well as voice. Supplied with lavalier and standard shielded phone plug. Offered in two impedances: high (Model DM-18H), low (Model DM-18L).
PROFESSIONAL NET $12.50



MODEL DM-1
microphone stand
An attractive desk stand of modern design in brushed silvery metal and black, the DM-1 accepts either DM-18 or UD-83 models. Mike holder unscrews to serve as stand adapter for DM-18 models.
PROFESSIONAL NET $5.00

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

Net

© United Technical Publications

NEWCOMB

TR SERIES

HIGH POWER, PORTABLE, COMBINATION

TRANSCRIPTION PLAYER

PUBLIC ADDRESS SYSTEMS

...outstanding for their highest quality sound, intelligibility, portability, versatility, and simplicity of operation...



features common to all TR models:

FOUR SPEED, VARIABLE SPEED, play any size record up to 17¼" masters.

AMERICAN-MADE MOTOR delivers full starting torque at any speed setting, no warm-up required, stable under all conditions, requires no more attention than conventional fixed-speed motors.

INDEPENDENT MOTOR SWITCH automatically retracts idler.

TEMPO CONTROL, separate from speed selector, varies speed +5% to −15%. No flutter-producing friction discs or cone drives.

SPEED-O-SCOPE neon strobe.

BIG TURNTABLE—10", 2 lbs.

STA-KLEEN, deep-ribbed rubber mat, special groove for handling 45's.

LONG TONE ARM, one-piece, cast metal, raises upright for stylus inspection, mounted on resilient acoustical filter, has stylus pressure adjustment for 78's or LP's.

RUGGED STOP POST prevents putting arm in wrong position.

LOCK SCREW secures arm during transportation.

DROP PAD, rubber-covered, protects stylus and cartridge.

PHONO PICK-UPS: GE twist-needle with individually replaceable sapphire styli in "M" models. High fidelity ceramic in others.

STEREO CONVERSION: ceramic cartridge may be replaced with stereo cartridge. Then a patch cord is connected between stereo output jack to auxiliary input jack on second player for perfectly balanced, fully controllable stereo.

HIGH POWER AMPLIFIERS, low distortion, inverse feedback, some have ultra-linear circuits, all engineered for optimum performance with speakers used. Frequency response ±2 db 20—20,000 cycles.

TRANSFORMER-POWERED for safety and performance.

BROAD-BAND OUTPUT TRANSFORMERS humidity-protected with mylar or acetate. Impedance selector—4 or 8 ohms (16, 8, & 4 on TRS-1680).

FUSE POST accessible from front panel.

COMPLETE, FLEXIBLE CONTROLS: separate volume mixers for phono and mike; voice filter, scratch filter; phono bass control does not affect voice mike; bass controls electrically interlocked with phono volume to automatically protect against bass overload at high levels, greatly reducing operating experience required for perfect results.

OUTPUT JACKS: "ALL" used to feed entire program to external amplifier, amplified monitor, or tape recorder. "PHONO" delivers phono signal only; useful for caller or m.c. who wants to monitor music only without interference from own voice. "STEREO" on ceramic models.

INPUT JACKS: One for each mike; number depends on model. "AUXILIARY" for signal from radio, tape machine, or stereo channel.

ILLUMINATED, SLOPING OPERATING PANEL.

TWO JEWELED PILOT LIGHTS.

RUGGED CASE made of warp-proof, crack-proof ⅜" plywood, glue-blocked, covered with scratch-resistant, washable, gray vinyl.

METAL CORNER PROTECTORS.

COME APART HINGES.

SPRING-FLOATED FEET.

HEAVY #18 GAUGE STEEL MOTOR BOARD, reinforced.

THROUGH VENTILATION for long parts life.

EASY ACCESS. Hinged motor board raises to reach tubes and motor. Perforated bottom plate unscrews to check wiring.

KICKPROOF GRILLES of die-formed metal and armored baskets protect speakers.

25' SPEAKER CORDS with stowage provisions. Straps for wall hanging.

HIDEAWAY COMPARTMENT for 8' power cord.

FULL-SIZE HANDLES on all cases and a hand-hold slot on player units for assistant carrier.

PERMANENT SERIAL NUMBER stamped in metal and riveted to motor board.

TRANSPARENT PLASTIC CARD HOLDER on each case.

PRINTED INSTRUCTION BOOK with each system.

CONDENSED INSTRUCTIONS sealed in plastic permanently attached inside lid.

BID SPECIFICATIONS AVAILABLE from factory to authorized personnel.

MADE IN U.S.A.



TR-1625 SERIES 25 WATT CERAMIC PICKUP STEREO JACK

TR-1625 Series player-amplifier units are carefully matched to the reproducers for great efficiency and better coverage than has heretofore been possible with a system in this class. It is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli. It has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo; input jacks for one mike and another for auxiliary equipment.

	PROF. NET
MODEL TR-1625 in a single split case with one 12" dual-cone 30-watt speaker, 35 lbs.	$186.95
MODEL TR-1625-2, two cases, includes one S-212, 50 lbs.	223.40
MODEL TR-1625-NE2, three cases, two N-12ET, 63 lbs.	293.90
MODEL TR-1625-CS2, three cases, two CS-48, 73 lbs.	326.80
MODEL TR-1625-SCS2, three cases, two SCS-412, 124 lbs.	437.90

Stereo compatible pickup safely plays stereo records monophonically.



TR-1625M SERIES 25 WATT MAGNETIC PICKUP

When monophonic music reproduction is to be a player's primary function, a Newcomb TR model equipped with a magnetic cartridge is your best choice. The TR-1625M is equipped with a GE variable reluctance, twist-needle cartridge with sapphire styli and necessary preamplifier built in. Motor is a 4-pole deluxe unit. Player has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for mike and auxiliary.

	PROF. NET
MODEL TR-1625M in a single split case with one 12" dual-cone 30-watt speaker, 36 lbs.	$218.95
MODEL TR-1625M-2, two cases, includes one S-212, 51 lbs.	251.00
MODEL TR-1625M-NE2, three cases, two N12ET, 64 lbs.	321.50
MODEL TR-1625M-KN, two cases with one KN-200 speaker, 65 lbs.	319.25
MODEL TR-1625M-CS2, three cases, two CS48, 74 lbs.	353.50
MODEL TR-1625M-SCS2, three cases, two SCS-412, 125 lbs.	465.50

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

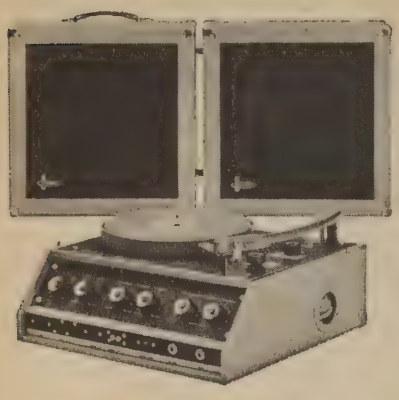
© United Technical Publications

NEWCOMB

HIGH POWER PORTABLE
TRANSCRIPTION PLAYER
P. A. SYSTEMS

TR SERIES

TR-1640 SERIES 40 WATT CERAMIC PICKUP STEREO JACK



TR-1640 models provide impressive audience coverage at moderate cost. Motor is a heavy-duty, four-pole unit. Player is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli, ultra-linear amplifier. It has a treble tone control for all channels, bass tone for phono, phono volume mixer, mike volume mixer, bass tone for mike, impedance switch for speakers, scratch filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo. Inputs for one mike auxiliary.

	PROF. NET
MODEL TR-1640 in a single split case with one 12" 50-watt speaker, 36 lbs.	$230.95
MODEL TR-1640-E2, two cases, includes one S-212, 51 lbs.	257.50
MODEL TR-1640-E4, three cases, one S-212, One S-212E, 72 lbs.	322.00
MODEL TR-1640-2, two cases, one S-212H, 51½ lbs.	270.50
MODEL TR-1640-4, three cases, one S-212H, one S-212E, 72½ lbs.	348.00
MODEL TR-1640-NE2, three cases, two N12ET, 64 lbs.	328.00
MODEL TR-1640-NE4, five cases, four N12ET, 98 lbs.	463.00
MODEL TR-1640-NH2, three cases, two N12HT, 78 lbs.	392.00
MODEL TR-1640-NH4, five cases, four N12HT, 126 lbs.	591.00
MODEL TR-1640-CS2, three cases, two CS48, 74 lbs.	360.90
MODEL TR-1640-CS4, five cases, four CS48, 118 lbs.	528.80
MODEL TR-1640-SCS2, three cases, two SCS-412, 125 lbs.	472.50
MODEL TR-1640-SCS4, five cases, four SCS-412 220 lbs.	751.00

Stereo compatible pickup safely plays stereo records monophonically.

TR-1640M SERIES 40 WATT MAGNETIC PICKUP



A more powerful music room model which handles with ease four speakers, the TR-1640M player unit has an ultra-linear output system, two-way crossover-network loudspeaker systems, and the GE variable reluctance cartridge. The phono circuit is converted to a second mike channel by flipping a selector switch. It has a treble tone control for all channels, phono volume mixer, phono bass tone control, mike bass tone, mike volume mixer, impedance switch for speakers, scratch filter. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for 2 mikes and auxiliary.

	PROF. NET
MODEL TR-1640M-HF in a single split case with 2-way speaker system including a 12" 50-watt woofer, crossover and separate 3½" tweeter, 36½ lbs.	$279.45
MODEL TR-1640M-E2, two cases, includes one S-212, 52 lbs.	289.50
MODEL TR-1640M-E4, three cases, one S-212, one S-212E, 73 lbs.	354.00
MODEL TR-1640M-HF2, two cases, one S-212HF, 54 lbs.	314.50
MODEL TR-1640M-HF4, three cases, one S-212HF, one S-212E, 75½ lbs.	404.00
MODEL TR-1640M-KN, two cases, one KN-200, 66 lbs.	357.50
MODEL TR-1640M-KN2, three cases, two KN-200, 101 lbs.	490.00
MODEL TR-1640M-NE2, three cases, two N12ET, 65 lbs.	360.00
MODEL TR-1640M-NE4, five cases, four N12ET, 99 lbs.	495.00
MODEL TR-1640M-NH2, three cases, two N12T, 79 lbs.	424.00
MODEL TR-1640M-NH4, five cases, four N12HT, 127 lbs.	623.00
MODEL TR-1640M-NN2, three cases, two N12NT, 86 lbs.	464.00
MODEL TR-1640M-NN4, five cases, four N12NT, 141 lbs.	703.00
MODEL TR-1640M-CS2, three cases, two CS48, 75 lbs.	392.90
MODEL TR-1640M-CS4, five cases, four CS48, 119 lbs.	560.80
MODEL TR-1640M-SCS2, three cases, two SCS-412, 126 lbs.	504.00
MODEL TR-1640M-SCS4, five cases, four SCS-412, 221 lbs.	783.00

TR-1656M SERIES 56 WATT MAGNETIC PICKUP



These fully integrated systems achieve phenomenal acoustic output. They include 56 watts peak output system, four-pole deluxe motor, GE variable reluctance cartridge. The phono channel converts to a *third* microphone channel by flipping a switch. First mike channel has separate bass attenuating control for voice clarity. Second mike is flat. Phono tone controls regulate third mike. There are a separate treble tone control for all channels, bass tone for phono, phono volume mixer, mike 2 mixer, mike 1 mixer, mike 1 bass tone, speaker impedance switch, scratch filter. Output jacks for 2 speakers, "Phono," and "All"; input jacks for 3 mikes and auxiliary.

	PROF. NET
MODEL TR-1656M-HF2, two cases, includes one S-212HF, 57 lbs.	$343.10
MODEL TR-1656M-HF4, three cases, one S-212HF, one S-212HFE, 80 lbs.	432.60
MODEL TR-1656M-NF2, two cases, one S-212NF, 63 lbs.	383.10
MODEL TR-1656M-NF4, three cases, one S-212NF, one S-212NFE, 92 lbs.	512.60
MODEL TR-1656M-KN2, three cases, two KN-200, 104 lbs.	519.10
MODEL TR-1656M-KN4, five cases, four KN200, 176 lbs.	784.60
MODEL TR-1656M-NE2, three cases, two N12ET, 68 lbs.	388.60
MODEL TR-1656M-NE4, five cases, four N12ET, 102 lbs.	523.60
MODEL TR-1656M-NH2, three cases, two N12HT, 82 lbs.	452.60
MODEL TR-1656M-NH4, five cases, four N12HT, 130 lbs.	652.10
MODEL TR-1656M-NN2, three cases, two N12NT, 89 lbs.	492.60
MODEL TR-1656M-NN4, five cases, four N12NT, 144 lbs.	731.60
MODEL TR-1656M-CS2, three cases, two CS48, 78 lbs.	421.50
MODEL TR-1656M-CS4, five cases, four CS48, 122 lbs.	589.40
MODEL TR-1656M-SCS2, three cases, two SCS-412, 129 lbs.	532.60
MODEL TR-1656M-SCS4, five cases, four SCS-412, 224 lbs.	811.60

DIMENSIONS OF NEWCOMB TR PLAYERS

Single speaker TR players form a single case with the speaker mounting used as the lid. They measure 16¾" x 16¼" x 13¼". In multiple-speaker models (except TRS-1680) the phono-amplifier unit closed measures 16¾" x 16¼" x 8½". Speaker dimensions are given on facing page. Accessory speakers may be added to one- or two-speaker models at any time.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

NEWCOMB AUDIO PRODUCTS CO. **NEWCOMB**

Net

© United Technical Publications

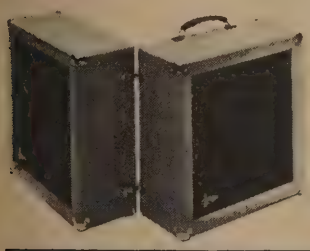
NEWCOMB

PORTABLE LOUDSPEAKERS

TR SERIES

Newcomb makes many types of portable loudspeakers for use with Newcomb Portable Combination Transcription Player/Public Address Systems. They vary in portability, directivity, efficiency, and frequency response. For example, the column speaker is highly directive, but not nearly as easy to carry as the compact S-212 Series models. The KN-200 reproducer combines widest frequency range with highest efficiency and exceptional intelligibility. The N-12 Series speakers are highly efficient, directive, intelligible and portable. All are excellent instruments, built to withstand rough treatment. Construction and finish matches player units.

ON THIS PAGE ARE SHOWN THE VARIOUS LOUDSPEAKER MODELS USED WITH NEWCOMB TR SERIES SYSTEMS

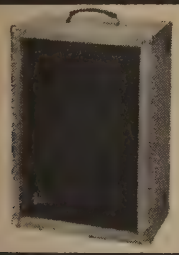


NEWCOMB S-212 SERIES

These open-back designs are the most popular of all square dance system reproducers because they provide a unique combination of light weight, high output per watt input, and low cost. Their wide-range response makes them ideal for general use. Each model includes two independent reproducers in a split case. Speakers snap together back-to-back for carrying. Case size: 16¾″ x 16¼″ x 13⅛″. 25′ cords stow on hooks inside case.

- **MODEL S-212** includes two 12″ dual-cone wide range 30 watts peak reproducers of good conversion efficiency. Impedance per speaker is 8 ohms. Weight: 21 lbs. **PROFESSIONAL NET: $64.50**
- **MODEL S-212E** is same as S-212 but has series extension jacks. **PROFESSIONAL NET: $64.50**
- **MODEL S-212H** includes two 50 watts peak 12″ reproducers of wide-range and excellent conversion efficiency. Impedance per speaker is 8 ohms. Weight 21½ lbs. **PROFESSIONAL NET: $77.50**
- **MODEL S-212HE** is same as S-212H but has series extension jacks. **PROFESSIONAL NET: $77.50**
- **MODEL S-212HF** includes two 50 watt speak 12″ woofers and two 3½″ tweeters with crossover. Impedance per reproducer is 8 ohms. Weight 23 lbs. **PROFESSIONAL NET: $89.50**
- **MODEL S-212HFE** is same as S-212HF but has series extension jacks. **PROFESSIONAL NET: $89.50**
- **MODEL S-212X** includes two 60 watts peak super-power, aluminum-dome 12″ dual-cone loudspeakers of superior efficiency and very wide range. Impedance per speaker is 8 ohms. Weight: 25 lbs. **PROFESSIONAL NET: $110.65**
- **MODEL S-212XE** is same as S-212X but has series extension jacks. **PROFESSIONAL NET: $110.65**
- **MODEL S-212NF** includes two 60 watts peak super-power woofers and two 3½″ tweeters with crossover. These systems combine exceptional response range with super efficiency. Impedance per reproducer is 8 ohms. Weight: 29 lbs. **PROFESSIONAL NET: $129.50**
- **MODEL S-212NFE** is same as S-212NF but has series extension jacks. **PROFESSIONAL NET: $129.50**

MODELS WITH "E" SUFFIX are only for use with other speakers and are not intended for use alone.



NEWCOMB KN-200 REPRODUCER

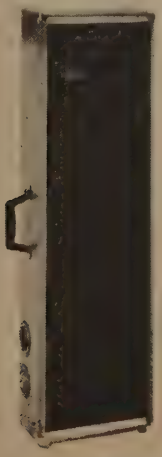
Designed to give you all the sound, all the quality, all the range, all the coverage inherent in your fine Newcomb sound system, the KN-200 is a fully-enclosed, ducted-port, two-way speaker system of advanced design. It is highly efficient, delivers the widest frequency response possible with a portable speaker...full music reproduction plus crisp high frequency intelligibility. The KN-200 includes a massive 12″ woofer, crossover, horn tweeter and treble control. It includes a parallel extension jack and impedance change switch for 8 or 16 ohms. 25 foot cord stows into "Hideaway" compartment. Size: 10¼″ x 16⅞″ x 23½″. Weight: 35 lbs. **PROFESSIONAL NET: $132.75**



NEWCOMB N-12 SERIES SPEAKERS

Most unusual for a portable speaker, Newcomb N-12 models are back-loaded, dual-labyrinth reproducers for those who want high directivity, firm bass, crisp and clean highs. They provide the advantages of a closed-back reproducer in problem halls and auditoriums. 25 foot cord stows in "Hideaway" compartment. Enclosure measures 7⅞″ x 18¼″ x 19½″. Offered in three models...

- **MODEL N12ET** is a 30 watts peak system using an efficient 12″ woofer and two 3½″ tweeters and crossover. Included is a series-type extension jack with shorting switch which permits using the N12ET as either a regular or extension speaker. Impedance is 8 ohms. Weight 17 pounds. **PROFESSIONAL NET: $67.50**
- **MODEL N12HT** is a 50 watts reproducer with a 12″ heavy duty woofer, a directional horn tweeter and [illegible] crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and impedance changing switch. Impedance: 8 and 16 ohms. Weight: 24 pounds. **PROFESSIONAL NET: $99.50**
- **MODEL N12NT** is a 60 watts peak reproducer with an extra heavy duty 12″ woofer, a directional horn tweeter and [illegible] crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and an impedance changing switch. Impedances: 8 and 16 ohms. Weight 27½ pounds. **PROFESSIONAL NET: $119.50**



NEWCOMB COLUMN SPEAKER, MODEL CS48

This is one of the most practical of all column speakers. It combines exceptional directivity with portability, has good efficiency and greater effective range than most columns. Power handling capacity is 60 watts peak. 25 foot cord and plug tuck into "Hideaway" cord compartment. It has an extension jack and switch for use with extension speakers. Size: 39⅞″ x 11¼″ x 6⅜″. Weight: 22 lbs.

PROFESSIONAL NET: $83.95

NEWCOMB SUPER COLUMN, MODEL SCS-412

Here's the best column speaker you've ever heard. The Newcomb SCS-412 gives you super intelligibility, super efficiency, super power handling capacity. It contains four *twelve-inch* speakers specially developed for column use. Its peak power handling capacity of 120 watts makes for dependability and unusually low distortion when used with conventionally-powered systems. Each amplifier watt is converted into more sound than is available from any other column. The SCS-412 makes small amplifiers sound like big ones. It will project your voice clear as crystal, syllable-perfect over the noisiest big crowd. It takes a man-size system to produce these results. The SCS-412 stands 56″ high, is 15″ wide, 7½″ deep, weighs 42½ pounds. Impedance is 8 ohms. It has a 25 foot cord, "Hideaway" cord compartment, series type jack with shorting switch. **PROFESSIONAL NET: $139.50**

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

© United Technical Publications

NEWCOMB

STEREOPHONIC SYSTEMS
MICROPHONES, ACCESSORIES

TR SERIES



Built with a great reserve of power for most uses – 40 watts peak per channel – the Newcomb TRS-1680 is perhaps the most complete and flexible portable sound system ever built. It reproduces stereo or mono with the turn of a knob. Stereo or mono tape or radio can be fed to the system. Live music and speech are reproduced either stereo- or monophonically.

TRS-1680 SERIES 80 WATT

It has three mike channels. The central mike puts the speaker or square dance caller in the middle, midway between the reproducers. There are separate treble, bass, and volume controls for phono or other reproduced sound. Each mike channel has its own, individual tone and volume controls. Mike tone controls are rotated for treble adjustment, pushed or pulled for bass. There is a blend control to provide any degree of stereo you wish. There are "Left" and "Right" inputs for radio, tape, or auxiliary; a scratch filter; "All" or "Phono" monitor jacks; jacks for two or four speakers with an impedance-matching switch. Turntable-amplifier unit DIMENSIONS: 9¼" x 17⅞" x 18⅝"; 43 lbs. POWER CONSUMPTION: 180 watts, 117 volts, 60 cycles a.c. A wide choice of reproducers to meet specific assignments is offered...

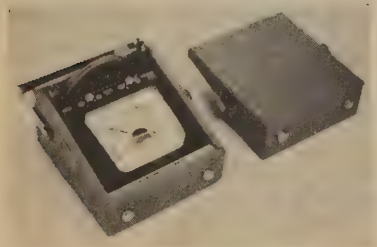
	PROF. NET
MODEL TRS-1680-NF2, two cases, includes one S-212NF, 72 lbs.	$459.00
MODEL TRS-1680-NF4, three cases, two S212NF, 101 lbs.	588.50
MODEL TRS-1680-KN2, three cases, two KN-200, 113 lbs.	595.00
MODEL TRS-1680-KN4, five cases, four KN-200, 183 lbs.	860.50
MODEL TRS-1680-NH2, three cases, two N12HT, 91 lbs.	528.50
MODEL TRS-1680-NH4, five cases, four N12HT, 139 lbs.	727.50
MODEL TRS-1680-NN2, three cases, two N12NT, 98 lbs.	568.50
MODEL TRS-1680-NN4, five cases, four N12NT, 153 lbs.	807.50
MODEL TRS-1680-CS2, three cases, two CS48, 87 lbs.	497.40
MODEL TRS-1680-CS4, five cases, four CS48, 131 lbs.	665.30
MODL TRS-1680-SCS2, three cases, two SCS-412, 138 lbs.	608.50
MODEL TRS-1680-SCS4, five cases, four SCS-412, 233 lbs.	887.50

ACRA-SET TONE ARM LIFTER AND RECORD-CUEING DEVICE MODEL A-1

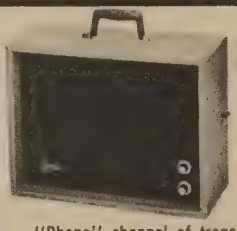


Acra-Set is an accessory available at additional cost for repeating passages and protecting records. You simply twist the knob on top to gently lift or lower tone arm. Lifter has a 100-division scale and a traveling stop with a pointer. It is simply installed by drilling a 3/16" hole which is readily located with a template. Holes are predrilled at the factory on current transcription players. Specify your model number when ordering; correct template and C-1 cue sheets will be supplied. **PROF. NET: $12.50**

MODEL VU-1 PORTABLE VISUAL OUTPUT METER



Model VU-1 Output Meter permits you to see that your voice is being amplified to the proper level, helps you make the most of your fine Newcomb TR system. Meter is high quality instrument with jeweled d'Arsonval movement and a scale calibrated in both db and volume units from 0 to 100 over the working range of the system. Also indicates overloading. Simple internal adjustment matches meter to any TR player; instructions are permanently mounted in lid. One end of the supplied patch cord connects player to "All" monitor jack, other end to "Input" on meter. Supplementary "All" monitor jack on meter. **PROF. NET: $29.95**



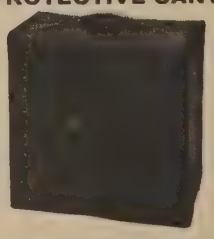
AMPLIFIED MUSIC MONITORS

With a Newcomb Amplified Monitor you can hear reproduced music without interference or feedback squeal from caller's or speaker's voice. Connected to "Phono" channel of transcription player, monitor reproduces music only, not mike channels. Or, it may be connected to "All" jack to reproduce voice and music. It can also be used as a stereo channel with a TR-1625 or TR-1640.

MODEL M-12: 12" speaker; 10 watt amplifier; 17⅞" x 13⅜" x 7½"; 17¼ lbs. **PROF. NET: $79.50**

MODEL M-9: 9" oval, dual-cone speaker; 10 watt amplifier; 13¼" x 10⅛" x 7"; 10 lbs. **PROF. NET: $69.50**

PROTECTIVE CANVAS COVERS



Made of tightly woven, fleece-lined, rubberized mackintosh covert, with stout zipper closure and flap that tucks under handle. Transparent slot for identification.

No. CA-102 for use with TR-1625, TR-1625M, TR-1640, TR-1640M amplifier sections only. **PROF. NET: $7.95**

No. CA-103 for use with S-212 type split case speaker assemblies and all TR series systems with single speaker in case lid. **PROF. NET: $7.95**

No. CA-104 for use with TRS-1680 amplifier section only. **PROF. NET: $8.95**

No. CA-110 for use with KN-200 or K-400 reproducers. **PROF. NET: $10.95**

No. CA-111 for use with C-100 or J-200 reproducers. **PROF. NET: $10.95**

No. CA-119 for use with M-12 monitor. **PROF. NET: $8.95**

No. CA-132 for use with M-9 monitor. **PROF. NET: $8.95**

No. CA-136 for use with all N-12 series reproducers. PROF. NET: $10.95

No. CA-137 for use with CS48 column speaker. **PROF. NET: $10.95**

No. CA-138 for use with SCS-412 column speaker. **PROF. NET: $14.95**

MICROPHONES



Model N-30 Crystal Microphone with lavaliere cord, stand adapter, switch, and shielded plug. **PRO. NET 13.95**

Model N-30D Desk Mounting for N-30 only. **PRO. NET 1.85**

Model N-36 Dynamic Professional Quality Microphone is the perfectionist's choice with any TR system, especially intended for use with TR-1640M, TR-1656M and TRS-1680 series models. Supplied with shielded cord and plug and on-off switch. **PRO. NET 50.00**

Model N-22 Dynamic Microphone of very high quality with switch and shielded plug, recommended for general purpose use with all TR series systems. **PRO. NET 39.50**

Model MS-23 Accessory Bag of heavy plastic, zippered, for microphones, etc., can be attached inside lid of speaker case. **PRO. NET 2.10**

Model PP-81 Stereo Conversion Pickup Cartridge, plug-in type, for any TR series player equipped with stereo output jack and plug-in ceramic cartridge. **PRO. NET 4.65**

Model WC-44 Connecting Cable, four feet long with plugs for connecting two TR ceramic models together for stereo. **PRO. NET 5.95**

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO.

NEWCOMB

Net

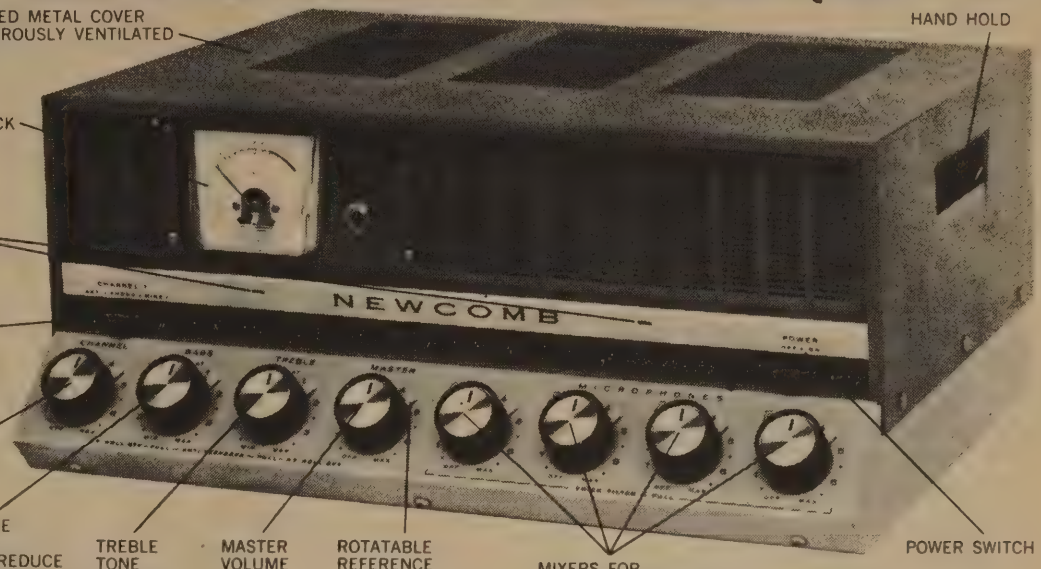
© United Technical Publications

NEWCOMB

MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM SERIES K

MODULAR PUBLIC ADDRESS AMPLIFIERS OF THE VERY BEST QUALITY



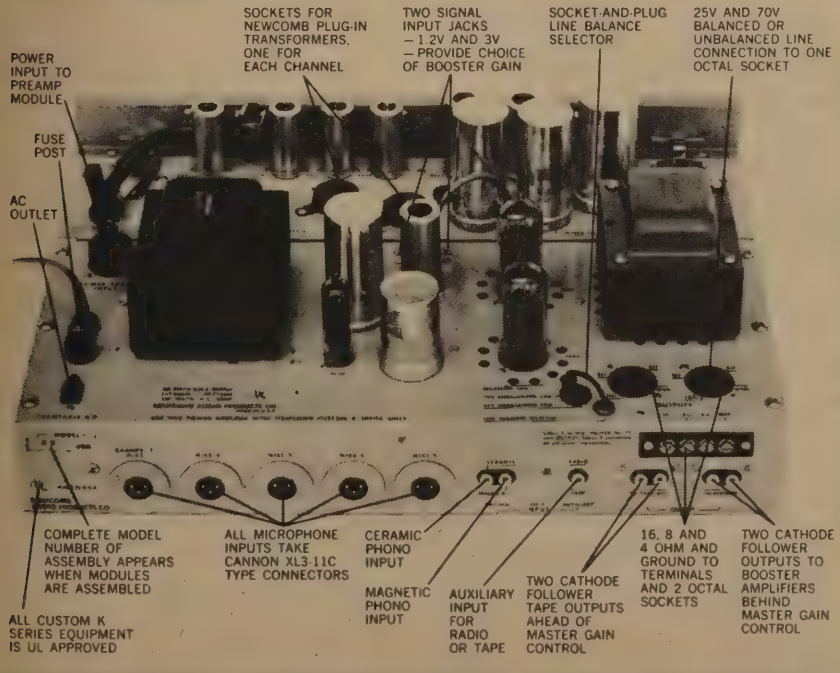
Flexibility and performance without equal are provided by Newcomb Custom K Series public address amplifiers. "Custom" has a very real meaning in this instance. Within minutes you can assemble exactly the right combination of channels, power and features to custom fit a particular situation. You are not faced with the hours of assembly labor and testing necessary with conventional modular designs. You simply select the Newcomb Custom K mixer/preamplifier with the number of channels — three, four, or five — you need. Then choose the power amplifier module — 40, 60, or 125 Watts — needed for the location. Drop the power amplifier into the preamplifier chassis. Two plug-in connections. No soldering. Drive a few sheet metal screws and you're in business. Take your choice of a well-ventilated cabinet cover or a rack panel mount. A VU meter accessory with a phone jack is available and can be quickly added to any front end. A remote control accessory is available for the four-channel module.

Any preamplifier may be used as a mixer by itself by inserting a Model P Power Supply instead of a power amplifier module. Any power output module becomes a straight power amplifier when it is mounted in the Newcomb Model KB Booster Chassis. The Newcomb Custom K modular system is so simple and straightforward that it's a wonder public address amplifiers weren't made this way to begin with.

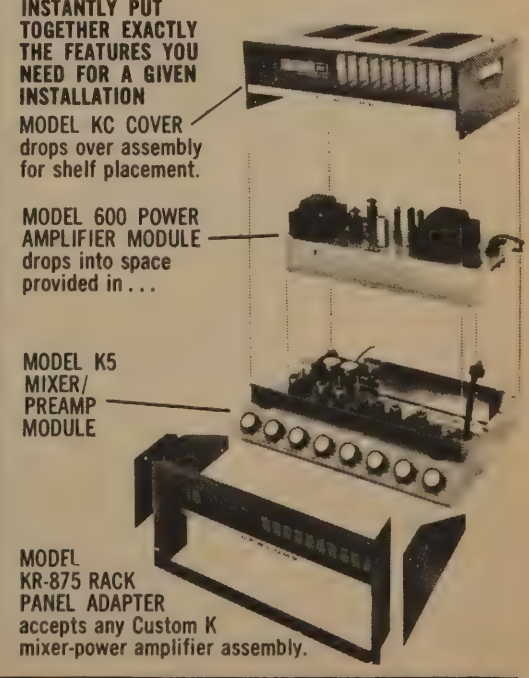
All modules are completely interchangeable.

The latest developments in vacuum tube technology and skilled hand craftsmanship are united to produce superb performance. Performance of Newcomb Custom K Series amplifiers has no equal. They operate with extremely low distortion at all power levels, supply unusually high useful power, run unbelievably cool. Vacuum tube design was chosen for the Custom K Series because no other method of amplification today provides the same combination of maximum performance, stability, reliability, extended life, and outright value. With vacuum tubes, repairs are easier and faster to make, cost less.

Visually, Custom K Series assemblies are exceedingly handsome, finished in soft, light shades of green. The control panel is slanted for convenient operation either seated or standing, and it is well illuminated. Custom K Series models abound with such refinements as movable reference markers on all knobs. To cut in a voice filter you simply pull the appropriate mixer knob. To kill feedback, pull tone control knobs. When you're out to prove what you can do, when you're putting in a model job, a job you'll be proud to put your nameplate on, that's the time to build with Newcomb Custom K.



INSTANTLY PUT TOGETHER EXACTLY THE FEATURES YOU NEED FOR A GIVEN INSTALLATION



MODEL KC COVER drops over assembly for shelf placement.

MODEL 600 POWER AMPLIFIER MODULE drops into space provided in . . .

MODEL K5 MIXER/ PREAMP MODULE

MODEL KR-875 RACK PANEL ADAPTER accepts any Custom K mixer-power amplifier assembly.

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

© United Technical Publications

Net

NEWCOMB

MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM SERIES K

70 COMBINATIONS FROM 14 UNITS

The modular concept makes it possible for you to get exactly the features you need without delay. Four chassis and four power units combine to form **15** basic assemblies. The VU meter may be added to **12** assemblies. **8** models (K4R assemblies with and without VU meter) become remote-control units with the addition of the RB4 accessory. All **35** may be rack panel mounted or covered for free-standing use. (UL requires that they be purchased with one or the other.)

AS SIMPLE TO SPECIFY AS THEY ARE TO ASSEMBLE

Model number of a basic assembly consists of a combination of preamp model number and power amplifier model number as follows:

Preamp Mixer ↓ / Power Amp →	Model 1250 125 watts	Model 600 60 watts	Model 400 40 watts	Model P Power Supply
Model K5 5 Channel	K5—1250 $519.00	K5—600 $459.00	K5—400 $419.00	K5—P $299.00
Model K4R 4 Channel	K4R—1250 $504.50	K4R—600 $444.50	K4R—400 $404.50	K4R—P $284.50
Model K3 3 Channel	K3—1250 $479.00	K3—600 $419.00	K3—400 $379.00	K3—P $259.00
Model KB Booster Chassis	KB—1250 $329.45	KB—600 $269.45	KB—400 $229.45	← Complete Power Amplifier Only / ↑ Complete Mixer-Preamp Only



MODEL KB BOOSTER CHASSIS WITH MODEL KCB COVER

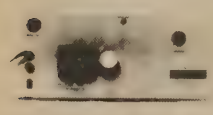
Specifications For Complete Mixer-Preamplifier Power Amplifier Assemblies				
	Mike Gain	133 db	130 db	128 db
	Auxiliary Gain	85.4 db	82.4 db	80.4 db
	Hum, input shorted: Mike, −60 db below full output Magnetic pickup, −50 db below full output Auxiliary input, −60 db below full output All controls off, −80 db below full output			

List prices of combinations are shown without cover, rack mounting or VU meter.

SPECIFICATIONS — K3, K4R, K5 MIXER-PREAMPLIFIERS

All of the Newcomb Custom K mixer-preamplifier modules have space at the back of the chassis into which may be inserted either a Model 400, 600 or 1250 power amplifiers or the Model P power supply. Power is normally supplied to the front end by the power amplifier module; Model P is used when the preamp section is to be used as a separate mixer-control unit. Mixer models differ principally in the number of input channels. Each has one mike channel that is convertible by switch to use with a magnetic or ceramic phono pickup (preamp provides full RIAA response curve) or with a flat tuner or tape input. **Outputs:** 2 from each of two cathode followers, one before and one after the master control. Maximum output from followers: 10 volts into high impedance load. **Distortion:** less than ½%. D.C. on all filaments. **Frequency response:** ±1 db 20-20,000 cycles. **Bass tone control range:** 18 db to +18 db. **Low frequency roll off:** 3 db at 100 cycles, −12 db at 20 cycles. **Treble tone control range:** −18 db to +18 db. **High frequency roll off:** 3 db at 5,000 cycles, −12 db at 20,000 cycles. **Microphone impedance:** 2 megohms convertible to low impedance by Newcomb hum-free plug-in transformer. **Input volts required** for 1 volt output from cathode followers: **Mikes,** .0028 volts, gain 54° db, 2 megohms. **Magnetic,** .0022 volts, 100,000 ohms. Equalized to full RIAA curve. **Ceramic pickup,** .086 volts. Equalized to RIAA curve. **Tuner or Tape input** (Aux.), .34 volts, ½ meg., gain 6.4° db. °Gain stated is with 1 meg. output load. With 600 ohm output using TR-100 add 13 db. **Hum** below 10 volts output (inputs shorted): **Mikes,** −80 db. **Magnetic pickup,** 70 db. **Aux. input,** −80 db. **All controls off,** −100 db. Socket supplies power for VU-2T volume indicating meter. Note: K4R provides for remote control of all inputs. **Dimensions,** all models: 17″ x 13⅜″ x 7⅜″ (height dimension includes KC cover). **Weight,** all models: 7 pounds. All microphone inputs require Cannon XL3-11C type connectors.

	Model K3	Model K4R	Model K5
Number of Channels and mixing controls	3	4	5
Number of Channels with voice filters	2	3	4
Tubes	two 6AB4 three 12AX7	three 6AB4 three 12AX7	four 6AB4 three 12AX7
LIST: (with tubes, without cover)	$199.50	$225.00	$239.50



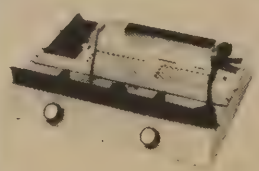
FOR SEPARATE MIXER-PREAMPLIFIER ONLY...

MODEL P POWER SUPPLY takes the place of the power amplifier in the space provided in the K3, K4R, and K5 preamp modules, and supplies power to them through an octal socket. (It is never needed when a Model 400, 600, or 1250 power amplifier is used.) Model P includes a socket for a plug-in output transformer and output terminals for a balanced or unbalanced 600 ohm line. **Maximum 600 ohm output = 0 VU. Input** power: 117 volts, 60 cycles, 22 watts. **Wt.** 4½ lbs. **List:** (with tubes) $59.50

SPECIFICATIONS — 400, 600, 1250 POWER AMPLIFIER MODULES

The power amplifier modules in Newcomb's Custom K Series are not usable alone; they must be installed in a K3, K4R, or K5 mixer-preamplifier chassis. If they are to be used simply as a booster amplifier, they can be mounted in a Model KB Booster Chassis. Circuits in all power amplifier modules are resistance-capacity coupled, screen-regulated, with fixed bias and inverse feedback. They include power supply for K3, K4R, and K5 preamps. All have an a.c. outlet and an external fuse post. All three models have some identical specifications: **Input impedance:** 1 megohm convertible to low impedance with hum-free plug-in line or bridging transformers. **Output impedances:** 4, 8, and 16 ohms to a terminal strip and two octal sockets; 25 and 70 volts balanced or unbalanced line to one octal socket. **Hum and noise:** 80 db below steady state power rating.

	Model 400	Model 600	Model 1250
POWER OUTPUT: steady state RMS at less than 5% T.H.D.	40 watts	60 watts	125 watts
POWER OUTPUT: at less than 1% T.H.D.	35 watts	50 watts	110 watts
PEAK POWER: (Note: Music power peak rating is higher)	80 watts	120 watts	250 watts
INPUT—1.2 V or 3 V required for maximum rated steady state power output			
GAIN: at 1 meg. 1.2 V input tap 3 V input tap	74 db 70 db	76 db 72 db	79 db 75 db
GAIN: at 600 ohms input using TR-100 and 1.2 V input tap 3 V input tap	61 db 57 db	63 db 59 db	66 db 62 db
FREQUENCY RESPONSE: ±2 db 25-15,000 cps at	35 watts	50 watts	110 watts
all ±0 db 20-20,000 cps at	1 watt	1 watt	1 watt
POWER CONSUMPTION: 117 volts, 60 cycles a.c.	110 watts	145 watts	185 watts
TUBES: All models include 5 silicon rectifiers	one 7199 two 6878 one 6CU5	one 7199 two 6L6GC one 6CU5	two 12AU7 two 6550 one 6CU5
WEIGHT:	16½ lbs.	21¼ lbs.	30½ lbs.
LIST: (with tubes)	$179.50	$219.50	$279.50



FOR COMPLETE POWER AMPLIFIER ONLY

MODEL KB CHASSIS is the same size as the K3, K4R, and K5 preamp modules and accommodates Model 400, 600, or 1250 power amplifier modules when they are to be used as boosters. Model KB includes volume control, low frequency roll-off switch, power switch, and pilot lights. It has a lighted, slanted operating panel and factory-wired socket for Newcomb plug-in, hum-free transformers. **Dim.:** 17″ x 13⅝″ x 7⅜″. **Wt.:** 5 lbs. (without cover). **List:** $49.95

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

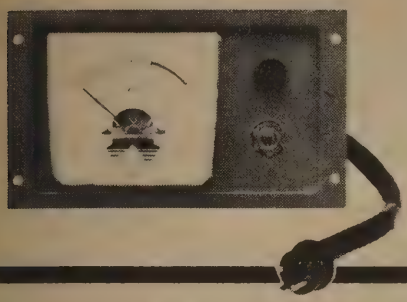
Trade Discount Applies To List Prices Only

© United Technical Publications

NEWCOMB

MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM K SERIES



MODEL VU-2T ACCESSORY TRANSISTORIZED VU METER

for use with Newcomb Custom K Model K3, K4R or K5 mixer/preamp, the VU-2T has sensitivity control and a monitor headphone jack for wide-band crystal headphones only. The VU-2T obtains power from the preamp, is installed in place of the removable front plate, simply plugs into the socket provided. LIST: $59.50



MODEL RB4 ACCESSORY REMOTE CONTROL UNIT

for use with the K4R only. A four-channel unit, it may be placed up to 2,000 feet from the amplifier. A 5 wire unshielded cable is required. Cable extra. Dimensions: 3" x 9" x 1⅜". Weight: 1½ pounds. LIST: $19.50

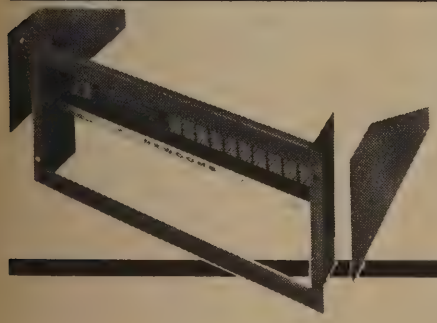


MODEL KC COVER

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 17⅞" x 12⅞" x 5⅞". Weight: 5 pounds. LIST: $25.00

MODEL KCB COVER

for booster amplifier assemblies incorporating Model KB Booster Chassis. Size: 17⅞" x 12⅞" x 5⅞". Weight: 5 pounds. LIST: $25.00

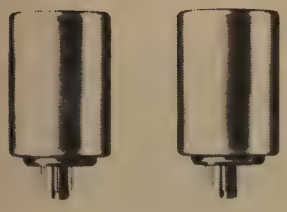


MODEL KR-875 RACK PANEL ADAPTER

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 19" x 8¾". Weight: 5 pounds. LIST: $25.00

MODEL KR-875B RACK PANEL ADAPTER

for assemblies incorporating Model KB Booster Chassis. Size: 19" x 8¾". Weight: 5 pounds. LIST: $25.00



HUM-FREE PLUG-IN TRANSFORMERS

MODEL TR-91 input transformers are designed for all Newcomb amplifiers wired to accept them. They provide 30/50 ohms or 200/250 ohms input impedance depending on wiring of transformer socket. Normal Newcomb amplifier wiring connects the TR-91 for 30/50 ohms. Frequency response: 20 to 20,000 cycles. Wt. 1¼ lbs. LIST: $37.50

MODEL TR-100 input transformers are identical to TR-91 models. They provide 125/150 ohms or 500/600 ohms impedance depending upon wiring of socket with 125/150 ohms normal. Frequency response: 20 to 20,000 cycles. Weight: 1¼ pounds. LIST: $37.50

MODEL TR-92B is a bridging transformer, otherwise identical to above models. Weight: 1¼ pounds. LIST: $37.50



CONNECTORS

MODEL PW-157 is a phono, tape, or radio input plug for all Custom K mixer/preamplifiers. LIST: $.75

MODEL PW-139 is a Cannon XL3-11C type microphone connector. LIST: $2.50

MODEL PW-156 is an octal plug for speaker line outputs. LIST: $.45

MODEL PW-142 is a two-contact shielded phone plug for monitor phones. LIST: $1.50

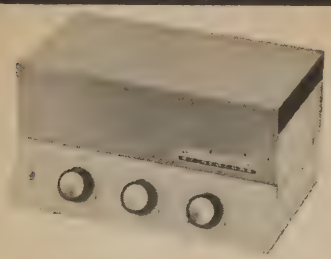


THE RICHEST-LOOKING RACK PANEL INSTALLATIONS IMAGINEABLE

are provided by Newcomb Custom K amplifiers. The two-tone soft green tints of the finish, recessed panels, the stimulating design of the equipment combine to give an impression of professionalism and permanence. Mounted in the Model 70-19 Cabinet Rack illustrated above, top to bottom, are a Newcomb louvered panel, Newcomb TB2-525G Intercom, K3 Mixer-preamp, lever key panel, AFM-750-875G AM-FM Radio, E2-525G Industrial Preamplifier, two KB-1250 complete power amplifiers, 1050CG Phono Changer Drawer, louvered panel. All Newcomb rack panel equipment, except Custom K series, is listed in the last two Newcomb Pathfinder pages in this section.

© United Technical Publications

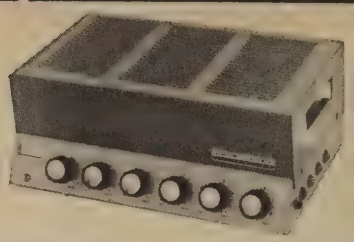
NEWCOMB PATHFINDER
PUBLIC ADDRESS EQUIPMENT



MODEL E-10B
10 watt amplifier
Low priced, deluxe, full push-pull output

The Newcomb E-10B offers a surprising number of deluxe features for so compact and economical an amplifier. It has the slanted operating panel and control markers which distinguish all Pathfinder models. The E-10B has separate mixers for microphone and ceramic phono pickup (or radio or tape). Mike input is a standard 3-contact phone jack suitable for high or low impedance mike. The E-10B is wired for plug-in transformers for instant conversion for use with low impedance mike. Output impedances to socket are 4, 8, 16 ohms, plus 25 and 70 volt line taps. Output jack for recorder or booster amplifier. Unit has a wide-range treble tone control, 25,000 hour pilot light. UL approved.

SPECIFICATIONS: Power Output: 10 watts RMS, 20 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 118 db at 2 meg. .0055 volts delivers full power. **Phono Gain:** 79 db at 1 meg.; 33 volts delivers full power. **Output To Tape Jack:** Delivers 4.4 volts max. or 1 volt at ½ watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ± 3 db, 70 through 13,000 cycles at 5% distortion. **Size:** 10¼" x 6½" x 5¾" high. **Weight:** 9 lbs. **Power Consumption:** 60 watts, 117 volts, 60 cycles. **Tubes:** 1-12AX7, 1-6AU6, 2-6V6, 1-6X4.
LIST: (with tubes) $84.95.



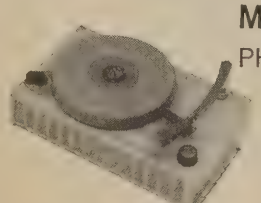
MODEL E-5P
5-channel mixer preamplifier

The Newcomb E-5P is a high performance, low-priced, multi-purpose mixer-preamplifier with 4 microphone channels (one convertible to magnetic phono), one high level channel with two inputs (chosen by selector switch) – one for ceramic phono pickup, the other for tape or radio. Master gain control. Each mike input jack is standard 3-contact phone jack. Each mike channel is wired for plug-in transformers for instant conversion to low impedance microphone usage. The E-5P has a VU meter with concealed sensitivity adjustment, outputs for tape, booster, and a.c., 25,000-hour pilot lamp. Operating panel is slanted for easy viewing and operating sitting or standing. Performance is excellent with individual mike input tubes for minimum crosstalk and d.c. on all filaments. UL approved.

SPECIFICATIONS: Cathode Follower Outputs: 6 volts at less than 2% into high impedance load. **Volume Indicating Meter:** Adjustable from 2 to 6 volts. **Frequency Response:** ±2 db 30 through 20,000 cycles. **Mike Inputs:** 2 meg.; .0025 volts for 2 volts out. **Ceramic Phono or Radio or Tape Input:** 1 meg. .32 volts for 2 volts output. **Magnetic Phono Input:** .011 volts for 2 volts output. **Hum:** Fundamental, 80 db below 6 volts output. **Size:** 14⅛"x8⅝"x5" high. **Weight:** 11¾ lbs. **Power Consumption:** 31 watts 117 volts 60 cycles A.C. **Tubes:** 4-12AV6, 1-12AU6, 5-0C5, 1 power silicon rectifier.
LIST: (with tubes) $139.50.

HIGH QUALITY, LOW PRICE PUBLIC ADDRESS AMPLIFIERS WITH MANY DELUXE FEATURES

MODEL P-4
PHONO TOP

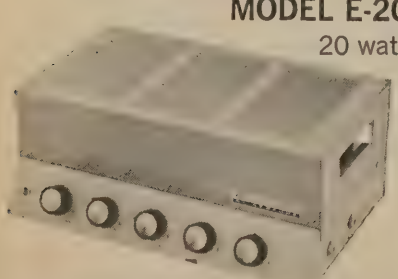


The Newcomb P-4 is a 4-speed record player that is designed to fit on top of the E-20, E-40 or E-75 Pathfinder amplifier. It includes an automatic idler release on the power switch to prevent flat spots, a plug-in turnover-type dual-sapphire-styli ceramic cartridge, pickup hold-down screw and drop pad. Dimensions: 8⅝" x 14" x 5" high over all. Weight: 6 lbs. **LIST: $49.95.**



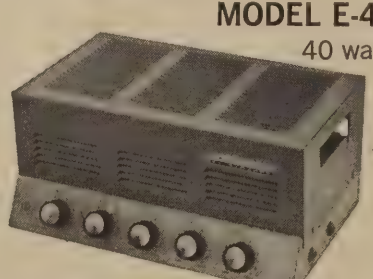
All Newcomb Pathfinder power amplifiers and the E-5P preamplifier have slanted operating panels for convenient control in either a sitting or standing position. This feature is important, too, with rack mounted installations where units may be mounted near the floor as well as at eye level. All control knobs have white, rotable reference markers for quick return to a pre-determined setting. All have a 25,000 hour pilot light. All are UL approved. Newcomb public address amplifiers Models E-20, E-40, and E-75 all have the following features: Each has two microphone channels with mixer controls and one high level channel with mixer for ceramic phono pickup, radio or tape. Mike channels are wired for Newcomb plug-in transformers for instant conversion to use with low impedance microphones. High level control is compensated; as volume is reduced, bass is proportionately sustained. Mike not affected by this control. There are separate bass and treble master tone controls. Output taps on terminal strip and two sockets are for 25 volt balanced or unbalanced line plus 70 ohms unbalanced, and 16, 8, and 4 ohms. There is an output jack for recorder or booster and an a.c. output receptacle. Pathfinder equipment has a distinctive two-tone finish in soft tints of olive-gray and spruce.

MODEL E-20
20 watt



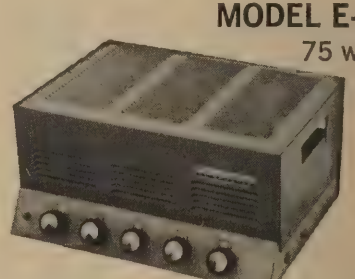
SPECIFICATIONS: Power Output: 20 watts RMS, 40 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 122 db at 2 meg.; .005 volts delivers full power. **Phono Gain:** 83 db at 1 meg. .315 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at ½ watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±3 db 50 through 20,000 cycles at 5% distortion. **Size:** 14⅛" x 9½" x 5¾" high. **Weight:** 14¼ lbs. **Power Consumption:** 80 watts, 117 volts, 60 cycles A.C. **Tubes:** 1-12AX7, 1-6BR8, 2-EL-84, 1-5Y3.
LIST: (with tubes) $119.95

MODEL E-40
40 watt



SPECIFICATIONS: Power Output: 40 watts RMS, 80 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 125 db at 2 meg.; .005 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at 1 watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±2 db 40 through 20,000 cycles at 5% distortion. **Size:** 14⅛" x 9½" x 6¾" high. **Weight:** 19¼ lbs. **Power Consumption:** 160 watts, 117 volts, 60 cycles A.C. **Tubes:** 1-12AX7, 1-6BR8, 4-EL84, 1-5U4.
LIST: (with tubes) $159.95.

MODEL E-75
75 watt



SPECIFICATIONS: Power Output: 75 watts RMS, 150 watts peak at less than 5% distortion from a fixed bias, screen regulated, output system. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 128 db at 2 meg.; .005 volts delivers full power. **Phono Gain:** 88 db at 1 meg.; 3 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at 1.87 watts output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±2 db 50 through 20,000 cycles at 5% distortion. **Size:** 7" x 13½" x 14⅛". **Weight:** 26 lbs. **Power Consumption:** 185 watts, 117 volts 60 cycles. **Tubes:** 2-12AX7, 1-6C4, 2-7027A, 1-6V6GT, 3 power silicon rectifiers.
LIST: (with tubes) $199.50.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

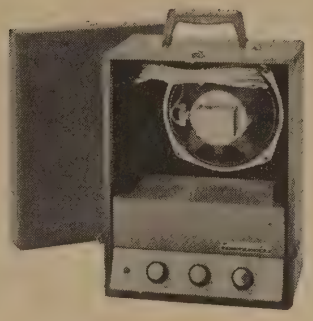
Trade Discount Applies To List Prices Only
© United Technical Publications

NEWCOMB PATHFINDER PUBLIC ADDRESS SYSTEMS



MODEL E-1008S

10 watt PORTABLE system



The Newcomb E-1008S System consists of one E-10B amplifier and one P-108 speaker assembly. The P-108 contains an efficient 8″ loudspeaker protected by a kickproof, perforated metal grille, microphone carrying straps (but no mike), and space for carrying the E-10B amplifier. Size: 11¼″ x 14¾″ x 9″ deep. System weight: 17½ lbs.
LIST: $124.95



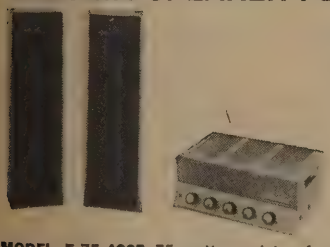
MODEL E-20-212R

20 watt PORTABLE system

This 20 watt system consists of one Newcomb E-20 amplifier and one P-212R dual speaker assembly which also acts as a carrying case for the amplifier. The P-212R includes two efficient 12″ dual-cone loudspeakers, each with a 25 foot cord and plug. Speaker baffles snap together back to back. Inside are mike carrying straps but no microphone. Speakers are protected by kickproof perforated metal grilles. System closed measures 13½″ x 15¼″ x 23″, weighs 37 lbs.
LIST: $219.95

MODEL E-40-212H 40 watt PORTABLE system. Included in the E-40-212H are one Newcomb E-40 amplifier and one P-212H dual speaker case assembly which also acts as a carrying case for the amplifier. There are two 12″ heavy duty loudspeakers each with a 25 foot cord and plug, kick-proof perforated metal grilles and mike carrying straps but no microphone. Size 13½″ x 15¼″ x 23″, weight 44 lbs.
LIST: $272.45

COLUMN SPEAKER PERMANENT SYSTEMS



MODEL E-20-2C8F 20 watt consists of one E-20 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 54¾ lbs.
LIST: $404.85

MODEL E-40-2C8F 40 watt consists of one E-40 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 60 lbs.
LIST: $444.85

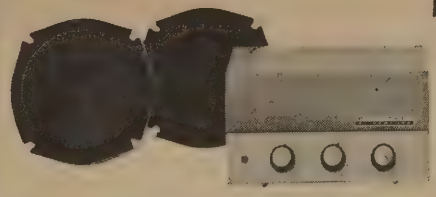
MODEL E-75-4C8F 75 watt consists of one E-75 amplifier, four Model C-8 column speakers, and 200 feet of speaker cord. No microphone. Weight: 107 lbs.
LIST: $769.30.

MODEL E-20-2C12F 20 watt consists of one E-20 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 93¼ lbs.
LIST: $589.95.

MODEL E-40-2C12F 40 watt consists of one E-40 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 98½ lbs.
LIST: $629.95.

MODEL E-75-2C12F consists of one E-75 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 105 lbs.
LIST: $669.50

MODEL E-75-4C12F 75 watt consists of one E-75 amplifier, four model C-12 super column speakers and 200 feet of speaker cord. No microphone. Weight: 184 lbs.
LIST: $1139.50



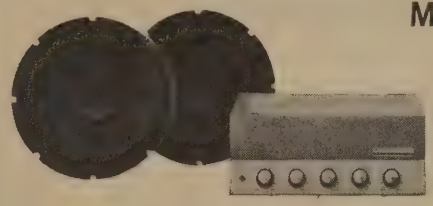
MODEL E-10-28F

10 watt PERMANENT system

This system includes one Newcomb Model E-10B amplifier, two eight-inch extended range loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 12 lbs.
LIST: $108.95

MODEL E-20-48F

This is a 20 watt sound system for permanent installation consisting of one Newcomb Model E-20 amplifier, four 8″ extended range loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 20¼ lbs.
LIST: $167.95



MODEL E-20-212F

20 watt PERMANENT system

This twenty watt system includes one Newcomb E-20 amplifier, two 12″ dual-cone loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 20¾ lbs.
LIST: $163.95

MODEL E-40-212FH 40 watt PERMANENT system includes one Newcomb E-40 amplifier, two heavy duty 12″ loudspeakers, and 100 feet of speaker cord. No microphone. System weight: 28 lbs.
LIST: $214.95

MODEL E-40-412F 40 watt PERMANENT system includes one Newcomb E-40 amplifier, four dual-cone loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 32½ lbs.
LIST: $247.95

MODEL E-75-412FH 75 watt PERMANENT system includes one Newcomb E-75 amplifier, four heavy duty 12″ loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 43 lbs.
LIST: $309.50

SPEAKER ASSEMBLIES

MODEL P-108 is an 8″ speaker in a portable case fitted for carrying the Newcomb E-10B amplifier. It has a kickproof, perforated metal grille, 25 foot cord with octal plug and microphone straps. Dimensions: 11¼″ x 14¾″ x 9″ deep. Weight: 9 lbs.
LIST: $40.00.

MODEL P-212R consists of two efficient 12″ dual-cone speakers, each with 25 foot cord and octal plug. in a split portable case designed to carry the E-20 amplifier with or without the P-4 phone top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½″ x 15¼″ x 23″. Weight: 22½ lbs.
LIST: $100.00.

MODEL P-212H consists of two heavy duty 12″ loudspeakers, each with 25 foot cord and octal plug, in a split portable case designed to carry the E-40 amplifier with or without the P-4 phono top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½″ x 15¼″ x 23″. Weight: 24½ lbs.
LIST: $112.50.

MODEL C-8 COLUMN SPEAKER combines exceptional vertical directivity with broad horizontal coverage. Enclosure tapered front to back for ganging. Contains four efficient 8″ speakers. Dimensions: 6½″D x 11⅜″W 40″ H. Weight: 20¼ lbs.
LIST: $139.95.

MODEL C-12 SUPER COLUMN SPEAKER with four 12″ speakers provides super intelligibility, super efficiency, super power handling capacity — 120 watts peak. Dimensions: 7½″ D x 15¼″ W x 56″ H. Weight: 39½ lbs.
LIST: $232.50.

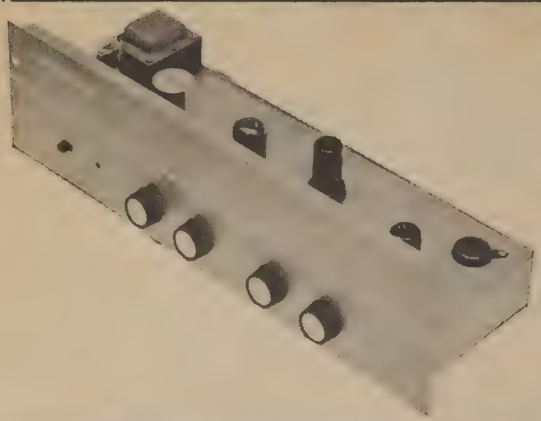
SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

© United Technical Publications

Trade Discount Applies To List Prices Only

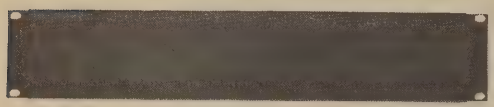
NEWCOMB PATHFINDER PUBLIC ADDRESS EQUIPMENT



MODEL E2-525G INDUSTRIAL PREAMPLIFIER

Designed for industrial sound systems, the Newcomb E2-525G has 125 to 600 ohm balanced line output. Maximum output at 600 ohms = 10 volts line output. Inputs: one mike at 2 meg impedance, convertible to low impedance by means of Newcomb plug-in transformer (socket provided) · one high level crystal phono; one radio or tape. At 600 ohm line output: mike output of .0015 volts delivers 1 volt; phono input of .15 volts delivers 1 volt out. Frequency response: ±2 db 30 to 15,000 cycles. Electronic remote switching turns mike on and music off when paging. Remote switching line may be unshielded 3-conductor cable up to several thousand feet long. No relays required. There are separate tone controls for mike and phono. Mike input socket is a standard 3-contact phone jack usable with low or high impedance microphones. Tubes: 1-6SF5, 1-6SN7, 1-6J5, 1-6X5, 25 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5¼" x 6⅛" deep. Weight: 9 lbs. **LIST: $129.50.**

PANELS FOR CABINET RACK



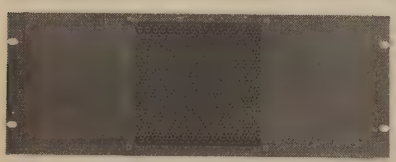
BLANK PANELS

Model Number	Dimensions	Weight lbs.	List
175G	1¾" x 19"	1¾	$3.00
350G	3½" x 19"	1¾	$3.50
525G	5¼" x 19"	2½	$4.00
700G	7" x 19"	3	$4.50
875G	8¾" x 19"	3½	$5.00
1050G	10½" x 19"	4¼	$5.50



LOUVERED PANELS

Model Number	Dimensions	Weight lbs.	List
L-525G	5¼" x 19"	2½	$5.00
L-700G	7" x 19"	3	$5.75
L-875G	8¾" x 19"	3½	$6.50
L-1050G	10½" 19"	4¼	$7.25



MONITOR PANEL

MODEL 700MPG measures 7" x 19", has perforated metal grille, requires 6" speaker, weight 3 lbs. (See also radio panels.)
LIST: $10.00.



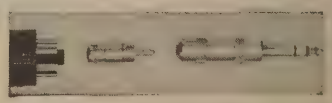
LEVER KEY PANELS

All lever key panels have 1" slots 1" apart wtih 1⅝" mounting holes. Each panel measures 3½" x 19". Weight of each panel is 1¾ lbs.

Model No.	No. of slots	LIST
LK-350-6G	6	$5.00
LK-350-8G	8	$5.50
LK-350-10G	10	$6.00
LK-350-12G	12	$6.50
LK-350-14G	14	$7.00
LK-350-16G	16	$7.50

Name strip Model No.	LIST
SR-6	$2.50
SR-8	$2.60
SR-10	$2.70
SR-12	$2.80
SR-14	$2.90
SR-16	$3.00

CONNECTORS



MODEL PW-156 is an octal speaker plug for all Pathfinder models. **LIST: $.45.**
MODEL PW-157 is a phono tap or radio input plug for all Pathfinder models. **LIST: $.75.**
MODEL PW-144 is a three contact, shielded mike plug for all Pathfinder models. **LIST: $1.75.**



TX-10 SERIES STEREO TAPE RECORDERS

Essentially a machine for the perfectionist, the TX-10 is probably the most foolproof and easiest-on-tape stereo recorder made. It takes any size reel — 3" to 10½". Cybernetically engineered, tape transport is controlled with a single central joystick. It permits sound-on-sound recording, can be monitored before or after recording, has three heads, four-digit counter, stainless steel tape guides, hysteresis motor, differential braking, pointer-to-pointer illuminated meters which show both recording and playback levels. The TX-10 is a two-speed machine — 7½ and 3¾ ips — selected by push button with speed-frequency correction. (15/7½ ips machines available on special order). Response is ±2 db 30-18,000 cps at 7½ ips. There are separate "mike" and "line" inputs and mixing controls for each channel, a balance control, a ganged volume control, pilot light. It accepts Cannon XLR-3-12C male connectors and has easily accessible sockets for Newcomb plug-in transformers to permit use of low impedance microphones.

PROFESSIONAL USERS NET: $750.00 unmounted.
CA-133 CARRYING CASE $25.00.
SR-85 MOUNTING FRAME FOR HI-FI CABINETS $10.00.
SR-86 FRAME FOR RACK MOUNTING in Newcomb Model 35-19 or 70-19 cabinet racks (cannot be used with door) $15.95
SR-97 PAIR OF RACK BRACKETS FOR MOUNTING IN STANDARD 19" RACKS $3.95.

MODEL SA-80B — 2 CHANNEL POWER AMPLIFIER WITH TONE, VOLUME AND BALANCE CONTROLS.
A stereo/mono amplifier designed especially for use with the TX-10, the Newcomb SA-80B amplifier puts out 40 peak watts per channel. Response: ±1 db 20-20,000 cps. Distortion per channel at 20 watts rms less than 1%. Hum below —65 db. It has a balance control and ganged bass, treble, and volume controls. Output impedances per channel — 16, 8, and 4 ohms. 8½" x 16¾" x 16⅜", 32 pounds. **PROFESSIONAL NET $199.50.**

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

© United Technical Publications

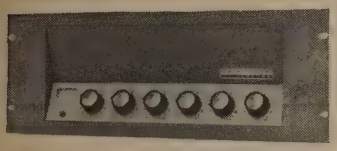
NEWCOMB PATHFINDER PUBLIC ADDRESS EQUIPMENT

RACK AND PANEL EQUIPMENT

AMPLIFIER PANELS — MODEL E-10-700PG



Panel only for rack mounting a standard Newcomb E-10B amplifier. Dimensions: 19" x 7". Weight: 3 lbs.
LIST: $17.50.



MODEL E-52040-700PG

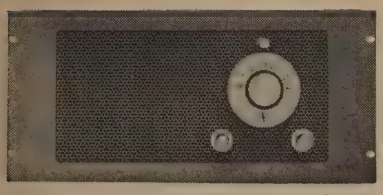
Panel only for either the Newcomb E-5P preamplifier, the E-20 or E-40 amplifier. Dimensions: 19" x 7". Weight: 3½ lbs.
LIST: $18.50.



MODEL E75-875PG

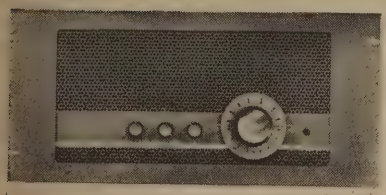
Panel only for rack mounting a standard Newcomb E-75 amplifier. Dimensions: 19" x 8¾". Weight: 4 lbs.
LIST :$19.50.

PANEL MOUNTED RADIOS—MODEL AM-500-875G AM RADIO

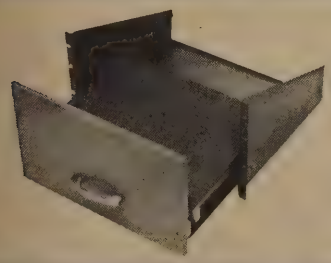


This is a complete, transformer-powered AM radio in which the output amplifier and 8" oval speaker act as a monitor. The output to external amplifiers is taken off ahead of the volume control so adjustment of monitor volume has no affect on output to sound system or tape recorder. The AM-500-875G is a dependable, rugged, continuous duty receiver with a large, direct-driver tuning dial with conelrad markings, lighted index. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight: 12¼ lbs.
LIST: $136.88

MODEL AFM-750-875G AM-FM RADIO



A complete, transformer-powered AM-FM radio in which the output amplifier and 8" oval speaker act as a monitor, the AFM-750-875 has AFC (and defeat switch) and temperature-compensated oscillators for exceptionally stable performance. Output to external amplifier is taken off ahead of the volume control so adjustment of monitor volume has no affect on output to sound system or recorder. 54 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight 14½ lbs.
LIST: $249.00.



MODEL 1050CG
PHONO CHANGER DRAWER

The front panel dimensions of the 1050CG phonograph changer drawer is 19" x 10½". It has a 16½" x 15" removable motor board. Depth from the top of the motor is 3¾". Clearance above top of motor board is 6⅛". Weight 19¼ lbs. Finest double-extension, roller bearing glides provide a stable level platform for player.
LIST: $65.00.



MODEL TB2-525G
PANEL-MOUNTED INTERCOM

A complete intercom amplifier and speaker, the TB2-525G is designed for industrial installations wherein paging speakers are used for intercommunication. Input and outgoing impedances: 500 ohms. Separate incoming and outgoing volume controls. Talk-listen switch. Pilot light. Tubes: (3) 1-6SL7, 1-6v6, 1-6X5. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5¼" x 6⅛" deep. Weight: 9¼ lbs. **LIST: $219.50.**



MODEL 70-19
CABINET RACK

Contemporarily styled, solidly built, beautifully finished in an olive-gray tint compatible with Newcomb Pathfinder equipment, the 70-19 has a ventilated back, provides 70" of panel space. Panels are standard 19" width. Last three digits of model number indicate panel depth, e.g. "875" stands for 8¾" panel depth. Dimensions: 21⅞"x74"x18½" deep. Weight 84 lbs. **LIST: $262.00.**



MODEL 70D Door with lock for front of 70-19 cabinet. Weight: 23 lbs. **LIST: $50.00.**

MODEL 35-19 CABINET RACK A short cabinet rack with ventilated back, 35" of panel space. Dimensions: 21⅞" x 39" x 18½" deep. Weight: 52 lbs. **LIST: $229.50.**

MODEL 35D Door with lock for front of 35-19 cabinet. Weight: 12 lbs. **LIST: $29.50.**

NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

© United Technical Publications

Related Telephone Equipment

- **Power Supply: Model 100-486** is used to provide power for communications between personnel in multi-locations. Powers up to 10 headsets simultaneously. Includes retard coil and dust cover.
- **Jack Panels:** Two standard jack panels are available. Both fit standard-sized racks and are 3½" x 19" long. Model 100-755 uses 48 open-circuited telephone jacks with tip-ring and sleeve combinations. Model 101-736 uses 48 double-circuited telephone jacks. Other jack panels available on special request.
- **Dual Jack Mounting:** Model 100-804 dual jack mounting is used to accept dual plugs on operator's headsets.
- **Dual Jack Adaptor:** Model 100-756 adapts dual plugs to 2-conductor plug.
- **Model 100-803 Seize Jack:** Open circuited and wired.
- **Patch Cords:** Have tip-ring and sleeve plugs and are used with jack panels above. When ordering, specify as follows: 2 ft. lengths (100-802); 3 ft. (100-083); 4 ft. (101-153); 5 ft. (101-082); 6 ft. (101-154). Other lengths available.
- **101-738 Receiver:** (Headset) Standard; 300 ohms impedance; response 200-4000 hz.
- **101-739 Receiver:** (Handset) Special request; 600 ohms impedance; response 200-4000 hz.
- **101-733 Transmitter:** (Headset) Standard; 20-25 ohms impedance; 57 db (min.) @ 300 cps.
- **101-742 Transmitter:** (Handset) Special request; 25 ohms impedance; 300-4400 hz.
- **101-741 Receiver:** (Handset) 110-210 ohms impedance; 71 db (min.) @ 1000 kHz.

Note: Also available on special request are transmitter arm assemblies, caps for transmitters and receivers, receiver holders, headbands and pads, and dual plugs.

- **TV Wall Brackets:** Two types of TV wall brackets are available. Each has a pivot-type swivel, is extra heavily constructed, is simple to install, and is available in brass or bronzetone. Model 101-158 is for large Color TVs; Model 101-157 fits all portable TV sets.



- **Key Lock Switch:** Model 100-628 2 position switch is rated at 10 amps, 110 volts. Has key tumbler pin lock and installs on any electrical device. Key is removable. Threaded mounting bushing is ¾" dia. and has mounting nut. Can be mounted on panels ⅛" to ¾" thick.

- **TV Theft Alarm:** (Model 100-864) This self-contained unit mounts on the back of a TV set. It has a shrill alarm which is activated when a would-be thief attempts to cut or pull the TV cord from the outlet. The alarm is turned off and re-set manually. It requires no internal connections to the TV. All that's required is to plug the TV set's power cord into the alarm, then plug the alarm into any power receptacle. Unit is battery operated.

- **Volume Controls:** Three types of volume controls are available. Auto transformer attenuators for any load use. They are mounted on single-gang, stainless steel plates for mounting on standard boxes. Includes knobs and 10-step dial with off position. Model 100-629 (10 watts); 100-630 (35 watts); 100-631 (75 watts).

- **Speakers:** 8" cone speakers with 3.16 oz magnet. 70.7 volt transformer (25 volts also available). Includes plaster ring and trim ring (12¾" dia.). Model 100-635 has satin aluminum trim ring. Model 100-636 has baked white enamel trim ring.

Closed Circuit TV Camera and Monitor: Model 101-749 high-resolution camera is 11¼" long x 5¼" high x 3⅛" wide. Assures clear picture and has brightness objective of 20-10,000 lux; 2-6 channels; auto contrast compensation; horizontal and vertical scan; output impedance of 75 ohms. Uses 117 VAC or 220V power supply. Model 101-750 Monitor has 9" picture tube; controls for brightness, contrast, on-off button, vertical hold and horizontal hold. Supplied with power cord and plug. 100-117 VAC (50, 60 Hz). Voltage gain 35 db (min.) @ 1.0 MHz.



How to Order Totel Systems' Products

Part No.	Description	
100-486	Power Supply	$ 85.80
100-494	Handset, Telephone: Basic Unit	$ 13.20
100-495	Cradle, Telephone: Cradle Only	$ 8.75
100-628	Key Lock Switch	$ 3.50
100-629	Volume Control (10 watts)	$ 15.00
100-630	Volume Control (30 watts)	$ 16.10
100-631	Volume Control (75 watts)	$ 20.40
100-635	Speaker, Satin Aluminum Ring	$ 9.35
100-636	Speaker, Baked White Enamel Ring	$ 9.35
100-705	Headset, Operator's	$ 49.50
100-755	Jack Panel	$137.85
100-756	Dual Jack Adapter	$ 17.00
100-798	Lectern, Complete Top	$365.00
100-799	Lectern, Top and Base	$550.00
100-801	Headset, Supervisor's	$ 55.00
100-802	Patch Cord (2 ft.)	$ 6.60
100-803	Seize Jack	$ 3.00
100-804	Dual Jack Mounting	$ 6.90
100-806	Handset, Telephone (bar-type switch)	$ 16.50
100-805	Handset, Telephone (side switch)	$ 17.60
100-807	Cradle, Telephone	$ 3.50
100-808	Hanger, Telephone (Hanger only)	$ 2.15
100-809	Hanger, Telephone (2-gang plate)	$ 10.00
100-811	Headset, Operator's	$ 37.40
100-812	Headset-Handset	$ 37.40
100-864	TV Theft Control Unit	$ 25.00
101-082	Patch Cord (5 ft.)	$ 11.00
101-083	Patch Cord (3 ft.)	$ 8.80
101-097	Handset, Telephone (push-to-talk	$ 16.50
101-153	Patch Cord (4 ft.)	$ 9.90
101-154	Patch Cord (6 ft.)	$ 14.50
101-157	TV Bracket (portable)	$ 14.30
101-158	TV Bracket (large color TVs)	$ 16.95
101-352	Headset, Cable Splicer's (Clips on)	$101.35
101-733	Transmitter, Headset	$ 3.10
101-738	Receiver, Headset (300 ohms)	$ 4.95
101-739	Receiver, Headset (600 ohms)	$ 4.95
101-741	Receiver, Handset	$ 4.40
101-742	Transmitter, Handset	$ 4.40
101-749	CCTV Camera	Contact Factory
101-750	CCTV Monitor	Contact Factory

Quantity Discount Prices available. Contact Factory. All prices F.O.B., Fairfield, Conn.

American Communications Division of Totel Systems Corp.

© United Technical Publications

Audio • Visual • Signal Systems & Parts
for Hotels, Motels & Institutions

Totel Systems Corp., the leading producer of electronic management control systems for institutional clients, offers a complete line of audio, visual, signal systems and components.

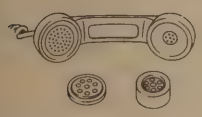
The corporation is the exclusive producer of the revolutionary telephone-connected Room Status System ("Statusfone"). Totel Systems also offers wired Room Status, Message, Wake Up, Temperature Shut Off and TV Theft Control Systems.

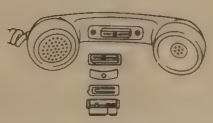
A condensed summary of Totel Systems' audio systems and component products is described below.



CUE PHONE SYSTEM EQUIPMENT

Telephone & Communications Equipment







All 'Totel' Handsets are ideal for aircraft, marine and automotive applications. They are lightweight, made of top-grade materials, have four-conductor retractile cords and feature modern WE high-gain receivers and transmitters. Receivers have response of 71 db or above at 1000 cps and 110-200 ohms. Transmitters have impedance response of 57 db or above at 300 cps and 20-25 ohms impedance. Available in six colors: black, beige, green, red, white and gray.

Telephone Handsets

- **Model 100-494:** Basic unit.
- **Model 100-806:** Has bar-type switch under handle. Spring arrangement is one make.
- **Model 101-097:** Contains push-to-talk button. Available with a make spring combination only.
- **Model 100-805:** Features side switch in handle. Several spring combinations. Specify type wanted.

Handset Cradles & Hangers

- **Model 100-807 Cradle:** Durable, thermoplastic material. Weighs 4 ozs., with switch. Has 2 Form 'C' Spring Assembly. Rear mounted. Measures 3⅛" wide x 3¼" high x 2 1/16" deep: black, beige, green, white and gray.
- **Model 100-495 Cradle:** Thermoplastic material. Cradle less switch. 5 colors: black, beige, green, white and gray.
- **Model 100-809 Hanger:** Cast aluminum body hanger (or hook switch) is mounted on a stainless steel 2-gang plate. Includes 2 Form 'C' Spring Assembly.
- **Model 100-808 Hanger:** Low-cost cast aluminum hanger. Does not include switch or mounting plate.

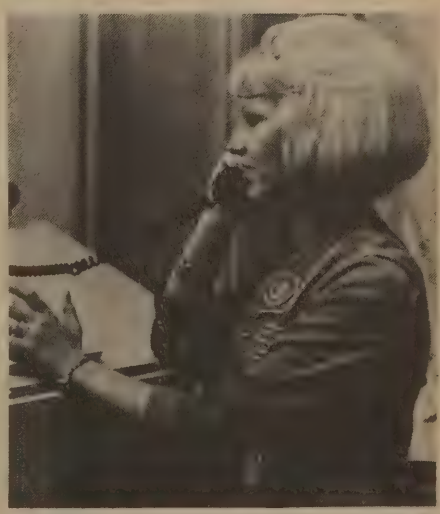
Note: Other spring combinations available upon inquiry. Please specify.

Telephone Headsets

All 'Totel' telephone headsets are ideal for inter-communication purposes. Each is equipped with a standard 300-ohm receiver and a 25-ohm transmitter and is adjustable to fit all users.

- **Model 100-811 Operator's Headset:** Features headband, receiver, transmitter, 5 ft. cord and dual plug.
- **Model 100-801 Supervisor's Headset:** Has headband, receiver, transmitter, 15 ft. retractile cord, dual plug and switch.
- **Model 100-705 Operator's Headset:** Identical to Model 100-811 — except it has 15 ft. retractile cord
- **Model 101-352 Cable Splicer's Headset:** Clips on lapel (Test Clips). Has receiver, transmitter, 5 ft. cord
- **Model 100-812 Headset-Handset:** Hand held (non-adjustable). Has receiver, transmitter, straight 5 ft. cord and dual plug.





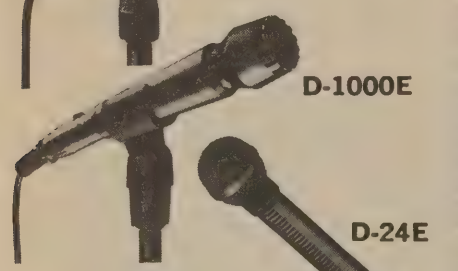
American Communications Division of Totel Systems Corp.





CONDENSER MICROPHONES

AKG Model C-451E—All FET condenser modular microphone features interchangeable omni, cardioid, selectable 3-pattern, shotgun capsules. Easily powered from your amplifier without separate power supply. Basic C-451E combination includes cardioid capsule, preamplifier, stand adapter, windscreen. Accessory modular capsules, optional power supplies and wiring information for direct amplifier powering available on request. Net Each $179.00



CARDIOID DYNAMIC MICROPHONES

AKG Model D-1000TS—Cardioid dynamic for professional performers. Supplied with switch for changing tonal response from bass to medium to sharp. Frequency response, ±3 dB, 40-16,000 Hz. Sensitivity, —53 dB (200 ohms). Size, 6″x1 7/16″. Weigh, 9½ oz. Comes with on-off switch, high-impedance transformer, phone jack, cable and case. Net Each $75.00

AKG Model D-1000E—Same as D-1000TS but low impedance. Net Each $60.00

AKG Model D-24E—Famous, professional-quality, cardioid dynamic microphone with revolutionary design for a wide variety of applications. 0-10 dB bass attenuation switch. Frequency response, ±2.5 dB, 30-18,000 Hz. Sensitivity, —53 dB. Impedance, 60 or 200 ohms (specify). Cardioid front-to-back ratio, 18 dB. Size, 6½″x1 9/16″. Net Weight, 6 oz. Includes stand adapter, cable, case. Net Each $160.00

AKG Model D-707TS—Popular, budget-priced version of D-24E. For high quality music, vocalist use and recording. Response, ±3.5 dB, 50-15,000 Hz. Sensitivity, —52 dB. High impedance. With on/off switch. Cardioid front-to-back ratio, 15 dB. Size, 6″x1 7/16″. Net Weight, 4 oz. Includes stand adapter, cable, case. Net Each $49.50

AKG Model D-707E—Same as D-707TS but low impedance. Net Each $39.50

AKG Model D-190TS—Cardioid dynamic microphone provides clean and effortless sound transmission over 40-15,000 Hz, ±3 dB. Sensitivity, —53 dB (200 ohms). Size, 6¼″x1½″. Weight, 6 oz. Comes with on-off switch, high-impedance transformer, phone jack, cable and case. Net Each $65.00

AKG Model D-190E—Same as D-190TS, but low impedance and without on-off switch. Net Each $50.00

AKG Model D-190ES—Same as D-190E/D-190TS, but with built-in on/off switch and low impedance only. Net Each $55.00

AKG Model D-109—Miniature lavalier dynamic for inconspicuous use. Professional fidelity with low frequency compensation for speech use against the chest. Adjustable mask for high frequency control. Frequency response, ±5 dB, 30-15,000 Hz. Sensitivity, —56 dB. Impedance, 200 ohms. Size, 2¾″x⅝″. Net Weight, 1.5 oz. Includes neck cord, cable, case. Net Each $49.00

D-200 SERIES TWO-WAY CARDIOID MICROPHONES

AKG Model D-200E—Unique AKG design gives professional condenser mike performance from dynamic cardioid. Two coaxially mounted elements with 500 Hz crossover network like two-way speaker system. Response, ±3 dB, 30-15,000 Hz. Sensitivity, —55 dB. Impedance, 200 ohms. Cardioid front-to-back ratio, 18 dB. Size, 7 5/16″x1 5/8″. Net Weight, 8 oz. Includes stand adapter, cable, case. Net Each $69.00



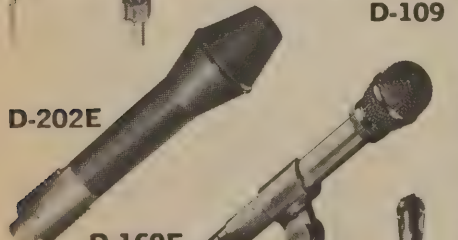
AKG Model D-200TS—High impedance. With on/off switch. Net Each $84.00

AKG Model D-202E—Same two-way cardioid dynamic design as D-200E, except with 0-20 dB at 50 Hz bass attenuation switch, response of ±2 dB, 30-15,000 Hz, and cardioid front-to-back ratio of 20 dB. Length, 8½″. Net Weight, 9.5 oz. Net Each $130.00

AKG Model D-202E with Boom Mount—Same as D-202E except with special elastic boom suspension, front and rear windscreens. Net Each $190.00

OMNI-DIRECTIONAL DYNAMIC MICROPHONES

AKG Model D-160E—Professional mike for wide variety of applications. Features removable wire mesh windscreens which permits attenuation of response characteristics. Frequency response, ±3 dB, 50-15,000 Hz. Sensitivity, —55 dB. Impedance, 200 ohms. Size 7¼″x1⅜″. Weight, 7.5 oz. Includes stand adapter, 15′ cable, case. Net Each $60.00

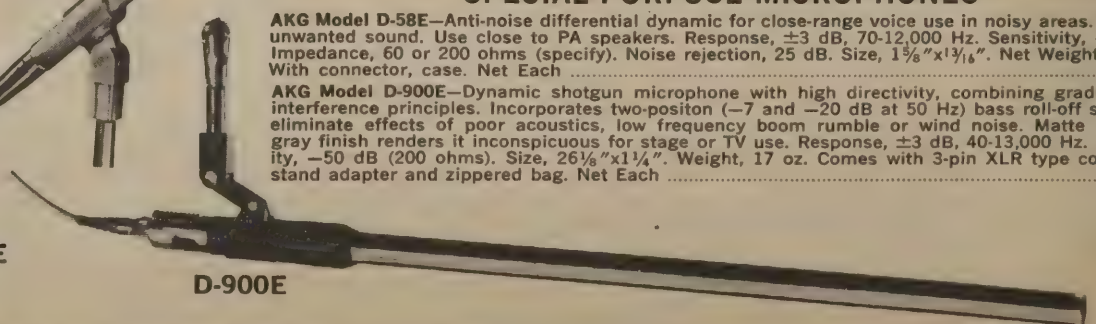


SPECIAL PURPOSE MICROPHONES

AKG Model D-58E—Anti-noise differential dynamic for close-range voice use in noisy areas. Cancels unwanted sound. Use close to PA speakers. Response, ±3 dB, 70-12,000 Hz. Sensitivity, —58 dB. Impedance, 60 or 200 ohms (specify). Noise rejection, 25 dB. Size, 1⅝″x1 3/16″. Net Weight, 1.1 oz. With connector, case. Net Each $43.00



AKG Model D-900E—Dynamic shotgun microphone with high directivity, combining gradient and interference principles. Incorporates two-positon (—7 and —20 dB at 50 Hz) bass roll-off switch to eliminate effects of poor acoustics, low frequency boom rumble or wind noise. Matte charcoal gray finish renders it inconspicuous for stage or TV use. Response, ±3 dB, 40-13,000 Hz. Sensitivity, —50 dB (200 ohms). Size, 26⅛″x1¼″. Weight, 17 oz. Comes with 3-pin XLR type connector, stand adapter and zippered bag. Net Each $149.00



Net

© United Technical Publications

Amperex INDUSTRIAL AND HIGH FIDELITY Speakers

STANDARD SPEAKER SERIES



Amperex standard speakers offer a wide diversity in characteristics, size, and price for all kinds of radio and television sets, phonographs, tape recorders, sound columns, etc.

Most standard speakers have a flat magnet system of powerful Ferroxdure ceramic. For television sets and other applications where the leakage field should be kept as small as possible, there are Amperex loudspeakers with a Ticonal magnet in a pot system. Due to the use of Ticonal 750 these pot systems are very small.

NOTE: ALL STANDARD SPEAKERS AVAILABLE IN 4, 8, 15, AND 25 OHM IMPEDANCES.

*Ticonal Magnet in pot system
**Dual-Cone °Inverted Magnet

Size (inches)	Model No.	Magnet Weight (oz.)	Power Handling (watts)	Voice Coil Diameter (inches)	Total Depth (inches)	Resonant Frequency (Hertz)
ROUND GROUP						
2½	AD2070/Z	.70	1	9/16	4/5	360
3	AD3370/Y	.70	2	9/16	1 1/8	250
4	AD4470/Y	.70	2	9/16	1 1/6	200
4	AD4080/X	4.0	6	3/4	1 3/5	165
4	AD4080/Z	4.0	6	3/4	1 3/5	185
4	AD4090/X	1.0*	4	3/4	1 1/2	175
5	AD5080/Z	4.0	8	3/4	2	155
5	AD5080/X	4.0	12	3/4	2	140
5**	AD5080/M	4.0	8	3/4	2	130
6½	AD7080/X	4.0	12	3/4	2 1/2	110
6½**	AD7080/M	4.0	8	3/4	2 1/2	95
6½°	AD7091/M	1.5*	6	3/4	1 4/5	95
8	AD8080/X	4.0	12	3/4	2 3/4	95
8**	AD8080/M	4.0	12	3/4	2 3/4	75
OVAL GROUP						
3 x 5	AD3590/X	1.0*	4	9/16	1 3/5	200
3 x 8	AD3880/X	4.0	4	3/4	2	120
3 x 8	AD3890/X	1.0*	4	3/4	2 1/8	120
4 x 6	AD4680/Z	4.0	6	3/4	1 4/5	155
4 x 6	AD4680/X	4.0	12	3/4	1 4/5	140
4 x 6**	AD4680/M	4.0	8	3/4	1 4/5	125
4 x 6	AD4690/X	1.0*	12	3/4	2	140
4 x 6**	AD4690/M	1.0*	8	3/4	2	135
5 x 7	AD5780/X	4.0	6	3/4	2 1/4	115
5 x 7**	AD5780/M	4.0	8	3/4	2 1/4	100
5 x 7	AD5790/X	1.5*	12	3/4	2 1/2	115
6 x 9	AD6980/X	4.0	12	3/4	2 3/4	85
6 x 9	AD6980/M	4.0	12	3/4	2 3/4	72

HIGH QUALITY SPEAKER SERIES



The high-quality speakers have been specially designed for use in Hi-Fi equipment, where a high power-handling capacity, a very wide frequency-range and a negligible distortion level are required. Examples of application: acoustic boxes, bass-reflex boxes, juke boxes, Hi-Fi enclosures with or without cross-over network and stereo columns.

*Ticonal Magnet

Size (inches)	Model No.	Magnet Weight (oz.)	Power Handling (watts)	Voice Coil Diameter (inches)	Total Depth (inches)	Resonant Frequency (Hertz)
TWEETERS						
1" Dome	AD0160/T	10.0	20*	1	1	1000
2¼"	AD2070/T	.70	10	9/16	1 1/8	800
*Cross-over frequency 1500 Hz. Power handling capacity is 40 watts if cross-over frequency is 4000Hz.						
WOOFERS						
(All woofers have rigid paper cone with highly flexible butyl-rubber suspension.)						
5	AD5060/W	10.0	10	1	2 1/4	50
6½	AD7065/W	14.4	20	1	2 3/5	28
8	AD8065/W	14.4	20	1	3 2/5	28
10	AD1055/W	32*	40	1 1/2	6	24
12	AD1256/W	20*	40	2	6 3/4	15
FULL RANGE						
5	AD5060/M	10	8	1	2 1/4	85
6½	AD7060/M	10	10	1	2 3/5	55
8	AD8050/M	14*	15	1 1/2	5	60
8½	AD9710/M	10*	15	1 1/2	4 3/4	50
10	AD1050/M	14*	15	1 1/2	5 1/2	50
12	AD1260/M	10	15	1	4 3/4	50
12	AD1250/M	14*	30	1 1/2	5 1/4	50
12	AD1255/M	20*	30	1 1/2	6 3/4	50
12	AD1255/HP	20*	50	2	6 3/4	60

AMPEREX ELECTRONIC CORPORATION

Amperex®
TOMORROW'S THINKING IN TODAY'S PRODUCTS
A NORTH AMERICAN PHILIPS COMPANY

THE ASTATIC CORPORATION

DYNAMIC, CRYSTAL AND CERAMIC MICROPHONES



800 SERIES PROFESSIONAL DYNAMIC MICROPHONES

810s ULTRA-CARDIOID

No other microphone so completely provides the answers to feedback and reverberation problems. Sintered bronze acoustic filter assures outstanding directional characteristics, with a front-to-back ratio of 25 db. Response of 40-15,000 Hz is tailored for faithful reproduction of voice and music. **Output:** —50 db (HiZ) and —54 db (LoZ). On-off switch built into swivel assembly positionable from vertical to beyond 90° for performer control. Factory set at high impedance (40,000 ohms), easily changed to low impedance (150 ohms) with a simple solderless connection. **Finish:** Non-reflecting, brushed satin chrome with black chrome trim.

Model 810s Ultra-Cardioid — List Price **$89.00**

Model 810s Gold — Finished in gold. List Price **$94.00**

Model 810 — Same model as 810s with an exclusive Astatic "Easy-On" swivel adaptor in place of the on-off switch assembly. List Price **$85.00**

Model 810 Gold — Finished in gold. List Price **$90.00**

811 ULTRA-CARDIOID

ASTATIC's exclusive sintered bronze acoustic filter assures maximum cancellation of unwanted background noise. A perfect Ultra-Cardioid pattern provides a 25 db front-to-back ratio. The DuPont MYLAR® diaphragm provides stability and long life even at extreme temperatures of —80° to 300° F. An ideal top-quality paging and communications desk stand microphone. Reliable and rugged, finished in brushed satin chrome with wear-resistant, black chrome trim. The 811 is designed for use with "G" or "UG8" grip-to-talk stands. **Output:** —50 db (HiZ), —54 db (LoZ). **Size:** 1-5/16" d. x 5-9/16" l. **Net Weight:** 13½ oz. List Price **$75.00**

820s OMNI-PROBE

The ultimate in sensitive, omnidirectional pickup, assuring consistent volume and clarity for talking, singing, and instrumental groups. Perfectly concentric pattern, with 40-18,000 Hz response. The 820s offers complete performer control with a swivel that positions easily from vertical to beyond 90° and a built-in on-off switch. A simple solderless connection changes the impedance from high (EIA 40,000 ohms) to low (EIA 150 ohms). **Output:** —61 db. **Finish:** non-reflecting brushed satin chrome with black satin chrome trim. **Size:** ⅞" d. x 9" l. **Net Weight:** 14½ oz.

Model 820s Omni-Probe — List Price **$83.00**

Model 820s Gold — Finished in gold. List Price **$90.00**

Model 820 — Same as Model 820s with "Easy-On" Swivel adaptor in place of the on-off switch assembly. **Net Weight:** 17 oz. List Price **$79.50**

Model 820 Gold — Finished in gold. List Price **$84.50**

840s LAVALIER

Low impedance, light weight, diminutive lavalier with 50-12,000 Hz response is specially engineered to prevent chest cavity resonance problems. **Output:** —59 db. **Finish:** in brushed satin chrome. The 840s has recessed on-off switch, neck cord, spring clip, and 30' of superflexible shielded cable; easily converted from lavalier to an omnidirectional hand held microphone. 50-16,000 Hz as hand held. **Size:** ⅝" d. x 3¾" l. **Net Weight:** 5 oz.

Model 840s Lavalier — List Price **$90.00**

Model 840s Gold — Gold finish. List Price **$95.00**

840 LAVALIER

Smaller than 840s without an on-off switch, the 840 offers the same top performance either hand held or as a lavalier. Furnished with 30 feet of superflexible shielded cable, neck cord, and spring clip. **Finish:** Brushed satin chrome. **Size:** ⅝" d. x 2⅝" l. **Net Weight:** 5 oz.

Model 840s Lavalier — List Price **$85.00**

Model 840 Gold — Finished in gold. List Price **$90.00**

850s "BALL HEAD" ULTRA-CARDIOID MICROPHONES

ASTATIC's "Ball Head" filter eliminates "pop", "blast" and wind noise, making this microphone ideal for indoor, outdoor use, and for extremely close work. **Finish:** in nonreflecting satin chrome, black satin chrome trim. ASTATIC's exclusive SIBROPHASE acoustic phasing system provides an unsurpassed 25 dB front-to-back ratio. "Ball Head" screen encloses acoustic filters, foam filter and a magnetic protective screen. **Impedance change:** By a simple solderless connection. **Response:** 40 Hz to 15,000 Hz. **Output:** —50 db (LoZ), —54 db (HiZ). **Size:** 2-1/16" d. x 6⅛" l.

Model 850s — On-off DPDT switch provides speaker or performer control. An 18 foot 2 conductor, shielded cable is included. Connector is interchangeable with Cannon XLR-4. **Net Weight:** 2 lbs. (with cable). List Price **$99.00**

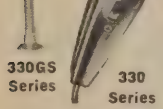
Model 850 — Same as Model 850s but with ASTATIC "Easy-On" swivel adaptor in place of on-off switch. Quickly and quietly changeable from stand mount to hand held. **Net Weight:** 1 lb., 6 oz. List Price **$95.00**

860s "BALL HEAD" OMNIDIRECTIONAL MICROPHONES

These omnidirectional probes incorporate ASTATIC's integral "Ball Head" filter that eliminates "pop" and "blast" from explosive breath noises. Perfectly concentric polar pattern assures uniform omnidirectional pick-up. Ideal for sports events, close talking, on-the-scene broadcasting, and outdoor entertainment. **Response:** 40 Hz to 18,000 Hz. **Output:** —61 db (HiZ), —60 db (LoZ). **Size:** 1⅝" d. x 10" l.

Model 860s — Positive swivel positioning from vertical through more than 90° and an integral on-off switch allow performer control. A broadcast-type connector (interchangeable with Cannon XLR-4) is fitted with 18 feet of ultra-flexible cable. **Net Weight:** 1 lb., 13 oz. (with cable). List Price **$95.00**

Model 860 — Same microphone as Model 860s except with "Easy-On" swivel adaptor in place of the on-off switch. Has permanently attached cable. Quickly and quietly changeable from stand mount to hand held. **Net Weight:** 1 lb., 2 oz. List Price **$89.50**


330GS Series

330 Series

SERIES 330 AND GOOSENECK SERIES 330-GS

330 Series (See next page for matching stand)
Small, slim mikes with quality performance for various applications at low price. Model 331 has momentary on, spring-return switch, furnished with hangup bracket. Cable provides for audio and relay connections. All other models have slide switch with "lock-on" position complete with lavalier and stand adapter with ⅝"-27 thread. High impedance except Model 335L.

330-GS
Professional, all-purpose goose-neck microphones for intercommunications, tape recording, amateur, language laboratories and many other applications. Gooseneck is permanently attached. 13" in length. Complete with 7' single conductor, shielded cable (355L-GS, 2-cond. for balanced line).

MODEL 77 DYNAMIC CARDIOID

A positive anti-feedback microphone. Unidirectional design has suspended cartridge; eliminates external shock mounts. Built-in impedance selector. **Front-to-Back Pickup:** 18 db differential. **Output:** —48 db. **Frequency Response:** 80-15,000 Hz. **Impedance:** Low-Z, 30-50 ohms; medium 150-250 ohms; high, 40,000 ohms. **Shipping Weight:** Approximately 2 lbs., 6 oz., less stand.

Model 77 — With on-off switch and provisions for locking in "on" position. List Price **$82.50**

Model 77 Gold Finish — List Price **$92.50**

Model 77-L — Head only for mounting on G Stand. List Price **$72.50**

Model 77-L Gold Finish — List Price **$82.50**

Model G-77 — Includes G Stand and 8' cable. List Price **$97.45**


77

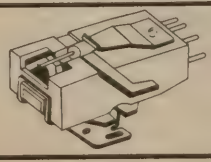
Model	Type	Output	Freq.	Body	Grille	Cap	Goose Neck	List
331	Ceramic	—58db	300- 7000	Black	Black	Chrome	—	$17.90
332	Crystal	—54db	30-15000	T.V. Gray	Black	Chrome	—	17.90
332GS	Crystal	—54db	30-15000	T.V. Gray	Chrome	Chrome	Chrome	24.50
333	Ceramic	—58db	30-10000	Black	Black	Chrome	—	17.90
333GS	Ceramic	—58db	30-10000	Black	Black	Chrome	Chrome	24.50
335H	Dynamic	—56db	100-12000	T.V. Gray	Chrome	Chrome	—	26.50
335H-GS	Dynamic	—56db	100-12000	T.V. Gray	Chrome	Chrome	Chrome	33.00
335L	Dynamic	—57db	100-12000	T.V. Gray	Chrome	Chrome	—	23.50
335L-GS	Dynamic	—57db	100-12000	T.V. Gray	Chrome	Chrome	Chrome	30.00


DN-50

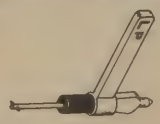
MODEL	DESCRIPTION	LIST
DN-50	50 OHM Impedance, 10 Foot Cable	$33.50
GDN-50	50 OHM Impedance, with Model G Stand and 6 Foot of Shielded Cable	52.70
UG8-DN50	Same as above but with Model UG8 Stand	57.70
DN-HZ	25,000 OHM Impedance, 10 Foot Cable	39.70
GDN-HZ	Same as above, with Model G Stand and 5 Foot of Shielded Cable	59.90

See next page for description of G and UG8 Stands.

ASTATIC PHONOGRAPH NEEDLES AND CARTRIDGES



■ For over 35 years Astatic has maintained its number one position as the world's leader in supplying the most complete line of phonograph cartridges for O.E.M.'s and Distributors.



■ Needle for needle, Astatic always has the highest quality and the most complete line of needles. Regardless of the original manufacturer of the phonograph, Astatic has the replacement needle for the cartridge on hand and ready for immediate delivery.

Trade Discount Applies To List Prices Only
© United Technical Publications

ASTATIC Microphones and Accessories



D-104



GD-104

SERIES D-104 "PREMIER"

The radio amateur's first choice. Balanced performance. Machined brass parts; heavy mesh grille; chrome finish. Standard ⅝"-27 thread mounting; adaptable to SC-11 lock-switch adapter or can be mounted on Model G (grip-to-talk) stand. Metal seal crystal offers protection against moisture and dryness. Ceramic immune to excessive heat and humidity. 3" dia., 1⅜" deep. Weight, 14 oz. Complete with 5' single conductor shielded cable.

Model D-104 Crystal — Output: —46 db; **Impedance:** 1-5 megs; **response:** 30-7,500 Hz; **rising:** 500-4,000 Hz. List **$31.00**

Model D104C Ceramic — Output: —49 db; all other characteristics similar to D-104. List Price **$31.00**

Model SC-11 Adapter — List Price ..... **$ 9.00**

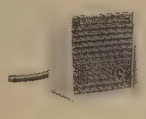
Model GD-104 Crystal — D104 complete with Model G grip-to-talk stand. List Price **$51.20**

Model GD-104C Ceramic — Same as above except ceramic element. List Price **$51.20**

Model UG8-D104 Crystal — D104 complete with Model UG8 grip-to-talk stand. List Price **$56.20**



200-S



150



T3



JT-30



10DA

"VELVET VOICE" CRYSTAL MICROPHONES

For PA, home recording, ham, paging, radio. Use with floor or desk stand or in hand. Gold finished housing and handle; chrome grille; brown detachable base. ⅝"-27 mounting. 8" high, 2½" grille dia. 5½" base dia. Weight, 24 oz.

Model 200 — Output, —50 db; impedance, 1-5 megs; response, 30-7,000 hz. With 8' cable. List Price **$19.50**

Model 200-S — With on-off switch in handle. List Price **$21.50**

Model 241-S — Same as 200-S except response 30-10,000 hz with rising response from 1,500-5,500 Hz. List Price **$21.50**

SERIES 150 RECORDER MIKES

For tape recorder use. Low cost; high output; outstanding performance; compact in size. **Size:** 2-3/16" sq. x 1¼" d. Plastic housing with rigid metal grille. With 5' cable.

Model 150 Crystal Mike — Frequency response, 30-10,000 Hz. **Output:** —48 db. List Price **$6.50**

Model 151 Ceramic Mike — Frequency response, 30-8,000 Hz. **Output:** —48 db. List Price **$6.50**

MODEL T-3 CRYSTAL

For studios, Intercom, amateur, PA, recording. **Response:** 30-10,000 Hz. **Output Level:** —54 db. Semi- or non-directional. With connector, 10' cable. All chrome finish.

Model T-3 Crystal Microphone — List Price **$29.50**

SERIES JT-30 "SPOKESMAN"

Streamline die-cast alloy housing; gray Hammerlin finish with chrome grille and fittings; including handle and interlocking base. Concentric cable connector. For general PA, recording and communication. 8" high, 2-5/16" grille dia. 5⅛" base dia. Weight 21 oz.

Model JT-30 Crystal — Output: —49 db; **Impedance:** 1-5 megs; **Response:** 30-10,000 Hz. Complete with 8' single-conductor shielded cable. List Price **$18.40**

Model JT-30-C Ceramic — Same as JT-30 except with —54 db output and 5' cable. List Price **$18.90**

Model JT-30-F Crystal (Head Only) — Same as Model JT-30, except less handle and desk stand. Threaded ⅝"-27 for mounting. List Price **$15.90**

Model JT-30-CF Ceramic (Head Only) — Same as Model JT-30-C, except less handle and desk stand Threaded ⅝"-27 for mounting. List Price **$16.40**

MODELS 10-C, 10-DA "THE VOICE"

Ideal for SSB, AM transmitters, paging and industrial applications. High impedance. **Output:** 300-3,000 Hz. Plug-in ⅝"-27 thread mounting with 5' cable.

Model 10-C Ceramic — Gray chrome grille. List Price **$29.70**

Model G-10-C Ceramic — Same as above, but with "G" (grip-to-talk) stand. List Price **$49.90**

Model 10-DA Dynamic — Chrome body and grille. List Price **$39.70**

Model G-10-DA Dynamic — Same as above, but with "G" (grip-to-talk) stand. List Price **$59.90**

Model UG8-10-DA Dynamic — Same as above, but with "UG8" stand. List Price **$64.90**



551



539



531



513H, 511



10M5A

MODEL 551 INDUSTRIAL MICROPHONE

Dynamic industrial mike provides high intelligibility in noisy areas. Fully shielded. Withstands temperatures to 200° F; 180° F indefinitely. Moisture-sealed. Semi-directional polar pattern. **Frequency Response:** 300-6,000 Hz, high impedance; 300-6,500 Hz, low impedance. **Output Level:** —50 db, low impedance; —46 db, high impedance. **Impedance:** 150 or 40,000 ohms, adjustable. With press-to-talk switch, virtually unbreakable Delrin* housing, and four-conductor (shielded mike, two relay) coiled cord extends to 8' long. **Size:** 1⅞" x 2" x 6⅞". **Weight:** 23 oz.

Model 551 Industrial Mike — List Price **$69.50**

* DuPont trademark.

NEW MODEL 539 NOISE CANCELLING MIKE

Super talk power, ceramic mike is highly recommended for CB or ham operations. High output for effective use in noisy locations, features 360° differential cancellation of background noise for sharp, clear speech. Lip bar maintains uniform, close spacing for high modulation and maximum cancellation. **Frequency Response:** 100-3,500 Hz with mike held for close talking using lip bar. **Output Level:** —50 db. **Impedance:** 250,000 ohms, approx. at 1 kc (EIA, 100,000 ohms). With press-to-talk DPDT switch; wired for relay or electronic switching. Coiled 3 cond. (one cond. shielded) cable extends to 5 ft. High impact plastic housing. **Size:** 2⅝" w. x 1-5/16" d. x 3⅝" h.

Model 539 — Noise Cancelling Mike — List Price **$17.50**

MODEL 10M5A "COMMUNICATOR"

For mobile, ship-shore, etc. Sensitive and rugged. **Response:** 100-4,000 Hz. **Output Level:** —40 db at 1 v./microbar. Press-to-talk DPST switch. Retracting cable 12-in. coiled extends to 8'. Gray finish.

Model 10M5A Carbon Microphone — List Price **$29.50**

MODEL 531 MOBILE MICROPHONE

High performance ceramic mike for amateur and Citizens' Band applications. Carefully calculated response characteristic for maximum clarity and intelligibility. Semi-directional polar pattern. Fully shielded to minimize hum pickup. **Frequency Response:** 150-3,500 Hz with 6 db rise in 2,000 Hz range. **Output Level:** —50 db. **Impedance:** 250,000 ohms, approx. at 1,000 Hz (EIA, 100,000 ohms). With press-to-talk switch, molded high impact plastic housing and three-conductor (one-shielded) coiled vinyl cord, 5' long extended. **Size:** 2⅝" w. x 1-5/16" d. x 3⅝" h. **Weight:** 7¼ oz.

Model 531 Mobile Mike — List Price **$12.75**

MODEL 511 MOBILE MICROPHONE

Ceramic element mike for Citizens' Band and similar uses. Low background noise, feedback and hum. Semi-directional polar pattern. **Frequency Response:** 200-4,000 Hz. **Output Level:** —50 db. **Impedance:** 250,000 ohms (1,000 Hz). With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable extending to 5½' long. **Size:** 2¼" w. x 2½" d. x 6" h. **Weight:** 7 oz.

Model 511 Ceramic Mike — List Price **$19.95**

MODEL 513H MOBILE MICROPHONE

Dynamic mike for Citizens Band and other communications. Low background noise, feedback and hum. Semi-directional polar pattern. Wide temperature range; humidity-proof. **Frequency Response:** 200-9,000 Hz. **Output Level:** —50 db. **Impedance:** 40,000 ohms. With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable 5½' long, extended. **Size:** 2¼" w. x 2½" d. x 6" h. **Weight:** 10 oz.

Model 513H Mobile Mike — List Price **$34.59**

STANDS AND LINE TRANSFORMER

A-7



E-1



G, UG8



A-8



Model A-7 Desk Stand — With adjustable swivel. Use with 330 series. List Price **$2.45**

Model A-8 Desk Stand — Designed for 810, 820, 840, 850, 860 and "Futura" series microphones. Has ⅝"-27 thread mounting. List Price **$8.25**

Model G Desk Stand — Has grip-to-talk SPST on-off switch, sliding bar for "lock-on." Use with DN-50, DN-HZ, T3, D-104, D-104C, 10-C, 10-DA and 77L. **Finish:** Bright chrome, gray Hammerlin base. List Price **$24.95**

Model UG8 Stand — Same as Model G, with DPDT switch for balanced or unbalanced line. **Thread:** 13/16" x 27; eight-terminal strip in base adapts to any circuit. List Price **$29.95**

Model E-1 Desk Stand — Finish: Gray Hammerlin base, bright chrome trim. Has ⅝"-27 thread. **Overall height:** 5½". List Price **$8.25**



MODEL LT-6 LINE-MATCHING TRANSFORMER

Matches low impedance microphone to high impedance amplifier input; and vice versa. Permits long length of cable on the low impedance side of the transformer. Eliminates high frequency loss and objectionable hum pickup, completely shielded. **Input:** 30-50 or 150-250 ohms. **Output:** 40,000 ohms or higher. **Response:** ±1 db, 20-20,000 Hz. Supplied with Amphenol 91-852 and 75-MC1F end connectors. **Size:** ⅞" dia.

Model LT-6 Transformer — List Price **$17.50**

REPLACEMENT MICROPHONE CARTRIDGES

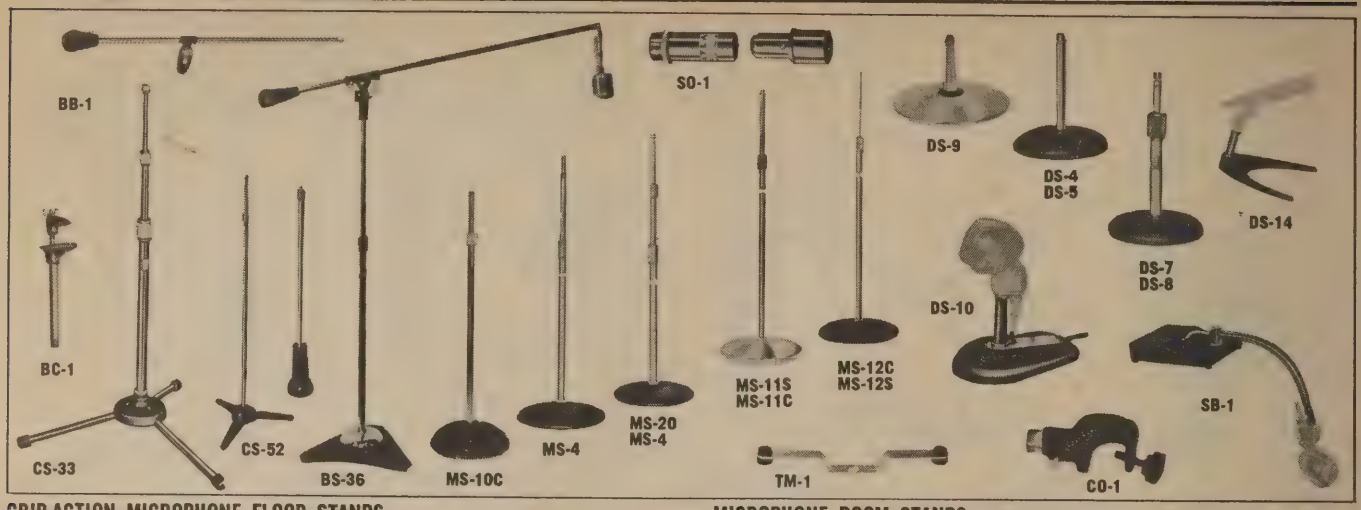
Model	Use With Astatic Mike Model	List
MC 151	CX, CX-1, 200, 241, JT-30, JT-30-F, JT-40, T-3	$7.00
MC 127	CC, CC-1, VC, VC-1, JT-30-C, JT-30-CF, JT-40-C, T-3C	7.00
MC 451	10M5, 10M5A, 11M5	8.75
MC 563	DN-50, DN-500, DN-HZ, DN-MZ, 10-D	16.50
MC 320	D-104	9.50
MC 321	D-104-C	7.00
MC 558*	332	7.00
MC 559-2*	331	7.00
MC 560*	335H, 335L	7.75

* Mikes without screw-fastened caps should be returned to factory for repairs.

ASTATIC CORPORATION

© United Technical Publications

ATLAS SOUND MICROPHONE STANDS



GRIP-ACTION MICROPHONE FLOOR STANDS

Include self-leveling, shock-absorbing pads and stabilizers. Tube assemblies and clutch are chrome plated. Threaded for use with any 5/8"-27 microphone or microphone holder.

ATLAS Model	Base Finish	Height Range	Base Diameter	Wt. Lbs.
MS-10C	Charcoal Wrinkle	35"-63"	10"	10
MS-12C	Charcoal Wrinkle	34"-62"	10"	12
MS-11C	All Chrome	34"-62"	10"	13
MS-4‡	Charcoal Wrinkle	25"-65"	10"	10
CS-1A*	Bright Cadmium	23"-62"	Collapsible	5½
CS-33‡#	Chrome Legs	26"-64"	Demountable	4
CS-52	Charcoal Wrinkle	34"-62"	15"	9

‡3-Section, 2 clutches. *Tripod Base. #Collapses to min. 22½" in 3 sections.

SLEEVE-ACTION MICROPHONE FLOOR STANDS

Unique, automatic clutch for effortless, instantaneous changes in height. Height is adjusted by grasping the control sleeve and raising or lowering the microphone. Removing hand automatically locks the position.

MS-11S	Full Chrome	39"-62"	10"	13
MS-12S	Charcoal Wrinkle	39"-62"	10"	12

PROFESSIONAL MICROPHONE FLOOR STANDS

Heavy duty, larger low contour bases with extra anti-tip weight. Integral air suspension system to counterbalance heavier microphones. Grip-action clutch. 7/8" dia. telescoping tube, 1⅛" dia. base tube. Threaded for use with any 5/8"-27 microphone or microphone holder.

MS-20	Charcoal Wrinkle	37"-66"	12"	15
MS-25	Chrome & Charcoal	38"-67"	17"	22

MICROPHONE DESK STANDS

ATLAS DS-4 — Excellent accessory for tape recorders. Lightweight. 5" dia. phenolic base. 4" tube finished in chrome. Shipping Weight, ½ lb.

ATLAS DS-5 — General purpose, non-adjustable. Base 6" dia. cast iron. Charcoal finish. Tube 4"; chrome finish. Shipping Weight, 2 lbs.

ATLAS DS-7 — Adjustable Stand — Chrome finished tube assembly adjustable 8" to 13". Black base, 6" dia. Shipping Weight, 3 lbs.

ATLAS DS-9 — Professional Stand — Low silhouette 8" base with tapered 4" tube. Satin chrome, Shipping Weight, 4 lbs.

ATLAS DS-10 — "Streamliner" Stand — Mic. cable concealed under center section of chrome trim strip on base. Black enamel finish; chrome trim. Shipping Weight, 1½ lbs.

ATLAS DS-14 — Contemporary Stand — For professionally styled microphones. Charcoal base; 3" chrome tube. Shipping Weight, 2 lbs.

ATLAS SB-1 — Switchboard and Dispatcher Mic. Support — For console-top or desk use. Flexible 12" goose-neck on spring-loaded swivel. Feed-through hides mic. cable. Heavy black base, non-tipping. Base 9" x 6". Shipping Weight, 13 lbs.

ATLAS TS-8 — Adjustable Banquet Stand — Low silhouette, 8" base with chrome tube and grip-action clutch. Height range: 14½"-26". Shipping Weight, 5½ lbs.

MICROPHONE BOOM STANDS

ATLAS BS-36 — Professional Boom Stand — Smooth and dependable grip-action clutch with integral air suspension system to counter-balance weight. Gyromatic swivel joint at mic. end. Boom 62" long; adjustable 48" to 72" vertically. All tubular section chrome. Modern styled base, chrome and charcoal wrinkle. Shipping Weight, 36 lbs.

ATLAS BS-36W — Mobile Professional Boom Stand — Same as BS-36 with special base equipped with rubber casters. Shipping Weight, 40 lbs.

ATLAS BB-1 — "Baby Boom" Arm — Attaches to any adjustable mic. stand; locks in any position. Boom arm 31" long. Chrome tube; counterweight in charcoal wrinkle. Shipping Weight, 3½ lbs.

MICROPHONE ACCESSORIES

ATLAS TM-1 — Twin-Mount — Designed for horizontal mounting of two or three mics. on any stand or for lectern-top installation. 8¾" wide; brushed chrome finish.

ATLAS CO-1 — Connect-On — For installation of a second mic. on vertical tube of any ATLAS SOUND floor stand. Charcoal wrinkle finish.

ATLAS LO-2 — Lock-On Accessory — Permits quick disconnect of mic. from any ATLAS SOUND stand without threading. Positive locking design, pushbutton release. Chrome finish.

ATLAS SO-1 — Snap-On Accessory — Similar to LO-2, without pushbutton locking feature. Chrome finish.

ATLAS CH-1 — Cable Hanger — For neat appearance and storage of mic. cable. Fits all ATLAS SOUND stands. Single screw mounting. Chrome finish.

ATLAS VM-1 — Shock Mount — Reduces mechanical vibration pick-up of microphone. Fits all 5/8"-27 thread mics. 4¾" high; chrome finish.

ATLAS GN-6 — Flexible Goose Neck — Attaches to any ATLAS SOUND stand or fixture. 5/8"-27 male and female threads; 6" long. Chrome finish.

ATLAS GN-13 — Same, but 13" long.

ATLAS GN-19 — Same, but 19" long.

ATLAS FS-1 — Mic. Foot Switch — Can be operated for press-to-open or press-to-close function. For all mics. having single-ended inputs. 2½" x 3"; gray finish.

ATLAS US-2 — Flange Mounting Multi-Purpose Mic. Support — Cable feeds through boom and spring loaded swivel. Boom arm 12¾" long. Adjusts 180° vertical; 360° rotation. Chrome finish.

ATLAS SW-1 — Gyromatic Swivel — Permits mic. adjustment to any angle; locks in position. Chrome finish.

ATLAS BC-1 — Bracket Clamp — 6" vertical tube for flange or clamp mounting of mic. 5/8"-27 thread. Shipping Weight, 1 lb.

MICROPHONE ADAPTORS AND FITTINGS

Model	Description
AD-1	5/8"-27 female to ½" pipe thrd. male
AD-2	⅛" pipe female to 5/8"-27 male
AD-3	⅛" pipe female to 5/8"-27 female
AD-4	¾" long, 5/8"-27 male running thread
AD-5	5/8"-27 female to 5/8"-27 female coupling
AD-6	7/8"-27 female to 7/8"-27 female coupling
AD-7	3" long tube, 5/8"-27 male each end
AD-8	6" long tube, 5/8"-27 male each end
AD-9	7/8"-27 female to 5/8"-27 female
AD-10	5/8"-24 female to 5/8"-27 female
AD-11	Flange, 5/8"-27 female. Base diameter 1¾"
AD-12	Flange, 5/8"-27 male. Base holes on 1¼ mtg ctrs.
AD-13	7/8"-27 male to 5/8"-27 female
AD-14	90° angle tube, 5/8"-27 male and female
AD-15	Cable feed-thru, 5/8"-27 male and female
AD-16	Stand adaptor for paging speaker-mounting
AD-17	Adaptor, ½" to pipe F, for paging speaker
AD-18	Heavy duty, triangular base, flange 5/8"-27 F.
AD-19	45° angle tube, 5/8"-27 M & F

NOTE: Thread sizes specified as ⅛" pipe are I.P.S. (Electrical fitting); measures approx. ⅜" dia. All adaptors plated.

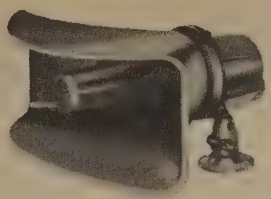
© United Technical Publications

ATLAS SOUND LOUDSPEAKERS

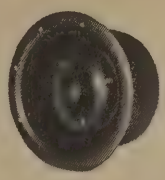
• PROFESSIONAL OMNI-PURPOSE PUBLIC ADDRESS SPEAKERS



AP-15(T)/AP-30(T)



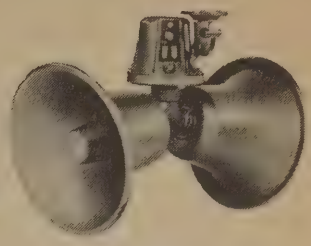
APC-30T



APF-15(T)



APR-30T



APT-34T

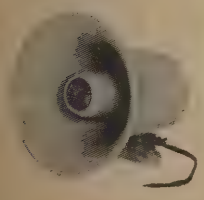
HIGH INTELLIGIBILITY • WIDE FREQUENCY RESPONSE • WEATHERPROOF • VARI-TAP CONTROL/CONNECT CENTER

Specifications	AP-15	AP-15T	APF-15	APF-15T	AP-30	AP-30T	AP-30T-25	APC-30T	APR-30T	APT-34T
Power (Continuous)*	15 Watts		15 Watts		30 Watts		30 Watts		30 Watts	
Power (Equalized)**	20 Watts		20 Watts		40 Watts		40 Watts		40 Watts	
Frequency Hz.	275-14,000		475-14,000		225-14,000			250-14,000	300-14,000	225-14,000
Sound Level	121 db measured 4′ on axis at 15 watts input		121 db measured 4′ on axis at 15 watts input		125 db measured 4′ on axis at 30 watts input			123 db	112 db	121 db each horn
Impedance: Vari-Tap Switch on Transformer Models	8 Ohms	5000, 2500, 1300, 666, 333, 89, 45 Ohms	8 Ohms	5000, 2500, 1300, 666, 333, 89, 45 Ohms	8 or 45 Ohms	4000, 2000, 1000, 666, 333, 167 Ohms	500, 250, 125, 83, 42, 21 ohms	2000, 1300, 666, 333, 167, 89, 45 Ohms		
Power Taps (Watts) Vari-Tap Switch on Transformer Models		70V: 9, 1.8, 3.8, 7.5, 15		70V: 9, 1.8, 3.8, 7.5, 15		1.2, 2.5, 5, 7.5, 15, 30	1.2, 2.5, 5, 7.5, 15, 30	70V: 1.8, 3.7, 7.5, 15, 30		
		25V: .48, .94, 1.8, 7.0, 15		25V: .48, .94, 1.8, 7.0, 15				25V: 1.8, 3.7, 7.5, 15		
Dispersion	110°		180°		100°			120° x 60°	360°	100° Each Horn
Dimensions	8″W x 8″H x 9″D		3 3/16″H 7″ Dia.	5 3/16″H 7″ Dia.	10″H x 9½″H x 10½″D			6″H x 12¾″D	13″ Dia. x 11¾″H	16½″ Lg. x 9¾″D
Shipping Wt.	4½ lbs.	5 lbs.	2½ lbs.	3 lbs.	6 lbs.	6½ lbs.	6½ lbs.	8¾ lbs.	6 lbs.	9 lbs.

*Integrated Speech and Music, Full Range. **Limited to Frequencies above Horn Cutoff.

VANDAL PROOF ACCESSORIES • FLANGE MOUNTING OR OMNI-PURPOSE INSTALLATION BRACKET • FIELD REPLACEABLE DIAGRAMS

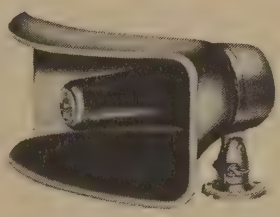
• PAGING, INTERCOM, AND TALK-BACK SPEAKERS



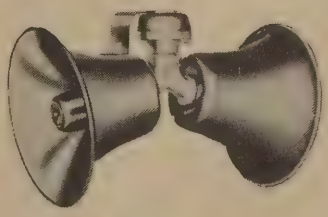
SC-15



HU-12N
HU-15N
HU-24N



CJ-14N/CJ-30N



TP-15N/TP-24N



DU-12N

WEATHERPROOF • HIGH INTELLIGIBILITY • WIDE FREQUENCY RESPONSE

Specification	SC-15	HU-12N	HU-15N	HU-24N	CJ-14N	CJ-30N	TP-15N	TP-24N	DU-12N
Power (Watts)	15	7½	25	25	7½	25	25	25	7½
Frequency Hz.	315-14,000	350-13,000	250-13,000	200-13,000	350-13,000	250-13,000	250-13,000	200-13,000	350-13,000
Sound Level (db)	120	115	123	124	115	121	120 Each Horn	121 Each Horn	115
Impedance (Ohms)	8 or 45	8 or 45	8 or 45	8	8 or 45	8	8 or 45	8	8
Dispersion	130°	120°	100°	95°	120° x 60°	120° x 60°	100° Each Horn	95° Each Horn	110°
Dimensions	6½″ Bell Dia. 6⅝″ Deep	7½″ Bell Dia. 7¼″ Deep	9¾″ Bell Dia. 8¾″ Deep	11¼″ Bell Dia. 12″ Deep	5½″H x 9½″W x 8″D	6″H x 14″W x 11½″D	9¾″ Bell Dia. 16½″ Lg.	11¼″ Bell Dia. 23″ Lg.	7″ Bell Dia. 14″ Lg.
Shipping Wt.	2½ lbs.	3½ lbs.	6 lbs.	6 lbs.	3½ lbs.	7 lbs.	7½ lbs.	8 lbs.	4 lbs.

OMNI-PURPOSE MOUNTING BRACKETS • METAL AND FIBERGLASS CONSTRUCTION

• PROJECTORS



DR Series

HIGH INTELLIGIBILITY • WEATHERPROOF • REFLEX SOUND PATH

Specifications	CJ-46	DR-32	DR-42	DR-54	DR-72	RC-8
Low End Cut-off	115 Hz.	190 Hz.	140 Hz.	115 Hz.	85 Hz.	140 Hz
Dispersion	60° x 120°	95°	85°	75°	65°	360°
Air Column Length	4½′	2½′	3½′	4½′	6½′	4′
Bell Size	23″W, 13″H.	16½″ Dia.	21″ Dia.	26″ Dia.	31″ Dia.	25″ Dia.
Horn Length	17¼″	12½″	16″	19″	28″	13¾″
Shipping Wt.	13½ lbs	10 lbs.	14 lbs.	23 lbs.	27 lbs	22 lbs.

HEAVY DUTY MOUNTING BRACKET • STANDARD 1⅜″-18 THREADS



Top — PD-60(T)



Bottom — PD-30T

• DRIVERS

HIGH EFFICIENCY • LIFETIME GUARANTEE • WIDE FREQUENCY RANGE

Specifications	PD-20	PD-30T	PD-4V	PD-5VH	PD-5VT	PD-60	PD-60T
Power (Watts) Continuous	20	30	30	40	40	60	60
Power (Watts) Equalized	25	40	50	60	60	100	100
Impedance (Ohms)	16	2500, 1300, 666, 333, 167, 89, 45	16	16	2000, 1000, 500, 250, 125, 16	16	2000, 1000, 500, 250, 125, 85, 16
Frequency Hz.	120-7,000	120-14,000	85-7,500	80-12,000	80-12,000	70-12,000	70-12,000
Sound Level (db)	125	126	128	131	131	136	136
Shipping Wt.	2¾ lbs.	4¾ lbs	4 lbs.	5 lbs	7 lbs.	6 lbs	8 lbs

STANDARD 1⅜″-18 THREADS • DOUBLE WEATHER-SEALED • ALNICO V MAGNETS

• COLUMN SPEAKERS



C-60/C-120

HIGH EFFICIENCY • UNIFORM SOUND INTENSITY • WIDE HORIZONTAL DISPERSION

Specifications	C-46	C-60	C-80	C-120
Column Size — Height	28″	42″	45½″	57½″
Width	5¼″	7¾″	8¼″	11½″
Depth	5″	6″	6⅜″	7½″
Speaker Size	4″	6″	6″	8″
Number	6	6	6	6
Power (Watts)	20	40	80	120
Dispersion — Vertical	26°	22°	36°	30°
Dispersion — Horizontal	120°	120°	120°	120°
Impedance (ohms)	16	16	16	16
Frequency Hz.	200-10,000	125-10,000	100-15,000	70-15,000
Sound Level	112 db	113.5 db	121 db	123 db
Weight	8¼ lbs.	18½ lbs.	28 lbs.	34 lbs.

WEATHER RESISTANT • EASY-MOUNT INSTALLATION • OPTIONAL MATCHING XFMR.

© United Technical Publications

HEADPHONES By C. F. CANNON CO.



BRANDES "SUPERIOR"
Matched Tone Headset

A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2 1/8" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjusment. 4 1/2 ft. cotton covered cord.

BS-2—2000 ohms D.C.....Net $3.27

BRANDES "ADMIRAL"
Matched Tone Headset

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C.....Net $3.27
BA-3—3000 ohms D.C.....Net 3.45
BA-5—5000 ohms D.C.....Net 3.99

THE "CHIEF"
Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is 2 1/8". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4 1/2 ft. long.

CC-2—2000 ohms D.C.....Net $3.18
CC-3—3000 ohms D.C.....Net 3.33
CC-5—5000 ohms D.C.....Net 3.84
CC-11—11 ohms D.C.....Net 3.18





CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

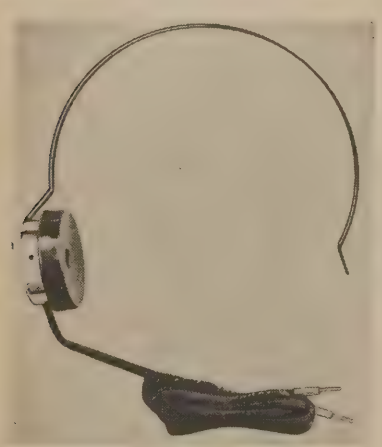
The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2 1/8". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2 .....Net $4.14
AM-25-3 .....Net 4.44
AM-25-5 .....Net 5.10

ALNICO MAGNETIC No. 15

A new, small size, extra sensitive double headset, light in weight. Diameter of diaphragm 1 7/8". Molded cap and case. Steel adjustable headband. 4 1/2 ft. cord.

AM-15-2 .....Net $2.88
AM-15-3 .....Net 3.03



CANNON-BALL "ALNICO"
Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1 7/8". Bakelite case and cans. Alnico magnet, double coils. 4 1/2 ft. cord. Spring steel headband permanently attached.

AM-15-1—1000 ohms D.C.....Net $1.56

THE "MASTER"
Cannon-Ball Headset

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm 2 1/8" diameter. Double coils. Chrome steel magnets. 4 1/2 ft. cotton-covered cord.

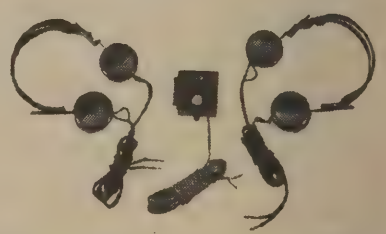
MC-2—2000 ohms D.C.....Net $3.27
MC-3—3000 ohms D.C.....Net 3.45
MC-5—5000 ohms D.C.....Net 3.99

CANNON-BALL "EMPIRE"
Lightweight Headset

A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1 7/8". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4 1/2 ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C.....Net $2.97
EC-3—3000 ohms D.C.....Net 3.12

Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.



CANNON-BALL HEARING AID FOR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any television set and permits listening to phones alone, speaker alone, or both together.

FOR TELEVISION

Kit complete with 15 foot cord and phone volume control.

With 2 headsets.....Net $10.50
With 1 headset.....Net 7.95

MOLDED RUBBER CUSHIONS



Fit standard size headsets. Molded-in air chamber provides maximum wearing comfort.

per pair .....Net $ .66

Net

© United Technical Publications

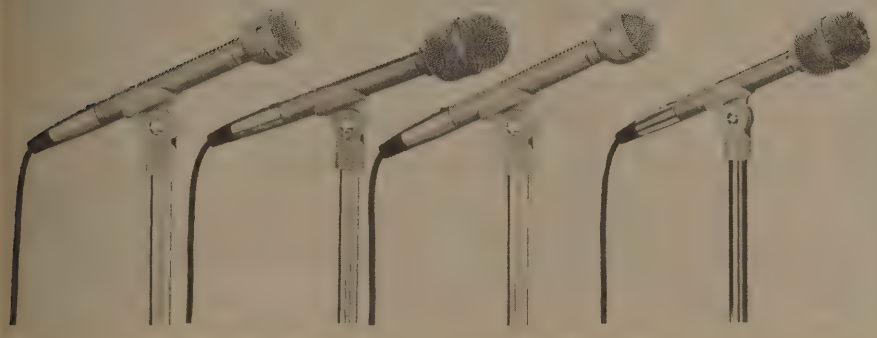
Electro-Voice

Professional Broadcast, P.A. and Recording Microphones

Cardioid Dynamic

Super-Cardioids

RE15 **RE16** **RE10** **RE11**



RE15: Highest quality professional super cardioid "Continuously Variable-D"® (maximum off-axis rejection at 150° from front).† Most uniform polar pattern at all frequencies ever offered in a cardioid microphone. Integral bass compensation switch. Cable and mounting clamp furnished. Response: 80 to 15,000 Hz. Impedance: Lo-Z. Output level: –56 dB. Finish: Fawn beige Micomatte. $169.80

APPLICATIONS: On stand, hand-held, or portable boom use/Fishpoled for dialogue in motion picture recording/Individual instrument (or section) pickup for orchestral recording/In professional public address controls effects of resonance and reverberation.

RE16: Similar to RE15 except has integral blast and pop filter around head. For close-up vocal use on stand or hand-held. Virtually eliminates pickup of breath noises. Strong metal screen prevents damage. Specs same as RE15. $176.70

RE10: Similar in design and construction to RE15, but for applications with slightly less rigid performance tolerances. Response: 80 to 13,000 Hz. Impedance: Lo-Z. Output: –55 dB. $99.60

RE11: Similar to RE10 except with integral blast and pop filter around head. Virtually eliminates breath noises when used for close-up vocals. Strong metal protective screen around filter. Same specifications as RE10. $106.50

†U.S. Patent No. 3,115,207

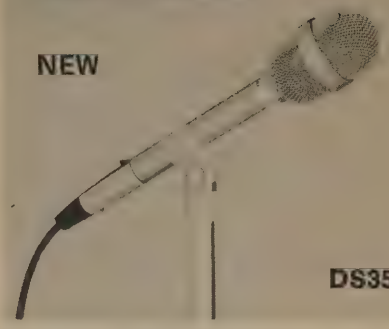
PRICES SHOWN IN THIS FOLDER ARE SUGGESTED RETAIL NET.

Performance Guaranteed

All E-V Professional-line microphones are guaranteed unconditionally against malfunction for two years from date of purchase. Within this period, Electro-Voice will repair or replace, at its option, any E-V Professional microphone exhibiting any malfunction regardless of cause, including accidental abuse. Also see general mike warranty on Page 4.

Single-D Cardioid

NEW



DS35

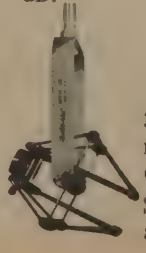
DS35: Newly designed "single-D" cardioid dynamic for exacting performing and recording applications. Emphasizes low frequencies when used close up, sound preferred by many entertainers. "Volumetric" hologram-developed foam diaphragm provides exceptionally wide linear response. Unique new ported air-damped head greatly reduces pickup of shock and cable noise. Highly effective built-in pop filter. Rugged turned steel case, non-reflecting fawn beige Micomatte finish. Cable and mounting clamp furnished. Response: 60 to 17,000 Hz. Lo-Z. Output: –58 dB. $81.00

Wide-range Cardioid



RE20

RE20: Wide-Range Cardioid–Rugged, high quality unit. For exacting studio recording of voice and instruments as well as broadcast and p.a. use. Widest, most uniform response curve of any cardioid dynamic microphone, comparable to high quality condensers. Excellent transient response. Uniform cardioid polar pattern; off-axis response virtually identical to on-axis, maximum rejection. Built-in shock mounting and electrical shielding. Handles extremely high sound input. Stable characteristics. Built-in pop filter, bass tilt-down switch, mounting clamp. Cable furnished. Finished in non-reflecting fawn beige Micomatte. Response: 45 to 18,000 Hz. Impedance: 50, 100, 150 ohms (selectable). Output: –57 dB. $272.40



309: Suspension shock mount for RE20. For boom or stand. $29.70

See Model 302, Page 8, for additional shock protection.

Electro-Voice

Professional Microphones

Omnidirectional Dynamic



635A: Most popular professional quality performer's microphone. Smooth, carefully shaped response yields "flat effect" when used close up. Built-in four-stage pop and breath blast filter. Cable and mounting clamp furnished. Response: 80 to 13,000 Hz. Lo-Z. Output level: –55 dB. Finish: Fawn beige Micomatte. $56.70

APPLICATIONS: Stage performance/Wide dynamic range, freedom from proximity effect, assures consistent results regardless of working distance/No windscreen necessary.

RE50: Noiseless Hand & Stand–For vocals, interviewing, instrumental broadcast, and recording. Extremely low susceptibility to mechanical shock, handling and cord noise, or breath pops due to unique double case design separated by rubber isolation mounting. Non-reflecting fawn beige Micomatte finish. Same ruggedness and electrical characteristics of the 635A. Cable and mounting clamp furnished. Response: 80 to 13,000 Hz. Output: –55 dB. Impedance: Lo-Z. $77.10

RE55: Smooth, peak free wide-range response combined with functional styling makes this the most versatile professional quality omnidirectional dynamic ever offered. Cable and mounting clamp furnished. Response: 40 to 20,000 Hz. Lo-Z. Output level: –55 dB. Finish: Fawn beige Micomatte. $141.30

APPLICATIONS: Recording symphony orchestra/Close instrument miking/Hand held for audience participation and interview use/On-the-spot news coverage.

654A: Slim-trim broadcast dynamic, can be used stand mounted, hand held, or as lavalier. Matches all low impedance inputs. Cable and mounting clamp furnished. Frequency response: 50 to 15,000 Hz. Output level: –57 dB. Non-reflecting gray finish. $67.50

Miniature Headset Microphone



RE51: Unique dynamic microphone allows hands-free announcing. Mike assembly clips on eyeglass frame or headband furnished. Avoids clothing and handling noise; provides clear, unchanging voice pickup and background noise reduction. Transistor amplifier has on/off switch, cough button, battery test lamp, output level adjustment. Battery life virtually as long as shelf life. Response: 80 – 10,000 Hz. Output: –56 dB (max.) Lo-Z. Non-reflecting black finish. $80.40

Studio Monitor Loudspeakers

SENTRY IA: Wall or ceiling mounted system designed specifically for monitor use in recording and broadcast studios. Extremely wide, very flat response. Walnut finished cabinet. Frequency response: 30 to 20,000 Hz. 8 ohms impedance. Permits precise monitoring and use as reference standard. Size: 21½" h., 37" w., 16-3/8" d., 82 lbs. $195.00

SENTRY IIA: Floor model, similar to Sentry IA above. For free standing floor position. Size: 32" x 20" x 13" d. 63 lbs. $195.00

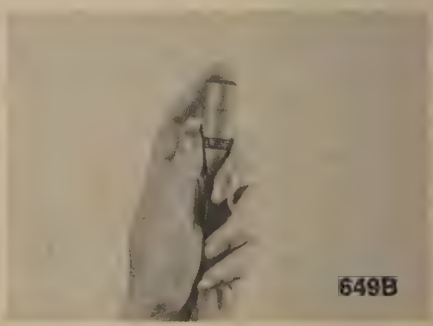


SENTRY IA



SENTRY IIA





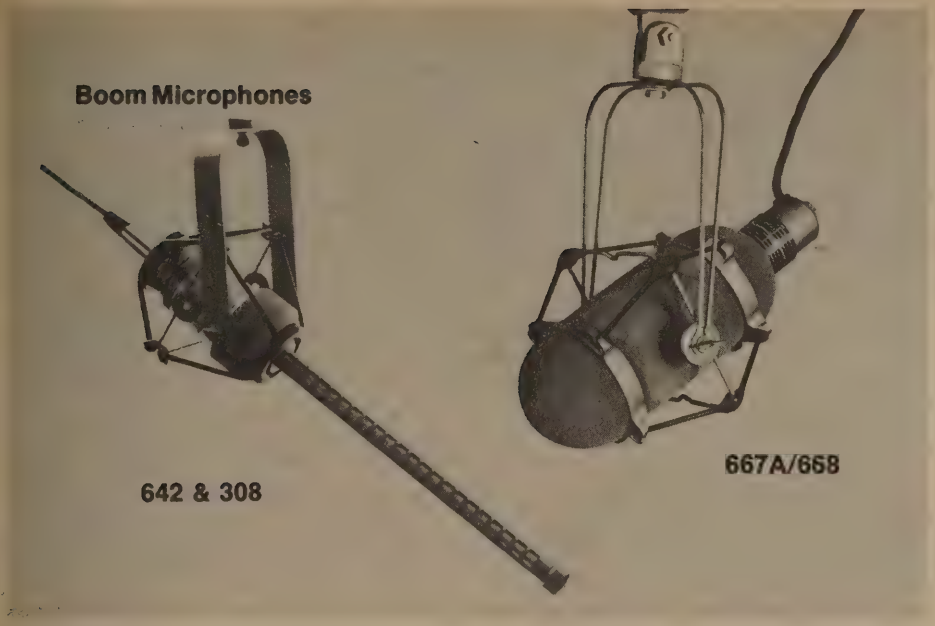
Professional Lavalier Microphones

RE85: Quiet Lavalier–extremely free from friction or shock noise. Internal element suspended in compliant rubber; hard, smooth case finish; specially designed, smooth cable isolated from inner capsule. Extremely flat response in chest-lavalier position: 90 to 10,000 Hz. Output: –61 dB. Omnidirectional. Lo-Z. 30' cable. Finish: Nonreflecting champagne. Length, 2-5/8". Dia., 15/16". Neck cord assembly, tie clasp assembly, belt clip, and zipper pouch furnished. $85.50

649B: Smallest dynamic lavalier only 2¼" l., ¾" dia. Designed for the most demanding professional applications. Response is carefully tailored to compensate for lavalier acoustic conditions so resulting signal perfectly matches signal from other microphones. Response: 70 to 10,000 Hz. Impedance: 150 ohms. Output level: –61 dB. 30' cable. Finish: Nonreflecting gray. With neck cord, belt clip, mounting clamp, and suede pouch. $73.50

APPLICATIONS: Live performances, allows artist greatest freedom of movement/Concealed on person or in set/Consistent "on mike" sound through accurately tailored response.

© United Technical Publications



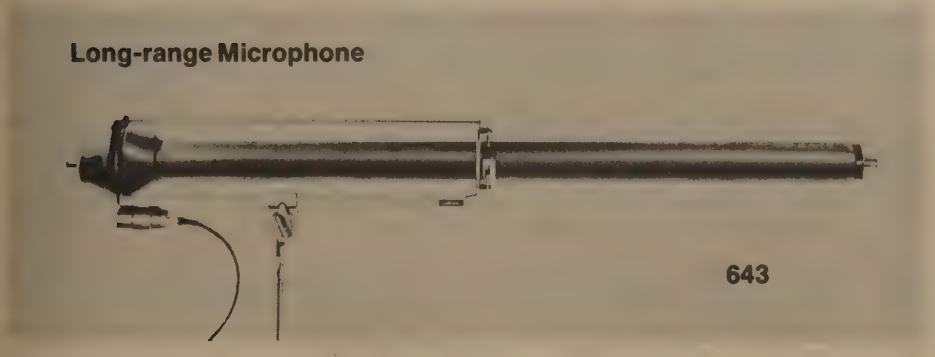
642: Most used professional quality microphone for boom, floor stand, or special mounting where "on mike" sound at extended working distance is required.* Nominal acceptance angle (for speech and vocals) 80°. Two position low-frequency compensation. Response: 40 to 10,000 Hz. Impedance: 50, 150, 250 ohms. Output level: –48 dB. Finish: Nonreflecting gray. Must be used with 308 or 324. $272.40

APPLICATIONS: TV studio booms/Sound track recording/Dialogue and vocals/Multiple footlight mounting for theatrical productions/Educational classroom television.

668: "Continuously Variable-D"® microphone designed for boom and fishpole use for broadcast and motion pictures.† Extremely smooth cardioid pattern for maximum reduction of ambient noise and reverberation. Built-in equalizer provides choice of 36 response variations to tune microphone to environment. Acceptance angle: 150°. Frequency response: 40 to 10,000 Hz. Impedance: 50, 150, and 250 ohms selectable. Output level: –51 dB. Finish: TV gray. $318.00

APPLICATIONS: Boom use in TV and on motion picture location/Fishpoled for dialogue in motion picture recording/Professional public address to control effects of auditorium resonance and reverberation.

667A: 668 with six response variations for less demanding applications. $222.00



643: A highly directional dynamic microphone combining the best characteristics of cardioid and distributed front-opening principle* for more specialized and extended long range pickup. Provides cardioid pickup pattern up to 100 Hz and is highly directional over balance of range. Impedance: 50, 150, and 250 ohms selected by changing internal connector pin. Light weight extruded and cast aluminum case with integral shock mount and removable wind filter. Output: –48 dB. Response: 30 to 10,000 Hz. $1095.00

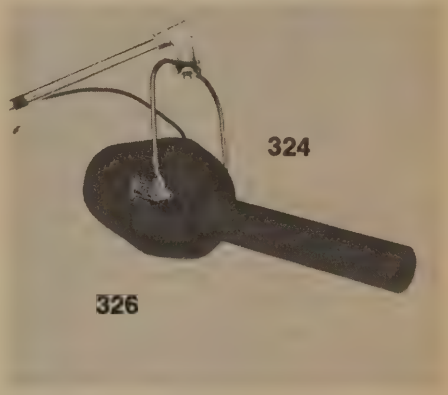
† U.S. Patent No. 3,115,207

* U.S. Patent No. 3,095,084



Boom Mike Accessories

308: Suspension shock mount for 642. $26.70



324: Boom suspension mount for model 642, will accept windscreen. $43.80

326: Acoustifoam™ windscreen blast filter for 642. $32.10

327: Kit includes 324 and 326. $73.80

See Model 302, Page 8, for additional shock protection.



368: Windscreen for 667A & 668 used outdoors. Also fits over 308 or 309 mount. $62.70

Electro-Voice

Microphones for P.A., Tape Recording, Entertainers, Experimenters

Dynamic Cardioid

Unidirectional Line Mike



644: Combination cardioid and distributed front opening* instrument, making it the most directional p.a. microphone available. Better than 2½ times working distance of pressure types with virtually no change in response. Extremely high rejection of noise from sides and rear, reducing reverberation and feedback. Narrow front angle of acceptance for best isolation. Very low response to wind noise and shock. Response is smooth from 40 to 10,000 Hz. Output: –53 dB. Dual Lo-Z and Hi-Z. E-V QC™-4M cable connector permits impedance change without tools by moving a single pin. High pressure die cast case, satin chrome finish. Acceptance angle: 90°. $78.15

* U.S. Patent No. 3,095,084

Lifetime Warranty

All Electro-Voice microphones are guaranteed for the life of the microphone to be free of factory defects in materials and workmanship, and will be repaired or replaced (at our option) at no charge if exhibiting malfunction from this cause. Microphones for warranty repair must be shipped prepaid to Electro-Voice, Sevierville, Tenn., or an authorized service agency, and will be returned prepaid. Warranty does not cover finish or appearance, operation at other than specified ratings, normal wear and tear, or abuse, and will be voided if repair is attempted by other than E-V or its authorized agency.

Variable-D® Cardioids



674: New "back bone" design brings truly professional quality to public address, recording, communications, and other general purpose microphone applications. An exclusive Continuously Variable-D® microphone† which assures uniform symmetrical cardioid pattern at all frequencies, eliminates "proximity effect" (bass boost when used close up). Highest discrimination against feedback and unwanted sound. Exclusive three-position switch offers controlled low-frequency attenuation to overcome rumble and feedback when microphone is used at a distance. Slim design permits full view of person speaking. Rugged high pressure die-cast construction. Dual Lo-Z and Hi-Z. E-V QC™-4M cable connector allows easy change of impedance without tools by moving a single pin. Stud mount with on/off switch. Frequency response: 60 to 15,000 Hz. Output: –57 dB. Satin chrome finish. Cable furnished. $61.35

APPLICATIONS: Public address/Base station communications/Quality tape recording in the home and in schools.

674A: 674 with nonreflecting gray finish. Shipped connected Lo-Z. $61.35
674G: 674 with gold finish. $64.20
674P: 674 wired Hi-Z with phone plug at end of cable. $63.00

676: Similar to 674, without mounting stud and on/off switch. For use with stand mounting clamp (supplied) so microphone can easily be removed and used hand-held during performance. Very uniform polar pattern across audio spectrum. Three position bass tilt selector adjusts low-frequency response to suit environment. Response: 60 to 15,000 Hz. Output: –57 dB. Dual Lo-Z and Hi-Z. New E-V QC™-4M cable connector allows easy change of impedance without tools by moving a single pin. Cable furnished. Satin chrome finish. $61.35
676A: 676 with non-reflecting gray finish, shipped connected Lo-Z. $61.35
676G: 676 with gold finish. $64.20
676P: 676 wired Hi-Z with phone plug at end of cable. $63.00

664: Designed for quality tape recording, communications, and public address applications. Cardioid pattern at all frequencies, with Variable-D® feature†. Permits close talking without "booming" or bass emphasis. Provides better discrimination against unwanted sound. Blast filter minimizes wind effect. Acoustalloy® diaphragm shielded from dust and magnetic particles. Response: 60 to 15,000 Hz. Output: –58 dB. Stud mount with on/off switch. Dual Lo-Z and Hi-Z. E-V QC™-4M cable connector allows easy change of impedance without tools by moving a single pin. Cable furnished. Satin chrome finish. $57.00
664A: 664 with nonreflecting gray finish. Shipped connected Lo-Z. $57.00
664G: 664 with gold finish. $61.20
664P: 664 wired Hi-Z with phone plug at end of cable. $59.10

†U.S. Patent No. 3,115,207

"Single-D" Entertainers' Microphones



670: Deluxe "Single-D" cardioid provides bass boost when used close up. Use on stand or hand held. Lightweight, but rugged, with new anodized Top Brass finish. Resistant to shock noises, damage with hardest use. Built-in superior pop filter. Very high degree of cancellation of sounds from sides and rear of microphone plus extremely smooth and flat response reduce possibility of feedback and allow increased gain from sound system. Unique air-damped head greatly reduces pickup of shock and cable noises. On/off switch. Response: 60 to 14,000 Hz. Output: –58 dB. Hi-Z or Lo-Z selectable. With cable and stand clamp. $45.90
670P: Model 670, wired Hi-Z with phone plug on end of cable. $48.00
670V: Volume Control Microphone–Identical to 670 with volume control instead of on/off switch. Control knob easily operated by thumb while using microphone. Control turns microphone off in lowest position. $50.10
670VP: Model 670V, wired Hi-Z with phone plug at end of cable. $52.20
627A: Improved response and increased output level. Lightweight, rugged construction with built-in pop and dust filter. Response shaped for voice presence. On/off switch, black satin chrome finish. Response: 60 to 13,000 Hz. Output: –58 dB. Specify 627AH (Hi-Z) or 627AL (Lo-Z). With cable and stand clamp. $38.70
627AP: 627A, wired Hi-Z with phone plug at end of cable. $40.20
626: Similar to 627A but for less exacting applications. Cable integral with microphone. Impedance: Dual Hi-Z or Lo-Z (unbalanced to ground), selectable. Response: 70 to 12,000 Hz. Output: –58 dB. Fawn beige Micomatte finish. $31.50
626P: 626, wired Hi-Z with phone plug at end of cable. $33.90
621: Single-D cardioid with very high performance specifications at surprisingly low cost. Emphasizes bass when used close up. Greatly reduced sensitivity at sides and rear for excellent recording and p.a. use in uncontrolled acoustic environment. Use hand held, on its own tripod folding table stand, or with mounting clamp furnished. Ruggedly built, matte satin finish. Integral cable. Response: 150 to 12,000 Hz. Output: –60 dB. Specify 621H (Hi-Z) or 621L (Lo-Z). $19.95

© United Technical Publications



Electro-Voice

Microphones for P.A., Tape Recording, Entertainers, Experimenters

NEW ELECTRET CONDENSER MICROPHONES

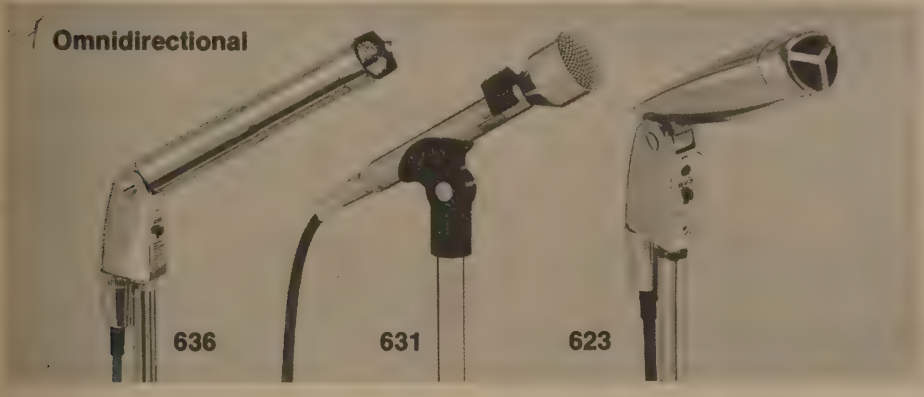
Latest engineering breakthrough. Genuine condenser mikes with superior performance specifications at surprisingly low cost. Generating element permanently charged eliminating costly and troublesome power supply electronics. Ruggedness and long life previously available only in dynamic microphones. Excellent frequency response, transient response, and sensitivity make these units suitable for professional and serious home recording and high quality sound reinforcement.

1751: Cardioid pickup pattern reduces sensitivity from sides and rear. Single-D type emphasizes bass used close up. Rugged aluminum case with permanent anodized beige finish. On/off switch. Low handling or shock noise. Built-in breath filter. Has small internal impedance matching circuit with AA-size battery (not furnished). Response: 60 to 15,000 Hz. Lo-Z balanced to ground. (Because of high output may be used with low, medium, or high impedance inputs.) Output: −43 dB. Separate cable with professional connector and mounting clamp furnished. $75.00

1750: Cardioid, similar to 1751 for less exacting applications. Response: 80 to 13,000 Hz. Output not balanced to ground. Cable integral with microphone. $45.00

1711: Omnidirectional, picks up sound equally from all directions. Wide-range, smooth response for highest quality recording applications. Rugged aluminum case with permanent anodized beige finish. On/off switch. Very low handling or shock noise. Built-in breath filter. FET circuit for impedance conversion uses AA-size battery (not furnished). Response: 60 to 15,000 Hz. Impedance: Lo-Z balanced. (May be used with high, medium, or low impedance inputs.) Output: −50 dB. Separate cable with professional connector and mounting clamp furnished. $59.70

1710: Omnidirectional, similar to 1711 for less exacting applications. Response: 80 to 13,000 Hz. Output not balanced to ground. Cable integral with microphone. $39.75



636: Slim dynamic, exceptionally fine for p.a., recording, and general use. Response: 60 to 13,000 Hz. Output: −58 dB. Pop-proof head and wide pickup range. On/off switch. Satin chrome finish. Dual Lo-Z and Hi-Z. E-V QC™ -4M cable connector allows easy change of impedance by moving a single pin. Cable furnished. $52.20

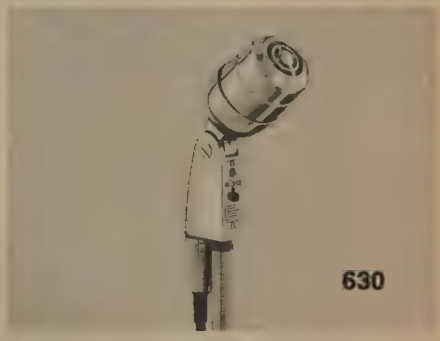
631: High quality hand or stand dynamic is lightweight, rugged, and shockproof. Effective 4-stage filter allows close up use without blasting, pops, or distortion. Silent, magnetic on/off switch with removable actuator button. Satin chrome, one-piece case. Response: 80 to 13,000 Hz. Output: −55 dB. Specify 631H (Hi-Z) or 631L (Lo-Z). Cable furnished. $38.70

631P: 631 wired Hi-Z with phone plug at end of cable. $40.20

623: Ideal for p.a., recording, and general use. Stud-mount with on/off switch and tiltable head. Response: 60 to 12,000 Hz. Output: −56 dB. E-V QC™ -4M cable connector allows easy change of impedance without tools by moving a single pin. Satin chrome finish. Acoustalloy® diaphragm. Cable furnished. $38.70

PRICES SHOWN IN THIS FOLDER ARE SUGGESTED RETAIL NET.

Omnidirectional Microphones



630: Famous for quality at low cost. Unaffected by heat or humidity. Acoustalloy® diaphragm and tiltable head. Dual Lo-Z or Hi-Z. E-V QC™ -4M cable connector allows easy change of impedance by moving a single pin. Response: 60 to 11,000 Hz. Output: −55 dB. On/off switch. Satin chrome finish. Cable furnished. $37.20



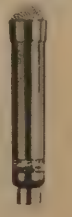
611: Traditional styling, fine performance. Response: 50 to 9,000 Hz. Output level: −55 dB. Omnidirectional. On/off switch, satin chrome finish. Dual Lo-Z and Hi-Z. Cable furnished. $30.30



641: Modern dynamic. Integral on/off switch. Wide-range response: 70 to 10,000 Hz. Output level: −57 dB. With cable. Case is chrome plated die-cast zinc and gray high impact plastic. Specify 641H (Hi-Z) or 641L (Lo-Z). $28.20



634A: Similar to 641 less stud and on/off switch. Fits any stand, boom, or gooseneck with complete cable concealment. Ideal for electronic teaching aids, amateur and commercial communications, and paging systems. 6' integral cable. Specify 634AH (Hi-Z) or 634AL (Lo-Z). $21.30



648: Extremely versatile paging, intercom, or talk-back microphone. Omnidirectional with Acoustalloy® diaphragm. Non-reflecting gray. Does not include cable. Use on gooseneck or riser. Response: 50 to 10,000 Hz. Output: −58 dB. Specify 648H (Hi-Z) or 648L (Lo-Z). $40.20

Electro-Voice General Purpose and Special Microphones

For those "On-The-Go"
Microphones in Handy Carrying Case



Sturdy plastic case holds single microphone and cable. Microphone nests in contoured foam plastic insert for complete protection from bumps and scrapes.

626PC: One 626 (Hi-Z) with phone plug in carrying case $36.00
627APC: One 627A (Hi-Z) with phone plug in carrying case $42.60
631PC: One 631 (Hi-Z) with phone plug in carrying case $42.60
664PC: One 664 (wired Hi-Z) with phone plug in carrying case $62.40
670PC: One 670 (wired Hi-Z) with phone plug in carrying case $50.10
670VPC: One 670V (wired Hi-Z) with phone plug in carrying case $54.30
674PC: One 674 (wired Hi-Z) with phone plug in carrying case $66.00
676PC: One 676 (wired Hi-Z) with phone plug in carrying case $66.00



456: Single case only with foam insert. Specify for model 626, 627A, 631, 664, 670, 670V, 674, or 676. ..... $5.40

457: Deluxe double music instrument type case only with foam insert. Holds two microphones and cables. Specify for 626, 627A, 631, 664, 670, 670V, 674, or 676. ..... $15.00

Miniature Headset Microphone



651: Unique dynamic microphone which allows hands-free and "walk-around" use for lecturing, sports announcing, paging, etc. Mike assembly clips on eyeglass frame or headband furnished. Avoids clothing and handling noise; is always same distance from mouth for clear, unchanging voice pick-up; provides background noise reduction. Transistor amplifier has on/off switch, cough button, battery test lamp. Uses two AA cells (not furnished). Battery life virtually as long as shelf life. Response: 80 to 8,000 Hz. Output: −56 dB. Dual Hi-Z and Lo-Z, selectable. Nonreflecting black finish. $60.00

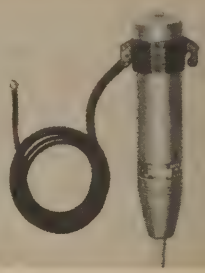
Two-way Radio Headset Mike



651C: Similar to 651, especially designed for two-way radio and amateur communications use. Response shaped for maximum intelligibility. Small preamplifier box may be worn on belt or mounted on desk stand furnished, has push-to-talk relay button, cable connector, on/off and battery test switch, and battery condition lamp. May be operated VOX. (Takes two AA batteries, not furnished.) Response: 200 to 4500 Hz. Mike Output: −76 dB, preamp output 2½ volts max. (adjustable). Impedance adjustable to match standard inputs. $69.00

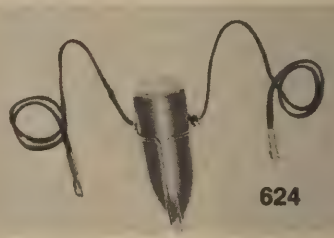
Lavalier Microphones

647A: Smallest high quality lavalier in p.a. field delivers big microphone performance. Extremely rugged construction assures long life. Frequency response: 70 to 10,000 Hz. Output: −60 dB. Weighs only 2 oz. Nonreflecting gray finish. Specify 647AH (Hi-Z) or 647AL (Lo-Z). $57.90



624: Most economical dynamic lavalier on the market. For chest or hand use. Response: 100 to 7,000 Hz. Output: −56 dB. Wire mesh head acoustically treated for wind and moisture protection. Nonreflecting gray finish. Specify 624H (Hi-Z) or 624L unbalanced (Lo-Z). $31.50

924: Crystal lavalier. Same in appearance as 624, except has chrome finish. Response: 60 to 8,000 Hz. Output: −60 dB. Hi-Z. $16.80





Pilot's Miniature Headset Microphone

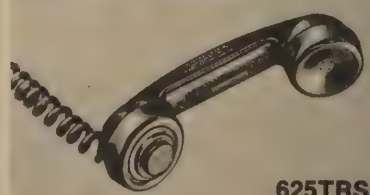
967M: Transistorized dynamic microphone for hands-free private aircraft communications. Clips on eyeglass frames or headband furnished. Clear, unchanging voice pickup; background noise reduction. Dynamic element is rugged, provides audio quality superior to magnetics. Transistor amplifier built into PJ-068 type plug matches Lo-Z carbon inputs. Response: 300 to 4300 Hz. Output level: −40 dB (¼" from tip of tube). Nonreflecting black finish. FAA approved. $73.20

967ME: Same as model 967M with addition of earphone for talkback in aircraft not having a cabin speaker. $84.30



367: Push-to-talk switch for 967M and 967ME, mounts on steering post. Energizes microphone and relay circuits. $15.00

Dynamic Handsets



625TRSKK: Transistorized noise cancelling handset. Phenolic case holds Lo-Z microphone and 150 ohm magnetic receiver. FAA approved. Response: 100 to 5,000 Hz. Output: −48 dB (carbon equiv.). Five-conductor coiled cord. $90.90

625SKK: Same as 625TRSKK but without transistor amplifier. Output: −55 dB. $63.00

© United Technical Publications

Hand-Held Mikes

Transistorized Aircraft



602FTR: Transistorized noise cancelling dynamic mobile with built-in transistor amplifier. Provides level for direct replacement of carbon units. Maximum output: –43 dB with 250 ohm load and 27 V supply. Output adjustable from exterior. Response: 100 to 5,000 Hz. Press-to-talk switch and coiled cord with phone plug at terminal end. Lo-Z. FAA approved. $48.30



603TR: Transistorized noise cancelling mobile providing all dynamic advantages for direct replacement of carbon units. Built-in transistor amplifier matches level of carbon circuits. Output adjustable with internal potentiometer up to –44 dB. FAA approved for aircraft applications. Response: 200 to 4,000 Hz. Lo-Z. Press-to-talk switch and coiled cord. Magnetic hanger bracket furnished. $94.50



602TR: Similar to 603TR but different case design. Uses conventional hanger bracket. Fixed output level: –48 dB (carbon equiv.) Response: 100 to 5,000 Hz. FAA approved. $68.70

Carbon Units



205STCKK: Noise cancelling single button carbon for aircraft and emergency communications. FAA approved. Blastproof, waterproof, and shock resistant. Output at ¼": –50 dB. Lo-Z. Black phenolic case. Press-to-talk switch and coiled cord. $36.90

205STCKKP: Same as above with PJ-068 phone plug. $40.50

210E: Similar to 600E but single-button carbon. Output: –50 dB. Lo-Z. press-to-talk switch closes microphone and relay circuit. Coiled cord. $25.80

Dynamic Units

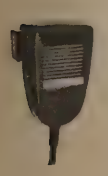


600E: Dynamic mobile of rugged construction. Lo-Z has "open circuit" wiring for multiple paging installation. Hi-Z provides "straight-through" circuit for VOX operations. Output level: –55 dB. Response: 100 to 7,000 Hz, matched to high intelligibility requirements. Gray. With hang-up bracket. Specify 600EH (Hi-Z) or 600EL (Lo-Z) $28.80



602F: Similar to 602FTR, less transistor amplifier. For circuits designed for dynamic microphones. Output: –60 dB. Specify 602FH (Hi-Z) or 602FL (Lo-Z). $41.70

Ceramic Units



714: Ceramic hand-held omni unit for paging, ham radio, and CB. Cycolac case for long life and protection from shock. High impedance output: –55 dB. Response tailored for high intelligibility: 100 to 7,000 Hz. DPDT switch. Coiled cord. Bracket included. $12.00

717: Similar to 714, except cardioid pickup. Aperture on either side of diaphragm provides attenuation of sound arriving from rear and sides. Output: –55 dB. Response: 100 to 7,000 Hz. $14.10

Electro-Voice

Communications and Paging Microphones



Dynamic Transistorized Compressor

619TR: Base-station microphone has transistor amplifier and speech compressor. Provides high value of average modulation (P.E.P.). Use with any impedance or input level. Controls for level and degree of compression. Rugged die-cast stand in non-reflecting gray with chrome plated die-cast head. Grip-to-talk switch in stand riser has locking "on" position, compression meter in base. Switch operates mike and relay. Response: 150 to 10,000 Hz. Output (at compression threshold): Hi-Z –42 dB; 3000 ohm –44 dB; 150 ohm –58 dB; (Maximum output: –40 dB). Coiled cord cable extends to 5'. Size: 4½" w., 9¾" h., 4¾" d. Net weight: 2 lbs. $48.60

Base Station

619: Similar to 619TR less compressor and amplifier. For base station paging and two-way. Press-to-talk switch in base movable to upper stand for grip-to-talk use. Switch allows relay operation has locking "on" position. Response: 70 to 10,000 Hz. Output: –57 dB. Specify 619H (Hi-Z) or 619L (Lo-Z). $34.20

719: Similar to 619 with ceramic element. Response 70 to 7,000 Hz. Output: –57 dB. $19.20

729: Inexpensive ceramic cardioid reduces random noise. For p.a., paging, home recording, and general communications. Tailored for single sideband. Output: –60 dB. Response: 60 to 8,000 Hz. Hi-Z. 8½' cable. Table stand and floor stand adapter supplied. $17.40

729SR: 729 with relay switch. $18.90

727: Omnidirectional, similar in appearance to 729. Withstands extremes of temperature and humidity. Hi-Z. Response: 60 to 8,000 Hz. Output: –55 dB. $14.55

727SR: 727 with relay switch. $15.75

Noise-cancelling Base Station



607: Differential dynamic is close talking, noise cancelling. Accepts sounds of close origin (¼") and rejects sound of distant origin. For use in areas with exceptionally high background noise levels. Response: 300 to 3,800 Hz. Output at ¼": –54 dB. Acoustalloy® diaphragm. Stud mount with built-in connector. Chrome finish. Specify 607H (Hi-Z) or 607L (Lo-Z). Cable furnished. $37.20

620: Noise cancelling base station microphone, similar to 607 built into rugged die-cast stand. Push-to-talk switch in base may easily be moved to riser for grip-to-talk operation. Switch shorts microphone in "off" position and provides for relay operation. Nonreflecting gray stand, chrome finished Cycolac head. Specify 620H (Hi-Z) or 620L (Lo-Z). With integral cable. $45.00

Electro-Voice

Microphone Accessories

and Miscellaneous

Crystal Microphones



920: Omnidirectional pickup. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Hi-Z. AC-DC insulated (case not grounded). Satin chrome finish. Frequency response: 60 to 10,000 Hz. Output: −50 dB. Excellent for group or conference applications or use where wide angle pickup is desired. $19.20

805: Contact mike. For guitar, banjo, other stringed instruments. Hi-Z. Sealed crystal. Chrome finish. 15' cable. $14.55

Low-cost Ceramic Mikes



721: Inexpensive omnidirectional ceramic features high output level and light weight for recording, experimenting, and general use. High impact gray plastic case. May be used handheld or with integral fold-out stand. Response: 100 to 5,000 Hz. Output: −52 dB. Hi-Z. 5' cable included. $4.65

715: Omnidirectional. 60 to 7,000 Hz response. Output: −55 dB. Hi-Z. 5' cable. Nonreflecting gray finish. Rugged, lightweight. AC-DC insulated. With 5/8"-27 adapter. $10.50

Electro-Voice®

A GULTON *Subsidiary*

Electrical Accessories



381: Switch-connector and cable. SPST switch built into professional connector mates with all E-V Professional hand-held microphones, also 670, 670V, 1711, 1751. Provides switch right at mike for user control. 18' cable. Replaces regular cable supplied with mike. $16.50

380: Attenuator. For use in mike line, attenuates signal 10 dB, does not affect response. Prevents overloading of electronics due to extremely high level inputs. Mates with E-V Professional mike connectors. $16.80

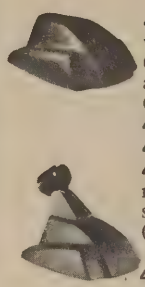
502B: Transformer. Matches Lo-Z microphones to Hi-Z inputs. Use in series with mike line. Broadcast quality—shielded against hum, response 30 to 20,000 Hz. $11.25



513: Filter for use with low impedance microphones has switch to match 50, 150, or 250 ohms. When used in line between microphone and preamp, sharply cuts off frequencies below 100 Hz to reject unwanted noise, reduce feedback. Terminals provided for cable connections. $68.10



Desk Stands



418: Desk stand for microphones with small type studs such as 611, 623, 630, 641, 636, 674, and new style (after early 1968) 644 and 664. $9.30

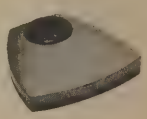
418S: 418 with switch. $12.90

418G: 418 in gold finish. $11.55

419: Desk stand for use with microphones having large type studs such as 665 and older style (before early 1968) 644 and 664. $9.30

420: Die-cast stand for use with 666, 654A, 655C, 670, 670V, 676, RE50 or other 1" to 1-1/8" mikes without tools. $14.10

420G: Same as 420 except gold finish. $18.60



421: Small size. Interchangeable rubber shock mounts to accept ¾" or 1" stand clamps. $12.00

422: Similar to 421 but larger to accommodate heavier microphones. $12.00

423A: 5-1/8" dia. base with 5" riser. 5/8"-27 thread. Rests on rubber base buttons. Gray. $4.50

428: 5-1/8" round base with grip-to-talk switch in riser. 7" high. Lever type DPDT switch. Closes or opens instantly or locks in "talk" position. Standard 5/8"-27 thread. Gray. $21.30



Acoustifoam™ Windscreens



Effective, specially formulated cellular material is transparent to normal sounds. but stops sudden air blasts as caused by wind, movement of microphone, and voice "p" and "t" pops. Unaffected by temperature extremes, water resistant, protects against mechanical shock and pickup of dust, magnetic particles.

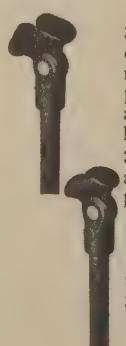
Windscreen Model	For Microphones Models	Price
314[a]	RE10, RE15	9.00
335A	630, 641, 634A	9.00
337	626, 627A	5.25
355	RE55, 654A, 623, 636	8.10
376	674, 676	10.20

[a] Zippered for easy installation





Stand-mounting Clamps



301: New design for 1" to 1-1/8" diameter microphones, 5/8"-27 mounting thread. Holds microphone firmly for stand use, but allows easy, quiet snap-out for hand-held use. Black. $4.80

301A: Same as 301 except gray as used on professional microphones. $4.80

312: New design for ¾" dia. microphones. Holds microphone firmly, yet allows easy snap-in, snap-out use. Black. $4.20

312A: Same as 312 except gray. $4.20

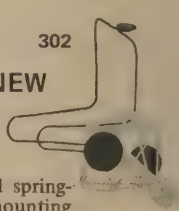
310: Clamp for ¾" diameter microphones, 5/8"-27 mounting thread. Holds mike firmly, may be slipped in and out for hand-held use. Black. $4.20

310A: Same as above except gray, as furnished with professional microphones. $4.20

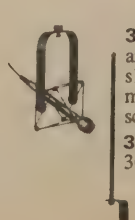


302

NEW



Suspension Shock Mounts



307: Suspension mount adapts any microphone with ¾" dia. shank to boom or shock-mounted use. Takes 314 windscreen. $22.20

306: 13-7/16" extension for 307, 308, and 309. $9.00

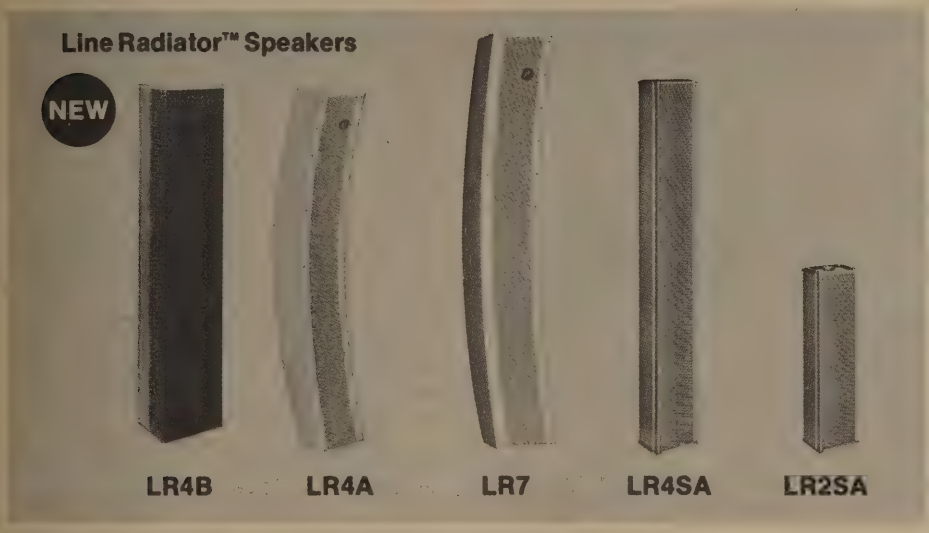
302: Specially designed spring-wire bail with lead mounting knobs which replaces regular bail on 307. (May also be used with 308 or 309). Increases shock isolation as knobs add mass to lighter mikes and bail absorbs vibration. $16.50

© United Technical Publications

Electro-Voice

Professional Sound Reinforcement

Loudspeaker Systems



LR4B: An even further engineering advance allowing the famous E-V curved Line Radiator to be improved in control of dispersion with reduced size and easier mounting ability. In the LR4B, the curved Radiator is actually built in a straight configuration by mounting 5" x 7" cone speakers in a "multi-plane" front surface, each speaker at a different, carefully engineered angle. New ST350A sectoral tweeter provides smooth, extended high-frequency response. Integral electrical filter reduces effective length of the radiator with increasingly higher frequencies providing same control of dispersion at all frequencies. Directional control greatly reduces feedback and unwanted reverberation. Response: 90 to 15,000 Hz. Dispersion: 60° vertical, 120° horizontal. 90 watts program. Impedance: 8 ohms. Sound Pressure Level: 113½ dB†. 48" h., 7½" w., 9¾" d. 40 lbs. Completely weatherproof wood enclosure with utility black finish. $150.00

LR4A: Curved design[a] to overcome unwanted high frequency dispersion at ends, eliminates echo and feedback. Uses nine 3" x 5" and three 3½" cone speakers. Dispersion: 160° horizontal, 60° vertical. Response: 200 to 10,000 Hz. 25 watts program. Impedance: 8 ohms. Sound Pressure Level: 112 dB†. 48" h., 7" w., 13" d. Mesa tan wood enclosure. 26 lbs. $147.90

LR7: Curved Line Radiator. Uses nine 5" x 7" speakers and two T35 vhf drivers for frequency range of 200 to 17,000 Hz. Coverage: horizontal 160°, vertical 60°. 50 watts. Impedance, 8 ohms. Sound Pressure Level: 117 dB†. Nonresonant, curved[b] wood enclosure finished in Mesa Tan. 60" h., 11" w., 14" d. 59 lbs. $208.80

LR4SA: Straight Line Radiator. Weatherproofed for outdoor or indoor installation. Extruded aluminum case is finished in Faun metallic. Electrical filters remove end speakers from circuit as frequencies increase, eliminating high frequency lobes. Response: 200 to 10,000 Hz. Impedance: 8 ohms. 40 watts program. Dispersion: 30° vertical, 160° horizontal. Sound Pressure Level: 116 db†. 48-3/8" l., 6-5/8" w., 4-7/8" d. 25 lbs. $115.50

LR4SAT: With externally switchable 25/70.7 Volt line transformer—4 taps. $126.00

LR2SA: Short LR4SA. Greater vertical dispersion (45°). Response: 200 to 10,000 Hz. Impedance: 8 ohms. 20 watts program. 24½" l., 6-5/8" w., 4-7/8" d. 15 lbs. $67.50

LR2SAT: With externally switchable 25/70.7 Volt line transformer—4 taps. $81.00

SENTRY IA: Wall or ceiling mounted system designed specifically for monitor use in recording and broadcast studios. Extremely wide, very flat response. Walnut finished cabinet. Frequency response: 30 to 20,000 Hz. 8 ohms impedance. Power handling capacity: 20 watts. Permits precise monitoring and use as reference standard. Size: 21½" h., 37" w., 16-3/8" d. 82 lbs. $195.00

SENTRY IIA: Floor model, similar to Sentry IA above. For free standing floor position. Size: 32" x 20" x 13" d. 63 lbs. $195.00

ALL PRICES IN THIS FOLDER ARE SUGGESTED RETAIL NET.

[a] U.S. Patent No. 3,125,181

[b] U.S. Patent No. 2,856,467

† Measured at 4' on axis with full rated power.



High Power-Capacity Speaker System for Studio & Broadcast Monitoring and Heavy-Duty Sound

SENTRY IV: Extraordinary new professional sound reinforcement and monitor loudspeaker. Already preferred in leading studios. Three-way, all horn-loaded system offers absolute minimum distortion over wide frequency range, unequalled efficiency and uniformity, high power handling capacity, uniform and wide dispersion. Midrange and tweeter horns represent first significant new sectoral design in 25 years. Vertical dispersion 60°, and horizontal dispersion 120° over virtually entire range eliminate "hot" or "dead" spots. Folded horn woofer with two entirely new 12" cone drivers provides almost linear response down to 50 Hz. Crossover frequencies: 400 and 3500 Hz. High-frequency components may be operated with separate amplifier. Heavy, well braced wood enclosure, utility black. 4-position high-frequency rolloff switch allows higher power handling capacity in excess of 125 watts RMS with attenuated highs. Response: 50 to 18,000 Hz. 50 watts RMS at full range. Sound Pressure Level: 117 dB†. Impedance: 8 ohms. 50¾" h., 27¾" w., 20-5/8" d. 148 lbs. $495.00

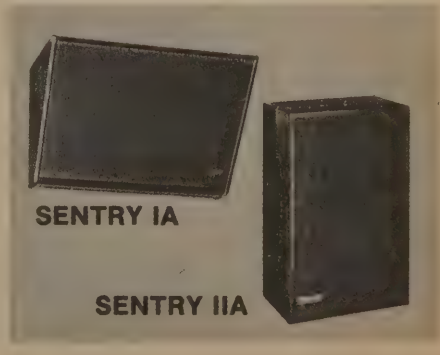
LFSA: Low-frequency sub assembly only from Sentry IV. $277.50

HFSA: High-frequency sub assembly only from Sentry IV. Includes midrange and tweeter sectoral horns. $277.50

SENTRY IV Road Kit: 4 heavy duty furniture casters and mounting hardware. $26.70

SENTRY IV Protection Kit: Trunk corners, furniture glides, and 2 special trunk handles. $11.25

SENTRY IV Tweeter Protector: An electronic sensing device which protects tweeter from potentially damaging input levels. $19.80

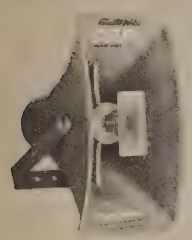


Electro-Voice

Sound Reinforcement

Horns and Drivers

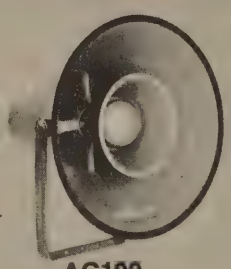
CDP® Horns



848A



FC100



AC100

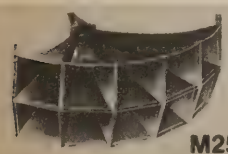
Exclusive E-V Compound Horns[b] permit widest range at lowest distortion, plus complete directional control of both highs and lows. Best wide-angle coverage with exclusive dual diffraction horns means better sound through entire coverage area. Natural voice and music reproduction results in higher intelligibility without annoying peaks.

848A: Combines FC100 Horn and 1828C Driver for finest wide-angle sound, low distortion, and highest quality of any projector. Frequency response: 150 to 10,000 Hz. Impedance: 8 ohms. Dispersion: 90° x 120°. Power handling capacity: 30 watts. Sound Pressure Level: 120 dB†. 20½" h., 10½" w., 20" d. $60.75

FC100: Provides two diffraction horns for uniform wide-angle coverage. Flexible coverage control by individual adjustment of each horn. Use any E-V convertible driver. Low frequency horn cutoff: 100 Hz, taper: 100 Hz. Air column length: 58", sound distribution 90° x 120°, high frequency sound distribution: 90° x 120°. Crossover: 1000 Hz. 20½" h., 10½" w., 20" d. (less driver). $37.80

AC100: Concentrating version of CDP ®. Uses round horns for most concentrated coverage. Use with any E-V convertible driver. Low frequency horn cutoff: 100 Hz, taper: 100 Hz. Air column length: 56", sound distribution, 80°. High frequency sound distribution: 30°. Crossover: 1,000 Hz. 21" dia., 21" d. (less driver). $67.50

[b] U.S. Patent No. 2,856,467



M253

Multicell

M253: Multicellular horn (less driver) weatherproof for outdoor and indoor use. Dispersion uniform at all frequencies (60° vertical, 120° horizontal). Two rows of five steel cells. Accepts any E-V driver. Low frequency cutoff, 300 Hz. Mounting hardware supplied. Driver-throat built in. 17½" h., 30½" w., 36½" d. 26 lbs. $202.50

Reentrant Horns



FR150



AR150



HC400



AR400

FR150: Medium-angle, low-cost rectangular horn provides good coverage. Fiberglass horn has Mesa Tan color molded in. Adjustable mounting angle. Can be stacked for multiple speaker applications; ideal for car-top installation. Low frequency cutoff: 150 Hz, taper 150 Hz. Air column length, 45". Sound distribution, 70° x 100°. 20½" x 10½" x 21" d. (less driver). $37.80

AR150: Round concentrating horn for maximum penetration. E-V ring reflector plus new exponential design contributes to wide range. High intelligibility and remarkably natural voice and music quality. High efficiency design. Low frequency horn cutoff: 150 Hz, taper 150 Hz. Air column length, 41". Sound distribution, 85°. 21" dia. x 17" d. (less driver). $31.50

HC400: Wide-angle round reentrant horn. As used in 844A. Use with any E-V driver. High articulation. Rugged diecast body. Weatherproof. Nominal dispersion 90°. Low frequency cutoff 250 Hz. Taper 250 Hz. Air column length 16". Mesa tan baked enamel finish. 10" dia., 5¼" d. $11.70

AR400: Rugged reentrant horn designed as siren horn but versatile for high-level public address. Excellent response and dispersion from small horn. Spun aluminum and zinc die-cast. Thermal black (can be painted over). Low-frequency cutoff: 400 Hz. Dispersion: 110°. 8½" dia., 6-1/8" d. (less driver). $19.50

AR500: Similar to AR400, with low-frequency cutoff at 500 Hz. 7-3/8" dia., 3-5/8" d. (less driver). $17.40

Versatile Convertible Drivers



	1828R*	1828C	1828T	1829	1829T	1823*
Program Power Capacity—Watts	30	30	30	60	60	110
Frequency Response—Hz	150-10,000	150-10,000	150-10,000	140-11,000	140-11,000	140-8,000
Sound Pressure Level† with FC100	——	120 dB	120 dB	127 dB	127 dB	——
with AR150	127 dB	127 dB	127 dB	133 dB	133 dB	133 dB
Voice Coil Impedance—ohms	8	8	8	16	16	8
Transformer Impedance—ohms	——	——	167,333,667 1337	——	83,167 333,667	——
Transformer Power Taps-watts	——	——	30, 15, 8, 4	——	60, 30, 15, 8	——
Dimensions (overall)	4" dia. 2¾" d.	4" dia. 3¼" d.	5"h 4"w 5¼" d.	6" dia. 4-1/16"d.	6" dia. 6-3/8"d.	4¼"dia. 3-7/16"d.
Price	$23.40	$23.40	$34.50	$41.70	$51.00	$40.50

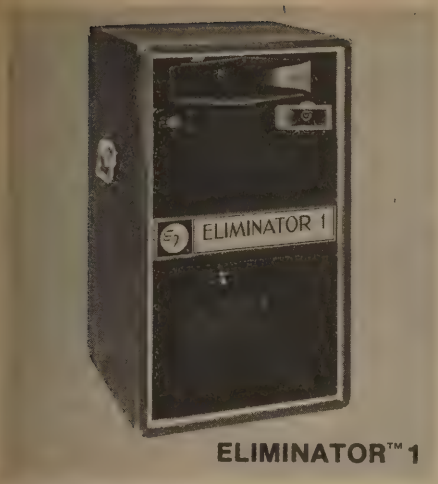
*Reentrant style only

† Measured at 4' on axis with full rated power.

E-V P.A. DRIVERS offer smooth, peak-free response with maximum efficiency for greatest possible long term economy. Reentrant driver model 1828R will produce maximum intelligibility with E-V AR150, FR150, and HC400. Convertible Drivers may be used with Reentrant Horns but are especially effective with the exclusive Electro-Voice Compound Diffraction Projectors (CDP ®), FC100, and AC100. Model 1823 is a heavy-duty driver designed for siren applications with AR400 or AR500, but can be used with any E-V reentrant horn; Faston terminals. For use in constant voltage systems, order 1828T or 1829T. All drivers have 1-3/8"–18 threads for attaching horn.

E-V Diaphragm replacement kits are available for all Electro-Voice public address drivers.

© United Technical Publications



ELIMINATOR™ 1

ELIMINATOR 1: A three-way, full-range loudspeaker system for extremely high audio level, high quality sound reinforcement, playback, and music instrument amplification. SRO/15, 15" loudspeaker in folded horn cabinet. 8HD midrange Diffraction Horn and driver. Two special vhf drivers and horns, level controls for vhf and midrange drivers. Rugged enclosure finished in black vinyl with metal corners. Response: 55 to 15,000 Hz. 100 watts RMS. Dispersion: 100°. Sound Pressure Level: 122 dB†, Impedance: 8–16 ohms. 37½" h., 22½" w., 23-1/8" d. 118 lbs. $490.00

ELIMINATOR 2: For even higher midrange power-handling capacity and sound pressure output. Ideal for Acid Rock groups, etc. Same cabinet as Eliminator 1. Heavier midrange driver, without vhf speakers. Response: 55–10,000 Hz. 100 watts RMS. Sound Pressure Level: 124 dB†. 112 lbs. $385.00



SUPERCASTER™

SUPERCASTER: For instrument amplification or p.a. outdoors or in. Heavy duty 12" speaker. Same case as Musicaster, with black and chrome finish. Heavy chrome handle and positioning knobs for carrying or mounting on heavy-duty stand. Response: 80–8,000 Hz. 80 watts RMS. Sound Pressure Level: 115 dB†. Impedance: 8 ohms. 21½" h., 21½" w., 8½" d. 30 lbs. $127.50

Electro-Voice®

Public Address Loudspeakers

Music Instrument/P.A. Speakers
Paging Projectors

Paging Speakers



30-watt	30-watt	30-watt	25 watt	12-watt
PA30AT	PA30RT	844A	847A	PA12 & TR12

PA30AT-7: 30-watt projector with integral 70.7 V line transformer. Externally switchable line power taps at 30, 15, 8, 4 and 2 watts. Rugged rectangular Implex horn. Universal swivel bracket permits angling or rotating without demounting. Smooth response for voice or music: 250 to 14,000 Hz. Dispersion: 120° x 90°. EIA sensitivity rating: 60 dB. Sound pressure level: 127 dB†. 11" h., 6½" w., 8½" d. $34.50

PA30AT-2: Same as above with 25-volt transformer. $34.50

PA30A: Same as PA30AT but no line transformer. Impedance: 8 ohms. $25.50

PA30A-45: 45-ohm voice coil for intercom systems. $27.00

PA30RT-7: 30-watt reentrant projector with round spun-aluminum bell. Integral 70.7-V transformer, switchable power taps at 30, 15, 8, 4 and 2 watts. Resistant to chemical atmospheres and weather extremes. Response: 250–14,000 Hz. Impedance: 8 ohms. Dispersion: 105°. EIA sensitivity rating: 60 dB. Sound pressure level: 127 dB†. 11" h., 9¾" d., 10" dia. $34.80

PA30RT-2: Same as above with 25 volt transformer. $34.80

PA30R: Same as PA30RT but no line transformer. Impedance: 8 ohms. 10" high. $27.00

PA30R-45: Has 45-ohm voice coil. $27.00

844A: Medium-angle round projector. Smooth response with better lows to provide natural paging without feedback. Handles 30 watts program. Rugged die-cast horn, field replaceable voice coil. Frequency response: 250–13,000 Hz. Impedance: 8 ohms. Dispersion: 90°. EIA sensitivity rating: 54 dB. Sound pressure level: 123 dB†. 9-7/8" dia., 7-7/8" d. $28.80

847A: CDP ® wide angle speaker provides high articulation over uniform 120° x 90° area. Uses TWO diffraction horns. Power handling capacity: 25 watts. Smooth, peak-free response: 250–10,000 Hz. Sound pressure level: 114 dB†. Impedance: 8 ohms. Fiberglass Mesa Tan horn. 11¾" l., 7¾" w., 10¼" d. $42.30

PA12: High performance, inexpensive 12-watt RMS paging speaker. Outstanding efficiency allows reduced amplifier power. Excellent response and dispersion due to computer-calculated horn flare. High impact-strength Implex horn, rugged Kapton voice coil, and phenolic diaphragm fully moisture and fungus proof. Molded-in Mesa tan color. Outstanding intelligibility and articulation with superior music reproduction. Single wing-nut adjustment base may be removed for installation. Response: 325–14,000 Hz. Dispersion: 130°. Sound pressure level: 119 dB†. 7½" dia., 7-1/8" d. $17.40

PA12-45: NEW Same as PA12 with 45-ohm voice coil for intercom installations. $18.06

TR12-7: 70.7-volt line transformer for PA12. Mounts on bracket at rear of horn. Vacuum-varnished for full protection from weather, moisture, and fungus. Clear formed-acetate cover will not discolor, snaps on and off. Solderless push-clips for tap selection. Wide response, low loss. Power taps at 12, 6, 3, 1.5, and 0.75 watts. Secondary impedance: 8 ohms. $4.80

TR12-2: Same as above except 25 volts. $4.80



PA12F

PA12F: Flush-mounting version of PA12. Handles 12 watts RMS. Fits between ceiling joists or wall studs for built-in installation. Mounts to front or rear of surface. Cast aluminum housing, Mesa tan finish. Response: 500–14,000 Hz. Dispersion: 120°. Sound pressure level: 119 dB†. Overall dimensions: 6" dia. 3-9/16" d. $21.00

† Measured at 4' on axis with full rated power.

ALL PRICES IN THIS FOLDER ARE SUGGESTED RETAIL NET.

Electro-Voice

Public Address Products

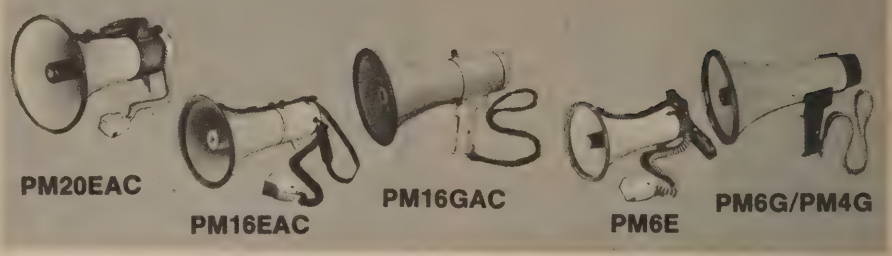


MUSICASTER IA: Outdoor speaker. High fidelity performance in a compact, weatherproof system. 12" Radax dual-cone, wide-range driver in rugged, compression-molded housing. Bass reflex design. Acoustifoam™ between speaker and grille repels water without affecting sound dispersion. Olive finish. Response: 80–10,000 Hz. Impedance: 8 ohms. Dispersion: 120°. 60 watts peak. Sound pressure level: 111 dB†. 21½" h., 21½" w., 8½" d. $80.25

MUSICASTER IIA: Musicaster IA with addition of vhf tweeter for extended high-frequency response and more uniform dispersion above 5000 Hz. Response: 80–16,000 Hz. $101.10

† Measured at 4' on axis with full rated power.

Power Megaphones



New Electro-Voice Power Megaphones are extremely rugged, waterproof, weatherproof, and salt spray proof for the most severe uses: safety services, construction, sports, tour guides, marine, home uses, all emergency applications, etc.

All units include low-distortion, all-transistor amplifiers for high intelligibility and long term, trouble free operation. Two styles are available: pistol-grip trigger with built-in microphone for instant readiness in any situation; and separate microphone with coil-cord for semi-permanent installation or for resting heavier models. Pistol grip models are well balanced for ease of holding. Except for PM4G, all models have volume controls easily reached by thumb. Most models, except 6G and 4G, have noise-cancelling microphone which reduces unwanted background sound and feedback for higher operating volume. All models have convenient carrying strap.

16 and 20 watt models incorporate an alarm tone signal, push-button operated, useful for attracting attention, as a distress signal, or boat fog horn. These models carry a bright International Yellow — recognized emergency color. When nickel-cadmium batteries are used in 16 and 20 watt models, they can be recharged without removing them from the megaphone using the C1215 plug-in recharger listed below, for semi-permanent life.

	PM20EAC	PM16EAC	PM16GAC	PM6E	PM6G	PM4G
TYPE:	Ext. Mic	Ext. Mic	Pistol grip	Ext. Mic	Pistol grip	Pistol grip
Output-peak:	20 watts	16 watts	16 watts	6 watts	6 watts	4 watts
Range:	1 mile	¾ mile	¾ mile	2000 ft.	2000 ft.	1200 ft.
Batteries:*	10 C size	8 C size	8 C size	6 C size	6 C size	4 D size
Color:	Int.Yellow & Cream	Int. Yellow	Int. Yellow	Red & Cream	Red & Cream	Red & Cream
Size:	11¾" dia. 18" l.	8¼" dia. 13-5/8"l.	8¼" dia. 14½" l.	7½" dia. 13" l.	7-5/8"dia. 12¾" l.	8¾" dia. 12-1/16"l.
Net Weight: (less batt.)	6 lb.10 oz.	4 lbs.	4 lbs.	3 lb.5 oz.	3 lb.5 oz.	2 lb.14 oz.
Price:	$104.10	$84.60	$75.00	$57.90	$50.70	$36.60

*Not furnished.



C1215: Battery Charger. For 16 and 20 watt megaphones. Plugs into AC outlet and receptacle on unit. Switch for 12 or 15 volt, 150 ma charging current. Size: 2½" h., 2-7/8" w., 4-5/8" d. $30.00

Accessory Line Transformers

For use in Constant-Voltage PA Systems

TR Series–70.7 V., 4 wattage taps. Secondary impedances 4, 8, 16 ohms.

TM Series–Dual 25 and 70.7 V., 4 wattage taps. Secondary impedances 8 and 16 ohms.

Watts	Model	Price	Model	Price
5	TR5	5.10	TM5	7.20
15	TR15	5.55	TM15	7.65
30	TR30	5.85	TM30	11.70
50	TR50	10.65	——	——
60	——	——	TM60	13.80



TH Transformer Housing: Weatherproof, eliminates soldering. Wattage indicator dial. Size: 4" h., x 5" w., x 3½" d. $6.75

TR30-7: 30-watt, 70.7-V line transformer for PA30A and -R. Fits under base. Taps: 30,15,8,4,2 watts. Secondard impedance: 8 ohms. $10.65

TR30-2: As above except 25-V. $10.65

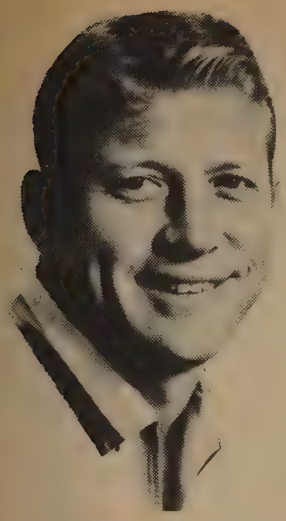
ALL PRICES IN THIS FOLDER ARE SUGGESTED RETAIL NET.

Warranty

Electro-Voice public address products (except power megaphones) are guaranteed for the life of the product against malfunction due to defects in workmanship and materials. If malfunction from this cause occurs, the product will be repaired or replaced (at our option) without charge for materials or labor, if delivered to Electro-Voice or its service agency. Unit will be returned prepaid. Power megaphones are guaranteed as above for one year from date of purchase; no charge for parts during the first year; no charge for labor during the first 90 days. Warranty does not cover finishes or malfunction due to abuse or operation at other than specified ratings. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

Electro-Voice
a GULTON subsidiary

© United Technical Publications



POWERHOUSE™ by FEDTRO®

TRUMPET SPEAKERS

proven sound around the world®

take it from **Mickey Mantle**†

"FEDTRO...the proven sound of champions"

"proven sound around the world".® from the blistering humid depths of Equatorial Africa...to the frigid waters of the Arctic Seas, Fedtro Powerhouse Speakers are ruggedly constructed to guarantee optimum performance, even under the most brutal of climatic extremes. Shockproof, rustproof, and totally weatherized, the entire Fedtro series is ideally suited for the most trying applications of Marine and Mobile use...Public Address, Paging and Talkback Systems. The diaphragm is constructed with a special resinification process, which permits it to withstand higher than 30% power input overloads. Engineered and designed to afford the highest degree of clarity and intelligibility over the complete frequency spectrum, from the compact S-5RD to the mammoth S-16RD, there's a perfect Powerhouse available for your specific needs. Greater efficiency...increased power output...higher intelligibility ...and almost indestructible durability...all add up to why they are **"proven sound around the world".®**



MODEL S-5RD



MODEL S-6RD



MODEL S-8RD



MODEL S-8BX



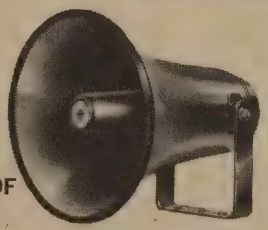




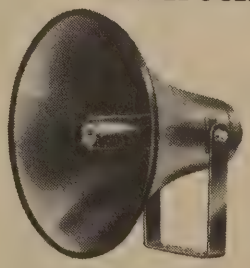
Ruggedly Constructed for Outdoor, Indoor, Marine and Mobile Use

■ WATERPROOF ■ SHOCKPROOF
■ RUSTPROOF ■ CORROSIONPROOF

DYNAMIC 3-COLOR CUSTOM PACKAGING



MODEL S-12RD



MODEL S-16RD

fedtro powerhouse trumpet speaker specification chart

Model No.	Power Rating		Voice Coil Impedance	Frequency Range	Bell Diameter (Horn Opening)	Overall Length	Net Weight
	Program	Peak					
S-5RD	8 watts	12 watts	8 ohms	200 to 13,000 cps.	5 inches	5 inches	approx. 1 lb.
S-6RD	10 watts	15 watts	8 ohms	200 to 13,000 cps.	6 inches	6½ inches	approx. 2 lbs.
S-8RD	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches	8½ inches	approx. 2½ lbs.
S-8BX	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches x 5 inches	8 inches	approx. 2.4 lbs.
S-12RD	30 watts	65 watts	8 ohms	150 to 13,000 cps.	12 inches	11¾ inches	approx. 4.2 lbs.
S-16RD	40 watts	75 watts	8 ohms	150 to 13,000 cps.	16 inches	13 inches	approx. 5.3 lbs.

get more sound for your dollar with fedtro powerhouse speakers!

superior quality...at the lowest prices in the industry!

proven sound around the world®



†mickey mantle endorses all Fedtro audio products

see other fedtro products: pages 35, 383, 532

© United Technical Publications

AKTRON GENERAL AND AUTOMOTIVE REPLACEMENT SPEAKERS

- ALUMINUM VOICE COILS
- ALNICO 5 AND CERAMIC MAGNETS
- SPECIALLY TREATED BLUE CONES
- BLUE LUMINESCENT BAKED ENAMEL FINISH



4" SQUARE CUP HOUSING



5" PIN CUSHION



8" CERAMIC MAGNET



3" x 5" OVAL CUP HOUSING

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
2¼" Rd.	23A8C	.53 Cup	A		5/16	8	1	1 1/16	$1.96
2¾" Rd.	28A8C	.53 Cup	A		5/16	8	2	1	1.96
3" Sq.	3A3C	.53 Cup	A		5/16	3.2	2	1 5/16	1.76
• 3" Sq.	3C3C	1.00 Cup	A		3/4	3.2	4	1 3/8	2.03
• 3" Sq.	3C8C	1.00 Cup	A		3/4	8	4	1 3/8	2.03
3½" Sq.	35A3C	.53 Cup	A		5/16	3.2	2	1 3/8	1.76
3½" Sq.	35C3C	1.00 Cup	A		3/4	3.2	4	1 5/16	2.03
• 3½" Sq.	35C8C	1.00 Cup	A		3/4	8	4	1 5/16	2.03
4" Sq.	4A3C	.53 Cup	A		5/16	3.2	2	1 5/16	1.60
4" Sq.	4B3	.68	A		5/16	3.2	2	1 7/8	1.82
4" Sq.	4C3C	1.00 Cup	A		3/4	3.2	4	1 11/16	2.02
4" Sq.	4D3	1.47	A		5/16	3.2	3	2 3/16	2.25
4" Sq.	4C8C	1.00 Cup	A		3/4	8	4	1 11/16	2.02
• 4½" P.C. Free Edge Cone	FE45GU8	6.00 Cup		C	1	8	8	2 1/16	5.83
5" P.C.	5A3C	.53 Cup	A		5/16	3.2	2	1 11/16	1.78
5" P.C.	5C3C	1.00 Cup	A		3/4	3.2	4	1 13/16	2.14
5" P.C.	5D3	1.47	A		5/16	3.2	4	2 3/16	2.36
5" P.C.	5D8S	1.47	A		5/16	8	5	2 3/16	2.50
• 5" P.C.	R5C3C	1.00 Cup	A		3/4	3.2	4	1 7/8	2.14
5" Rd.	R5EU8	3.00		C	3/4	8	6	1 3/4	3.04
5¼" P.C.	53C3C	1.00 Cup	A		3/4	3.2	4	1 15/16	2.23
• 5¼" P.C.	53GU8	6.00		C	1	8	8	2 1/8	4.48
‡ 5¼" Rd.	† RL53GU8	6.00		C	1	8	8	2 1/4	4.97
6" P.C.	6C3C	1.00 Cup	A		3/4	3.2	5	2 3/16	2.45
6" P.C.	6E3C	2.18 Cup	A		1	3.2	7	2 3/8	3.01
6" P.C.	6E8C	2.18 Cup	A		1	8	7	2 3/8	3.01
8" P.C.	8E3C	2.18 Cup	A		1	3.2	7	2 13/16	3.98
8" P.C.	8E8C	2.18 Cup	A		1	8	7	2 13/16	3.98
8" P.C.	8EU8	3.00		C	3/4	8	6	2 5/8	4.07
8" P.C.	8F8	3.16	A		3/4	8	8	3 1/16	4.43
8" P.C.	8GU8	6.00		C	1	8	10	2 7/8	5.63
8" P.C.	8H8	6.80	A		1	8	12	4	6.23
8" P.C.	8HU8	10.00		C	1	8	12	3	6.14
• 8" Rd.	8KX8	10.10	A		1½	8	30	4	12.40
10" Rd.	10F3	3.16	A		3/4	3.2	8	4 3/16	5.80
10" Rd.	10F8	3.16	A		3/4	8	8	4 3/16	5.80
12" Rd.	12F8	3.16	A		3/4	8	8	4 7/8	6.37
12" Rd.	12HU8	10.00		C	1	8	12	4 1/2	8.33
• 12" Rd.	12KX8	10.10	A		1½	8	40	5 1/2	17.96
• 15" Rd.	15KX8	10.10	A		1½	8	40	7	19.76
2" x 6" Oval	26A3C	.53 Cup	A		5/16	3.2	2	1 11/16	2.02
2½" x 10" Rec.	210D3	1.47	A		5/16	3.2	5	2 3/8	3.94
3" x 5" Oval	135A3C	.53 Cup	A		5/16	3.2	2	1 5/8	1.91
3" x 5" Oval	135C3C	1.00 Cup	A		3/4	3.2	4	1 11/16	2.14
• 3" x 5" Oval	135C8C	1.00	A		3/4	8	4	1 11/16	2.14
• 3" x 5" Oval	135EU8	3.00		C	3/4	8	6	1 11/16	3.04
4" x 6" Rec.	46A3C	.53 Cup	A		5/16	3.2	2	1 1/2	2.03
4" x 6" Rec.	46C3C	1.00 Cup	A		3/4	3.2	5	1 13/16	2.32
• 4" x 6" Rec.	46C8C	1.00	A		3/4	8	5	1 13/16	2.32
4" x 8" Oval	48E3C	2.18 Cup	A		1	3.2	5	2 1/8	3.47
• 4" x 8" Oval	48E8C	2.18 Cup	A		1	8	5	2 1/8	3.47
4" x 10" Oval	410E3C	2.18 Cup	A		1	3.2	6	3	3.67
4" x 10" Oval	410E8C	2.18 Cup	A		1	8	6	3	3.67
5" x 7" Oval	57C8C	1.00 Cup	A		3/4	3.2	5	2 3/16	2.68
5" x 7" Oval	57E3C	2.18 Cup	A		1	3.2	7	2 3/8	3.22
5" x 7" Oval	57C8C	1.00 Cup	A		3/4	8	5	2 3/16	2.68
• 5" x 7" Oval	57E8C	2.18	A		1	8	7	2 3/8	3.22
6" x 9" Oval	69A3C	.53 Cup	A		5/16	3.2	2	2 1/16	2.57
6" x 9" Oval	69C3C	1.00 Cup	A		3/4	3.2	5	2 13/16	2.86
6" x 9" Oval	69D3	1.47	A		5/16	3.2	5	3 3/8	3.22
6" x 9" Oval	69E3C	2.18 Cup	A		1	3.2	7	2 7/8	3.58
6" x 9" Oval	69C8C	1.00 Cup	A		3/4	8	5	2 13/16	2.86
6" x 9" Oval	69E8C	2.18 Cup	A		1	8	7	2 7/8	3.58

NOTES

Color TV Speakers — Any Speaker Part No. ending with the letter "C" is specially designed for Color TV replacement and denotes high energy "Cup" type magnet housing assembly.

† Has two mounting holes — Crinoline dust screen, "Football Shape."

‡ Use with SG53A and SG535 snap-on grills.

• Indicates new item.

TWIN CONE SPEAKERS

MATCHED DUAL CONES FOR TRUE HIGH FIDELITY SOUND REPRODUCTION



69HU8W
6" x 9" TWIN CONE
CERAMIC MAGNET

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Frequency Response (free air)	Sugg. Dealer Price
8" P.C.	8F8W	3.16	A		3/4	8	8	3 1/16	55-14,000	$4.82
8" P.C.	8H8W	6.80	A		1	8	12	4	45-15,000	6.66
8" P.C.	8HU8W	10.00		C	1	8	12	3	45-15,000	6.57
12" Rd.	12HU8W	10.00		C	1	8	12	4 1/2	35-15,000	8.62
4" x 10" Oval	410GU8W	6.00		C	1	8	9	2 5/16	80-16,000	5.76
5" x 7" Oval	57GU8W	6.00		C	1	8	8	2 3/8	70-16,000	5.62
6" x 9" Oval	69E8WC	2.18	A		1	8	6	2 7/8	65-16,000	3.98
6" x 9" Oval	69HU8W	10.00		C	1	8	10	3 3/16	55-16,000	6.46
6" x 9" Oval Free Edge Cone	FE69UW	10.00		C	1	8	10	3 3/16	35-16,000	8.19

Oaktron's matched dual cones give bigger and better sound for true high fidelity sound reproduction. Extended range accoustical characteristics are coupled with economy price in this popular line.

WEATHERPROOF SPEAKERS

SPECIALLY IMPREGNATED CONES, GASKETS AND DUST CAPS



4" WEATHERPROOF

NOTE

Transformer Mounting Boss on all 4", 5" round, 8" and 12" speakers.
EIA warranty applies to all Oaktron speakers.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
4" Sq.	4D8M	1.47	A		5/16	8	3	2 3/16	$2.65
5" Rd.	R5D8M	1.47	A		5/16	8	3	2 3/8	2.74
8" P.C.	8F8M	3.16	A		3/4	8	8	3 1/16	4.84

Net

© United Technical Publications



FE12TW



FE45HU8

CLASSIC SERIES OF HOME ENTERTAINMENT SPEAKERS

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Frequency Response (free air)	Sugg. Dealer Price
4½″ P.C.	FE45HU8	10.00		C	1	8	10	2¼	50-12,000	$6.70
6″ Rd.	FE6W	6.00		C	1	8	12	3 3/16	40-15,000	8.91
8″ Rd.	FE8KW	10.10	A		1¼	8	20	4¾	30-14,000	13.59
8″ Rd.	FE8KXW	10.10	A		1½	8	30	4½	30-14,500	17.44
12″ Rd.	FE12K8W	10.10	A		1¼	8	20	6 5/16	25-14,000	16.16
12″ Rd.	FE12KXW	10.10	A		1½	8	40	6	25-14,000	22.48
12″ Rd.	FE12TW	20.00	A		2	8	75	6⅜	25-14,500	30.56
15″ Rd.	FE15KXW	10.10	A		1½	8	40	7½	20-14,000	24.75
15″ Rd.	FE15TW	20.00	A		2	8	75	7½	20-14,000	33.28

For intimate gatherings, parties, or just solitary listening, fill your home with the sound of music from driving bass to beyond audibility. Oaktron is featuring a wider selection of speakers with heavier magnets and larger voice coils all with free edge cone suspension and aluminum voice coils. When individually boxed, speakers are enclosed in a plastic covering to gain maximum protection.

COAXIAL SPEAKERS

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Frequency Response (free air)	Sugg. Dealer Price
8″ Rd. Woofer		3.16	A		¾	8	8	4½	60-14,000	$9.27
3″ Sq. Tweeter	CA8	.53	A		5/16					
Blue Painted Housing Cover										
8″ Rd. Woofer		6.80	A		1	8	10	4½	50-14,000	12.15
3″ Sq. Tweeter	CA8HD	.53	A		5/16					
Chrome Plated Housing Cover										
8″ Rd. Woofer		10.00		C	1	8	10	3¾	50-14,000	11.79
3″ Sq. Tweeter	CA8U8	.53	A		5/16					
Chrome Plated Housing Cover										
12″ Rd. Woofer		10.10	A		1¼	8	20	6 13/16	25-14,000	17.91
3½″ Sq. Tweeter	CA12HD	1.00	A		5/16					
Chrome Plated Housing Cover										
6″ x 9″ Woofer		6.80	A		1	8	10	4 5/16	60-14,000	11.25
3″ Sq. Tweeter	CA69HD	.53	A		5/16					
6″ x 9″ Woofer		10.00		C	1	8	10	3⅜	60-14,000	11.16
3″ Sq. Tweeter	CA69U8	.53	A		5/16					



CA124HD

When you need a single speaker to do the job of two, Oaktron coaxial speakers speak for themselves. Combining two top speakers with a built-in cross-over network into a single unit provides a smooth, flat response over a wide range of frequencies. Used separately and in pairs for stereo, Oaktron coaxial speakers sound like a great idea!

THREE-WAY SPEAKER SYSTEM

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Frequency Response (free air)	Sugg. Dealer Price
12″ Rd. Woofer		10.10	A		1½			5½		
8″ P.C. Mid Range	ST-132	10.00		C	1	8	40	3	25-16,000	$33.95
3½″ Rd. Tweeter		3.00		C	¾			1 15/32		

System can be front or back mounted in enclosure.

If spaciousness is a part of your world, surround yourself with sound using Oaktron's multi-speaker system. You get three topline speakers plus harness and cross-over network. Whether you purchase a ready built enclosure, or design your own, Oaktron speaker systems offer maximum sound reproduction.

MUSICAL INSTRUMENT SPEAKERS

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
8″ Rd.	M8KX8	10.10	A		1½	8	30	4½	$15.28
10″ Rd.	M10R8	18.00	A		2	8	60	5	22.48
12″ Rd.	M12KX8	10.10	A		1½	8	40	6	20.86
12″ Rd.	M12T8	20.00	A		2	8	75	6⅜	28.76
15″ Rd.	M15KX8	10.10	A		1½	8	40	7½	23.36
15″ Rd.	M15T8	20.00	A		2	8	75	7½	32.36



M12T8

Oaktron's new line of heavy-duty speakers are specially designed to meet your needs whether you're the star performer at a rock concert or making your debut at Carnegie Hall. All speakers use heavy-duty magnets. The 1½″ and 2″ voice coils are of high performance aluminum construction to back up power with true fidelity. Pour on the power up to 75 watts when mounted in your enclosure and you're still in the range of these super strong speakers designed for the needs of rock bands, guitars, organs and other instruments requiring extremes of amplification. Maroon painted baskets.

TWEETERS

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Frequency Response (free air)	Sugg. Dealer Price
3″ Sq.	3EU8T	3.00		C	¾	8	8	1⅜	3-16,000	$2.97
3½″ Rd.	*35EU8T	3.00		C	¾	8	8	1 15/32	2-16,000	2.57
4″ Sq.	4EU8T	3.00		C	¾	8	8	1⅝	2-15,000	2.90

* Wide Flange Basket for Front Mounting.

Up, up and away with extended high frequency response — yours with this series of Oaktron Speakers. A true compression type tweeter with all units utilizing a totally enclosed basket and a molded curvilinear cone for maximum high frequency radiation. All Oaktron tweeters have 8 ohm aluminum voice coils.

INTERCOM SPEAKERS

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
4″ Sq.	4D45	1.47	A		5/16	45	3	2 5/16	$2.47
8″ P.C.	8F45	3.16	A		¾	45	8	3 5/16	4.64

There's no communication gap with an Oaktron speaker in your intercom in home or office. These models feature 45 ohm impedance. Should your intercom specify 8 ohm speakers, a complete selection can be found under General Replacement Speaker listing.

OAKTRON INDUSTRIES, INC.

OAKTRON REPLACEMENT SPEAKERS

• ALUMINUM VOICE COILS • ALNICO 5 MAGNETS • SPECIALLY TREATED BLUE CONES • BLUE LUMINESCENT BAKED ENAMEL FINISH

MOBILE SOUND THE OAKTRON SERIES OF SPEAKER SYSTEMS FOR CARS, AIRCRAFT, BOATS AND TRAILERS

AUTO MULTI-IMPEDANCE SPEAKERS

Oaktron's new "three in one" multi-impedance series



6" x 9" MULTI-IMPEDANCE

- Specially developed heavy voice coil winding for maximum power handling.
- Dual solderless terminal strip arrangement with jumpers for simplified hook up.
- Complete wiring diagram accompanies each speaker.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
6" P.C.	6EMC	2.18	A		1	10/20/40	6	2¼	$3.53
4" x 10" Oval	410EMC	2.18	A		1	10/20/40	6	3	4.23
5" x 7" Oval	57EMCF	2.18	A		1	10/20/40	7	2 1/16	4.07
6" x 9" Oval	69EMCF	2.18	A		1	10/20/40	7	2¼	4.30
6" x 9" Oval Free Edge, Twin Cone	FE69UMW	10.00		C	1	10/20/40	10	3 3/16	8.08

TRACTOR SPEAKERS

Let him whistle while he works . . . Oaktron's tractor speaker is of special heavy duty construction with weatherproof cones, compact, yet powerful enough to hear over the tractor motor.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
4" Sq.	4EU8M	3.00		C	¾	8	6	1 11/16	$3.40
4" x 8" Oval	48GU8M	6.00		C	1	8	9	2 1/16	6.46
6" x 9" Oval	69H8M	6.80	A		1	8	12	4¼	7.02

6" x 9" REAR SEAT SPEAKER KIT— SHADOW BOX DISPLAY PACKAGE

Multi-Impedance Speaker Fader Control.

Part No.	Speaker Included	Grill Finish	No. Speakers Per Kit	Suggested Dealer Price
VSMK69CF	69EMCF	Chrome Plated	1	$8.23

REAR SEAT SPEAKER KITS

Any 5" x 7" and 6" x 9" speaker in kit form, **individually boxed** with Fader Control, mounting hardware, wiring and instruction sheet. Specify speaker part number with RK prefix and grill part number. i.e. RK 69HU8W/CH69. Combine unit cost of components to determine cost of kit.

STEREO SPEAKER KITS

Oaktron Stereo Speaker Kits are specially constructed to provide full range performance from deep bass to brilliant highs. Large, heavy duty magnets and aluminum voice coils offer maximum power handling capabilities without loss of efficiency or speaker life.

Choice of chrome plated or black painted premium quality, heavy metal grills supplied with each kit. Black painted grills can be painted to match any decor. Each kit is visual packed with all necessary mounting hardware, wire and instruction sheet.

Part No.	Speaker Included	Grill Finish	No. Speakers Per Kit	Suggested Dealer Price
V45GK	FE45GU8	Black Painted	1	$8.19
V45GC	FE45GU8	Chrome Plated	1	8.80
*V45DK	FE45D	Black Painted	1	8.82
*45DC	FE45D	Chrome Plated	1	9.45
V5EK	R5EU8	Black Painted	1	5.38
V5EC	R5EU8	Chrome Plated	1	6.07
VS53GBK	RL53GU8	Black Painted	1	7.63
VS53GC	RL53GU8	Chrome Plated	1	8.24
*V53DK	RL53D	Black Painted	1	8.44
*V53DC	RL53D	Chrome Plated	1	8.87
VS35EBK	135EU8	Black Painted	2	8.98
VS35EC	135EU8	Chrome Plated	2	10.24
*V35DK	135D	Black Painted	2	9.61
*V35DC	135D	Chrome Plated	2	10.87

* Speaker supplied with Kit nas Dual 8 ohm Voice Coil.
See above for complete description and application of Dual Voice Coil Speakers.

"FOOTBALL" SPEAKERS



FOOTBALL SHAPE

(Two mounting holes and crinoline dust covers.) Move up to improved fidelity from original equipment with these oval shaped speakers.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
4" x 11" F.B.	F411EU8	3.00		C	¾	8	6	2½	$4.63
5" x 8" F.B.	F58EU8	3.00		C	¾	8	6	2 5/16	4.30
6" x 10" F.B.	F610E8C	2.18	A		1	8	7	3 1/16	4.61

DUAL VOICE COIL SPEAKERS



69HU8WD



FE45D

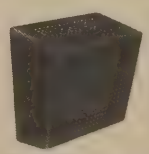
Two speakers in one. Auto-radio and stereo tape player will operate from the same speaker when used in a rear deck or auto stereo application.* Eliminates the need for complicated switching. Full fidelity may be obtained from a single speaker by hooking right channel to one side and left channel to other side. Each voice coil is 8 ohm. Tape player may also be used with front car radio and rear deck speakers by using Dual Voice Speakers in each location. No extra speakers required.

* Also excellent for stereo extension speakers in the home.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Max. Depth in Ins.	Sugg. Dealer Price
4½" P.C. Free Edge Cone	FE45D	6.00		C	1	8	8	2 1/16	$6.46
5¼" P.C.	53D	6.00		C	1	8	8	2⅛	5.11
5¼" Rd. For use with Oaktron SG53BK and SG53C Snap-on Grills	RL53D	6.00		C	1	8	8	2¼	5.60
6" P.C.	6ED	3.00		C	¾	8	7	2 5/16	3.89
3" x 5" Oval	135D	3.00		C	¾	8	6	1 11/16	3.67
4" x 10" Oval Twin Cone	410WD	6.00		C	1	8	9	2 1/16	6.39
4" x 11" F.B. "Football" Shape. 2 Mounting Holes, Crinoline Dust Screen	F411D	3.00		C	¾	8	6	2½	5.26
5" x 7" Oval Twin Cone	57WD	6.00		C	1	8	8	2⅜	6.24
5" x 8" F.B. "Football" Shape. 2 Mounting Holes. Crinoline Dust Screen	F58D	3.00		C	¾	8	6	2 5/16	4.93
6" x 9" Oval Twin Cone	69WD	10.00		C	1	8	10	3 3/16	7.09
6" x 9" Oval Free Edge, Twin Cone	FE69D	10.00		C	1	8	10	3 3/16	8.82

AUTOMOTIVE GRILLES SHOWN ON NEXT PAGE

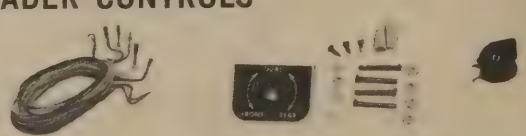
W E J (WEDGE)



Here's one of the newest ideas to ever hit the auto speaker market — the unique Oaktron "WEJ". Here's an enclosure that can be used with 3" x 5", 4", 4½" or 5" speakers — yet can be mounted on rear deck, roof, side panel or under the dash. The WEJ adapts to almost any situation without special attachments. Porting keeps back loading at a minimum. Mounting hardware, wire and instruction sheet included when supplied with speaker in kit form.

Part No.	Speaker Included	Grill Finish	No. Speakers Per Kit	Suggested Dealer Price
WEJ	None	See Above	0	$2.50
WEJ-4	FE45GU8		1	9.32
*WEJ-4D	FE45D		1	9.95
WEJ-5	R5EU8		1	6.39
WEJ-3	135EU8		1	6.39
*WEJ-3D	135D		1	7.02

FADER CONTROLS



Fingertip balance volume control between front and rear speakers. Packaged with all necessary wiring, hardware and instruction sheet in individual box.

Part No.	Suggested Dealer Price
FA-1	$1.64

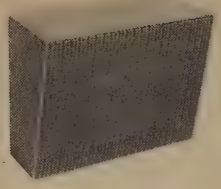
Net

© United Technical Publications

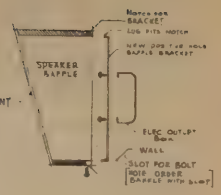
GRILLS (AUTOMOTIVE)

Attractive heavy duty steel grills with baked on paint finish or high gloss chrome plating. Individually Visual Packed with hardware, wiring and instruction sheet.

Size	Part No.	Finish	Suggested Dealer Price
4½"	VG45K	Black	$ .79
4½"	VG45C	Chrome	1.40
Accommodates any 4", 4½" and 5" Speaker with Standard Mounting Centers			
5¼"	VSG53BK	Black	1.33
5¼"	VSG53C	Chrome	1.94
Snap-on Grill for use with Oaktron "RL" Prefix Speakers			
3" x 5"	VSG35BK	Black	.65
3" x 5"	VSG35C	Chrome	1.24
5" x 7"	VBK57	Black	1.06
5" x 7"	VGY57	Gray	1.06
5" x 7"	VCH57	Chrome	1.60
6" x 9"	VBK69	Black	1.06
6" x 9"	VGY69	Gray	1.06
6" x 9"	VCH69	Chrome	1.60



CUSTOM WALL BAFFLE



ARCHITECTURAL SOUND SPEAKERS

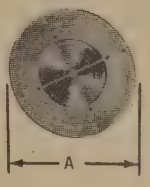
LOUDSPEAKERS — BAFFLES — ACCESSORIES

Oaktron Architectural Sound Speakers are designed specifically for commercial sound applications. Specially treated cones provide the most pleasing frequency response and accoustical characteristics to background music. Minimum distraction and maximum efficiency give greater voice clarity when used for paging. These speakers have proven their exceptional durability even under the most adverse conditions.

All Architectural Sound Speakers have transformer mounting facilities.

Size and Shape	Part No.	Mag. Wgt. in Ozs.	Alnico 5	Ceramic	Voice Coil Dia. Ins.	Voice Coil Ohms	Power in Watts	Suggested Dealer Price
4½" P.C. Free Edge Cone	OA12U	10.00		C	1	8	10	6.70
6" P.C.	OA24U	6.00		C	1	8	10	4.59
8" Rd.	OA40	2.15	A		¾	8	10	4.27
8" P.C.	OA41U	3.00		C	¾	8	6	4.10
Shielded Magnet Assembly — Shallow Profile								
8" P.C.	OA42U	3.00		C	¾	8	6	4.07
8" P.C.	OA43	3.16	A		¾	8	10	4.43
8" P.C.	OA46U	6.00		C	1	8	12	5.63
8" P.C.	OA49U	10.00		C	1	8	15	6.14
8" P.C.	OA52U	6.00		C	1	8	15	6.01
Twin Cone Speaker								
8" P.C.	OA54U	10.00		C	1	8	15	6.57
8" P.C.	OA56U	6.00		C	1	8	10	6.62
*Dual 8 ohm Voice Coil — Double Transformer Emboss								
12" Rd.	OA69U	10.00		C	C	1	15	8.33

* Permits paging without interrupting background music.







4½" Grille

BAFFLES

Oaktron Baffles are smartly designed to compliment any decor. Rugged cabinet hardwood construction assures longer service even under the most severe conditions. Beautifully finished in a natural blonde or walnut, these baffles represent the ultimate in appearance and sound reproduction. Speaker and baffle mounting hardware included.

Speaker Size	Part No.	Finish	Dimensions A	B	C	D	Suggested Dealer Price
DELUXE WALL BAFFLES							
4" & 5"	WB4/5B	Blonde	4½"	6¼"	6½"	2½"	$4.16
4" & 5"	WB4/5W	Walnut	4½"	6¼"	6½"	2½"	4.16
6"	WB6B	Blonde	4⅝"	8"	9⅜"	2⅝"	4.96
6"	WB6W	Walnut	4⅝"	8"	9⅜"	2⅝"	4.96
8"	WB8B	Blonde	6¼"	10⅝"	9½"	3½"	5.36
8"	WB8W	Walnut	6¼"	10⅝"	9½"	3½"	5.36
12"	WB12B	Blonde	7¼"	13⅜"	13⅝"	5¼"	8.72
12"	WB12W	Walnut	7¼"	13⅜"	13⅝"	5¼"	8.72
SLIMLINE WALL BAFFLES							
8"	SWB8B	Blonde	4½"	9⅝"	12"	2⅞"	6.32
8"	SWB8W	Walnut	4½"	9⅝"	12"	2⅞"	6.32
DELUXE "KORNER" BAFFLES							
8"	KB8B	Blonde	4"	10⅝"	9½"	1"	8.72
8"	KB8W	Walnut	4"	10⅝"	9½"	1"	8.72

"NOTCHED" DELUXE AND SLIMLINE WALL BAFFLES AND MOUNTING BRACKETS

Special "positive hold" mounting for rugged strength. Will not pull loose when mounted to standard electrical outlet box. Order bracket separately for speaker desired, as indicated.

Speaker Size	Baffle Style	Part No.	Finish	Suggested Dealer Price
6"	Deluxe	WB6BN	Blonde	$5.12
6"	Deluxe	WB6WN	Walnut	5.12
Mounting Bracket		B6	Painted	.45
8"	Deluxe	WB8BN	Blonde	5.52
8"	Deluxe	WB8WN	Walnut	5.52
Mounting Bracket		B8	Painted	.45
8"	Slimline	SWB8BN	Blonde	6.48
8"	Slimline	SWB8WN	Walnut	6.48
Mounting Bracket		B8A	Painted	.45

Speakers can be installed at factory — add 25¢ per unit.

CEILING BAFFLES

Oaktron Ceiling Baffles possess qualities and design achieved only after years of engineering in this field. The extremely high efficiency and wide sound dispersion of these units result in superior accoustical sound reproduction. One piece construction eliminates vibration and rattle. Mount directly to the ceiling or to the convenient plaster ring. Available in satin aluminum and white baked enamel steel. Speaker mounting hardware included.

Speaker Size	Part No.	Shape	Dimension A	Suggested Dealer Price
ALUMINUM CEILING BAFFLES				
8"	CR8S	Round	12¾"	3.24
8"	CS8S	Square	12⅛"	3.24
STEEL CEILING BAFFLES White				
4½"	G45K	Square	4½"	$ .79
8"	CR8W	Round	12¾"	3.06
8"	CS8W	Square	12⅛"	3.06
PLASTER RING				
8"	PR8	Round	—	2.25

L-PADS

Use Oaktron's precision type L-Pad volume control to adjust individual speaker volume in remote or isolated locations. The level of one speaker is not affected when adjusting another. Supplied complete with mounting hardware and control knob. Will mount through ½" material. Has complete dust-proof housing.

Part No.	Speaker Impedance	Power Rating	Dimensions		Suggested Dealer Price
LP-8	8 Ohms	10 Watts Audio	Dia. of Control: Length of Bushing: Length of Shaft:	1⅝" 11/16" ⅜"	$2.34

L-Pads can be mounted at the factory — add 25c per unit.

CONSTANT VOLTAGE LINE TRANSFORMERS

Constant Voltage Line Transformers for impedance matching to 70.7 volt and 25 volt lines. This system provides simplified matching of speakers to an amplifier even though the individual speaker is required to produce different amounts of power. Oaktron transformers possess maximum efficiency and response characteristics through the use of new materials and the most advanced design parameters. All transformers supplied with 6" Pigtail leads and are individually packaged. Transformers can be mounted at Factory.

Part No.	Primary Impedance/ Power	Secondary Impedance (Ohms)	Nominal Watts	Core Size	Dimensions H	W	D	Mtg. Centers	Sugg. Dlr. Price
70.7 VOLT CONSTANT VOLTAGE LINE									
T-71	2/1/.5	8/4	2	⅜ x ⅜	1¼	1½	1¼	1¾	$1.73
T-72	5/2.5/1.25 .62/.31	8/4	5	½ x ⅝	1⅜	1¾	1⅜	2	2.18
25 VOLT CONSTANT VOLTAGE LINE									
T-25	2/1/.5	8/4	2	⅜ x ⅜	1¼	1½	1¼	1¾	1.73
T-26	5/2.5/1.25 .62/.31	8/4	5	½ x ⅝	1⅜	1¾	1⅜	2	2.18

25 VOLT CONSTANT VOLTAGE LINE

Primary Center Tapped for use with Privacy Function Switch.

Part No.	Power Taps	Speaker Impedance	Core Size	Dimensions H	W	D	Mtg. Centers	Sugg. Dlr. Price
T-28	2/1/.5	8 Ohm	⅝ x ⅝	1⅝	2 1/16	2 1/16	2⅜	$2.18

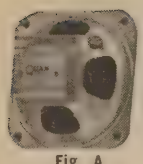
QUAM *Quality Line* SPEAKERS


Fig. R

REPLACEMENT SPEAKERS

Voice coil impedance 3.2 ohms ±10%

Model No.	Size	Magnet Weight (ounces) and Type	Power Handling Watts	Depth (inches)	Shipping Weight (pounds)	Dealer Net
46A07*	4″ x 6″	.65 oz. Alnico V	3.5	1 15/16	3/4	$3.21
46A1*	4″ x 6″	.65 oz. Q/8	3.5	1 15/16	3/4	3.33
46A15	4″ x 6″	1.47 oz. Alnico V	3.5	2 1/4	1	3.69
48A2*	4″ x 8″	1.2 oz. Q/8	4.5	2 1/16	1	4.80
410A2	4″ x 10″	1.2 oz. Q/8	6	2 11/16	1	5.52
5A05*	5″	.55 oz. Alnico V	3	1 11/16	1/2	2.16
5A1*	5″	.65 oz. Q/8	3.5	2	1	3.09
5A15	5″	1.47 oz. Alnico V	3.5	2 5/16	1	3.39
52A1*	5 1/4″	.65 oz. Q/8	4	1 7/8	1	3.27
52C10	5 1/4″	10.0 oz. Ceramic	10	2 1/4	2 1/8	6.57
57A1*	5″ x 7″	.65 oz. Q/8	5	2 3/8	1	3.42
57A15	5″ x 7″	1.47 oz. Alnico V	5	2 11/16	1	4.11
57A21	5″ x 7″	2.15 oz. Alnico V	5	2 61/64	1 1/4	4.56
6A1	6 1/2″	1.0 oz. Alnico V	5	2 5/8	1	3.60
6A15	6 1/2″	1.47 oz. Alnico V	5	2 5/8	1	3.87
6A31	6 1/2″	3.16 oz. Alnico V	6	3 11/64	1 3/4	5.10
69A1*	6″ x 9″	1.2 oz. Alnico V	6	2 3/4	1 1/4	3.69
69A2	6″ x 9″	1.2 oz. Q/8	8	2 3/4	1 1/4	4.59
69A3	6″ x 9″	3.2 oz. Alnico V	10	2 5/16	2	5.97
7A21	7″	1.4 oz. Alnico V	6	2 31/32	1	4.92
8A1*	8″	1.2 oz. Alnico V	6	2 11/16	1	4.29
8A21	8″	2.15 oz. Alnico V	7	3 13/32	1 1/2	4.98
8A31	8″	3.16 oz. Alnico V	9	3 21/32	2	5.88
10C5	10″	4.8 oz. Ceramic	9	3 17/32	2 1/4	7.98
12A31	12″	3.16 oz. Alnico V	10	4 9/32	3 3/4	8.13
12A6A	12″	6.8 oz. Alnico V	14	5 1/4	4 1/2	10.65


Fig. A

MINIATURE SPEAKERS

Impedance in ohms, indicated by digit following "Z" in number. Model numbers without "Z" impedance is 3.2 ohms ±10%.

2A05	2″	.52 oz. Alnico V	.25	7/8	1/8	$3.39
23A05	2″ x 3″	.52 oz. Alnico V	.25	1 3/32	1/8	3.84
22A06Z8	2 1/4″	.45 oz. Alnico V	.1	1	1/4	3.21
22A06Z100	2 1/4″	.45 oz. Alnico V	.1	1	1/4	3.54
25A07	2 1/2″	.65 oz. Alnico V	1.5	1 1/4	1/4	2.43
25A07Z45	2 1/2″	.65 oz. Alnico V	1.5	1 1/4	1/4	2.88
27A06Z12	2 3/4″	.55 oz. Alnico V	.25	1 1/16	1/4	3.18


Fig. B

GENERAL PURPOSE SPEAKERS

Impedance in ohms, indicated by digit following "Z" in number. Model numbers without "Z" impedance is 3.2 ohms ±10%.

26A07*	2″ x 6″	.65 oz. Alnico V	2	1 9/32	1/2	$2.88
26A07Z8*	2″ x 6″	.65 oz. Alnico V	2	1 9/32	1/2	3.12
30A05*	3″	.55 oz. Alnico V	2	1 3/16	1/2	2.13
30A05Z8*	3″	.55 oz. Alnico V	2	1 3/16	1/4	2.31
30C25	3″	2.35 oz. Ceramic	2.5	1 3/16	3/4	3.87
3A05*	3 1/2″	.55 oz. Alnico V	2	1 9/32	1/4	2.13
3A05Z8*	3 1/2″	.55 oz. Alnico V	2	1 9/32	1/4	2.58
35A05*	3″ x 5″	.55 oz. Alnico V	2	1 1/2	1/2	2.58
35A05Z8*	3″ x 5″	.55 oz. Alnico V	2	1 1/2	1/2	3.00
4A05*	4″	.55 oz. Alnico V	2.5	1 1/2	1/4	1.86
4A1*	4″	.65 oz. Q/8	3	1 3/4	3/4	2.85
4A1Z8*	4″	.65 oz. Q/8	3	1 3/16	3/4	3.27
4A15	4″	1.47 oz. Alnico V	3	2 1/16	3/4	3.18
4C25	4″	2.35 oz. Ceramic	3	1 5/8	3/4	3.69
46A1Z10*	4″ x 6″	.65 oz. Q/8	3.5	1 3/4	1	3.96
46C3	4″ x 6″	3.0 oz. Ceramic	4	1 31/32	1	4.14
5A1Z8*	5″	.65 oz. Q/8	4	2 5/16	1/2	3.39
52A1Z8*	5 1/4″	.65 oz. Q/8	3.5	1 7/8	1	3.72
57C3	5″ x 7″	3.0 oz. Ceramic	5	2 13/32	1	4.80
69C5	6″ x 9″	4.8 oz. Ceramic	10	2 7/8	1 1/2	5.19


Fig. D

AUTOMOTIVE SPEAKERS

Model No.	Size	Magnet Weight (ounces) and Type	Power Handling (Watts)	Depth (inches)	Voice-Coil Impedance (Ohms)	Dealer Net
48A2Z20CT	4″ x 8″	1.2 oz. Q/8	4.5	2 1/16	20 CT	$5.55
410A2MT#	4″ x 10″	1.2 oz. Q/8	6	2 11/16	10-20-40	6.39
410A2Z10	4″ x 10″	1.2 oz. Q/8	6	2 11/16	8-10	6.36
5C3Z8	5″	3.0 oz. Ceramic	4.0	2 1/32	8-10	4.02
57A1Z8	5″ x 7″	.65 oz. Q/8	5	1 3/16	8-10	3.72
57A2MT#	5″ x 7″	1.2 oz. Q/8	5	2 5/16	10-20-40	4.38
58A15Z8	5″ x 8″	1.47 oz. Alnico V	5	2 3/4	8-10	4.77
6A1Z8	6″	.65 oz. Q/8	5	2 5/8	8-10	3.90
6A15MT#	6 1/2″	1.2 oz. Q/8	5	2 5/8	10-20-40	4.56
69A1S	6″ x 9″	1.2 oz. Alnico V	6	2 1/16	3.2	5.22
69A2MT#	6″ x 9″	1.2 oz. Q/8	8	2 15/16	10-20-40	5.67
69A2Z10	6″ x 9″	1.2 oz. Q/8	8	2 15/16	8-10	5.37
610A1Z8	6″ x 10″	1.2 oz. Alnico V	8	2 13/16	8-10	5.73


Fig. E

REAR SEAT AUTO SPEAKER KITS

These kits contain everything required for the installation of the speaker. They include a dash-mounting fader control, cable, flocked screen grill, baffle plate, all necessary hardware and complete installation instructions.

AS-1	6 1/2″	1.2 oz. Q/8	5	Shipping Wt. 2 lbs.	3.2	$6.09
AS1MT■	6 1/2″	1.2 oz. Q/8	5	Shipping Wt. 2 lbs.	10-20-40	7.38
AS-2‡	6″ x 9″	2.15 oz. Alnico V	9	Shipping Wt. 3 lbs.	3.2	8.58
AS-4	6″ x 9″	1.2 oz. Alnico V	6	Shipping Wt. 1 1/2 lbs.	8-10	4.65
AS5MT■	6″ x 9″	1.2 oz. Q/8	8	Shipping Wt. 3 lbs.	10-20-40	9.48


Fig. F


Fig. G

* Cup pot; very shallow construction. ‡ Illustrates magnet construction; see same size standard speaker or basket shape.
* Center Tapped. # Multi-Tap Speakers. ■ Multi-Tap Speaker. §§ Sponge rubber baffle plate gasket.

Net

© United Technical Publications

QUAM *Quality Line* SPEAKERS


Fig. H


Fig. I


Fig. J


Fig. K


Fig. L


Fig. M


Fig. N


Fig. O


Fig. P


Fig. Q

These long-life speakers have the improved Humi-Gard Cone which utilizes a Mylar plastic film to provide maximum resistance to moisture and dirt and sand abrasion, yet does not interfere with response characteristics. Air gap surfaces cadmium plated and enameled. Quantity quotations on request.

All Quam speakers are available weather-proofed for an additional 70c list. When ordering weather-proofed speakers use part numbers appearing in this catalog and add suffix "OT" to part number. (Humi-Gard Cone available only on 3½", 4" 5", and 6½" speakers.)

OUTDOOR SPEAKERS

Voice coil impedance 3.2 ohms ±10%

Model No.	Size	Figure	Magnet Weight or Field	Power Handling (Watts)	Depth (inches)	Shipping Weight (pounds)	Dealer Net
3A07 OT*	3½"	A	.65 oz. Alnico V	2.5	1 33/64	½	$2.88
4A05 OT*	4"	I	.55 oz. Alnico V	2.5	1½	¼	2.70
5A05 OT*	5"	I	.55 oz. Alnico V	3	1 11/16	½	2.97
8A31PA OT	8"	C	3.16 oz. Alnico V	10	3 5/16	2	6.60

PUBLIC ADDRESS SPEAKERS

Voice coil impedance 8 ohms ±10%

8A1PA	8"	C	1.2 oz. Alnico V	6	2 11/16	1¼	$4.32
8A21PA	8"	C	2.15 oz. Alnico V	8	3 5/16	2	5.85
8A31PA	8"	C	3.16 oz. Alnico V	10	3 5/16	2	6.75
8A6PA	8"	B	6.8 oz. Alnico V	12	3 7/8	3¼	8.82
8C6PA	8"	O	6.0 oz. Ceramic	12	3	2½	7.23
8C10PA	8"	O	10.0 oz. Ceramic	12	3 1/8	3	7.98
10C10PA	10"	L	10.0 oz. Ceramic	14	3 25/32	3¼	9.78
12A31PA	12"	B	3.16 oz. Alnico V	12	5	3¼	8.88
12A6PA	12"	B	6.8 oz. Alnico V	15	5¼	4	10.92
12C12PA	12"	O	12 oz. Ceramic	25	4½	4½	13.44

INTERCOM SPEAKERS

Voice coil impedance 45 ohms ±10%

25A07Z45	2½"	A	.65 oz. Alnico V	1.5	1¼	¼	$2.88
30A05Z45	3"	A	.55 oz. Alnico V	2	1 3/16	½	2.61
3A07Z45*	3½"	A	.65 oz. Alnico V	2.5	1 33/64	½	2.88
3A07Z450T§	3½"	A	.65 oz. Alnico V	2.5	1 33/64	½	3.21
4A1Z45*	4"	A	.65 oz. Q/8	3.0	1 3/16	¾	3.27
5A1Z45*	5"	C	.65 oz. Q/8	3.5	1 27/32	1	3.42
8A31Z45	8"	C	3.16 oz. Alnico V	10	3 1/16	2	6.63

COLOR TV SPEAKERS

Voice coil impedance 3.2 ohms ±10%

35A2C§	3" x 5"	R‡	1.2 oz. Alnico V	4	1 11/16	½	$3.36
4A2C§	4"	R‡	1.2 oz. Alnico V	4	1 5/8	½	3.21
46A2C§	4" x 6"	R‡	1.2 oz. Alnico V	4	1 11/16	1	3.57
52A2C§	5¼"	R‡	1.2 oz. Alnico V	5	1 7/8	1	3.69

BACKGROUND MUSIC SPEAKERS

Voice coil impedance 8 ohms

Model No.	Size	Figure	Frequency Response Cps	Magnet Weight	Power Handling (Watts)	Depth (inches)	Shipping Weight (lbs.)	Dealer Net
8C5PAX#	8"	P	50-20000	4.8 oz.	10	2 25/32	2	$6.75
8C6PAX#•	8"	P	50-20000	6.0 oz.	12	3	2½	7.35
8C10PAX#•	8"	P	50-20000	10.0 oz.	15	3 1/8	2¾	8.73
8C6PAS#	8"	Q	50-6000	6.0 oz.	10	2 1/8	2½	7.35
12C6PAS#•	12"	Q	40-12000	6.0 oz.	15	3½	4	10.11
12C10PAX#•	12"	P	50-15000	10.0 oz.	15	4 3/8	4¼	11.46

HIGH FIDELITY SPEAKERS

Model No.	Size	Figure	Speaker Type	Frequency Response Cps	Power Handling (Watts)	V.C. Impedance	Shipping Weight (lbs.)	Dealer Net
15C12CO#	15"	G	Coaxial, 2000 cps. Xover	25-18,000	25	8	8	$35.31
12C10CO	12"	G	Coaxial, 2000 cps. Xover	50-15,000	14	8	6½	23.28
8C6CO	8"	G	Coaxial, 2000 cps. Xover	50-15,000	10	8	2¾	15.42
12C12X#•	12"	H	Extended range dual cone	30-16,000	18	8	5½	15.42
8C12X#	8"	H	Extended range	50-14,000	15	8	3¼	11.46
69C6X#•	6" x 9"	D	Extended range dual cone	50-15,000	12	8	2½	9.36
15C12L#	15"	H	Low frequency woofer	20- 4,000	15	8	7	23.58
12C12L#	12"	H	Low frequency woofer	30- 3,000	15	8	5½	15.42
5A15T	5"	A	High frequency tweeter	2,000-15,000	10	8	1	4.38
3A15T	3½"	A	High frequency tweeter	2,000-15,000	10	8	¾	3.87
CO5-25			Crossover Unit for use with 5A15T&3A15T				1/8	.48

UNIVERSAL REPLACEMENT SPEAKERS

These ingenously designed speakers fit directly into original equipment without sheering or notching. This eliminates the creation of metallic particles which might otherwise lodge in the voice coil gap.

Model No.	Size	Figure	Magnet Weight	Power Handling (watts)	Shipping Weight (lbs.)	Depth (inches)	Dealer Net
26A07U	2" x 6"	K	.65 oz.	2	½	1 19/32	$3.06
3A05U	3½"	K	.55 oz.	2	¼	1 19/32	2.19
35A05U	3" x 5"	K	.55 oz.	2	½	1½	2.76
4A05U	4"	K	.55 oz.	2.5	¼	1½	2.04
4A05XR*	4"	K	.55 oz.	2.5	¼	1½	3.24
46A07U	4" x 6"	K	.65 oz.	3.5	¾	1 15/16	3.33

Ceramic magnet. • Dual cone. § Cup pot; very shallow construction. * Includes premounted 2500 ohm transformer.
‡ Illustrates magnet construction; see same size standard speaker for basket shape.
Q/8 — New high energy magnet material.

© United Technical Publications

Net

Wharfedale

ACHROMATIC and VARIFLEX Speaker Systems

All with unitized construction . . . all built to take power . . . for flawless reproduction of the full dynamic range in today's most advanced recordings and broadcasts.



VARIFLEX®
W80A

A NEW CONCEPT . . . ELIMINATES THE USUAL LIMITATIONS INVOLVING SPEAKER PLACEMENT

Two W80A Speaker Systems may be placed end to end as a console, or spaced at any distance from each other or from the wall, at almost any height between ceiling and floor, to project flawless stereophonic sound to all areas of the room. Decorator designed to add elegance to any setting.
• Speakers: All professional grade components. Woofer: Heavy duty 12½" with 9½ lb. magnet assembly; mid-range: 4½" acoustically isolated; two different treble speakers: 3" domed for sub-treble; 1" domed for extra highs • Controls: Individual for mid and treble; variplanular disc on a swivel mount to adjust sound projection • Minimum power required: 30 watts (per channel) IHF • System impedance: 4 to 8 ohms • Dimensions: 28"x17¼"x17" deep (Two W80A's can be used for a single 56" console. Removable bumpers add 1" to height.) • Shipping weight: 81 lbs. • Finish: Oiled walnut. • Price: $317.60. B-69 roll-out base for individual speaker, $18.50. B-68 pedestal for use when two speakers are end to end in console arrangement, $25.75.





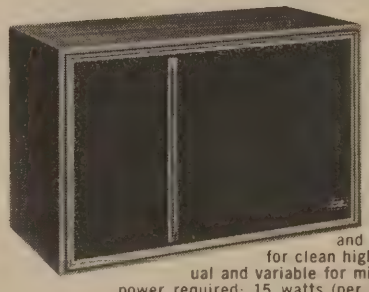
ACHROMATIC
W70E

VERSATILE HIGH AND LOW BOY DE LUXE 3-WAY SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION

One of the industry's most popular and versatile floor-standing systems, the W70E combines the finest components to provide the ultimate in home stereo reproduction. Superbly styled, the versatile W70E can be used vertically or horizontally. Either way, it creates a decorative end table to complement any room setting.
• Speakers: Woofer: Long throw, heavy duty 15"; mid-range: Acoustically isolated 5"; tweeter; Omnidirectional 1" mylar dome tweeter with phase compensating diffuser • Controls: Separate, continuously variable controls for mid and treble ranges • Minimum power required: 15 watts (per channel) IHF • System impedance: 8 ohms • Dimensions: 24"x22¾"x13⅝" deep • Shipping weight: 72 lbs. • Finish: Oiled walnut • Price: $223.00

ACHROMATIC
W60E

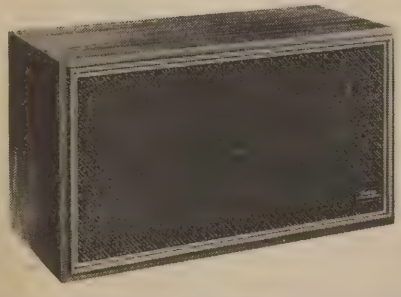
3-WAY SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION FOR BOOKSHELF OR FLOOR LOCATION



The remarkable W60E is the new version of Wharfedale's most popular speaker system. New 3-way configuration and upgraded components, make the sound more impressive than ever before.
• Speakers: Woofer: Heavy duty 12½"; 9½ lb. magnet assembly, distortion-free bass; mid-range: Acoustically isolated 5"; super tweeter: 1" omnidirectional mylar dome and phase compensating diffuser for clean high response • Controls: Individual and variable for mid-range and treble • Minimum power required: 15 watts (per channel) IHF • System impedance: 4 to 8 ohms • Dimensions: 24"x15"x12" deep • Shipping weight: 56 lbs. • Finish: Oiled walnut • Price: $153.00

ACHROMATIC
W45

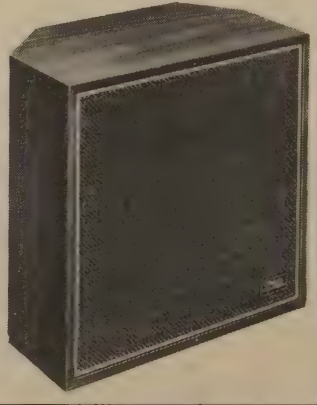
3-WAY SHELF SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION



A new speaker system engineered specifically to meet today's challenging musical requirements. Truly an outstanding value. A multiple speaker assembly yielding a carefully tailored ultra-linear response.
• Speakers: Woofer: Heavy duty 10". Oversized voice coil and long-travel cone for extended bass; mid-range: Acoustically isolated 3¼"; tweeter: Ultra-curvilinear 2½" provides wide angle dispersion and smooth responses at high output levels • Controls: Continuously variable mid-range and treble • Minimum power required: 10 watts (per channel) IHF • System impedance: 8 ohms • Dimensions: 22"x12"x10" deep • Shipping weight: 37 lbs. • Finish: Oiled walnut • Price: $117.00

ACHROMATIC
W35

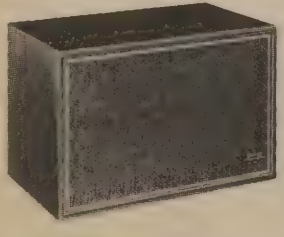
3-WAY SHELF/CORNER SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION



A new, highly versatile shape in speaker systems for today's special decorative needs. May be used free-standing on shelf or at shelf corners, or suspended in room corners with optional corner mounting bracket. Exceptionally robust and highly articulate performance results from the 3-way speaker configuration. Ideal for four-channel stereo application.
• Speakers: Woofer: Heavy duty 8". Low resonance, high compliance cone suspension for deep, faithful bass reproduction; mid-range: Acoustically isolated 3¼"; tweeter: 2½" ultra-curvilinear for undistorted wide-angle response • Controls: Individual and variable mid-range and tweeter • Minimum power required: 10 watts (per channel) IHF • System impedance: 8 ohms • Dimensions: 15"x 15"x8" deep • Packed in pairs • Shipping weight: 36 lbs. • Finish: Oiled walnut • Price: $82.00 ea. B-66 Mounting Bracket, $4.00.

ACHROMATIC
W25

2-WAY SPACE-SAVER SPEAKER SYSTEM WITH ACOUSTIC SUSPENSION



The remarkable performance of this small speaker system is even more amazing when you consider its compact size and modest cost. It is designed specifically to handle today's musical demands from percussive hard-rock to full symphonic material.
• Speakers: Woofer: High compliance 8" for bass and mid-range; tweeter: Ultra-curvilinear 2½" • Control: Variable treble • Minimum power required: 10 watts (per channel) IHF • System impedance: 8 ohms • Dimensions: 15½"x10"x8" deep • Packed in pairs • Shipping weight: 29 lbs. • Finish: Oiled walnut • Price: $58.75 ea.

WHARFEDALE, DIV. BRITISH INDUSTRIES CO.

Prices and specifications subject to change without notice.

© United Technical Publications

RCA

MICROPHONES AND ACCESSORIES









POLYDIRECTIONAL RIBBON — 77DX

The quality microphone standard of the broadcast industry, the RCA 77DX, is available in two models: one with a low-gloss finish for TV, the other a satin chrome finish for AM and FM. The 77DX offers a choice of unidirectional, bidirectional, or nondirectional pickup patterns which are easily changed by a selector switch. Three frequency-response variations on the basic pickup patterns may also be obtained, thus a total of nine different directional characteristics may be ultilized. The 30- to 20,000-Hz frequency response of the 77DX makes it suitable for every high-fidelity broadcasting and recording application. Output impedance is factory connected for 250 ohms; however, it may be easily reconnected for a 30- or 150-ohm output impedance. This 77DX mounts on a standard ½-inch pipe thread, and comes with 30 feet of three-conductor shielded cable, less plug.

77DX Satin Chrome Finish $224.00*
77DX-G Low Luster, Gray Finish 224.00*

NONDIRECTIONAL DYNAMIC — BK-1A

Ideal for outdoor use or wherever constant handling is required, the BK-1A offers smooth response for both voice and music. The BK-1A is also an excellent unit for sports, panel shows, interviews, and remotes. It provides uniform response from 50 to 15,000 Hz. The swivel mounting of the BK-1A can be used to control directional characteristics. The vertical position is nondirectional; the horizontal position is semidirectional. The output impedance is 250 ohms, but 30- and 150-ohm connections are included. The BK-1A may be mounted on any type stand having ½-inch pipe thread and is perfect for use with the MA-06 desk stand. Thirty feet of three-conductor cable is supplied, less connector.

BK-1A $95.00*

CARDIOID UNIAXIAL RIBBON — BK-5B

The BK-5B is a high quality ribbon instrument designed especially for use in high noise areas, as well as being suitable for general studio purposes. Frequency response from 30 to 20,000 Hz. The output is connected for 250 ohms, but may easily be changed to 30 or 150 ohms. It is supplied with thirty feet of three-conductor cable, less connector. A wind-screen is available for outdoor use. The BK-5B is supported by a fork mounting which has ⅛-inch pipe thread.

BK-5B $172.00*

LAVALIER — BK-6B

The BK-6B is a lightweight microphone with excellent speech balance, ideal for remotes, interviews, and other applications where an inconspicuous microphone is needed. The 2.3-ounce unit is only $2\frac{9}{16}$ by $1\frac{5}{16}$ inches. Wide-range frequency response (60-15,000 Hz) permits using the microphone for all speech applications. The 250-ohm output impedance may be changed to 30 or 150 ohms by a simple change of cable connections. Thirty feet of three-conductor shielded cable is supplied, less connector.

BK-6B with lanyard and fastener $95.00*

SUBMINIATURE LAVALIER — BK-12A

The RCA BK-12A is a high-quality subminiature microphone weighing just 20 grams and measuring only ¾" x 1½". It has a wide-frequency response of 60 to 18,000 Hz, which has been tailored for proper speech balance. A line impedance voice coil permits use with 30- to 250-ohm unloaded inputs. The BK-12A is essentially nondirectional to 6,000 Hz. It is supplied with lanyard, tie-clip holder, cable clip and 30 feet of two-conductor cable (less connector).

BK-12A $85.00*

OMNIDIRECTIONAL DYNAMIC BK-14A & BK-16A

BK-14A is handsomely-styled for indoor/outdoor, hand/stand, music/voice with essentially uniform frequency response 50 to 15,000 Hz. Replaceable cartridge. Internal shock, wind, and pop resistant. Low impedance for use with 30- to 250-ohm unloaded inputs. Comes with swivel mount and 30-ft., 2-conductor shielded cable. 8" x 0.75". 4 oz. Non-reflecting satin nickel.

BK-14A $149.00*

BK-16A has a new slim silhouette for hand or stand. Low impedance—for use with 30- to 250-ohm unloaded inputs. Extremely smooth frequency response 50 to 15,000 Hz. Replaceable cartridge comes with swivel mounting and 30-ft., 2-conductor shielded cable. 8" x 0.75". 3 oz. Non-reflecting satin-nickel.

BK-16A $139.00*

UNIDIRECTIONAL DYNAMIC — HK-106

A dual-impedance (200/15000 ohms) dynamic microphone having a unidirectional ("super" cardioid) pickup characteristic with excellent off-axis rejection at 180°, and a gentle roll-off characteristic at low frequencies. Useful for broadcast-studio, outdoor broadcasting, stage, and video-sound-track recording applications. Frequency response from 150 to 10000 Hz. Features a rotatable 5-pin connector to select low- or high-impedance output. Includes metal desk stand, adjustable microphone holder, and attache-type carrying case. Black and satin-chrome finish.

HK-106 .....$44.00*

OMNIDIRECTIONAL DYNAMIC — HK-111

Professional microphone well suited for broadcast-studio, stage, and monaural-and-stereophonic-recording applications. Flat frequency response throughout its response range of 50 to 20000 Hz contributes to the excellent sound-reproduction capability. Supplied wind screen, special 5-pin connector for changing low- to hi-impedance, and dual thread adjustable microphone holder. Black and satin-chrome finish.

HK-111 .....$54.00*

OMNIDIRECTIONAL DYNAMIC — HK-115

Dual-impedance (15000/200 ohms). Designed for radio and TV broadcast studio, theatre and stage, and hi-quality music and voice recording applications. Frequency response from 70 to 16000 Hz. Features on-off switch, removable wind screen, adjustable microphone holder, special hi-low impedance 5-pin rotatable connector, and attache-type carrying case. Black and satin-chrome finish.

HK-115 .....$44.00*

* Optional professional net

RCA

MICROPHONES AND ACCESSORIES



UNIDIRECTIONAL DYNAMIC — HK-96

An excellent microphone for use on stage, for recording, or in broadcast applications. Excellent frequency response (50 to 15,000 Hz) and features a 3-position bass roll-off switch to reduce rumble and unwanted background noise. The special 5-pin connector permits switching from low to high impedance (200 or 15,000 ohms) by merely rotating the connector. The unit has a black and chrome finish. Comes complete with wind-screen, slip-on swivel mount, 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case.

HK-96 ..... **$50.00***

UNIDIRECTIONAL DYNAMIC — HK-97

Excellent unit for stage use by individual performers or by groups in which each individual has his own microphone. It has excellent frequency response (50 to 15,000 Hz) and on-off muting switch. Special 5-pin connector for low and high impedance. Black and chrome finish. Comes complete with wind-screen, slip-on mount, 20 ft. of 2-conductor shielded balanced line (less connector) and attractive black attache case.

HK-97 ..... **$40.00***

OMNIDIRECTIONAL DYNAMIC — HK-98

For on stage, recording, and broadcast use where two or more individuals are using the same microphone. Excellent frequency response (40 to 17,000 Hz) and features an on-off muting switch. Used in conjunction with several microphones, utmost flexibility is obtained when performers switch from group to solo. The special 5-pin connector permits switching from low to high impedance (200 to 15,000 ohms). Mounting with any ⅝"-27 fixture thread permits the use of low cost stands. Black and chrome finish unit. Comes complete with wind-screen, slip-on mount, 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case.

HK-98 ..... **$40.00***

DYNAMIC — HK-101 & 109

Dependable performance and attractive styling (metallic silver and satin chrome finish) make these units ideal for use in ham, CB, base-station mobile communications, and paging applications. The HK-101 features an output impedance of 50,000 ohms and a frequency response of 70 to 9,000 Hz, the HK-109 — 400 ohms and 400 - 8,000 Hz. The base of the microphone has a press-to-talk switch, a press-to-lock and press-to-unlock switch and a lift switch (only on HK-101) which activates the microphone when it is picked up.

HK-101 ..... **$44.00***

HK-109 ..... **$49.00***

UNIDIRECTIONAL DYNAMIC
HK-99, HK-116/HK-117, HK-118 & HK-121

Especially designed for the home recording enthusiast who needs a replacement, or who prefers a better quality microphone, these units are low impedance (500 ohms) microphones with good frequency response (80 to 10,000 Hz). They have an on-off switch; HK-99, -118, and -121 have tape recorder remote-control capability. Black and chrome finish. Included is a desk stand and 6-ft. cable. These microphones have the same electrical characteristics but have different terminations and switching features. Color-coded blister pack.

HK-99 ..... **$8.00***

HK-116/HK-117 & HK-118 ..... each **$9.00***

HK-121 ..... **$10.00***

OMNIDIRECTIONAL DYNAMIC
HK-100, HK-119/HK-120 & HK-122

These units are high impedance (50,000 ohms) microphones with good frequency response (100 to 8,000 Hz) for voice reproduction. They all have an on-off switch; HK-100 and -122 have tape recorder remote control capability. Black and chrome. Comes complete with a desk stand and a 6-ft. cable. These microphones have the same electrical characteristics but different terminations and switching features.

HK-100 ..... **$8.00***

HK-119 & HK-120 ..... each **$9.00***

HK-122 ..... **$10.00***

OMNIDIRECTIONAL DYNAMIC
HK-416/HK-417, HK-418 & HK-419/HK-420

Low cost types for economy-priced tape recorders, come with plastic stand and 4-ft. cable in reusable plastic case. HK-416/HK-417 is low impedance (500 ohms) and HK-419/HK-420 is high impedance (50,000 ohms). Both are terminated with a miniature phone plug and include a standard phone plug adapter. HK-418 is low impedance (500 ohms), has tape-recorder on-off switch, and includes coaxial jack adapter.

HK-416/HK-417 & HK-419/HK-420 ..... **$4.40***

HK-418 ..... **$4.70***

UNIDIRECTIONAL DYNAMIC — HK-124

Popular "ball and stick" style, in black and satin chrome, for voice, PA, and other general-purpose use. Low impedance (500 ohms). Frequency response 100 to 8000 Hz. Includes high-style desk stand, 10-ft. cable with miniature phone plug plus standard phone plug adapter. Color-coded blister pack.

HK-124 ..... **$12.00***

OMNIDIRECTIONAL DYNAMIC — HK-126

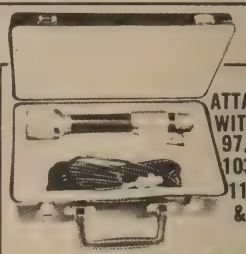
Very stylish probe design in black and satin chrome for tape recordings. Low impedance (200 ohms). Frequency response 100 to 10,000 Hz. Includes recorder remote-control switch, plastic stand, 10-ft. cable with miniature and subminiature phone plugs, plus coaxial jack adapter. Color-coded blister pack.

HK-126 ..... **$10.00***

UNIDIRECTIONAL DYNAMIC — HK-127

Stereo microphone with two cartridges phased 180° crosswise. Low impedance (500 ohms). Frequency response 100 to 10,000 Hz. Includes high-style desk stand, 6-ft. dual cable with two miniature phone plugs, plus two standard phone plug adapters. Color-coded blister pack.

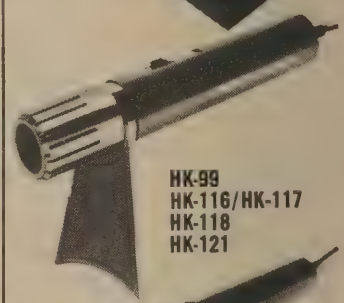
HK-127 ..... **$12.00***



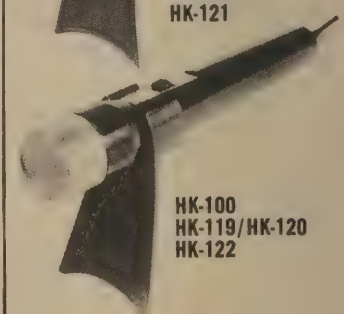
ATTACHE CASE WITH HK-96, 97, 98, 102, 103, 104, 106, 110, 111, 112 & 115



HK-127



HK-99
HK-116/HK-117
HK-118
HK-121



HK-100
HK-119/HK-120
HK-122





HK-101
HK-109

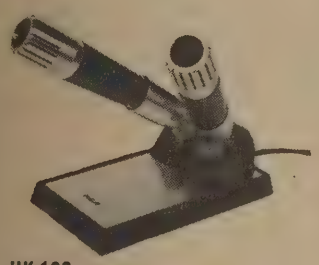
Net

© United Technical Publications

RCA

MICROPHONES AND ACCESSORIES

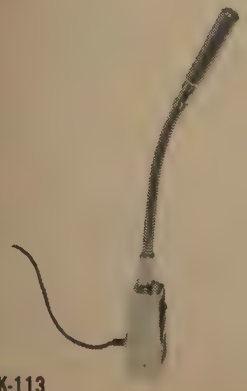




HK-102



HK-104



HK-113

UNIDIRECTIONAL DYNAMIC — HK-103

The unidirectional (cardioid) HK-103 is designed for vocalists, very high-quality voice applications, and orchestral pickup, where high off-axis rejection is needed. Finished in gold. With a frequency response from 100 Hz to 15000 Hz, the HK-103 has excellent off-axis rejection between 135° and 180°. Supplied with a special 5-pin rotatable connector which permits changing from low-to-high impedance. Also supplied with the microphone is a dual-thread ⅝"-27 thread and 5/16"-18 thread) microphone holder, a gold-and-black weighted metal desk stand, and an attache-type carrying case.

HK-103 ..... **$64.00***

OMNIDIRECTIONAL DYNAMIC — HK-105

General-purpose microphone for use in applications such as public-address and ungrading of home tape recorders. Frequency response from 70 Hz to 12000 Hz. Supplied with 10 feet of permanently attached cable, a desk stand and a lanyard. The HK-105 is housed in a die-cast metal case having a smart black-and-chrome finish.

HK-105 ..... **$14.00***

OMNIDIRECTIONAL DYNAMIC — HK-112

Especially useful for general-purpose monaural and stereophonic high-fidelity home recording of voice, music or choral arrangements. Frequency response from 100 Hz to 13000 Hz. A special 5-pin connector supplied with the microphone permits switching from low- to high-impedance. Also supplied with a dual-thread (⅝"-27 thread and 5/16"-18 thread) adjustable microphone holder which makes the microphone suitable for use with a wide variety of microphone stands. Housed in a die-cast metal case and has an attractive satin-chrome finish.

HK-112 ..... **$34.00***

UNIDIRECTIONAL DYNAMIC — HK-110

The unidirectional (cardioid) HK-110 is designed for close vocal work, "rock" bands and combos, and high-fidelity home-recording applications. Finished in satin black and gold. Frequency response of 100 Hz to 12000 Hz, and features an on-off switch and an integral wind screen. Supplied with a special 5-pin connector which can be used to select low- or high-impedance output, a dual-thread (⅝"-27 thread and 3/16"-18 thread) gold-finished microphone holder, and an attache-type carrying case. Housed in a die-cast metal case.

HK-110 ..... **$54.00***

DYNAMIC — HK-107

This omnidirectional, hand-held, high-impedance microphone is designed for general voice and mobile communications applications. The special tapered high-and-low frequency response characteristic reduces background noise and rumble. The HK-107 has a switch for push-to-talk remote-control operation, and is housed in a high-impact black plastic case.

HK-107 ..... **$12.00***

DYNAMIC — HK-108

Especially designed for use in high-noise-level locations, the HK-108 is a unidirectional (cardioid), noise-cancelling microphone. This dual-cartridge, hand-held, microphone is intended for close-talk applications such as public address, paging, and mobile communications, and effectively reduces sound pickup from sources more than a few inches away. The HK-108 features a switch which can be used for push-to-talk remote-control operation, and is housed in a high-impact black plastic case.

HK-108 ..... **$17.00***

UNIDIRECTIONAL DYNAMIC — HK-102

Twin dynamic microphones especially designed for stereophonic home-recording, conference and panel discussions, and general-meeting recording applications. Output impedance of 10000 ohms and a frequency response from 150 to 10000 Hz. Supplied with a desk stand, wired for two-channel output, and two swivel-type microphone holders which can be angled to provide the separation required for stereophonic recording. These versatile microphones can be removed from the stand and used as hand-held units. In addition to the desk stand and twin cables, the HK-102 microphones are also supplied with two lanyards and two slip-on desk stands. The HK-102 microphones have a die-cast metal case with an attractive black- and satin-chrome finish.

HK-102 ..... **$62.00***

UNIDIRECTIONAL DYNAMIC — HK-104

Dual-channel dynamic microphone especially useful in two-channel home-recording, conference and panel discussions, and general-meeting recording applications. Output impedance of 10000 ohms and a frequency response from 150 Hz to 10000 Hz. Features a unique, attractive design which incorporates two unidirectional microphones in a single die-cast metal housing having a satin-chrome finish. Supplied with a gray metal desk stand, and ten feet of two-conductor, shielded, ivory cable.

HK-104 ..... **$45.00***

DYNAMIC — HK-113

A very small, omnidirectional, 10000 ohm microphone, the HK-113 is especially useful in service counter, voice recording, public address and paging applications. The small flexible goose-neck base fits a standard microphone stand, and the push-to-talk/lock switch can also be used for remote control. Because of its high-style and unobtrusive appearance, the HK-113 is particularly well suited in public places where sound re-enforcement is needed.

HK-113 ..... **$29.00**

© United Technical Publications

TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

HEADSETS: GENERAL PURPOSE, COMMERCIAL, MILITARY, AMATEUR, EDUCATIONAL, STEREO

Since 1922 TRIMM has manufactured a complete line of the finest electro-acoustic equipment and components. Engineered to fill the broadest applications; from the experimental crystal set to rugged field use, from industrial test equipment to home high-fidelity and stereo — these headsets are quality constructed and value priced.

ACME 24, 25, 27

A superior low-cost headset most suitable for Geiger counters, crystal sets, toys and radio systems. Black bakelite shell and cap. No. 24 has a black vinyl covered double headband and cotton tinsel conductor "Y" cord with pin tips. No. 25 headband is black enameled. No. 27 has a black enameled single headband and plastic covered stranded wire cord with pin tips.

REX 30, 32

Lowest cost BIPOLAR type headset. Increased sensitivity. A 6 oz. lightweight for code training and institutional radio systems. Black bakelite shell and cap. Black vinyl covered headband. No. 32 has a single headband and plastic covered stranded wire with pin tips.

DEPENDABLE 70, 71, 72

Combines the best qualities of Acme and Rex; simple, rugged, sensitive and low cost. Ideal for electronic organs, code training and language labs. Black bakelite shell and cap, black vinyl covered headband, mercerized cotton tinsel "Y" cord and pin tips. No. 70 has double headband; No. 71 has plastic covered stranded wire cord; and No. 72 has single headband and single cord with pin tips.

• STEREO

All models available for stereo use, ranging from the least expensive Acme to the top quality, extended range "L" headset. Stereo types have two different plug terminations. Those with "-14" in code number have single 3-circuit plug such as No. 513 or No. 516; and those with "-15" in code number have 2-circuit plugs, one red, other black.



Highest quality headset of conventional construction. Individually tuned acoustic cavities assures faithful sound reproduction. Top performance under all environmental conditions. Black bakelite shell and cap. No. 50 has black rubber covered double headband and waterproof nylon tinsel conductor, "Y" cord and No. 501 plug. No. 56 has a vinyl covered double headband with over-the-head molded neoprene cord and No. 501 plug.

STANDARD "L"

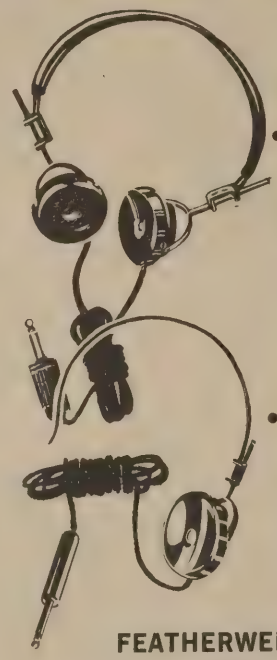
50-08	$23.00	56-2M	$27.65
56-08	27.65	50-5M	23.00
50-06	23.00	56-5M	27.65
56-06	27.65	50-12M	24.00
50-2M	23.00	56-12M	28.65

STEREO "L"

50-14-08	27.00	56-14-16	30.65
56-14-08	30.65	50-14-6M	28.00
50-14-16	27.00	56-14-6M	30.65
50-15-08	28.00	56-15-16	31.65
56-15-08	31.65	50-15-6M	29.00
50-15-16	28.00	56-15-6M	31.65

REPLACEMENT PARTS

For a nominal charge all TRIMM manufactured products can be restored to top working condition at the factory. Nearly any part that is required for manufacture is also available as a replacement part. In addition, worn or broken headset cords for almost any make can be made to order.



ACME

				With 511 plug	
24-03	$4.10	25-2K	$3.85	24-9-03	$5.25
25-03	3.70	24-4K	4.60	24-9-2K	5.40
27-03*	2.20	25-4K	4.20	25-9-2K	5.00
24-15	4.15	27-1K*	2.35	27-9-03	3.35
24-2K	4.25	27-2K*	2.55		

• STEREO

24-14-03	$8.70	24-15-03	$9.60

REX

				With 511 plug	
30-03	$5.05	30-3K	$5.55	30-9-03	$6.15
30-06	5.05	32-03*	2.80	30-9-06	6.15
30-2K	5.25	32-1K*	2.90	30-9-2K	6.35
				32-9-03*	3.90

DEPENDABLE

				With 511 plug	
70-03	$5.80	70-4K	$6.40		
70-06	5.80	71-2K	6.90		
70-08	5.80	72-03*	3.70	70-9-03	$6.90
70-15	5.80	72-1K*	4.00	70-9-06	6.90
70-2K	6.10	72-2K*	4.10	70-9-2K	7.20
70-3K	6.10			70-9-4K	7.50

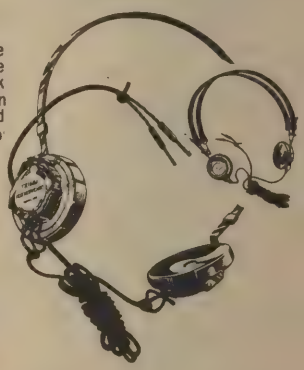
• STEREO

70-14-03	$7 60	70-14-2K	$7.90	70-15-08	$8.00
70-14-08	7.60	70-15-03	8.00	70-15-2K	8.30

Headsets are listed by their model number and by their impedance or D.C. resistance; 3.2 ohms (03); 8 ohms (08); 600 ohms (06); 1500 ohms (15); 2000 ohms D.C. (2K); 2000 ohms (2M); 3000 ohms D.C. (3K); 4000 ohms D.C. (4K); 5000 ohms (5M); 12000 ohms (12M); 17000 ohms (17M); and 24000 ohms (24M). Single earphones (*). List prices included are for single purchases at retail. Consult your distributor for quantity discounts.

FEATHERWEIGHT 5 OZ.!
WORLD FAMOUS-PROVEN IN USE
100, 101, 102, 104, 106, 107

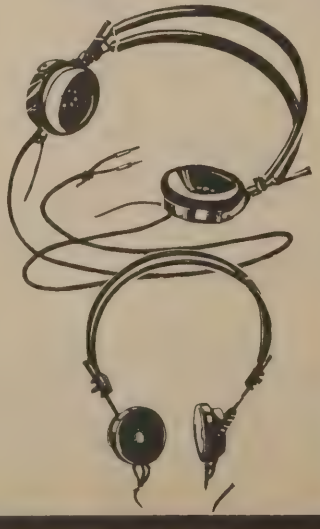
Highly recommended for amateur radio use, language training and electronic testing. Nos. 100 and 106 have a fully adjustable nickel plated single headband. Black bakelite shell and cap. Waterproof mercerized cotton tinsel conductor "Y" cord with pin tips. Nos. 104 and 107 have black vinyl covered double headband at no increase in price.



$12.50 List With Pin Tips		$14.50 List With 501 Plug	
100-03	100-2K	100-9-03	100-9-4K
104-03	104-2K	104-9-03	104-9-4K
100-06	100-4K	100-9-06	106-9
104-06	104-4K	104-9-06	107-9
100-15	106	100-9-2K	
104-15	107	104-9-2K	

With Pin Tips List $13.00		With 501 Plug List $15.00	
101-03	102-03	101-9-03	102-9-03
101-06	102-06	101-9-06	102-9-06
101-2K	102-2K	101-9-2K	102-9-2K

STEREO			
104-14-03	$18.00	104-15-08	$18.00
104-15-03	18.00	104-14-2K	18.00
104-14-08	18.00	104-15-2K	18.00



ARMY — NAVY 28, 29

Built for severe use. Satin chrome brass shell, black bakelite cap. Black rubber covered double headband with thumbscrew lock for yoke adjustment. Waterproof nylon tinsel conductor "Y" cord, pin tips or plug.

With Pin Tips		With 501 Plug	
28 (W) 600 ohm	$20.00	28-9 (W) 600 ohm	$21.65
29 (K) 20M ohm	20.00	29-9 (K) 20M ohm	21.65

COMMERCIAL 155, 156, 157, 158, AND 159

Very rugged TRIMM headset — yet very lightweight. Developed for marine and aircraft radio use. All types have black bakelite shell and cap; waterproof, tinsel conductor cord. No. 156 (600 ohm) and No. 157 (17M ohm) have rubber covered double headband with a "Y" cord and 501 plug. No. 158 (600 ohm) and No. 159 (17M ohm) same with pin tips on end of cord. No. 155 especially suited for educational use, has black vinyl covered headband, somewhat smaller than normal adult size and suitable for children. Complete with 501 plug.

155-03	$15.00	156	$16.00
155-06	15.00	157	16.00
155-2K	15.00	158	14.00
		159	14.00

Trade Discount Applies To List Prices Only

© United Technical Publications

TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

HEADSETS: GROUP AND INDIVIDUAL LISTENING, AUDIO KITS, STEREO



Telephone Operators Headset

A high quality transmitter/receiver unit commonly used in switchboard applications. Lightweight construction and complete adjustability assures wearing comfort and proper transmitter positioning.

RECEIVER	275 ohm impedance at 1000 cps.
TRANSMITTER	25 ohm impedance, carbon type. Frequency range—300 to 5000 cps.
PLUG	Standard twin 2 circuit plug, TRIMM No. 505

252AW List $77.75

"85" PILLOW PHONE



Sealed, waterproof ultra-thin disk for very local listening applications. Highly sensitive magnetic unit only 2" in diameter, 3/16" thick. Stainless steel face, pearl gray plastic shell. Replaceable vinyl tinsel cord with plug. Gray neoprene snap-on hanger ring, as shown: $0.50

With 514 plug			With 536 plug	
85-03	3.2 ohm	$12.00	**86-03** 3.2 ohm	$12.00
85-2M	2M ohm	12.00	**86-2M** 2M ohm	12.00

GROUP HEARING AID COMPONENTS—SINGLE EARPHONES

For installations where the listening requirements of many individuals must be served two basic types of earphones are used: the headband model for theatres and auditoriums and the hand held lorgnette for churches and mortuaries. Both Featherweight and "L" models are used. All have a 6 ft. waterproof mercerized cotton tinsel conductor cord. Standard impedances: 3.2, 8, 300, 1K and 2K ohms.

"L" Model (With 512 flat plug)

Headband		Lorgnette	
51-08	$13.00	**52-08**	$16.00
51-3	13.00	**52-3**	16.00
51-1K	13.00	**52-1K**	16.00

FEATHERWEIGHT (With pin tips)

Headband		Lorgnette	
110-03	$7.50	**120-03**	$10.50
110-3	7.50	**120-3**	10.50
110-1K	7.50	**120-1K**	10.50
110-2K	7.50	**120-2K**	10.50

FEATHERWEIGHT (With 512 flat plug)

114-03	$9.50	**124-03**	$12.50
114-3	9.50	**124-3**	12.50
114-1K	9.50	**124-1K**	12.50
114-2K	9.50	**124-2K**	12.50

VOLUME CONTROL AND OUTLET BOXES

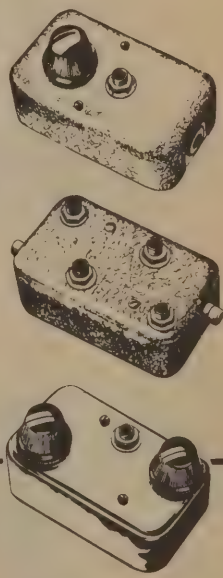
Formed metal boxes measuring 3¾" x 2⅛" x 1¼". All edges and corners are rounded. Available in Brown or Gray Hammertone and in Gloss Ivory.

Single Control — Single Jack Outlet Boxes

Resistance	Brown	Ivory	Gray	
1K	**460-1K**	**461-1K**	**462-1K**	$6.00
10K	**460-10K**	**461-10K**	**462-10K**	6.00
25K, 50K, 100K, 500K	Any of the above three types, these ohmages			$6.50
				6.50

Dual Control — Dual Jack Outlet Boxes

1K	**467-1K**	**469-1K**	$9.75
10K	**467-10K**	**469-10K**	9.75
25K	**467-25K**	**469-25K**	11.00



Dual Jacks — No Control

477	Brown	$4.00
478	Ivory	4.00

(With load resistor)

480	Brown	$5.00
481	Ivory	5.00
482	Gray	5.00

Single Jacks — No Control

484	Brown	$3.50
485	Ivory	3.50
486	Gray	3.50

Audio Junction Box — Four Jacks

490	Brown	$6.00
492	Gray	6.00



Headset Kits For TV and Radio

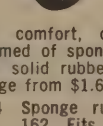
Provides a simple means of attaching headsets or extension speakers to TV or radio sets. Has remote on-off switch for loudspeaker, a volume control for the headset and two jacks for multiple listening. Complete kit includes headset or single earphone with plug, control box and 15 ft. of connecting cord.

Kit		
632	(Double ACME Headset)	$13.15
632-1	(Single ACME Headset)	11.20
632-2	(Two double ACME Headsets)	18.30
633	(Double DEPENDABLE Headset)	14.45
634	(Double FEATHERWEIGHT Headset)	22.00
635	(Single FEATHERWEIGHT Headset)	16.60
637	(Single PILLOW-PHONE)	19.30
631	(Control Box Only)	8.00
631-1	Control Box Only but with miniature jack	8.00
631-2	Control Box Only but with sub-miniature jack	8.00

STEREO CONTROL BOX

Designed for stereo headsets with No. 513/516 three circuit plugs. Has two volume controls of suitable value for independent volume adjustment of both channels.

464-1C Brown Hammertone $10.00



EAR CUSHIONS

For comfort, cleanliness and noise control. Formed of sponge rubber, solid rubber, sponge and solid rubber, or chamois. Prices, per pair, range from $1.60 to $16.95 list.

654	Sponge rubber, Military type MC-162. Fits all TRIMM headsets but Dependable and Army-Navy.	$2.00
660	Sponge rubber. Fits Dependable and Army-Navy.	$2.50

MICROPHONES BY TURNER

DIVISION OF CONRAC CORPORATION



COMMUNICATIONS AND CITIZENS BAND MICROPHONES BASE STATION

MODEL 254X — It features push-to-talk front touch bar and locking on-off lever switch. May be wired for relay operation or electronic switching. Deluxe light grey hammertone finish. Output level: −48 db for more clear signal strength. Response: 100-8000 cps. 7′ three-conductor (shielded) cable. Size is 7¾″ in height x 5½″ in depth. Net price.....**$21.00**

MODEL 254C — Same as 254X except with famous 21C ceramic interior. Output level: −54 db. Net price.....**$21.00**

MODEL 454X — Designed for the voice range, it's extra hot. Output level: −48 db. Response: 300-3000 cps. Attractive telephone black finish. Your choice of VOX or PTT switch operation. Comes complete with 3-conductor (one shielded) cord. Net price.....**$24.00**

MODEL 454C — Same as Model 454X except has ceramic interior. Output level: −52 db. Net price.....**$24.00**

MODEL +2 — Revolutionary new microphone which allows manual control of output volume by a twist of a dial. Two transistor pre-amp built into the microphone for up to **50 times** the output level of conventional ceramic base station microphones. World's best and most popular base station microphone. Exclusive touch-to-talk or lock on-off switching with a frequency response of 300-3,500 cps. Self contained 9 volt battery included. Net price.....**$36.00**

MODEL +3 — Bold new styling coupled with modern electronic circuitry stamps the Turner Plus Three as **the** professional base station microphone. The Plus Three has a newly designed transistorized pre-amp with volume control plus Modu-Gard — a new compression amplifier circuit. With the volume control set for the level of modulation desired, the user can then talk close or far from the mike without varying the output signal or transmitter modulation. It's a good way to avoid violating FCC regulations against interfering with adjacent channels. The Plus Three has a 300-3000 Hz frequency response for absolute best voice transmission. This is achieved by Turner's exclusive new ceramic interior design. Three-conductor (1 shielded) coiled cord; touch-to-talk front touch bar; switching with slide-lock when desired for extended transmitting. Comes complete with wiring instructions for more than 100 popular transceivers. Shipping weight: 3 lbs. Net price..**$45.00**

MOBILE

MODEL M +2/U — Mobile companion to the +2 Model. 10 position output level control. Two transistor built-in pre-amp. Wired for relay switching. Net price.....**$30.00**

MODEL JM +2/U — Same as M +2 except wired for sets that use electronic switching. Net price.....**$30.00**

MODEL M +3 — Transistorized Mobile Microphone with Volume Control and Modu-Gard: A modern styled mobile microphone with a slide-action volume control plus a new compression amplifier circuit which provides the ability to fully modulate your transceiver without over-modulation. Easy to use slide-action control allows volume to be adjusted for up to 15 db gain. Modu-Gard allows talking close to or far from the microphone without varying the output signal, guarantees a clear, strong signal and avoids over modulating into adjacent channels. Ceramic interior, 300-3500 Hz frequency response tailored for best voice transmission. Push-to-talk switch. Easily replaceable 7-volt power pack is built into rear door. Newly styled case has white front, blue back. Blue Rubber "Hypalon" coiled cord (three conductor, one shielded). Model M +3 for relay switching, Model JM +3 for electronic switching. Net price.....**$33.00**

MODEL NC350D — Noise Cancelling Microphone: A low cost dynamic paging microphone for sound installations which could benefit from a noise cancelling feature — anywhere with high ambient background noise. Also an excellent choice for P.A. siren applications or portable paging applications where feedback is a problem due to close proximity of speakers and high volume levels. 200-4500 Hz frequency response, 200 ohm impedance, output level −81 db re 1 volt per microbar. Black cycolac case, soft rubber lip guard. Professional coiled cord, neoprene-covered, four conductor (two shielded). Wired for relay operation. Net price.....**$21.00**

MODEL NC350C — Same as NC350D except high impedance ceramic element. Net price.....**$12.60**

Model 360 is a small mobile type communications microphone, ceramic type designed to reduce size and weight to a minimum. Looks very good with the new small solid state sets. Also recommended for use with portable P.A. applications. Rugged cycolac case and heavy duty coiled cord. Response is 300-3000 cps; output level −54 db. Wired for relay switching. **Model J-360** is the same as Model 360 except wired for sets that use electronic switching.

MODEL 360, Net.....**$10.80**
MODEL J-360, Net.....**$10.80**

MODEL 360Lo — A new low impedance ceramic mike for the new solid state transistorized sets like III, 323 etc. **$12.00**

MODEL 350C — Most used as original equipment. This low-cost ceramic microphone with on-off switch is familiar to most mobile radio operators. More 350C microphones are used as original equipment on citizens band and marine transceivers than any other microphone. Extra-tough cycolac case. Rugged ceramic interior allows you to use the 350C in any climate. Complete with hanger button and standard dash bracket for easy mounting. Ideal for citizens band, amateur use, mobile rigs and paging. Wired for relay operation. Response: 80-7000 cps. Output level: −54 db. Net price.....**$10.80**

MODEL SR90D — The Model SR90D (pressure operated dynamic) features a slender die cast zinc alloy case with the Turner exclusive front hanger button. (Satin chrome finish.) Dynamic models are available in two impedances, hi or 200 ohms. Relay switching is standard. Three-conductor (one shielded) 11″ retracted, 5′ extended coiled cord on hi impedance models and 4-conductor (two shielded) on 200 ohm units. Output level: −52 db. at hi impedance. Response: 200-10,000 Hz. Net price.....**$27.00**

MODEL SR90R — Is equipped with a high quality telephone type carbon interior to give you maximum voltage output and high intelligibility as well. Same general appearance and features as Model SR90D. Output level: −40 db. Response: 200-4000 cps. Choose the Model SR90R wherever maximum output with a minimum of distortion is specified . . . taxicabs, police, etc. Net price.....**$21.60**

MODEL 355C — Inexpensive mobile microphone with grip-to-talk switch. More comfortable to hold — more comfortable to use. The 355C features an output level of −50 db. It's extra hot for a high gain signal. Response: 80-7000 cps. Net price.....**$12.00**

CUSTOM INTERIORS

Turner has complete facilities for designing and manufacturing all kinds of special application microphone interiors, soft speakers for dictating machines, anything you need. Write for full information on this service.

Net

© U.C.P., Inc.

MICROPHONES BY TURNER

DIVISION OF CONRAC CORPORATION

CARDIOID MICROPHONES

MODEL 500 — An outstanding cardioid dynamic microphone featuring combination Hi or 50/250 ohms impedance, satin chrome finish with 20 ft. cable. Model 500 units are interchangeable in any system, with no testing for possible variations in frequency response or front-to-back ratio necessary. The 500 is a highly sensitive unit, with smooth, uniform response from 40 to 15,000 cps. and excellent front-to-back ratio of 20-25 db.

Model 500	Net price	$60.00
Model S-500 (with off-on switch)	Net price	$63.00
Model 500G	Net price	$69.60
Model S-500G	Net price	$72.00

MODEL 600 — The econoline model which sets new quality standards for popularly priced cardioid units. Easy to hold or use, either by hand or with stand, and made from 100% American-made parts. 6″ in length, with on-off switch, 12 ft. cable, and 50-15,000 frequency response. (For low impedance specify Model 602.)

Model 600 Net price $42.00

Model 700 — The style and sound standard, professionally reengineered at no increase in price! A four-pin female connector has been added to the tail of the microphone, thus a removable cable. Now in the top quality class. Hi-low impedance combination, unidirectional cardioid dynamic, pop-blast filter, quality "dynaflex" interior, 70-15,000 frequency response output level −55 db, typically 20 to 25 db discrimination over the entire frequency range, built-in broadcast wind screen, satin chrome finish, on-off switch, 20-foot cable. Net price $57.00

MODEL 510 — Broadcast cardioid dynamic with 40-15,000 cps. frequency response. Combination 50 or 200 ohms impedance selected at the free end of the cable. Professional broadcast blue finish. 20 ft. cable supplied. Connector is cannon XLR-4-11C. Cardioid discrimination is typically 25 db over the entire range. Furnished complete with stand adapter and matching shock-mounted desk stand. Net price $90.00

MODEL 2203 (2266 Hi Z) — Professionally Styled Dynamic Cardioid Microphone: A new dynamic cardioid microphone designed to today's high style requirements with the excellent performance characteristics built into all Turner cardioid dynamic microphones. Excellent balance for hand-held use. It's relatively small and lightweight, yet rugged to stand the day to day abuse of professional performers. This attractive microphone features a professional locking 3-pin connector and all steel case for years of trouble-free use.
Available in your choice of 150 ohm (Model 2203) or high impedance (Model 2266) frequency response 50-15,000 Hz, output level −57 db (0 = 1mw/10 microbars) with line shorting on-off switch and 20 cable set. Net price..... $54.00

GENERAL PURPOSE AND PUBLIC ADDRESS MICROPHONES

750 SERIES microphones are designed to match the decor of today's office furniture and consoles and have a rugged die-cast metal case which incorporates a touch-bar to actuate leaf spring switches and a "flick of the finger" slide lock to permit either momentary or "locked-on" use of the touch bar. Leaf switches are rigidly mounted to the base of the microphone to prevent them from getting out of adjustment. Base is designed to accommodate additional switch contacts for maximum switching flexibility. Modern, professional, brown metallic finish with chrome trim, non-marking rubber feet for desk protection.

MODEL 750* — High impedance. 20 foot, three-conductor (two shielded) cable. Normally open switching for relay control. Output level: −52 db (0 = 1 volt/microbar). Frequency response: 60-10,000 Hz. Net price..... $45.00

MODEL 751* — 150 ohm impedance. 20-foot, four-conductor (two shielded) cable. Normally open switching for relay control. Output level: −52 db (0 = 1 mw./10 microbars). Frequency response: 60-10,000 Hz. Net price..... $45.00

MODEL 758* — 150 ohm impedance. 20-foot, four-conductor (two shielded) cable. Line shorting switching on the microphone with normally opened relays for relay control. Output level: −52 db (0 = 1 mw./10 microbars). Frequency response: 60 to 10,000 Hz. Net price..... $45.00

Model 35 — One of the smallest Hi quality lavalier microphones in the public address field. Only ¾″ dia x 3″ in length. Combination Hi-Low Impedance. 25 foot cable. 70-10,000 Hz response, output level of −63 db. works with any amplifier. Beautiful champagne finish. Net price..... $42.00

Model 35A — Broadcast Lavalier. Only 2½″ in length. 150 ohm only. 25 foot cable. 60-12,000 Hz response. Net price..... $48.00

MODEL 2300 — Very high quality omni-directional dynamic microphone. Excellent frequency response of 50-15,000 Hz. Hi impedance output level or −55 db. Also available in low impedance. (Please specify when ordering.) This is a superb recording and broadcast interview microphone because of its excellent "presence." May also be used for general purpose P.A. and entertainment functions. Lightweight yet very rugged. It features a satin chrome finish on a machined steel case. Professional 3 pin connector — detachable cable, on-off switch. Shipping weight 3 lbs. Net each $48.00

MODEL P9D — This handy dynamic hand-held or stand microphone is well suited for paging, P.A., amateur and mobile use. Extremely rugged, heavy case. Push-to-talk switch. High or 200 ohms (specify when ordering). 7′ cable supplied. Amphenol MC1M (MC2M on 200 ohms) connector in microphone. Output level: −52 db. Dimensions: 2½″ x 5″ in length x 1¾″ in depth. Shipping weight: 2 lbs. Net price..... $36.00

MODEL 250 — A dynamic microphone ideal for dispatch, paging, P.A., control tower and amateur use. Wired to operate both relay and mike circuits at a touch. Features on-off push-to-talk and lock switch. Also features Turner's "lift-switch." Response from 60 to 10,000 cps. Output level: −52 db. Complete with single unit satin chrome case and 20 ft. three-conductor (one shielded) cable. Net price..... $42.00



MODEL 251 — The Model 251 is the industrial and commercial sound contractors' favorite in the 250 family. Rugged-one piece die-cast case (no other accessories needed), gleaming satin chrome finish — three-way switching and 150 ohm impedance all add up to the paging microphone of the commercial sound industry. Why fuss with grip-to-talk devices when it's so easy to touch the 251's front bar or just simply pick it up? Convenient lock on-off switch, too. Airports, clubs, high schools, reception desks, dining rooms, are all favorite installations of 251 convenience. Comes wired for relay operation, too, with 20′ four-conductor (two shielded) cable. Response: 70-10,000 cps. Output level: −52 db. Size is 7¾″ high x 5½″ in depth. Shipping weight: 4 lbs. Net Price $42.00

MODEL SR785D — Long-Life Gooseneck Microphone with 5-Year Guarantee — The best gooseneck microphone ever made by anybody. New mounting flange, new stronger flex arm, shock-mounted cartridge, new leaf-type switch which will take over a million operations and keep on working. The switch is not only the best, it's easily replaceable, too. The only field repairable gooseneck microphone there is. Die-cast case, rugged aluminum grille. Dynamic, omni-directional. Model SR785D Hi is high impedance, output level −56 db (0 = 1 volt/microbar). Model SR785D Lo has 150 ohm impedance, output level −80 db (0 = 1 volt/microbar). Both have the switch normally shorted in the off position. Model SR785-2 has 150 ohm impedance, −80 db output, switch normally open in the off position. Cable extends 4 feet past base. User net price **$33.00**

MODEL SR-585D — Dynamic microphone with push-to-talk switch. Designed for fixed mounted applications, ideal for grocery call stations, switchboards, paging, dispatching, etc. The switch is line-shorting and is designed to actuate a relay. Impedance is 150 ohms. The cable extends 4′ from the base and is 4-conductor (two shielded). Response from 70 to 12,000 cps. Output level: −58 db. Overall length: 22″. Shipping weight: 3 lbs. Net price $30.00

* Models 500, S500, 600, 700, 750, 751, 758, SR785D carry Turner's exclusive Five Year Guarantee.

UNIVERSITY SOUND

ALTEC DIVISION OF LTV LING ALTEC, INC.

Drivers

MODEL ID-20 (20 watts) For speech and music systems requiring moderate sound power. Designed to deliver maximum output, the ID-20 is highly efficient, produces a clear, penetrating and distortion-free sound.

MODEL ID-30/ID-30T (30 watts) Exceptional for installations requiring single medium power units or multiple driver/horn combinations. These high quality drivers produce musical balance and speech penetration with a performance superior to higher cost competitive models. Tropicalized voice coil, completely weatherproof. Model ID-30T has a built-in line matching transformer tapped for impedances of 167/335/500/1000/2000/4000 ohms and 25 and 70 volt power taps at 30/20/10/5/2.5 watts.

MODEL ID-40A/ID-40T(40 watts) Extended range, high quality and excellent efficiency produce an essentially uniform response and natural quality of speech and music reproduction. Moderately high power for penetrating through high ambient noise levels. Tropicalized voice coil and fully weatherproofed. Model ID-40T has a built-in line matching transformer tapped for impedances of 45/122/250/500/1000/2000 ohms and 25 and 70 volt power taps at 40/20/10/5/2.5 watts. ID-40T housing is rugged, die-cast aluminum with dural gland nut water tight cable entrance.

MODEL ID-60/ID-60T (60 watts) A premium high power compression driver. Wide range response, high efficiency and high quality construction for natural speech and music reproduction with maximum penetration in high noise areas. Rugged, weatherproof housing for trouble-free performance in any environmental application. Model ID-60T has high impact cycolac outer case and built-in line matching transformer tapped for impedances of 16/80/165/500/1000/2000 ohms and 25 and 70 volt power taps at 60/30/20/10/5/2.5 watts.

MODEL ID-75 (75 watts) New, higher power in a compact case. Ideal for both Public Address and electronic siren applications. Peak efficiency, super power for effective penetration into exceptionally high noise areas.


ID-20


ID-30


ID-30T


ID-40A


ID-40T


ID-60


ID-60T

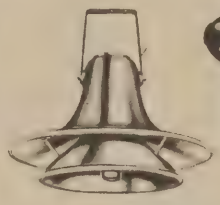

ID-75

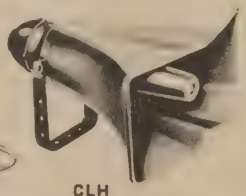
DRIVER MODEL	FREQUENCY RESPONSE	POWER RATING	VOICE COIL IMPEDANCE	DIMENSIONS (Overall)	SHIP. WT.	NET PRICE
ID-20	120-6500 Hz	20 watts	16 ohms	3½" dia. 3¾" d.	2½ lbs.	18.15
ID-30	85-7500 Hz	30 watts	16 ohms	4⅛" dia. 3¾" d.	3 lbs.	23.05
ID-30T	85-7500 Hz	30 watts	variable*	4⅛" dia. 6" d.	4 lbs.	33.50
ID-40A	80-12000 Hz	40 watts	16 ohms	4½" dia. 4⅞" d.	4¼ lbs.	28.00
ID-40T	80-12000 Hz	40 watts	variable*	5" dia. 6¼" d.	5¼ lbs.	39.20
ID-60	70-12000 Hz	60 watts	16 ohms	4-11/16" dia. 5" d.	5¾ lbs.	40.60
ID-60T	70-12000 Hz	60 watts	variable*	6¾" dia. 6¾" d.	6¾ lbs.	50.40
ID-75	150-7000 Hz	75 watts	16 ohms	4¼" dia. 3¾" d.	5 lbs.	40.14

*Also available in 8 ohms order as model ID-75-8.

Trumpets


GH, LH, PH, SMH


RLH, RPH, RSH


CLH


COBREFLEX©


2 WP


SH

DIRECTIONAL MODELS GH, LH, PH, SMH For maximum noise penetration and distance of projected sound. Reflex design for highest conversion efficiency. Fully weatherproof, baked finish.

RADIAL MODELS RLH, RPH, RSH For uniform 360° overhead dispersion in high ceiling installations. Rugged construction, baked finish.

WIDE ANGLE COBREFLEX Patented twin folded exponential horns with two air columns in a single assembly. High efficiency and smooth radiation pattern. Can be used in cluster arrays. Rugged, fully weatherproof.

WIDE ANGLE MODEL CLH Patented design and construction. Wide angle bell and long air column for maximum low frequency response. Omnidirectional bracket for vertical and horizontal rotation to eliminate feedback and overshoot "dead spots". Can be used in cluster arrays. Rugged fiberglass horn.

HORN MODEL	LOW FREQUENCY CUT-OFF	SOUND DISTRIBUTION	AIR COLUMN LENGTH	DIMENSIONS (Overall) LENGTH	DIMENSIONS (Overall) BELL	SHIP. WT.	Net Price
GH	85 Hz	65°	6½ ft.	28"	31"	22 lbs.	65.85
LH	120 Hz	75°	4½ ft.	19"	25¾"	16½ lbs.	42.30
PH	150 Hz	85°	3½ ft.	15¾"	20⅜"	11¾ lbs.	30.63
SMH	200 Hz	95°	2½ ft.	12"	16¼"	8¼ lbs.	26.30
RLH	120 Hz	360°	5 ft.	18½"	28⅛"	25 lbs.	64.97
RPH	140 Hz	360°	4 ft.	13¾"	25⅛"	19 lbs.	46.20
RSH	180 Hz	360°	3 ft.	11"	19"	13 lbs.	43.32
COBREFLEX†	200 Hz	120°x60°	2½ ft.	10¼"	18½"x9¼"	10¼ lbs.	31.73
CLH	120 Hz	120°x60°	4½ ft.	20"	21½"x11½"	13¼ lbs.	37.80
SH	350 Hz	100°	1½ ft.	7"	8¾"	2¾ lbs.	28.25
2WP	350 Hz	120° each horn	1½ ft.	20½"	8½"	4½ lbs.	27.92

Accessories



PMA ADAPTER Fits standard ½' dia. threaded pipe to any University "U" mounting bracket—for special applications requiring pipe mounting. Net $3.12

RTA ADAPTER Fits University trumpets to Western Electric and RCA drivers having 1 7/16—16 threads. Shpg. wt., ½ lb. Net $6.23

WEA ADAPTER Fits University drivers to Western Electric and RCA trumpets having 1 7/16—16 threads, Shpg. wt., ½ lb. Net $5.55

MODEL 5433 TRANSFORMER 30 watt capacity. Use with ID-20, ID-30 or to feed a number of smaller paging speakers. Primary impedance: 45/165/200/250/500/1000/2000 ohms. Secondary impedance: 4/8/16 ohms. 70 v. line power taps: 30/25/20/10/5/2.5 watts. Dimensions: 1 15/16" x 2 5/16" x 1¾". Mtg. hole centers: 2⅜". Shpg wt., 1 lb. Net $6.68

MODEL 5434 TRANSFORMER. Has a 15 watt capacity. Will fit in the CTR. Primary: 45/165/200/250/500/1000/2000 ohms. Secondary: 4/8/16 ohms. 70 v. line power taps: 15/10/5/2.5/1.25/.65 watts 2" mtg. centers. Shipping wt., ½ lb. Net Price $5.60

MODEL CTR TRANSFORMER/JUNCTION HOUSING Die cast aluminum. Weatherproof. Houses models 5433, 5434, or other transformers up to 2⅜" x 2⅞" x 2⅞". Adjustable slotted adapter mounts transformer with centers 1½" to 2⅞". Junction box for speaker lines. Bar strap for mounting to "U" brackets. Screws to wall. Also holds University paging speakers. Shpg. wt., 1½ lbs. Net $7.26

2YC CONNECTOR Allows use of two driver units on a single radial, directional, or wide-angle trumpet. Shpg. wt., 1 lb. Net $11.54

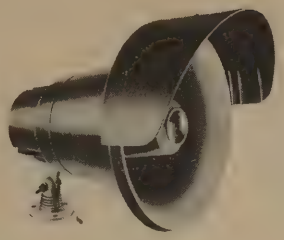
© United Technical Publications

UNIVERSITY SOUND
ALTEC DIVISION OF LTV LING ALTEC, INC.

Paging/Talk-Back Speakers


DLC


DLCT

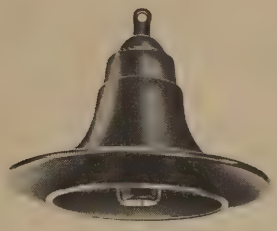

UH/UHT


IB-A/MIL-A


IB-T/MIL-T


CIB-A/ CMIL-A


CIB-T/CMIL-T


IBR-A


IBR-T


MIS

MODEL	FREQUENCY RESPONSE	POWER RATING (1)	IMPEDANCE (VOICE COIL)	DISPERSION	SOUND PRESSURE LEVEL (6)	SENSITIVITY AS MICRO (7)	DIMENSIONS (8)	SHIPPING WEIGHT	NET PRICE
DLC-8	400-10,000 Hz	7½ w.	8 ohms	120°	104 dB	-30 DBM	5⅞" dia. x 4" d. (A)	1¾ lbs.	13.82
DLC-45			45 ohms						13.82
DLC-T			8 ohms (2)				5⅞" dia. x 6⅛" d (A)	2⅔ lbs.	22.37
UH-8	220-16,000 Hz	32 w.	8 ohms	120° (9)	126 dB	-26 DBM	10½" dia. x 10⅞" d. (P) (10)	5 lbs.	29.13
UH-45			45 ohms					5 lbs.	30.42
UHT			8 ohms (3)					5¾ lbs.	40.10
IB-A4	250-13,000 Hz	30 w.	4 ohms	105°	126 dB	-20 DBM	10¼" dia. x 9" d. (A)	4½ lbs.	28.20
IB-A8			8 ohms						26.40
IB-A45			45 ohms						28.20
IB-T			8 ohms (4)				10¼" dia. x 11 7/16" d. (A)	5¼ lbs.	35.36
CIB-A4	250-13,000 Hz	30 w.	4 ohms	120°x60°	126 dB	-22 DBM	14" w. x 7⅜" h. x 12" d. (A)	6 lbs.	33.05
CIB-A8			8 ohms						32.05
CIB-A45			45 ohms						33.05
CIB-T			8 ohms (4)				14" w. x 7⅜" h. x 14½" d. (P)	6¾ lbs.	42.59
MIL-A4	350-13,000 Hz	10 w.	4 ohms	120°	119 dB	-23 DBM	7 13/16" dia. x 6⅞ d. (A)	3¼ lbs.	23.35
MIL-A8			8 ohms						21.80
MIL-A45			45 ohms						23.35
MIL-T			8 ohms (5)				7 13/16" dia. x 9 13/16" d. (A)	4 lbs.	31.55
CMIL-A4	350-13,000 Hz	10 w.	4 ohms	120°x60°	119 dB	-26 DBM	9½" w. x 6¼" h. x 8½" d. (P)	4 lbs.	26.75
CMIL-A8			8 ohms						25.00
CMIL-A45			45 ohms						26.75
CMIL-T			8 ohms (5)				9½" w. x 6¼" h. x 10 7/16" d. (P)	4¾ lbs.	35.70
IBR-A8	300-10,000 Hz	30 w.	8 ohms	360°	120 dB	-28 DBM	13" dia. x 10¼" d. (A)	5½ lbs.	33.71
IBR-T			8 ohms (4)				13" dia. x 12 11/16" d. (A)	6¼ lbs.	47.40
MIS-4	50-13,000 Hz	7½ w.	4 ohms	150°	115 dB	-22 DBM	5½" o.d., 4 7/16" d. (P) 6 Holds on 4⅞" mtg. dia.	2½ lbs.	25.17
MIS-8			8 ohms						23.63
MIS-45			45 ohms						25.17

1) Capacity in watts IPM (Music Power).

2) Voice coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 volt constant voltage lines. Taps: 7.5/5/2.5/1.25/.65 watts.

3) Voice coil impedance 8 ohms. Integral switch selected transformer is labeled in wattage consumed and impedance on 70.7 and 25 V. "constant voltage" lines. Wattage taps: 32/15/10/5/-1.25 W. Transformer Impedances (70.7 V.): 161/335/500/1000/2000/-4000 ohms.

4) Voice coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 30/15/10/5/2.5/1.25 w. Transformer Impedances: 167/335/500/1000/2000/4000 ohms.

5) Voice Coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 10/7.5/5/2.5/1.25/.65 Transformer Impedances: 500/667/1000/2000/4000/8000 ohms.

6) SPL reading taken 4 ft. on axis with "Full-Range" power input. Reduce by 6 dB each time distance is doubled. Reduce by 3 dB if power input is halved; increase by 3dB when power input is doubled.

7) DBM re 10 dynes/cm².

8) An (A) after a dimension indicates a horn of spun aluminum with baked-on acrylic paint. A (P) after a dimension indicates a horn of color-impregnated high-impact plastic.

9) Dispersion in all planes without unique Sound Deflector. With Adjustable Deflector, dispersion may be adjusted to suit environment.

10) Dimensions are without Sound Deflector. With Deflector, add ¼" to diameter and 4-1/16" to length.

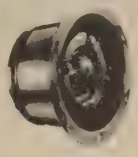
© United Technical Publications

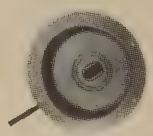
UNIVERSITY® SOUND
ALTEC DIVISION OF LTV LING ALTEC, INC.

Special Purpose Loudspeakers









UNIVERSITY® SOUND
ALTEC DIVISION OF LTV LING ALTEC, INC.

High Fidelity Component Speakers

SERIES 200 Wide-Range High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM**)	Imp. (Ohms)*	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
315-C	25-20,000	50	8-16	15¼"x12"	34½	$225.12
312	28-40,000	35	8-16	13"x6⅝"	10¼	88.74
6201	28-18,500	35	8-16	13"x6⅝"	10¼	69.50
Diff-8	30-15,000	35	8-16	9⅜"x4 5/16"	5	34.13
1212	35-30,000	30	8	13"x8 5/16"	10	62.96
M-15T	30-20,000	35	8	15½"x7"	17	76.94
M-12T	35-40,000	30	8-16	12 15/16"x3⅞"	9	42.68
M-12D	35-15,000	30	8-16	12 15/16"x3⅝"	7½	29.34
M-12	35-12,000	30	8-16	12 15/16"x3⅝"	7½	25.76
M-8D	50-15,000	30	8-16	8¼"x2½"	5½	25.01
M-8	50-12,000	30	8-16	8¼"x2½"	5½	22.04
MS	3000-40,000	30	8-16	3⅛"x3-1/16"	1½	26.31

*May be used with amplifiers with output impedance of 8 or 16 ohms.

**Integrated Program Material.

WOOFERS, MID-RANGE and TWEETERS

Dual Voice Coil Woofers — High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM)*	Impedance (Ohms)**	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
C-15HC	15-800	60	4-20**	15"x8⅛"	24¾	107.25
C-12HC	20-3,000	50	4-20**	13"x6⅞"	13¾	59.85
High Efficiency Models						
C-15W	25-1,500	50	4-20**	15⅜"x10½"	27	130.10

*Integrated Program Material

**Impedance Range Depending on Strapping of Voice Coils.

Mid-Range Speakers, Horns and Drivers

C-8M Cone Speaker	500-5,000	50	8	8¼" Dia. x 4" Depth	3	$ 20.31
Cobreflex Horn	200 Hz cutoff			10¼" L. x 18½" W. x 9¼" D.	10¼	31.73
H-600 Horn	600 Hz cutoff			7¾ L. x 8¾" W. x 4¾" D.	1¾	23.80
T-30 Driver*	350-18,000	50	8	3½" Dia. x 3¾" Depth	2¼	33.40
T-50 Driver*	350-20,000	50	8	4¼" Dia. x 4⅛" Depth	5¼	53.20

*For use with Cobreflex and H-600 horns.

Tweeters

Model	Frequency Response (Hz)	Power Capacity (Watts IPM)*	Impedance (Ohms)**	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
T-202 Sphericon	3,000-40,000	30	4-16	4⅝" Dia. x 4" D.	2½	$ 31.95
HF-206	3,500-22,000	50	8	6" L. x 3⅜" W. x 6⅝" D.	3½	39.50
4401	2,000-15,000	50	8	6" L. x 2¾" W. x 6⅜" D.	2¼	22.50
UXT-5	4,500-17,500	50	8	4¼" L. x 2½" W. x 4" D.	2¼	29.50

Crossover Network and Attenuaters

Model	Crossover Frequencies (Hz)	Impedance (Ohms)	Dimensions (L.xW.xD.)	Shipping Wt. (Pounds)	Net Price
N-1*	1250, 2500, 5000, 10000	4-8-16	3⅝"x3¼"x3"	2	$ 22.91
N-2A	350, 700	4-8-16	3⅝"x3¼"x3"	2½	24.11
N-2B	1250, 2500, 5000	4-8-16	3⅝"x3¼"x3"	2½	32.49
N-3*	350, 700, 5000	8	7"x5"x3"	5¼	67.97
AP-8	L pad for presence and brilliance controls.				9.90

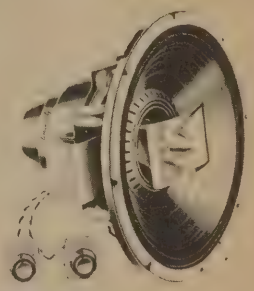
*Model N-1 equipped with built-in brilliance control. N-3 equipped with built-in brilliance and presence controls.

Wide-Range High Compliance Models

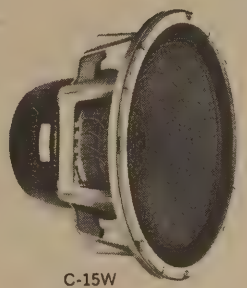
University Series 200 component speakers represent the ultimate in quality. Their high power-handling capacity and rugged die-cast baskets and molded seamless cones assures long-life adherance to original performance standards. These speakers are designed for use in any pre-finished or custom built enclosure. Where baffle mounting space is at a premium and high quality music reproduction is desired, Series 200 University component speakers are the logical choice for the discriminating music lover or audiophile.



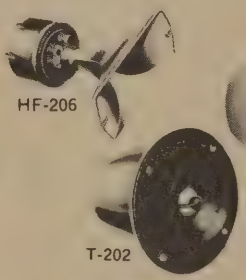
MODEL 312
12" 3-Way Diffaxial Speaker



MODEL 315-C
Super 15" 3-Way Diffaxial Speaker



C-15W



HF-206

T-202



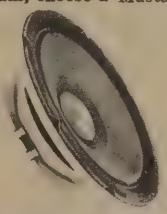
1212

University MUSTANG Series
Thin-Line High Fidelity Component Speakers

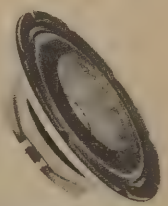
These speakers utilize the latest engineering developments. The Mustangs use strong die-cast baskets and molded seamless cones to assure long life and adherence to original performance. Mustangs are ideal for in-wall mounting for background music systems and home high fidelity installations. For quality sound at an economical price where space is at a premium, choose a Mustang.



MUSTANG MS
Sphericon Tweeter



MUSTANG Model M-8
8" Speaker



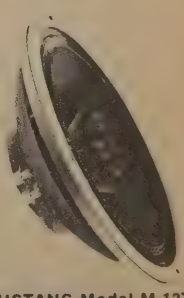
MUSTANG Model M-8D
8" 2-Way Dual-Cone Speaker



MUSTANG Model M-15T
15" 3-Way Wide-Range Speaker



MUSTANG Model M-12D
12" 2-Way Dual-Cone Speaker



MUSTANG Model M-12T
12" 3-Way Wide-Range Speaker

UNIVERSITY® SOUND
ALTEC DIVISION OF LTV LING ALTEC, INC.

Dynamic Microphones

Broadcasting, Recording, Home Entertainment and General Purpose Applications

UNIVERSITY'S series of dynamic microphones embraces every possible need in *the audio field. Widely acclaimed in the industry, each* UNIVERSITY *microphone is designed and engineered to maintain the same exacting quality standards for which* UNIVERSITY *is famous the world over. Each and every* UNIVERSITY *microphone, from the economically priced Model 2000 to the top of the line 5000 Series, is covered by* UNIVERSITY'S *exclusive warranty to assure reliable trouble free operation for many years. To own the finest—choose* UNIVERSITY*!*



Model 5000 Shock-Mounted Super-Cardioid Dynamic spherical shaped 5000 Series has a wide-angle pickup pattern with a precise taper characteristic that rejects all unwanted sound at the rear hemisphere of the unit. Rugged die-cast housing. For all applications — soundcasting, broadcasting, recording. 200 and 20,000 ohms. Response from 25 to 18,000 Hz. Output at 200 ohms -54 dB/1 mw/10 microbar; at 20,000 ohms 13 mv/10 microbar. 2 3/16" max. diameter. 9⅝" max. length. 15' wired-in 2 cond. shielded cable and SA-10 Stand Adapter supplied. Net $59.37

Model 5020 Same as 5000 with detachable 15' cable and Amphenol Connector. Net $65.67

Model 5050 Same as 5000 with swivel stand adapter and 15' detachable cable. Net $67.11

Model 5100 Same as Model 5000 with switch. Net $65.67

Model 6000 Attache' Cardioid Lavalier The 6000 is the world's smallest cardioid microphone. Its wide-range cardioid pickup pattern and inconspicuous appearance make it ideal for churches, night club, studio and remote broadcasting applications. It can be used as a lavalier, hand-held, mounted on a desk or floor stand, a boom or gooseneck fixture. Response is 50-15,000 Hz. Low impedance 50-500 ohms. Output at 150 ohms is -57 dB/1 mw/10 microbar. 1 1/6" diameter, 3 11/16" long. Supplied with lavalier neck cord, cable. Net Price $41.75

Model 8000A Shock Mounted Cardioid Dynamic Highly directional wide angle pick-up pattern. Shock mounted for on-the-move applications. Ideal for church sound systems, industrial and commercial p.a. systems, and home tape recording. Response is 70-15,000 Hz. Impedance 250 and 20,000 ohms. Output at 250 ohms is -60 dB/1 mw/10 microbar; at 20,000 ohms is 8.5 mv/10 microbar. 1¾" diameter, 6⅜" long. Equipped with 15', 3 cond. shielded cable and Cannon XLR-4-11-C connector. Supplied with stand adaptor. Net $ 37.77

Model 8100A Same as Model 8000 with switch. Net $40.92

Model 2000 Omni-directional Dynamic For general soundcasting and recording applications. Omni-directional pick-up pattern is ideal for groups and audience participation programs. Response is 50-14,000 Hz. Impedance 50 and 20,000 ohms. Output at 50 ohms is -50 dB/1 mw/10 microbar; at 20,000 ohms is 28 mv/10 microbar. 15' 3 cond. shielded cable is wired-in. 1 5/32" dia., 6" long. With SA-10 Stand Adaptor. Net $32.96

Model 2040 Same as Model 2000 with switch and detachable 15' cable. Cannon Connector. Net $41.37

MICROPHONE STANDS

Model DS-10 Desk Stand Heavy base sculptured stand may be used with any microphone. Standard ⅝-27 NPSM thread. 4½" high x 7⅞" wide x 4⅝" deep. Black wrinkle finish. Net $8.91

Model SA-10 Slide-on Stand Adaptor. Net $3.00

Model DS-1 Desk Stand Contemporary design, slim profile desk stand with extruded aluminum base in black oxide finish. Perfectly balanced, will hold large microphones. Standard ⅝-27 thread. 6"x4"x3¾". Knurled locking washer. Net $3.47

Model FS-7AB Floor Stand A new concept in microphone stands. New fluted tubes are easy to adjust. Doesn't show hand marks, won't slip. Velvet action movement of upper tube, no twisting or turning. Positive lock clutch, jam-free one hand operation. Non-reflecting finish. Adjustable from 34" to 63". Black wrinkle base weighs 7 pounds and is 10" diameter. Natural satin fluted aluminum. Net $15.15

Model FS-7BB Blue Anodized Net $15.81
Model FS-7GB Gold Anodized. Net $15.81
Model FS-10AB Floor Stand Same as Model FS-7 except for 10 pound, 12" diameter base. Natural Fluted aluminum. Net $16.77
Model FS-10BB Blue Anodized. Net $17.45
Model FS-10GB Gold Anodized. Net $17.45

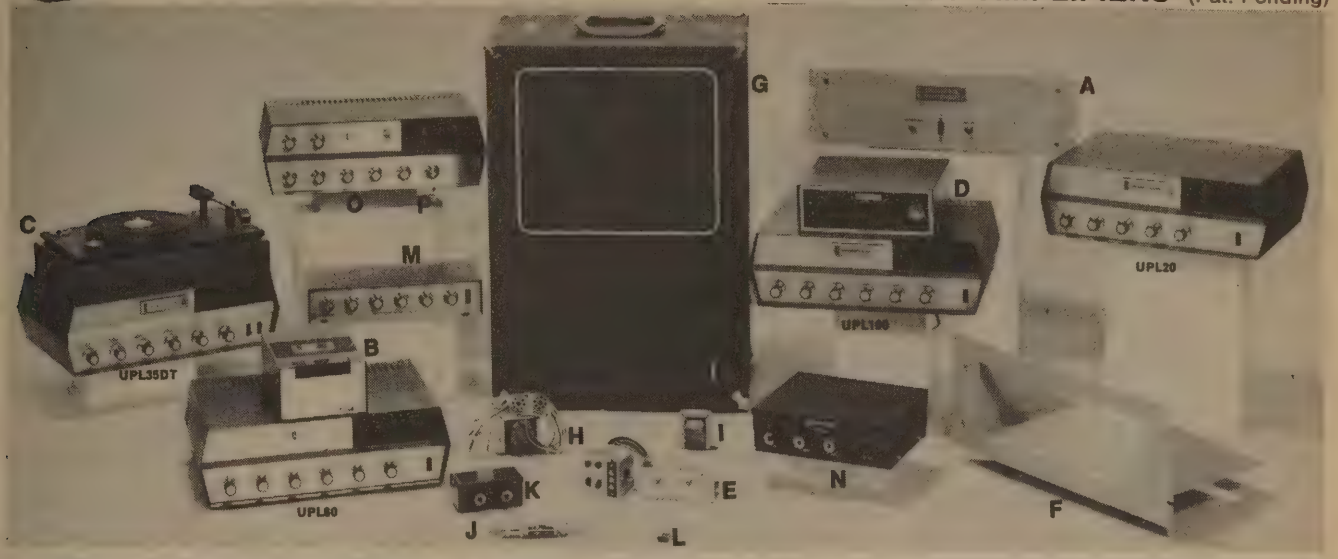
Net
© United Technical Publications

UNIVERSITY® SOUND

ALTEC DIVISION OF LTV LING ALTEC, INC.

POWER-LINE

WIDE RANGE HIGH EFFICIENCY AMPLIFIERS (Pat. Pending)



A. MODELS UPB60T and 100T BOOSTER AMPLIFIERS. 60 and 100 watt RMS solid state booster amp designed for dependable operation. Ideal for use wherever undistorted high power is required.

Computer Logic Circuit protection prevents damage to amplifier under any adverse load condition. Response ± 1.5 dB. 50 to 15,000 Hz. Inputs: Hi Z 50,000 ohm. Optional plug-ins provide 10k ohms bridging, 600 ohm line. An additional optional plug-in capability provides low Z ohms for microphone, RIAA meg Phono, NAB Tape Head. Outputs: 25v and 70v Isolated, 8 ohms, and 2nd-16 ohms. 5" x 15½" x 10½". 117 VAC shpg. wt. 21 lbs. Prices on request.

B. MODEL CP-1. Top-mounting unit provides superb playback through the AUX input. Plays pre-recorded standard cassett tapes. Useful for background music as well as pre-recorded lectures. Monophonic 3 1/16" x 5½" x 8¼". Prices on request.

C. MODEL PT-210. Provides rugged dependable operation. 3 speed monophonic record player made for top mounting on Power-Line amps. Mounts in seconds. Equipped with dual stylus (stereo microgroove and 78 rpm) flip-over sapphire cartridge. 4¾" x 14⅜" x 8¾". List **$63.20.**

D. MODEL AFT-1. AM-FM tuner top mounts on Power-Line amps. Provides superb reception from both local and distant stations. AM-FM mode switch, AFC switching, plays through AUX input on Power-Line, back lighted tuning dial. Prices on request.

E. MODEL MPA-2B TWO CHANNEL MIKE PRE-AMP. Adds 2 additional mike inputs to UPL amplifier. Has full level controls, hi-lo impedance switch, facilities for remote or precedence controls. List **$76.95.**

F. MODEL RAC-1. Rack mounting adaptor for Power-Line. Simple screwdriver installation. Designed for use with standard 19" rack. List **$29.95.**

G. MODEL CAM-12 PORTABLE CARRY CASE. Doubles as portable P.A. system. Houses two M-12 extended range Mustang high fidelity speakers. Slide in rack for amplifier and storage strap for microphone. Price on request.

H. MODELS AXT-20, 35, 60, and 100. Output Autoformer kits for installation in transformerless Power-Line amplifiers. Easily installed to facilitate constant voltage speaker hook-up. List ATX20 **$19.33,** 35 **$21.28,** 60 **$22.43,** 100 **$27.60.**

I. MODELS ULT 5 and 10. University exclusive line matching transformers. To be used at speakers when transformerless installation is made. List ULT5 **$4.88** 10 **$7.38.**

J. MODEL LOZ. Balanced - to - Ground Microphone Transformer. An "in-line" transformer allowing use of balanced-to-ground mikes with Power-Line amplifiers. List **$19.25.**

K. RCB-2A REMOTE VOLUME CONTROL. For use with LDR-1. Provides remote level control for 2 different input signals. List **$20.73.**

L. MODEL LDR-1 PRECEDENCE CONTROL. Plug in accessory permits user to provide source precedence from remote location. List **$10.50.**

M. MODEL UMX-4. Mixed/Preamp. 4 mic Hi-Lo Z w/built-in transformers and Aux input. Outputs Hi-Lo Z mic, Aux and mix buss. Master Level Control, Cannon connectors.

N. MODEL UPB-10T. 10 watt amplifier with Hi-Lo Z mic, Aux and optional inputs. Outputs 16 ohm, 25 and 70v. Ideal for music or paging.

O. LDS-60T. 60 watt RMS Mixer amplifier, 4 mic inputs w/Cannon connectors Hi or Lo Z, Mag Phono and Aux on common fader. 4-12 ohms, 25 and 70 v. outputs.

P. LDS-100T. As above, but 100 watt RMS.

SPECIFICATIONS COMMON TO ALL UPL MODELS

SENSITIVITY	Mic (lo Z): 0.25 mv, Mic (hi Z): 4.0 mv, Aux: 250 mv, Bridging: 1V
SIGNAL TO NOISE RATIO	Power Amplifier: —80 dB Aux: —70 dB, Mic: —60 dB
OUTPUTS: XFMR Models (All models: Tape and Bridging outputs)	25V & isolated 70.7V line 4, 8 & 16 ohms on terminal strip 2 quick disconnect octal sockets
TONE CONTROLS (feedback)	Bass: ±10 db at 100 Hz Treble: ±10dB at 10kHz
POWER INPUT **DIMENSIONS**	95-130V AC 60 Hz 5" high x 15½" wide x 10½" deep

SPECIAL FEATURES	Hi or lo Z mic input selection by means of slide switch Switched AC outlet Spkr. protection circuit (Output current limited to rated power to prevent overdriving the speakers.) Fused AC line Power consumption less than 5W when idling, resulting in low operating temperatures & long component life.

MODELS	**UPL20T** (WITH/XFMR) $172.44	**UPL35** (XFMR-LESS) $175.45 **UPL35T** (WITH/XFMR) $195.95 **UPL35DT** (DELUXE WITH XFMR) $210.40	**UPL60** (XFMR-LESS) $215.45 **UPL60T** (WITH/XFMR) $236.50 **UPL60DT** (DELUXE WITH XFMR) $256.46	**UPL100T** (WITH/XFMR $291.51 **UPL100DT** (DELUXE W/ XFMR) $315.11
FREQUENCY RESPONSE	50-15kHZ, ±1½ dB	50-15kHz, ±1½ dB	50-15kHz, ±1½ dB	50-15kHz, ±1½ dB
POWER OUTPUT	20W at less than 5% THD	35W at less than 5% THD	60W at less than 5% THD	100W at less than 5% THD
PEAK POWER	40w.	70w.	120w.	200w.
INPUTS (IMPEDANCE) (All mike inputs specially suitable for guitar and music inputs.	1 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (5K)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (5K)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (5K)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (5K)
CONTROLS	1 Mic 1 Gain Control (fader) for Aux. 1 & Aux. 2	2 Indiv. Mic. 2 more mics available on optional pre-amp 1 Gain Control (fader) for Aux. 1 & Aux. 2	2 Indiv. Mic. 2 more mics available on optional pre-amp 1 Gain Control (fader) for Aux. 1 & Aux. 2	2 Indiv. Mic. 2 more mics available on optional pre-amp 1 Gain Control (fader) for Aux. 1 & Aux. 2
SEMI-CONDUCTORS	19 All-silicon	35 All silicon	31 All-silicon	32 All silicon

Dut to the unusual capabilities of University Power-Line amplifiers, many features listed here-in have never been possible before. The circuitry is so advanced that patents have been applied for.

- Instantaneous electronic output transistor/short circuit portection
- Optional 2 Mic Pre-Amp (Optional Remote Control and precedence controls may be used also)
- Optional Remote Control
- Optional Precedence Control
- †Short circuit protection (if output is shorter, amplifier shuts off for 3 sec. Computer logic circuit then measures output still shorted, amp remains off. If back to normal, amp turns back on.)
- ††Thermal protection (If temp. rises above 185° F. amplifier shuts off until temp. drops.)

†60 and 100 watt models
††100 watt models

*Deluxe Models: UPL35DT, UPL60DT and UPL100DT feature built-in monitor speakers, monitor speaker switch, AC cord storage holder and convenient retractable carry handle. Three wire AC power cord available on all models, on request, at slight additional cost. All prices and specifications subject to change without notice. TRADE DISCOUNT APPLIES TO LIST PRICES ONLY.

audiotex

HI FI & STEREO ACCESSORIES FOR TAPE RECORDERS & PHONOGRAPHS, HOME & AUTO

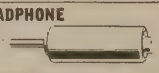
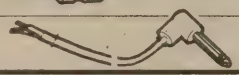
GC ELECTRONICS

CONNECTING CABLES

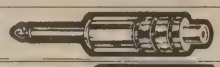
AMERICAN MADE

STANDARD AUDIO CABLES FOR HI-FI – STEREO

- *The Complete Line of Cables*
- *Durable Molded Assemblies*
- *Heavy-Duty, Low Resistance Wire*
- *Attractively Packaged*

PART NO.	ILLUSTRATION	DESCRIPTION	LENGTH	LIST
30-400-S		Shielded Cable, Phono Pin Plugs on both ends.	18" Cable	1.30
30-402-S		Shielded Cable, Phono Pin Plugs on both ends.	36" Cable	1.60
30-404-S		Shielded Cable, Phono Pin Plugs on both ends.	72" Cable	1.95
30-406-S		Shielded Cable, Phono Pin Plugs on both ends.	12' Cable	2.65
30-1824	STEREO HEADPHONE EXTENSION CORDS 	Stereo ¼" Phone Jack, 3 Cond. Straight Cord	20'	5.00
30-1825		Stereo ¼" Phone Jack, 3 Cond. Retractable Cord	20'	5.75
30-450-S		Shielded Cable, Phone Plug on one end, other end stripped and tinned.	72" Cable	2.50
30-451-S		Molded Shielded Cable with right angle Phone Plug on one end, other end stripped and tinned.	12' Cable	3.25

REQUEST CATALOG
#FR-71-A
FOR COMPLETE LISTING OF HUNDREDS OF ITEMS

30-534		Combination clamp-type Phone Plug (solder connection) with removable shielded handle. Much easier to attach than the standard phono plug, and provides "finished appearance". Pkg. of 2.	2	1.25
30-472		Adapter, Phono Pin Plug to Standard Phone Plug.	1	1.80
30-484		Standard Phone Plug, 2 conductor. Black Plastic Handle	1	1.10

NEW *Tape Cartridge Player* HEAD-DEMAG



(Extra Long Tip for Auto and Home 4 and 8 Track Players)

Demagnetizes player heads quickly and easily. Extra long tip will reach into tape cartridge players easily for demagnetizing tape player head, thus preserving full frequency response. Demagnetizer tip is coated with soft plastic to prevent damaging player head. Complete with momentary push-button switch and 6' cord. Nothing to wear out; will last a lifetime.

(Std. Ctn. 12 cards)

NO.30-112-2 . . . . . List 11.95

HEAD LUBRICANT HEAD CLEANER



(The Perfect Treatment for Maximum Efficiency

Use Audiotex safe, efficient head cleaner to remove dirt and grease. Audiotex Recorder Head lubricant with silicone may be applied liberally to recorder head, leaves a light protective film to reduce friction. Cuts wow, flutter and tape squeals.

(Std. Ctn. 12 cards)

No. 30-124-1 Cleaner . . . . . List 1.00
No. 30-124-2 Lubricant . . . . . List 1.00
No. 30-124-3 Cleaner and Lubricant. . . List 1.95

Audiotex Dual Purpose Bulk Tape Eraser

Catalog Number 30-140
List $17.95



Provides two convenient methods for completely erasing program material from magnetic tapes. Use either as a hand held or tape model eraser. Rated at 117 V.A.C., 4 amperes, 60 Hz. May also be used with ½" width tapes.

DELUXE TAPE SPLICER

WITH BUILT-IN SPLICING TAPE DISPENSER

(Cuts and Splices Tape Automatically)

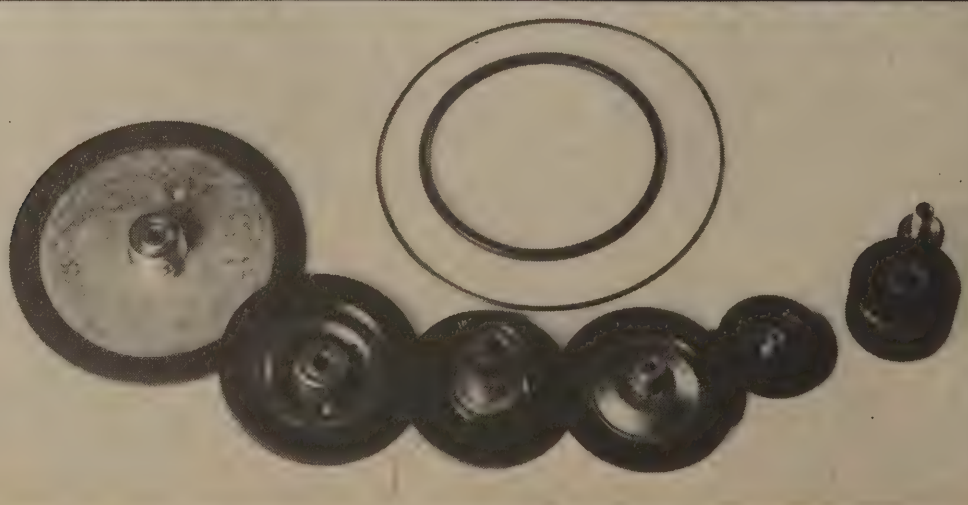


The New Deluxe Audiotex Tape Splicer handles all sizes of splicing tape. Unique splicing tape dispenser simplifies operation. For professionally repairing and editing, splicer cuts recording tape diagonally and trims splicing tape with indented cut to eliminate the danger of adhesive coming in contact with the recorder heads.

No. 30-106 . . . . . List 6.95

Walsco Tape & Phono Drives & Belts

Walsco ELECTRONICS



WRITE FOR CATALOG #FR-135-W FOR COMPLETE LISTINGS

Trade Discount Applies To List Prices Only
© United Technical Publications

TAPE ACCESSORIES

GC ELECTRONICS

NEW MUSI-KLEEN CASSETTE TAPE HEAD CLEANER

WITH EXCLUSIVE, NON-ABRASIVE KLEEN-TAPE FORMULA



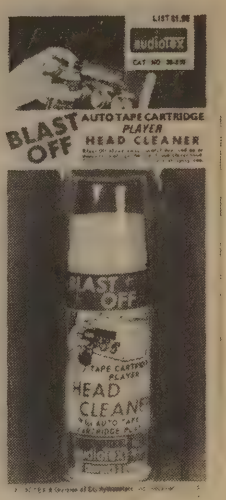
The safe, convenient way to clean cassette tape heads. Audiotex uses a non-abrasive fluid to impregnate the cleaning tape in the cassette — an exclusive formula that will not damage sensitive tape heads. The cassette is packaged in a plastic storage case and comes complete with cleaning fluid and dropper applicator.

Cat. No.		List
30-618		4.95

Safe — Will Not Damage Tape Recorder Head

NEW "BLAST OFF" TAPE HEAD CLEANER

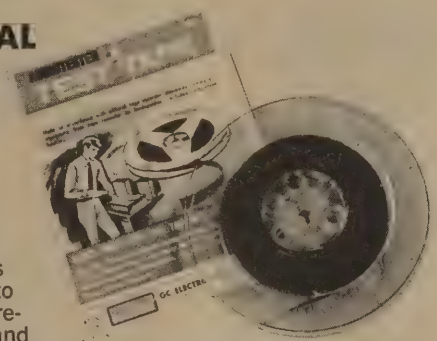
FOR AUTO TAPE PLAYER



New "Blast-Off" aerosol head cleaner removes harmful dust and oxide particles — assuring full fidelity from Auto Tape Cartridge Players. Two 1 second blasts does the job. A convenient way to regularly clean tape heads, the new 3-ounce Blast-Off easily stores in glove compartment of car.

Cat. No.		List
30-630	3 oz.	1.75
30-128	6 oz.	2.25

PROFESSIONAL QUALITY TEST TAPES



Check tape recorders and players for performance and proper alignment. These precision tapes contain recordings to check or measure frequency response and equalization, flutter, wow, distortion, stereo balance, separation and channel identification and tape head alignment.

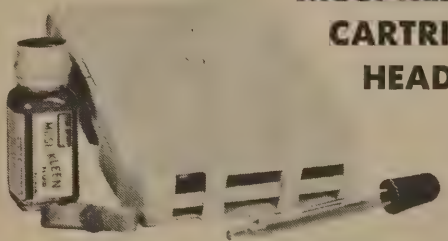
Cat. No.		List
30-212	Cassette type	5.60
30-213	Cartridge type (4 and 8 track)	7.95
30-214	Reel to reel (4 track stereo 3¾ & 7½ I.P.S. 5" reel)	6.80

Protect your Valuable Tapes!

Avoid Expensive Repairs!

Safe For All Tape Recorder Heads!

MUSI-KLEEN TAPE CARTRIDGE PLAYER HEAD CLEANER



For All 8 Track and Combination 4 and 8 Track Tape Players

This head cleaner kit can be used for both home and auto tape players. It is the newest concept in a cleaning kit for tape cartridge player heads. The Audiotex Cleaner Cartridge employs a non-abrasive cleaning fluid which impregnates cloth belts in the cartridge. Kit includes Cleaner Cartridge, Cleaning Fluid and Replacement Belts. Attractively packaged in durable plastic storage container.

Cat. No.		List
30-620	Kit	5.95
30-620-1	Pkg. of 5 Replacement Tapes	1.50
30-620-2	Bottle of Replacement Fluid	1.00

NEW EZE-SPLICE TAPE SPLICER

⅛" for Cassette or ¼" for Reel to Reel

Easy and Simple to Use

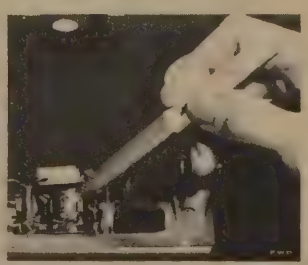


Ideal for editing and repairing broken tape. Precision, all metal construction. Easy and simple to use. Splicing tape can be applied and trimmed in a minute or less. Cutting blade included.

Cat. No.		List
30-100	Tape splicer (¼" for all reel tape)	2.95
30-652	Cassette splicer (⅛" wide)	2.95

NEW TAPE HEAD CLEANING PEN

Insure Clean Sound by Keeping Your Tape Recorder Heads Free of Deposits



May be used with any tape recorder or player — Reel, Cassette or Cartridge. Fine fiberglass bristles, sufficiently stiff to remove deposits but soft enough to prevent damage to delicate recording or playback heads. Easy to use. Remove tape head cover and rub heads until clean. Most manufacturers recommend cleaning after 20 to 40 hours of use.

Cat. No.		List
30-2150	Cleaning pen	1.70

NEW STROBE-TAPE KIT

Accurately Monitors Speeds of Recorder or Player

Contains 100' of Precisely Calibrated Tape on 5" Reel For 3¾ and 7½ ips

Strobe Light With Cord



Enjoy true sound fidelity by maintaining peak performance of your player and/or recorder drive system. The Audiotex Strobe Tape Kit monitors speeds of either 3¾ or 7½ ips for proper adjustment. Precisely calibrated markings on tape will appear motionless when viewed under strobe light at proper speed. Contents and complete instructions on back of package.

Cat. No.		List
30-2600	Strobe tape kit	6.95

WRITE FOR CATALOG #FR-71-A FOR COMPLETE LISTINGS

Garrard®

WORLD'S FINEST
AUTOMATIC TURNTABLES

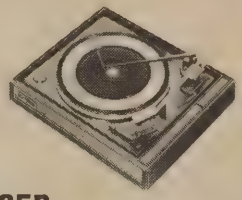
Garrard's revolutionary Synchro-Lab™ Motor incorporates the best features of both induction and synchronous motors: instant start . . . constant, synchronous speed.



NEW ZERO 100 2-speed Automatic Transcription Turntable, $189.50. World's first automatic turntable with "Zero" tracking error . . . less than 90 seconds of arc! Computer-designed articulating tone arm keeps stylus perpendicularly tangent to grooves throughout the record . . . eliminates distortion due to improper tracking. Space-age low friction pivots • Synchro-Lab Motor for perfect, synchronous speed • Variable speed control ±3%, with built-in illuminated strobe • 15° vertical tracking adjustment • Exclusive magnetic anti-skating control • Precision sliding weight stylus force adjustment • Full-sized aluminum platter • Viscous damped cueing • Cartridge clip, with overhang and depth adjustments.



SL95B
3-speed Automatic Transcription Turntable, $139.50. Synchro-Lab Motor for perfect speed, unwavering pitch • Viscous damped cueing/pause control and tone arm descent in automatic play • Low-mass aluminum tone arm with Afrormosia wood inset • Gimballed tone arm mounting • Patented sliding weight anti-skating control • Window scale stylus pressure gauge • Slide-in cartridge clip • Safe two-point record support • Kinetically matched, full-size turntable • Two interchangeable spindles.



SL 65B 4-speed Automatic Turntable, $74.50. Synchro-Lab Motor • Low-mass, tubular aluminum tone arm with adjustable counter-weight • Precision stylus pressure gauge with optical scale • Adjustable anti-skating control • Viscous damped cueing to prevent record and stylus damage • Slide-in cartridge clip • Meticulously balanced cast aluminum turntable • Swing-away overarm for convenient single record handling.



SL 55B 4-speed Automatic Turntable, $59.50. Synchro-Lab Motor • Rigid, lightweight, tubular aluminum tone arm with locking rest • Rubber-isolated counterweight to damp out resonance causing factors • Stylus pressure adjustment and scale • Viscous damped cueing for record/stylus protection • Fully adjustable anti-skating control • Slide-in cartridge clip • Oversized turntable • Swing-away overarm • Super-sensitive trip.



SL 72B
3-speed Automatic Transcription Turntable, $99.50. Synchro-Lab Motor • Low-mass tubular aluminum tone arm • Gyroscopically gimballed tone arm mounting • Rubber-isolated adjustable counterweight • Patented anti-skating control • Calibrated stylus pressure gauge • Slide-in cartridge clip • Viscous damped tone arm descent in automatic play • Safe, two-point record support • Simplified controls: one for automatic, one for manual, and one for viscous damped cueing/pause control.



Model 40B 4-speed Automatic Turntable, $44.50. Lightweight tubular aluminum tone arm • Counterweight, resiliently isolated to damp out tonearm resonances • Easy-to-adjust stylus pressure control with visible scale • Viscous damped single-lever cueing/ pause control • Oversized turntable • Swing-away overarm • Super-sensitive trip • Garrard 4-pole shaded "Induction Surge Motor."



Model 30
4-speed Automatic Turntable, $39.50. Includes pre-installed stereo ceramic cartridge with flip-over diamond stylus • Automatic record intermix.

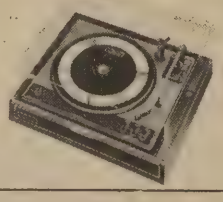


SP 20B
4-speed Manual Record Playing Unit, $37.50. Efficient, low-priced compact manual player, ideal for basic stereo music systems and quality audio/visual applications.

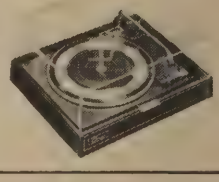
Garrard Module Series

Fine automatic turntables with pre-installed cartridge, coordinated base and dust cover, packaged complete . . . ready to plug-in-and-play.

New Module SLX-3 Synchronously powered, 3-speed Automatic Turntable, $99.50. Pre-installed fine magnetic cartridge with high compliance elliptical diamond stylus assembly. Garrard's most advanced features: Synchro-Lab Motor • Ultra low-mass dynamically balanced aluminum tone arm • Stylus pressure gauge • Adjustable anti-skating control • Single lever cueing/pause control • Damped tone arm descent • Two-point record support.



Module SLX-2 Synchronously powered, 3-speed Automatic Turntable, $69.50. Pre-installed magnetic cartridge with high compliance diamond stylus assembly. Synchro-Lab Motor • Sleek low-mass aluminum arm with ball-bearing pivotry; adjustable counter balance • Single lever cueing/pause control • Oversized turntable • Unique swing-away overarm • Simplified speed/size selector.



Module X-10 3-speed Automatic Turntable, $52.50. Pre-installed stereo ceramic cartridge with flip-over diamond stylus. Swing-away overarm • Single lever cueing/pause control • Low-mass aluminum tone arm • Automatic/manual simplified controls • Two interchangeable spindles: long for automatic, short for manual.



New Ultra Compact Module X-11 "Demi" 4-speed Automatic Turntable, $39.95. Pre-installed high quality stereo ceramic cartridge with flip-over diamond stylus. Swing-away overarm • Lightweight aluminum tone arm • Automatic shut off and tone arm lock • Plays stack of 8 records in automatic mode • Two interchangeable spindles.



Accessories: Coordinated bases including the new Power-Matic series, dust covers, mounting boards, automatic "45" spindles.

GARRARD Div., British Industries Co.

Net

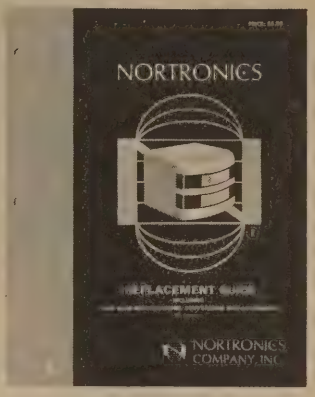
© United Technical Publications

NORTRONICS

WORLD'S LEADER IN MAGNETIC HEADS

Nortronics distributors have replacement heads for more than 3,000 recorders!

Nortronics distributors and service stations stock a complete line of replacement heads and accessories for more than 3,000 professional and popular-priced domestic and foreign recorders. Your distributor has a model-by-model breakdown listed in the 40-page Nortronics Replacement Guide shown to the right, and will be pleased to help you select the proper record, playback, erase or combo head for your particular recorder. Contact your Nortronics distributor and specify recorder number or head part number, along with desired track configuration.



Nortronics professional recording accessories



MODEL AT-200 PROFESSIONAL CASSETTE ALIGNMENT TAPE

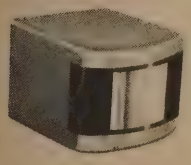
Splice-free, first-generation master recordings which provide zero reference, azimuth alignment and frequency response tests to DIN standards. Speed accuracy of ±0.01% at 1⅞ ips (4.75 mm); frequency accuracy of ±0.05%; tone level accuracy of ±1.2 db and distortion of less than ±0.6%. Each tape tested on a precision torque analyzer. Full track recording may be used with all track configurations.

MODEL AT-100, 7.5 ips. ¼″ professional tape for full-track, four-track and two-track monophonic and stereophonic recorders also available. Contains zero reference, azimuth alignment and frequency response tests on a single, splice-free master recording.

PROFESSIONAL TAPE/HEAD CLEANER

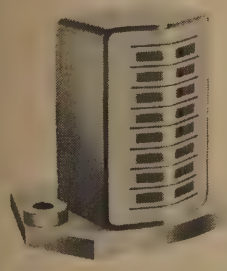
Specially formulated for professional applications in cleaning tape heads, tape, microwave equipment, white rooms, film. Cleans completely without leaving a residue. Safe for all parts. Available in liquid form in 8 oz. and 32 oz. cans and in 16 oz. spray can. Safe for use on all pressure rollers.





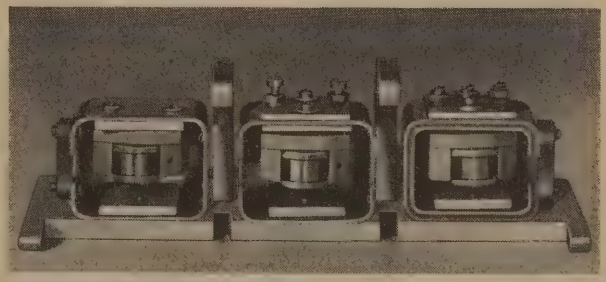
9000 SERIES PROFESSIONAL HEADS

Recommended replacement heads for *all* professional recorders. Available in full-track, (9100 Series) or two track (9200 Series) models. Designed with extra-wide pickup poles for smooth low frequency response to below 20 Hz. Precision-lapped, laminated core stacks with deposited gaps for extended HF response up to 20 KHz. Extra deep gaps provide long life.



STUDIO SERIES HEADS

Designed for replacement in professional audio or master recorders such as Ampex, Scully, MCI, etc. Available in standard SMPTE track formats; 3 or 4 channels on ½″ tape, 8 or 12 channels on 1″ tape, or 16 channels on 2″ tape. Record and playback heads feature ultra thin HY MU 800 laminated precision-lapped cores for minimum eddy current loss, deposited silicon monoxide gaps for maximum frequency definition, and hyperbolic face contour for uniform, intimate tape contact. Companion compatible erase heads available with independent channels or full width. Ferrite-core structures reduce UHF bias losses and provide erasure to virgin tape level.



NEST REBUILDING FOR AMPEX PROFESSIONAL RECORDERS

Nortronics distributors offer nest rebuilding services for Ampex professional recording equipment. This service is available for Ampex models 300, 350, 351, AG-350, AG-440 and 3200 Series. Nortronics' QK-76 is installed in place of the original head. This mount provides easy, rapid replacement with plug-in simplicity. All original adjustments for head alignment are unchanged. Nortronics Professional Series Heads are provided to ensure optimum performance and reliability.

NORTRONICS COMPANY, INC.

Nortronics distributors offer complete head relapping services for 9000 Series Professional & Studio Heads.

© United Technical Publications

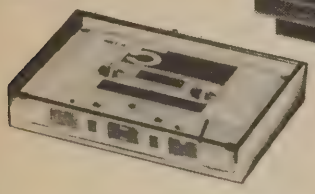
ROBINS®

ROBINS INDUSTRIES CORP.

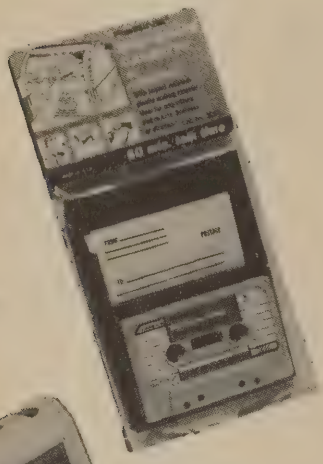
RECORDING CASSETTES, CARTRIDGES AND REEL TO REEL TAPE



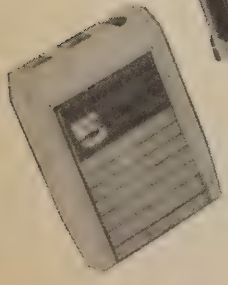
Sonoramic brand Cassettes



Brand Five Cassettes



Mail-A-Cassettes



Brand Five 8-track Cartridges



Robins brand Correspondence Tape



Brand Five Tape



Sonoramic Tape Multi-Paks



Brand Seven Tape

"BRAND FIVE" CASSETTES

High quality. Super coated tape for sharper, brighter recordings. Individually packed in deluxe permanent storage plastic canisters featuring clear hinged cover and built-in stops to protect tape.

Cat. No.	Recording Time	
2D30	30 minutes	"Peg-Hang"
2D60	60 minutes	Dispenser contain
2D90	90 minutes	12 Cassettes.
2D120	120 minutes	

See latest price sheet for prices.

"MAIL-A-CASSETTES"

Quality tape. Individually packed in impact-resistant plastic canisters with built-in stops to protect tape. Self-stick address label included.

Cat. No.	Recording Time	
2C30	30 minutes	Ready for correspon-
2C60	60 minutes	dence and dictation

See latest price sheet for prices.

"SONORAMIC BRAND" CASSETTES

Economical, quality tape for general recording, correspondence and dictation. Packed in two-piece clear plastic canisters with built-in stops to protect tape.

Cat. No.	Recording Time	
2S30	30 minutes	See latest price
2S60	60 minutes	sheet for prices.
2S90	90 minutes	
2S120	120 minutes	

"BRAND FIVE" 8-TRACK BLANK CARTRIDGES

High quality, super coated tape for sharper, brighter recordings. Individually shrink packed.

Cat. No.	Recording Time	
8D30	32 minutes	See latest price
8D60	64 minutes	sheet for prices.
8D80	80 minutes	

ROBINS RECORDING CASSETTES ARE FULLY GUARANTEED

Guarantee Card enclosed with each Cassette indicates Cassette to be of 100% U.S. materials and assembly, and to be free of any defects in materials or workmanship. Should any Cassette prove to be defective in material or workmanship, it will be repaired, or replaced when returned to Robins Quality Control Engineer.

"BRAND FIVE" QUADRUPLE-PLAY ¼ MIL SUPER-LONG RECORDING TAPE

Four times more recording time than standard thicknesses on the same reel. Increases play time of small recorder. Meets needs of commercial users — broadcast, background music systems, lectures, conference, surveillance, and other long uninterrupted uses. Quality tensilized Mylar for strength.

Cat. No.	Reel Size	Length Ft.	Time per track Min. at 3¾ ips	List
3C25MT	2½"	500′	50 min.	$2.65
3C32MT	3¼"	1100′	1 hr. 50 min.	5.20
3D5MT	5"	2400′	4 hrs.	10.30
3D7MT	7"	4800′	8 hrs.	19.70

"BRAND FIVE" RECORDING TAPE

The fifth oldest brand of recording tape in the world. Dependable quality. Individually boxed.

Cat. No.	Reel Size	Length Ft.	Time per track Min. at 3¾ ips	List
1.5 mil Acetate				
15D3	3"	150′	7½	.80
15D5	5"	600′	30	1.95
15D7	7"	1200′	60	2.90
1. mil Acetate				
10D3	3"	225′	11	.95
10D5	5"	900′	45	2.45
10D7	7"	1800′	90	3.85
1. mil Polyester				
10D3M	3"	225′	11	1.05
10D5M	5"	900′	45	3.05
10D7M	7"	1800′	90	5.20
.5 mil Polyester Double Play				
5D3M	3"	300′	15	1.20
5D5M	5"	1200′	60	3.50
5D7M	7"	2400′	120	6.30
.5 mil Tensilized Polyester Double Play				
5D3MT	3"	300′	15	1.45
5D5MT	5"	1200′	60	5.04
5D7MT	7"	2400′	120	8.80
.5 mil Polyester Triple Play				
5D3MS	3"	450′	22½	1.60
5D32MS	3¼"	600′	30	2.10
5D5MS	5"	1800′	90	5.04
5D7MS	7"	3600′	180	8.80
.5 mil Tensilized Polyester Triple Play				
5D3MTS	3"	450′	22½	1.75
5D5MTS	5"	1800′	90	6.45
5D7MTS	7"	3600′	180	11.20

ROBINS BRAND CORRESPONDENCE TAPE

Top quality recording tape in impact-resistant plastic reusable mailing canister with two-sided address card. Ready for recording and mailing.

Cat. No.	Reel Size	Length Ft.	*Time Min.	Mil and Material	List
15H3	3"	150′	7½	1.5 A	$1.05
10H3	3"	225′	11	1. A	1.30
10H3M	3"	225′	11	1. P	1.50
5H3MT	3"	300′	16	.5 PT	1.85
5H3MTS	3"	450′	22½	.5 PT/TP	2.80
5H32MTS	3¼"	600′	30	.5 PT/TP	3.30

"BRAND SEVEN" TOP QUALITY RECORDING TAPE

Offers increased output, reduced distortion at same recording level, better frequency response for sharper, brighter recordings. Improved uniformity for lower modulation noise. Calendered to achieve smoother oxide surface for professional like recording. Color-Coded Leader Tape and Aluminum Foil Sensing and Cueing Strips pre-spliced to beginning and end of tape on every reel. 4-color library box.

Cat. No.	Reel Size	Length Ft.	*Time Min.	Mil and Material	List
15E5	5"	600′	30	1.5 A	$2.35
15E7	7"	1200′	60	1.5 A	3.80
10E5	5"	900′	45	1. A	3.75
10E7	7"	1800′	90	1. A	5.95
10E5M	5"	900′	45	1. P	3.90
10E7M	7"	1800′	90	1. P	6.70
5E5M	5"	1200′	60	.5 P/DP	4.70
5E7M	7"	2400′	120	.5 P/DP	8.10
5E5MT	5"	1200′	60	.5 PT/DP	5.90
5E7MT	7"	2400′	120	.5 PT/DP	10.30
5E5MS	5"	1200′	60	.5 P/DP	6.25
5E7MS	7"	2400′	120	.5 P/DP	11.00
5E5MTS	5"	1800′	90	.5 PT/TP	7.70
5E7MTS	7"	3600′	180	.5 PT/TP	13.00

"SONORAMIC BRAND" RECORDING TAPE IN MULTI-PAKS

Economical, good quality tape.

Cat. No.	Reels per Pkg.	Reel Size	Lgth. Ft. ea. Tape	Mil and Material	List
15S3-P4	4	3"	150′	1.5 A	$1.75
15S2-P6	6	2"	75′	1.5 A	1.75
10S3-P3	3	3"	225′	1. A	1.75
10S2-P4	4	2"	110′	1. A	1.75
10S3M-P2	2	3"	250′	1. P	1.75
10S2.5M-P3	3	2½"	150′	1. P	1.75
5S2M-P2	2	3"	300′	.5 P/DP	1.75
5S2.5M-P3	3	2½"	200′	.5 P/DP	1.75
5S2.5MS-P2	2	2½"	350′	.5 P/TP	1.75
5S3.2MS-P2	2	3¼"	600′	.5 P/TP	2.80
15S5-P2	2	5"	600′	1.5 A	3.05
10S5-P2	2	5"	900′	1. A	3.70
15S7-P2	2	7"	1200′	1.5 A	5.00
10S7-P2	2	7"	1800′	1. A	6.70

Key to Material: A: Acetate, P: Polyester, T: Tensilized, DP: Double Play, TP: Triple Play.
* Time: Playing time per track in minutes at 3¾ ips.

TAPE ACCESSORIES IN ECONOMICAL MULTI-PAKS. RMC-6 REUSABLE IMPACT-RESISTANT PLASTIC TAPE MAILING CANISTERS FOR UP TO 3¼" DIA. TAPES. Includes two-sided address cards. Pkg. of 6 **List $1.90**

TMC-30 DOUBLE-SIDED ADDRESS CARDS. For use with RMC-6, Robins brand and Mail-A-Tape Correspondence Tape plastic Canisters. Pkg. of 30 cards. **List** **$1.30**

TB-15 TAPE MAILING BOXES. Pkg. of 15, cardboard boxes for up to 3¼" dia. tapes. Ready to address and mail. **List** **$1.60**

Trade Discount Applies To List Prices Only

© United Technical Publications

CASSETTE AND CARTRIDGE ACCESSORIES

ROBINS INDUSTRIES CORP.

TSA-1 CASSETTE STORAGE ALBUM. Recessed compartments for 12 Cassettes. Built-in stops prevent tape slack. **List** $4.00

TSA-3 CASSETTE IN CANISTER ALBUM. Stores 8 Cassettes in their original canisters. **List** $5.00

TCS-6 CASSETTE MODULAR STORAGE UNITS. Holds 12 tapes. Mount on wall, place on shelf. Walnut grain decor. **List** $3.55

TCS-8 for 12 8-track Cartridges. List $5.25

CASSETTE AND CARTRIDGE CARRYING CASES. Low cost, heavy duty. Alligator textured vinyl.
TCC-5 stores 12 Cassettes in canisters $4.50
TCC-9 stores 12 8-track Cartridges 5.55
TCC-21 Deluxe Convertible Case stores 12 Cartridges. Movable partitions convert case for use as a camera case, picnic basket, and utility case. **List** $9.15

TCC-6 "CASSETTE SWINGER" CARRYING CASE. Heavy duty, Holds 12 Cassettes. Free log book included. **List** $6.15

TC-3 DELUXE CASSETTE CANISTER. Impact-resistant plastic. Clear hinged cover. Built-in stops protect tape. Pkg. of 3. **List** $1.65

TC-4 PLASTIC CASSETTE MAILERS. Impact-resistant. Built-in stops protect tape. With self-stick address labels. Pkg. of 3. **List** $1.40

TML-20 REPLACEMENT CASSETTE MAILING LABELS. Pkg. of 20. Self-stick. Use with TC-4 and other canisters. **List** $1.25

TCB-18 ECONOMY CASSETTE MAILERS. Pkg. of 18 Cardboard Mailers. Has "stops" to protect tape for safe mailing. **List** $1.65

TS-115 "CUT-N-SPLICE" CASSETTE TAPE SPLICER. Cuts tape at 45° angle. 25 self-stick Patches included in tray of splicer. **List** $5.00

TS-215 POCKET SIZE PRECISION CASSETTE SPLICER BLOCK. Cuts tape at 45° or 90° angle. In pocket size plastic carry case. Includes cutting blade and 25 self-stick Patches **List** $10.50

TS-315 PROFESSIONAL STUDIO CASSETTE TAPE SPLICER. Precision 45° or 90° cut. Heavy duty splicer block is mounted on sturdy cast base. 100 self-stick Patches and burnishing roller included. **List** $26.25

TT-15 CASSETTE TAPE SPLICING PATCHES. Pkg. of 100. Pre-cut, self-stick. **List** $1.65

TMC-1 CASSETTE BULK TAPE ERASER. Erase recording in seconds. Restore "permanently recorded" cassettes to blank condition. 110 V. A.C. **List $21.00**

TD-10 CASSETTE HEAD DEMAGNETIZER. Removes excessive magnetic build-up from recorder/player heads to improve fidelity. Has built-in pilot light. 110 V. A.C. **List** $10.00

TSC-9 CASSETTE TEST STROBE. Tests recorder/player for correct speed. Built-in strobe tape and light. 110 V. A.C. **List** $6.50

THC-4 CASSETTE NON-ABRASIVE HEAD-KLEEN TAPE. Removes oxide, grime, etc. **List** $3.00

THC-6 3-WAY TEST-N-CLEAN CASSETTE. Cleans recorded heads. Tests head alignment and stereo balance. **List** $2.95

THC-7 CASSETTE MICRO-POLISHING HEAD-KLEEN TAPE. Cleans and polishes recorder heads. **List $2.50**

TCW-2 CASSETTE TAPE TENSION WINDERS. Insert in sprockets of Cassette to wind tape in either direction. Takes up slack. **Pair** $1.60

TK-3 CASSETTE AND CARTRIDGE PLAYER HEAD-KLEEN KIT. 2 oz. bottles of Head Cleaner and Lubricant, plus 25 extra-long Audio Cleaners for hard to reach heads. **List** $2.40

TCL-20 COLOR-CODED CASSETTE TITLE LABELS. Pkg. of 20. 5 colors. Self-stick, die-cut for easy application. **List** $1.60

TCL-30 COLOR-CODED CASSETTE OWNER IDENTIFICATION END LABELS. Pkg. of 30. 5 colors. Self-stick. Printed: "Property-Of—". **List** $1.50

TTK-1 CASSETTE RE-RECORD KIT. Approx. 50 reusable plastic erase tabs for replacing removed tabs of permanently recorded Cassettes. Replacing tabs permits automatic erasure of recordings and re-recording. Handy tool for inserting tabs is included. Tabs are removable to make Cassette permanently recorded again. Includes instructions. **List** $1.65

TSP-140 CASSETTE SENSING AND CUEING TAPE. .140" x 150" length Aluminum foil tape can be cut to any length and placed on any desired section of Cassette tapes to cue automatic stop, reverse, and other electronic sensing devices. **List** $3.10

TSK-2 EXPERIMENTER'S CASSETTE-PARTS KIT. Complete set of parts and housing without tape. **List $1.25**

TC-2 ECONOMY CASSETTE CANISTERS. Pkg. of 3 window clear plastic 2-piece canisters. Has built-in stops to protect tape. **List** $1.00

4- AND 8-TRACK CARTRIDGE BULK TAPE ERASERS. Erase recording in seconds. 110 V. 50-60 Hz A.C.
#TMC-2 Deluxe, **List** $31.50
#TMC-3 Professional, UL listed. **List** $57.75

TSC-8 CARTRIDGE TEST STROBE. Tests speed accuracy of recorder. Built-in strobe tape and light. 110 V. A.C. **List** $7.90

CARTRIDGE HEAD DEMAGNETIZERS. Removes excessive magnetic build-up from recorder heads to improve fidelity. **#TD-12** for Home Cartridge Players. 110 V. A.C. **List** $14.05
#TD-15 for Automobile units. Direct Current model. Plugs into cigarette lighter. **List** $17.50

TBT-8 8-TRACK RECORDER PRE-TEST CARTRIDGE. 60 second blank tape for rapid check of recording level, tone balance, and track switching before recording program. **List** $3.65

THC-9 BEEPER HEAD AND CAPSTAN CLEANING CARTRIDGE. Removes oxide, grime, and dust from heads and capstans of player. Audible beep signals indicate number of times cleaning tape passes and contacts heads. **List** $2.50

THC-10 NON-ABRASIVE HEAD-CLEANER CARTRIDGE. Removes oxide, grime, and dust from heads to improve fidelity. **List** $3.00

THC-11 8-TRACK 5-WAY TEST-N-CLEAN CARTRIDGE. 1. Cleans player heads. 2. Tests track selector. 3. Tests Stereo channel balance. 4. Tests speaker phasing. 5. Tests head alignment to assure full fidelity playback. **List** $5.30

TCA-8- 8-TRACK CARTRIDGE TAPE ALBUM. Stores 8 Cartridges. **List** $6.20

TRL-8 CARTRIDGE COLOR-CODING TITLE LABELS. Replace worn labels. Color-code tapes by category. Pkg. of 20. 5 colors. Self-stick for easy application. **List** $2.00

CASSETTE TAPE EDITING AND CARE KITS SKA-6 KIT. Contains: TS-115 Tape Splicer, 25 Patches, Cassette Tape Tension Winders, 3 Deluxe Cassette Canisters, THC-6 Test-N-Clean Cassette, Cassette Title Labels, and two 60 minute "Sonoramic" Recording Cassettes. All in a heavy duty vinyl, Alligator textured Carrying Case. **List** $17.75

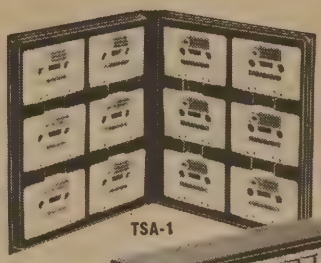
TK-36 KIT. Contains: TS-115 Cassette Tape Splicer, 25 Patches, Cassette Tape Tension Winders, Cassette Color-Coding Title Labels, and Color-Coding numbered Index Spots for Cassettes and matching canisters. **List** $9.50

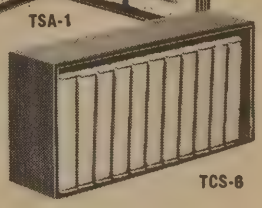
SKA-8 8-TRACK CARTRIDGE CARE KIT. Contains: TD-12 Cartridge Head Demagnetizer, THC-8 Test-N-Clean Cartridge, Recorder Pre-Test Cartridge, Cartridge Color-Coding Title Labels, Cartridge Protective End Caps. All in a convenient heavy duty vinyl, Alligator textured Carrying Case. **List** $26.00

PROTECTIVE COVERS FOR TAPES. Protect recordings from dust and grime. **#TCJ-20,** Pkg. of 20 clear plastic bags for Cartridges. **List** $1.15
#TCJ-18, Pkg. of 20 clear plastic bags for Cassettes. **List** $1.15

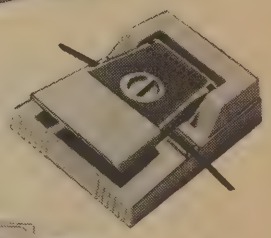
TJ-12 CASSETTE END-CAPS. Plastic. Protects tape at Cassette openings from dust and prime. Pkg. of 10. **List** $1.40

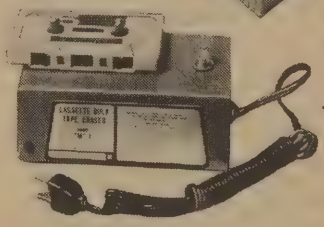
TEP-1 CASSETTE ERASE PREVENTION TAB REMOVER. Convenient special tool for removing erase tabs of Cassettes for making permanent recordings. Simple to use. **List** $1.65


TSA-1

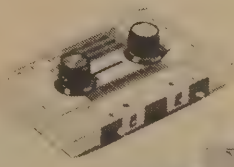

TCS-6

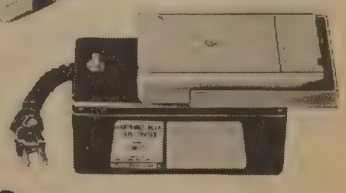

TCC-5


TS-115

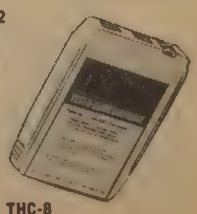

TCM-1


TD-10


TCW-2


TCM-3


TD-12


THC-8

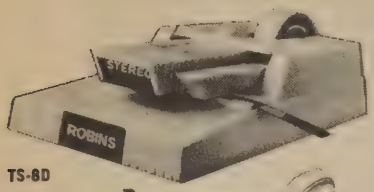
© United Technical Publications

Trade Discount Applies To List Prices Only

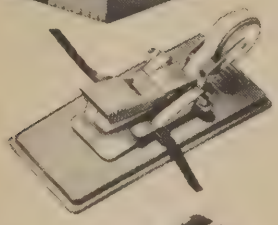
ROBINS®

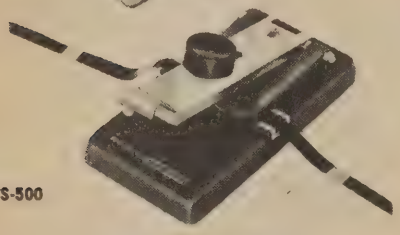
ROBINS INDUSTRIES CORP.

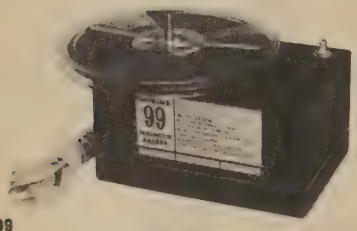
REEL TO REEL TAPE ACCESSORIES



TS-8D

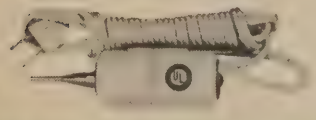

TS-7S

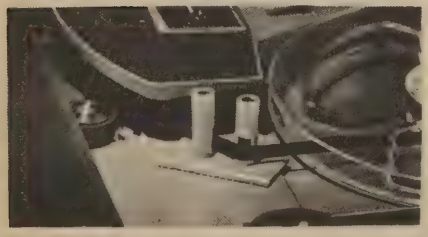

TS-500



TM-99


TM-120


TD-6


TLA-1


TW-1


TCP-12

GIBSON GIRL® "STEREO" TAPE SPLICERS. "See-thru" windows show "Cut" and "Trim" positions. Tape guide and arms secure tape. Blade centering adjustment provided for life-time accuracy. Replaceable cutter cartridge, pads.

TS-8D DELUXE. Easy threading integral tape dispenser has ½" x 100" splicing tape. Made of durable Cycolac®. **List** $14.00

TS-7S STANDARD. Same as TS-8D. Integral tape dispenser has ⅜" x 100" splicing tape. Metal and plastic. **List** $10.50

TS-7J JUNIOR. Same as TS-7S, less dispenser and splicing tape. **List** $8.70

TS-14 PROFESSIONAL STUDIO SPLICER. Cuts tape at 45° or 90° angle. Precision, heavy-duty splicer block mounted on sturdy cast base. Burnishing plate, roller, cutting blade, and 100 self-stick Patches included. **List** $26.25

TS-6 DELUXE "CUT-N-SPLICE". Adjustable cutter cuts tape at 30°, 45°, and 90°. Includes 25 self-stick Patches in tray of splicer. **List** $5.00

PROFESSIONAL GIBSON GIRL® AUDIO/VIDEO TAPE SPLICERS. Heavy duty. Precision cut and trim. Blades and cutter pads are replaceable. **#TS-250** for ¼" tape. **#TS-500** for ½" tape. **#TS-1000** for 1" tape. Splicers with straight cut. **#TS-250S, #TS500S, #TS-1000S. List each** $96.10

AUDIO/VIDEO TAPE SPLICERS. Heavy duty. Includes 25 self-stick Splicing Patches. **#TSV-50** for ½" tape. **#TSV-100** for 1" tape. **List each** $22.70

SPLICING TAPE. Special formula Mylar.

Cat. No.	Width	Length	List
TST-235	¼"	300"	$1.20
TST-376	⅜"	275"	1.20
TST-501	½"	250"	1.20
TST-751	¾"	150"	1.20

SPLICING PATCHES. Pre-cut, self-stick.

Cat. No.	Pkg. Qty.	Splicer to be used with	List
TST-233	75	TS-5, TS-6, and TS-14	$1.30
TT-247	60	TSV-50	1.75
TT-248	48	TSV-100	1.75

REPLACEMENT CUTTER KITS FOR SPLICERS. Kit contains cutter cartridge and 2 cutter pads.

TZ-2 for old TS-4A series splicers. **List** $1.85

TZ-3 for TS-7S, TS-7J, TS-4S, TS-4J. **List** 1.85

TZ-8 for TS-8D splicer **List** 1.85

TZ-4 Cutter Pads for TS-7S, TS-7J, TS-4S, TS-4J, and TS-4A series splicers. **List** 1.85

TZ-250 Cutter Pads for TS-250 splicer. **List** 2.10

TZ-500 Cutter Pads for TS-500 splicer. **List** 2.10

TZ-1000 Cutter Pads for TS-1000 splicer. **List** .. 2.10

TZ-1 Replacement Blades for TS-250, TS-500, TS-1000 splicers. Pkg. of 12. .....$3.50

TM-99 PROFESSIONAL BULK TAPE ERASER. UL LIST. For tapes to ½" wide, reels to 10½". Erasure: 3 to 6 dB below normal erase head level. 110 V. 50-60 Hz A.C. Size: 5¼" x 6¾" x 3¾". **List** ..$52.45

TM-77 DELUXE BULK TAPE ELASER. For ¼" tape, reels to 7". Erasure: 2 to 4 dB below erase head level. 110 V. 50-60 Hz A.C. Size: 2⅜" x 3¾" x 6¼". **List** $29.30

HEAVY DUTY BULK TAPE ERASERS FOR AUDIO-VIDEO AND INDUSTRIAL TAPES UP TO 1" WIDE. Erasure 50-90 dB below saturation level. 115 V. 50-60 Hz A.C. Safety features: overheat indicator, individually fused circuits. **#TM-120** for reels to 17". Duty cycle: 10 min On/10 min. Off. Size: 3¾" x 12" x 14". With blower system. **List** .....$220.50.

#TM-100 for reels to 10½". Duty cycle: 5 min. On/15 min. Off. Size 3¾" x 6" x 8". **List** $110.25

TM-88 HAND HELD BULK TAPE ERASER. For ¼" tape, any size reel. Handle has momentary contact switch. Size: 4" x 2¼" x 4¼". Wt. 2 lbs. 4 oz. Operation: 4 amps, 110 V. A.C. **List** $19.20

TM-2 MAGNETIC TAPE EDITING PEN. Removes single sounds, noise, etc. from recordings. Fade in, fade out sounds. **List** $2.65

HEAD DEMAGNETIZERS. Removes excessive magnetic build-up from recorder heads to improve sound fidelity. Operation: 110 V. 50-60 Hz. A.C.

TD-6 PROFESSIONAL UL LISTED MODEL. Size: 4⅝" x 1¼" dia. **List** $12.75

TD-3 ECONOMY MODEL. 3½" x 1¼" **List** 7.00

TLA-1 TAPE CLEAN-LUBE SYSTEM. Cleans and lubricates both sides of tape during play. Reduces tape drag. Eliminates squeal. Self-stick base mount to recorder deck. Includes Silicone cleaner/lubricant and 2 replacement applicators. **List** $5.25

TLA-2 TAPE LUBE SYSTEM. Lubricates both sides of tape during play. Reduces tape drag. Eliminates squeal. Self-stick for recorder deck mount. With spare graphite lub sticks. **List** $3.50

TX-20 HEAD CLEANER. Removes oxide, dirt, etc. from recorder heads. 2 oz. **List** $1.20

TX-22 HEAD AND GUIDE LUBRICANT. Silicone base liquid reduces head and tape wear. Provides friction free tape path. 2 oz. **List** $1.20

TX-33 TAPE DRIVE OIL. Highly refined lubricant for rotating and moving drive parts. Inhibits rust and oxidation. 2 oz. **List** ..... .90

TX-56 NON-SLIP FOR TAPE DRIVES. Stops slippage of idler, wheels, pulley belts, and cords. Fast drying and penetrating. Dries to tack-free yet non-slip surface. 2 oz. **List** $1.60

TX-60 SPECIAL FORMULATED CASSETTE RECORDER HEAD CLEANER. Meets requirements for safe cleaning of Cassette recorder heads. Removes accumulated oxide, grime, etc. from heads to improve sound fidelity. 2 oz. **List** $1.25

TG-2 TAPE CLEANING AND LUBRICATING CLOTHS. Cleans, lubricates and protects recording tape by depositing film of Silicone. Reduces head and tape wear. Eliminates tape squeal and chatter. Pkg. of 3 reusable cloths. Cloths are washable. **List** $1.15

SENSING STRIPS AND PATCHES. Aluminum foil. Prepares tapes for use with recorders having automatic stops and reverse controls and other electronic sensing devices. **#TSP-25,** ¼" x 4" strips. Pkg. of 25. **List** $2.00

#TSP-50 Patches. ¼" x ¾" lengths. Pkg. of 50. **List** $1.75

LEADER TAPES, CLEAR, WHITE, AND COLORS. 1.5 mil leader tape. 100 ft. x ¼" wide on 2½" reels. Reinforce ends of tape. Use for color-code indexing between recorded sections on reels. Use clear leader to prepare tapes for use with recorders having automatic sensing or shut-off devices.

Cat. No.	Color	List	Cat. No.	Color	List
TT-100C	Clear	$1.35	TT-100G	Green	$1.35
TT-100W	White	1.35	TT-100R	Red	1.35

TT-101 1200 ft. 1.5 mil White Leader Tape on a 7" reel. **List** $5.25

TW-1 PROFESSIONAL TAPE STROBE. Precision all metal, chrome plated. Checks recorder speed accuracy at 7½ and 3¾ ips. Precision machined. Needle bearings. **List** $12.25

TK-5 TAPE STROBE AND LIGHT KIT. Strobe tape and neon light, 110 V. A.C. Tests recorder speed accuracy at 15, 7½, and 3¾ ips. **List** $3.15

TAT-100 HEAD AZIMUTH ALIGNMENT TAPE. 100 ft. on 2½" reel. Has 6 kc steady tone. **List** $2.10

TCP-12 "TAPE SAFES". Set of 12. Protects 7" tapes. Molded hi-impact plastic. Hinge cover. Dovetail groove fits metal wall mount bracket included. **List** $21.00

TAPE "VAULTS". Durable metal, enamel finished canisters. Ribs nest for stacking. **TC5-2** Pkg. of 2 for 5" tapes. **List** .....$1.40.

TC7-2 Pkg. of 2 for 7" tapes. **List** $2.10

EMPTY TAPE REELS. Clear Plastic.

Cat. No.	Size	Qty.	List	Cat. No.	Size	Qty.	List
TR20-6	2"	6	$1.20	TR40-4	4"	4	$1.35
TR25-6	2½"	6	1.20	TR50-2	5"	2	1.20
TR30-6	3"	6	1.20	TR70-2	7"	2	1.35
TR32-4	3¼"	4	1.20	TR53-2†	5"	2	1.85
TR36-6*	3"	6	1.30	TR74-2†	7"	2	2.15
				TR-75(V)	7"	1	2.50

* Assorted Colors. † Low Torque Reels.
(V) VTR Reel for ½" wide video tape.

Trade Discount Applies To List Prices Only

© United Technical Publications

PHONO AND RECORD ACCESSORIES

ROBINS®

ROBINS INDUSTRIES CORP.

PK-6 "ROB-O-STAT" RECORD CLEANING KIT. Soft velvet and foam applicator mitt, 1½ oz. Anti-Static Record Cleaner and Lubricant, Polyfoam pad, and Stylus brush. **List** $2.65

PCD-1 PROFESSIONAL RECORD CUEING CONTROL. For manual turntables. Raise and lower tone-arm to desired track with pin-point accuracy without touching it. Prevents scratching records. Self-stick base mounts to turntable deck. **List** $12.20

PNT-1 PHONO STYLUS TIMER. Calibrated 300 hour use gauge indicates elapsed time of phono operation and stylus wear to prevent needless record damage. Indicates time for cleaning and general maintenance of records and equipment. Self-stick base for mount to phono deck. Park brand. Imported. **List** $8.75

PSG-3 STYLUS PRESSURE GAUGE. Has counter balance weight. Measures pressure to ½ gram. **List** $1.75

PM-1 STYLUS MICROSCOPE. Precision ground lenses. 50X magnification. Knurled focusing adjustment, convenient slot holds needle for inspection, and pocket clip. 3¾" x ½" dia. Imported. **List** $3.30

PSD-4 METAL PHONO STROBE DISK. 4-speed. 5" dia. Tests 16⅔, 33¼, 45, and 78 rpm speeds. Use with any phono. **List** $1.90

PK-5M PHONO STROBE AND LIGHT KIT. 4-speed metal Strobe disk and neon lamp. Checks phono speed accuracy. 110 V. A.C. **List** $3.90

PG-20 DISPOSABLE DISC-KLEEN CLOTHS. Silicone impregnated cloths clean and lubricate records to improve sound fidelity. Removes dust and grime. Pkg. of 18. **List** $1.75

PB-3 ADJUSTABLE STYLUS BRUSH. For all U.S. and import phonos. Adjusts ¾" to 2¼" height. Removes dust blob accumulation on stylus. Self-stick base mounts to phono deck. **List** $1.45

PB-10 PROFESSIONAL RECORD SWEEP. Sweeps dirt from delicate sound grooves. Deposits Anti-Static Cleaner and Lubricant. Mounts to phono by suction cup. Anti-static fluid included. **List** $5.25

PB-88 CLEAN SWEEP. Large soft brush on aluminum support, sweeps entire tracking surface of records. Removes dust, etc. Self-stick base for mount to phono deck. **List** $7.90

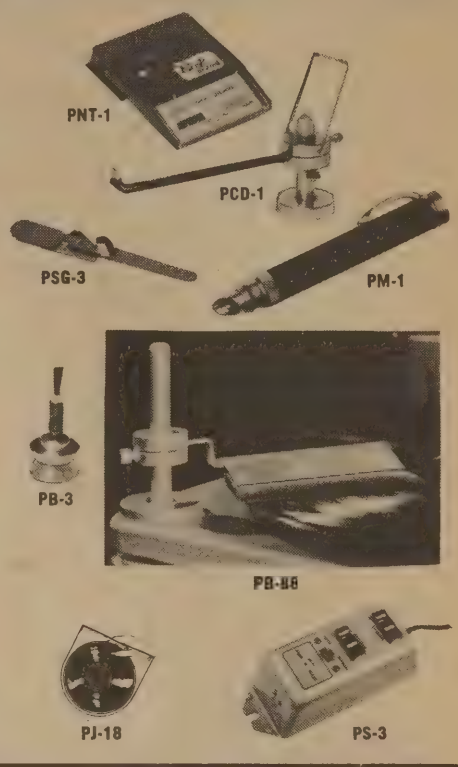
PB-9 "DISK-WHISK" ANTI-STATIC RECORD CLEANER. Cleans and lubricates LP and 45 rpm records on both sides in one operation by rotating record. Deposits anti-static Silicone. Includes record handling disk and 45 rpm adaptor. **List** $2.10

PJ-18 RECORD COVERS. Round bottom, Polyethylene. Protects 12" records. Pkg. of 18. **List** $1.35

PJ-25 ALBUM COVERS. Heavy duty, window clear plastic. Has convenient thumb notch for rapid insertion and removal of album. Pkg. of 12. **List** $1.75

PRS-12 POLY-LINED PROTECTIVE RECORD SLEEVES. Has window clear poly windows to show title labels of records. For 12" records. Pkg. of 12. **List** $2.15

PS-3 AUTOMATIC SOLID-STATE HI-FI/STEREO SHUT-OFF. For U.S. and import equipment. Shuts off amplifier after last record plays. Prevents equipment "burn-up". Amplifier and phono plug in separately. Switch for manual operation. 6 ft. line cord. 110 V. A.C. Metal housing for wall or cabinet mount. 6½" x 2¼" x 1¾" ht. **List** $12.10



ROBINS® XL AND XLP AUDIO CONNECTORS

For use with microphones, public address systems, tape recorders, amplifiers, and other low level sound circuits. Meets requirements for low voltage electrical and eelctronic applications up to 15 amps, 200 volts A.C. FEATURES: Latch-lock for secure, rapid locking of mated connectors. Plugs cannot be accidently disengaged. Neoprene strain relief and secure cable clamp. Zinc alloy shell. Satin nickel finish. Phenolic insulator.

Contacts	Contacts
3-15 amp	4-10 amp
B & S Stranded.	B & S Stranded.
Wire #14	Wire #16
200 V. A.C.	200 V. A.C.

XLP STRAIGHT CORD PLUGS.

Fig. 1 Female		Fig. 2 Male	
XLP-3-11 3-Cond.	**$2.85**	**XLP-3-12** 3-Cond.	**$2.70**
XLP-4-11 4-Cond.	**3.55**	**XLP-4-12** 4-Cond.	**3.30**

XLP RIGHT ANGLE 90° CORD PLUG. Fig. 3 Female
XLP-3-15 3-Cond. **$6.90** **XLP-4-15** 4-Cond. **$7.50**

XL STRAIGHT CORD PLUGS.

Fig. 4 Female		Fig. 5 Male	
***XL-3-11** 3-Cond.	**$2.60**	***XL-3-12** 3-Cond.	**$2.40**
***XL-4-11** 4-Cond.	**3.30**	***XL-4-12** 4-Cond.	**2.98**

* To be discontinued late 1970.

XL RECEPTACLE, WALL AND PANEL MOUNT. With mounting holes.

Fig. 6 Female		Fig. 7 Male	
XL-3-13 3-Cond.	**$3.05**	**XL-3-14** 3-Cond.	**$1.90**
XL-4-13 4-Cond.	**3.55**	**XL-4-14** 4-Cond.	**2.50**

XL RECEPTACLE, PANEL MOUNT. Mounting nut supplied, accommodates panels up to 5/16" thick.

Fig. 8 Female		Fig. 9 Male	
XL-3-13N 3-Cond.	**$3.95**	**XL-3-14N** 3-Cond.	**$3.00**
		XL-4-14N 4-Cond.	**3.90**

XL COMPACT PANEL ADAPTOR RECEPTACLE. Threaded. Supplied with hex mounting nut for mount in panels to ½" thick. Fig. 10 Male
XL-3-52 3-Cond. **$2.65** **XL-4-52** 4-Cond. **$3.25**

XL RECEPTACLE, WALL AND PANEL MOUNT. Compact rectangular flange saves mounting space.

Fig. 11 Female		Fig. 12 Male	
XL-3-31 3-Cond.	**$3.20**	**XL-3-32** 3-Cond.	**$2.00**
XL-4-31 4-Cond.	**3.55**	**XL-4-32** 4-Cond.	**2.55**

XL STAINLESS STEEL WALL PLATE MOUNT RECEPTACLE. Single mount. Mounting holes provided. Fits standard outlet boxes.

Fig. 13 Female		Fig. 14 Male	
XL-3-35 3-Cond.	**$6.40**	**XL-3-36** 3-Cond.	**$6.20**
		XL-4-36 4-Cond.	**7.20**

XL TWO-GANG STAINLESS STEEL WALL PLATE MOUNT. Mounting holes provided. Fits standard outlet boxes.

Fig. 15 Female		Fig. 16 Male	
XL-3-35-2G 3-Cond.	**$12.35**	**XL-3-36-2G** 3-Cond.	**$11.95**
		XL-4-36-2G 4-Cond.	**14.20**

XL COMBINATION 3 AND 4-CONDUCTOR WALL PLATE RECEPTACLE. Mounting holes provided. For operation of 3-Cond. and 4-Cond. lines. Prevents confusion and crosscircuiting, as both outlets are not interchangeable. Fits standard wall boxes.
Fig. 17. **XL-34-2G** Male 3 and 4-Cond. **List** $8.60

XL FOUR-GANG COMBINATION 3 AND 4 CONDUCTOR WALL PLATE RECEPTACLE. Mounting holes provided. Operate 3-Cond. and 4-Cond. lines. Can be also used for 2-Cond. lines. Prevents cross-circuiting. Fits standard wall boxes.
Fig. 18. **XL-34-4G** Male 3 and 4-Cond. **List** $16.95

XL MICROPHONE OR 90° MOUNT RECEPTACLE. Two mounting holes provided. Removable insert permits soldering, inspection, etc. Fig. 19 Male.
XL-3-42 3-Cond. **$3.50** **XL-4-42** 4-Cond. **$4.45**

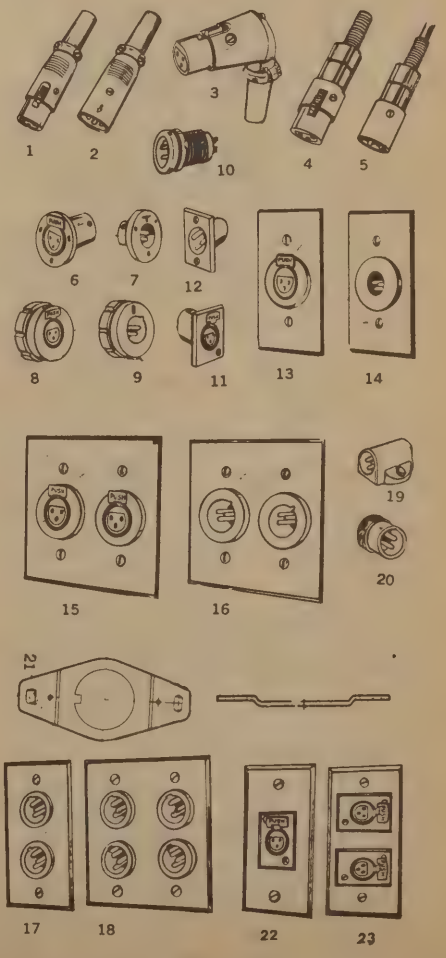
XL ADAPTOR RECEPTACLE. Mounts directly in or on to microphone and other units or surfaces where they can be adequately supported. Threaded to mate into unit of equipment.
Fig. 20. **XL-3-50T** Male 3-Cond. **List** $3.90

XL MOUNTING BRACKET. XL-( )-13N and XL-( )-14N Receptacles can be installed in the floor or at other convenient locations through use of this bracket for mounting receptacles in a Russel and Stoll floor box 2503 and other standard boxes.
Fig. 21. **XL-MB-1 List** $1.15

XL STAINLESS STEEL WALL PLATE AUDIO OUTLETS. Wall plates have mounting holes. Fits standard outlet boxes. Same high quality as XL-3-35, XL-3-36 series, except without mounting strap. Offers advantage of greater compactness in the 2-gang series.

Fig.	Catalog No.	Cond.	Type	List
22	XL-3-25	3	Male	$5.15
23	XL-3-25-2G	3	Male 2-Gang	7.65
22	XL-3-26	3	Female	5.40
23	XL-3-26-2G	3	Female 2-Gang	8.60
22	XL-4-25	4	Male	5.65
23	XL-4-25-2G	4	Male 2-Gang	8.60
22	XL-4-26	4	Female	5.85
23	XL-4-26-2G	4	Female 2-Gang	8.50

XLP and XL Connectors are interchangeable with and mate with Cannon XLR Connectors. O.E.M. requirements can be supplied in bulk at competitive quantity prices. Socket and pin inserts available on special order. **ROBINS INDUSTRIES CORP.**



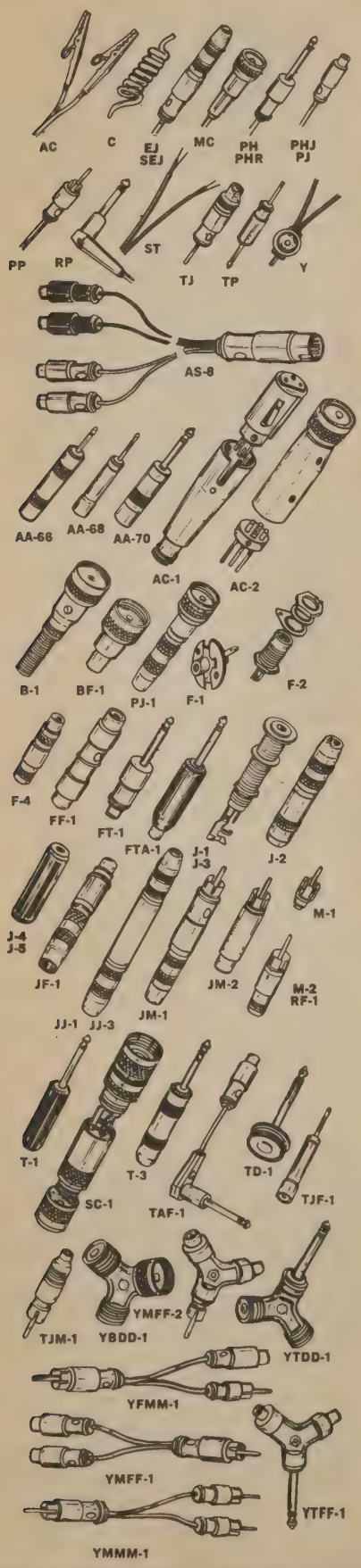
© United Technical Publications

Trade Discount Applies To List Prices Only

ROBINS®

ROBINS INDUSTRIES CORP.

PATCH MATES AND PLUG MATES



PATCH MATES

Molded Cable Assemblies for use with hi-fi/stereo music systems, tape recorders, musical instruments, public address systems, intercommunications and citizens band equipment.

KEY TO PRODUCT DESCRIPTION

AC: Alligator Clips
C: Shielded Coiled Cord
EJ: 3-Cond. Extension Jack
MC: Microphone Connector
PH: Phone Plug
PHJ: Phone Jack
PHR: Phone Plug with internal resistor
PJ: Phono Jack
PP: Phono Plug
RP: Right Angle Phone Plug
SEJ: Short Extension Jack
SP: Short RCA Phono Plug
ST: Stripped & Tinned Ends
TJ: Tini Extension Jack
TP: Tini-Plug
Y: Y-Junction for Cables

Cat. No.	Adaptor at One End Fig.	Adaptor at Other End Fig.	Cable Length Inches	List
AC-32-6	TP	PP	72″	$3.05
AC-34-6	TP	TJ	72″	3.35
AC-36-6	TP	PH	72″	3.30
BCT-144	PH	MC	72″C	8.35
BS-120	MC	ST	120″	2.70
FF-72	PJ	PJ	72″	2.20
MC-120	PP	AC	120″	2.70
MF-18	PP	PJ	18″	1.45
MF-36	PP	PJ	36″	1.80
MF-72	PP	PJ	72″	2.15
MF-120	PP	PJ	120″	2.60
MJ-72	PP	PHJ	72″	3.25
MM-18	PP	PP	18″	1.30
MM-36	PP	PP	36″	1.45
MM-72	PP	PP	72″	1.85
MM-120	PP	PP	120″	2.40
MS-18	PP	ST	18″	1.00
MS-36	PP	ST	36″	1.20
MS-72	PP	ST	72″	1.55
MS-120	PP	ST	120″	2.19
MT-72	PP	PH	72″	2.45
MT-120	PP	PH	120″	3.00
SJT-300	PH	EJ	300″	10.80
SMF-36	2-PH	2-PHJ	36″	3.30
SMM-36	2-PP	2-PP	36″	3.90
SMM-72	2-PP	2-PP	72″	4.50
SMM-120	2-PP	2-PP	120″	5.35
SMS-36	2-PP	2-ST	36″	3.50
SMS-72	2-PP	2-ST	72″	3.85
SMS-120	2-PP	2-ST	120″	4.50
TC-72	PH	AC	72″	2.30
TC-120	PH	AC	120″	2.90
TCT-144	PH	PH	144″C	8.35
TF-72	PH	PJ	72″	2.65
TJ-120	PH	PHJ	120″	4.30
TS-72	PH	ST	72″	2.60
TS-120	PH	ST	120″	2.90
TT-72	PH	PH	72″	3.20
TT-120	PH	PH	120″	4.00
XCT-240	PH	RP	120″	11.65
XJ-180	SP	SEJ	180″	6.25
XM-120	PHR	PP	120″	4.75
YXTT-144	RP	2-PH	132″	7.40

AS-8 STEREO ADAPTOR CABLE. 5-pin European type Plug to two 1 ft. lengths, Shielded Cable with 4 color-coded Phono Jacks. Converts imported equipment to use American made Accessories. **List** $6.75

PLUG MATES (ADAPTORS)

AA-66 Adapts Standard Phono Plug to "Tini-Jax" Phone Jack. **List** $2.15

AA-68 Phono Jack Input to Micro Plug (.097 dia.) Output. **List** $1.90

AA-70 2-Cond. "Tini-Jax" Input to standard Phone Plug Output. **List** $1.95

AC-1 2-Cond. Input Connector (Switchcraft #2501MP, Amphenol #75C1M) to Output Connector (Robins XL-3-11) with unsoldered internal wire permitting connection to terminal. **List** $4.00

AC-2 Female Microphone Connector (Switchcraft #7501F, Amphenol #750MC1F) to Input Connector (Robins XL-3-12). **List** $4.00

B-1 Microphone Connector, Female. **List** $1.00

BF-1 Phono Jack Input to Female Microphone Connector Output. O.D. ½″. **List** $1.65

BJ-1 2-Cond. Phone Jack Input to Female Microphone Output. Removable Coupler Ring converts connector to male type. Body O.D. ½″. **List** $2.30

F-1 Phono Jack, 2-Cond. Pkg. of 5. **List** ..... .85

F-2 Phono Jack for back of panel mount. 2-Cond. Pkg. of 2. **List** $1.10

F-4 Phono Extension Jack, removable handle, Cable Clamp. Pkg. of 2. **List** $1.65

FF-1 Phono Plug to Phono Plug, Shld. **List** $1.30

FT-1 Phone Plug Output to Phono Jack Input. Shld. **List** 1.55

FTR-1 Phono Adaptor Female Phono Jack end of handle. Internal resistor circuit for connection between crystal phono pick-up, radio or TV set and input of tape recorder. Use as adaptor with magnetic phono by opening plug and twisting leads of resistor together. **List** $2.30

J-1 Phone Jack with long bushing. Mounts in panels to 1¼″ thick. 2-Cond. Jack mates with "Littel Plugs". Ideal for microphone connection. **List** ..$1.80

J-2 ¼″ 2-Cond. Extension Phone Jack with solder terminals. **List** $2.20

J-3 Phone Jack, same as #J-1, except 3-Cond. Mates with "Littel Plugs". **List** $2.10

J-4 Extension Jax, bakelite handle, 2-Cond. Screw terminals. Clamp type terminal provides cable anchor. **List** $1.53

J-5 Extension Jax, bakelite handle, 3-Cond. Screw terminals, Clamp. **List** $1.95

JF-1 2-Cond. Phone Jack Input to Phono Jack Output, Body O.D. ½″. **List** $2.10

JJ-1 Coupler, 2-Cond. Phone Jack each end. **List**..$3.05

JJ-3 Coupler, same as JJ-1, except 3-Cond. **List** $3.55

JM-1 2-Cond. Phone Jack Input to Phono Plug Output. **List** $2.10

JM-2 Compact Adaptor. Phone Jack Input to Phono Plug Output, for connecting Ceramic Phono Cartridge to amplifier which was designed for magnetic cartridge. **List** $3.75

M-1 Phono Plug. Solder terminals. Pkg. of 6. **List** ..... .70

M-2 Phono Plug, 2-Cond. Long handle provides easy grip. With cable clamp. Pkg. of 2. **List** $1.35

RF-1 RF Plug, 2-Cond. long handle, cable clamp, Nylon insulated. **List** ..... .95

SC-1 Microphone Connector with 2 screw terminals. Single contact, Female. 2-piece handle with built-in cable clamp. Cables with stripped ends are connected without soldering. **List** $3.20

T-1 Phone Plug, 2-Cond. Solder ter. Pk/2. **List**..$1.80

T-3 ¼″ Phone Plug, 3-Cond. Solder terminals. Shielded metal handle. **List** $2.20

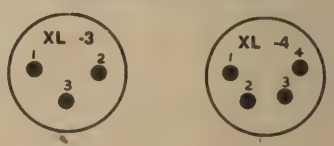
TAF-1 Phone Plug. Right angle, 2-Cond. with long handle molded to 2″ shielded cable. Adapts Phone Jack to Phono Plugs. **List** $2.15

TD-1 Microphone Input, male to Phone Plug Output. **List** $1.50

TJF-1 Adaptor, 2-Cond. "Tini-Plug" (3/16″) Output to Phono Jack Input. **List** $1.60

TJM-1 2-Cond. "Tini-Jack" Input to Phone Plug Output. O.D. 13/32″. **List** $1.80

XL CONNECT., PIN LAYOUT



"Y" ADAPTORS

Use to convert Stereo players to Monaural, for tap-in meter monitor connection and many other uses. Required on some tape recorders.

YBDD-1 Connects 2 cables (with sta. microphone connections) in parallel to one single connector. **List** $2.35

YFMM-1 Phono Plug connected to One Phono Plug and One Phono Jack. 4″ Shld. Cable. **List** $2.60

YMFF-1 Phono Plug connected in parallel to Two Phono Jacks. 4″ Shld. Cable. **List** $2.60

YMFF-2 Phono Plug connected in parallel to Two Phono Jacks. **List** $2.25

YMMM-1 Phono Plug connected in parallel to Two Phono Plugs. 4″ Shld. Cable. **List** $2.60

YTDD-1 2-Cond. Phone Plug connected in parallel to two male Microphone Connectors. **List** $2.50

YTFF-1 2-Cond. Phone Plug connected in parallel to Two Phono Jacks. **List** $2.50

Trade Discount Applies To List Prices Only
© United Technical Publications

AUDIO RECORDING TAPE AND ACCESSORIES



RCA Red Seal Audio Tape offers a complete line of quality tape to meet all the needs of today's recordist — professional or amateur. Available in nine different lengths.



Low noise RED SEAL Cassettes, all four popular lengths, in hard white plastic storage box with index label. Or economy-priced VIBRANT in 30 - 60 - 90 minute lengths, in see-thru, hinged, pliable plastic case.



Quality polyester blank tape in popular 8-track configuration. Blister-packed on pilfer-proof display card. In 32-, 64- and an exclusive, new 94-minute length, which can tape up to 5 18-minute LP's.

RED SEAL TAPE

A professional quality home recording tape from the same magnetic tape formulation used by RCA in recording the world's greatest artists. RCA has developed a special lubricant . . . an integral part of the tape coating . . . which aids in smooth tracking over the guides and magnetic head surfaces, resulting in a minimum of friction and wear. Red Seal Tape has exceptional signal-to-noise ratio and frequency response characteristics. Full frequency, high-fidelity tape for monophonic or stereophonic . . . 2-track or 4-track. Available in nine different lengths and on 3-inch, 5-inch and 7-inch reel sizes on acetate, polyester or tensilized polyester bases. Leader and trailer tape included where type designation includes "LT."

ACETATE BASE

Type No.	Reel/Lgth	Description	Each* 1-11	Each* 12/Up
10A9	5″ - 900′	1.0 mil (Box label color coded flesh) All purpose — Long Play	2.29	2.06
15A1	3″ - 150′	All Purpose - in Cardboard Mailer - 1.5 mil	.52	.47
15A6	5″ - 600′	All Purpose - Standard Play - 1.5 mil	1.69	1.52
15A6LT	5″ - 600′	Premium - Standard Play - 1.5 mil	1.82	1.64
15A12	7″ - 1200′	All Purpose - Standard Play - 1.5 mil	2.59	2.33
15A12LT	7″ - 1200′	Premium - Standard Play - 1.5 mil	3.02	2.72

POLYESTER BASE

5TM3	3″ - 300′	All Purpose - Double Play - .5 mil Tensilized	1.09	.98
5TM12	5″ - 1200′	All Purpose - Double Play - .5 mil Tensilized	3.69	3.32
5TM12LT	5″ - 1200′	Premium - Double Play - .5 mil Tensilized	4.25	3.83
5TM18TP	5″ - 1800′	Triple-Play - .5 mil Tensilized	4.87	4.43
5TM24	7″ - 2400′	All Purpose - Double Play - .5 mil Tensilized	6.49	5.84
5TM36TP	7″ - 3600′	Triple-Play - .5 mil Tensilized	7.91	7.19
10M2	3″ - 225′	Long Play - in Cardboard Mailer - 1.0 mil extra-strength	.70	.63
10M9	5″ - 900′	All Purpose - Long Play - 1.0 mil extra-strength	2.29	2.06
10M9LT	5″ - 900′	Premium - Long Play - 1.0 mil extra-strength	2.64	2.38
10M18	7″ - 1800′	All Purpose - Long Play - 1.0 mil extra-strength	3.99	3.59
15M6	5″ - 600′	All Purpose - Standard Play - 1.5 mil super-strength	1.77	1.59
15M12	7″ - 1200′	All Purpose - Standard Play - 1.5 mil super-strength	2.83	2.55

LOW NOISE — LOW PRINT & MASTERING TAPE

10MN18LT	7″ - 1800′	Low Noise and Low Print - Polyester - 1.0 mil extra-strength	5.27	4.75
15ALN12LT	7″ - 1200′	Low Noise and Low Print - Acetate 1.5 mil	3.43	3.09
15MSM9LT	7″ - 900′	High Output Mastering Tape - Polyester - 1.5 mil super-strength	6.12	5.51
15MLN12LT	7″ - 1200′	Low Noise and Low Print - Polyester 1.5 mil super-strength	4.30	3.87

TAPES IN PLASTIC MAILERS

5TM3PM	3″ - 300′	.5 mil Polyester - Tensilized	1.32	1.17
10M2PM	3″ - 225′	1.0 mil Polyester - extra-strength	.96	.86
15A1PM	3″ - 150′	1.5 mil Acetate	.67	.60

MAILING LABELS FOR PLASTIC MAILERS (Standard Pack — 20 Packages)

Type No.	Description	Each* 1-19	Each* 20/Up
LL12	Package of 12 Labels	.44	.38

RED SEAL CASSETTES (Hard Plastic Hinged Box)

		1-11	12/Up
C30	30 minute Low-noise Cassette	1.58	1.47
C60	60 minute Low-noise Cassette	1.83	1.72
C90	90 minute Low-noise Cassette	2.68	2.57
C120	120 minute Low-noise Cassette	3.64	3.48
10R121	Head Cleaner	24 Pack - 32.40	

RCA VIBRANT CASSETTES (Blister Pack)

		1-49	50/Up
CV-30	30 minutes	.94	.85
CV-60	60 minutes	1.16	1.05
CV-90	90 minutes	1.78	1.62

VIBRANT CASSETTE TYPES (Plastic Box)

		1-47	48/Up
CV30PM	30 minute (color coded green) Plastic Box	.94	.85
CV60PM	60 minute (color coded red) Plastic Box	1.16	1.05
CV90PM	90 minute (color coded blue) Plastic Box	1.78	1.62

8-TRACK CARTRIDGE

			1-11	12/Up
8TR32	150′	8 Track Cartridge — 32 min.	1.75	1.59
8TR64	300′	8 Track Cartridge — 64 min.	2.11	1.92
8TR94	440′	8 Track Cartridge — 94 min.	2.65	2.40
8THC-100		8 Track Cartridge Head Cleaner	1.15	—
10M5.6C	560′	Snap-Load — 1.0 mil Polyester	4.25	3.88

TAPE ACCESSORIES

EMPTY RCA REELS & BOXES (Standard Pack - 10)

Type No.	Description	Each* 1-9	Each* 10/Up
EB3PM	3″ Empty Plastic Mailer	—	.28
EPR3PM	3″ Reel and Plastic Mailer	—	.40

EMPTY RCA REELS & BOXES (Standard Pack - 12)

Type No.	Description	Each* 1-11	Each* 12/Up
EPR3	3″ Reel and Cardboard Mailer	—	.22
EPR5	5″ Reel and Box	.41	.40
EPR7	7″ Reel and Box	.55	.50

LEADER TAPE - POLYESTER (Standard Pack - 12)

BL1	1/4″ x 150′ - Blue - 3″ Reel	.85	.75
GL1	1/4″ x 150′ - Green - 3″ Reel	.85	.75
RL1	1/4″ x 150′ - Red - 3″ Reel	.85	.75
WL1	1/4″ x 150′ - White - 3″ Reel	.85	.75
YL1	1/4″ x 150′ - Yellow - 3″ Reel	.85	.75
GL12	1/4″ x 1200′ - Green - 7″ Reel	3.80	3.30
RL12	1/4″ x 1200′ - Red - 7″ Reel	3.80	3.30
WL12	1/4″ x 1200′ - White - 7″ Reel	3.80	3.30

SENSING TAPE (Standard Pack - 12)

SL150	7/32″ x 150″ Metallic	1.55	1.30

SPLICING TAPE (Standard Pack - 12)

ST66-1	7/32″ x 66′	.95	.85
ST-66-2	15/32″ x 66′	1.25	1.15
ST66-3	3/4″ x 66′	1.80	1.70

*Optional Distributor Resale Price

© United Technical Publications

Net

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

Weltron® AUDIO PARTS & ACCESSORIES FOR HOME & AUTO



HIGH PRECISION DC MOTORS

No. 70-700: Universal Cassette; 6-9V—direction CW; 2320 RPM @ 6.5V; 2400 RPM @ 9V .....Net $9.10

No. 70-701: Universal Motor, Less Shield; 3000 RPM @ 13.2V; 10-16V—direction CW. May be used in existing shield of many cartridge players incl. Toshiba, Bowman, Audiovox, Pioneer .....Net $9.40

No. 70-702: Universal Motor; 3000 RPM @ 13.2V; 10-16V—direction CCW. May be used in existing shield of many cartridge players incl. Toshiba, Bowman, Audiovox, Pioneer .....Net $9.93

No. 70-703: Motor & Shield; 10-16, CCW-3000 RPM. For most portable cartridge players incl. Weltron, Panasonic, Times, Electro, Muscat, Electra, Westbury .....Net $11.27

No. 70-704: Universal Motor; 13.2V—3000 RPM-CW. For Weltron 518-548, Bowman 950, Audiovox, Pianola .....Net $11.27

No. 70-705: Motor & Shield Bracket: 2000 RPM-CW 10-16V. For Craig #W71-785-0, Craig models 3116, 3117, 3119, 3120, 3121, 3202, Panasonic and National .....Net $11.45

No. 70-707: Motor & Shield Bracket; 3000 RPM CW 10-16V governor regulated motor replacement for Mecca, Bowman, Pianola, Audiovox, Weltron, Kraco, Inland Dryamics Custom Music Co. .....Net $10.97

No. 70-708: Motor & Shield Bracket; 3000 RPM CCW 10-16V governor regulated motor replacement for Motorola, Pianola .....Net $10.85

No. 70-909: Motor & Shield Bracket; 2000 RPM CW 10-16V governor regulated motor replacement for Craig, National, Panasonic .....Net $10.85

No. 70-910: Motor & Shield Bracket; 2000 RPM CCW 10-16V same as above except that motor is CCW .....Net $10.75

EUROPEAN PLUGS & CABLES

For use with Philip, Norelco, Wollensak, Bell & Howell, Telefunken & other European types.



No. CP-040: 5 Pin; Din European type plug .....Net $ .46

No. CP-041: 3 Pin; Din European type plug .....Net $ .36

No. CP-050: 5 Pin; Din European type plug .....Net $ .26

No. CP-056: 3 Pin; Din European type jack ..Net $ .22

No. CS-065: 5 Pin; Din European type jack ..Net $ .52

No. 44-360: 2 Pin; Din T plug for Norelco speakers & other European units .....Net $ .30

CABLES

No. W-HOS-1: 5 Pin; Din European plug to 4 RCA type phono plugs, 6' .....Net $2.62

No. W-HOS-2: 3 Pin; Din European plug to 2 RCA type phono plugs 6' .....Net $2.44

No. W-HOS-3: 5 Pin; Din European plug to 5 pin jack .....Net $2.42

No. W-HOS-4: 5 Pin; Din Plug to 3 pin din plug, 6' .....Net $2.42

No. W-HOS-5: 5 Pin; Din plug to 5 pin din plug .....Net $2.58



VOLTMETERS

Pocket Size 100,000Ω per Volt Meter DC, 10,000Ω per V AC.

No. 51-100 .....Net $22.67

Highly Accurate Pocket-Size Multimeter: 10,000Ω per V AC, 20,000Ω per V DC. Overload protection, burnout proof. DC V: 0-5-25-100-500-1000; AC V: 0-5-25-100-500-1000.

No. 51-748: Incl. test leads & btrys. .....Net $14.15

Pocket V-O-M Multitester; DC V: 0-15, 150 & 1,000; AC V: 0-15, 150 & 1,000; DC current: 0-150.

No. 51-750. Inc. btry & test leads .....Net $5.58

PLUGS & JACKS



No. 44-461: 3 Circuit Stereo Phone Plug; stereo headsets, etc. .....Net $ .40

No. 44-462: Mini Plug; 2-way, blk. or red plastic sleeve .....Net $ .16

No. 44-464: Shielded Phone Plug; Chromed, RCA type, ⅜" diam. .....Net $ .24

No. 44-465: Shielded Slim Phone Plug; 2¾" long, ½" diam. .....Net $ .34

No. 44-472: 2-Way Shielded Chrome Slim Phone Plug .....Net $ .24

No. 44-473: RCA Type Phone Plug w/cable supporter .....Net $ .10

No. 44-474: RCA Type Phono Plug .....Net $ .10

No. 44-475: Phone Plug Adapter; slim, chrome, w/ min. pin-type jack in rear of barrel .....Net $ .52

No. 44-484: RCA Type Phono Jack: nickel plated brass fittings .....Net $ .22

No. 44-485: Phono Plug Coupler; Chromed, knurled grip ends .....Net $ .22

AUTO STEREO ACCESSORIES

CABLE ASSEMBLIES



No. WP-4Y: Cable Assy. w/Fuse Holder for Ranger-Tenna & Kraco stereos. Fits any stereo having 4-prong "Y" shaped connector. .....Net $1.68

No. WP-5C: Cable Assy. w/Fuse Holder for Weltron, Transworld, E/B Audiovox, Bowman. Fits any stereo with 5-pin connector .....Net $1.68

No. WP-5H: Cable Assy. w/Fuse Holder for Craig, Muntz "A 60 or "60-69" Auto-Stereo. Fits any stereo with 5-pin std. connector. .....Net $1.68

No. WP-H: Cable Assy. w/Fuse Holder for Automatic Radio, Auto, Stereo, Weltron, & Muntz except "A" or "M 60," "M 69." Fits any stereo with 4-pin std. connector. .....Net $1.68

No. WP-L: Cable Assy. d/Fuse Holder for Auto Sonic, Bowman. Fits any stereo with 4-prong "ODO" shaped connector.....Net $1.68

TAPE PLAYER DRIVE BELTS

Special temperature tested — no variation between extreme heat or cold; Polyurethane; durable, non slip



No. 70-690: Flat Drive Belt; 9⅛" x ⅛" x 1/32" .....Net $1.58

No. 70-691: Flat Drive Belt; 2 1/16" x ¼" x 1/16" .....Net $1.58

No. 70-692: Flat Drive Belt; 4 1/16" x 3/32" x 1/32" .....Net $1.58

No. 70-693: Cassette Square Drive Belt; 3 1/32" x 1/16" x 1/16" .....Net $1.38

No. 70-694: Cassette Square Drive Belt; 2⅞" x 1/16" x 1/16" .....Net $1.38

No. 70-695: Round Silicon Rubber Drive Belt; 12⅜" x 3/32" .....Net $1.68

LINE TRANSFORMERS

For 4 or 10 ohm speakers, 5 taps; 5W 2" mtg. centers; 10W 2¼" mounting centers.

No. W25-5: 5 W, 25V 5/1.25/.62/.31 W .....Net $1.58

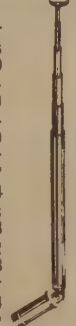
No. W25-10: 10 W, 25V 10/5/2.5/1.25/.65 W .....Net $1.68

No. W70-5: 5 W, 70V 5/1.25/.62/.31 W .....Net $1.58

No. W70-10: 10 W, 70V 10/5/2.5/1.25/.65 W .....Net $1.68

UNIVERSAL ANTENNA REPLACEMENTS

ATTRACTIVELY PACKAGED



No. WEL-2: Folding Telescopic Antenna; for most AM/FM radios & ptble. TV's. Extends to 33½" .....Net $1.70

No. WEL-3: Telescopic Antenna; 7 sect., extends to 33½" .....Net $1.50

No. WEL-4: Telescopic Antenna; 9 sect., extends to 61½" .....Net $2.20

No. WEL-5: Telescopic Antenna; 7 sect. for small transistor radios. 5" to 22", ⅛" diam. .....Net $ .74

No. WEL-6: Ball & Spring; 4 sect.; extends to 38" .....Net $1.98

No. WEL-7: Replacement Rods; 4 sect.; 2 per pkg. .....Net $2.18

No. WEL-8: Replacement Rods; 5 sect.; 2 per pkg. .....Net $2.04

No. WEL-9: TV Replacement; 10 sect.; 180° fold over; 33" extended; 5½ base .....Net $2.60

STEREO SWITCHES & ACCESSORIES

HOME & AUTO

No. 44-143: Magnetic Dashboard Mike Holder .....Net $ .66

No. 44-214: 3-Way Auto Speaker Switch Kit; Front-rear-both, 20' cable .....Net $ .78

No. 44-215: Push Button Auto Rear Speaker Switch; Front and/or rear .....Net $1.10

No. 44-217: Front & Rear Speaker Fader; 20Ω, 20' cable .....Net $ .92

No. 44-218: Front & Rear Speaker Fader; 100Ω, 20' cable .....Net $ .94

No. 44-219: Stereo Control; perfect balance, front & rear speakers .....Net $4.83

No. 44-223: H.D. "L" Pad; Constant load attenuator; 8Ω imp., calibrated 1-10, dial 2½"x2". Mts. in ⅜" hole, bushing ¾" long .....Net $1.80

No. 44-229: Audio Pads; Wall mounting, fits #6 outlet box. Plate: 2¼"x4½", finger grip knob ..Net $2.40

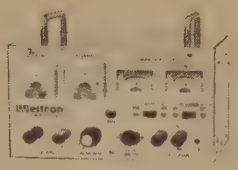
No. 44-280: SPST Toggle Switch .....Net $ .44

No. 44-281: DPDT Toggle Switch .....Net $ .48

No. 44-344: Toggle Switch with leads .....Net $ .40

No. 44-333: Insulated Color Coded Test Leads; 10 leads, 15" long, clip-to-clip .....Net $ .96

POWER SUPPLIES



STEREO ANALYZER

Regulated Power Supply for easy servicing auto and home stereo tape players, transistor radios plus other AC/DC electronic products.

- Pair of built-in speakers
- Audio output level meters
- Ampere meter
- High/Low meter adjustment
- Output DC 0-15V adjustable
- 3 amp surge
- Voltage meter
- Internal/External speaker switch
- 8¼"Lx5⅞"Wx4¾"D

Model 70-601 .....Net $49.95

No. 80-69: 6 to 9V AC Adaptor; 300 MA polarity reverse switch with 4 plugs. Fits 95% of all ptble. btry. powered radios, tape players, phones, etc. .....Net $3.82

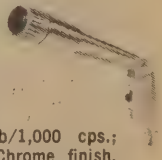
No. 80-306: 117V to 6V DC; AC Adaptor; 300 MA rating .....Net $3.98

No. 80-312: 117V to 12V DC; AC Adaptor; 300 MA rating. For ptble. 8-track players using 8 D cell flashlite btrys. .....Net $3.82

No. 80-400: 117V 300 MA AC Adaptor; has control on top for 3, 4, 5, 6, 7.5, 9, 12V., polarity reverse switch, supplies correct voltage for most small transistor units. Complete with asst. Plugs ....Net $9.98

No. WPS-12: Regulated Power Supply; 117 to 12V DC, 2 amp cont. service, 3 amp surge. Transistorized & fuse protected. Metal case. 3"x4"x6½" ..Net $18.20

MICROPHONES



No. 37-111: Dual Impedance-Dynamic; 50,000 to 600Ω impedance; 50-14,000 cps. .....Net $9.95

No. 37-105: Cardioid Dynamic Microphone (Uni-Directional); Dual imp.: 600-50,000Ω; sensitivity: −60db/1,000 cps.; freq. resp.: 80-10,000 cps. Chrome finish, on-off switch, mike holder .....Net $16.50

No. 37-105Y: Slide in Mike Stand Holder; Fits mikes up to ⅞" diam. for ⅝"-27" stand, high impact black plastic .....Net $1.42

No. 37-113: Uni-Directional; on-off switch, cardioid polar pattern, dual impedance. Freq.: 50-15,000 cps.; Sensitivity: −53db @ 50 KΩ; satin chrome finish, 20' cable .....Net $9.95

No. 37-114: Studio Type Dynamic; low impedance 600 to Hi-Impedance 50 KΩ; response 40 to 15,000 cps.; level: −52db @ 1,000 c/s; on-off switch .....Net $12.48

No. 37-121: Hand Type for tape recorders (r to r, cassette) w/off-on switch .....Net $4.15

No. 37-139: Crystal Mike for small tape recorder .....Net $1.58

No. 37-123: Dynamic Mike w/Stand; Imp.: 50,000Ω; Sens.: −62db/1,000 cps. Freq. Resp.: 100-10,000 cps.; on-off switch; mike holder; desk stand; non-direct.; shielded cable .....Net $14.95

No. 37-124: Mini Dynamic Mike; Directional; Freq. Resp.: 60-12,000 cps.; Imp.: 50,000Ω; Output: −57-db (EIA); acrylic enamel finish; desk stand incl. or for boom or floor stand .....Net $5.82

No. 37-150: Tie Clasp Mike; 1.6 KΩ magnetic element matches most transistorized apparatus .....Net $3.45

No. 37-151: Mike; for any standard remote controlled transistor recorder or battery operated recorder, w/remote jack .....Net $3.68

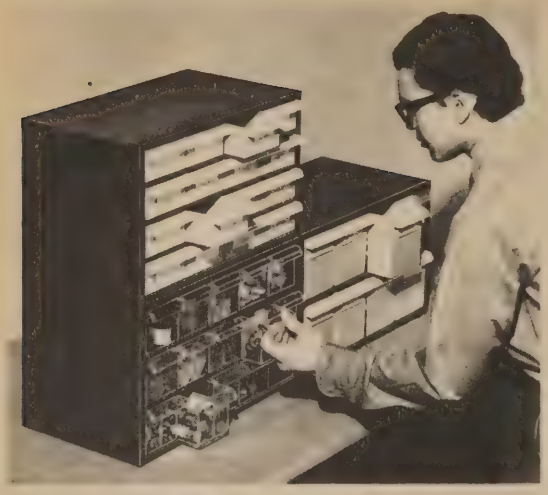
No. 37-152: Remote Control Mike w/Switch; for tape recorders & cassettes .....Net $2.78

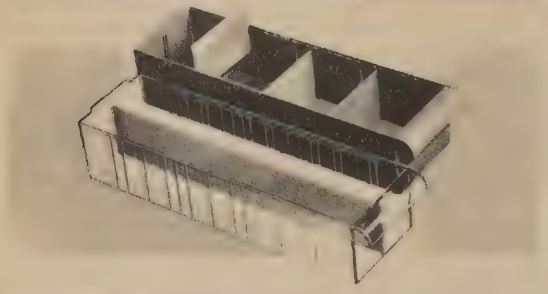
No. 37-149: Transistorized Mike Mixer; Matches up to 4 high impedance sources; separate vol. control for each input. Full 6db gain w/min. output of 1½V .....Net $6.58

All prices are as of Aug. 15, 1971 and are subject to change without notice. Prices are service dealer net.
Write for detailed Parts & Accessories Catalog and for new radio, 8 track stereo for home, auto and cassette player Catalog.
ALL SALES BACKED WITH SERVICE — Weltron maintains a complete and modern service facility with highly skilled technicians and engineers.

Akro-Mils Parts Storage Cabinets

Heavy-Duty Welded Steel Frame — Molded Styrene Drawers





Compact Modular Cabinet — 10 Drawer Sizes

Store: Small Parts, Electronic Components, Medical Supplies, A-V Material, Hardware, Tools, Instruments

Save Time — Instantly locate parts and supplies.

Save Space — Pick the right drawer for your requirements, compact modular cabinets are only 18"W. x 11"H.

Versatile — Stack horizontally or vertically, wall mount, place on carts or shelves.

Heavy-Duty Steel Frame Cabinet

Charcoal gray baked enamel finish, steel drawer supports, nesting "feet" for stability in stacking.

Molded Styrene Drawers — Two Types

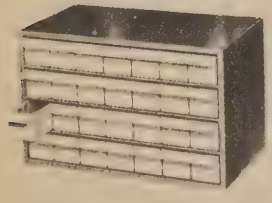
GRAY HEAVY-DUTY — Virtually unbreakable, guaranteed for life, will not crack, break, or dent.

TRANSPARENT — See-thru for quick visual checks; medium duty.

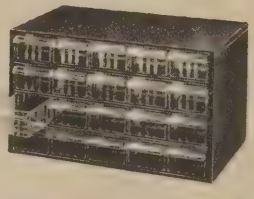
Styrene drawers are lightweight; rust and corrosion proof; safe, no sharp edges; spill proof, retaining tab holds open drawers.

Dividable — All drawers can be partitioned into sub-compartments. Patented locking dividers won't creep or slip.

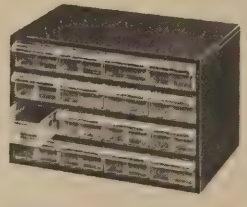
Frame Size 18" W. x 11" H. x 11" L.



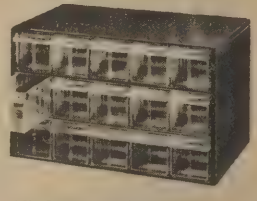
18-228



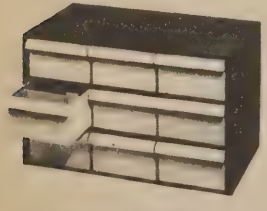
17-320 18-320



17-416 18-416



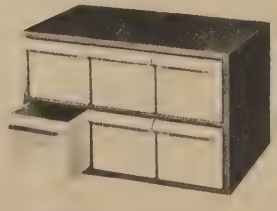
17-715 18-715



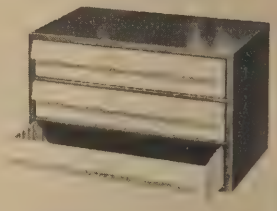
17-909 18-909



18-608



18-956



18-803

CABINET ORDER REFERENCE

Cabinet Stock No. Trans. Drawers	Cabinet Stock No. Gray H. D. Drawers	Drawers Per Cabinet	Drawer Size Inches W	H	D	Ship. Wt. Lbs.	Net Price Each
17-136		36	2 3/4	1 7/16	5 7/8	13	**$14.99**
	18-228	28	2 1/8	2 1/8	11	22	**25.70**
17-024		24	2 3/4	2	5 7/8	11	**14.99**
17-320	**18-320**	20	3 1/8	2 1/8	11	21	**22.99**
17-416	**18-416**	16	4	2 1/8	11	20	**22.99**
17-715	**18-715**	15	3 1/8	3 1/32	11	20	**22.99**
17-909	**18-909**	9	5 1/4	3 1/32	11	18	**22.99**
	18-608	8	4	4 3/4	11	22	**22.99**
	18-956	6	5 1/4	4 3/4	11	22	**22.99**
	18-803	3	16 3/4	3 1/32	11	18	**19.99**

EXTRA DIVIDERS

Cross 25 per Pkg. Stock No.	Net Price Pkg.	Length 10 per Pkg. Stock No.	Net Price Pkg.
*42-101	$1.70	*42-121	$1.70
42-201	2.20		
40-401	1.40		
42-301	1.40	42-431	1.40
42-401	1.70	42-431	1.40
43-101	2.10	43-331	2.10
43-301	2.25	43-331	2.10
44-401	2.70		
44-501	2.95		
		43-331	2.10

One cross divider per drawer furnished (except 18-803)

*50 per Pkg. *25 per Pkg.

Frame Size 18" W. x 6" L.



17-136 11⅛" H.



17-024 9⅞" H.

Net

© United Technical Publications

Storage-Go-Round

AKRO-MILS

Akro-Mils Rotary Parts Cabinets



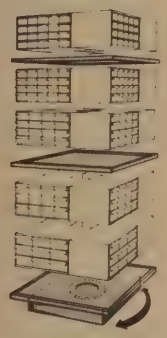
20 Cabinets on a Rotary Base

The advantages of rotary storage and individual drawers in a single unit. 20 cabinets mounted on a turntable base provide immediate access to as many as 560 drawers in a minimum of space. Up to ½ ton of parts, supplies and products stored and indexed at your fingertips.

SAVE up to 50% in storage space: rotates 360°. Drawers divide into sub-compartments.

Tailor your own rotary storage system. Select any assortment of Modular cabinets with 11" drawers (8, 12, 16 or 20 cabinets). Order your choice of Modular cabinets plus a turntable and couplers.	Turntable base and couplers Stock No. **98-520** Net Price **$86.00** Shp. Wt. 65 lbs.

Size:
29" W. x 29" L. x 60" H.



Complete Storage-Go-Round Assembly

Each unit consists of						Storage Go Round 20 cabinets with turntable base
Qty. of drawers per size	Drawer Size Inches W	H	L	Five each Cabinet No. (98-555)	(98-444)	Order Reference
100	3 1/8	2 1/8	11	17-320	18-320	With transparent drawers No. **98-555** - Net **$546.00**
75	3 1/8	3 1/32	11	17-715	18-715	Size 29" x 29" x 60" - Wt. 425
80	4	2 1/8	11	17-416	18-416	With gray heavy-duty drawers No. **98-444** - Net **$546.00**
45	5 1/4	3 1/32	11	17-909	18-909	Size 29" x 29" x 60" - Wt. 425

Shipped unassembled. Stacks together in minutes

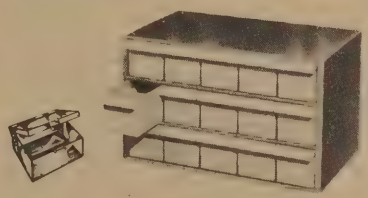
Drawer-Boxes

Individual plastic boxes that fit into drawers



For Storing and Organizing

- N/C Tapes • Small Parts
- Components

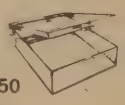


05-820





05-900



05-950



05-960

Drawer-Box and Cabinet

Note: Order boxes and appropriate cabinet or boxes only for your cabinet.

Drawer-Box/ Cabinet Stock No.	Carton Qty.	Dimensions Inches W	H	L	Shp. Wt. Lbs.	Net Price Per Carton
Drawer Box 05-820	224	2	1 1/8	2	11	**$24.50**
Fits Cabinet 18-228	1	18	11	11	22	**25.70**
Drawer Box 05-900	120	2 7/8	1 1/8	2 3/4	12	**22.80**
Fits Cabinet 18-715	1	18	11	11	20	**22.99**
Drawer Box 05-950	64	4 1/2	1 1/8	3 3/4	12	**18.00**
Fits Cabinet 18-608	1	18	11	11	22	**22.99**
Drawer Box 05-960	48	5	1 1/8	4 1/2	12	**18.00**
Fits Cabinet 18-956	1	18	11	11	22	**22.99**

Heavy-Duty Steel Frame Cabinet—Styrene Drawers

Protect, store and index valuable N/C Tapes, small parts, and articles. Dustproof, clear styrene boxes with positive locking lids prevent damage and breakage.

Eight boxes fit into each drawer of a steel framed cabinet. Dividers are furnished to partition drawers into four compartments for indexing. Modular cabinets stack together to form a complete storage system.

Drawers for Shelving

Long Lasting Molded Styrene

- Choice of Hi-Impact Gray or Transparent
- Dividable: movable locking dividers
- Styrene drawers are lightweight rust and corrosion proof



Store more items, in less space, more efficiently. Convert standard shelving, carts and benches to organized storage with individual drawers.



STYRENE DRAWER								DIVIDERS	
Gray Stock No.	Trans. Stock No.	Dimensions Inches W	H	L	Qty. Per Ctn.	Ctn. Wt. Lbs.	Net Price each	Stock No. Pks. of 25	Net Price Pkg.
22-251		2 1/8	2 1/8	11	56	18	**$ .63**	42-201	$2.20
22-351	**22-301**	3 1/8	2 1/8	11	40	17	**.71**	42-301	1.40
23-101	**23-001**	3 1/8	3 1/32	11	30	18	**1.18**	43-101	2.10
22-451	**22-401**	4	2 1/8	11	32	15	**.83**	42-401	1.70
24-451		4	4 3/4	11	18	15	**2.01**	44-401	2.70
23-301	**23-201**	5 1/4	3 1/32	11	15	13	**1.47**	43-301	2.25
24-551		5 1/4	4 3/4	11	12	11	**2.30**	44-501	2.95

© United Technical Publications

Akro-Mils Economy Steel Frame Cabinets

Steel Frame — See-Thru Drawers



13 Drawer Portable Cabinet with locking door

12 full size 2¾"x 1¼"x 5¾" see-thru drawers and 1 jumbo 8¾"x 2½"x 5¾" drawer. Carry small and large items in one cabinet. Drawers dividable. Blue baked enamel finish.

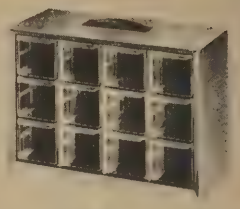
Size 10"x 9"x 6½" Shpg. wt. 5¾ lbs.
Stock No. 11-463 Net ea. **$6.10**



24 Drawer Portable Cabinet

24 full size 2¾"x 1¼"x 5¾" see-thru drawers. Store small parts and hardware. Unitized steel frame, blue baked enamel finish, dividable drawers. Stackable frame, wall mountable.

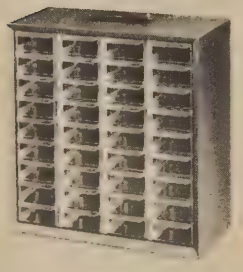
Size 13"x 9½"x 6½" Shpg. wt. 7 lbs.
Stock No. 11-124 Net ea. **$6.10**



12 Double Deep Drawer Portable Cabinet

12 double deep 2¾"x 2½"x 5¾" see-thru drawers. Perfect for those larger items. Unitized steel frame, blue baked enamel finish, dividable drawers. Stackable frame, wall mountable.

Size 13"x 9½"x 6½" Shpg. wt. 7 lbs.
Stock No. 11-712 Net ea. **$6.10**



36 Drawer Portable Cabinet

36 full size 2¾"x 1¼"x 5¾" see-thru drawers. Store small parts and components. Dividable drawers; stackable frame; wall mountable. Unitized steel frame; blue baked enamel finish.

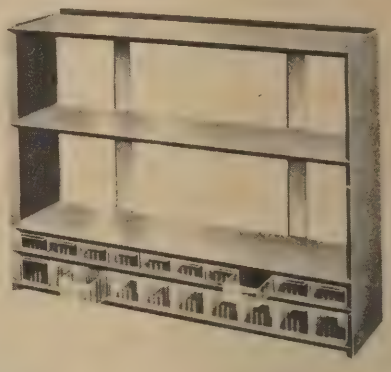
Size: 13"x13½"x6½" Shpg. wt. 9 lbs.
Stock No. 11-136 Net ea. **$9.35**



48 Drawer Cabinet

48 full size 2¾"x 1¼"x 5¾" see-thru drawers. Plenty of storage room. Welded steel frame, wall mountable; gray baked enamel finish. Dividable drawers.

Size 13"x 18"x 6½" Shpg. wt. 13 lbs.
Stock No. 11-148 Net ea. **$12.70**

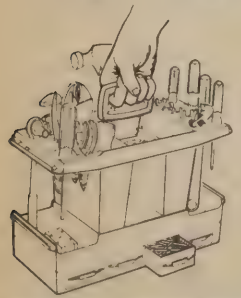


Bench-Mate, Shelves & Drawers

3-7" deep steel shelves; ten 2¾"x 1¼" x 5¾" see-thru drawers, ten 2¾"x 2" x 5¾" drawers. Self standing or wall mount; blue baked enamel finish. Assembles in minutes.

Size 30"x 22½"x 7" Shpg. wt. 13 lbs.
Stock No. 12-420 Net ea. **$10.50**

Tool Carriers



Tool-Mate

Portable tool and parts organizer molded hi-impact plastic. 39 tool holding slots, 2 jumbo storage wells, four dust free drawers. Assembles in minutes.

Size 11½"x 14"x 7"
Shpg. wt. 3 lbs.
Stock No. 08-125 Net ea. **$4.15**



Drill-Mate

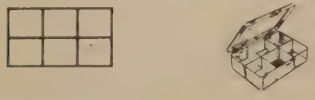
Portable organizer for drill and accessories. Holds any ¼" or ⅜" drill; 25 hole drill bit index; pockets for tools, discs, two utility drawers. Molded hi-impact polystyrene. Carrying handle.

Size 13⅜"x 9½"x 6¾"
Shpg. wt. 3½ lbs.
Stock No. 08-275 Net. ea. **$4.35**

Plastic Boxes

Clear Styrene — Compartmented

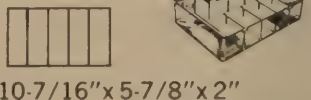
For small item storage. Lightweight; durable; hinged cover.



Size 4⅜"x 2⅝"x 1"
05-201 — one compartment
05-206 — 6 equal compartments
Net ea. **$ .34**



Size 8-1/16" x 4⅛"x 1½"
05-401 — one compartment
05-412 — 12 assorted compartments
Net ea. **$ .61**



Size 10-7/16"x 5-7/8"x 2"
05-505 — 5 fixed compartments
2 adjustable partitions form up to 15 compartments.
Net ea. **$1.32**

© United Technical Publications

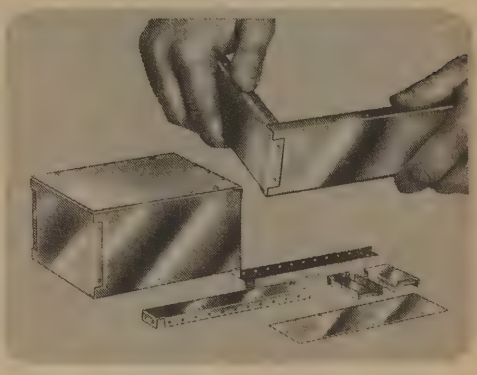
SEEZAK

alpha

THE IDEAL CHASSIS SYSTEM FOR PROTOTYPE AND SHORT RUN APPLICATION

A universal chassis system that offers more than 500 different chassis sizes from a small basic inventory of side rails and panels. All parts of same height are completely interchangeable.

- Easier to work — all mounting can be done from flat panel.
- Complete versatility — all parts of same height, completely interchangeable.
- 10% the storage area of pre-assembled chassis.
- Re-usable.
- Stronger than conventional chassis — heavy gauge aluminum-reinforced covers.



Instead of conventional bulky, difficult-to-work, pre-assembled welded chassis, the SEEZAK system consists of individual front and side rails, and a flat top panel, with optional matching bottom plates and terminal boards.

By means of the patented locking device rails snap together to form a sturdy chassis frame.

The top panel may be firmly fastened to the rails after fabrication, by self-tapping screws (supplied) through the pre-drilled mounting holes on the rails and panel.

Specially designed Phenolic, Fiberglass and Epoxy Glass boards and terminals for SEEZAK chassis available from stock.

CHASSIS PARTS LIST
(For Inventory & Replacement)

To take advantage of the flexibility of the SEEZAK system, order the interchangeable parts on this page to build your chassis inventory.

HOW TO ORDER:

To order parts for a chassis 4″ in width, 7″ in length and 2″ in height, order the following:

1 pr. rails — 2″ high x 4″ wide (R24)
1 pr. rails — 2″ high x 7″ long (R27)
1 panel — 4″ wide x 7″ long (P47)

RAILS

SEEZAK No.	Height - Width	SEEZAK No.	Height - Width
R-12	1″ x 2″	R-217	2″ x 17″
R-13	1″ x 3″	R-33	3″ x 3″
R-14	1″ x 4″	R-34	3″ x 4″
R-15	1″ x 5″	R-35	3″ x 5″
R-16	1″ x 6″	R-36	3″ x 6″
R-17	1″ x 7″	R-37	3″ x 7″
R-18	1″ x 8″	R-38	3″ x 8″
R-19	1″ x 9″	R-39	3″ x 9″
R-110	1″ x 10″	R-310	3″ x 10″
R-111	1″ x 11″	R-311	3″ x 11″
R-112	1″ x 12″	R-312	3″ x 12″
R-113	1″ x 13″	R-313	3″ x 13″
R-114	1″ x 14″	R-314	3″ x 14″
R-115	1″ x 15″	R-315	3″ x 15″
R-116	1″ x 16″	R-316	3″ x 16″
R-117	1″ x 17″	R-317	3″ x 17″
R-22	2″ x 2″	R-44	4″ x 4″
R-23	2″ x 3″	R-45	4″ x 5″
R-24	2″ x 4″	R-46	4″ x 6″
R-25	2″ x 5″	R-47	4″ x 7″
R-26	2″ x 6″	R-48	4″ x 8″
R-27	2″ x 7″	R-49	4″ x 9″
R-28	2″ x 8″	R-410	4″ x 10″
R-29	2″ x 9″	R-411	4″ x 11″
R-210	2″ x 10″	R-412	4″ x 12″
R-211	2″ x 11″	R-413	4″ x 13″
R-212	2″ x 12″	R-414	4″ x 14″
R-213	2″ x 13″	R-415	4″ x 15″
R-214	2″ x 14″	R-416	4″ x 16″
R-215	2″ x 15″	R-417	4″ x 17″
R-216	2″ x 16″		

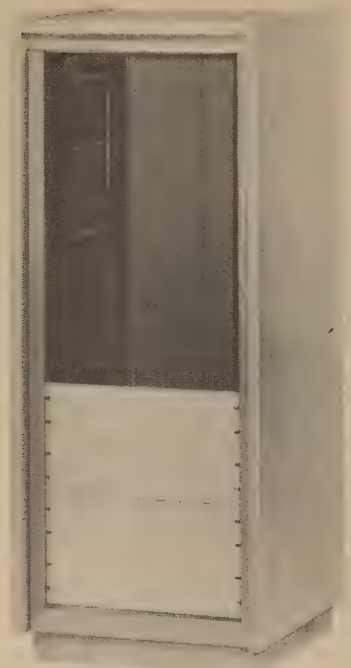
ALL RAILS PACKED WITH MOUNTING SCREWS

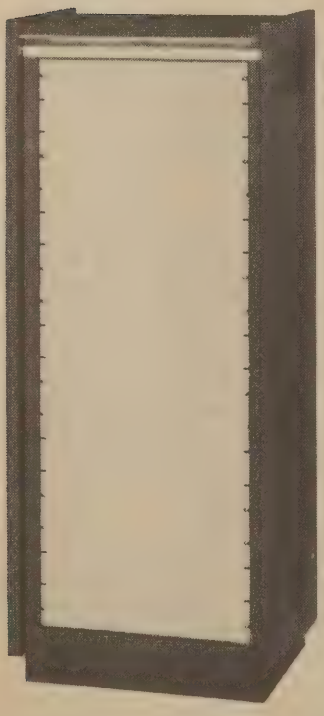
PANELS OR PLATES

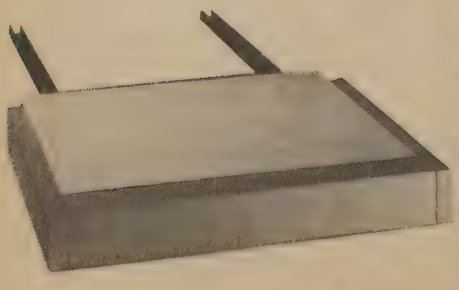
SEEZAK No.	SEEZAK No.	SEEZAK No.	SEEZAK No.
P-22	P-59	P-715	P-1017
P-23	P-510	P-716	P-1111
P-24	P-511	P-717	P-1112
P-25	P-512	P-88	P-1113
P-26	P-513	P-89	P-1114
P-27	P-514	P-810	P-1115
P-33	P-515	P-811	P-1116
P-34	P-516	P-812	P-1117
P-35	P-517	P-813	P-1212
P-36	P-66	P-814	P-1213
P-37	P-67	P-815	P-1214
P-44	P-68	P-816	P-1215
P-45	P-69	P-817	P-1216
P-46	P-610	P-99	P-1217
P-47	P-611	P-910	P-1313
P-48	P-612	P-911	P-1314
P-49	P-613	P-912	P-1315
P-410	P-614	P-913	P-1316
P-411	P-615	P-914	P-1317
P-412	P-616	P-915	P-1414
P-413	P-617	P-916	P-1415
P-414	P-77	P-917	P-1416
P-415	P-78	P-1010	P-1417
P-416	P-79	P-1011	P-1515
P-417	P-710	P-1012	P-1516
P-55	P-711	P-1013	P-1517
P-56	P-712	P-1014	P-1616
P-57	P-713	P-1015	P-1617
P-58	P-714	P-1016	P-1717

© United Technical Publications

BUD Series 2000 Upright Cabinet Racks







Series 2000 has emerged as the creative industrial designer's (Leon Gordon Miller, F.I.D.S.A.) conception of what image the modern electronic enclosure should convey to enhance the prestige of the contents. It combines the dramatic appearance of sheer, square lines with rugged construction. Together with its unique facade, it offers many exclusive features and economies inherent in all Bud products.

One of the time and cost saving benefits of the Series 2000 Cabinet Racks is the fact that they are shipped completely assembled and immediately available for use upon removal from the protective carton.

The basic frame is all-welded construction employing 14 gauge steel members. 18 gauge steel is used in the door, sides and top. "U" braces welded to the sides of the frame augment its strength and rigidity and act as the mounting for the vertical rails, which may be horizontally adjusted. Front panel mounting rails are tapped 10-32. Rear rails are pierced 9-32. Caster bracket in base is drilled for Bud RC-7758 casters.

All series two thousand enclosures may be quickly combined with each other laterally to create units of any desired width as shown in the Add-A-Rack series. In addition a number of Series 60 accessories are easily installed.

Standard finishes are Royal Blue or Gray textured enamel with clear anodized aluminum cowl and Gold textured enamel with gold anodized aluminum cowl. When ordering please add the following suffix to the catalog number: Gold **(GD)**; Royal Blue **(RB)**; Gray Textured **(GT)**.

White panels **(WH)** are recommended for use with Blue or Gray and Sand panels **(S)** with Gold cabinets. All Cabinets accommodate standard 19" Panels.

Elements comprising each cabinet are specified above the adjoining tables.

The Series below include Welded Framework, Plain Sides, Plain Rear Door and Solid Top.

Catalog No.	Height	Width	Outside Depth	Clear Inside Depth	Panel Space	Weight Lbs.	Net Each in Lots of 1-3	4-6	7-9
E-2000	30¼"	24 3/16"	23⅞"	20½"	21"	125	$135.10	$121.60	$108.10
E-2001	40¾"	24 3/16"	23⅞"	20½"	31½"	150	167.10	150.40	133.70
E-2002	44¼"	24 3/16"	23⅞"	20½"	35"	155	176.35	158.70	141.10
E-2003	51¼"	24 3/16"	23⅞"	20½"	42"	167	185.65	167.10	148.50
E-2004	61¾"	24 3/16"	23⅞"	20½"	52½"	205	206.40	185.75	165.10
E-2005	70½"	24 3/16"	23⅞"	20½"	61¼"	219	229.10	206.20	183.30
E-2006	79¼"	24 3/16"	23⅞"	20½"	70"	240	254.55	229.10	203.65
E-2007	88"	24 3/16"	23⅞"	20½"	78¾"	262	277.95	250.15	222.35
E-2008	30¼"	24 3/16"	27⅜"	24"	21"	135	159.55	143.60	127.65
E-2009	40¾"	24 3/16"	27⅜"	24"	31½"	160	185.30	166.75	148.25
E-2010	44¼"	24 3/16"	27⅜"	24"	35"	165	195.55	176.00	156.45
E-2011	51¼"	24 3/16"	27⅜"	24"	42"	187	205.90	185.30	164.70
E-2012	61¾"	24 3/16"	27⅜"	24"	52½"	222	228.55	205.70	182.85
E-2013	70½"	24 3/16"	27⅜"	24"	61¼"	235	254.00	228.60	203.20
E-2014	79¼"	24 3/16"	27⅜"	24"	70"	265	282.15	253.95	225.70
E-2015	88"	24 3/16"	27⅜"	24"	78¾"	280	308.00	277.20	246.40

The Series below includes Welded Framework, Louvred Sides, Louvred Rear Door, Solid Top.

E-2016	30¼"	24 3/16"	23⅞"	20½"	21"	125	$140.80	$126.25	$112.25
E-2017	40¾"	24 3/16"	23⅞"	20½"	31½"	150	174.25	156.85	139.40
E-2018	44¼"	24 3/16"	23⅞"	20½"	35"	155	184.75	166.30	147.80
E-2019	51¼"	24 3/16"	23⅞"	20½"	42"	167	195.25	175.75	156.20
E-2020	61¾"	24 3/16"	23⅞"	20½"	52½"	205	223.15	200.85	178.50
E-2021	70½"	24 3/16"	23⅞"	20½"	61¼"	219	242.95	218.65	194.35
E-2022	79¼"	24 3/16"	23⅞"	20½"	70"	240	269.80	242.80	215.85
E-2023	88"	24 3/16"	23⅞"	20½"	78¾"	262	293.05	263.75	234.45
E-2024	30¼"	24 3/16"	27⅜"	24"	21"	135	165.35	148.80	132.30
E-2025	40¾"	24 3/16"	27⅜"	24"	31½"	160	199.80	179.80	159.85
E-2026	44¼"	24 3/16"	27⅜"	24"	35"	165	211.15	190.05	168.90
E-2027	51¼"	24 3/16"	27⅜"	24"	42"	187	222.45	200.20	177.95
E-2028	61¾"	24 3/16"	27⅜"	24"	52½"	222	247.25	222.55	197.80
E-2029	70½"	24 3/16"	27⅜"	24"	61¼"	235	274.85	247.35	219.90
E-2030	79¼"	24 3/16"	27⅜"	24"	70"	265	305.20	274.70	244.15
E-2031	88"	24 3/16"	27⅜"	24"	78¾"	280	332.65	299.40	266.15

SERIES 2000 DOORS FOR UPRIGHT CABINETS

Plain

Catalog No.	Net Each in Lots of 1-3	4-6	7-9	Fits Upright Rack with Following Panel Spaces	Weight Lbs.
E-9000	$20.20	$18.20	$16.15	21"	15
E-9001	24.95	22.45	19.95	31½"	18
E-9002	26.30	23.70	21.05	35"	19
E-9003	27.65	24.90	22.10	42"	23
E-9004	30.85	27.75	24.70	52½"	27
E-9005	34.05	30.65	27.25	61¼"	29
E-9006	39.85	35.90	31.90	70"	31
E-9007	41.25	37.15	33.00	78¾"	33

Louvred

E-9020	$23.15	$20.85	$18.50	21"	15
E-9021	28.70	25.85	22.95	31½"	18
E-9022	30.30	27.25	24.25	35"	19
E-9023	31.90	28.70	25.50	42"	23
E-9024	35.20	31.70	28.15	52¼"	27
E-9025	39.35	35.40	31.50	61¼"	29
E-9026	43.65	39.30	34.90	70"	31
E-9027	47.70	42.95	38.15	78¾"	33

SERIES 2000 DESK TOPS

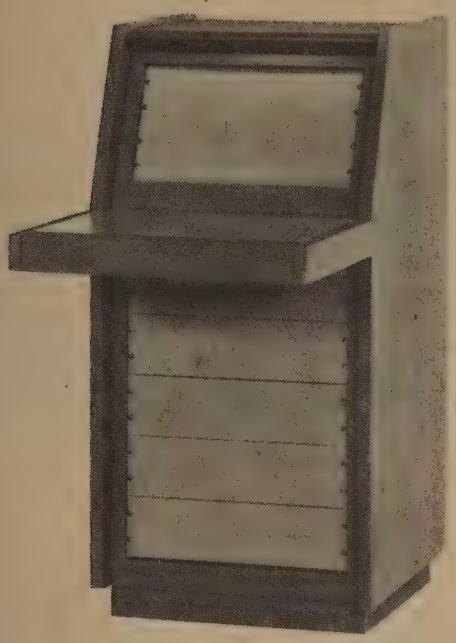
These desk tops may be installed only on any Series 2000 Cabinet Rack. They serve as a smooth writing surface, or a shelf upon which to perform service operations. Two pre-slotted supporting channels are quickly bolted to panel mounting rails. Surface is Antique White Formica, 24 3/16" wide, 19½" deep and 3 1/16" high. Supports in excess of 200 pounds. Choice of Gray Textured **(GT)**, Royal Blue **(RB)** or Gold **(GD)** textured enamel.

Catalog No.	Fits Series 2000	Supporting Channel	Weight Lbs.	Net Each in Lots of 1-3	4-6	7-9
DT-2960	With 23⅞" depth	21 9/32"	29	$43.75	$39.40	$35.00
DT-2962	With 27⅜" depth	24¾"	30	45.10	40.60	36.10

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Series 2000 Inclined Panel Cabinet Racks



While all Series 2000 Cabinet Racks have the same styling and construction features, the Inclined Panel Models, in many instances, have different purposes than the Upright Models. Since the inclined panel is positioned 20 degrees off vertical, viewing the instruments by a seated person is more comfortable.

This model lends itself admirably to console arrangement, in a straight line in Add-A-Rack fashion.

Like the Upright Models, these cabinet racks are also shipped completely assembled, saving time and money.

An exclusive feature of the Series 2000 Inclined Panel Rack is that the panel mounting rails in the front vertical and the inclined panel section, as well as in the rear, are adjustable from front to rear. Caster brackets in the base are drilled to accept Bud RC-7758.

The standard finishes for these products are Royal Blue (RB) or Gray Textured (GT) Textured Enamel, with clear anodized aluminum cowl, and Gold Textured (GD), with gold anodized aluminum cowl. White (WH) panels are recommended for use with Blue or Gray racks, and Sand (S) colored panels with Gold racks.

SERIES 2000 INCLINED PANEL CABINET RACKS

The following numbers are for enclosures with Welded Framework, Solid Sides and Solid Rear Door.

Catalog No.	Height	Width	Outside Depth	Clear Inside Depth	Inclined Panel Space	Vertical Panel Space	Weight Lbs.	Net Each in Lots of 1-3	4-6	7-9
SE-2064	51¼"	24³⁄₁₆"	23⅞"	20½"	10½"	29¾"	173	$184.05	$165.65	$147.25
SE-2065	51¼"	24³⁄₁₆"	23⅞"	20½"	15¾"	24½"	173	195.10	175.60	156.10
SE-2066	51¼"	24³⁄₁₆"	23⅞"	20½"	17½"	22¾"	173	195.10	175.60	156.10

The following numbers are for Welded Framework, Louvred Sides and Louvred Doors.

SE-2067	51¼"	24³⁄₁₆"	23⅞"	20½"	10½"	29¾"	173	$197.70	$177.95	$158.15
SE-2068	51¼"	24³⁄₁₆"	23⅞"	20½"	15¾"	24½"	173	209.30	188.35	167.45
SE-2069	51¼"	24³⁄₁₆"	23⅞"	20½"	17½"	22¾"	173	209.30	188.35	167.45



The following numbers are the Add-A-Rack enclosures for Series 2000 inclined panel cabinets.

Catalog No.	To Add-A-Rack To	Weight Lbs.	Net Each in Lots of 1-3	4-6	7-9
ASE-2084	SE-2064	115	$155.75	$140.20	$124.60
ASE-2085	SE-2065	115	166.15	149.55	132.90
ASE-2086	SE-2066	120	166.15	149.55	132.90
ASE-2087	SE-2067	115	157.55	141.80	126.05
ASE-2088	SE-2068	115	170.20	153.20	136.15
ASE-2089	SE-2069	120	170.20	153.20	136.15

SERIES 2000 DOORS FOR INCLINED PANEL CABINETS

Plain

Catalog No.	Net Each in Lots of 1-3	4-6	7-9	Fits Vertical Space of the Inclined Unit	Weight Lbs.
E-9008	$25.05	$22.55	$20.05	29¾"	11
E-9009	23.30	21.00	18.65	24½"	10½
E-9010	22.80	20.50	18.25	22¾"	9

Louvred

E-9028	$28.80	$25.90	$23.05	29¾"	11
E-9029	26.95	24.25	21.55	24½"	10½
E-9030	26.10	23.50	20.90	22¾"	9

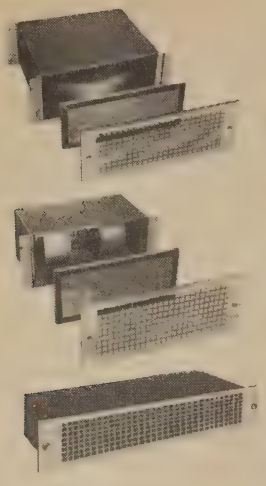
For complete information consult the Bud catalog.





PRICES SUBJECT TO CHANGE

BUD Trans-aire Blowers



B-23A
B-25A
B-27A
B-52
B-54
B-50

All blowers are designed and manufactured expressly for Bud Radio, Inc. by McLean Engineering Company. Each one is UL approved.

Bud Trans-aire Blowers are designed as an efficient, economical, convenient method of cooling electronic equipment installed in racks, cabinets or consoles. All units are designed with dust filters which are easily removable through the front panel without the use of tools.

Each unit has standard EIA notching for mounting in standard 19" panel space. They have the lowest silhouette height with the highest CFM output in the industry. Their reliability is second to none and are guaranteed for 20,000 hours of continuous duty.

Models with "A" following part number all have vertically mounted fans and two-speed motors. They have the facility of bringing in fresh air or exhausting heated air depending upon the position in which they are mounted.

Audible noise levels are lower than that found in similar models. Motors are rubber mounted to reduce vibration and wear. Attractive chrome nickel grilles and 24" 3 wire cord.

"TEM-STAT" TEMPERATURE CONTROLS

Prevents costly damage to electronic components in enclosed cabinets, boxes, etc. Bimetal sensing element responds quickly to gradual or sudden temperature changes and actuates whatever warning device you use: Activates a light, bell, blower or other device; or, shuts off current. Activates snap-action, heavy-duty normally open switch contacts. High electrical ratings up to 300°F; fully adjustable temperature ranges. Screw terminals for easy attachment. U/L Listed. Small size, $2\frac{15}{16}$" long x 1" wide x $1\frac{7}{32}$" deep, suitable for limited space applications. **U/L Rating:** 8 amps, full load.

Bud Model TS-15 — For 80°-170°F range. .....Net Each $6.10

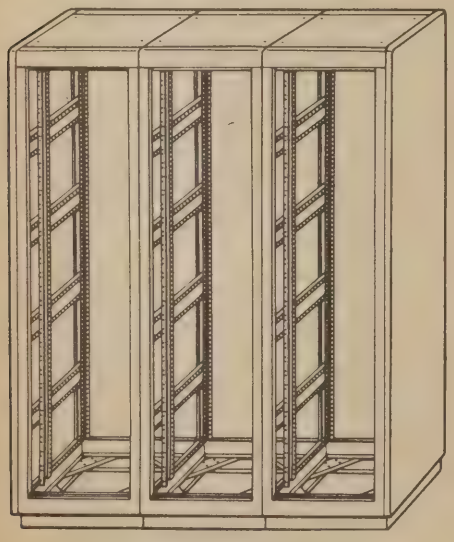
BLOWERS

Bud No.	Panel Space	Depth	Air Delivery	Net Each in Lots of 1-9	10-14	15-19
B-23A	$3\frac{1}{2}$"x19"	12"	130 & 180 CFM	$85.35	$76.80	$68.30
B-25A	$5\frac{1}{4}$"x19"	$14\frac{1}{2}$"	160 & 350 CFM	97.50	87.75	78.00
B-27A	7"x19"	$14\frac{1}{2}$"	280 & 515 CFM	109.60	98.65	87.70
B-50	$3\frac{1}{2}$"x19"	$6\frac{13}{32}$"	150 CFM	83.05	74.75	66.45
B-52	$5\frac{1}{4}$"x19"	$7\frac{11}{16}$"	150 CFM	85.75	77.20	68.60
B-54	7"x19"	$10\frac{3}{16}$"	300 CFM	109.80	98.85	87.85

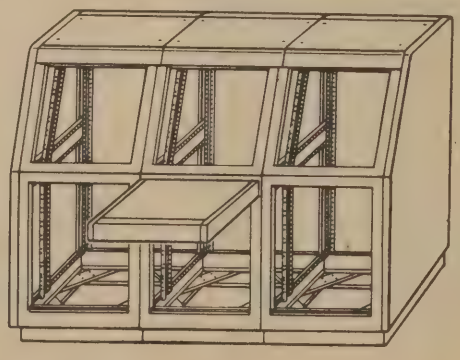
FILTERS

Bud No.	Used With	Net Each in Lots of 1-24	25-49	50-99
BF-24	B-23A	$1.90	$1.70	$1.50
BF-26	B-25A	2.10	1.90	1.70
BF-28	B-27A	2.40	2.15	1.90
BF-24	B-50	1.90	1.70	1.50
BF-53	B-52	2.10	1.90	1.50
BF-55	B-54	2.40	2.15	1.90

SERIES 2000 ADD-A-RACK SERIES



When it is desirable to join any of the Series 2000 enclosures in a bank of two or more, use the Add-A-Rack system. Each Add-A-Rack assembly consists of a frame, top, bottom, rear roor and cowlings. Thus, with one complete unit and several Add-A-Rack assemblies, any desired number of racks may be combined to attain the optimum width. Specify color to match original rack.



FOR UPRIGHT MODELS

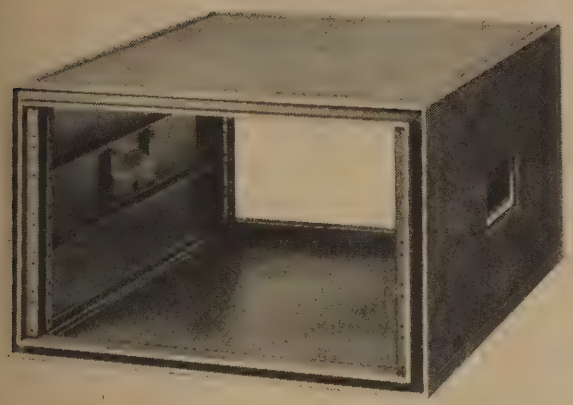
Catalog No.	To Add-A-Rack To	Wgt. Lbs.	Net Each in Lots of 1-3	4-6	7-9
AE-2032	E-2000	90	$114.95	$103.45	$ 91.95
AE-2033	E-2001	110	134.65	121.20	107.75
AE-2034	E-2002	113	141.10	127.00	112.90
AE-2035	E-2003	115	147.55	132.80	118.05
AE-2036	E-2004	145	161.25	145.15	129.00
AE-2037	E-2005	148	180.00	162.00	144.00
AE-2038	E-2006	152	200.50	180.45	160.40
AE-2039	E-2007	158	215.35	193.80	172.30
AE-2040	E-2008	120	128.55	115.70	102.85
AE-2041	E-2009	130	150.65	135.60	120.50
AE-2042	E-2010	135	157.65	141.90	126.10
AE-2043	E-2011	138	164.55	148.10	131.65
AE-2044	E-2012	142	179.65	161.70	143.70
AE-2045	E-2013	164	200.80	180.70	160.65
AE-2046	E-2014	168	223.65	201.30	178.90
AE-2047	E-2015	172	247.50	222.75	198.00

Catalog No.	To Add-A-Rack To	Wgt. Lbs.	Net Each in Lots of 1-3	4-6	7-9
AE-2048	E-2016	90	$119.55	$107.60	$ 95.65
AE-2049	E-2017	110	138.50	124.65	110.80
AE-2050	E-2018	113	145.10	130.60	116.10
AE-2051	E-2019	115	151.70	136.55	121.35
AE-2052	E-2020	145	165.75	149.20	132.60
AE-2053	E-2021	148	185.10	166.60	148.10
AE-2054	E-2022	152	205.75	185.20	164.60
AE-2055	E-2023	158	221.40	199.25	177.10
AE-2056	E-2024	120	130.20	117.20	104.15
AE-2057	E-2025	130	152.95	137.65	122.35
AE-2058	E-2026	135	160.85	144.75	128.70
AE-2059	E-2027	138	168.70	151.85	134.95
AE-2060	E-2028	142	184.10	165.70	147.30
AE-2061	E-2029	164	205.75	185.20	164.60
AE-2062	E-2030	168	229.45	206.50	183.55
AE-2063	E-2031	172	253.70	228.35	202.95

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Classic II Cabinets



CLASSIC II CABINETS

The serene beauty of the Classic II Cabinet reflects the present mode of electronic enclosures. Here the rectilinear outlines combine the innovative construction features to meet the demands of the most critical engineers.

A double rim aluminum extrusion outlines the front of the cabinet. The edges are polished and lacquered to provide an interesting frame for the component mounted panels. Front and rear mounting rails tapped 10-32. Accepts 19" panels.

Two 16 gauge steel flanges, extending the length of each side provide extra support to the handles so that extra safety in carrying is achieved. The annodized aluminum handles are fully recessed in a diecast alloy receptacle. Four rubber feet supplied.

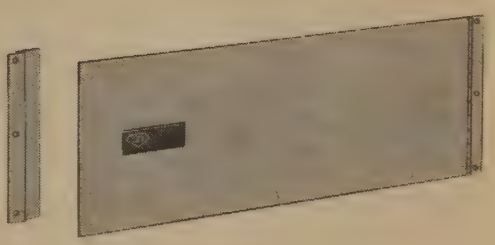
Clear inside depth, panel to panel is 20 9/16". Overall depth is 21 7/16". Choice of Gray Textured **(GT)** or Royal Blue **(RB)** or Gold **(GD)** textured enamel.

Catalog No.	Height	Panel Space	Weight Lbs.	Net Each in Lots of		
				1-4	5-9	10-14
AGC-9267	7 1/16"	5 5/16"	29 1/4	$82.80	$74.50	$66.25
AGC-9268	8 13/16"	7 1/16"	30 1/2	87.30	78.60	69.85
AGC-9269	10 9/16"	8 13/16"	32 1/4	89.40	80.45	71.50
AGC-9270	12 5/16"	10 9/16"	33 1/4	92.40	83.15	73.90
AGC-9271	14 1/16"	12 5/16"	34 1/4	96.15	86.55	76.95
AGC-9272	15 13/16"	14 1/16"	35	99.10	89.20	79.30
AGC-9273	17 9/16"	15 13/16"	36	102.85	92.55	82.30
AGC-9274	19 5/16"	17 9/16"	36 3/4	105.85	95.30	84.70
AGC-9275	21 1/16"	19 5/16"	37 3/4	108.15	97.35	86.50
AGC-9276	22 13/16"	21 1/16"	38 1/2	111.75	100.60	89.40
AGC-9277	24 9/16"	22 13/16"	39 1/2	114.75	103.30	91.80
AGC-9278	26 5/16"	24 9/16"	40 1/4	117.90	106.10	94.30
AGC-9279	28 1/16"	26 5/16"	41 1/4	120.90	108.80	96.70
AGC-9280	29 13/16"	28 1/16"	42	123.45	111.10	98.75

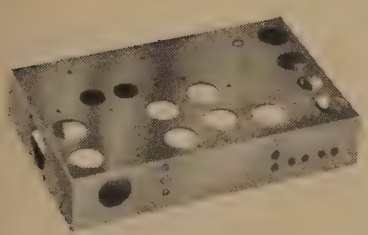
CLASSIC DOORS

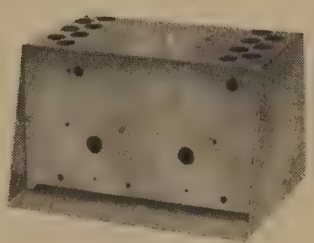
Intended for use on Classic II Cabinets, but will fit any rack or cabinet with 19" panels space by attaching to panel mounting rails. Made of 1/8" 5005-H36 aluminum alloy. Stop fits on one panel mounting rail, hinged door attaches to other mounting rail. Equipped with plated, flush type latch. Finished in choice of textured enamel White **(WH)** or Sand **(S)**.

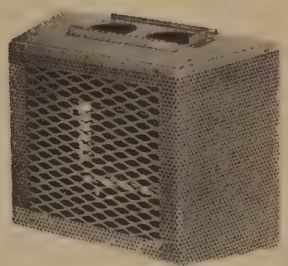
Catalog No.	Height	Width	Weight Lbs.	Net Each in Lots of		
				1-4	5-9	10-14
AGD-367	5 1/4"	19"	1 3/4	$ 8.90	$ 8.00	$ 7.10
AGD-368	7"	19"	2	10.40	9.35	8.30
AGD-369	8 3/4"	19"	2 3/4	11.40	10.25	9.10
AGD-370	10 1/2"	19"	3	12.50	11.25	10.00
AGD-371	12 1/4"	19"	3 1/4	13.40	12.05	10.70
AGD-372	14"	19"	3 1/2	13.70	12.35	10.95
AGD-373	15 3/4"	19"	4	15.50	13.95	12.40
AGD-374	17 1/2"	19"	4 1/2	16.80	15.10	13.45
AGD-375	19 1/4"	19"	5 1/4	18.00	16.20	14.40
AGD-376	21"	19"	6 1/4	18.10	17.20	15.30
AGD-377	22 3/4"	19"	6 1/4	20.00	18.00	16.00
AGD-378	24 1/2"	19"	7	21.00	18.90	16.80
AGD-379	26 1/4"	19"	7 1/2	22.20	20.00	17.75
AGD-380	28"	19"	8	23.70	21.35	18.95

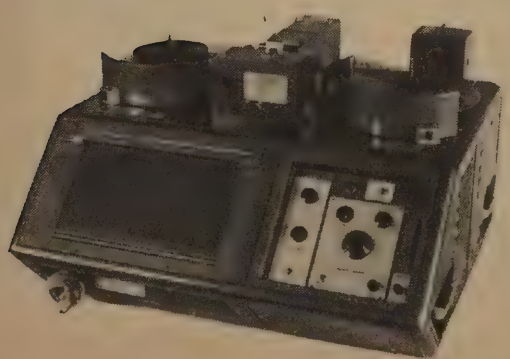


MODIFIED STANDARD PRODUCTS AND SPECIALLY FABRICATED PRODUCTS







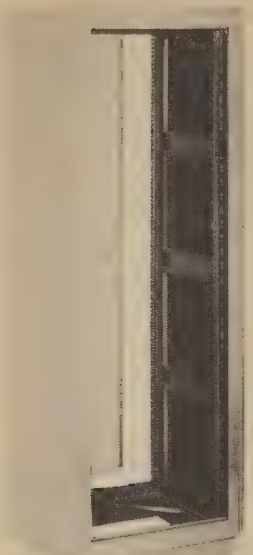




PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Series "60" Cabinet Racks



Scientifically designed to meet all requirements for human needs as well as component physical specifications; the most practical cabinet rack developed for either a single piece of equipment or a large instrumentation system. Very economical to the user, units are shipped fully assembled and ready for immediate use.

Basic frame welded in a solid unit composed of 14-gauge steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Door may be mounted to open left or right. Vertical channel 4" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails are drilled according to universal spacing.

All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

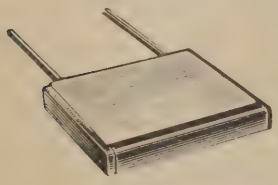
Standard finishes are textured over a primer. For two-tone gray, specify by adding suffix **GGY**. For two-tone blue, add suffix **BBY** to order number. Standard Bud relay rack panels are available for the Series Sixty racks in light gray and light blue; when ordering, add suffix **GY** for gray; **BY** for blue.

UPRIGHT CABINET RACKS

Completely assembled with sides, rear door and top. Standard units have plain sides and door; solid top. For greater ventilation; order units with louvered sides and rear door, Solid top. Width, 24 1/16", all units. Inside depth 20 1/2" clear on units with 22" outside depth; 24", all others. Top opening 18 5/16" w x 17 1/32" d on units with 22" outside depth; 18 5/16" w x 20 17/32" d., all others. **Specify Color When Ordering:** Add suffix **GGY** to number for gray; suffix **BBY** for blue.

2300 Series includes welded framework, plain sides, plain rear door and solid top. 2700 Series includes welded framework, louvered sides, louvered rear door and solid top.

Height	Outside Depth	Panel Space	Top Opening	Bud No. 60	Net Each Lots of 1-3	4-6	7-9	Bud No. 60	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
29 5/8"	22"	21"	18 5/16"x17 1/32"	2300	$128.95	$116.05	$103.15	2700	$134.00	$120.60	$107.20	118
40 1/8"	22"	31 1/2"	18 5/16"x17 1/32"	2301	159.60	143.65	127.70	2701	166.45	149.80	133.15	156
50 5/8"	22"	42"	18 5/16"x17 1/32"	2302	177.25	159.55	141.80	2702	186.40	167.75	149.10	173
61 1/8"	22"	52 1/2"	18 5/16"x17 1/32"	2303	196.90	177.20	157.50	2703	213.05	191.75	170.45	197
69 7/8"	22"	61 1/4"	18 5/16"x17 1/32"	2304	218.70	196.85	174.95	2704	231.95	208.75	185.55	220
78 5/8"	22"	70"	18 5/16"x17 1/32"	2305	243.10	218.80	194.50	2705	257.55	231.80	206.05	235
87 3/8"	22"	78 3/4"	18 5/16"x17 1/32"	2306	265.35	238.80	212.30	2706	279.75	251.80	223.80	265
29 5/8"	25 1/2"	21"	18 5/16"x20 17/32"	2307	152.25	137.05	121.80	2707	157.90	142.10	126.30	156
40 1/4"	25 1/2"	31 1/2"	18 5/16"x20 17/32"	2308	176.95	159.25	141.55	2708	190.70	171.65	152.55	176
50 5/8"	25 1/2"	42"	18 5/16"x20 17/32"	2309	196.55	176.90	157.25	2709	212.20	191.00	169.75	185
61 1/8"	25 1/2"	52 1/2"	18 5/16"x20 17/32"	2310	218.20	196.40	174.55	2710	236.15	212.55	188.90	211
69 7/8"	25 1/2"	61 1/4"	18 5/16"x20 17/32"	2311	242.55	218.30	194.05	2711	262.40	236.15	209.90	240
78 5/8"	25 1/2"	70"	18 5/16"x20 17/32"	2312	269.45	242.50	215.55	2712	291.50	262.35	233.20	256
87 3/8"	25 1/2"	78 3/4"	18 5/16"x20 17/32"	2313	294.10	264.70	235.30	2713	317.65	285.90	254.10	267



SERIES SIXTY DESK TOP

May be used in connection with any Series Sixty enclosure. Furnished completely assembled with antique white Formica surface. Fastens to panel mounting rails by two pre-drilled channels. Will support in excess of 200 lbs. Surface 24 1/16" wide, 19 1/2" deep, 3 1/16" high. Available in two colors. **Specify Color:** Add suffix GG for gray ; BB for blue.

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Ea., 1-3	Ea., 4-6	Ea., 7-9
60-2360	With 22" depth	21 9/16" long	22	$41.70	$37.55	$33.35
60-2362	With 25 1/2" depth	24 3/4" long	23	43.05	38.75	34.45

SERIES SIXTY ADD-A-RACKS

Each assembly consists of frame, top, rear door and cowlings; used as an add-on unit to join any of the Series 60 enclosures into a bank of two or more. One standard rack plus several Add-a-Racks make any desired number of racks combined for optimum width. Colors are same as Racks.

For 19" Panel Space

Plain Sides					Louvered Sides					
Bud No. 60	For Add-onto Rack No. 60	Net Each in Lots of 1-3	4-6	7-9	Bud No. 60	For Add-onto Rack No. 60	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2500	2300	$109.75	$ 98.80	$ 87.80	2900	2700	$112.90	$101.60	$ 90.30	92
2501	2301	128.50	115.65	102.80	2901	2701	132.20	119.00	105.75	113
2502	2302	140.80	126.70	112.65	2902	2702	144.80	130.30	115.85	115
2503	2303	153.85	138.45	123.10	2903	2703	158.25	142.45	126.60	145
2504	2304	171.90	154.70	137.50	2904	2704	176.70	159.05	141.35	148
2505	2305	191.50	172.35	153.20	2905	2705	196.90	177.20	157.50	152
2506	2306	205.60	185.05	164.50	2906	2706	211.35	190.20	169.10	158
2507	2307	122.75	110.50	98.20	2907	2707	124.40	111.95	99.50	120
2508	2308	143.85	129.45	115.10	2908	2708	145.95	131.35	116.75	132
2509	2309	157.10	141.40	125.70	2909	2709	161.30	145.15	129.05	138
2510	2310	171.45	154.30	137.15	2910	2710	175.75	158.20	140.60	142
2511	2311	191.75	172.60	153.40	2911	2711	196.45	176.80	157.15	164
2512	2312	213.45	192.10	170.75	2912	2712	219.15	197.25	175.30	168
2513	2313	236.25	212.65	189.00	2913	2713	242.25	218.05	193.80	172
2530	2330	163.60	147.25	130.90	2930	2730	165.50	148.95	132.40	119
2531	2331	174.50	157.05	139.60	2931	2731	178.80	160.90	143.05	119
2532	2332	174.50	157.05	139.60	2932	2732	178.80	160.90	143.05	125

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Series "60" Cabinet Racks

ACCESSORIES LIST FOR UPRIGHT CABINET RACKS

DOORS

Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right. Doors are 18 15/16" wide. Please specify color desired by adding suffix **GY** for gray and **BY** for blue. Use same suffixes when ordering sides and perforated tops.

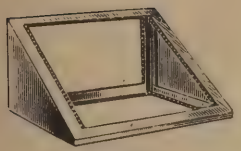


Bud No. 60	Plain Type Net 1-3	Plain Type Net 4-6	Plain Type Net 7-9	Bud No. 60	Louvered Type Net 1-3	Louvered Type Net 4-6	Louvered Type Net 7-9	Wgt. Lbs.	Height	Fits Rack with Panel Space
2340	19.30	17.35	15.45	2540	22.05	19.85	17.65	8	21 7/16"	21"
2341	23.85	21.45	19.10	2541	27.40	24.65	21.90	11½	31 15/16"	31½"
2342	26.35	23.70	21.10	2542	30.45	27.40	24.35	15½	42 7/16"	42"
2343	29.40	26.45	23.50	2543	33.70	30.35	26.95	19	52 15/16"	52½"
2344	32.55	29.30	26.05	2544	37.50	33.75	30.00	22¼	61 11/16"	61¼"
2345	38.00	34.20	30.40	2545	41.70	37.55	33.35	25½	70 7/16"	70"
2346	39.40	35.45	31.50	2546	45.45	40.90	36.35	29	79 3/16"	78¾"

ACCESSORY SIDES

Bud No. 60	Plain Net per Pair in Lots of 1-3	Plain Net per Pair in Lots of 4-6	Plain Net per Pair in Lots of 7-9	Bud No. 60	Louvered Net per Pair in Lots of 1-3	Louvered Net per Pair in Lots of 4-6	Louvered Net per Pair in Lots of 7-9	Height	Width	Fits Upright Rack with Panel Space	Wgt. Lbs.
2560	$28.75	$25.90	$23.00	2580	$33.90	$30.50	$27.10	26 55/64"	22"	21"	12½
2561	38.00	34.20	30.40	2581	44.85	40.35	35.90	37 23/64"	22"	31½"	17½
2562	44.20	39.80	35.35	2582	53.35	48.00	42.70	47 55/64"	22"	42"	21
2563	51.05	45.95	40.85	2583	62.70	56.45	50.15	58 23/64"	22"	52½"	26¼
2564	56.30	50.65	45.05	2584	69.10	62.20	55.30	67 7/64"	22"	61¼"	30
2565	61.95	55.75	49.55	2585	76.75	69.10	61.40	75 55/64"	22"	70"	34
2566	71.00	63.90	56.80	2586	80.85	72.75	64.70	84 39/64"	22"	78¾"	38
2567	36.35	32.70	29.10	2587	39.80	35.80	31.85	26 55/64"	25½"	21"	14½
2568	47.45	42.70	37.95	2588	52.00	46.80	41.60	37 23/64"	25½"	31½"	20
2569	54.80	49.30	43.85	2589	60.60	54.55	48.50	47 55/64"	25½"	42"	24
2570	63.65	57.39	50.90	2590	70.45	63.40	56.35	58 23/64"	25½"	52½"	29½
2571	69.75	62.80	55.80	2591	77.00	69.30	61.60	67 7/64"	25½"	61¼"	34½
2572	77.60	69.85	62.10	2592	84.85	76.35	67.90	75 55/64"	25½"	70"	39
2573	81.70	73.55	65.35	2593	89.45	80.50	71.55	84 39/64"	25½"	78¾"	43½

SERIES SIXTY TURRETS

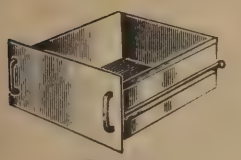


Turret

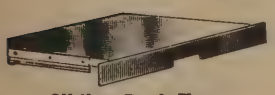
Made of 16 gauge steel; designed so that any of the three sides may be attached to a 19" Series 60 upright rack or any horizontal surface. Accommodate standard 19" panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. **Specify Color When Ordering:** Add suffix **GG** for dark gray; **BB** for dark blue; **HG** for hammertone gray. For panels, order standard Bud panels in any standard panel color.

Bud No.	Width	Depth	Height	Panel Space Sloping	Panel Space Bottom	Panel Space Rear	Wt., Lbs.	6 Net Each, Lots of 1-3	6 Net Each, Lots of 4-6	6 Net Each, Lots of 7-9
60-2364	22 1/16"	17 7/8"	12 5/16"	17½"	14"	8¾"	17	$41.05	$36.95	$32.85
60-2365	22 1/16"	14 3/8"	10 3/16"	12¼"	10½"	7"	14	34.25	30.85	27.40
60-2366	22 1/16"	20 13/16"	14 3/8"	21"	17½"	10½"	20	43.15	38.85	34.50

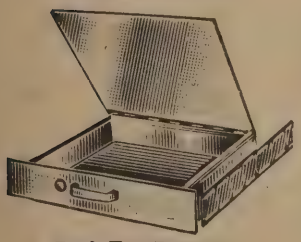
SERIES SIXTY DRAWER, DESK TOP AND SHELF ACCESSORIES



Drawer



Sliding Desk Top



Desk Top Drawer

No. 60-2368 Drawer: Fits into any 19" Series 60 cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. **No. 60-2361 Sliding Desk Top:** Fits all 19" Series 60 racks. Has smooth Formica* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11" x 16 7/8". Occupies only 1¾" of panel height. Will support 50 lbs. Ball-bearing slide mechanism mounts directly in 19" Series 60 racks; brackets included to fit other Bud cabinets and consoles. **No. 60-2363 Desk Top Drawer:** Fits 19" Series 60 racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 60-2381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolt to cabinet U-braces. Will support 200 lbs. Hardware supplied.

Bud No.	Size, Inches	Wt., Lbs.	For 19" Racks Net Each, Lots of 1-3	For 19" Racks Net Each, Lots of 4-6	For 19" Racks Net Each, Lots of 7-9
60-2368‡	16⅝ x 6¾ x 19¼ inside	28	$37.50	$33.75	$30.00
60-2361‡	16⅞ x 15⅛ x 1¾ with std. 19" panel	9¼	22.45	20.20	17.95
60-2363‡	16⅝ x 3¼ x 15 inside; 19 x 3½ front panel	19	64.35	57.90	51.50
60-2380†	17 31/32 w. x 19 9/32 d.	8¼	8.00	7.20	6.40
60-2381†	17 31/32 w. x 22¾ d.	8½	8.30	7.45	6.65

*Synthane Corp. trademark. †Add suffix **(BB)** for Textured Blue; **(GG)** Textured Gray; **(HG)** Gray Hammertone; **(WH)** White Textured; **(S)** Sand Textured. ‡Add suffix **(S)** Sand Textured; **(WH)** White Textured; **(HG)** Gray Hammertone; **(BY)** Light Textured Blue; **(GY)** Light Textured Gray.



Shelf

PERFORATED TOPS

FOR UPRIGHT RACKS

Bud No. 60	Width	Depth	Net Each in Lots of 1-3	Net Each in Lots of 4-6	Net Each in Lots of 7-9
2370	21 15/16"	17"	$7.90	$7.10	$6.30
2371	21 15/16"	20½"	8.30	7.45	6.65

Use top with 17" depth on rack 22" deep and top with 22½" depth on rack 25½" deep.

FOR INCLINED PANEL RACKS

Bud No. 60	Fits Inclined Paned Rack with Top Opening	Net each in lots of 1-3	Net each in lots of 4-6	Net each in lots of 7-9
2372	11 53/64" x 18 5/16"	$6.10	$5.50	$4.90
2373	10 1/32" x 18 5/16"	5.90	5.30	4.90
2374	9 27/64" x 18 5/16"	5.90	5.30	4.70

Please specify color desired by adding suffix **(GY)** for Gray and **(BY)** for Blue.

Bud Radio, Inc. was established more than 40 years ago. Bud products are produced in a modern 112,000 square foot plant. You are assured of the best possible service, the highest quality and the best value. No manufacturer makes more or a greater variety of models and sizes of electronic enclosures and accessories.

PRICES SUBJECT TO CHANGE

BUD Series "60" Cabinet Racks

INCLINED PANEL CABINET RACKS



Completely assembled with welded framework, sides, rear door and solid top. Racks are 24 1/16" wide. All are 50 5/8" high, have an outside depth of 22" and a clear inside depth of 20 1/2".

2300 Series have Plain sides and Plain rear door.

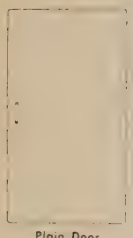
2700 Series have Louvered sides and Louvered rear door.

Panel Space		Top Opening	Bud No. 60-	Net each in lots of			Bud No. 60-	Net each in lots of		
Inclined Panel Sp.	Vertical Panel Sp.			1-3	4-6	7-9		1-3	4-6	7-9
10 1/2"	29 3/4"	11 53/64" x 18 5/16"	2330	$193.30	$173.95	$154.65	2730	$207.70	$186.95	$166.15
15 3/4"	24 1/2"	10 1/32" x 18 5/16"	2331	204.85	184.35	163.90	2731	219.90	197.90	175.90
17 1/2"	22 3/4"	9 27/64" x 18 5/16"	2332	204.85	184.35	163.90	2732	219.90	197.90	175.90

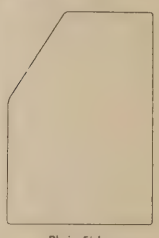
Specify color desired by adding suffix GGY for gray and BBY for blue.
Each cabinet weighs 165 pounds.

ACCESSORIES LIST FOR INCLINED PANEL RELAY RACKS

(WHEN ORDERING SERIES 60 ACCESSORIES, SPECIFY GY FOR GRAY AND BY FOR BLUE.)



Plain Door



Plain Side



Louvered Door



Louvered Side

FRONT DOORS*

Plain				Louvred					
Bud No. 60-	Net Each in Lots of			Bud No. 60-	Net Each in Lots of			Wgt. Lbs.	Fits Inclined Panel Rack with Top Opening
	1-3	4-6	7-9		1-3	4-6	7-9		
2350	$23.95	$21.55	$19.15	2550	$27.50	$24.75	$22.00	11	11 53/64" x 18 5/16"
2351	22.25	20.05	17.80	2551	25.75	23.20	20.60	9 1/2	10 1/32" x 18 5/16"
2352	21.75	19.60	17.40	2552	24.90	22.40	19.90	9	9 27/64" x 18 5/16"

* Fit all inclined panel relay racks.

REAR DOOR*

Plain				Louvered				
Bud No. 60	Net Each in Lots of			Bud No. 60	Net Each in Lots of			Wgt. Lbs.
	1-3	4-6	7-9		1-3	4-6	7-9	
2342	$26.35	$23.70	$21.10	2542	$30.45	$27.40	$24.35	15 1/2

* Fits all inclined panel relay racks.

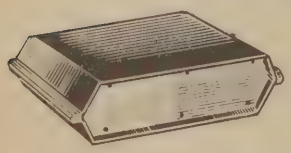
SIDES

Fits all Inclined Panel Racks regardless of width

Plain Type				Louvered Type				
Bud No. 60	Net Per Pair in Lots of			Bud No. 60	Net Per Pair in Lots of			Wgt. Lbs.
	1-3	4-6	7-9		1-3	4-6	7-9	
2574	$46.00	$41.40	$36.80	2594	$50.70	$45.65	$40.55	11
2575	47.15	42.45	37.70	2595	52.30	47.05	41.85	9 1/2
2576	47.65	42.90	38.10	2596	52.90	47.60	42.30	9

Specify "L" for left side or "R" for right side, determined when facing front of rack.

GRAND PRIX CABINETS



A concept in styling not elsewhere available in standard electronic cabinetry. Practical for audio equipment, also for medical and other electronic equipment and controls.

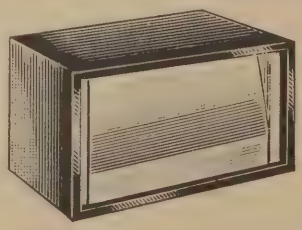
Engineered to make installation and servicing of contents easy. The upper and lower segments are held together by sturdy brushed aluminum extrusions.

Body and front and rear panels made of 20 gauge steel. Four rubber feet are furnished.

Choice of light gray hammertone HG body with matching panels or textured dark gray GG body with textured light gray GY panels. Please specify when ordering.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1-24	25-49	50-99
MD-1	4 3/16 x 19 1/8 x 10 1/2	7 1/4	$18.40	$16.55	$14.70
MD-2	7 3/16 x 19 1/8 x 10 1/2	7 3/4	19.25	17.35	15.40
MD-3	4 3/16 x 12 1/8 x 8 3/4	7	14.85	13.35	11.90

FUTURA CABINETS



Front panels are held in place by body flanges eliminating the use of panel mounting screws.

Top and sides are formed of one piece of steel to which is fastened the base. Thus, the two parts may be quickly disassembled to expose the entire contents. Body and rear panel are of 20 gauge steel while front panels are 18 gauge. Four rubber feet attached to base. Chassis may be affixed to base, front or rear panels.

Choice of light gray hammertone HG body with textured light gray GY panel or textured dark blue BB body with textured light blue BY panel. Please specify when ordering.

Bud No.	Overall Size, In. W. x H. x D.	Panel	Net Each, Lots of		
			1-24	25-49	50-99
MD-1960	13 x 7 x 8	Vertical	$10.35	$ 9.30	$ 8.30
MD-1961	14 x 8 x 9	Vertical	11.15	10.05	8.90
MD-1962	16 x 8 x 9	Vertical	11.50	10.35	9.20
MD-1963	13 x 7 x 8	Inclined	12.10	10.90	9.70
MD-1964	14 x 8 x 9	Inclined	13.00	11.70	10.40
MD-1965	16 x 8 x 9	Inclined	13.80	12.40	11.05

RUBBER FEET





No. F-8038: Self adhesive, may be applied to any surface, 3/4" dia. x 1/8" thick. No. F-9653: Press-fit type for 7/16" hole.

Bud No.	Description	Net Per 100, Lots of		
		1-49	50-99	100-149
F-9653	Top grade gray rubber	$5.85	$5.25	$4.70

Bud No.	Description	1-99	100-199	200-299
F-8038	Sponge rubber pad	$2.95	$2.65	$2.35

PRICES SUBJECT TO CHANGE

Net

© United Technical Publications

BUD Series "60" Cabinet Racks



SERIES SIXTY WEDGES

With Bud Series Sixty Wedges and Standard Series Sixty Cabinet Racks, it is possible to build custom enclosure systems efficiently and economically. A small or large configuration can quickly and easily be assembled to conform to your needs or space requirements.

There is a standard Wedge Unit that is compatible in style and size with every Series Sixty Rack. They are quickly attached to the adjacent framework by means of simple fasteners.

Features include all welded 16 gauge steel frame with removable rear panel for easy access. Choice of 15° or 45° wedges. Components may be attached to side braces, or uprights. Available with dark gray GG frame and light gray GY panel or dark blue BB frame with light blue BY panel.



15° WEDGES FOR SERIES 60 UPRIGHT RACKS

Catalog No.	For Use Where Panel Space Is	For Use Where Depth Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8300	21"	22"	7 3/16"	$ 81.20	$ 73.10	$ 64.95
60-8301	31 1/2"	22"	7 3/16"	95.80	86.20	76.65
60-8302	42"	22"	7 3/16"	105.00	94.50	84.00
60-8303	52 1/2"	22"	7 3/16"	115.80	104.20	92.65
60-8304	61 1/4"	22"	7 3/16"	129.80	116.80	103.85
60-8305	70"	22"	7 3/16"	142.90	128.60	114.30
60-8306	78 3/4"	22"	7 3/16"	155.80	140.20	124.65
60-8307	21"	25 1/2"	8 3/32"	92.00	82.80	73.60
60-8308	31 1/2"	25 1/2"	8 3/32"	106.60	95.95	85.30
60-8309	42"	25 1/2"	8 3/32"	119.10	107.20	95.30
60-8310	52 1/2"	25 1/2"	8 3/32"	129.80	116.80	103.85
60-8311	61 1/4"	25 1/2"	8 3/32"	145.00	130.50	116.00
60-8312	70"	25 1/2"	8 3/32"	162.80	146.50	130.25
60-8313	78 3/4"	25 1/2"	8 3/32"	180.70	162.65	144.55

45° WEDGES FOR SERIES 60 UPRIGHT RACKS

Catalog No.	For Use Where Panel Space Is	For Use Where Depth Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8400	21"	22"	18 9/32"	$ 88.80	$ 79.90	$ 71.05
60-8401	31 1/2"	22"	18 9/32"	102.80	92.50	82.25
60-8402	42"	22"	18 9/32"	112.00	100.80	89.60
60-8403	52 1/2"	22"	18 9/32"	121.20	109.10	96.95
60-8404	61 1/4"	22"	18 9/32"	137.40	123.65	109.90
60-8405	70"	22"	18 9/32"	150.40	135.35	120.30
60-8406	78 3/4"	22"	18 9/32"	162.80	146.50	130.25
60-8407	21"	25 1/2"	20 61/64"	97.40	87.65	77.90
60-8408	31 1/2"	25 1/2"	20 61/64"	113.60	102.25	90.90
60-8409	42"	25 1/2"	20 61/64"	126.60	113.95	101.30
60-8410	52 1/2"	25 1/2"	20 61/64"	137.40	123.65	109.90
60-8411	61 1/4"	25 1/2"	20 61/64"	152.10	136.90	121.70
60-8412	70"	25 1/2"	20 61/64"	169.90	152.90	135.90
60-8413	78 3/4"	25 1/2"	20 61/64"	188.30	169.45	150.65

15° WEDGES FOR SERIES 60 INCLINED PANEL RACKS

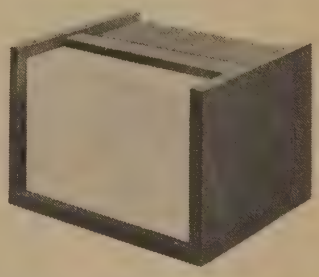
Catalog No.	For Use Where Vertical Panel Space Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8330	29 3/4"	7 3/16"	$124.40	$111.95	$ 99.50
60-8331	24 1/2"	7 3/16"	132.00	118.80	105.60
60-8332	22 3/4"	7 3/16"	132.00	118.80	105.60

45° WEDGES FOR SERIES 60 INCLINED PANEL RACKS

Catalog No.	For Use Where Vertical Panel Space Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8430	29 3/4"	18 9/32"	$130.40	$117.35	$104.30
60-8431	24 1/2"	18 9/32"	139.60	125.65	111.70
60-8432	22 3/4"	18 9/32"	139.60	125.65	111.70



BUD FLIP TOP CABINETS



In recent years, many new cabinets have been brought onto the market, but they have merely been changes in dimensions, in trim, in paint finishes, or in rack design. Now, we are proud to introduce the "FLIP TOP CABINET" which is new in concept, new in design, and TRULY NEW IN ITS OPERATING FEATURE.

The key innovative operating feature is a retractable viewing surface that provides additional "read-off" space.

It is available in four sizes. The three smaller sizes have a welded body, made from 18 ga. steel, with a rear panel permanently welded on. There are knockouts in the rear panel to provide cable access, rear switch operations, etc. The largest size, also fabricated of 18 ga. steel, has a removable 16 ga. panel at the rear. This removable panel, likewise, has knockouts in the lower portion.

The Flip Top feature, made of 18 ga. steel, is activated by a slight pressure applied to the front edge of the hood. This permits the Flip Top to be extended to its open position. A normal pressure on the unit, will close it back to its former position, and secure it in place. An adjustable coil spring can modify the required tension pressure to suit the needs of the user.

An advantage of the retractable top is that switches, control knobs and indicator lights can be mounted on its recessed panel, separated from the instruments mounted on the main panel. This eliminates confusion when all the elements are on a single panel. When the top is closed, any components mounted on its panel are protected from accidental interference.

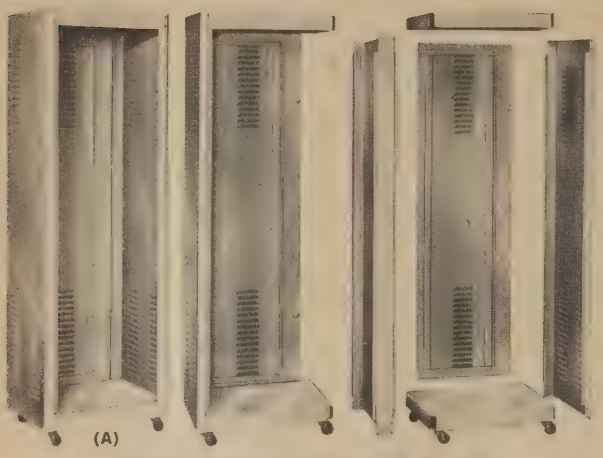
Available in Royal Blue (RB) or Gray (GT) Textured finish. When ordering use these abbreviations as a suffix to the catalog number to designate the color choice. Both Flip-Top and Front panels are white baked enamel .060 aluminum. Four rubber feet attached to bottom to prevent marring of surfaces on which units are placed.

Bud No.	Height	Width	Depth	Flip Top Panel	Front Panel	Wt. Lbs.	Net Each in Lots of 1 - 2	3 - 5	6 - 9
FT-110	8"	10"	10 1/2"	3 1/4" x 8 5/32"	6 3/4" x 8 7/16"	6 1/2	$31.55	$28.40	$25.25
FT-112	8"	12"	10"	3 1/4" x 10 5/32"	6 3/4" x 10 7/16"	7 1/4	34.40	31.85	28.35
FT-117	9 1/2"	17"	11"	3 1/4" x 15 5/32"	8 1/4" x 15 7/16"	11 3/4	41.80	37.60	33.45
FT-120	12"	20 9/16"	22"	4 1/4" x 18 3/4"	10 3/4" x 19"	26	51.30	46.20	41.05

PRICES SUBJECT TO CHANGE

BUD Cabinet Racks, Accessories

DELUXE RELAY RACKS WITH ADD-A-RACK



(A)

(A) Deluxe Relay Racks — High quality relay racks made of 16-gauge steel with 7/64" panel supports. Panel mounting supports are recessed so that no panel edges will be exposed. Both back and sides are fully louvered for best ventilation. Snap catches are positioned on the door. Rounded corners give streamlined appearance. Base constructed with four special supports so that casters may be applied directly to base for mobility. All standard panels fit these racks: 22" wide for 19" panels.

Super Deluxe Series Relay Racks are equipped with adjustable panel mounting supports permitting forward and backward adjustment of panels for more efficient use of space. Adjustable points are at 1" intervals for 9" to 15" clearance behind panels. Super Deluxe Racks are fitted with both front and rear doors, the rear to cover any equipment behind the panel while making it easily accessible. The front door, not louvered, conceals controls on the front panel.

(B) Add-A-Rack Series — Where relay racks are to be joined in series. Provides additional strength and improved appearance. Includes door, top, bottom and coupling unit, all that is needed to make a double relay rack out of a single Deluxe series.

All Racks Listed are shipped knocked-down with all necessary hardware and assembly instructions. Casters optional. When ordering specify finish. Add suffix "HG" for gray hammertone; suffix "GR" for gray Rinkletex; and suffix "BR" for black Rinkletex.

SUPER DELUXE TWO-DOOR RACKS WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-2174	42 1/16"	36 3/4"	102	$86.55	$77.90	$69.25
CR-2171	47 5/16"	42"	104	93.65	84.30	74.90
CR-2172	66 9/16"	61 1/4"	138	120.85	108.85	96.70
CR-2175	75 5/16"	70"	150	129.90	116.90	103.90
CR-2173	82 5/16"	77"	163	145.00	130.50	116.00

DELUXE RELAY RACKS
17 1/8" Overall Depth
WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-1774	42 1/16"	36 3/4"	82	$65.80	$59.20	$52.65
CR-1771	47 5/16"	42"	92	74.60	67.15	59.70
CR-1772	66 9/16"	61 1/4"	115	93.30	83.95	74.65
CR-1780	75 5/16"	70"	125	95.65	86.10	76.50
CR-1773	82 5/16"	77"	135	107.45	96.70	85.95

ADD-A-RACK ASSEMBLIES
Includes door, top, bottom and coupling unit for add-on use with racks indicated.

Bud No.	For Use With Rack No.	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
AR-1778	CR-1774	70	$64.75	$58.30	$51.80
AR-1775	CR-1771	74	68.80	61.90	55.05
AR-1776	CR-1772	100	85.50	76.95	68.40
AR-1779	CR-1780	107	90.40	81.35	72.30
AR-1777	CR-1773	113	105.05	94.55	84.05
AR-2278*	CR-2074	102	71.95	64.75	57.55
AR-2275*	CR-2071	86	81.25	73.15	65.00
AR-2276*	CR-2072	110	101.75	91.60	81.40
AR-2279	CR-2075	120	103.85	93.45	83.10
AR-2277*	CR-2073	130	123.80	111.40	99.05

Use same suffix for color as for original relay rack.

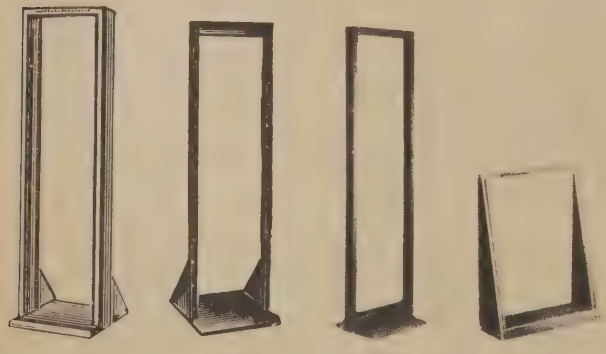
EXTRA DEEP DELUXE RACKS
Same as above except 22 1/8" deep instead of 17 1/2". Add suffix HG for gray hammertone; GR for gray Rinkletex and BR for black Rinkletex.

WITH 19" WIDE PANEL SPACE

CR-2074	42 1/16"	36 3/4"	98	$ 75.30	$ 67.80	$60.30
CR-2071	47 5/16"	42"	102	85.20	76.70	68.10
CR-2072	66 9/16"	61 1/4"	137	112.05	100.85	89.65
CR-2075	75 5/16"	70"	148	114.15	102.75	91.30
CR-2073	82 5/16"	77"	159	133.05	119.75	106.45

STANDARD TELEPHONE-TYPE RELAY RACK (B)
3" channels and crossbars of 7/64" steel. Base is chassis type with side angles. Base drilled for RC-7756 casters.
Black Rinkletex (suffix BR) or gray hammertone (suffix HG).

Bud No.	Height, Overall	Panel Space	Net Each, Lots of 1-9	10-14	15-19	Wt. Lbs.
RR-1263	35 39/64"	31 1/2" x19"	$29.80	$26.80	$23.85	35
RR-1363	40 55/64"	36 3/4" x19"	28.80	25.90	23.05	37
RR-1264	70 39/64"	66 1/2" x19"	34.20	30.80	27.35	46
RR-1364	75 55/64"	71 3/4" x19"	35.85	32.25	28.70	48
RR-1366	81 7/64"	77" x19"	39.25	35.35	31.40	50



A B C D

DELUXE TELEPHONE-TYPE RELAY RACKS (A)

Sturdy rack with extra strength and capacity. U-member is welded with ventilation at top. Panel-mounting rails, front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel. Chassis-type base drilled for RC-7756 casters. Brackets hold uprights to base; holes on both sides for bolting racks together. Add suffix HG for gray hammertone; BR for black Rinkletex; or GR for gray Rinkletex. Nos. RR-1367 - RR-1368 - RR-1369 have 20 7/8" base width and take 19" panels.

Bud No.	Height, Overall	Panel Space	Net Each, Lots of 1-9	10-14	15-19	Wt. Lbs.
RR-1367	64 5/8"	61 1/4" x19"	$56.75	$51.10	$45.40	80
RR-1368	73 3/8"	70" x19"	61.05	54.95	48.85	89
RR-1369	80 3/8"	77" x19"	68.00	61.20	54.40	104

HEAVY-DUTY TELEPHONE-TYPE RELAY RACKS (C)
Two 3 1/2"x5"x1/4", 20 3/8" long angles form base.
Steel channels are 3"x1 3/8", 72 1/4" long. Cross bars are 1/8"x2 3/32" angles.
Panel holes tapped 12-24 with W.E. space. Black Rinkletex finish only.
Usually bolted to floor.

RR-1265	72 1/4"	66 1/2" x19"	$79.40	$71.45	$63.50	69

TABLE-MOUNT TELEPHONE RACK (D)
Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Specify black Rinkletex (suffix "BR") or gray hammertone ("HG").

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
RR-1248	24"	21"	14 1/4	$12.80	$11.50	$10.25
RR-1249	31"	28"	16 3/4	15.10	13.60	12.10

CASTERS

Bud No.	Height	Weight (Set of 4)	Net Each, Lots of 1-49	50-99	100-149
RC-7756	2 5/8"	1 3/4 lbs.	$1.30	$1.15	$1.05
RC-7758	3 1/4"	6 lbs.	3.20	2.90	2.55

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Relay Racks and Panels

STANDARD RELAY RACK PANELS



Choice of ⅛" steel or ⅛" and 3/16" aluminum panels in both 19" and 24" widths. Specify color when ordering, use suffix BR for black Rinkletex; GR for Gray Rinkletex; HG for Gray Hammertone; S for Sand; WH for white; GY for light gray textured; BY for light blue textured. SB for Smooth Light Blue; SG for Smooth Light Gray. Aluminum panels 5005 H-36 or 2024 T-3 alloy.

19" WIDE PANELS

Ht., In.	⅛" STEEL Bud No. PS-	Net Each, Lots of 1-49	50-99	100-149	⅛" ALUMINUM Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1250	$1.45	$1.30	$1.15	1101	$1.60	$1.45	$1.30
3½	1251	1.55	1.40	1.25	1102	2.30	2.05	1.85
5¼	1252	2.10	1.90	1.70	1103	3.00	2.70	2.40
7	1253	2.20	2.00	1.75	1104	3.80	3.40	3.05
8¾	1254	2.95	2.65	2.35	1105	4.35	3.90	3.50
10½	1255	3.40	3.05	2.70	1106	5.50	4.95	4.40
12¼	1256	3.95	3.55	3.15	1107	6.55	5.90	5.25
14	1257	4.40	3.95	3.50	1108	7.35	6.60	5.90
15¾	1258	4.75	4.30	3.80	1109	8.30	7.45	6.65
17½	1259	5.30	4.75	4.25	1110	9.00	8.10	7.20
19¼	1260	5.85	5.25	4.70	1111	9.90	8.90	7.90
21	1261	6.70	6.05	5.35	1112	10.95	9.85	8.75

Ht., In.	3/16" 5005 H-36 Aluminum Panels Standard 19" Wide Panels Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149	⅛" 5005 H-36 Aluminum Panels Standard 24" Wide Panels Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	3101	$2.65	$2.40	$2.10	2401	$2.55	$2.30	$2.05
3½	3102	3.70	3.35	2.95	2402	3.30	2.95	2.65
5¼	3103	4.85	4.35	3.90	2403	4.50	4.05	3.60
7	3104	6.10	5.50	4.90	2404	5.30	4.75	4.25
8¾	3105	7.15	6.45	5.70	2405	6.50	5.85	5.20
10½	3106	8.85	7.95	7.10	2406	8.05	7.25	6.45
12¼	3107	10.25	9.25	8.20	2407	9.00	8.10	7.20
14	3108	11.40	10.25	9.10	2408	10.90	9.80	8.70
15¾	3109	13.25	11.95	10.60	2409	11.65	10.50	9.30
17½	3110	14.60	13.15	11.70	2410	12.20	11.00	9.75
19¼	3111	15.85	14.25	12.70	2411	13.40	12.05	10.70
21	3112	17.50	15.75	14.00	2412	14.75	13.30	11.80

1/8" 2024 T-3 HARD ALUMINUM PANELS

Ht., In.	Bud PA-	Net Each, Lots of 1-49	50-99	100-149	Ht., In.	Bud PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1131	$2.00	$1.80	$1.60	12¼	1137	$6.95	$6.25	$5.55
3½	1132	2.55	2.30	2.05	14	1138	8.15	7.35	6.50
5¼	1133	3.30	2.95	2.65	15¾	1139	8.80	7.90	7.05
7	1134	4.30	3.85	3.45	17½	1140	9.55	8.60	7.65
8¾	1135	4.75	4.30	3.80	19¼	1141	10.35	9.30	8.30
10½	1136	6.15	5.55	4.90	21	1142	11.75	10.60	9.40

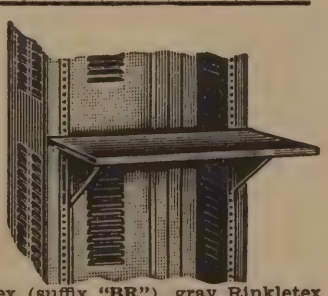
SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on both sides with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard notched sizes.

STANDARD 19" WIDE PANELS

Ht., In.	⅛" ALUMINUM Bud SFA-	Net Each, Lots of 1-49	50-99	100-149	3/16" ALUMINUM Bud SFA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1831	$1.50	$1.35	$1.20	3161	$2.65	$2.40	$2.10
3½	1832	2.30	2.05	1.85	3162	3.80	3.40	3.05
5¼	1833	3.00	2.70	2.40	3163	4.95	4.45	3.95
7	1834	3.80	3.40	3.05	3164	6.10	5.50	4.90
8¾	1835	4.35	3.90	3.50	3165	7.25	6.55	5.80
10½	1836	5.50	4.95	4.40	3166	8.40	7.55	6.70
12¼	1837	6.55	5.90	5.25	3167	10.70	9.65	8.55
14	1838	7.35	6.60	5.90	3168	12.20	11.00	9.75
15¾	1839	8.30	7.45	6.65	3169	13.70	12.35	10.95
17½	1840	9.00	8.10	7.20	3170	15.05	13.55	12.05
19¼	1841	9.90	8.90	7.90	3171	16.55	14.90	13.25
21	1842	10.95	9.85	8.75	3172	17.95	16.15	14.35

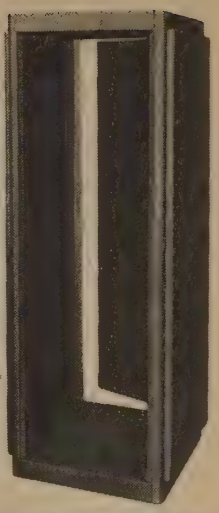
SHELF ASSEMBLY



Useful as a desk, work space, etc. Can't fall off or tilt; will support any reasonable weight. Shelf portion supported by two brackets, punched to fit standard panel mounting strips. No panel support needed. Slides welded to bottom of shelf; mounting brackets slip into slides and fasten with two screws. 16 gauge steel; ½" flange on all four sides; overall height, 7⅛". Brackets are 7" high. Specify black Rinkletex (suffix "BR"), gray Rinkletex (suffix "GR"), or light gray hammertone (suffix "HG") finish

Bud No.	Size, Inches D. x W.	Weight, Lbs.	Net Each, Lots of 1-14	15-24	25-34
SA-1719	16 x 22	14	$14.15	$12.75	$11.30
SA-1720	20 x 22	15	14.35	12.90	11.50

PRESTIGE BALL CORNER RACKS



Attractive, practical housing for permanent or mobile instrumentation. Consists of framework, top, bottom, two ball cornered sides, and a ball corner door. Sides attach to frame by means of a tongue-and-slot arrangement and two screws. Sides easily removable. Drilled and tapped adjustable panel mounting rails on all four vertical members of frame. Doors mount from either left or right. Base takes side panels on any of the four sides. Door and side clearance permits covering of equipment without damage to knobs or controls. Provision made for recessed casters. Extra doors available. Knockout holes for attaching two or more units together. Bottom will support 500 lbs. Panel rails 200 lbs. suspended vertically between rails. Units take Bud SD-1717 sliding drawer assembly or 60-2368 drawer. Shipped knocked-down, with necessary hardware. **Gray hammertone finish only. GH.**

Inside clearance: 21½" x 21⅛"; overall depth with door: 23 3/16", overall width without side panels: 22"; overall width with side panels 24⅛"

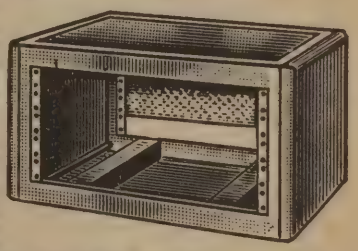
Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-2280	66⅜"	61¼"	179	$162.80	$146.50	$130.25
CR-2281	71 11/16"	66½"	186	166.85	150.15	133.50
CR-2282	82 5/16"	77"	213	187.45	168.70	149.95
DR-2290	Door for CR-2280		28	19.15	17.25	15.30
DR-2291	Door for CR-2281		33	22.45	20.20	17.95
DR-2292	Door for CR-2282		39	25.10	22.60	20.10

PRESTIGE ADD-A-RACKS

Where relay racks are to be joined in series this assembly is lower in cost yet provides additional strength and improved appearance. Consists of top, bottom, rear door and framework. 16 gauge steel. Extra ball corner doors will fit adjustable panel mounting rails which are recessed. Gray hammertone. GH

BUD NO.	Used to Add-A-Rack to	Wt. Lbs.	Net Each, Lots of 1-9	10-14	15-19
AR-2284	CR-2280	120	$123.10	$110.80	$ 98.50
AR-2286	CR-2281	125	133.00	119.70	106.40
AR-2287	CR-2282	136	149.40	134.45	119.50

PRESTIGE BALL CORNERED VERSA-CABINETS



A standard Prestige Versa-Cabinet consists of the framework, two ball cornered sides, perforated metal back, solid bottom plate and two supporting channels.

The front, back, top, and bottom may be quickly removed for access to interior for easy servicing.

Standard 19" panels may be attached to the top, bottom, front or back of cabinet to provide complete closure. Perforated top panel may also be used.

An opening is provided across bottom of back for cable leads, controls or knobs. Size of opening is 1¾" x 19". Bud Steel Panel PS 1250 or Aluminum Panel PA-1101 may be used to close opening if desired. Perforated back may be removed and a standard steel or aluminum panel may be used to close back opening entirely.

Sides are attached by means of holding flanges on the bottom of the frame and nut at top. Handles may be fastened to sides.

Cabinets may be fastened side-to-side in batteries of two or more or may be stacked one on another. Four rubber feet are regularly supplied.

Top may be closed by using PS-1256HG or PA-1107HG solid panels or by using PC-1710 perforated steel top panel.

Clear inside width—22¼". Overall width—23 3/16".
Clear inside depth—15". Overall depth—15 25/32".
Weight 28 to 35 lbs.

Finished in gray hammertone. GH

Bud No.	Height, Overall	Panel Space	Rear Panel	Net Each, Lots of 1-14	15-24	25-34
PC-1700	8¾"	5¼"	3½"	$38.00	$34.20	$30.40
PC-1701	10½"	7"	5¼"	40.20	36.20	32.15
PC-1702	12¼"	8¾"	7"	41.25	37.15	33.00
PC-1703	14"	10½"	8¾"	46.55	41.90	37.25
PC-1704	15¾"	12¼"	10½"	49.05	44.15	39.25

PERFORATED STEEL TOP PLATE

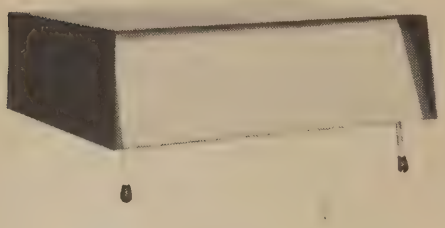
Bud No.	Size, In.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
PC-1710	12¼ x 19	2½	$4.20	$3.80	$3.35

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD CABINETS

New TILT-A-VIEW CABINETS

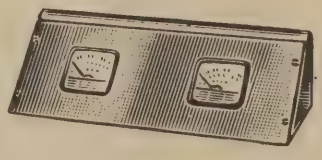


Affords selective vision to viewer who may be observing the action of meters or the position of dials and recorders. Employment of the detachable legs changes the position to any desired angle. Two piece construction permits immediate clear access to interior for installation and servicing.

Fabricated of 18 gauge steel. Lower segment slides into channels and flanges formed in top. Bottom is fastened by screws to the flanges on the lower edge of top. Hooded top shields sloping front panel from overhead glare. No screws appear in front or rear panels. Two 2" high plated legs with rubber feet. Legs screw into base on bottom section. Four rubber feet attached to bottom section. Vinyl texture finish. Gray textured body GT and light sand S panels.

Catalog No.	Sizes, Inches H x W x D	Wgt. Lbs.	1-14	14-24	25-34
TV-2155	4½ x 15 x 10	8½	$ 8.90	$ 8.00	$ 7.10
TV-2156	6½ x 16 x 12	13	10.45	9.40	8.35
TV-2157	8½ x 17 x 14	17	15.20	13.70	12.15

DUAL-VIEW PANEL SUPPORT

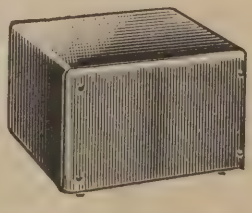


Designed for installation on a rack where an oblique view of instrument panel is desired. Engineered so that the entire assembly occupies no more space than size of supported panel. Panel support cover can be removed for easy servicing or installation of instruments. Made of heavy gauge steel with attractive contoured edges. Comes knocked-down with necessary assembly hardware, but without panels. Bud panels to fit these supports are PS-1253 (steel), and PA-1104 (aluminum) for Model IP-1120; PS-1255 (steel), and PA-1106 (aluminum) for IP-1121. When ordering, the finish which is the same as that of the rack to which it will be attached.

Bud No. IP-1120 — Requires 19" x 7" panel space. Wt., 3½ lbs.
Net Each, Lots of 1-24 ..... **$6.15**
Lots of 25-49, Each ..... **$5.55** Lots of 50-99, Each **$4.90**

Bud No. IP-1121 — Requires 19" x 10½" panel space. Wt., 6¾ lbs.
Net Each, Lots of 1-24 ..... **$8.70**
Lots of 25-49, Each ..... **$7.85** Lots of 50-99, Each **$6.95**

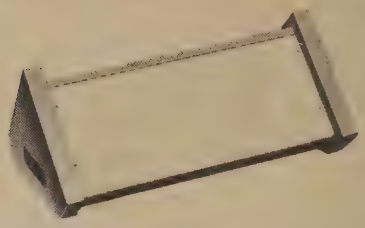
CONTOUR UTILITY CABINETS



Attractively designed utility housing with rounded contour corners. Flanged panels also have rounded corners to preserve the symmetry of design. Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base, prevent scratching surface the unit is placed on. Body is textured, dark grey GG; panel is textured light gray GY.

Bud No.	Overall Size, Inches H.	D.	W.	Net Each, Lots of 1-24	25-49	50 & Over
CU-463	4 7/32	6 7/32	3¾	$ 6.50	$5.25	$5.20
CU-465	4 7/32	6 7/32	5¾	7.45	6.70	5.95
CU-585	5 7/32	8 7/32	5¾	9.55	8.60	7.65
CU-587	5 7/32	8 7/32	7¾	10.50	9.45	8.40
				Lots of 1-49	50-99	100-149
CU-7125	7 7/32	12 7/32	5¾	$ 9.65	$8.70	$7.70
CU-7127	7 7/32	12 7/32	7¾	10.20	9.20	8.15

New MARK T CABINETS

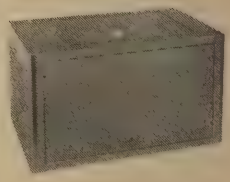


Designed particularly for a housing for controls, dials, meters, switches, lights, etc. Rear door swings open all the way for quick easy access to contents. Comfortable angle for easy viewing.

All welded construction. 16 gauge steel. Removable front panel held by decorative screws. Cam action self adjusting spring latch holds door securely against frame. Piano-type hinge on door. Recessed, safety shielded carrying handles. Four rubber feet included. Gray textured, GT vinyl texture, scratch resistant finish body. Light grey panel and door, GY.

Catalog No.	Width	Panel or Door Area	Wgt. Lbs.	1-14	15-24	25-34
MT-214	16"	5¾" x 14"	9	$31.90	$28.70	$25.50
MT-219	21"	5¾" x 19"	12	34.95	31.45	27.95
MT-224	26"	5¾" x 24"	14½	41.15	37.05	32.90

DELUXE CABINET RACKS



Rounded corners. There is a recessed, hinged door on the top with a snap catch. These racks are made of heavy gauge steel and are of sturdy construction. The five large sizes have a hinged rear door, while the small sizes have a welded panel in the rear. Adequate ventilation is assured by means of louvered sides and a 2½ inch opening in the bottom of the back extends the entire width. "NO-SCRATCH" EXTENDED METAL FEET ARE EMBOSSED ON THE BOTTOM in black Rinkletex (add suffix "BR" to number when ordering), gray Rinkletex (suffix "GR", and hammertone gray (suffix "HG"). Size: 14¾" x 22" w. Fits 19" panels. Full size 12 Ga. steel Relay. Rack Panel included, at no extra cost.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
CR-1726	8 35/64"	7"	28	$20.70	$18.65	$16.55
CR-1741	10 1/16"	8¾"	30	22.05	19.85	17.65
CR-1740	12 1/16"	10½"	34	25.85	23.25	20.70
CR-1742	14 1/16"	12¼"	37	26.65	24.00	21.30
CR-1739	15 13/16"	14"	40	36.10	32.50	28.90
CR-1743*	19 5/16"	17½"	47	35.40	31.85	28.30
CR-1727*	22 13/16"	21"	51	38.00	34.20	30.40
CR-1744*	28 1/16"	26¼"	58	40.85	36.75	32.70
CR-1728*	33 1/16"	31½"	68	43.35	39.00	34.70
CR-1745*	36 13/16"	35"	78	45.55	41.00	36.45

*These sizes have both top and rear doors.

HEAVY DUTY CABINET RACKS

Similar to our Deluxe Cabinet Rack except with greater depth and extra strength. These racks are shipped knocked down with all necessary assembly hardware. Panel mounting rails are an integral part of the sides. Removable rear door. Louvered sides and 2½" x 17⅞" opening in bottom or back assure adequate ventilation. Made of 16 gauge steel. Where it is advantageous to have a bank of these cabinet racks, an Add-a-Cab feature is provided. The method of assembly is the same as our Add-a-Rack series. Specify gray hammertone (HG), black Rinkletex (BR), or gray Rinkletex (GR). Size 17⅞"dia. x 22"w.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
CR-1736	24½"	19¼"	47	$37.20	$33.50	$29.75
CR-1737	31½"	26¼"	56	39.95	35.95	31.95
CR-1738	40¼"	35"	67	47.65	42.90	38.10
ACR-1936	Add-A-Cab for CR-1736		41	37.05	33.35	29.65
ACR-1937	Add-A-Cab for CR-1737		47	45.45	40.90	36.35
ACR-1938	Add-A-Cab for CR-1738		55	47.00	42.30	37.60

Bud Radio, Inc. can furnish enclosures or accessories in 16 standard colors. The description of each product indicates the standard colors for that product. Matched colors are available at extra cost.

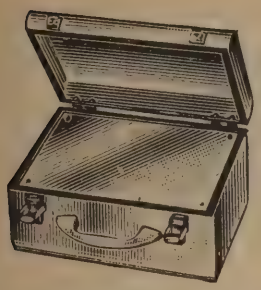
PRICES SUBJECT TO CHANGE

Net

© United Technical Publications

BUD Cases, Racks, Chassis

TRANSICASE PORTABLE INSTRUMENT CASES



Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040" aluminum with flush-fitted aluminum panel. Lid protects instruments in case; mounted on two slide-off, bright nickel plated hinges with toggle catches. Rubber feet at both base and back; metal plugs supplied to fill holes of rubber feet are not used. Bright nickel-plated handle. Specify Color: Add suffix BBY for textured blue; GGY for textured gray.

Bud No.	Inside Panel Size, Inches	Clear Internal Space Below Panel	Clear Internal Space Above Panel	Internal Aperture	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
TC-300	8 15/16 x 5 15/16	4 13/32"	1 15/32"	8" x 5 31/32"	10 1/16 x 7 x 6	2 1/2	$29.20	$26.30	$23.35
TC-301	10 3/8 x 7 1/4	4 13/32"	1 15/32"	9 7/16" x 7 9/32"	11 1/2 x 8 1/4 x 6	3 1/4	29.95	26.95	23.95
TC-302	11 7/8 x 7 15/16	5 29/32"	1 15/32"	10 15/16" x 7 31/32"	13 x 9 x 7 1/2	4	32.00	28.80	25.60
TC-303	15 3/8 x 7 15/16	5 29/32"	1 15/32"	14 7/16" x 7 31/32"	16 1/2 x 9 x 7 1/2	4 3/4	32.55	29.30	26.05
TC-304	19 x 7	7 11/32"	1 15/32"	18 1/16" x 7 1/32"	20 1/8 x 8 x 9	6 3/4	34.30	30.85	27.45

PORTACAB INSTRUMENT CABINETS

PORTACABS



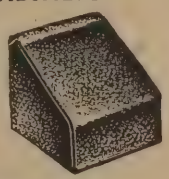
These attractive and versatile cabinets are desirable as housings for instrumentation requiring highly stylized appearance. The body is of one piece .050 aluminum with contoured corners. Panel is .062 aluminum.

Flexible recessed handle permits easy portability as well as vertical stacking. Well louvered for adequate ventilation. Since louveres point inward, side-to-side placement of cabinets is possible without space loss. Welded back has opening.

Front panel mounting flanges ½" wide. Aluminum front panel is recessed ¼". The perimeter of the panel follows the contour of the body. Four detachable rubber feet furnished. Gray hammertone finish only. HG

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of 1-24	25-49	50-99
WA-1540	6 1/8 x 8 x 8	2 1/2	AC-402	$12.45	$11.20	$ 9.95
WA-1541	8 1/8 x 12 x 9	3	AC-407	16.15	14.55	12.90
WA-1542	10 1/8 x 8 x 8	3 1/2	AC-406	14.40	12.95	11.50
WA-1543	11 1/8 x 18 x 11	6 1/2	AC-416	20.00	18.00	16.00
WA-1544	14 1/8 x 18 x 12	7 3/4	AC-420	23.10	20.80	18.50

UNIVERSAL SLOPING PANEL CABINETS



Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Will accommodate Bud Miniature Aluminum Chassis. Size: 4" d. x 4¼" h. Gray hammertone finish only HG

ALUMINUM MODELS

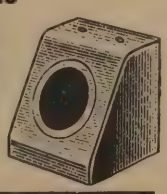
Aluminum alloy 5005 H-14.

Bud No.	Width	Wt.	Net Each, Lots of 1-24	25-49	50-99
AC-1610	4"	6 oz.	$2.65	$2.40	$2.10
AC-1611	5"	8 oz.	2.55	2.30	2.05
AC-1612	6"	9 oz.	2.75	2.50	2.20
AC-1613	7"	10 oz.	3.10	2.80	2.50

STEEL MODELS

C-1606	4"	1 lb.	$2.10	$1.90	$1.70
C-1607	5"	1 lb.	2.20	2.00	1.75
C-1608	6"	1¼ lbs.	2.40	2.15	1.90
C-1609	7"	1½ lbs.	2.75	2.50	2.20

UNIVERSAL METER CASES



Center hole punched for 2" meters, plus easily removed knock-out ring to provide fit for 3" meters. Single piece detachable back and sides fastened to case with self-tapping screws for easy installation and servicing. Two ¾" knock-out holes in top provide for installation of feed-through insulators, switches, volume controls, etc. HG finish only. Size: 4¼" h. x 4" w. x 4" d.

Bud No.	Construction	Weight, Lbs.	Net Each, Lots of 1-49	50-99	100-149
CM-1935	Steel	¾	$1.85	$1.65	$1.50
CMA-1936	Aluminum	¼	2.10	1.90	1.70

WIDE UNIVERSAL METER CASE

Same as above, except extra wide to permit installation of small components along with a meter or accommodate a 4" meter. Made of 5005 H-14 aluminum. Size: 4¼" h. x 6" w. x 4" d.

CMA-1930	Aluminum	¾	$3.65	$3.30	$2.90

MINIATURE UTILITY CABINETS

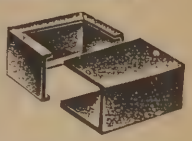


Ideal housing for construction of electronic devices using miniature tubes and transistorized circuitry. Front panel has a built-on chassis. Both front and rear panels are removable; fastened by self-tapping screws. Black Rinkletex. BR

Bud No.	Size, In. H. x W. x D.	Chassis W. x D., In.	Net Each, Lots of 1-49	50-99	100-149
C-1793	4 x 4 x 2	3 1/8 x 1 7/8*	$1.85	$1.65	$1.50
C-1794	4 x 5 x 3	4 1/8 x 2 7/8*	2.10	1.90	1.70
C-1795	5 x 4 x 3	3 1/8 x 2 7/8†	2.30	2.05	1.85
C-1796	6 x 5 x 4	4 1/8 x 3 7/8‡	2.40	2.15	1.90
C-1797	5 x 6 x 4	5 1/8 x 3 7/8†	2.75	2.50	2.20
C-1798	6 x 6 x 6	4 7/8 x 5 7/8‡	3.30	2.95	2.65

*1" high. †1¼" high. ‡1¾" high.

MINI BOXES, HANDY BOXES



Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. Either **snap-lock or screw type.** The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and gray hammertone finish. BR

GRAY HAMMERTONE MINIBOXES

Bud No.	Size, Inches L. x H. x W.	Wt. Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-2100A	2¾ x 2⅛ x 1⅝	¼	$1.00	$ .90	$ .80
CU-2101A	3¼ x 2⅛ x 1⅝	¼	1.00	.90	.80
CU-2102A	4 x 2⅛ x 1⅝	¼	1.10	1.00	.90
CU-2103A	4 x 2¼ x 2¼	¼	1.20	1.10	.95
CU-2104A	5 x 2¼ x 2¼	¼	1.30	1.15	1.05
CU-2105A	5 x 4 x 3	½	1.65	1.50	1.30
CU-2106A	5¼ x 3 x 2⅛	¼	1.45	1.30	1.15
CU-2107A	6 x 5 x 4	¾	2.10	1.90	1.70
CU-2108A*	7 x 5 x 3	¾	2.40	2.15	1.90
CU-2109A*	8 x 6 x 3½	1	3.10	2.80	2.50
CU-2110A*	10 x 6 x 3½	1¼	3.40	3.05	2.70
CU-2111A*	12 x 7 x 4	1¾	4.60	4.15	3.70
CU-2112A*	17 x 5 x 4	2¼	4.60	4.15	3.70
CU-2113A*	10 x 2 x 1⅝	½	1.75	1.60	1.40
CU-2114A*	12 x 2½ x 2¼	¾	2.30	2.05	1.85
CU-2115A	4 x 2 x 2¾	¼	1.20	1.10	.95
CU-2116A	4¼ x 2¼ x 1½	¼	1.20	1.10	.95
CU-2117A	3¼ x 2⅛ x 1⅛	¼	1.20	1.10	.95

NATURAL FINISH MINIBOXES

CU-3000A	2¾ x 2⅛ x 1⅝	¼	$ .90	$ .80	$ .70
CU-3001A	3¼ x 2⅛ x 1⅝	¼	.90	.80	.70
CU-3002A	4 x 2⅛ x 1⅝	¼	.90	.80	.70
CU-3003A	4 x 2¼ x 2¼	¼	1.10	1.00	.90
CU-3004A	5 x 2¼ x 2¼	¼	1.20	1.10	.95
CU-3005A	5 x 4 x 3	½	1.20	1.10	.95
CU-3006A	5¼ x 3 x 2⅛	¼	1.20	1.10	.95
CU-3007A	6 x 5 x 4	¾	1.55	1.40	1.25
CU-3008A*	7 x 5 x 3	¾	2.00	1.80	1.60
CU-3009A*	8 x 6 x 3½	1	2.55	2.30	2.05
CU-3010A*	10 x 6 x 3½	1¼	2.75	2.50	2.20
CU-3011A*	12 x 7 x 4	1¾	3.85	3.45	3.10
CU-3012A*	17 x 5 x 4	2¼	3.85	3.45	3.10
CU-3013A*	10 x 2 x 1⅝	½	1.45	1.30	1.15
CU-3014A*	12 x 2½ x 2¼	¾	2.00	1.80	1.60
CU-3015A	4 x 2 x 2¾	¼	1.10	1.00	.90
CU-3016A	4¼ x 2¼ x 1½	¼	1.10	1.00	.90
CU-3017A	3¼ x 2⅛ x 1⅛	¼	.90	.80	.70

* .050 Alum.

HANDY BOXES

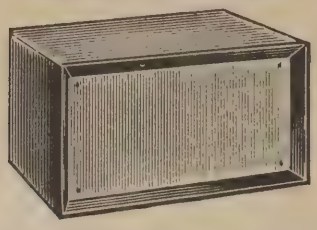
Similar to Miniboxes in design and construction, except made of 22 gauge steel. Black Rinkletex BR finish only. Screw type only.

HB-1621	4¼ x 2¼ x 1½	½	$2.05	$1.85	$1.65
HB-1622	4 x 2 x 2¾	½	2.05	1.85	1.65

PRICES SUBJECT TO CHANGE

BUD Cabinets, Foundations

SHADOW CABINETS



An extremely versatile housing since both front and rear panels as well as the bottom may be removed for installation or servicing purposes. Unusually attractive appearance is created by recessing the front panel one inch as well as by beveling the front edges of the body.

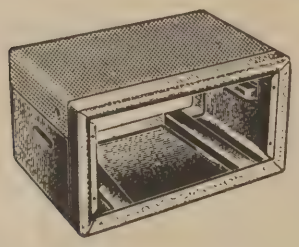
The recessed front panel prevents accidental movement of controls, knobs, and switches attached to it.

The two piece body of the shadow cabinet is made of 18 gauge steel and the panels of 16 gauge steel. Finish is light gray hammertone. HG

Four rubber feet attached to the bottom of the cabinet eliminate marring of the surface on which it may be placed.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis No.	Net Each, Lots of 1-24	25-49	50-99
SB-2140	14¼ x 8 x 10	AC-424, CB-704	$9.80	$8.80	$7.85
SB-2141	13¼ x 7½ x 9	AC-407, CB-1193	7.80	7.00	6.25
SB-2142	17 x 9½ x 11	AC-411, CB-666	13.10	11.80	10.50
SB-2143	15½ x 6 x 9	AC-409, CB-1194	7.50	6.75	6.00

STANDARD PRESTIGE CABINETS

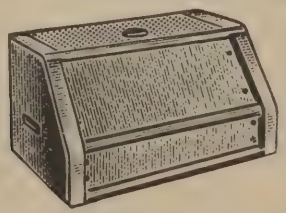


Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19" panels. With embossed feet. Size: 21⅝" w. 14¾" d. overall. Gray hammertone finish. HG

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
C-1440	9 9/16"	7"	25	$40.05	$36.05	$32.05
C-1441	11 5/16"	8¾"	26	42.25	38.05	33.80
C-1442	13 1/16"	10½"	28½	44.00	39.60	35.20
C-1550*	9 9/16"	7"	23½	43.35	39.00	34.70
C-1551*	11 5/16"	8¾"	25	45.10	40.60	36.10
C-1552*	13 1/16"	10½"	27½	47.65	42.90	38.10

*With perforated cover; others solid.

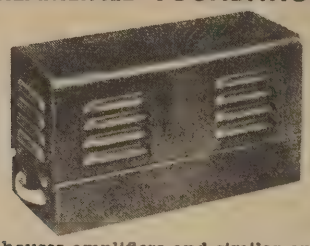
PRESTIGE SLOPING PANEL CABINETS



Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19" panels. Shielded lifting handles. Rear opening 2½" x 18" for controls, etc.; panel recess 1¼"; bottom panel 3½" high. Size: 22" w. x 9" top depth. Gray hammertone finish only. Weight, 26, 28 and 31 lbs.

Bud No.	Size, In. H. x D.	Slope Height	Net Each, Lots of 1-14	15-24	25-34
C-1555	11⅞ x 14⅜	7"	$48.20	$43.40	$38.55
C-1556	13¼ x 15⅛	8¾"	51.80	46.60	41.45
C-1557	14¾ x 16⅛	10½"	55.55	50.00	44.45

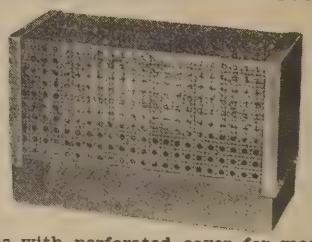
STREAMLINED FOUNDATIONS



Attractive unit houses amplifiers and similar apparatus. Standard chassis with removable top cover. Sides and ends louvered. Handles attached to chassis. Overall height, 9"; chassis 2½" high. Specify black Rinkletex (suffix BR), or gray Rinkletex (suffix GR).

Bud No.	Size, In. W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-1750	10⅛ x 5	4¼	$10.00	$ 9.00	$ 8.00
CA-1751	12⅛ x 7	5¾	11.90	10.70	9.50
CA-1752	17⅛ x 7	7	12.65	11.40	10.10
CA-1753	17¼ x 10	9¾	13.65	12.30	10.90

STANDARD FOUNDATIONS

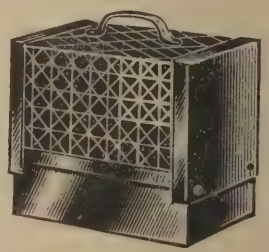


Standard chassis with perforated cover for maximum ventilation. Handles are attached to chassis. Chassis 2½" h., except CA-1128, 3" h. Overall height, 8 5/16", except CA-1128, 8 13/16". Black Rinkletex finish only. BR

Bud No.	Size, Inches W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-699	9⅜ x 5⅛	3¾	$8.35	$7.50	$6.70
CA-1125	13⅝ x 5⅛	5	8.70	7.85	6.95
CA-1126	17⅛ x 7⅛	7¼	9.80	8.80	7.85
CA-1128	12⅛ x 10⅛	6½	10.10	9.10	8.10

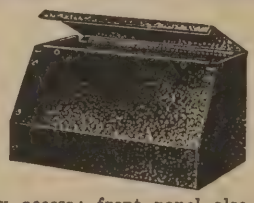
MINIATURE AMPLIFIER FOUNDATION

With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is 5" x 7" x 2". Height, 6". The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Black Rinkletex. 1½ lbs.



Bud No.	Net Each, Lots of 1-24	25-49	50-99
CA-1754	$5.95	$5.35	$4.75

SLOPING PANEL CABINETS



Hinged top for easy access; front panel also removable. Specify black Rinkletex (suffix "BR") or gray hammertone (suffix "HG").

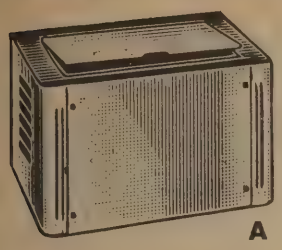
Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-1584	6½ x 7⅛ x 7⅛	2¾	$4.65	$4.20	$3.70
C-1587	8 x 8⅛ x 8	4	6.15	5.55	4.90
C-1585	6½ x 9⅛ x 7⅛	3½	5.10	4.60	4.10
C-1588	8 x 10⅛ x 8	4½	6.80	6.10	5.45
C-1586	6½ x 11⅛ x 7⅛	3¾	5.85	5.25	4.70
C-1894	8 x 14⅛ x 8	6	7.25	6.55	5.80
C-1892	8 x 13⅛ x 8½	5½	8.00	7.20	6.40
C-1896	9 x 18⅛ x 8½	9¾	10.15	9.15	8.10
C-1893	10 x 18⅛ x 10½	12½	10.60	9.55	8.50

PRICES SUBJECT TO CHANGE

Net

© United Technical Publications

BUD Cabinets, Cases, Boxes


A


B


C


D

STREAMLINED CABINETS (Fig. A)

Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Recommended for use with Bud Open End Chassis. Back opening 3¼" h. provides for cables or rear controls; louvered sides provide ample ventilation. Size: 8¼" d. x 8" h., overall. Specify black Rinkletex "BR", gray Rinkletex "GR" or gray hammertone "HG" finish.

Bud No.	Width, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CD-1480	10½"	8" x 8"	5¾	$8.35	$7.50	$6.70
CD-1481	12½"	8" x 10"	6	8.45	7.60	6.75
CD-1482	14½"	8" x 12"	6½	9.00	8.10	7.20
CD-1483	16½"	8" x 14"	7	9.70	8.75	7.75
CD-1484	18½"	8" x 16"	7¾	10.35	9.30	8.30
CD-1485*	20¾"	12" x 18"	15	20.15	18.15	16.10

*Depth is 12".

INSTRUMENT AND RECEIVER CABINETS (Fig. B

Economy version of the Streamlined Cabinet series. Recessed, hinged cover provides access to contents. Front panel is attached with self-tapping screws. Louvers provide ample ventilation. Bud Open End Chassis are suited for use with these units. Black Rinkletex finish only. BR

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-973	7 x 8 x 8	4¾	$6.25	$5.65	$5.00
C-993	7 x 10 x 8	5	7.15	6.45	5.70
C-994	7 x 12 x 8	6	7.35	6.60	5.90
C-995	7 x 14 x 8	7	2.90	2.70	2.30
C-1190	8 x 16 x 8	8½	11.20	10.10	8.95
C-975	9 x 15 x 11	12¼	13.65	12.30	10.90
C-999	12 x 18 x 12	18¼	14.75	13.30	11.80

METAL UTILITY CABINETS (Fig. C)

Highly useful housing for all types of electronic equipment such as mixers, monitors, frequency meters, etc. Both front and back panels are removable for easy accessibility.

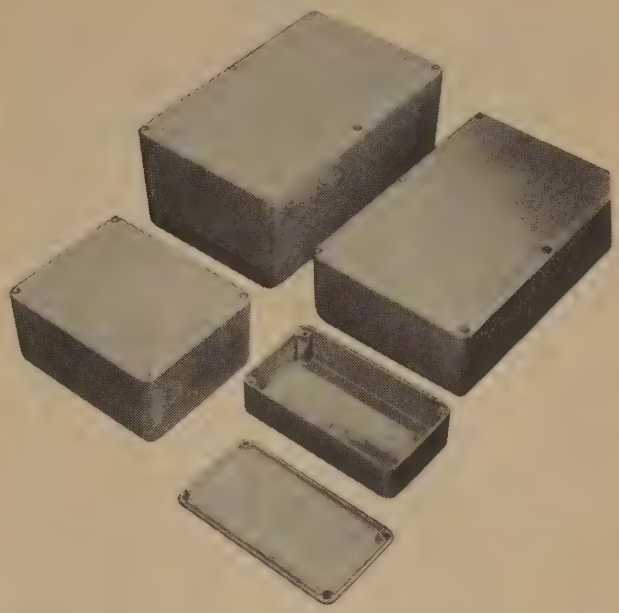
STEEL CABINETS

Specify black Rinkletex (suffix "BR") or gray hammertone (suffix "HG") finish.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-883	2 x 4 x 4	¾	$1.45	$1.30	$1.15
CU-728	3 x 5 x 4	1	1.75	1.60	1.40
CU-729	4 x 5 x 6	1¾	2.00	1.80	1.60
CU-1098	6 x 6 x 6	2¼	3.10	2.80	2.50
CU-1099	5 x 6 x 9	3	3.30	2.95	2.65
CU-879	7 x 8 x 10	3¼	4.50	4.05	3.60
CU-1124	6 x 7 x 12	5	4.40	3.95	3.50
CU-880	8 x 10 x 10	6¼	5.45	4.90	4.35
CU-881	8 x 11 x 12	8½	6.00	5.40	4.80
CU-882	7 x 9 x 15	8¼	6.10	5.50	4.90
NATURAL FINISH ALUMINUM CABINETS*					
AU-1083	2 x 4 x 4	¼	$2.00	$1.80	$1.60
AU-1028	3 x 5 x 4	½	2.00	1.80	1.60
AU-1029	4 x 5 x 6	¾	2.20	2.00	1.75
AU-1039	6 x 6 x 6	1	3.10	2.80	2.50
AU-1040	5 x 6 x 9	1½	3.65	3.30	2.90
GRAY HAMMERTONE ALUMINUM CABINETS*					
AU-1083HG	2 x 4 x 4	¼	$2.20	$2.00	$1.75
AU-1028HG	3 x 5 x 4	½	2.55	2.30	2.05
AU-1029HG	4 x 5 x 6	¾	2.65	2.40	2.10
AU-1039HG	6 x 6 x 6	1	3.50	3.15	2.80
AU-1040HG	5 x 6 x 9	1½	4.40	3.95	3.50

*Aluminum alloy 5005 H-14.

ECONOBOXES



For applications requiring a sturdier structure than a sheet metal utility cabinet, Bud now offers this line of die-cast aluminum boxes. The close fitting flanged lids are fastened to bosses in the body by means of screws. This feature together with the thickness of the aluminum alloy combine to provide excellent screening properties. The boxes, cast of LM-380 aluminum, are light in weight and easy to machine. These enclosures are suitable for a number of uses including instrument and meter cases, filter networks, junction boxes, switching, audio and radio frequency distributors plus many other purposes where a small box is called for. Especially desired for concealed or other interior use where safety closure is required.

Bud. No.	Ext. Dim. In. L. x W. x D.	Clear Int. Dim. In. L. x W. x D.	Wt. Lbs.	Net each in lots of 1-24	25-49	50-99
CU-124	4⅜x2⅜x1⅛	4x2x1	½	$1.55	$1.40	$1.25
CU-234	4 11/16x3 11/16x2⅛	4 5/16x3 5/16x1 31/32	¾	2.50	2.25	2.00
CU-247	7⅜x4 11/16x2⅛	7x4 5/16x1 31/32	1¼	4.10	3.70	3.30
CU-347	7⅜x4 11/16x3 1/16	7x4 5/16x2 31/32	1½	4.40	3.95	3.50

CARRYING CASES (Fig. D)

A versatile cabinet that accepts a variety of equipment. Removable front and back panels; handle may be attached to top. Available in sturdy steel or lightweight aluminum to suit your requirements.

STEEL CASES

Specify black Rinkletex (suffix "BR") or gray hammertone (suffix "HG") finish when ordering.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CC-1095	5 x 6 x 9	3	$4.50	$4.05	$3.60
CC-1091	5 x 9 x 6	3	4.50	4.05	3.60
CC-1096	6 x 7 x 12	5¼	6.25	5.65	5.00
CC-1092	6 x 12 x 7	5	6.25	5.65	5.00
CC-1097	7 x 7¾ x 15	7¼	6.95	6.25	5.55
CC-1100	8 x 10 x 10	7	7.15	6.45	5.70
CC-1093	7 x 15 x 9	8	8.70	7.85	6.95

NATURAL FINISH ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095	5 x 6 x 9	1½	$4.60	$4.15	$3.70
ACC-2091	5 x 9 x 6	1½	4.60	4.15	3.70
ACC-2096	6 x 7 x 12	2½	6.95	6.25	5.55
ACC-2092	6 x 12 x 7	2½	6.95	6.25	5.55

GRAY HAMMERTONE ALUMINUM CASES*

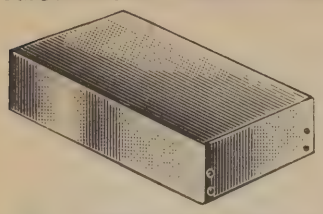
Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095HG	5 x 6 x 9	1½	$5.30	$4.75	$4.25
ACC-2091HG	5 x 9 x 6	1½	5.30	4.75	4.25
ACC-2096HG	6 x 7 x 12	2½	8.05	7.25	6.45
ACC-2092HG	6 x 12 x 7	2½	8.05	7.25	6.45

*Aluminum alloy 5005 H-14.

PRICES SUBJECT TO CHANGE

BUD Chassis and Accessories

ALUMINUM CHASSIS BASES



Each chassis is made from a single sheet of aluminum. All bases are welded on the latest type of welders by experienced operators. All corners are reinforced. Natural finish aluminum alloy 5005 H14. All four sides are folded at bottom for extra strength and rigidity. Now 63 sizes.

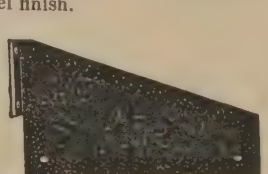
Bud No.	Width, In.	Lgth., In.	Ht., In.	Gauge	Net Each, Lots of 1-24	25-49	50-99
AC-1401*	2½	4½	1	18	$1.45	$1.30	$1.15
AC-1402*	3½	4½	1	18	1.45	1.30	1.15
AC-1403*	3½	5½	1	18	1.45	1.30	1.15
AC-1404*	4	5	2	18	1.75	1.60	1.40
AC-1405*	4	6	1½	18	1.55	1.40	1.25
AC-430	4	6	3	18	2.00	1.80	1.60
AC-431	4	6	2	18	1.75	1.60	1.40
AC-1406*	4	8	2	18	2.00	1.80	1.60
AC-432	4	17	3	16	3.40	3.05	2.70
AC-1407*	4½	8	1½	18	1.75	1.60	1.40
AC-402	5	7	2	18	1.90	1.79	1.50
AC-429	5	7	3	18	2.10	1.90	1.70
AC-1408*	5	9	1½	18	1.75	1.60	1.40
AC-1409*	5	9½	1½	18	1.85	1.65	1.50
AC-403	5	9½	2	18	2.00	1.80	1.60
AC-401	5	9½	2½	18	2.30	2.05	1.85
AC-421	5	9½	3	18	2.40	2.15	1.90
AC-404	5	10	3	18	2.40	2.15	1.90
AC-422	5	13	3	18	2.75	2.50	2.20
AC-1410*	5	13½	2½	18	2.30	2.05	1.85
AC-1411*	5½	5½	1	18	1.65	1.50	1.30
AC-1412*	5½	9½	1½	18	1.85	1.65	1.50
AC-1413*	6	8	2	18	2.00	1.80	1.60
AC-1414*	6	14	3	16	3.65	3.30	2.90
AC-433	6	17	3	16	4.10	3.70	3.30
AC-405	7	7	2	18	2.00	1.80	1.60
AC-406	7	9	2	18	2.10	1.90	1.70
AC-407	7	11	2	18	2.40	2.15	1.90
AC-408	7	12	3	18	2.95	2.65	2.35
AC-409	7	13	2	18	2.55	2.30	2.05
AC-1415*	7	15	2	16	3.20	2.90	2.55
AC-411	7	15	3	16	4.05	3.65	3.25
AC-1416*	7	17	2	16	3.65	3.30	2.90
AC-1417*	7	17	2½	16	3.75	3.40	3.00
AC-423	7	17	3	16	4.10	3.70	3.30
AC-1418*	8	10	2½	18	3.10	2.80	2.50
AC-1419*	8	12	2½	16	3.65	3.30	2.90
AC-424	8	12	3	16	3.50	3.15	2.80
AC-425	8	17	2	16	3.65	3.30	2.90
AC-412	8	17	3	16	4.15	3.75	3.30
AC-1420*	8½	15	3	16	3.85	3.45	3.10
AC-1421*	9	15	3	16	4.40	3.95	3.50
AC-413	10	12	3	16	4.15	3.75	3.30
AC-414	10	14	3	16	4.20	3.80	3.35
AC-415	10	17	2	16	4.10	3.70	3.30
AC-416	10	17	3	16	4.75	4.30	3.80
AC-427	10	17	4	14	6.60	5.95	5.30
AC-1422*	10	17	5	16	9.55	8.60	7.65
AC-1423*	10	23	3	14	6.95	6.25	5.55
AC-426	11	17	2	14	5.05	4.55	4.05
AC-417	11	17	3	14	5.85	5.25	4.70
AC-1424*	12	12	3	16	4.20	3.80	3.35
AC-1425*	12	17	2	16	5.30	4.75	4.25
AC-418	12	17	3	14	5.95	5.35	4.75
AC-419	13	17	2	14	5.30	4.75	4.25
AC-420	13	17	3	14	6.25	5.65	5.00
AC-428	13	17	4	14	7.70	6.95	6.15
AC-1426*	13	17	5	14	10.45	9.40	8.35
AC-1427*	14	17	3	14	7.50	6.75	6.00
AC-1428*	15	17	4	14	10.45	9.40	8.35
AC-1429*	15	17	6	14	14.30	12.85	11.45
AC-1430*	17	17	3	14	8.80	7.90	7.05
AC-1431*	17	17	4	14	12.45	11.20	9.95

*Denotes new size

CHASSIS MOUNTING BRACKETS

Mounts chassis to panels, essential when panel supports entire chassis weight. Heavy gauge steel 6½" high, cut away at bottom to mount flush to panel. Black enamel finish.

Bud No.	Depth, In.	Net Per Pair, Lots of 1-49	50-99	100-149
MB-458	8	$1.75	$1.60	$1.40
MB-448	10	1.75	1.60	1.40
MB-459	11	2.00	1.80	1.60
MB-449	12	2.30	2.05	1.85
MB-460	13	2.20	2.00	1.75
MB-450*	10	2.55	2.30	2.05
MB-451*	13	2.75	2.50	2.20



*8½" high for chassis height of 4".

TRIANGULAR MOUNTING BRACKETS

Ideal for rigid support of shelves to take heavy loads. Heavy gauge steel with ¾" flange. Black enamel finish only.

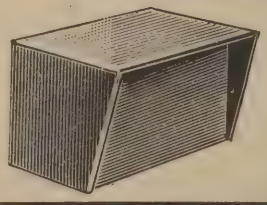
Bud No.	Height, In.	Depth, In.	Wt., Lbs.	Net Per Pair, Lots of 1-49	50-99	100-149
MB-1266	5	5	½	$1.45	$1.30	$1.15
MB-1267	7	7	1	1.55	1.40	1.25
MB-1268	9	9	1½	1.90	1.70	1.50

ALUMINUM BOTTOM PLATES

42 sizes to fit all Bud chassis. Made of 5005 H14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface on which they rest. Fit snuggly on bottom of chassis.

Bud No.	Fits Chassis Width In.	Length In.	1-49	50-99	100-149
BPA-1501*	2½	4½	$ .75	$ .70	$ .60
BPA-1502*	3½	4½	.90	.80	.70
BPA-1503*	3½	5½	.90	.80	.70
BPA-1504*	4	5	.90	.80	.70
BPA-1505*	4	6	.90	.80	.70
BPA-1506*	4	8	1.10	1.00	.90
BPA-1532*	4	17	1.10	1.00	.90
BPA-1507*	4½	8	1.20	1.10	.95
BPA-1589	5	7	1.00	.90	.80
BPA-1508*	5	9	1.00	.90	.80
BPA-1590	5	9½	1.00	.90	.80
BPA-1591	5	10	1.00	.90	.80
BPA-1509*	5	13	1.55	1.40	1.25
BPA-1510*	5	13½	1.55	1.40	1.25
BPA-1511*	5½	5½	1.00	.90	.80
BPA-1512*	5½	9½	1.10	1.00	.90
BPA-1513*	6	8	1.20	1.10	.95
BPA-1514*	6	14	1.55	1.40	1.25
BPA-1515*	6	17	2.00	1.80	1.60
BPA-1592	7	7	1.00	.90	.80
BPA-1593	7	9	1.10	1.00	.90
BPA-1594	7	11	1.20	1.10	.95
BPA-1595	7	12	1.45	1.30	1.15
BPA-1596	7	13	1.55	1.40	1.25
BPA-1516*	7	15	1.75	1.60	1.40
BPA-1517*	7	17	1.75	1.60	1.40
BPA-1518*	8	10	1.65	1.50	1.30
BPA-1519*	8	12	2.00	1.80	1.60
BPA-1520*	8	17	2.10	1.90	1.70
BPA-1521*	8½	15	2.40	2.15	1.90
BPA-1522*	9	15	2.55	2.30	2.05
BPA-1523*	10	12	2.00	1.80	1.60
BPA-1524*	10	14	2.00	1.80	1.60
BPA-1597	10	17	2.00	1.80	1.60
BPA-1525*	10	23	2.95	2.65	2.35
BPA-1526*	11	17	2.20	2.00	1.75
BPA-1527*	12	12	2.20	2.00	1.75
BPA-1528*	12	17	2.65	2.40	2.10
BPA-1598	13	17	2.85	2.55	2.30
BPA-1529*	14	17	2.85	2.55	2.30
BPA-1530*	15	17	3.85	3.45	3.10
BPA-1531*	17	17	3.95	3.55	3.15

COWL-TYPE MINIBOXES



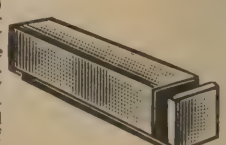
The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040" aluminum and available in natural or light hammertone gray finish. (HG)

Bud No.	Overall Size, Inches H.	W.	D.	Net Each, Lots of - 1-49	50-99	100 & Over
SC-2130*	6	10	7	$8.05	$7.25	$6.45
SC-2131*	7	12	8	8.80	7.90	7.05
SC-2132*	3	8	5	4.75	4.30	3.80
SC-2133*	5	5	5	4.75	4.30	3.80
SC-3030†	6	10	7	5.85	5.25	4.70
SC-3031†	7	12	8	6.40	5.75	5.10
SC-3032†	3	8	5	3.30	2.95	2.65
SC-3033†	5	5	5	3.50	3.15	2.80

*Painted light gray hammertone. †Natural aluminum finish.

MINISLIDES

Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibility achieved by removing sliding cover. Design of Mini-slide Box provides adequate shielding and protection from dust. Sturdily made of .050 aluminum. 4 self-tapping fastening screws included. Choice of gray hammertone (HG) or natural aluminum (NA).



Bud No.	Finish	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
MS-2150	(GH)	3⅛ x 13 x 2⅝	1	$5.15	$4.65	$4.10
MS-2151	(GH)	5⅛ x 13 x 2⅝	1½	5.85	5.25	4.70
MS-2152	(GH)	3⅛ x 17 x 2⅝	1¼	5.70	5.15	4.55
MS-3050	(NA)	3⅛ x 13 x 2⅝	1	3.85	3.45	3.10
MS-3051	(NA)	5⅛ x 13 x 2⅝	1½	4.75	4.30	3.80
MS-3052	(NA)	3⅛ x 17 x 2⅝	1¼	4.50	4.05	3.60

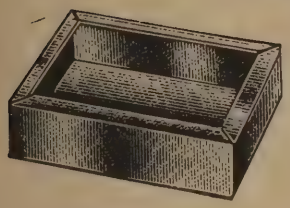
PRICES SUBJECT TO CHANGE

Net

© United Technical Publications

BUD Chassis and Accessories

STEEL CHASSIS BASES



Chassis are fabricated from a single sheet of steel. 20 gauge is used unless otherwise indicated. All four sides are folded at bottom for additional rigidity and strength.

Available in zinc plated or black Rinkletex finish. BR

Size, Inches D. x W. x H.	Zinc Plated Bud CB-	Net Each, Lots of 1-24	25-49	50-99	Black Rinkletex Bud CB-	Net Each, Lots of 1-24	25-49	50-99
5 x 7 x 2	629*	$2.00	$1.80	$1.60	628*	$1.55	$1.40	$1.25
4½ x 8 x 1½	102*	2.20	2.00	1.75	.....	.....	.....	.....
5 x 9 x 1½	103*	2.00	1.80	1.60	.....	.....	.....	.....
5 x 9½ x 2½	645*	2.55	2.30	2.05	644*	2.00	1.80	1.60
5 x 9½ x 1½	776*	2.55	2.30	2.05	788*	1.75	1.60	1.40
5 x 10 x 3	605*	2.60	2.35	2.10	604*	2.00	1.80	1.60
5 x 13 x 3	105	3.20	2.90	2.55	.....	.....	.....	.....
6 x 8 x 2	104	2.20	2.00	1.75	.....	.....	.....	.....
6 x 14 x 3	756	3.10	2.80	2.50	755	2.55	2.30	2.05
7 x 7 x 2	1191	2.30	2.05	1.85	789	2.00	1.80	1.60
7 x 9 x 2	1192	2.30	2.05	1.85	790	2.00	1.80	1.60
7 x 11 x 2	1193	2.55	2.30	2.05	791	2.10	1.90	1.70
7 x 12 x 3	793	3.10	2.80	2.50	792	2.30	2.05	1.85
7 x 13 x 2	1194	2.75	2.50	2.20	646	2.20	2.00	1.75
5 x 13½ x 2½	1198	3.20	2.90	2.55	647	2.55	2.30	2.05
7 x 15 x 3	1189	3.65	3.30	2.90	649	2.95	2.65	2.35
8½ x 15 x 3	666	4.10	3.70	3.30	665	3.20	2.90	2.55
4 x 17 x 3	1066	3.10	2.80	2.50	1068	2.65	2.40	2.10
7 x 17 x 2½	1199	3.30	2.95	2.65	648	3.00	2.70	2.40
7 x 17 x 3	758	3.75	3.40	3.00	757	3.20	2.90	2.55
8 x 10 x 2½	702	2.95	2.65	2.35	701	2.55	2.30	2.05
8 x 12 x 2½	704	3.20	2.90	2.55	703	2.55	2.30	2.05
8 x 12 x 3	760	3.40	3.05	2.70	759	2.65	2.40	2.10
8 x 17 x 2	774	3.40	3.05	2.70	650	2.55	2.30	2.05
8 x 17 x 3	775	3.75	3.40	3.00	651†	3.10	2.80	2.50
10 x 12 x 3	1195	3.50	3.15	2.80	652	2.75	2.50	2.20
12 x 12 x 3	106‡	4.60	4.15	3.70	.....	.....	.....	.....
10 x 14 x 3	779	3.50	3.15	2.80	653	3.10	2.80	2.50
10 x 17 x 2	769	3.50	3.15	2.80	654†	2.95	2.65	2.35
10 x 17 x 3	637	4.20	3.80	3.35	636†	2.95	2.65	2.35
10 x 17 x 3	1196‡	4.40	3.95	3.50	655†‡	3.65	3.30	2.90
10 x 23 x 3	1197‡	5.05	4.55	4.05	656‡	4.30	3.85	3.45
11 x 17 x 2	770‡	4.20	3.80	3.35	657†‡	3.40	3.05	2.70
11 x 17 x 3	771‡	5.15	4.65	4.10	658†‡	4.10	3.70	3.30
12 x 17 x 2	661‡	4.50	4.05	3.60	663†‡	3.75	3.40	3.00
12 x 17 x 3	662‡	5.30	4.75	4.25	664†‡	4.15	3.75	3.30
13 x 17 x 2	772‡	5.40	4.85	4.30	659†‡	4.15	3.75	3.30
13 x 17 x 3	773‡	5.95	5.35	4.75	660†‡	4.95	4.45	3.95
10 x 17 x 4	641‡	5.30	4.75	4.25	640†‡	4.75	4.30	3.80
13 x 17 x 4	643‡	6.95	6.25	5.55	642†‡	5.85	5.25	4.70
10 x 17 x 5	624‡	7.80	7.00	6.25	623‡	6.60	5.95	5.30
13 x 17 x 5	626‡	8.60	7.75	6.90	625‡	7.25	6.55	5.80

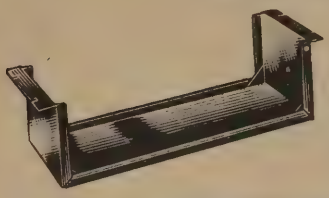
*22 gauge. †Punched to accommodate chassis mounting brackets. ‡18 gauge.

STEEL CHASSIS BOTTOM PLATES

Protect wiring and keep out dust from chassis bottom. Four embossed feet. Two finishes to match chassis finish.

Fits Chassis Size, In. W. x L.	Zinc Plated Bud BP-	Net Each, Lots of 1-49	50-99	100-149	Black Rinkletex Bud BP-	Net Each, Lots of 1-49	50-99	100-149
5 x 7					705	$ .90	$ .80	$ .70
5 x 9½	667	$1.00	$ .90	$ .80	680	.90	.80	.70
5 x 10	538	1.10	1.00	.90	536	1.00	.90	.80
7 x 7	668	1.40	1.25	1.10	681	1.40	1.25	1.10
7 x 9	669	1.45	1.30	1.15	682	1.45	1.30	1.15
7 x 11	670	1.50	1.35	1.20	683	1.50	1.35	1.20
7 x 12	539	1.75	1.60	1.40	537	1.55	1.40	1.25
7 x 13	671	1.65	1.50	1.30	684	1.55	1.40	1.25
5 x 13½	672	1.45	1.30	1.15	685	1.10	1.00	.90
4 x 17	1067	1.65	1.50	1.30	1069	1.20	1.10	.95
7 x 17	673	1.90	1.70	1.50	686	1.20	1.10	.95
8 x 10	708	1.45	1.30	1.15	707	1.20	1.10	.95
8 x 12	710	1.75	1.60	1.40	709	1.50	1.35	1.20
8 x 17	674	2.00	1.80	1.60	687	1.50	1.35	1.20
10 x 12	675	2.10	1.90	1.70	688	1.55	1.40	1.25
10 x 14	514	2.00	1.80	1.60	517	2.00	1.80	1.60
10 x 17	676	2.15	1.95	1.70	689	1.65	1.50	1.30
11 x 17	677	2.20	2.00	1.75	690	1.75	1.60	1.40
12 x 17	678	2.55	2.30	2.05	691	2.00	1.80	1.60
13 x 17	679	2.95	2.65	2.35	692	2.05	1.85	1.65

PANEL CHASSIS



Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .060 aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

Bud No.	Height, Inches	Weight, Lbs.	Net Each, Lots of 1-24	25-49	50-99
CB-1370	1¾	¾	$3.30	$2.95	$2.65
CB-1371	3½	1¼	3.65	3.30	2.90
CB-1372	5¼	1½	4.20	3.80	3.35
CB-1373	7	2	4.75	4.30	3.80
CB-1374	8¾	2¼	5.60	5.05	4.50
CB-1375	10½	2¾	6.50	5.85	5.20
CB-1376	12¼	3	7.25	6.55	5.80
CB-1377	14	3¼	7.90	7.10	6.30

CHASSIS SUPPORTING ANGLES

Distribute weight to sides of the rack to relieve the panel. Angles are 3" x 1⅜" x 7/64" steel. Black enamel finish. No. CE-2219 designed for attachment to rails of Prestige Relay Racks. Slotted for infinite vertical adjustment; extend to full cabinet depth; 21" x 3" x 2¾".

Bud No.	Length, Inches	Weight, Lbs.	Net Per Pair, Lots of 1-24	25-49	50-99
SA-1349	14½	3½	$3.20	$2.90	$2.55
SA-1350	12	3	3.20	2.90	2.55
CE-2219	21	6½	4.45	4.00	3.55



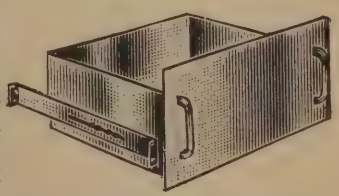
CONVERTA-BOXES

Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CU-341	1½ x 4 x 3	½	$2.65	$2.40	$2.10
CU-452	2 x 5 x 4	¾	2.55	2.30	2.05
CU-482	2 x 8 x 4	1¼	2.75	2.50	2.20
CU-592	2½ x 9½ x 5	1¾	2.95	2.65	2.35
CU-622	2½ x 12 x 6	2¼	3.20	2.90	2.55
CU-712	2½ x 15 x 7	3	4.30	3.85	3.45

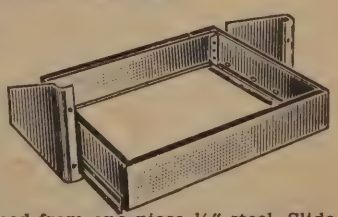
DRAWER WITH ADJUSTABLE SLIDES

Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16½" to 24¼" to fit any cabinet with depth 17" to 25½". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix HG for gray hammertone; BR for black Rinkletex; or GR for gray Rinkletex.



Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of 1-9	15-24	15-19
D-1721	16⅜ x 6⅜ x 16¼	19½	$55.10	$49.60	$44.10

SLIDING DRAWER ASSEMBLY



Ideal for use as a record player mounting base, typewriter base, apparatus and instrument base, writing desk, etc. Installs quickly and simply in any standard rack. Can't fall out or tilt. Provides a completely safe mounting base for anything put on it. Ball bearing suspension for easy sliding. Chassis formed from one-piece 14 gauge aluminum; electro-welded. Support brackets formed from one-piece ⅛" steel. Slide rail fastens securely to chassis, slides in and out easily on channeled ball bearings. Stop screw on slide rail prevents drawer from falling out of channel. Support brackets and channel finished in grey enamel; chassis, slide and plate finished in light gray hammertone. Will support up to 30 lbs. Chassis Size: 16¾" x 14" x 3", with ½" flange top and bottom. *Fastens to top or bottom.

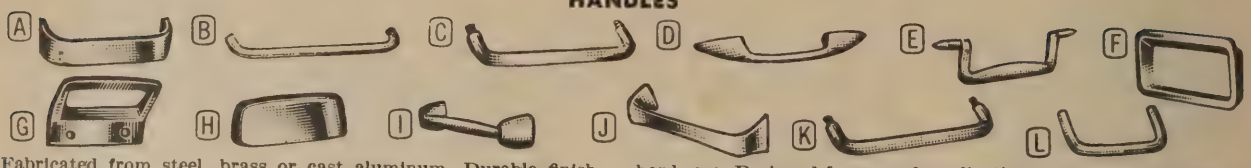
Bud No.	Description	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
SD-1717	Sliding drawer	5	$15.90	$14.30	$12.70
TP-1718	Drawer plate*	1½	3.95	3.55	3.15

PRICES SUBJECT TO CHANGE

© United Technical Publications

BUD Cabinet Hardware

HANDLES



Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting hardware. Designed for rugged applications, they have unlimited use in electronic, electrical and other fields.

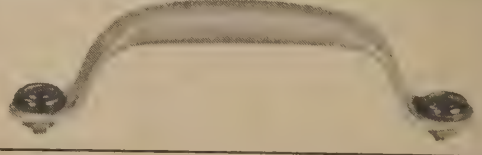
Bud No.	Fig.	Description	Net Per Pair, Lots of 1-49	50-99	100-149	Bulk Pack*: Net Each, Lots of 1-99	100-199	200-499
H-9100	A	1″ x ¼″ chrome-plated solid brass; 4″ x ½″ mtg. cntrs.; 1″ hand clearance; four ½″ x 6-32 threaded screws	$7.50	$6.75	$6.00	$3.05	$2.75	$2.45
H-9101	A	Same, but 8″ x ½″ mtg. centers	11.45	10.30	9.15	5.05	4.55	4.05
H-9102	A	⅜″ x ¼″ chrome-plated solid brass; 4″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 threaded screws	5.85	5.25	4.70	2.75	2.50	2.20
H-9103	A	Same, but has 6″ mounting centers	6.80	6.10	5.45	3.05	2.75	2.45
H-9110	B	¾″ steel rod angular formed, chrome-plated; 6″ mtg. ctrs.; 1¼″ hand clearance; two ½″ x 10-32 screws	5.05	4.55	4.05	1.90	1.70	1.50
H-9111	B	⅜″ steel rod, chrome plated, 4″ mtg. ctrs.; 1″ hand clearance; two ½″ x 10-32 threaded screws	2.65	2.40	2.10	1.25	1.15	1.00
H-9112	B	6″ mtg. center version of H-9111	3.10	2.80	2.50	1.35	1.20	1.10
H-9113	B	8″ mtg. center version of H-9111	3.40	3.05	2.70	1.35	1.20	1.10
H-9114	B	½″ steel rod, chrome-plated; 8″ mtg. centers; 1½″ hand clearance; two ½″ x ¼-28 thd. screws	5.60	5.05	4.50	2.10	1.90	1.70
H-9115	C	⅜″ steel rod, chrome-plated; 4″ mtg. ctrs.; 15/16″ hand clearance; two ¼-28 thd. nuts	4.20	3.80	3.35	1.70	1.55	1.35
H-9116	C	Same, but has 6″ mtg. centers	4.75	4.30	3.80	1.90	1.70	1.50
H-9120	D	Silver-anodized die-cast aluminum; 4⅜″ inside, 5⅜″ outside mtg. centers; 1″ hand clearance; four ½″ x 6-32 threaded screws	6.60	5.95	5.30	2.95	2.65	2.35
H-9121	D	Same, except chrome plated alloy	8.15	7.35	6.50	3.70	3.35	2.95
H-9123	D	Similar to H-9120 but 4½″ mtg. centers; 1″ hand clearance; two ½″ x 10-32 thd. screws	4.30	3.85	3.45	5.05	4.55	4.05
H-9122	E	Silver-anodized die-cast aluminum; hinged on ¼″ steel pins with 2 hinge blocks; 6½″ inside, 7¼″ outside mtg. centers; 1½″ hand clearance; four ⅜″ x 10-32 threaded screws	11.10	10.00	8.90	1.90	1.70	1.50
H-9130	F	Silver-anodized die-cast aluminum; 3″ mtg. centers; two ⅜″ x 10-32 thd. screws; size 4 15/16″ x 3″	9.15	8.25	7.30	4.20	3.80	3.35
H-9131	G	Silver-anodized die-cast aluminum; size, 4″ x 2⅞″; 2¼″ mtg. centers; two ¾″ x ¼-28 thd. raised, counter-sunk screws and nuts	6.40	5.75	5.10	2.95	2.65	2.35
H-9140	H	Silver-anodized die-cast aluminum; 3½″ mtg. centers; ¾″ hand clearance; two ½″ x 10-32 threaded screws	3.85	3.45	3.10	1.70	1.55	1.35
H-9150	I	Silver-anodized die-cast aluminum; 4″ x ⅝″ mtg. centers; 1¼″ hand clearance; four ½″ x 10-32 threaded screws	5.40	4.85	4.30	2.40	2.15	1.90
H-9151	J	Silver-anodized die-cast aluminum; 5 5/16″ x ⅝″ mtg. centers; 1⅜″ hand clearance; four ½″ x 10-32 threaded screws	8.80	7.90	7.05	3.90	3.50	3.10
H-9152	J	Similar to above except 3⅞″ mtg. centers; 1⅛″ hand clearance; two ½″ x 10-32 threaded screws	7.15	6.45	5.70	3.15	2.85	2.50
H-9160	K	Chrome-plated ⅜″ steel rod; 3½″ mtg. centers; 1 11/16″ hand clearance; two ¼″-28 hex nuts	4.75	4.30	3.80	1.90	1.70	1.50
H-9161	K	Same, but with 5¼″ mounting centers	5.30	4.75	4.25	1.90	1.70	1.50
H-9162	K	Same, but with 7″ mounting centers	5.40	4.85	4.30	2.00	1.80	1.60
H-9163	K	Same, but with 8¾″ mounting centers	5.60	5.05	4.50	2.10	1.90	1.70
H-9164	K	Same, but with 10½″ mounting centers	6.40	5.75	5.10	2.20	2.00	1.75
H-9165	K	Same, but with 12¼″ mounting centers	6.95	6.25	5.55	2.40	2.15	1.90
H-9166	L	Chrome-plated ¼″ brass rod; 1 29/32″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 thd. screws	2.20	2.00	1.75	.95	.85	.75
H-9168	L	Same, but 3″ mtg. centers; two ¼″ x 6-32 thd. screws	2.30	2.05	1.85	1.00	.90	.80
H-9149	—	Anodized aluminum handle fits flush into die cast receptacle. Makes lifting and carrying easier. Handle is 2¼″ x 4¼″. Hand clearance: 1⅝″. Standard on Bud Classic II cabinets.	12.55	11.30	10.05	5.65	5.10	4.50

*Number shown is for skin packed pairs. For bulk packed handles (priced singly), add suffix **B** to number (example: H-9100**B**).

SPEAKER ENCLOSURE HANDLES

Attach to any small housing or speaker enclosure to achieve portability. Made of aluminum tubing with etched finish.

Bud No.	Length, Inches	Mtg. Ctrs., Inches	Net Each, Lots of 1-49	50-99	100-149
UH-70A	5⅛	4⅝	$.65	$.60	$.55
UH-71A	3¾	3¼	.55	.50	.45



SPECIAL FABRICATION SERVICE

Despite Bud's voluminous selection of types and sizes of enclosures, occasions arise when the designer, for various practical or aesthetic reasons, devises an instrument or systems that requires a cabinet or box that is more individualistic than those represented in this catalog. It is at this point that Bud designers and engineers enter the picture to fulfill the peculiar requirements. With our extensive and varied manufacturing and designing facilities, we are able to build housings that exactly fit the requirements of the developer of electronic devices and instrumentation.

The most economical and less time consuming method is to attempt to modify a standard catalog product to fit a specific need.

When normal runs of original designs are required, we can quote based upon your specifications and designs or ours. We start from an idea and create the finished product. This has been our normal procedure for more than thirty-eight years.

PRICES SUBJECT TO CHANGE

Net

© United Technical Publications

BUD Slides

All BUD slides and Linear Motion Mechanisms are built from four basic components: the outer member, inner member, ball retainer and a number of ball bearings. These parts which are all steel, have been designed to enable us to fabricate an extensive variety of models. All models excel in their precision smooth, featherlight telescoping movement and are unsurpassed for their reliability and absence of wear after many hundreds of thousands of cycles.
Each main member is press formed to a constant and precise tolerance from high tensile cold rolled steel. Ball bearings of chrome carbon steel are set in special retainers which keep them evenly spaced to give an extremely smooth movement of the slide.

MATERIALS — Main members: high tensile cold rolled carbon steel. Ball retainers: cold rolled steel. Ball bearings: precision carbon steel. Mounting brackets, mounting plates, locks pivot wheels, etc.: mild steel.

FINISHES — Main members: Zinc and chromate. Ball retainers: Zinc. Ball bearings: Chromium plate. Mounting brackets: Cadmium plated. Mounting plates, locks, pivot wheels, etc.: Zinc.

LUBRICANT — Special life-long lubricant specification DTD 825B (MIL. G. 23827) unless otherwise specified.

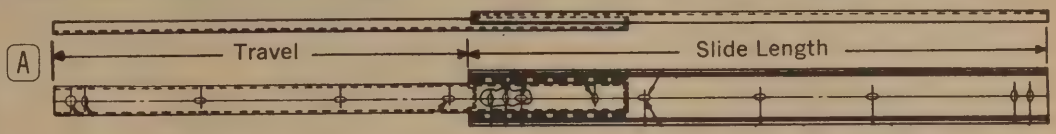
MOUNTING HOLES — All slide mounting holes are .180"x.210".

ASSEMBLY CARE — During assembly operations special care should be taken to prevent drill chippings and other foreign matter from entering the slide ball races. It is important that the slides are mounted parallel to each other and to chassis/drawer to achieve proper movement and fingertip ease of operation.

ADDITIONAL NOTES — Self-cleaning bridged ball retainer. Use only #8 pan or binding head screws for mounting. Long life, full ball bearing movement.

COMMERCIAL SPECIFICATIONS

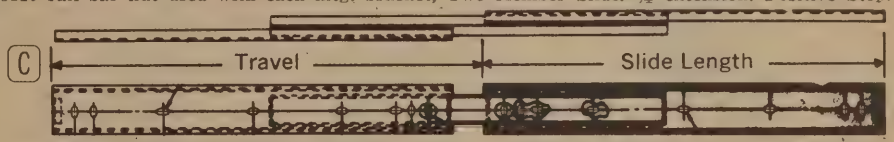
• Slide Members and Component Parts: Work Hardened Cold Rolled Steel • Ball Bearings: Carburized Steel, Nickel Plated • Finish: Bright Electro-Zinc Plate • Grease: High-Low Temperature.



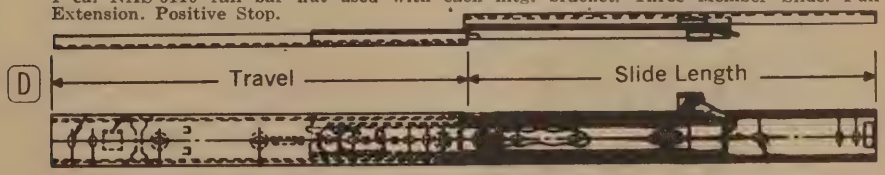
2 ea. BAS-5100 front mtg. brackets and 2 ea. BAS-5101 rear mtg. brackets required per pair to attach slides to EIA rails.
1 ea. NAS-5110 rail bar nut used with each mtg. bracket. Equipped with stationary delrin balls in front of cabinet member for stabilization in closed position. Two member Slide. ¾ extension. Friction Disconnect.



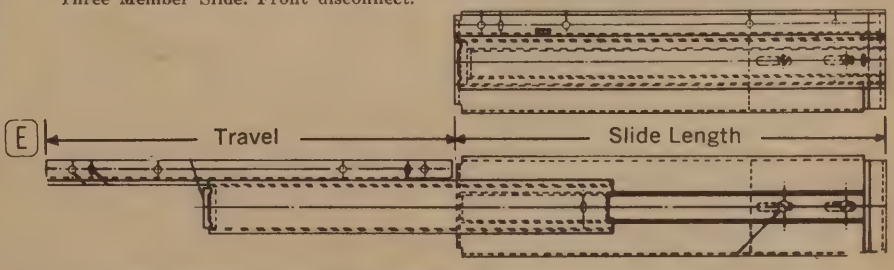
2 ea. BAS-5100 front mtg. brackets and 2 ea. BAS-5101 rear mtg. brackets required per pair to attach slides to EIA rails.
1 ea. NAS-5110 rail bar nut used with each mtg. bracket, Two Member Slide. ¾ extension. Positive Stop.



2 ea. BAS-5100 front mtg. brackets and 2 ea. BAS-5101 rear mtg. brackets required per pair to attach slides to EIA rails.
1 ea. NAS-5110 rail bar nut used with each mtg. bracket. Three Member Slide. Full Extension. Positive Stop.



2 ea. BAS-5102 front mtg. brackets and 2 ea. BAS-5103 rear mtg. brackets required per pair to attach slides to EIA rails.
1 ea. NAS-5110 rail bar nut used with each mtg. bracket. Positive stop at full extension. Three Member Slide. Front disconnect.



Has front (stationary) and rear (adjustable) mounting brackets for EIA rails. Chassis mounts to drawer section. Two Member Slide with drawer section equal to slide length. Lift-off Disconnect.

	CAT. NO.	Net Each in Lots of 1-4	5-9	10-24	Slide Lgth.	Travel	Load Rating	Shpg Wgt.
Fig. A	AS-5000	$ 9.50	$ 8.55	$ 7.60	12.00	9.00	108	1.75
	AS-5001	11.00	9.90	8.80	16.00	12.00	95	2.00
	AS-5002	11.80	10.60	9.45	20.00	15.00	82	2.50
Fig. B	AS-5060	8.70	7.85	6.95	12.00	9.00	108	1.75
	AS-5061	9.30	8.35	7.45	16.00	12.00	95	2.00
	AS-5062	9.80	8.80	7.85	20.00	15.00	82	2.50
Fig. C	AS-5020	22.40	20.15	17.90	12.00	12.88	175	3.25
	AS-5021	24.90	22.40	19.90	16.00	16.88	160	4.25
	AS-5022	26.90	24.20	21.50	20.00	20.88	142	5.25
Fig. D	AS-5040	29.80	26.80	23.85	12.00	11.88	120	3.25
	AS-5041	32.30	29.05	25.85	16.00	15.88	108	4.25
	AS-5042	34.40	30.95	27.50	20.00	19.88	92	5.25
Fig. E	AS-5080	27.30	24.55	21.85	12.00	12.00	80	3.50
	AS-5081	27.90	25.10	22.30	16.00	16.00	70	4.50
	AS-5082	30.75	27.70	24.60	20.00	20.00	60	5.40

MOUNTING BRACKETS

Cat. No.	Net each in lots of 1-4	5-9	10-24
BAS-5100 (Front)	$1.30	$1.15	$1.05
BAS-5101 (Rear)	1.30	1.15	1.05
BAS-5102 (Front)	1.30	1.15	1.05
BAS-5103 (Rear)	1.30	1.15	1.05

BAR NUTS

NAS-5110	1.30	1.15	1.05

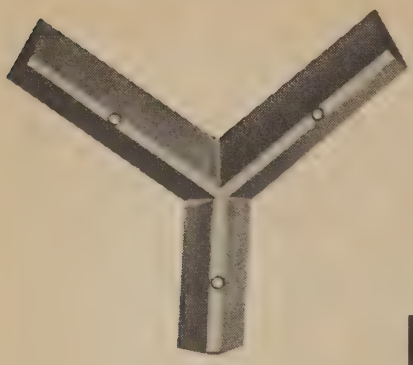
Use prefix "M" for military and "C" for commercial when ordering brackets and nuts.

ADAPTER KITS

SB-5107 Adapter kit "L" shaped cadmium-plated steel bracket set required when mounting slides to the upright rails in Bud Series 2000, Series 60 & Classic II. Kit consists of four brackets together with mounting hardware.
Net each $2.64 per set.

All Prices Per Pair. Dimension in Inches.
PRICES SUBJECT TO CHANGE

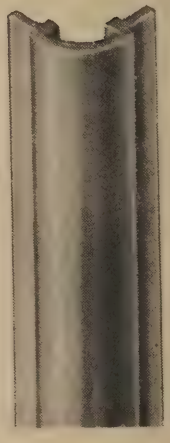
BUD Imlok System

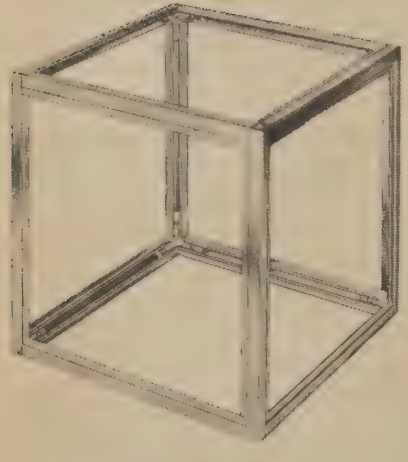


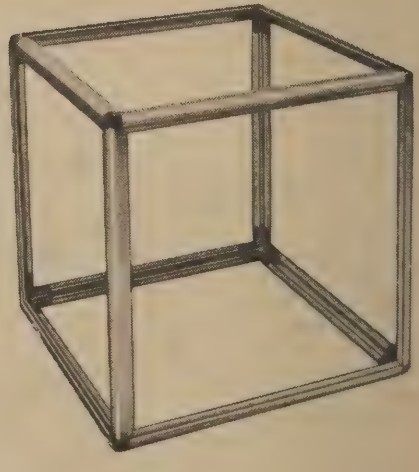


THE BASIC ELEMENTS OF THE BUD *IMLOK* SYSTEM









901 BUD IMLOK SYSTEM

The BUD IMLOK SYSTEM comprises a large variety of aluminum corner connectors which interlock with extrusions to make metal housings easily, quickly and economically. It is ideal for research, prototype and short run work. With the simplest of hand tools, precision cases, boxes, cabinets and consoles may be made. Simple or complex designs are achieved by the proper combination of the elements of the system. Examples are illustrated on the following page. Enclosures are completed by attaching steel or aluminum sheet to the framework by any convenient fastening method.

There are two different types of Imlok components and structures. The 901 Slimline components are more slender in appearance, and the corner connectors are completely covered by the extrusions in every completed structure. The Standard components are more rugged, and the ball surface of the connector is exposed. Ease of fabrication and assembly is common to both types.

Every Bud Imlok part is designed with an eye not only to its efficiency as an engineering component, but also to its appearance as a part of a completed housing. Special accessories such as hinges, catches, rubber feet and casters are available. Also a complete range of precision-made handles. Imlok components are available from authorized Bud Distributors in every major marketing area.

STANDARD BUD IMLOK SYSTEM

You may purchase BUD IMLOK in whichever stage of manufacture you prefer:

1. With connectors pre-drilled, ready for assembly with self-tapping screws and with extrusions.
2. With connectors pre-drilled, ready for assembly and with extrusions custom-cut by Bud to your lengths and mitered.
3. As a complete framework, ready for installation of your own panels.
4. As a complete housing with panels, but unpainted.
5. As a complete housing, fully finished.

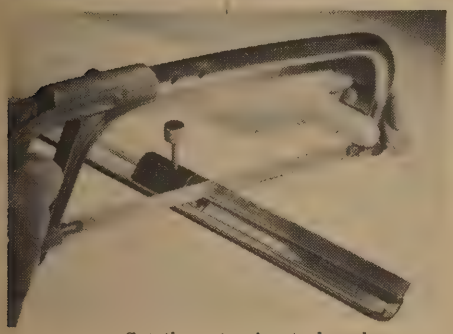
If you have any queries relating to construction or design, please do not hesitate to contact our Imlok Advisory Service. Our extensive knowledge and experience is at your disposal — alternatively, we will always be pleased to arrange for one of our technical representatives to call on you to discuss any problems you may have.

PRICES SUBJECT TO CHANGE

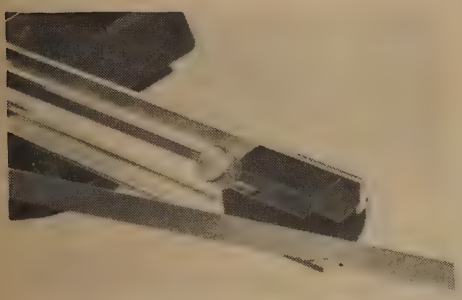
© United Technical Publications

BUD Imlok System

BUD IMLOK IS EASY TO USE



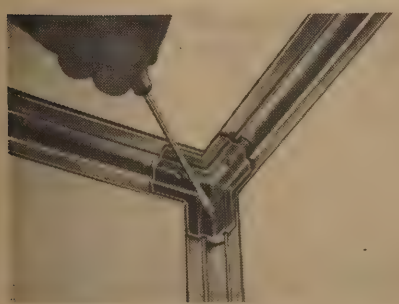
Cut the extrusion to length.



Mitre the ends of the flanges. Special Imlok jigs make this easy.



Slide extrusion onto the connector.

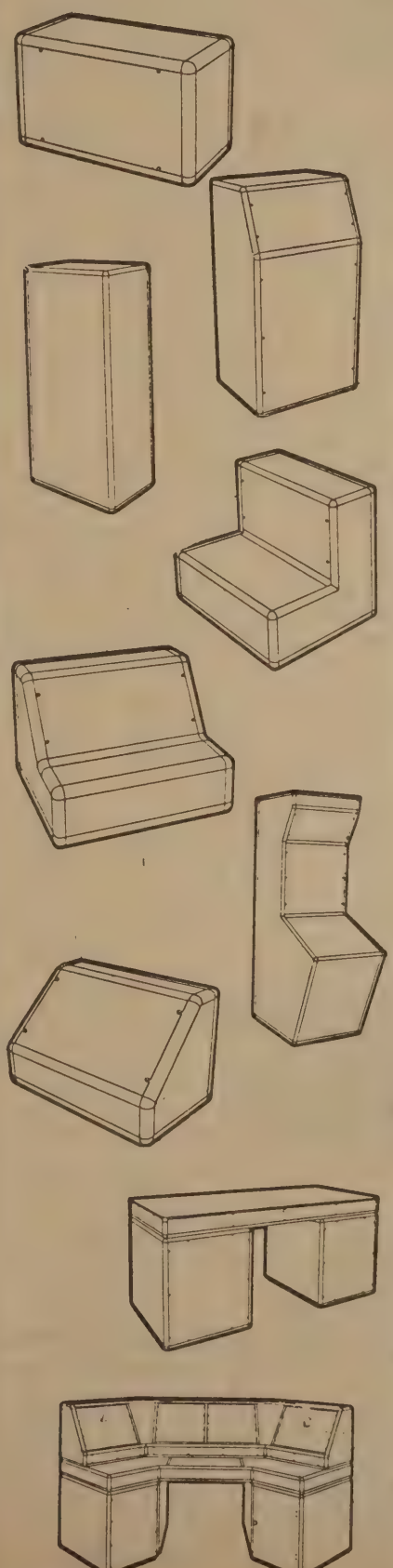


Tighten the self-tapping screws until the point bites into the extrusion.

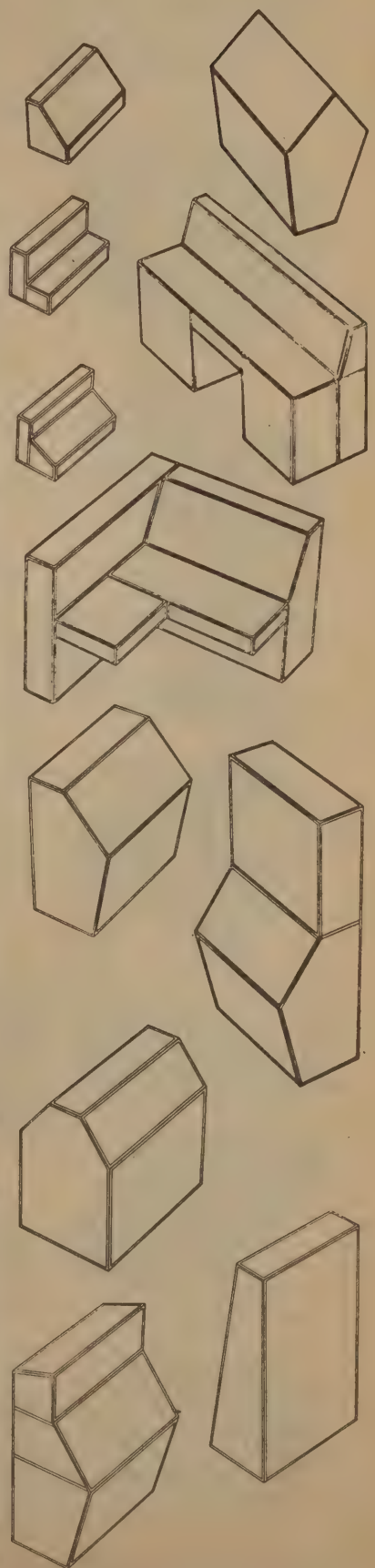
For additional details see your local Bud Distributor or write us for Imlok catalog.

Some typical structures that can be made with Imlok

Standard



901 Slimline



PRICES SUBJECT TO CHANGE

© United Technical Publications

LMB® Box Chassis

The Engineered Precision Line with Interlocking and Flangelocking Construction

Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following LMB® Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

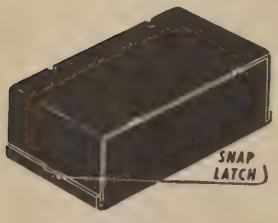
Aluminum used in all LMB® products is aircraft quality specifications type 3003-H 14.

All prices quoted are dealer net. Manufacturers Special Discounts on Application.

WRITE FOR COMPLETE CATALOGUE

Interlocking





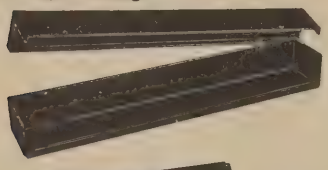
INTERLOCKING (SCREW-FASTENED OR SNAP LATCH)

Model	Size	Price	Model	Size	Price
M00	2¼" x 1½" x 1⅜"	$ .63	850	8½" x 2⅛" x 1⅝"	$1.49
00Z	2⁵⁄₁₆" x 2⅛" x 1¾"	.70	138	6¼" x 3½" x 2⅛"	1.45
000	3¼" x 2⅛" x 1⅝"	.75	139	5½" x 3" x 1¼"	1.11
00	4" x 2⅛" x 1⅝"	.78	140PL	3" x 4" x 5"	1.42
100	2¾" x 2⅛" x 2⅝"	.98	140	3" x 4" x 5"	1.77
101	4¼" x 2¼" x 1¼"	.96	141PL	6" x 4" x 3"	1.58
102	4" x 2" x 2¾"	1.12	141	6" x 4" x 3"	1.89
103	2¾" x 2⅛" x 2⅛"	.94	142PL	6" x 4" x 5"	1.85
107	4" x 2¼" x 2¼"	1.06	142	6" x 4" x 5"	2.32
108	5" x 2¼" x 2¼"	1.13	143	4" x 4" x 2"	1.46
135	3¾" x 3" x 2⅛"	1.07	144	10" x 4" x 2½"	2.41
136	5¼" x 3" x 2⅛"	1.19	145	7" x 5" x 3"	2.32
650	6½" x 2⅛" x 1⅝"	1.16	146	8" x 6" x 4½"	3.29
137	8" x 3" x 2¾"	1.77	15	12" x 2" x 1¾"	1.77

SIDELOCK and ENDLOCK CONSTRUCTION

LMB® aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

Flangelocking





Model	Size	Price	Model	Size	Price
221	2¾" x 3⅛" x 1⅝"	$1.24	654	6" x 5" x 4"	$2.76
321	3¼" x 2⅛" x 1⅝"	1.24	666	6" x 6" x 6"	3.73
421	4" x 2⅛" x 1⅝"	1.24	686	6" x 8" x 6"	4.70
422	4" x 2¼" x 2¼"	1.42	695	6" x 9" x 5"	4.22
424	4" x 2" x 4"	2.18	753	7" x 5" x 3"	2.86
435	4" x 3" x 5"	2.41	754	7" x 5" x 4"	3.04
444	4" x 4" x 4"	2.08	863	8" x 6" x 3½"	3.15
531	5¼" x 3" x 1½"	1.42	865	8" x 6" x 5"	3.93
532	5¼" x 3" x 2⅛"	1.62	1063	10" x 6" x 3½"	3.93
534	5⅝" x 3" x 4"	2.27	1085	10" x 8" x 5"	4.86
543	5" x 4" x 3"	2.06	1221	12" x 2" x 1¾"	2.06
546	5" x 4" x 6"	3.02	1274	12" x 7" x 4"	5.12
645	6" x 4" x 5"	2.86	1754	17" x 5" x 4"	5.80

Endlock



SLIDE COVER

SLIDE COVER (or dust cover) BOXES

Designed by BROADCAST ENGINEERS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
16—Natural Aluminum	13"	3⅛"	2⅝"	$2.97	18—Natural Aluminum	13"	5¼"	2⅝"	$3.85
16—Gray, Black, Brown	13"	3⅛"	2⅝"	3.72	18—Gray, Black, Brown	13"	5¼"	2⅝"	4.73
17—Natural Aluminum	13"	4⅛"	2⅝"	3.50	19—Natural Aluminum	17"	3⅛"	2⅝"	3.69
17—Gray, Black, Brown	13"	4⅛"	2⅝"	4.35	19—Gray, Black, Brown	17"	3⅛"	2⅝"	4.57

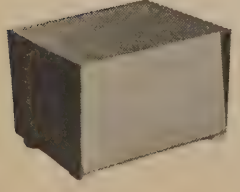


SHIELDED CHASSIS

SHIELDED CHASSIS

	L	W	H	Ea.
No. 20 Plain	7½"	7"	2"	$1.84
No. 21 Plain	13"	10"	3"	4.77
No. 22 Plain	17"	10"	3"	5.64

THE "NEW" CABINET SERIES IN GLAMOR COLORS



Model		D	W	H	Net Ea.
275	Ivory	2¾"	x 3"	x 4"	$2.19
2754	Gold	2¾"	x 2¾"	x 4"	2.32
342	Green	3"	x 4¼"	x 2⅜"	2.35
442	Red	4"	x 4½"	x 2⅝"	2.53
442 RG	Red & Gold	4"	x 4½"	x 2⅝"	2.97
442 RB	Red & Black	4"	x 4½"	x 2⅝"	2.97
444	Black	4"	x 4"	x 4"	2.62
444 BG	Black & Gold	4"	x 4"	x 4"	3.06

Model		D	W	H	Net Ea.
453	Blue	4"	x 5"	x 3"	$2.65
453 BG	Blue & Gold	4"	x 5"	x 3"	3.09
463 GB	Gold & Beige	4"	x 6"	x 3"	3.30
463	Beige	4"	x 6"	x 3"	2.87
555	Earth Green	5"	x 5"	x 5"	3.41
564	Biscayne Blue	5"	x 6"	x 4"	3.25
685	Bronze	6"	x 8"	x 5"	4.51

ALL OF COLOR SERIES FITTED WITH ½" RUBBER FEET

WRITE FOR COMPLETE CATALOG PRICES SUBJECT TO CHANGE

© United Technical Publications

L M B® Box Chassis (Continued)

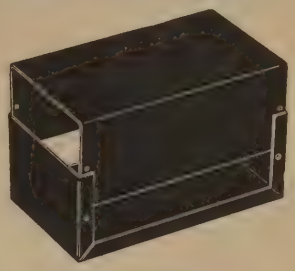
		DEALER NET Plain	Gray, Black, Brown
T-F 770	2¾x2⅛x1⅝	$ .68	$ .89
T-F 771	2¾x2⅛x2¾	.75	1.05
T-F 772	3¼x2⅛x1⅛	.68	.92
T-F 773	3½x2⅛x1⅝	.68	.92
T-F 774	4 x2⅛x1⅝	.68	1.05
T-F 775	4 x2¼x2¼	.83	1.07
T-F 776	4 x2 x2¾	.83	1.10
T-F 777	4¼x2¼x1½	.79	1.10
T-F 778	5 x2¼x2¼	.86	1.13
T-F 779	5 x4 x3	1.03	1.45
T-F 780	5¼x3 x2⅛	$ .90	$1.23
T-F 781	6 x5 x4	1.62	2.01
T-F 782	7 x5 x3	1.54	2.05
T-F 783	8 x6 x3½	1.89	2.48
T-F 784	10 x6 x3½	2.22	2.79
T-F 785	10 x2 x1⅝	1.27	1.73
T-F 786	12 x2½x2¼	1.51	1.84
T-F 787	12 x7 x4	2.98	3.77
T-F 788	17 x5 x4	3.21	3.78

TITE-FIT BOX CHASSIS



		PRICES Plain	Gray, Black, Brown
J-870	2¾x2⅛x1⅝	$ .68	$ .89
J-871	2¾x2⅛x2¾	.75	1.05
J-872	3¼x2⅛x1⅛	.68	.92
J-873	3½x2⅛x1⅝	.68	.92
J-874	4 x2⅛x1⅝	.68	1.05
J-875	4 x2¼x2¼	.83	1.07
J-876	4 x2 x2¾	.83	1.10
J-877	4¼x2¼x1½	.79	1.10
J-878	5 x2¼x2¼	.86	1.13
J-879	5 x4 x3	1.03	1.45
J-880	5¼x3 x2⅛	$ .90	$1.23
J-881	6 x5 x4	1.62	2.01
J-882	7 x5 x3	1.54	2.05
J-883	8 x6 x3½	1.89	2.48
J-884	10 x6 x3½	2.22	2.79
J-885	10 x2 x1⅝	1.27	1.73
J-886	12 x2½x2¼	1.51	1.84
J-887	12 x7 x4	2.98	3.77
J-888	17 x5 x4	3.21	3.78

JIFFY BOX CHASSIS



NO SCREWS

Just push together to close and the Catches snap into place—just a slight pressure of the fingers to open.

		ALUM. GAUGE	PRICES Plain	Gray, Black, or Brown
U-C 970	4x 4x2	.040	$1.73	$2.00
U-C 971	5x 4x3	.040	1.86	2.18
U-C 972	6x 5x4	.040	2.40	2.78
U-C 973	6x 6x6	.040	2.81	3.32
U-C 973A	6x 6x3	.040	2.43	2.97
U-C 974	7x 5x3	.040	3.28	3.83
U-C 975	9x 6x5	.051	$3.72	$4.28
U-C 976	10x 8x7	.051	5.09	5.89
U-C 977	12x 7x6	.051	4.91	5.83
U-C 978	10x10x8	.051	6.49	7.54
U-C 979	12x11x8	.051	7.77	8.82
U-C 980	15x 9x7	.051	7.87	8.92

UTILITY BOXES

Give approximately 25% more usable space for building.



LMB Miniature Boxes are made in the following sizes and are carried in stock in the warehouse for prompt shipment.

ANY QUANTITY

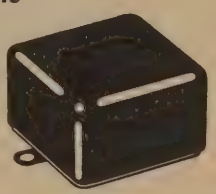
	L	W	D	each	LIDS
M-01	1⅛"	x 1"	x 15/16"	$.46	$.15
M-10	1¾"	x 1¼"	x ⅞"	.46	.15
M-11	2"	x 1¼"	x ¾"	.46	.15
M-12	2"	x 1¼"	x 1"	.46	.15
M-15	2"	x 1¾"	x ½"	$.46	$.15
M-16	2"	x 1¾"	x ¾"	.46	.15
M-17	2"	x 1¾"	x 1"	.46	.15
M-018	2"	x 2"	x 1¼"	.46	.15

Following three numbers on special order only and in quantities of 500 each minimum.

	L	W	D	each	LIDS
M-06	1½"	x 1⅛"	x ¾"	$.53	$.18
M-21	2½"	x 2"	x 1¼"	.57	.20
M-23	3⅞"	x 2⅜"	x ⅞"	$1.21	$.40

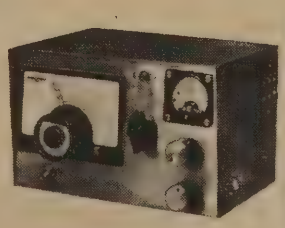
MINIATURE BOX CHASSIS

Precision made in steel only, cadmium plated. Made with or without mounting ears Covers solder in when used in assembly.



UTILITY ENCLOSURES

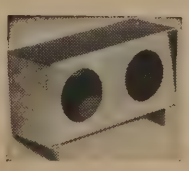
No.	L	W	H		Plain	Gray
W-1A	7"	x 5"	x 4½"	with built in chassis	$4.37	$5.32
W-1B	10"	x 4"	x 3½"	with built in chassis	4.37	5.32
W-1C	8½"	x 6⅛"	x 5"	with built in chassis	4.87	5.86
W-1D	18"	x 9"	x 11"	will accommodate an 11" x 17" 2", 3" or 4" chassis	10.73	14.44

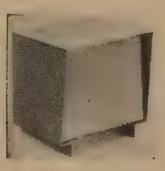




"AL-CAB" CABINETS for meter cases or any application where outstanding appearance is needed

No.	L	W	H		Plain	Gray
W-2AP	3½"	x 4"	x 3"	with holes	$2.07	$2.40
W-2A	3½"	x 4"	x 3½"	without holes	2.18	2.51
W-2B	3"	x 7"	x 3½"	with and without holes	2.48	2.94
W-2C	3⅜"	x 7"	x 3½"	without holes	3.22	3.73
W-2E	4½"	x 4½"	x 3½"	without holes	2.53	2.86

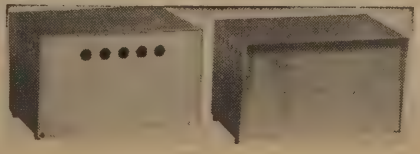




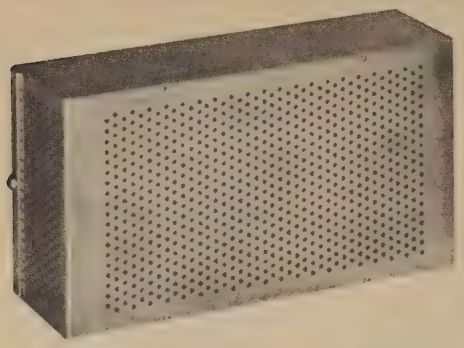
Holes in W-2AP, 2B are 2¼", 2 13/16". For 4" Meter holes and knock-out, add 10% to above prices.

W.M. "AL-CAB" Deluxe Series All with Built-in Chassis

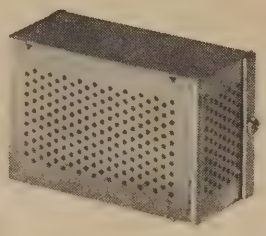
No.	L	W	H	Plain	Gray
W-2F	7½"	x 5"	x 4½"	$4.80	$5.70
W-2G	13"	x 10"	x 5¾"	10.33	12.71
W-2H	7"	x 11"	x 6¼"	8.12	9.49
W-2J	8"	x 11½"	x 7"	8.91	10.20



WRITE FOR COMPLETE CATALOG PRICES SUBJECT TO CHANGE



LMB® PERFORATED BOX CHASSIS



LMB® Perforated Boxes are adaptable wherever heat dissipation is required as they are spaced in perforations that are set by laboratory research to give utmost heat dissipation and also give utmost shielding. They are die perforated on three sides and top of the box.

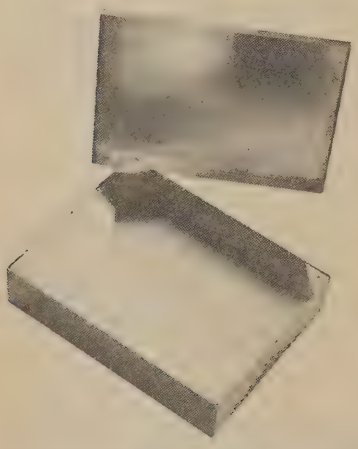
NO.	FINISH	SIZE	NET EA.
00Z	Plain or Gray	2 5/16 x 2 1/8 x 1 3/4	$ .91
000	" "	3 1/4 x 2 1/8 x 1 5/8	1.05
00	" "	4 x 2 1/8 x 1 5/8	1.12
100	" "	2 3/4 x 2 1/8 x 2 5/8	1.32
101	" "	4 1/4 x 2 1/4 x 1 1/4	1.23
102	" "	4 x 2 x 2 3/4	1.55
107	" "	4 x 2 1/4 x 2 1/4	1.20
108	" "	5 x 2 1/4 x 2 1/4	1.65
135	" "	3 3/4 x 3 x 2 1/8	1.50
136	" "	5 1/4 x 3 x 2 1/8	1.75
137	" "	8 x 3 x 2 3/4	2.28
138	Plain or Gray	6 1/4 x 3 1/2 x 2 1/8	$2.00
139	" "	5 1/2 x 3 x 1 1/4	1.50
140	" "	3 x 4 x 5	1.93
141	" "	6 x 4 x 3	2.07
142	" "	6 x 4 x 5	2.40
143	" "	4 x 4 x 2	1.54
144	" "	10 x 4 x 2 1/2	2.41
650	" "	6 1/2 x 2 1/8 x 1 5/8	1.55
850	" "	8 1/2 x 2 1/8 x 1 5/8	1.75
15	" "	12 x 2 x 1 3/4	1.97

L M B® PRESENTS SOMETHING NEW IN CHASSIS —

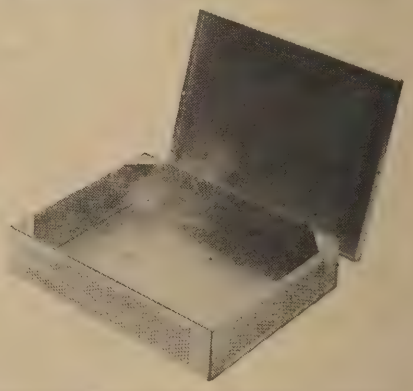
THE CHASSIS WITH THE CAP COVERS AS ORIGINATED BY LMB®

Built with the new original LMB® popular cap cover construction. This construction enables the builder to use either the top or the bottom of the chassis for construction. The Chassis can also be mounted on its side and construction can be on both top and bottom at the same time. Sturdily built from Aircraft quality aluminum, Type 3003, H-14, the same material as is used in the construction of all LMB® precision box chassis. Special technique in welding the corners makes for a stronger chassis than the orthodox type. Cap construction allows for using all the space inside the chassis without being hindered by the mounting flange, which takes from 10% to 20% of the mounting space out of the average chassis.

The P Series are perforated on all four sides and are ideal where heat dissipation is a factor. LMB® chassis — the better chassis, with the year's ahead advanced construction for your better project application. An advanced quality product competitively priced.







ALUMINUM

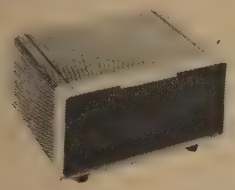
WITHOUT COVER				WITH CAP COVER			PERFORATED		
NO.	SIZE L W H	GAUGE	NET	NO.	L W H	NET	NO.	L W H	NET
553	5x 5x3	18	$1.49	553C	5x 5x3	$2.15	553P	5x 5x3	$2.53
572	5x 7x2	18	1.29	572C	5x 7x2	1.93	572P	5x 7x2	2.26
573	5x 7x3	18	1.56	573C	5x 7x3	2.15	573P	5x 7x3	2.48
5952	5x9 1/2x2	18	1.38	5952C	5x9 1/2x2	2.04	5952P	5x9 1/2x2	2.37
5103	5x10x3	18	1.82	5103C	5x10x3	2.48	5103P	5x10x3	2.81
5133	5x13x3	18	2.04	5133C	5x13x3	2.75	5133P	5x13x3	3.08
642	6x 4x2	18	1.63	642C	6x 4x2	2.04	642P	6x 4x2	2.42
643	6x 4x3	18	1.71	643C	6x 4x3	2.15	643P	6x 4x3	2.70
664	6x 6x4	18	1.27	664C	6x 6x4	1.65	664P	6x 6x4	1.98
6173	6x17x3	18	2.94	6173C	6x17x3	3.74	6173P	6x17x3	4.07
772	7x 7x2	18	1.49	772C	7x 7x2	2.09	772P	7x 7x2	2.42
792	7x 9x2	18	1.61	792C	7x 9x2	2.15	792P	7x 9x2	2.48
7103	7x10x3	18	1.68	7103C	7x10x3	2.75	7103P	7x10x3	3.08
7112	7x11x2	18	1.74	7112C	7x11x2	2.53	7112P	7x11x2	2.86
7123	7x12x3	18	2.23	7123C	7x12x3	3.03	7123P	7x12x3	3.36
7153	7x15x3	18	2.94	7153C	7x15x3	3.96	7153P	7x15x3	4.29
7173	7x17x3	18	3.03	7173C	7x17x3	4.07	7173P	7x17x3	4.40
8103	8x10x3	18	2.92	8103C	8x10x3	3.96	8103P	8x10x3	4.29
8104	8x10x4	18	1.67	8104C	8x10x4	2.39	8104P	8x10x4	2.72
8123	8x12x3	18	2.66	8123C	8x12x3	3.46	8123P	8x12x3	3.88
8172	8x17x2	18	2.77	8172C	8x17x2	3.85	8172P	8x17x2	4.18
8173	8x17x3	16	3.25	8173C	8x17x3	4.95	8173P	8x17x3	5.28
10103	10x10x3	16	2.86	10103C	10x10x3	3.85	10103P	10x10x3	4.40
10123	10x12x3	18	2.97	10123C	10x12x3	3.96	10123P	10x12x3	4.73
10143	10x14x3	18	3.25	10143C	10x14x3	4.73	10143P	10x14x3	5.17
10172	10x17x2	16	3.14	10172C	10x17x2	4.81	10172P	10x17x2	5.25
10173	10x17x3	16	3.74	10173C	10x17x3	5.70	10173P	10x17x3	6.58
10174	10x17x4	16	5.34	10174C	10x17x4	7.01	10174P	10x17x4	7.89
11173	11x17x3	14	4.62	11173C	11x17x3	7.26	11173P	11x17x3	7.81
12172	12x17x2	14	4.95	12172C	11x17x2	7.26	12172P	12x17x2	7.92
12173	12x17x3	14	5.06	12173C	12x17x3	7.59	12173P	12x17x3	8.25
13172	13x17x2	14	4.95	13172C	13x17x2	7.26	13172P	13x17x2	8.03
13173	13x17x3	14	5.28	13173C	13x17x3	7.59	13173P	13x17x3	8.25
13174	13x17x4	14	6.55	13174C	13x17x4	8.75	13174P	13x17x4	9.41

Net

© United Technical Publications

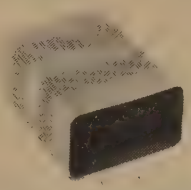
QUALITY CABINETS by LMB®

Original designs in cabinets for the electronic industry, for quality products. Use an original by LMB® to dress up your product.



Perforated, removable top, 3 tone, body gray, trim ivory, recessed front panel blue gray.

	Net Ea. Plain	Net Ea. Gray
CO1 — 14½"x13"x6½"	$19.75	$21.95
Chassis for CO-1		
11"x13"x2"		3.03
11"x13"x1½"		2.78
CO2 — 12"x10"x6½"	17.33	19.75
Chassis for CO-2		
11"x8"x2"		2.92
11"x8"x1½"		2.72



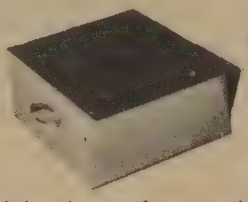
Perforated 3 sides, built in chassis, recessed front panel. Color, body gray, panel dark gray.

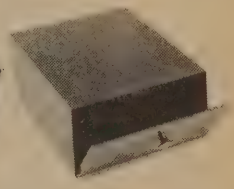
	Net Ea. Plain	Net Ea. Gray
CO-3 — 7¼"x5½"x3⅛"	$4.93	$5.92
CO-4 — 8"x10"x5"	7.65	9.41
CO-5 — 8"x11"x7"	9.90	11.73
CO-6 — 6"x9"x11"	10.10	11.91
CO-7 — 11"x8"x7"	9.90	11.73



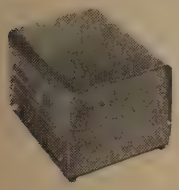
Slotted ventilation, front panel recessed. Color, gray, bronze, hammertone, black crackle, plain — with chassis.

	Net Ea. Plain	Net Ea. Gray
CB-1 — 8"x10"x4½"	$4.92	$5.89
CB-2 — 6"x8"x4½"	4.70	5.47

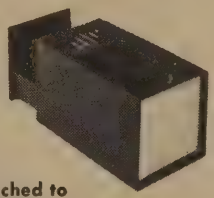




Aluminum with chassis contoured, hooded front recessed panel, slotted ventilation on bottom, louvers on side. Colors — Gold, Gray, Bronze Hammertone, Black Crackle, Plain — with chassis.

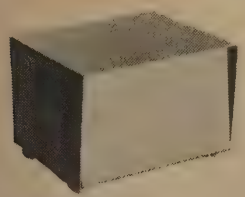


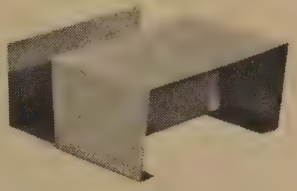
	Net Ea. Plain	Net Ea. Colors
B-1 10"x8"x6"	$12.27	$14.11
B-2 9"x6"x5"	11.02	12.63



Slot ventilated, ventilation from underneath and sides, built in chassis, recessed panel. Chassis attached to back plate and is removable. Colors — Gray, Bronze Hammertone, Black Crackle, Plain.

	Net Ea. Plain	Net Ea. Colors
SQ-1 8½"x4½"x4½"	$5.12	$5.89

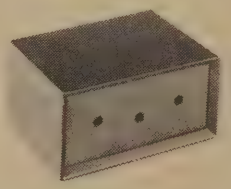




NEW SERIES. Original Construction. Cover slides off at bottom by removing 4 screws. Made of .040 aluminum. Finish: Plain or gray aluminum. Sensibly priced.

Hooded front, hinged door in rear, front panel removable by removing three screws. Chrome carrying handle. Colors blue, gray, bronze hammertone, black crackle, plain. Steel or aluminum.

	Net Ea. Plain	Net Ea. Colors
HA-1 (ALUM.) 11½"x10½"x5"	$9.74	$10.73



Double cabinet, inside cabinet fully shielded. Double recessed panel. Colors, Gray, Bronze Hammertone, Black crackle, Plain.

	Net Ea. Plain	Net Ea. Colors
CM-1 6"x8"x3⅞"	$4.95	$6.29

No.	D	W	H	Plain	Gray
275	2¾"	x 3"	x 4"	$1.74	$1.82
2754	2¾"	x 2¾"	x 4"	1.80	1.94
342	3"	x 4¼"	x 2⅜"	1.75	1.97
442	4"	x 4½"	x 2⅜"	1.88	2.15
444	4"	x 4"	x 4"	1.97	2.23
453	4"	x 5"	x 3"	2.04	2.27
463	4"	x 6"	x 3"	2.07	2.48
555	5"	x 5"	x 5"	2.64	3.03
564	5"	x 6"	x 4"	2.44	2.86
685	6"	x 8"	x 5"	3.66	4.13



STANDARD RELAY RACK PANELS

⅛" Aluminum material. Aluminum 1100 H 14. Notching is Western Electric. Finish — BLACK WRINKLE, GRAY WRINKLE OR HAMMERTONE. ALL PANELS 19" WIDE

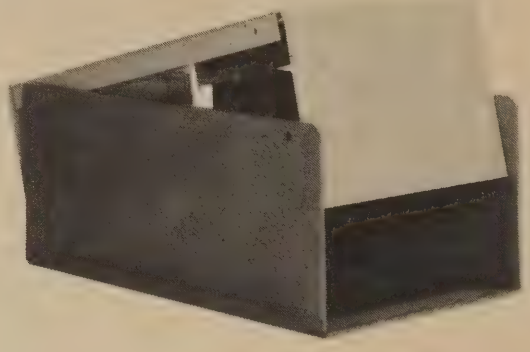
No.	Height	Width	Net Price
#175	1¾"	x 19"	$1.20
#350	3½"	x 19"	1.56
#525	5¼"	x 19"	2.11
#7	7"	x 19"	2.66
#875	8¾"	x 19"	3.12
#1050	10½"	x 19"	3.95
#1225	12¼"	x 19"	4.50
#14	14"	x 19"	$5.24
#1575	15¾"	x 19"	5.87
#1750	17½"	x 19"	6.44
#1925	19¼"	x 19"	7.07
#21	21"	x 19"	7.77
#2425	24¼"	x 19"	9.90
#2625	26¼"	x 19"	11.55

© United Technical Publications

3 New Additions to LMB®

CROWN ROYAL, (C-R) SERIES

Again LMB Engineers have come up with another winner. A box that embodies all the quality of the LMB LINE — but adds daintiness and refinement. These will be known as the Crown-Royal (C-R) series and will be made in all sizes. A fine addition to an already expanding line. Finished in light blue top and darker blue bottom. This box lends beauty and dignity to the product that is enclosed in it. Must be seen to be appreciated.



FINISHED IN TWO COLORS

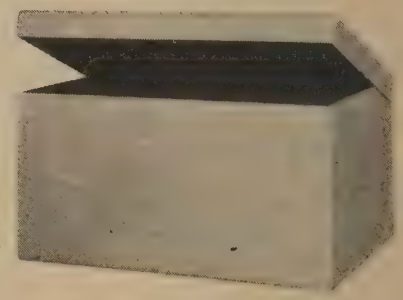
Model Number	Size L	W	H	Net Each
CR211	2¼"	1½"	1⅜"	$ .82
CR221	2¼"	2⅛"	1¾"	.86
CR234	2¾"	2⅛"	2⅛"	.97
CR275	2¾"	2⅛"	2⅝"	.99
CR321	3¼"	2⅛"	1⅝"	.97
CR332	2¾"	3"	2⅛"	1.32
CR345	3"	4"	5"	1.82
CR400	4"	2"	2¾"	1.18
CR421	4"	2⅛"	1⅝"	.99
CR422	4"	2¼"	2¼"	1.16
CR425	4¼"	2¼"	1¼"	.98
CR442	4"	4"	2"	1.41
CR522	5"	2¼"	2¼"	1.21

Model Number	Size L	W	H	Net Each
CR531	5½"	3"	1¼"	$1.43
CR532	5¼"	3"	2⅛"	1.41
CR621	6½"	2⅛"	1⅝"	1.18
CR632	6¼"	3½"	2⅛"	1.72
CR643	6"	4"	3"	1.92
CR645	6"	4"	5"	2.35
CR753	7"	5"	3"	2.83
CR800	8"	3"	2¾"	1.90
CR852	8½"	2⅛"	1⅝"	1.45
CR864	8"	6"	4½"	3.67
CR1042	10"	4"	2½"	2.85
CR12217	12"	2"	1¾"	2.18

BLUE HINGED CABINETS (B-H) SERIES

The B-H LINE that is filling the needs for an attractive hinged box. Another first by LMB engineers.

Model Number	SIZE L	W	H	Net Each
B-H 542	5"	4"	2¾"	$2.22
B-H 643	6"	4"	3"	3.50
B-H 662	6"	6"	2¾"	3.63
B-H 753	7"	5"	3"	3.70



FINISHED IN BLUE FINE CRACKLE

MODERNISTIC ENCLOSURE (M-E) SERIES

Cabinet with built in Chassis. Emboding Attractiveness for the builder who wants something different in a cabinet. Finished in white body and black cover and hood. Something classy and attractive that you have been looking for to dress up that new product you are building.

Model Number	SIZE H	W	D	Net Each Plain	Painted
M-E 352	2"	5"	3½"	$2.24	$2.79
M-E 462	2½"	6"	4"	2.49	3.18
M-E 583	3"	8"	5"	2.84	3.83
M-E 7114	4"	11"	7"	4.34	5.47



© United Technical Publications

From the World's Largest Manufacturer of Parts Cabinets . . .

QUALITY • SERVICE **raaco®** VALUE • GUARANTEED

RAACO CORPORATION

TOP QUALITY STORAGE CABINETS AT LOWEST PRICES

A WELL-ORGANIZED SHOP MEANS GOOD ECONOMY— SAVES TIME, SPACE AND LABOR COST

Time Saving:

- The crystal-clear plastic drawers store your small parts without hiding them.
- No valuable time is lost trying to locate parts.

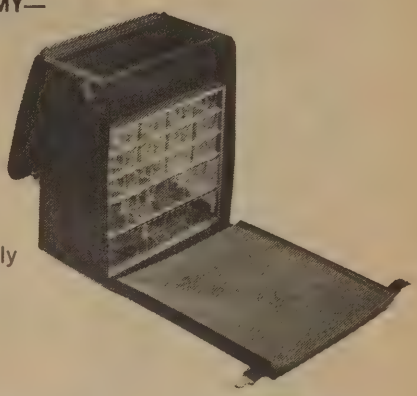
Space Saving:

- Being only 12" x 6¼" in width and depth, Raaco cabinets occupy a minimum of space.
- The cabinets can be installed and arranged exactly where you need them — in single units or built together into larger sections.
- The cabinets can be placed on tables, wall mounted or stacked very simply.
- No expensive installation costs.
- Dividers and Index cards are included.



120 01
48 Drawers
22" H x 12" W x 6¼" D





Tool Bag 93000.01
15 or 24 Drawers
11" H x 12" W x 6¼" D



040 01
16 Drawers
7½" H x 12" W x 6¼" D

Dimensions: 22" H x 12" W x 6¼" D



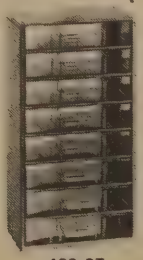
120 03
24 Drawers



120 04
16 Drawers



120 05
12 Drawers



120 07
8 Drawers

Dimensions: 22" H x 12" W x 11½" D



240 10
12 Drawers



240 09
16 Drawers

There are many excellent reasons to use RAACO cabinets . . .

- Heavy fully welded steel frame.
- Full steel shelves with guide rails for each drawer.
- The steel frame is primed and has a baked-on enamel finish.
- Crystal-clear impact styrene drawers, molded handles and label holders.
- Each cabinet is supplied with plastic feet to prevent scratching.
- Depressions in the top of the cabinet fit the plastic feet to insure accurate and secure stacking.
- Drawers have backstops to prevent them from being pulled all the way out.
- Holes in the back of the frame for wall mounting.

ASK FOR BULLETIN 7/70

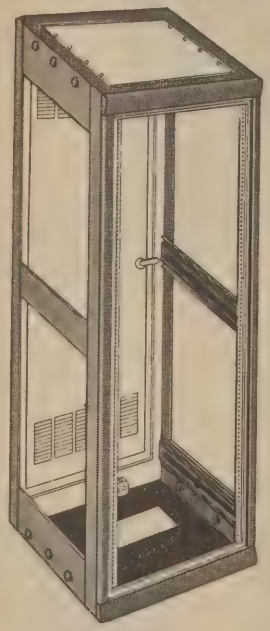
Model	Drawer Dimensions	Pack	Wgt. Lbs.	Industrial User Price
120 01	1⅜" H x 2½" W x 5⁵⁄₁₆" D	3	38.6	$13.00
120 03	2¼" H x 3⅛" W x 5⁵⁄₁₆" D	3	33.7	13.00
120 04	2¼" H x 5⁵⁄₁₆" W x 5⁵⁄₁₆" D	3	33.0	13.00
120 05	3⅛" H x 5⁵⁄₁₆" W x 5⁵⁄₁₆" D	3	32.4	13.00
120 07	2¼" H x 11" W x 5⁵⁄₁₆" D	3	31.8	13.00
240 09	2¼" H x 5⁵⁄₁₆" W x 11" D	1	16.0	25.00
240 10	3⅛" H x 5⁵⁄₁₆" W x 11" D	1	19.8	25.00
040 01	1⅜" H x 2½" W x 5⁵⁄₁₆" D	6	27.6	5.00
090 01	1⅜" H x 2½" W x 5⁵⁄₁₆" D	3	30.0	10.00
93000.01		1	11.7	27.50

© United Technical Publications

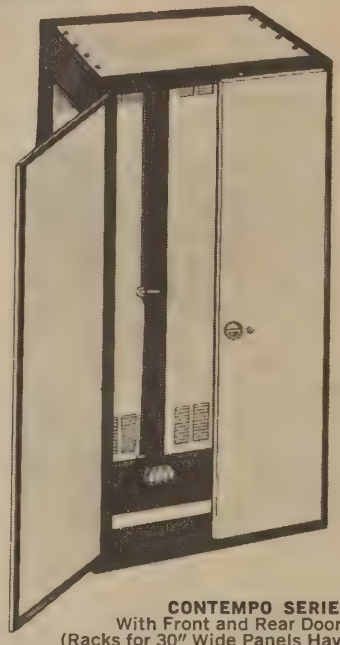
Par-Metal NEW YORK
ELECTRONIC ENCLOSURES

Setting the standards for the Electronic Housing industry has been a tradition with us since our beginning in 1926. We are continuously modernizing our methods, updating equipment, enlarging facilities, improving service. Superior products are part of that tradition. That's why we say — **Buy Quality — Buy Style — Buy Par-Metal.**

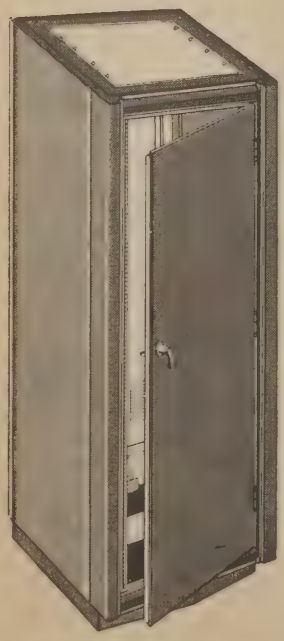
MODULAR CABINET RACKS



SERIES PL RACKS
With Rear Door Only



CONTEMPO SERIES
With Front and Rear Doors
(Racks for 30″ Wide Panels Have Two French Doors to Save Aisle Space)



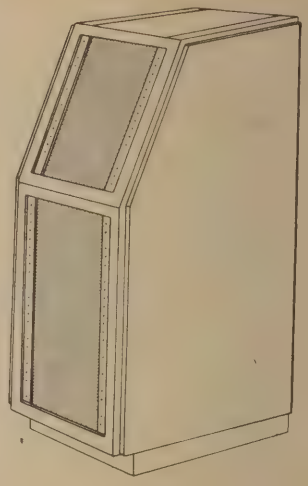
SERIES FR RACK
equipped with flush side panels and recessed base.

All **PAR-METAL Modular Cabinet Racks** are heavy gauge steel with solidly welded frames and panel angles. They accept a complete line of Par-Metal accessories including: **Basic Slides, Drawers, Shelves and Roller Trucks.** Available in 19″, 24″ & 30″ Panel Widths; Panel Heights from 36¾″ to 84″; Four Depths are available — 18″, 24″, 26″ & 31″. Available with Rear Door Only, or with Front and Rear Doors. All **Par-Metal Racks** have a wide variety of finishes.

Highlighting our catalog, is the **"CONTEMPO"** line of Racks, Consoles, Wedges, Roller Trucks, Slides and Tables, etc. Standard finish of all painted parts is a most attractive combination of **Dawn** (Light) **Gray** and **Charcoal** (Dark) **Gray** Textured Vinyl Enamel. **Contempo Racks** have **Pan Shaped Front Doors,** and **"Dutch" Rear Doors;** both with "D" Flush Mounted Handles. Pan Shaped Side Panels are optional. A full line of **Par-Metal** Panels and accessories are available in standard sizes.

Upper left illustration shows our **Frame Model "PL"** with Rear Door only, made for ball-cornered side panels. Illustration directly below it, shows **Model "FR"** with **BOTH Front** and **Rear Doors** as well as Side Panels attached. As the foundation of our line for many years, these racks are rugged in construction, distinctly styled, economically priced and versatile for use throughout the electronic industry.

NEW! SLOPE FRONT RACK



SLOPE FRONT RACK
Cat. No. SFS-1712-X
With Both Sides attached for single units only.

(Designated by suffixes X-R-L-O respectively.) Ready for immediate delivery in light gray hammertone enamel.

Series #SFS-1712 **Slope Front Floor Standing Rack** is a new item. It is 48″ High (including Recessed Base), 26″ Deep, with 3 fixed panel angles for 19″ wide panels.

For easy modulation, **we make four models;** with both sides attached (single unit), with right or left side attached (opposite side open), and with both sides open.

FREE CATALOG

These pages liest a few of our products. For Catalog Numbers, Sizes, Finishes, Prices or any other details; **see your local distributor.** Ask him for a **free** copy of our Catalog 136.



© United Technical Publications

Par-Metal NEW YORK
ELECTRONIC ENCLOSURES

CONSOLES

Par-Metal Consoles are ruggedly welded, heavy gauge steel. They are made in **two designs** and **have many finishes.** Pedestals in top cabinet accommodate 19″ Panels and **either** Desk or Stand-Up Heights, and **24″** or **34″** depths.
Accessories include Drawers, Hinged Doors, Panels, Slides and Table Tops. Shipped completely assembled; ready for use.



CONTEMPO-PED. Stand-Up Model with Top Cabinet, End Panels and Accessories.



WITH 2 CONTEMPO-PEDS. Desk Model with 2 Top Cabinets, Exterior Table and Accessories.



STANDARD QUAD UNIT ASSEMBLY with Two Pedestal Frames, Extension Desk Table, Quad High Slope Cabinet.

A **combination** of **Dawn** and **Charcoal** Gray Textured Vinyl finish is **standard** on Contempo Consoles.

Unlimited configurations may be obtained by using the desired, dovetailing components. Ask your distributor for **Par-Metal** Catalog No. 136.

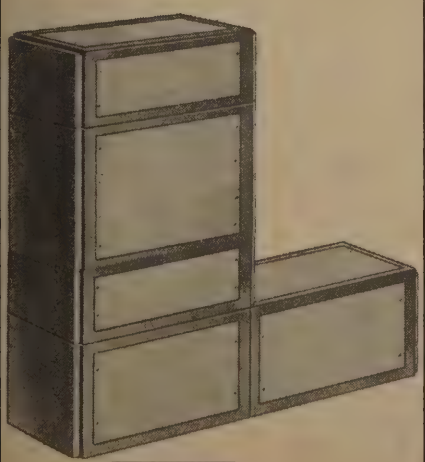
Each pedestal includes 2 pairs of Panel Angles. (E.I.A. spacing tap: 10-32). Standard Pedestals have a dual receptacle in rear. A **wide variety** of finishes is available. Simple charts in **Par Metal** Catalog No. 136 expedite ordering.

STACKABLES

STACK 'EM HIGH OR WIDE —THEY'RE HANDSOME

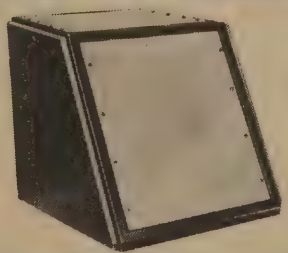
Design your own horizontal configuration or vertical stacking to meet your needs.

- Stack, gang, or use individually.
- End Panels are optional.
- Panel heights from 7″ to 35″; 19″ panel width; 24″ cabinet depth.

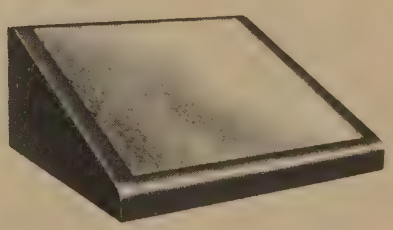


STACKABLES

DESK TOP CABINETS

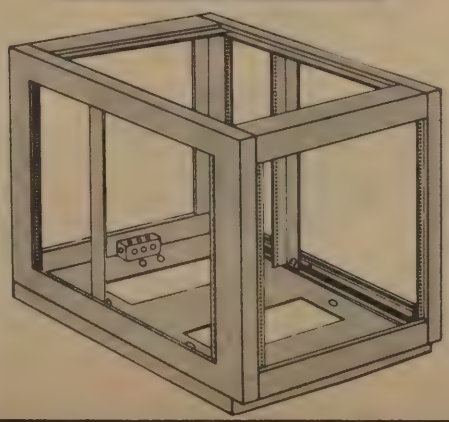


Contempo Top Cabinets are made in **10** styles (24″ Deep). Panels removable from the outside. They may be modulated **to any length,** using but one pair of end panels. All other panels are included.



Standard Desk Top Cabinets come in Single Units, Duals, Triples, or Quads in four styles. No end panels needed. Standard finish is light and dark gray hammertone; other finishes are available.

PEDESTAL FRAMES



Pedestal Frames are the foundation of the Consoles. Made in Contempo and Standard Designs: 24″ and 34″ deep, 19″ panel width and 30″ desk height. **Contempo Models** are **also** made in a 40″ stand-up height.

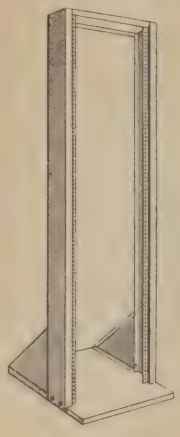
Angular Wedges (30° and 45°) are made for all sizes of Contempo Pedestals and Top Cabinets. **Par-Metal** Slides, Drawers, Shelves, Hinged Doors, Tables, End Panels, etc., fit these Pedestal Frames.

STANDARD PEDESTAL FRAME

© United Technical Publications

Par-Metal NEW YORK
ELECTRONIC ENCLOSURES

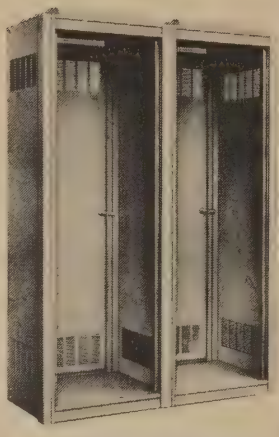
RELAY RACKS



OPEN CHANNEL RACK
Cat. No. RX-195

OPEN CHANNEL RACKS: Made for both 19″ and 24″ Panel Widths and in Panel Heights from 36¾″ to 77″. Top frame is solidly welded. Rack is shipped with top and base in one carton. Several finishes in stock.

KNOCKDOWN RACKS: Choice of Rear Door **ONLY** or **WITH** Front and Rear Doors. Pair of Panel Angles included. Panel Heights from 36¾″ to 77″; 19″ Panel Width; 18″ Depth. Some models may be modulated. Several finishes available. Sold from stock.



KNOCKDOWN RACKS
Cat. No. ER-225-A



ANGULAR RACK WEDGE
Cat. No. AF-6718-30

ANGULAR RACK WEDGES: 30° and 45° Wedges available for all racks. Finished to match rack. When needed, joining trims are provided at no extra cost. **ALL Welded** construction.

CONTEMPO CONSOLE WEDGES: 30° and 45° Wedges for all Contempo Pedestals and Top Cabinets. They fit both 24″ and 34″ deep models and are finished to match.



CONTEMPO WEDGE ASSEMBLY
Pedestal Wedge
Cat. No. PDW-24-30
and Top Cabinet Wedge
Cat. No. HS-219-30

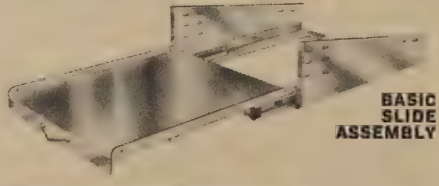
ROLLER TRUCKS



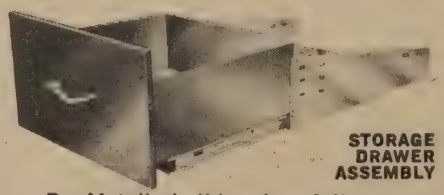
CONTEMPO SINGLE ROLLER TRUCK

Roller Trucks fit all Racks and Cabinets. They are made for Single, Double, Triple or Quad units. Swivel casters are standard; Locking casters, optional. **Also** made with **Extended Base** for sturdiness. All finishes available.

SLIDE ASSEMBLIES



BASIC SLIDE ASSEMBLY



STORAGE DRAWER ASSEMBLY

Par-Metal's ball-bearing, full extending Slides, Drawers and Work Shelves fit both 19″ and 24″ panel widths. Highly popular. Matching finishes.

Par Metal Accessories



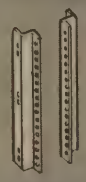
DETACHABLE SIDE PANELS



RECESSED RACK BASE



PANEL MOUNTING ANGLES



VERTICAL SIDE SUPPORTS



MOUNTING BRACKETS



EQUIPMENT SHELF



EXTERIOR DESK TABLE



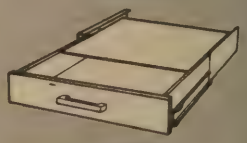
SINGLE ROLLER TRUCK



BASIC SLIDE ASSEMBLY



DESK SHELF ASSEMBLY



DESK DRAWER ASSEMBLY

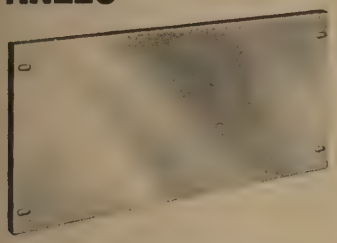


STORAGE DRAWER ASSEMBLY

© United Technical Publications

Par-Metal NEW YORK
ELECTRONIC ENCLOSURES

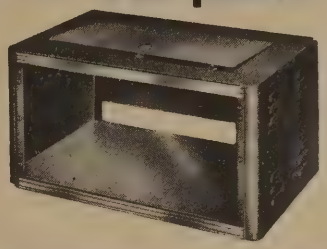
STEEL & ALUMINUM PANELS



- BLANK STEEL PANELS
- BLANK ALUMINUM PANELS
- FORMED STEEL PANELS
- GRILLE PANELS
- VENTILATED PANELS
- DESK/TABLE PANELS
- HINGED PANELS

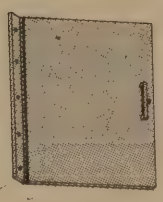
Either 19", 24" or 30" wide.
In multiples of 1¾" high.
Choice of Finishes.
RETMA Hole Spacing.

DESK PANEL CABINETS for 19" wide panels



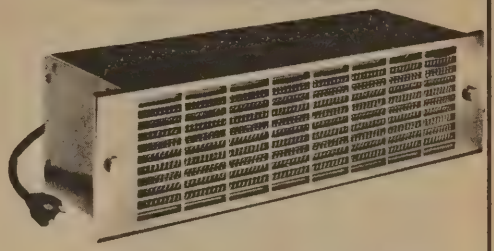
Welded steel cabinets from 8¾" to 35" panel height. Built-in standard panel angles. 15" deep. Full-length piano hinge and chrome lifter on top door.

HINGED DOOR PANELS



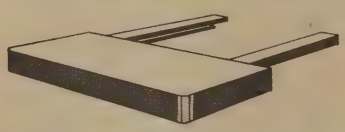
Full-length piano hinged door; mounts to panel angles. Has satin finished chrome handle and push-button latch. Fits 19", 24" & 30" panel widths from 7" to 35" high. All finishes.

FANS & BLOWERS



Intake and exhaust fans and twin, rack mounted blowers in various sizes and strengths. All accessories.

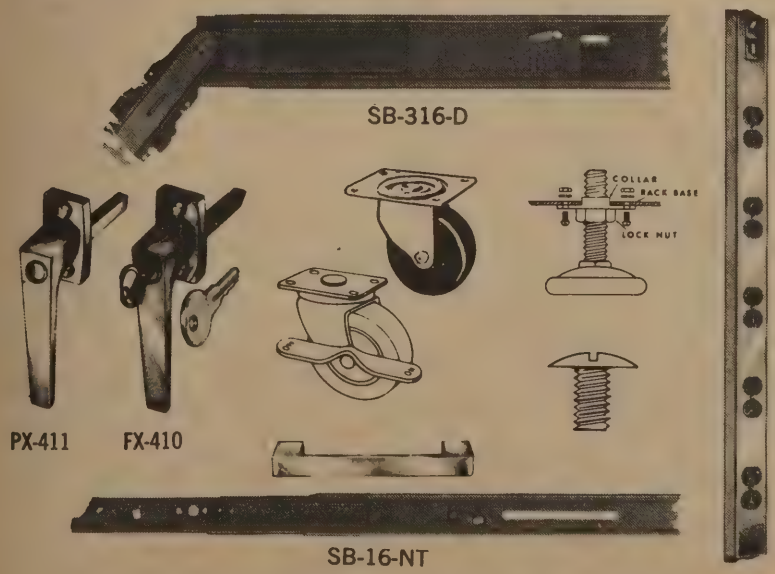
EXTERIOR TABLES



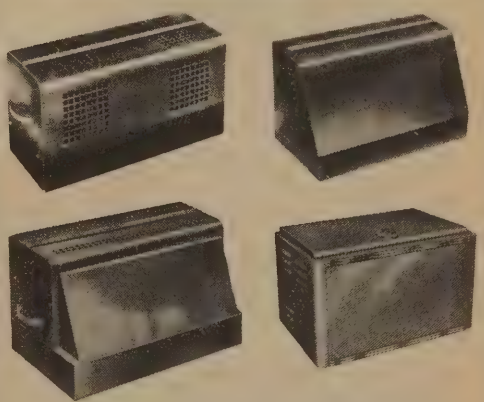
FORMICA covered tables for use with racks and pedestals. To match CONTEMPO or Standard designs. On 5-ply, ¾" plywood. Braced with heavy metal girders.

ASSOCIATED HARDWARE

Running the gamut of hardware used with its equipment, PAR-METAL stocks: A fine line of Solid Bearing Slides, both tilt and non-tilt... Door Handles, locking and non-locking... Pull and lift handles... Dual receptacle power strips... Swivel casters, with/without touch toe brakes... Machine screws and floor levelers.



SMALL CASES & CHASSIS



A large variety of the most popular small cases. Rack mounted and other chassis, amplifier foundations and chassis brackets.

TECHNICAL ASSISTANCE

Par-Metal's staff of designers and technical experts are eager to help you. Call on them freely.

Send for Catalog

Ask your distributor for Par-Metals catalog which details our complete line. Free!



© United Technical Publications

PREMIER TRIMLINE ENCLOSURES



NOMINAL OVERALL DIMENSIONS
Height: Panel Height +6"
Width: Panel Width +3"
Depth: Panel to Panel Depth +2⅞"



NOMINAL OVERALL DIMENSIONS
Height: 10½" Sloped Panel unit; 47⅝"
17½" Sloped Panel unit; 50⅝"
Width: Panel Width +3"
Depth: Panel to Panel Depth +2⅞"

GENERAL FEATURES: The Trimline Series presents trim, classic styling with a sturdy, welded steel structure. Modular construction provides for multi-rack configurations and console designs using standard units. Modifications and accessories are available to complete the majority of engineering requirements for electronic enclosure systems.

NEW DESIGN AND ENGINEERING FEATURES: 1) **Welded frame construction** with formed 1 piece tops and bases provide extra rigidity and squareness. The new 1 piece base design can serve as a heavy equipment mounting shelf, with built-in KO's and cutouts for cables, leads and concealed caster mounting or leveling legs. 2) **Anodized aluminum trim** with textured vinyl inlays add color, styling and individuality to system enclosures. 3) **Outside removable, flush side panels** give quick access to enclosed equipment for inspection and service. Flush mounting minimizes overall width and can be used for shielding between bays. 4) **Fully gasketed doors** can be mounted for LH or RH operation, have concealed hinges, are instantly removable without tools and are held closed firmly with full length magnetic stripping. Doors are furnished with handle, lock and two keys. 5) **Recessed front and rear panel areas** will accommodate flat or formed panels and permit the use of doors over installed panels. 6) **Two pairs of fully adjustable panel mounting angles** are tapped on all legs with 10-32 holes on EIA and WE universal spacing to save equipment mounting time and effort.

TRIM NUMBERS: Added as suffix to assembly number; includes vertical and horizontal members with vinyl inlay, complete and installed on frame.

	horizontal 2⅛"*		horizontal 3"	
⅝" vertical trim width	black vinyl —2B	walnut vinyl —2W	black vinyl —3B	walnut vinyl —3W

* 2⅛" must be specified for front door installation and Sloped Panel units.

VERTICAL ENCLOSURE ASSEMBLIES

Includes: Frame, trim, 2 pr. panel mounting angles, 2 side panels, rear door and hardware; finished and assembled. Specify colors and trim.

Vertical Panel Height	Panel to Panel Depth	19" Panel Width		24" Panel Width	
		Assembly Model No.	Price*	Assembly Model No.	Price*
21	17	TVA2119-17	$135.59	TVA2124-17	$149.81
31½	17	TVA3119-17	147.37	TVA3124-17	164.34
42	17	TVA4219-17	166.16	TVA4224-17	178.97
52½	17	TVA5219-17	183.21	TVA5224-17	195.75
61¼	17	TVA6119-17	203.87	TVA6124-17	218.75
70	17	TVA7019-17	223.82	TVA7024-17	238.43
77	17	TVA7719-17	243.95	TVA7724-17	259.27
21	23	TVA2119-23	152.05	TVA2124-23	166.67
31½	23	TVA3119-23	166.98	TVA3124-23	181.86
42	23	TVA4219-23	184.26	TVA4224-23	199.46
52½	23	TVA5219-23	200.77	TVA5224-23	216.14
61¼	23	TVA6119-23	223.26	TVA6124-23	238.48
70	23	TVA7019-23	243.73	TVA7024-23	258.72
77	23	TVA7719-23	264.35	TVA7724-23	280.02
21	29	TVA2119-29	171.27	TVA2124-29	186.24
31½	29	TVA3119-29	186.85	TVA3124-29	202.07
42	29	TVA4219-29	205.10	TVA4224-29	220.66
52½	29	TVA5219-29	223.56	TVA5224-29	239.26
61¼	29	TVA6119-29	245.61	TVA6124-29	261.19
70	29	TVA7019-29	266.67	TVA7024-29	282.03
77	29	TVA7719-29	287.74	TVA7724-29	303.79

SLOPED FRONT ENCLOSURE ASSEMBLIES

Includes: Frame, trim, 2 pr. panel mounting angles, 2 side panels, rear door and hardware; finished and assembled. Specify colors and trim.

Sloped Panel Height	Front Vertical Panel Height	Vertical Panel to Panel Depth	19" Panel Width		24" Panel Width	
			Assembly Model No.	Price*	Assembly Model No.	Price*
10½	29¾	23	TSA1019-23	$208.24	TSA1024-23	$223.15
17½	29¾	23	TSA1719-23	210.09	TSA1724-23	224.84
10½	29¾	29	TSA1019-29	217.02	TSA1024-29	232.13
17½	29¾	29	TSA1719-29	218.91	TSA1724-29	234.02

ACCESSORIES: Front doors, writing shelves, sliding drawers, slides, blowers, fans, turrets, equipment shelves, chassis support angles, casters, leveling legs and hardware are standard items immediately available.

MODIFICATIONS: Special sizes, holes, cutouts, knockouts, louvers, perforations, and special mounting requirements are available on special order.

Detailed Catalog and Specifications available on request.

*Quantity Discount Schedule "A" (see pg. 3)

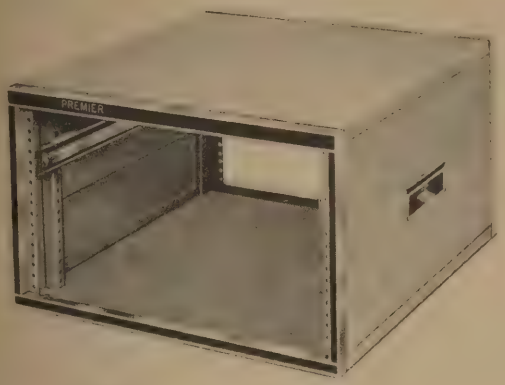
PREMIER METAL PRODUCTS COMPANY / A Division of Sunshine Mining Company

Net

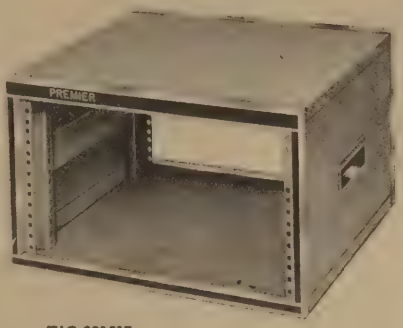
© United Technical Publications

PREMIER TRIMLINE INSTRUMENT CASES

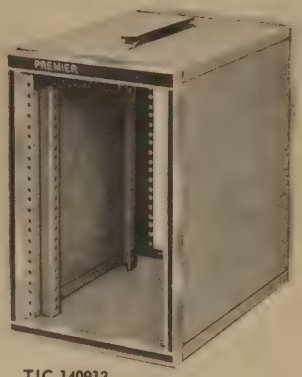
Distinctive Electronic Packaging



TIC 101921



TIC 081517



TIC 140913

General Description: High in quality and distinction, moderate in cost — Trimline Instrument Cases, with their extraordinary strength, beauty and utility, are designed to meet the engineering and marketing design requirements for OEM electronic products packaging for free standing or rack mounted instrumentation or systems.

The cases are trimmed front and rear with anodized, extruded aluminum and decorative vinyl inlays. Carrying hand grips are also decorated with matching inlays. Finishes are available in a wide choice of standard Premier colors in either fine grained textured vinyls or semi-gloss enamels. Through the wide choice of variations in size, finish and decorative trims, the Trimline Case becomes distinctive and individual for your product marketing identity.

Quick delivery with customized finishing and assembly is achieved by our extensive inventory of pre-fabricated component parts.

Lightweight strength and rigidity is achieved through the use of multiple offset and angle forming of 20 ga. C/R steel interlocked and welded to the 4-16 ga. channel corner post sections used for reinforcement and equipment mounting accommodations. Panel and interior equipment mounting channels are provided with holes on EIA and WE standard spacing to accept #10 Tinnerman Speed Nuts and screws. Provisions for equipment mounting permit the ready use of the following accessories: tiltstand; panels, front and rear; slides; rack adapters; chassis and shelf support angles; interior mounting matrix panels for components and/or brackets; and access doors with or without locks. Ventilation provisions and other modifications are readily available at nominal cost.

The large variety of sizes, the adaptability for equipment mounting requirements, the variety of trim, finish and product identification options, the ready availability at modest costs, make the Trimline Series of cases an ideal choice for electronic product packaging.

Special Size:

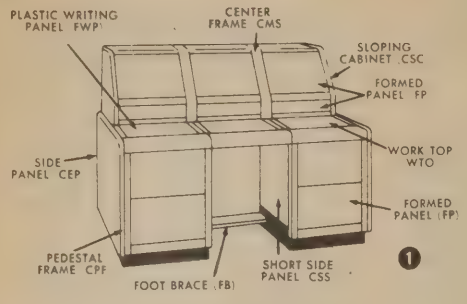
Free standing unit convertible to rack mounted installation. A special design size (15⅝" Panel Width) has been incorporated into the Trimline Instrument Case line which makes the entire case easily adaptable into standard 19" rack systems. The overall case width accommodates rack adapters to fit cleanly into 19" rack widths. The overall case height conforms to standard panel heights, requiring no fillers to adjacent panels above or below the Trimline Case. This design size is especially desirable for bench or desk instrumentation that might need transfer into a rack mounted system without requiring a different sized enclosure for each usage.

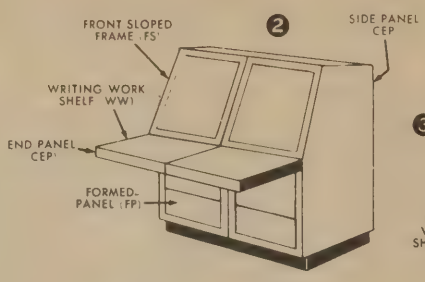
Nominal Panel Height	Panel to Panel Depth	19" PANEL WIDTHS		15⅝" PANEL WIDTHS		9½" PANEL WIDTHS	
		Model No.	Price*	Model No.	Price*	Model No.	Price*
3½	13	TIC 031913	$52.20	TIC 031513	$48.90	TIC 030913	$41.70
5¼	13	TIC 051913	54.90	TIC 051513	51.60	TIC 050913	44.20
7	13	TIC 071913	57.60	TIC 071513	54.40	TIC 070913	46.70
8¾	13	TIC 081913	60.30	TIC 081513	57.00	TIC 080913	49.20
10½	13	TIC 101913	63.40	TIC 101513	60.10	TIC 100913	52.10
12¼	13	TIC 121913	66.10	TIC 121513	62.80	TIC 120913	54.60
14	13	TIC 141913	68.80	TIC 141513	65.50	TIC 140913	57.10
17½	13	TIC 171913	74.10	TIC 171513	70.90	TIC 170913	62.20
21	13	TIC 211913	79.50	TIC 211513	76.30	TIC 210913	67.20
24½	13	TIC 241913	84.70	TIC 241513	81.40	TIC 240913	72.00
28	13	TIC 281913	90.30	TIC 281513	87.00	TIC 280913	77.20
3½	17	TIC 031917	55.30	TIC 031517	51.90	TIC 030917	44.30
5¼	17	TIC 051917	58.10	TIC 051517	54.70	TIC 050917	46.90
7	17	TIC 071917	60.80	TIC 071517	57.40	TIC 070917	49.40
8¾	17	TIC 081917	63.50	TIC 081517	60.20	TIC 080917	52.00
10½	17	TIC 101917	66.70	TIC 101517	63.40	TIC 100917	55.00
12¼	17	TIC 121917	69.40	TIC 121517	66.10	TIC 120917	57.50
14	17	TIC 141917	72.20	TIC 141517	68.90	TIC 140917	60.10
17½	17	TIC 171917	77.70	TIC 171517	74.30	TIC 170917	65.30
21	17	TIC 211917	83.20	TIC 211517	79.80	TIC 210917	70.40
24½	17	TIC 241917	88.70	TIC 241517	85.30	TIC 240917	75.50
28	17	TIC 281917	94.20	TIC 281517	90.80	TIC 280917	81.60
3½	21	TIC 031921	57.40	TIC 031521	54.90		
5¼	21	TIC 051921	61.20	TIC 051521	57.70		
7	21	TIC 071921	64.00	TIC 071521	60.50		
8¾	21	TIC 081921	66.80	TIC 081521	63.40		
10½	21	TIC 101921	70.00	TIC 101521	66.60		
12¼	21	TIC 121921	72.90	TIC 121521	69.40		
14	21	TIC 141921	75.60	TIC 141521	72.20		
17½	21	TIC 171921	81.20	TIC 171521	77.80		
21	21	TIC 211921	86.80	TIC 211521	83.40		
24½	21	TIC 241921	92.40	TIC 241521	89.00		
28	21	TIC 281921	98.00	TIC 281521	94.60		

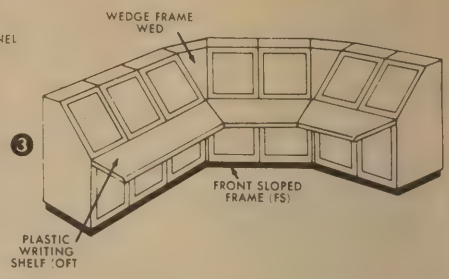
†See quantity discount schedule on page 3.

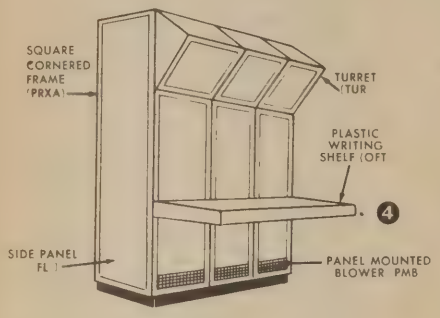
© United Technical Publications

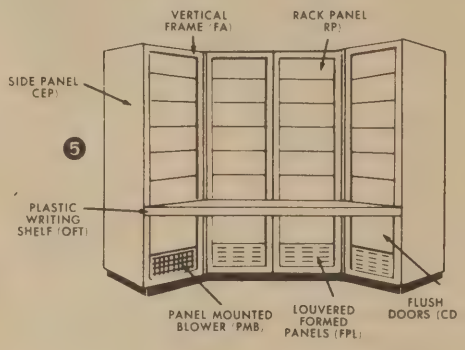
PREMIER MODULAR ENCLOSURE SYSTEMS











Premier Modular Enclosure Systems offer maximum flexibility, adaptability and esthetic value requirements in the electronic, electrical and electro-mechanical fields. The range of standard units of various width, depths, heights and shapes available offers a full variety of combinations and configurations necessary to meet the space and human engineering customized requirements for enclosure systems used in modern packaging. There are distinct advantages in using the Premier Modular Systems: "In house" costs for development and design requirements are dractically reduced, standardized production economies are realized, and delivery schedules are considerably faster.

Modifications available for Premier Modular units offer additional adaptability for "special" requirements.

INDUSTRIAL DISCOUNT SCHEDULES FOR QUANTITY PURCHASES

DISCOUNT SCHEDULE: "A" ITEMS

$ 25.00 - $ 250.00	NET
250.01 - 500.00	5%
500.01 - 1000.00	10%
1000.01 - 2000.00	15%
2000.01 - 4000.00	20%
4000.01 & over	Quotation

DISCOUNT SCHEDULE: "B" ITEMS

$ 25.00 - $ 200.00	NET
200.01 - 400.00	10%
400.01 - 550.00	15%
550.01 - 700.00	20%
700.01 - 1000.00	25%
1000.01 - 2500.00	30%
2500.01 & over	Quotation

MINIMUM BILLING $25.00

Total dollar value of "A" and "B" items can be combined to apply the maximum discount on respective schedules.
Prices: FOB Factory

MODULAR ENCLOSURE SYSTEMS

See FA Series for Specifications and Details



ASSEMBLY NO. FA-A-1
1 FA-52-22
2 CEP-52-22
1 DF-52
$168.68*



ASSEMBLY NO. FA-A-2
1 FA-61-22
2 CEP-61-22
1 DF-61
$185.42*



ASSEMBLY NO. FA-A-3
1 FA-70-22
2 CEP-70-22
1 DF-70
$200.32*



ASSEMBLY NO. FA-A-4
1 FA-77-22
2 CEP-77-22
1 DF-77
$211.28*



ASSEMBLY NO. FA-A-5
1 FA-52-255
2 CEP-52-255
1 DF-52
$178.62*



ASSEMBLY NO. FA-A-6
1 FA-61-255
2 CEP-61-255
1 DF-61
$196.94*



ASSEMBLY NO. FA-A-7
1 FA-70-255
2 CEP-70-255
1 DF-70
$212.98*



ASSEMBLY NO. FA-A-8
1 FA-77-255
2 CEP-77-255
1 DF-77
$244.68*



ASSEMBLY NO. FS-A-1
1 FS-1001
1 CEP-1201-LH
1 CEP-1201-RH
1 DF-42
$150.55*



ASSEMBLY NO. FS-A-2
1 FS-1002
CEP-1202-LH
1 CEP-1202-RH
1 DF-42-1002
$148.82*



ASSEMBLY NO. FS-A-3
1 FS-1001-255
1 CEP-1201-255-LH
1 CEP-1201-255-RH
1 DF-42
$160.97*



ASSEMBLY NO. FS-A-4
1 FS-1002-255
1 CEP-1202-255-LH
1 CEP-1202-255-RH
1 DF-42-1002
$157.97*



ASSEMBLY NO. CPF-A-1
1 CPF-101
2 CEP-401
1 CD-21
$104.75*



ASSEMBLY NO. CPF-A-2
1 CPF-101-255
2 CEP-401-255
1 CD-21
$118.37*



ASSEMBLY NO. CPF-A-3
1 CPF-102
2 CEP-402
1 CD-28
$122.84*



ASSEMBLY NO. CPF-A-4
1 CPF-102-255
2 CEP-402-255
1 CD-28
$138.27*

†See quantity discount schedule "A" on page 3.

© United Technical Publications

PREMIER MODULAR CABINET RACKS ROUNDED CORNER

FINISHED IN ALL PREMIER STANDARD COLORS. IF NOT SPECIFIED, LIGHT GRAY IS FURNISHED



Wedge frames available. (See tables page 5).

VERTICAL FRAMES

Completely welded 14 ga. steel frame. Top and bottom are of one piece construction with rectangular opening in bottom for leads. Supplied with two pairs of 12 ga. steel panel mounting angles, fully adjustable front to rear. Angles have E.I.A. spaced clearance holes. 10-32 screws and captive nuts are furnished. Frames have provisions for ganging, cabling between frames, mounting doors front or rear (left or right handed), mounting casters in base, and mounting writing work frames.

19" and 24" PANELS • 22" and 25½" DEPTHS

Cat. No.	Height	Panel Space	Depth	Width	Shpg. Wt. Lbs.	Net Price (A)†
FA-42-22	48⅝"	42 x 19"	22"	22"	50	$88.93
FA-52-22	59⅛"	52½ x 19"	22"	22"	65	92.29
FA-61-22	67⅞"	61¼ x 19"	22"	22"	80	100.39
FA-70-22	76⅝"	70 x 19"	22"	22"	100	108.70
FA-77-22	83⅝"	77 x 19"	22"	22"	110	114.53
FA-42-255	48⅝"	42 x 19"	25½"	22"	58	93.52
FA-52-255	59⅛"	52½ x 19"	25½"	22"	75	95.67
FA-61-255	67⅞"	61¼ x 19"	25½"	22"	92	106.36
FA-70-255	76⅝"	70 x 19"	25½"	22"	115	114.83
FA-77-255	83⅝"	77 x 19"	25½"	22"	127	120.26
FA-2761-22	67⅞"	61¼ x 24"	22"	27"	90	113.26
FA-2770-22	76⅝"	70 x 24"	22"	27"	110	128.19
FA-2777-22	83⅝"	77 x 24"	22"	27"	120	134.60
FA-2761-255	67⅞"	61¼ x 24"	25½"	27"	98	126.20
FA-2770-255	76⅝"	70 x 24"	25½"	27"	123	135.82
FA-2777-255	83⅝"	77 x 24"	25½"	27"	135	139.03



Wedge frames available. (See tables page 5).

SLOPED FRONT FRAMES

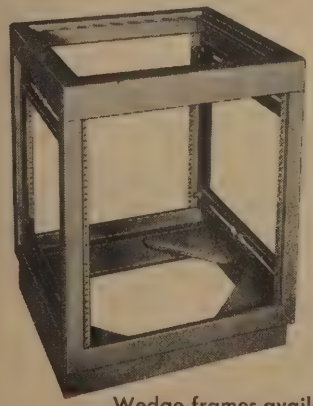
Completely welded 14 ga. steel frame. Front slopes 19° from vertical. Top and bottom are of one piece construction. Frame bottom has rectangular opening for leads and provision for mounting casters. Supplied with two pairs of adjustable panel mounting angles for vertical openings with E.I.A. spaced clearance holes. 10-32 screws and captive nuts are furnished. Sloped front panel space has fixed mounting angles recessed ½" and has tapped 10-32 holes on E.I.A. spacing. Front has removable crosspiece. Frame has provisions for ganging, cabling between frames, mounting left or right handed doors on rear, and mounting writing work frames.

19" & 24" PANEL WIDTHS—10½" & 17½" HEIGHTS
22" and 25½" DEPTHS

Cat. No.	Width	Height	Depth	Sloped Front Panel Space	Front Vertical Space	Rear Vertical Space	Shpg. Wt. Lbs.	Net Price (A)†
FS-1001	22"	50"	22"	17½ x 19"	26¼ x 19"	42 x 19"	66	$86.09
FS-1002	22"	47"	22"	10½ x 19"	29¾ x 19"	42 x 19"	64	83.54
FS-1003	27"	50"	22"	17½ x 24"	26¼ x 24"	42 x 24"	76	99.01
FS-1004	27"	47"	22"	10½ x 24"	29¾ x 24"	42 x 24"	74	96.99
FS-1001-255	22"	50"	25½"	17½ x 19"	26¼ x 19"	42 x 19"	75	90.49
FS-1002-255	22"	47"	25½"	10½ x 19"	29¾ x 19"	42 x 19"	73	88.38
FS-1003-255	27"	50"	25½"	17½ x 24"	26¼ x 24"	42 x 24"	85	105.06
FS-1004-225	27"	47"	25½"	10½ x 24"	29¾ x 24"	42 x 24"	83	102.85

PEDESTAL FRAMES

Frame is completely welded 16 ga. steel. Supplied with two pairs of 12 ga. steel panel mounting angles fully adjustable front to rear with E.I.A. spaced clearance holes. 10-32 screws and captive nuts furnished. Top panel space is recessed ½" and furnished with 10-32 tapped holes on E.I.A. spacing. Frame has provisions for ganging, mounting casters in base and mounting writing work frames. Frame accommodates flush type doors.



Wedge frames available. (See tables page 5).

19" and 24" PANELS • 22" and 25½" DEPTHS

Cat. No.	Width	Depth	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price (A)†
CPF-101	22"	22"	29½"	21 x 19"	17½ x 19"	45	$59.74
CPF-102	22"	22"	36½"	28 x 19"	17½ x 19"	48	68.74
CPF-103	27"	22"	29½"	21 x 24"	17½ x 24"	50	66.21
CPF-104	27"	22"	36½"	28 x 24"	17½ x 24"	53	77.12
CPF-101-34	22"	34¼"	29½"	21 x 19"	29¾ x 19"	54	83.53
CPF-101-255	22"	25½"	29½"	21 x 19"	21 x 19"	53	69.63
CPF-102-255	22"	25½"	36½"	28 x 19"	21 x 19"	55	84.07
CPF-103-255	27"	25½"	29½"	21 x 24"	21 x 24"	58	73.36
CPF-104-255	27"	25½"	36½"	28 x 24"	21 x 24"	59	88.88
CPF-101-18	22"	18½"	29½"	21 x 19"	14 x 19"	44	57.52
CPF-102-18	22"	18½"	36½"	28 x 19"	14 x 19"	47	66.38
CPF-103-18	27"	18½"	29½"	21 x 24"	14 x 24"	49	65.35
CPF-104-18	27"	18½"	36½"	28 x 19"	14 x 24"	52	74.96

TAPPED PANEL MOUNTING ANGLES AVAILABLE FOR ALL ABOVE FRAMES AT ADDITIONAL COST

†See quantity discount schedule on page 3.

© United Technical Publications

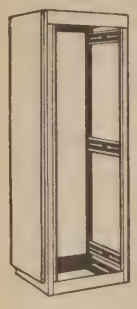
PREMIER MODULAR CABINET RACKS ROUNDED CORNER

ORDERING GUIDES

Select the basic frame type and size in accordance with equipment space and panel space requirements, operating personnel "human engineering" needs and the general design factor desired. The final frame selections may then be used to order the proper doors, side panels and other required accessories, using the guides below.

General accessory items such as fans, blowers, slides, panels, drawers, shelves, chassis, hardware, etc. may be found on pages 19 through 30.

VERTICAL FRAMES



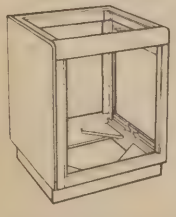
Cat. No.	(Pg. 8) Side Panels Plain Cat. No.	(Pg. 8) *Side Panels Hinged Cat. No.	(Pg. 8) Face Mounted Doors Cat. No.	(Pg. 14) Chassis Support Angles Cat. No.	(Pg. 14) Equipment Shelves Cat. No.	(Pg. 11) Sliding Work Shelves Cat. No.
FA-42-22	CEP-42-22	CEP-H-42-22	DF-42	CSA-22	S-22-22	RDS-319-22
FA-52-22	CEP-52-22	CEP-H-52-22	DF-52	CSA-22	S-22-22	RDS-319-22
FA-61-22	CEP-61-22	CEP-H-61-22	DF-61	CSA-22	S-22-22	RDS-319-22
FA-70-22	CEP-70-22	CEP-H-70-22	DF-70	CSA-22	S-22-22	RDS-319-22
FA-77-22	CEP-77-22	CEP-H-77-22	DF-77	CSA-22	S-22-22	RDS-319-22
FA-42-255	CEP-42-255	CEP-H-42-255	DF-42	CSA-255	S-22-255	RDS-319-22
FA-52-255	CEP-52-255	CEP-H-52-255	DF-52	CSA-255	S-22-255	RDS-319-22
FA-61-255	CEP-61-255	CEP-H-61-255	DF-61	CSA-255	S-22-255	RDS-319-22
FA-70-255	CEP-70-255	CEP-H-70-255	DF-70	CSA-255	S-27-255	RDS-319-22
FA-77-255	CEP-77-255	CEP-H-77-255	DF-77	CSA-255	S-22-255	RDS-319-22
FA-2761-22	CEP-61-22	CEP-H-61-22	DF-2761	CSA-22	S-27-22	RDS-324-22
FA-2770-22	CEP-70-22	CEP-H-70-22	DF-2770	CSA-22	S-27-22	RDS-324-22
FA-2777-22	CEP-77-22	CEP-H-77-22	DF-2777	CSA-22	S-27-22	RDS-324-22
FA-2761-255	CEP-61-255	CEP-H-61-255	DF-2761	CSA-255	S-27-255	RDS-324-22
FA-2770-255	CEP-70-255	CEP-H-70-255	DF-2770	CSA-255	S-27-255	RDS-324-22
FA-2777-255	CEP-77-255	CEP-H-77-255	DF-2777	CSA-255	S-22-255	RDS-324-22

SLOPED FRONT FRAMES



Cat. No.	(Pg. 8) *Side Panels Plain Cat. No.	(Pg. 8) *Side Panels Hinged Cat. No.	(Pg. 8) Face Mounted Rear Door Cat. No.	(Pg. 14) Equipment Shelf Cat. No.	(Pg. 14) Chassis Support Angle Cat. No.	(Pg. 11) Sliding Work Shelf Cat. No.
FS-1001	CEP-1201	CEP-H-1201	DF-42	S-22-22	CSA-22	RDS-319-22
FS-1002	CEP-1202	CEP-H-1202	DF-42-1002	S-22-22	CSA-22	RDS-319-22
FS-1003	CEP-1201	CEP-H-1201	DF-2742	S-27-22	CSA-22	RDS-324-22
FS-1004	CEP-1202	CEP-H-1202	DF-2742-1002	S-27-22	CSA-22	RDS-324-22
FS-1001-255	CEP-1201-255	CEP-H-1201-255	DF-42	S-22-255	CSA-255	RDS-319-22
FS-1002-255	CEP-1202-255	CEP-H-1202-255	DF-42-1002	S-22-255	CSA-255	RDS-319-22
FS-1003-255	CEP-1201-255	CEP-H-1201-255	DF-2742	S-27-255	CSA-255	RDS-324-22
FS-1004-255	CEP-1202-255	CEP-H-1202-255	DF-2742-1002	S-27-255	CSA-255	RDS-324-22

PEDESTAL FRAMES



Cat. No.	(Pg. 8) Side Panel Plain Cat. No.	(Pg. 8) Front or Rear Flush Door Cat. No.	(Pg. 14) Equipment Shelf Cat. No.	(Pg. 14) Chassis Support Angles Cat. No.	(Pg. 10) Top Panel Cat. No.
CPF-101	CEP-401	CD-21	S-22-22	CSA-22	FP-1719
CPF-102	CEP-402	CD-28	S-22-22	CSA-22	FP-1719
CPF-103	CEP-401	CD-2124	S-27-22	CSA-22	FP-1724
CPF-104	CEP-402	CD-2824	S-27-22	CSA-22	FP-1724
CPF-101-34	CEP-401-34	CD-21	—	—	FP-2919
CPF-101-255	CEP-401-255	CD-21	S-22-255	CSA-255	FP-2119
CPF-102-255	CEP-402-255	CD-28	S-22-255	CSA-255	FP-2119
CPF-103-255	CEP-401-255	CD-2124	S-27-255	CSA-255	FP-2124
CPF-104-255	CEP-402-255	CD-2824	S-27-255	CSA-255	FP-2124
CPF-101-18	CEP-401-18	CD-21	S-22-18	CSA-18	FP-1419
CPF-102-18	CEP-402-18	CD-28	S-22-18	CSA-18	FP-1419
CPF-103-18	CEP-401-18	CD-2124	S-27-18	CSA-18	FP-1424
CPF-104-18	CEP-402-18	CD-2824	S-27-18	CSA-18	FP-1424

WEDGE FRAMES

30° and 45° wedge shaped frames are designed for curved or wing type modular systems with vertical, sloping and pedestal frame assemblies. Completely welded steel with one piece top and bottom construction. Full sized removable rear panel is included. Note: One piece work and writing tops are available for all console assemblies utilizing wedge frames. Finished in all Premier standard colors. If not specified, Light Gray is furnished.

30° WEDGE FRAMES

Cat. No.	Height	Depth	For Use With	Net Price (A)†
WED-30-42-22	48¾"	22"	FA-42-22	$138.29
WED-30-52-22	59¼"	22"	FA-52-22	149.37
WED-30-61-22	67⅞"	22"	FA-61-22	156.81
WED-30-70-22	76⅝"	22"	FA-70-22	168.05
WED-30-77-22	83⅝"	22"	FA-77-22	175.47
WED-30-42-255	48¾"	25½"	FA-42-255	165.77
WED-30-52-255	59¼"	25½"	FA-52-255	175.71
WED-30-61-255	67⅞"	25½"	FA-61-255	179.24
WED-30-70-255	76⅝"	25½"	FA-70-255	194.20
WED-30-77-255	83⅝"	25½"	FA-77-255	201.73
WED-30-101	29½"	22"	CPF-101, 103	115.83
WED-30-102	36½"	22"	CPF-102, 104	123.26
WED-30-101-18	29½"	18½"	CPF-101-18, 103-18	113.20
WED-30-101-255	29½"	25½"	CPF-101-255, 103-255	118.88
WED-30-1001	50"	22"	FS-1001 1003	149.65
WED-30-1002	47"	22"	FS-1002 1004	159.52
WED-30-1001-255	50"	25½"	FS-1001-255, 1003-255	159.72
WED-30-1002-255	47"	25½"	FS-1002-255, 1004-255	180.33

45° WEDGE FRAMES

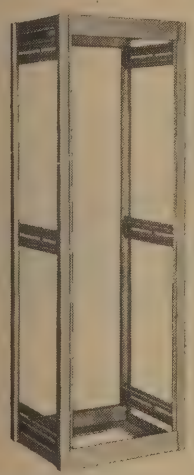
Cat. No.	Height	Depth	For Use With	Net Price (A)†
WED-45-42-22	48¾"	22"	FA-42-22	$141.98
WED-45-52-22	59¼"	22"	FA-52-22	153.17
WED-45-61-22	67⅞"	22"	FA-61-22	160.65
WED-45-70-22	76⅝"	22"	FA-70-22	171.83
WED-45-77-22	83⅝"	22"	FA-77-22	179.17
WED-45-42-255	48¾"	25½"	FA-42-255	170.28
WED-45-52-255	59¼"	25½"	FA-52-255	178.06
WED-45-61-255	67⅞"	25½"	FA-61-255	183.00
WED-45-70-255	76⅝"	25½"	FA-70-255	198.03
WED-45-77-255	83⅝"	25½"	FA-77-255	205.38
WED-45-101	29½"	22"	CPF-101, 103	118.98
WED-45-102	36½"	22"	CPF-102, 104	127.01
WED-45-101-18	29½"	18½"	CPF-101-18, 103-18	117.59
WED-45-101-255	29½"	25½"	CPF-101-255, 103-255	122.16
WED-45-1001	50"	22"	FS-1001 1003	167.22
WED-45-1002	47"	22"	FS-1002 1004	182.13
WED-45-1001-255	50"	25½"	FS-1001-255, 1003-255	178.47
WED-45-1002-255	47"	25½"	FS-1002-255, 1004-255	199.29

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER MODULAR CABINET RACKS SQUARED CORNERED

Completely welded 14 ga. steel frame. Top and bottom are of one piece construction with rectangular opening in bottom for leads. Supplied with two pairs of 12 ga. steel panel mounting angles, fully adjustable front to rear. Angles have E.I.A. spaced clearance holes. 10-32 screws and captive nuts are furnished. Frames have provisions for ganging, cabling between frames, mounting doors front or rear (left or right handed), mounting casters in base, and mounting writing work frames. Finished in Light Gray enamel. Also available in all Premier standard colors. Please specify.



Wedge frames available.

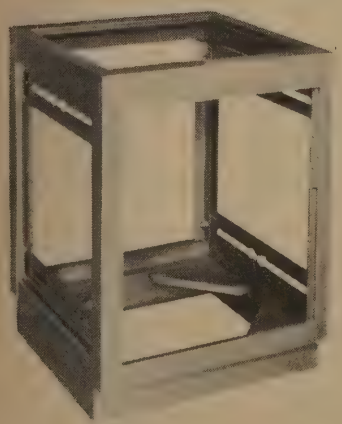
VERTICAL FRAMES 18" and 24" DEEP for 19", 24" and 30" PANEL WIDTHS

18" DEEP						24" DEEP		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Height	Width	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
PRXA-36	40	$73.95	42⅞"	22"	36¾x19"	PRXA-36-24	50	$79.50
PRXA-42	48	77.53	48⅛"	22"	42 x19"	PRXA-42-24	58	83.69
PRXA-52	60	80.71	58⅝"	22"	52½x19"	PRXA-52-24	72	86.82
PRXA-61	70	87.79	67⅜"	22"	61¼x19"	PRXA-61-24	85	94.46
PRXA-70	88	95.14	76⅛"	22"	70 x19"	PRXA-70-24	108	102.32
PRXA-77	100	100.22	83⅛"	22"	77 x19"	PRXA-77-24	120	107.79
PRXA-2761	100	99.11	67⅜"	22"	61¼x24"	PRXA-2761-24	134	106.58
PRXA-2770	104	112.18	76⅛"	27"	70 x24"	PRXA-2770-24	140	120.66
PRXA-2777	116	117.81	83⅛"	27"	77 x24"	PRXA-2777-24	156	126.60
PRXA-3361	122	118.96	67⅜"	33"	61¼x30"	PRXA-3361-24	162	127.91
PRXA-3370	126	134.64	76⅛"	33"	70 x30"	PRXA-3370-24	169	144.80
PRXA-3377	142	141.46	83⅛"	33"	77 x30"	PRXA-3377-24	190	152.00

ORDERING GUIDE

Vertical Frame Cat. No.	(Pg. 7) Flush Side Panel Cat. No.	(Pg. 8) Use Door Cat. No.	(Pg. 14) Use Chassis Support Angle	(Pg. 14) Use Shelf	(Pg. 13) Use Chassis Slides
PRXA-36	FL-36	DF-36	CSA-18	S-2218	16"
PRXA-42	FL-42	DF-42	CSA-18	S-2218	16"
PRXA-52	FL-52	DF-52	CSA-18	S-2218	16"
PRXA-61	FL-61	DF-61	CSA-18	S-2218	16"
PRXA-70	FL-70	DF-70	CSA-18	S-2218	16"
PRXA-77	FL-77	DF-77	CSA-18	S-2218	16"
PRXA-36-24	FL-36-24	DF-36	CSA-24	S-2224	22"
PRXA-42-24	FL-42-24	DF-42	CSA-24	S-2224	22"
PRXA-52-24	FL-52-24	DF-52	CSA-24	S-2224	22"
PRXA-61-24	FL-61-24	DF-61	CSA-24	S-2224	22"
PRXA-70-24	FL-70-24	DF-70	CSA-24	S-2224	22"
PRXA-77-24	FL-77-24	DF-77	CSA-24	S-2224	22"
PRXA-2761	FL-61	DF-2761	CSA-18	S-2718	16"
PRXA-2770	FL-70	DF-2770	CSA-18	S-2718	16"
PRXA-2777	FL-77	DF-2777	CSA-18	S-2718	16"
PRXA-2761-24	FL-61-24	DF-2761	CSA-24	S-2724	22"
PRXA-2770-24	FL-70-24	DF-2770	CSA-24	S-2724	22"
PRXA-2777-24	FL-77-24	DF-2777	CSA-24	S-2724	22"
PRXA-3361	FL-61	DF-3361	CSA-18	S-3318	16"
PRXA-3370	FL-70	DF-3370	CSA-18	S-3318	16"
PRXA-3377	FL-77	DF-3377	CSA-18	S-3318	16"
PRXA-3361-24	FL-61-24	DF-3361	CSA-24	S-3324	22"
PRXA-3370-24	FL-70-24	DF-3370	CSA-24	S-3324	22"
PRXA-3377-24	FL-77-24	DF-3377	CSA-24	S-3324	22"

PEDESTAL FRAMES



- Frame made of 16 gauge steel completely welded.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles on E.I.A. spacings.
- Screws and captive nuts supplied.
- Panel fits into ½" recess.
- Finished in Light Gray enamel. Also available in all Premier standard colors. Please specify.
- Frame accommodates square cornered end panels and flush doors.
- Units designed for multiple installation.
- Brackets welded in base and punched to accommodate casters.

PEDESTAL FRAME			Height with Casters	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price (A)†
Cat. No.	Width	Depth						
MSF-21-22	22"	22"	30"	29½"	21x19"	17½x19"	45	$64.48
MSF-28-22	22"	22"	37"	36½"	28x19"	17½x19"	50	74.20
MSF-21-255	22"	25½"	30"	29½"	21x19"	21 x19"	50	66.34
MSF-28-255	22"	25½"	37"	36½"	28x19"	21 x19"	55	77.51

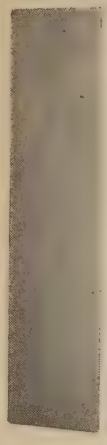
ORDERING GUIDE

Pedestal Frame Cat. No.	(Pg. 7) Side Panel Cat. No.	(Pg. 7) Flush Door Cat. No.	(Pg. 9) Top Panel (Formed) Cat. No.	(Pg. 10) Top Panel Plastic Laminated Cat. No.	(Pg. 14) Shelf Cat. No.	(Pg. 14) Chassis Support Angle Cat. No.	(Pg. 13) Slide Length
MSF-21-22	MSP-21-22	CD-21	FP-1719	FWP-1719	S-22-22	CSA-22	20"
MSF-28-22	MSP-28-22	CD-28	FP-1719	FWP-1719	S-22-22	CSA-22	20"
MSF-21-255	MSP-21-255	CD-21	FP-2119	FWP-2119	S-22-255	CSA-255	24"
MSF-28-255	MSP-28-255	CD-28	FP-2119	FWP-2119	S-22-255	CSA-255	24"

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER MODULAR CABINET RACK ACCESSORIES



½" DEEP SIDE PANELS

- Fits into side recess of frames 18" and 24" deep.
- Made of one piece of 16 gauge steel and reinforced.
- Clips on to horizontal side section of frame.
- Finished in Smoke Blue enamel. Also available in all Premier standard colors.

SIDE PANELS (Flush)

Cat. No.	Height	Width	Shpg. Wt. Lbs.	Net Price (A)†
FL-36	42¾"	15"	18	$15.80
FL-42	48"	15"	19	16.74
FL-52	58½"	15"	21	18.96
FL-61	67¼"	15"	22	22.08
FL-70	76"	15"	25	23.82
FL-77	83"	15"	27	25.69
FL-36-24	42¾"	21"	20	20.87
FL-42-24	48"	21"	21	21.87
FL-52-24	58½"	21"	24	24.08
FL-61-24	67¼"	21"	27	26.63
FL-70-24	76"	21"	30	28.77
FL-77-24	83"	21"	33	31.04



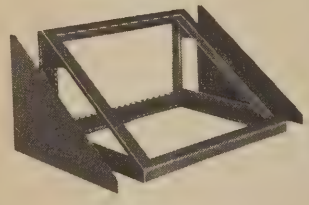
SQUARE SIDE PANELS FOR PEDESTAL FRAMES—13/16" DEEP

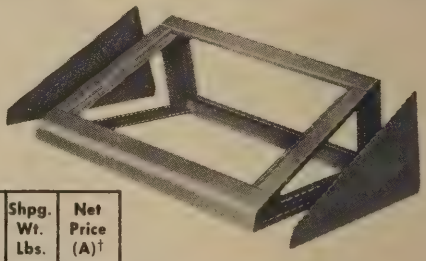
- Made of one piece of 16 gauge steel and reinforced.
- End panels attach to frame by a bracket on bottom and two captive screws.
- Finished in Smoke Blue enamel. Also available in all Premier standard colors. Please specify.

22" Wide for 22" Deep Frames				25½" Wide for 25½" Deep Frames		
Cat. No.	To Fit Frame No.	Net Price (A)†	Height (A)	Cat. No.	To Fit Frame No.	Net Price (A)†
MSP-21-22	MSF-21-22	$14.30	26"	MSP-21-255	MSF-21-255	$16.42
MSP-28-22	MSF-28-22	16.42	33"	MSP-28-255	MSF-28-255	18.53

TURRETS
FOR 19" & 24" PANELS

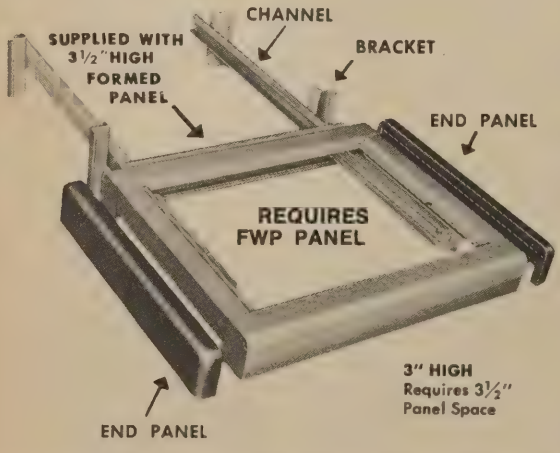
All turrets may be mounted on any of their 3 panel openings to vertical and pedestal frames for optimum viewing angles in sitting or standing positions. Frames are 16 ga. steel, completely welded. All panel openings are drilled and tapped for 10-32 screws on standard E.I.A. spacing in ½" recess. Turrets may be ganged for console assemblies. Furnished with flat steel side panels. Finished in all Premier standard colors.





Cat. No.	Width	Height	Depth	Sloped Front Panel Space	Rear Panel Space	Bottom Panel Space	Shpg. Wt. Lbs.	Net Price (A)†
TUR-1-19	22"	9¾"	21"	14" x 19"	7" x 19"	17½" x 19"	25	$42.79
TUR-1-24	27"	9¾"	21"	14" x 24"	7" x 24"	17½" x 24"	27	48.51
TUR-3-19	22"	12¼"	17½"	17½" x 19"	8¾" x 19"	14" x 19"	20	37.21
TUR-3-24	27"	12¼"	17½"	17½" x 24"	8¾" x 24"	14" x 24"	22	42.93

If not specified, Light Gray Frame with Smoke Blue Side Panels are furnished.



3" HIGH
Requires 3½" Panel Space

WRITING-WORK SHELF FRAMES

Completely welded 16 ga. steel. Supplied with channels and brackets for mounting into 3½" of panel space on all modular frames. Unit is supported internally and is furnished with 3½" high formed panel filler. May be used in multiple installations. Finished in all Premier standard colors.

If not specified, Light Gray Frame with Smoke Blue End Panels are furnished.

22" WIDE

To Fit 22" DEEP FRAMES					To Fit 25½" DEEP FRAMES		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Top Panel Space	Depth	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
WW-15-22	11	$39.85	10½" x 19"	15"	WW-15-255	12	$40.61
WW-18-22	12	41.84	14" x 19"	18½"	WW-18-255	13	42.69
WW-22-22	13	43.77	17½" x 19"	22"	WW-22-255	14	44.62

27" WIDE

WW-2715-22	14	$55.06	10½" x 24"	15"	WW-2715-255	15	$46.56
WW-2718-22	15	47.10	14" x 24"	18½"	WW-2718-255	16	47.86
WW-2722-22	16	48.44	17½" x 24"	22"	WW-2722-255	17	49.31

END PANELS FOR WRITING-WORK SHELF

Ball cornered panel made of welded 18 ga. steel; attaches to shelf with 2 captive screws. Finished in all Premier standard colors.
If not specified, Smoke Blue is furnished.

Cat. No.	Lbs.	Used With	Net Price (A)
CEP-15	1½	WW-15-22, 15-255; 2715-22, 2715-255	$ 5.56
CEP-18	2	WW-18-22, 18-255; 2718-22, 2718-255	5.70
CEP-22	2½	WW-22-22, 22-255; 2722-22, 2722-255.	5.89

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER MODULAR CABINET RACK ACCESSORIES

FINISHED IN ALL PREMIER STANDARD COLORS. IF NOT SPECIFIED, ALL DOORS AND SIDE PANELS ARE FURNISHED IN SMOKE BLUE.



SIDE PANELS FOR VERTICAL FRAMES — 1 11/32" DEEP (FOR FA FRAMES)

Ball cornered panels made of 1 piece 16 ga. steel, welded and reinforced for rigidity. Supplied blank, louvred available at additional cost.

		STANDARD PANELS Internally fastened with knurled screws		HINGED LH or RH Closed externally with ¼ turn captive fasteners	
Height	Width	Cat. No.	Net Price (A)†	Cat. No.	Net Price (A)†
45¼"	22"	CEP-42-22	$19.55	CEP-H-42-22	$34.20
55¾"	22"	CEP-52-22	23.38	CEP-H-52-22	40.93
64½"	22"	CEP-61-22	25.89	CEP-H-61-22	45.27
73¼"	22"	CEP-70-22	27.92	CEP-H-70-22	48.88
80¼"	22"	CEP-77-22	29.34	CEP-H-77-22	51.36
45¼"	25½"	CEP-42-255	22.77	CEP-H-42-255	39.83
55¾"	25½"	CEP-52-255	26.64	CEP-H-52-255	46.63
64½"	25½"	CEP-61-255	28.63	CEP-H-61-255	50.12
73¼"	25½"	CEP-70-255	31.19	CEP-H-70-255	54.57
80¼"	25½"	CEP-77-255	33.18	CEP-H-77-255	58.06



SIDE PANELS FOR SLOPED FRONT FRAMES— 1 11/32" DEEP (FOR FS FRAMES)

Ball cornered panels made of 1 piece 16 ga. steel, welded and reinforced for rigidity. Supplied blank, louvred available at additional cost.

		STANDARD PANELS Internally fastened with knurled screws		HINGED LH or RH Closed externally with ¼ turn captive fasteners	
Height	Width	Cat. No.	Net Price (A)†	Cat. No.	Net Price (A)†
46⅝"	22"	CEP-1201 LH	$19.14	CEP-H-1201 LH	$33.54
46⅝"	22"	CEP-1201 RH	19.14	CEP-H-1201 RH	33.54
43⅜"	22"	CEP-1202 LH	19.55	CEP-H-1202 LH	34.20
43⅜"	22"	CEP-1202 RH	19.55	CEP-H-1202 RH	34.20
46⅝"	25½"	CEP-1201-255 LH	22.14	CEP-H-1201-255 LH	38.79
46⅝"	25½"	CEP-1201-255 RH	22.14	CEP-H-1201-255 RH	38.79
43⅜"	25½"	CEP-1202-255 LH	21.70	CEP-H-1202-255 LH	37.99
43⅜"	25½"	CEP-1202-255 RH	21.70	CEP-H-1202-255 RH	37.99

SIDE PANELS FOR CPF PEDESTAL FRAMES – 1 11/32" DEEP

One piece 16 ga. steel, completely welded and reinforced. Supplied blank, louvred at additional cost. 400 Series is ball cornered.



		STANDARD PANELS Internally fastened with knurled screws	
Height	Width	Cat. No.	Net Price (A)†
26"	22"	CEP-401	$16.19
33"	22"	CEP-402	19.55
26"	34¼"	CEP-401-34	21.43
26"	25½"	CEP-401-255	18.05
33"	25½"	CEP-402-255	19.59
26"	18½"	CEP-401-18	15.53
23"	18½"	CEP-402-18	18.53

		Used only when work top is mounted between 2 pedestal frames. Externally fastened.	
H.	W.	Cat. No.	Net Price (A)†
23"	22"	CSS-701	$11.36
23"	34¼"	CSS-701-34	15.01
23"	25½"	CSS-701-255	13.57
23"	18½"	CSS-701-18	10.18





FOR PRXA AND FA FRAMES

SURFACE MOUNTED DOORS 13/16" DEEP for vertical and sloped front frames 16 ga. steel. 1 piece construction mounted with slip jointed hinges supplied with locking handle, 2 keys and latch bracket. May be mounted left or right hinged*. Supplied blank; louvred at additional charge. Specify hinged side when ordering louvred.

21½" WIDE				26½" WIDE		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Height (A)	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
DF-36	17	$24.79	40⅜"			
DF-42*	20	26.19	45⅜"			
DF-52	25	29.68	56⅜"			
DF-61	28	33.32	64⅜"	DF-2761	34	38.45
DF-70	31	35.78	73⅜"	DF-2770	38	43.12
DF-77	34	38.06	80⅜"	DF-2777	41	44.68

32½" WIDE (DOUBLE DOORS with 3 Point Locking Device)

Cat. No.	Shpg. Wt. Lbs.	Height	Net Price (A)†
DF-3361	40	64⅜"	$49.52
DF-3370	45	73⅜"	53.64
DF-3377	48	80⅜"	57.11

*Add suffix -1002 when used with FS-1002, 1002-255, 1004, 1004-255 and specify left or right hinged.

FLUSH MOUNTED DOOR ½" DEEP for use with CPF, FS, FA, MSF, POR and CSC frames. 16 ga. steel. 1 piece construction. May be mounted left or right supplied with chrome plated handle and snap catch.

Cat. No.	Net Price (A)†	Height	Width	Shpg. Wt. Lbs.
CD-17	$12.01	17½"	19"	7
CD-21	12.87	21"	19"	8
CD-26	14.52	26¼"	19"	9
CD-28	15.29	28"	19"	10
CD-29	15.90	29¾"	19"	11
CD-42	25.79	42"	19"	16
CD-1724	14.52	17½"	24"	8
CD-2124	15.60	21"	24"	9
CD-2624	17.71	26¼"	24"	11
CD-2824	18.36	28"	24"	12
CD-2924	19.14	29¾"	24"	13
CD-4224	31.84	42"	24"	17

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER ACCESSORIES

FRONT DOORS — 1¼" DEEP
TO FIT STANDARD 19" DESK RACK CABINETS AND CABINET RELAY RACKS

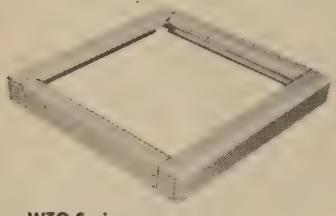

FD-310-313 MODELS


FD-300-306 MODELS

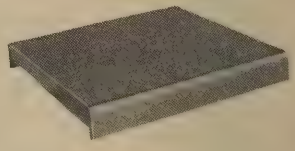
Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate E.I.A. spacings and are made to fit on top of the panels. Supplied with cylinder lock and cam bracket to hold door in position on FD-300-306. Locking chrome handle with two keys supplied on FD-310-313 models. All necessary bolts furnished for easy assembly. All doors are 20½" wide x1¼" deep. Finished in Smoke Blue. Other finishes available at extra cost. (See page 50.)

Cat. No.	Will Fit Rack No.	Overall Height	Shpg. Wt. Lbs.	Net Price
FD-300	DCR, DRK-260, 18260, MDK-260	26¼"	10	(B)† $20.88
FD-301	DCR, DRK-310, 18310, MDK-310	31½"	11	(B)† 24.12
FD-302	DCR, DRK-350, 18350, MDK-350	35"	12	(B)† 28.09
FD-303	DCR, DRK-120, 18120, MDK-120	12¼"	6	(B)† 15.68
FD-304	DCR, DRK-140, 18140, MDK-140	14"	7	(B)† 16.97
FD-305	DCR, DRK-170, 18170, MDK-170	17½"	8	(B)† 18.55
FD-306	DCR, DRK-210, 18210, MDK-210	21"	9	(B)† 19.94
FD-310	R-3619	36⅞"	13	(A)† 30.43
FD-311	R-4219	42⅛"	15	(A)† 34.87
FD-312	R-6119	61⅜"	20	(A)† 40.53
FD-313	R-7719	77⅛"	24	(A)† 46.43

WORK TOPS FOR MULTIPLE ASSEMBLY
3" High


WTO Series Open Type

- Designed for mounting between two Pedestal Frames or when used with End Pedestal (PE Series).
- WTO accommodates formed or laminated plastic panels.
- USE SHORT END PANELS (CSS Series) FOR THIS INSTALLATION.
- Made of welded 16 gauge steel.
- Finished in Light Gray enamel. Also available in all Premier standard colors. Please specify.


CWT Series Solid Type

OPEN TYPE

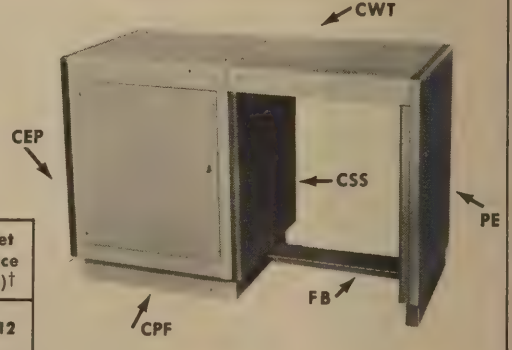
Cat. No.	Width	Depth	Panel Space	Shpg. Wt. Lbs.	Net Price (A)†
WTO-22-22	22"	22"	17½x19"	9½	$30.60
WTO-27-22	27"	22"	17½x24"	11	36.78
WTO-22-34	22"	34¼"	29¾x19"	12	47.64
WTO-22-255	22"	25½"	21 x19"	12	41.06
WTO-27-255	27"	25½"	21 x24"	13	43.23
WTO-22-18	22"	18½"	14 x19"	9	29.19

SOLID TYPE

Cat. No.	Width	Depth	Shpg. Wt. Lbs.	Net Price (A)†
CWT-601	22"	22"	14	$17.21
CWT-603	27"	22"	18	20.22
CWT-601-34	22"	34¼"	20	25.52
CWT-601-18	22"	18½"	12	15.98
CWT-601-255	22"	25½"	16	18.40

END PEDESTAL and FOOT BRACE FOR DOUBLE UNIT ASSEMBLY

- Made of welded, double walled 16 gauge steel.
- Ball cornered.
- End Pedestal mounts to Work Top CWT Series or WTO Series. Foot Brace mounts to Pedestal Frame CPF Series and End Pedestal PE-901.
- Foot Brace can be mounted between two Pedestal Frames (CPF or MSF Series).
- End Pedestal finished in Blue enamel; Also available in all Premier standard colors. Please specify.



END PEDESTAL

Cat. No.	Depth	Height	Shpg. Wt. Lbs.	Net Price (A)†
PE-901	22"	29½"	25	$33.43
PE-901-34	34¼"	29½"	30	50.14
PE-901-255	25½"	29½"	28	40.83
PE-901-18	18½"	29½"	22	31.80

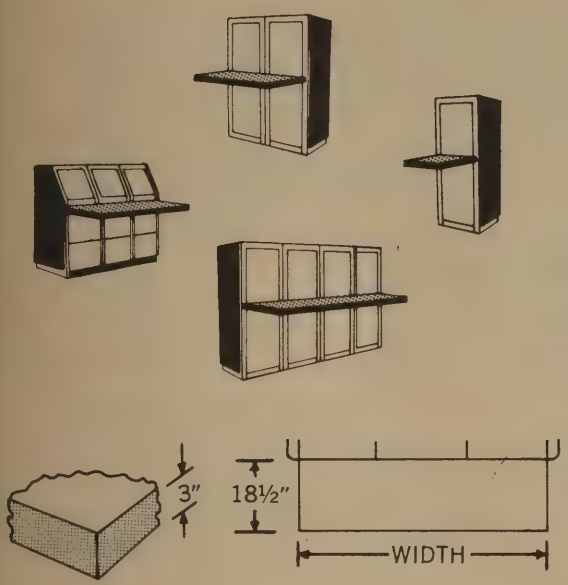
FOOT BRACE

Cat. No.	Shpg. Wt. Lbs.	Used With	Net Price (A)†
FB-801	3	22" Wide Work Tops	$9.12
FB-802	3½	27" Wide Work Tops	9.84

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER ACCESSORIES



ONE PIECE LAMINATED PLASTIC TOP WORK WRITING SHELVES

For ALL MODULAR FRAMES

- Gray linen weave laminated plastic bonded to ¾" plywood
- Other standard laminated plastic colors or patterns available
- 3" self edged laminated plastic skirt on 3 sides
- Supplied with 3½ x 19" formed panel, channels and brackets

TO FIT 22" DEEP FRAMES				TO FIT 25½" DEEP FRAMES	
Cat. No.	Net Price (A)†	Depth	Width	Cat. No.	Net Price (A)†
For 1 Frame (FA MSF, or PRXA Series) or 1 Sloped Front Frame (FS Series)					
OFT-2218-22	$87.33	18½"	22"	OFT-2218-255	$88.21
For 2 Frames (FA MSF, or PRXA Series) or 2 Sloped Front Frames (FS Series) Side By Side					
OFT-4418-22	108.60	18½"	44"	OFT-4418-255	109.70
For 3 Frames (FA MSF, or PRXA Series) or 3 Sloped Front Frames (FS Series) Side By Side					
OFT-6618-22	127.51	18½"	66"	OFT-6618-255	128.78
For 4 Frames (FA MSF, or PRXA Series) or 4 Sloped Front Frames (FS Series) Side By Side					
OFT-8818-22	160.51	18½"	88"	OFT-8818-255	162.12

SIZES OTHER THAN SHOWN AVAILABLE ON REQUEST

NOTE: ONE PIECE laminated plastic shelves available for use with semi-circular arrangements when used with Wedge Frames.

FORMICA WRITING PANELS

19" and 24" WIDE — ½" THICK

Gray Linen Weave Pattern laminated plastic bonded to plywood as top surface; Unfinished laminated plastic bonded to bottom surface.

19" WIDE

Cat. No.	Panel Space	Fits into	Net Price (A)†
FWP-1019	10½ x 19"	WW-15-22 & WW-15-255	$8.91
FWP-1419	14 x 19"	WW-18-22 & WW-18-255	9.96
FWP-1719	17½ x 19"	WW-22-22 & WW-22-255, WTO-22-22 & Top Panel Space of CPF-101, CPF-102, MSF-21-22, MSF-28-22	11.53
FWP-2119	21 x 19"	WTO-22-255, WW-255-22, WW-255-255, MSF-21-255, MSF-28-255	13.64
FWP-2919	29¾ x 19"	CPF-101-34, WTO-22-34	18.88

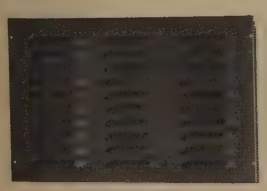
24" WIDE

Cat. No.	Panel Space	Fits into	Net Price (A)†
FWP-1024	10½ x 24"	WW-2715-22, WW-2715-255	$10.48
FWP-1424	14 x 24"	WW-2718-22, WW-2718-255	12.58
FWP-1724	17½ x 24"	WW-2722-22, WW-2722-255, WTO-27-22 & Top Panel Space of CPF-103 & CPF-104	13.64
FWP-2124	21 x 24"	WTO-27-255, WW-27-255, WW-27-255-255	17.82

FORMED PANELS—½" DEEP 19" and 24" WIDE



BLANK



LOUVRED

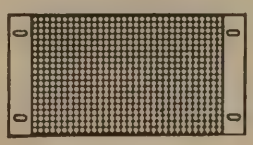
- Made of one piece of No. 16 gauge steel, with edges formed for overall depth of ½".
- Each panel has only 2 mounting holes on each side.
- Finished in Light Gray

BLANK

19" WIDE				24" WIDE		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Height	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
FP-119	1½	$2.26	1¾"	FP-124	2	$2.60
FP-319	2	2.55	3½"	FP-324	3	3.04
FP-519	2½	2.89	5¼"	FP-524	3½	3.44
FP-719	3	3.17	7"	FP-724	4	3.91
FP-819	4	3.44	8¾"	FP-824	5	4.30
FP-1019	5	3.73	10½"	FP-1024	6	4.70
FP-1219	6	4.13	12¼"	FP-1224	7	5.15
FP-1419	6½	4.40	14"	FP-1424	7½	5.53
FP-1519	7	4.70	15¾"	FP-1524	8	5.97
FP-1719	7½	5.09	17½"	FP-1724	8½	6.44
FP-1919	8	5.42	19¼"	FP-1924	9	6.95
FP-2119	9	5.76	21"	FP-2124	10	7.45
FP-2219	10	6.16	22¾"	FP-2224	11	7.96
FP-2619	11	6.90	26¼"	FP-2624	12	8.92
FP-2819	12	7.23	28"	FP-2824	13	9.37
FP-4219	18	9.64	42"	FP-4224	20	12.86

LOUVRED

FPL-719	3	$4.14	7"	FPL-724	4	$5.03
FPL-819	4	4.79	8¾"	FPL-824	5	5.76
FPL-1019	5	5.37	10½"	FPL-1024	6	6.30
FPL-1219	6	5.91	12¼"	FPL-1224	7	7.10
FPL-1419	6½	6.35	14"	FPL-1424	7½	7.65
FPL-1719	7½	7.49	17½"	FPL-1724	8½	9.02
FPL-2119	9	9.27	21"	FPL-2124	10	11.13
FPL-2219	10	10.04	22¾"	FPL-2224	11	11.39
FPL-2619	11	10.40	26¼"	FPL-2624	12	12.51
FPL-2819	12	11.04	28"	FPL-2824	13	13.20
FPL-4219	18	18.78	42"	FP-4224	20	22.68



PERFORATED

- Made of 20 ga. steel with 1/16" diameter holes on 3/16" staggered centers.
- Edges formed on 4 sides.
- Overall depth ½".
- Each panel has mounting holes on each side.
- Finished in Light Gray

PERFORATED

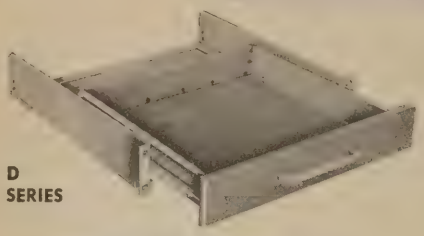
19" WIDE				24" WIDE		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Height	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
PFP-119	1¼	$2.77	1¾"	PFP-124	2¼	$3.70
PFP-319	1¾	3.16	3½"	PFP-324	2¾	4.00
PFP-519	2¼	3.39	5¼"	PFP-524	3¼	4.48
PFP-719	2¾	4.25	7"	PFP-724	3¾	5.72
PFP-819	3¾	4.90	8¾"	PFP-824	4¾	6.60
PFP-1019	4¾	5.68	10½"	PFP-1024	5¾	7.17
PFP-1219	5¾	6.43	12¼"	PFP-1224	6¾	8.45
PFP-1419	6¼	7.07	14"	PFP-1424	7¼	9.15
PFP-1519	6¾	7.63	15¾"	PFP-1524	7¾	10.12
PFP-1719	7¼	8.18	17½"			
PFP-1919	7¾	9.06	19¼"			
PFP-2119	8¾	9.70	21"			
PFP-2619	10¾	12.47	26¼"			
PFP-2819	11¾	13.22	28"			

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER ACCESSORIES

SLIDING DRAWERS



D SERIES

FULL EXTENSION SLIDES



RDS SERIES

SLIDING SHELVES

SLIDING DRAWERS and SHELVES

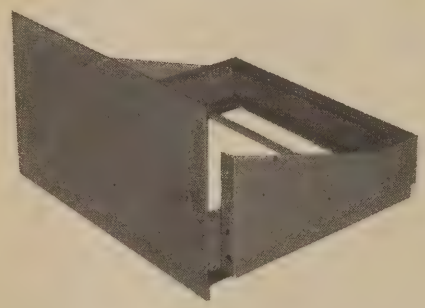
Constructed of welded 16 ga. steel and suspended on roller bearing slides. Units are designed for use with all modular enclosures (CPF, FA, PRXA, FS, MSF, POR, RMX, FDX Series). Units are furnished with drawer pull and complete hardware for easy installation. Sliding shelf supplied with Gray Linen Weave laminated plastic top surface. Cylinder lock (HW-6) available at additional cost. Finished in all Premier standard colors. If not specified, Light Gray is furnished.

SLIDING DRAWERS

Cat. No.	Formed Panel Size	Drawer Size W D H	Shpg. Wt. Lbs.	Net Price (A)†
	FOR 19" WIDE PANEL SPACE			
D-1916	10⅜x18⅞x½"	16⅛x16x6"	23	$28.14
D-2016	6⅞x18⅞x½"	16⅛x16x6"	22	26.98
D-2316	3⅜x18⅞x½"	16⅛x16x2¹¹⁄₁₆"	16	25.47
	FOR 24" WIDE PANEL SPACE			
D-2116	10⅜x23⅞x½"	21⅛x16x6"	25	33.75
D-2216	6⅞x23⅞x½"	21⅛x16x6"	24	32.33
D-2416	3⅜x23⅞x½"	21⅛x16x2¹¹⁄₁₆"	17	28.14

SLIDING SHELVES

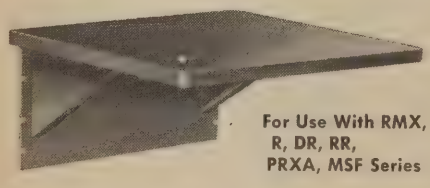
Cat. No.	Formed Panel Size	Shelf Size	Shpg. Wt. Lbs.	Net Price (A)†
	FOR 19" WIDE PANEL SPACE			
RDS-319-22	3¾x18⅞x½"	16¾₆x15¹³⁄₁₆"	20	$36.07
	FOR 24" WIDE PANEL SPACE			
RDS-324-22	3⅜x23⅞x½"	21¾₆x15¹³⁄₁₆"	22	45.95



SLIDING DRAWERS TO FIT STANDARD 19" RACKS 15¼" AND 18" DEEP FOR RECORD TURNTABLES

Panel made of #12 gauge steel; chassis of 16 ga. steel and has a 1" flange on top and bottom to accommodate plywood for the record turntable. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in Light Gray enamel.

Cat. No.	Will Fit Rack No.	Panel Size	Chassis Size W D H	Shpg. Wt. Lbs.	Net Price (A)†
RD-10	R, DCR-18, RMX & FDX	10⅜x18⅞"	17x16x3"	15	$20.10
RD-12	R, DCR-18, RMX & FDX	12⅛x18⅞"	17x16x4"	18	22.26
RD-10-14	DCR, DRK, RMX & FDX, R, DCR-18	10⅜x18⅞"	17x14x3"	14½	19.92
RD-12-14	DCR, DRK, RMX & FDX, R, DCR-18	12⅛x18⅞"	17x14x4"	17	22.12



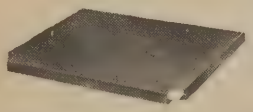
For Use With RMX, R, DR, RR, PRXA, MSF Series

DESK PANELS TO FIT STANDARD 19" WIDE PANEL RACKS

- Made of 16 gauge steel and bolted to a standard steel panel 10½"x19".
- Front corners are rounded.
- Finished in Light Gray enamel.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

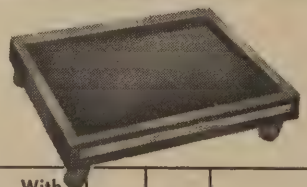
Cat. No.	Width	Depth	Shpg. Wt. Lbs.	Net Price (A)†
DP-1016	22"	16"	20	$20.08
DP-1020	22"	20"	22	20.52

SHELVES TO FIT 19" WIDE PANEL RACKS



Made of one piece of 16 ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Light Gray enamel.

Cat. No.	Will Fit Rack No.	Shelf Size	Shpg. Wt. Lbs.	Net Price (A)†
RS-1106	All 15¼" DCR & DRK Racks	12x21⅜₆	7	$3.64
RS-1107	R & DR Racks	15x21¹³⁄₁₆	7	4.54
RS-1108	FXR	13x21¹³⁄₁₆	7	4.06
RS-1111	MDK Series—21¾" wide	10x21⅜₆	6	3.55
RS-1113	18" deep DCR Racks	16x21⅜₆	7	4.68



ROLLER TRUCKS FOR RACKS

Made from 1 piece of 16 ga. Cold Rolled Steel. Supplied with either 2" or 3" diameter casters and bolts for easy assembly. Finished in Smoke Blue enamel with an aluminum molding. One piece roller trucks for multiple racks available upon request.

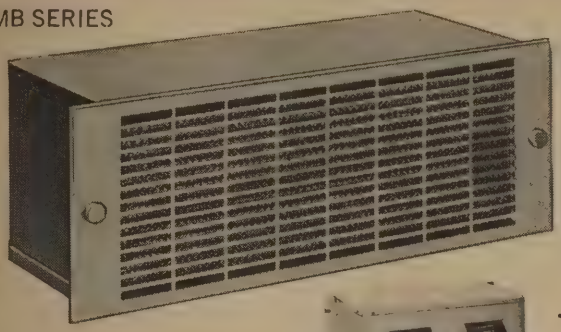
With 2" Dia. Casters Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	Will Fit Rack No.	Inside Dimensions	With 3" Dia. Casters Cat No.	Shpg. Wt. Lbs.	Net Price (A)†
RT-1100	22	$13.68	All 15¼" Racks	15¾x22¼"	RT-1100-3	24	$19.95
RT-1101	22	17.34	R, DR, FXR, 18" deep; RMX, FDX, DCR Racks	18¾x22¾"	RT-1101-3	24	23.61
RT-1103	23	21.27	24" deep FDX & RMX Racks	22½x24½"	RT-1103-3	25	27.53
RT-1110	25	32.00	RMX-27 & FDX-27 Series	27½x24½"	RT-1110-3	27	38.26
RT-1111	30	41.21	RMX-7030	33½x24½"	RT-1111-3	32	47.48

†See quantity discount schedule on page 3.

© United Technical Publications

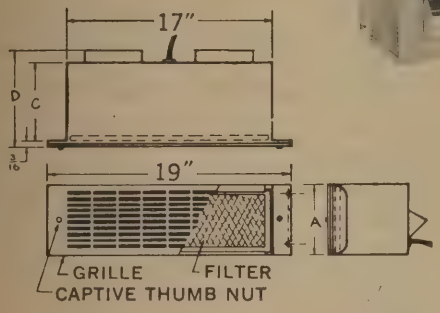
PREMIER BLOWERS AND FANS

PMB SERIES





REAR VIEW



Units available to fit Standard 24" wide panel space. Prices upon request.

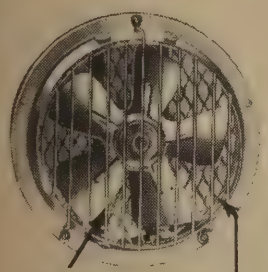
†See quantity discount schedule on page 3

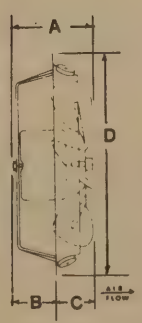
PANEL MOUNTED BLOWERS provide maximum cooling with minimum space requirements at a low noise level with minimum vibration. Panel mounting provisions are for EIA Standard 19" panel spacing. Permanently lubricated Ball Bearing motors with lubricant temperature range from −29°C to +148°C, operate on 115 volt, 50/60 cycle, AC, single phase current. Permanent type washable filter is easily removable from the front. Chrome plated grille is supplied with 2 captive thumb nuts. Performance data prepared by an impartial, independent testing laboratory is available on request. Base Recessed blowers are available on special order.

TO FIT STANDARD 19" WIDE PANEL SPACE

CATALOG NO.	PMB-5-150	PMB-5-300	PMB-7-360	PMB-7-475	PMB-8-525	PMB-10-820
CFM at 0" S.P.	150	300	360	475	525	820
PANEL HEIGHT (A)	5¼"	5¼"	7"	7"	8¾"	10½"
FILTER, Permanent	16⅝x4⅞ x½"	16⅝x4⅞ x½"	16⅝x6¾ x½"	16⅝x6¾ x½"	16⅝x8⅜ x½"	16⅝x10⅛ x½"
DEPTH OF ENCLOSURE ONLY (C)	6¼"	6¼"	8¼"	8¼"	10"	11½"
OVERALL DEPTH including outlets (D)	7"	7"	10"	10"	11⅝"	13"
MOTOR						
RPM	3000	3200	1500	3250	1500	1500
WATTS	120	115	82	180	170	275
VOLTS	115	115	115	115	115	115
CYCLES	50/60	50/60	50/60	50/60	50/60	50/60
AMPS	1.5	1.3	1.1	1.7	1.5	2.8
TYPE	Ball bearing shaded pole	Ball bearing shaded pole	Ball bearing shaded pole	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor
SHIPPING WT. LBS.	14	15	24	25	26	35
NET PRICE (A)†	$120.31	$139.02	$159.86	$169.76	$189.53	$212.07

EXHAUST & INTAKE FANS: Fans and motor assemblies are shock mounted for minimum noise and vibration. Interchangeable accessories are available. Motors are shaded pole with permanently lubricated ball bearings, operating at 115 volts, 50/60 cycle, AC single phase with low temperature rise; supplied with 18" leads.





EF Series

EXHAUST FANS

Cat. No.	Net Price (A)†	CFM	Motor Watts	RPM	Fan Blade Dia.	A	B	C	D	Hole Dia. Required
EF-165	$53.31	165	20	1650	6½"	2⅞"	1⅝"	1¼"	8½"	7¾"
EF-220	47.59	220	25	1550	6½"	3¼"	1⅝"	1⅝"	8½"	7¾"
EF-300	50.47	300	65	3000	6½"	4¼"	2⅝"	1½"	8½"	7¾"
EF-400	57.94	400	46	1460	8"	3⅝"	1⅞"	1¾"	10½"	9¼"
EF-550	62.51	550	90	1600	9"	4⅜"	2¼"	2¼"	11½"	10⅝"
EF-750	67.08	750	105	1560	10"	4⅜"	2⅞"	2¼"	12½"	11⅝"

ACCESSORIES FOR EXHAUST FANS

GUARDS

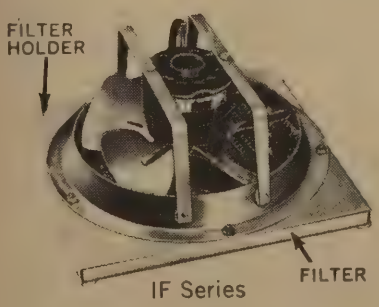
Cat. No.	Used with Fan	Dia.	Depth	Net Price (A)†
GU-6	EF165, 220, 300	6¾"	1⅞"	$3.19
GU-8	EF400	8¼"	2⅜"	3.27
GU-9	EF 550	9¼"	2⅜"	3.91
GU-10	EF 750	10¼"	2⅜"	4.49

GRILLES

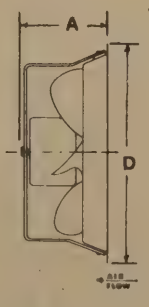
Cat. No.	Used with Fan	Dia.	Net Price (A)†
GR-6	EF165, 220, 300	8½"	$2.59
GR-8	EF400	10½"	2.87
GR-9	EF550	11½"	3.19
GR-10	EF750	12½"	3.91

SLEEVES

Cat. No.	Used with Fan	Dia.	Depth	Net Price (A)†
SL-6	EF165, 220, 300	8½"	1¾"	$3.91
SL-8	EF400	10½"	2"	3.91
SL-9	EF550	11½"	2¾"	4.49
SL-10	EF 750	12½"	2¾"	5.09



IF Series



†See quantity discount schedule on page 3

INTAKE FANS

Cat. No.	Net Price (A)†	CFM	Motor Watts	RPM	Fan Blade Dia.	Dimensions A	Dimensions D	Hole Diam. Required
IF-160	$53.56	160	20	1650	6½"	2⅞"	8½"	7⅜"
IF-180	47.63	180	25	1550	6½"	3¼"	8½"	7⅜"
IF-300	50.46	300	65	3000	6½"	4⅛"	8½"	7⅜"
IF-360	57.92	400	46	1460	8"	3⅜"	10½"	9¼"
IF-540	62.51	540	90	1600	9"	4⅜"	11½"	10⅝"
IF-740	66.71	740	105	1560	10"	4⅜"	12½"	11⅝"

ACCESSORIES FOR INTAKE FANS

FILTERS Permanent washable type ½" thick

Cat. No.	Used with Fan	Size	Net Price (A)†
FL-6	IF160, 180, 300	8⅜" Sq.	$3.20
FL-8	IF360	10¾" Sq.	3.20
FL-9	IF540	11¾" Sq.	3.91
FL-10	IF740	12¾" Sq.	3.91

FILTER HOLDERS

Cat. No.	Used with Fan	Size	Depth	Net Price (A)†
FH-6	IF160, 180, 300	8⅜" Sq.	⅝"	$5.09
FH-8	IF360	10⅜" Sq.	⅝"	5.09
FH-9	IF540	11⅜" Sq.	⅝"	6.51
FH-10	IF740	12⅜" Sq.	⅝"	7.68

© United Technical Publications

PREMIER CHASSIS SLIDES

SOLID BEARING SLIDES

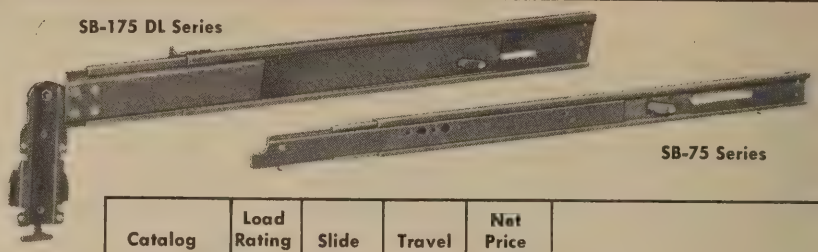
RATED 75 lb. and 175 lb. LOADS

- **TILT and NON-TILT MODELS.**
- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- SB-75 Series carry 75 lbs. fully extended. SB-175 Series carry 175 lbs. fully extended.
- Made of high strength cold rolled steel.
- Withstands 100 hours salt spray.
- Slide mounts standard 17" wide chassis.
- 3 telescoping members allow full accessibility for instant servicing.
- SB-75 Series—.386 horizontal side space adjustable ±1/32. SB-175 Series—.398 horizontal side space adjustable ±1/32.
- Finish: Electro zinc plated, chromate treated and completely coated with Molybdenum Disulphide lubricant.
- SB-175-DL Series have detent locks which allow chassis to be tilted either up or down and locked at 90° for easy servicing.

SLIDE TILT CONVERSION KIT

Converts straight slides to tilting type on SB Series.

	Net Price (A)†
STK-75 (For SB-75 Series)	$4.40



Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Net Price (A)† pair
SB-75-14	75	14"	14½"	$20.62 pr.
SB-75-16	75	16"	14½"	20.95 pr.
SB-75-20	75	20"	18½"	21.53 pr.
SB-75-22	75	22"	22½"	22.40 pr.
SB-75-24	75	24"	22½"	23.55 pr.
SB-175-14	175	14"	14½"	42.08 pr.
SB-175-16	175	16"	18½"	42.75 pr.
SB-175-20	175	20"	22½"	43.17 pr.
SB-175-22	175	22"	24"	44.44 pr.
SB-175-24	175	24"	26½"	45.21 pr.
SB-75-DL-14	75	14"	15"	41.27 pr.
SB-75-DL-16	75	16"	17"	41.99 pr.
SB-75-DL-20	75	20"	21"	43.75 pr.
SB-75-DL-22	75	22"	23"	44.60 pr.
SB-75-DL-24	75	24"	25"	45.32 pr.
SB-175-DL-14	175	14"	14½"	62.70 pr.
SB-175-DL-16	175	16"	18¼"	63.36 pr.
SB-175-DL-20	175	20"	22¼"	65.23 pr.
SB-175-DL-22	175	22"	26¼"	66.38 pr.
SB-175-DL-24	175	24"	26¼"	67.40 pr.

14" length slides fit 15¼" deep POR (DCR, DRK, FXR)*, RMX, FDX

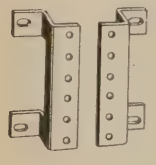
16" length slides fit 18" deep PRXA, POR (R, DCR)*

20" length slides fit FS, 22" deep CPF & FA, MSF, RMX, FDX

22" length slides fit 24" deep PRXA

24" length slides fit 25½" deep FA & FS, MSF, CPF

*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis.



SLIDE ADAPTER KIT

For BB and SB SERIES

Required for rear mounting on DR, R, DCR, DRK and FXR models.

- Mounts to inside rear flange by drilling 4 holes.
- Made of No. 12 gauge steel and tapped 10-32 on E.I.A. spacings (⅝-⅝-½).
- Finished in Gray Hammertone.

Kit includes 2 brackets, four 10-32 screws and keps.

Cat. No. SAK-35
Net Price (A)† $4.40

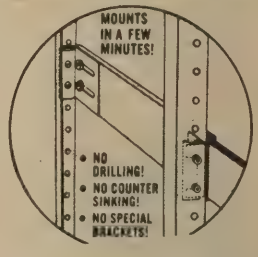
RAPID INSTALLATION

For BB and SB SERIES SLIDES

- MOUNTS TO TAPPED HOLES OF FRONT AND REAR PANEL MOUNTING ANGLES
- SIMPLE ADJUSTMENT OF CHASSIS SLIDE ASSEMBLY FROM OUTSIDE OF FRAME

Head of Screw on Inside of Rack. Screw Flush with Front Edge of Angles when Assembled





ALUMINUM BALL BEARING SLIDES

HIGH STRENGTH ANODIZED ALUMINUM

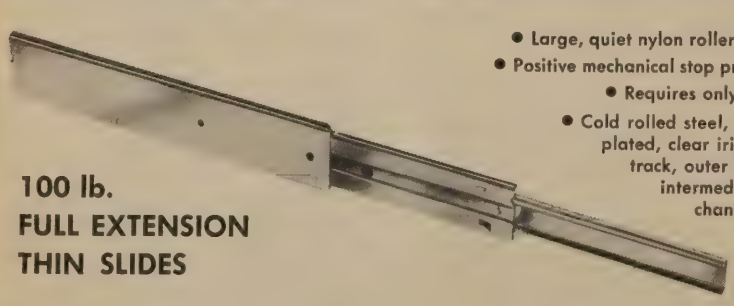
READY-TO-MOUNT

- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- Carries load of 100 lbs. when fully extended.
- Glides smoothly on stainless steel ball bearings.
- 5/16" horizontal side space adjustable ±1/16.
- 1⅝" vertical side space.
- 3 telescoping members.
- Allows full accessibility for instantaneous servicing.
- Slide mounts standard 17" wide chassis.
- Slide locks in open position.
- Supplied with all necessary hardware for immediate installation.



Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price (A)† pair
BB-100-14	100	14"	13"	15¼" deep POR (DCR, DRK, FXR)*, RMX, FDX	59.34 pr
BB-100-16	100	16"	15"	18" deep PRXA, POR (R, DCR)*	61.27 pr
BB-100-20	100	20"	19"	FS, 22" deep CPF & FA, MSF, RMX, FDX	65.02 pr
BB-100-22	100	22"	21"	24" deep PRXA	66.91 pr
BB-100-24	100	24"	23"	25½" deep FA & FS, MSF, CPF	68.84 pr

*Slide adapter kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis.



100 lb. FULL EXTENSION THIN SLIDES

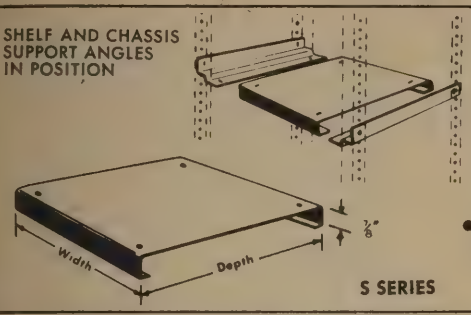
- Large, quiet nylon rollers and steel balls glide to full extension
- Positive mechanical stop prevents slide from being over-extended
- Requires only ½ inch mounting space on each side
- Cold rolled steel, zinc plated, clear iridite track, outer and intermediate channels

Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Net Price (A)† pair
SFE-100-14	100	14"	14"	$9.58 pr.
SFE-100-16	100	16"	16"	10.15 pr.
SFE-100-20	100	20"	20"	11.34 pr.
SFE-100-22	100	22"	22"	11.92 pr.

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER ACCESSORIES



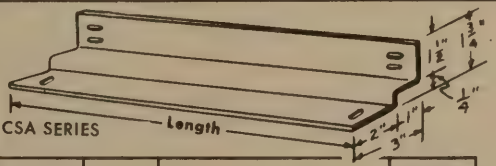
SHELVES

- Made of 16 gauge steel.
- Finished in Light Gray enamel.

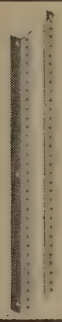
Cat. No.	Width	Depth	To Fit Frames		Net Price (A)†
S-18-22	17½"	14¼"	22W x 18"D	18" FDX, RMX	$3.64
S-22-22	17½"	20⅜"	22W x 22"D	FA, FS	4.59
S-27-22	22½"	20⅜"	27W x 22"D		5.96
S-22-255	17½"	23⅞"	22W x 25½"D	CPF, MSF	5.41
S-27-255	22½"	23⅞"	27W x 25½"D		6.82
S-22-18	17½"	16⅜"	22W x 18"D	PRXA	3.94
S-27-18	22½"	16⅜"	27W x 18"D	PRXA	4.87
S-33-18	28½"	16⅜"	33W x 18"D	PRXA	6.40
S-22-24	17½"	22⅜"	22W x 24"D	PRXA	5.08
S-27-24	22½"	22⅜"	27W x 24"D	PRXA	6.40
S-33-24	28½"	22⅜"	33W x 24"D	PRXA	7.95
S-33-22	28½"	20⅜"	33W x 24"D	RMX-7030	7.41

CHASSIS SUPPORT ANGLES

- Made of No. 12 ga. steel
- Accommodates Shelf (S Series)
- Finished in Light Grey enamel
- Mounts to side legs of Panel Mounting Angles



Cat. No.	Length	To Fit Frames	Net Price (A)†
CSA-16	14⅛"	18" deep FDX, RMX	$4.76 pr.
CSA-18	16⅛"	18" deep PRXA	5.04 pr.
CSA-22	20⅛"	22" deep FA, CPF, MSF, FS & 24" deep FDX & RMX	5.63 pr.
CSA-24	22⅛"	24" deep PRXA	5.90 pr.
CSA-255	23⅝"	25½" deep FA, CPF, FS & MSF	6.18 pr.



PANEL MOUNTING ANGLES—1¼" x 1¼"

Made of #12 Ga. (.104) thick steel punched on E.I.A. spacings (⅜-⅝-½) on both legs. 10-32 screws and captive nuts supplied. Angles with tapped holes available. Light Gray enamel.

Panel Mounting Angles			
Cat. No.	Height	Net Price (A)†	To Fit Racks
PMA-212	21"	$7.93 pr.	CPF-101, 103, MSF-21-22 & MSF-21-255
PMA-282	28"	10.38 pr.	CPF-102, 104, MSF-28-22 & MSF-28-255
PMA-362	36½"	12.03 pr.	PRXA, FDX, RMX
PMA-422	42"	13.75 pr.	FA, PRXA, FS, FDX, RMX
PMA-522	52½"	15.85 pr.	FA, PRXA
PMA-612	61¼"	17.18 pr.	FA, PRXA, FDX, RMX
PMA-702	70"	19.32 pr.	FA, PRXA, FDX, RMX
PMA-772	77"	20.79 pr.	FA, PRXA, FDX, RMX
PMA-802	80½"	21.87 pr.	FDC

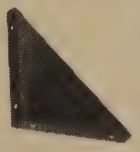
CHASSIS MOUNTING BRACKETS

- Constructed of 16 gauge steel
- Finished in Light Gray enamel
- Sold in pairs only



STANDARD TYPE

	Cat. No.	H.	D.	Shpg. Wt. Lbs.	Net Price (B)†
Notched for 3" Chassis	CB-78	6½"	8"	1½	$1.71 pr.
	CB-710	6½"	10"	1¾	1.98 pr.
	CB-711	6½"	11"	2	2.25 pr.
	CB-712	6½"	12"	2⅛	2.52 pr.
	CB-713	6½"	13"	2¼	2.79 pr.
	CB-717	6½"	17"	3	3.42 pr.
Notched for 4"Chassis	CB-810	8½"	10"	2¾	3.06 pr.
	CB-813	8½"	13"	3	3.42 pr.



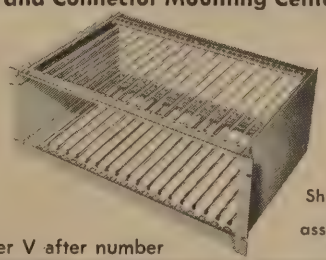
TRIANGULAR TYPE

Cat. No.	H.	D.	Ship. Wt. Lbs.	Net Price (B)†
TCB-55	5"	5"	1	$1.51 pr.
TCB-77	7"	7"	1	1.77 pr.
TCB-99	9"	9"	1½	2.04 pr.

PRINTED CIRCUIT CARD HOLDERS

Provides Extensive Adjustability in Accommodating Card Heights and Depths and Connector Mounting Centers

- Units accommodate card widths from 2⅞" to 8"; card depths to 14½"
- Fit standard 19" and 24" wide racks for 5¼", 7", 8¾" panel heights
- 19" wide frames hold up to 27 cards; 24" wide frames hold up to 36 cards
- Supplied with two adjustable rear connector panels made of ⅛" iridited aluminum, having connector mounting holes tapped 4-40 on .200 centers; height fully adjustable
- Frames made of 16 gauge steel and finished in light gray enamel
- Units shipped K.D. with all necessary hardware
- Guide (G Series) sold in pairs and ordered as a separate item
- Guides are supplied with push rivets for easy positioning
- Guides made of 14 gauge caustic etched and iridited aluminum as per MIL-C-5541
- Vinyl coated guides for insulation available at additional cost. If required, specify letter V after number



PCH Series Shown with Guides (G Series) assembled in position

FOR 19" WIDE PANEL SPACE					FOR 24" WIDE PANEL SPACE			GUIDES		
Panel Height	Frame — 19" Wide Cat. No.	PC Card Height Range	Net Price (A)†	Overall Depth	Frame — 24" Wide Cat. No.	PC Card Height Range	Net Price (A)†	Cat. No.	Length	Net Price (A)†
5¼"	PCH-519-6	2⅞" thru 4½"	$14.20	6¼"	PCH-524-6	2⅞" thru 4½"	$17.75	G-6	4⅛"	$.47 pr.
	PCH-519-8		15.38	8¼"	PCH-524-8		18.48	G-8	6⅛"	.54 pr.
	PCH-519-10		16.56	10"	PCH-524-10		19.52	G-10	7⅞"	.64 pr.
	PCH-519-12		17.72	12"	PCH-524-12		20.78	G-12	9⅞"	.77 pr.
	PCH-519-14		18.93	14"	PCH-524-14		21.88	G-14	11⅞"	.83 pr.
	PCH-519-16		20.15	16"	PCH-524-16		23.09	G-16	13⅞"	.88 pr.
7"	PCH-719-6	4⅝" thru 6¼"	15.41	6¼"	PCH-724-6	4⅝" thru 6¼"	18.35	G-6	4⅛"	.47 pr.
	PCH-719-8		16.56	8¼"	PCH-724-8		19.52	G-8	6⅛"	.54 pr.
	PCH-719-10		17.78	10"	PCH-724-10		20.72	G-10	7⅞"	.64 pr.
	PCH-719-12		18.93	12"	PCH-724-12		21.88	G-12	9⅞"	.77 pr.
	PCH-719-14		20.15	14"	PCH-724-14		23.12	G-14	11⅞"	.83 pr.
	PCH-719-16		21.29	16"	PCH-724-16		24.29	G-16	13⅞"	.88 pr.
8¾"	PCH-819-6	6⅜" thru 8"	16.56	6¼"	PCH-824-6	6⅜" thru 8"	19.52	G-6	4⅛"	.47 pr.
	PCH-819-8		17.78	8¼"	PCH-824-8		20.78	G-8	6⅛"	.54 pr.
	PCH-819-10		18.93	10"	PCH-824-10		21.88	G-10	7⅞"	.64 pr.
	PCH-819-12		20.15	12"	PCH-824-12		23.09	G-12	9⅞"	.77 pr.
	PCH-819-14		21.29	14"	PCH-824-14		24.29	G-14	11⅞"	.83 pr.
	PCH-819-16		22.46	16"	PCH-824-16		25.41	G-16	13⅞"	.88 pr.

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER STEEL & ALUMINUM RACK PANELS



BLANK RACK PANELS

9½" - 19" - 24" - 30" WIDTHS

MATERIAL

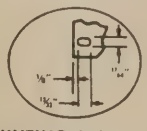
Steel
#12 Ga. (.104) Cold Rolled
Aluminum ..... ⅛" thick—5005-H36 Alloy
Aluminum ..... ¾" thick—6061-T6 Alloy

FINISHED IN LIGHT GRAY

Available in other finishes at additional cost. See page 50.

MASKED ALUMINUM PANELS

Made of bright natural aluminum covered on both sides with special self-adhesive paper. Drilling or milling can be done on paper in place, affording complete damage protection. Paper is removed simply by peeling.



MOUNTING SLOTS

All panels have closed slots for rigidity with spacing according to E.I.A. Standards. Open slots available on special order.

*NOTE: All panels are cut 1/32" less than nominal height.

MODIFICATIONS AVAILABLE

- ⅛" thick Aluminum Panels available in 6061T6 alloy.
- Special finishes, including unfinished.
- Special Heights.

19" WIDE

Also available in 24" and 30" widths

*Nominal Height	Masked Aluminum—⅛" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	Masked Aluminum—3/16" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
1¾"	MAP-119	½	$1.49	MAP-119-36	¾	$2.97
3½"	MAP-319	1	2.25	MAP-319-36	1½	3.97
5¼"	MAP-519	1½	3.10	MAP-519-36	2½	5.35
7"	MAP-719	2	3.69	MAP-719-36	3	6.94
8¾"	MAP-819	2½	4.46	MAP-819-36	3¾	7.85
10½"	MAP-1019	3	5.58	MAP-1019-36	4½	9.04
12¼"	MAP-1219	3½	6.35	MAP-1219-36	5	11.29
14"	MAP-1419	4	7.31	MAP-1419-36	6	13.37
15¾"	MAP-1519	4	8.19	MAP-1519-36	6	14.86
17½"	MAP-1719	4¾	9.15	MAP-1719-36	7	16.50
19¼"	MAP-1919	5	10.10	MAP-1919-36	7½	18.00
21"	MAP-2119	6	10.99	MAP-2119-36	9	19.73
26¼"	MAP-2619	7½	14.07	MAP-2619-36	11½	25.42
31½"	MAP-3119	8½	16.17	MAP-3119-36	13½	29.11
35"	MAP-3519	10	19.14	MAP-3519-36	15	35.95

*Nominal Height	Painted Aluminum—⅛" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	Painted Aluminum—3/16" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	Painted Steel—No. 12 Gauge Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
1¾"	ARP-119	½	$1.62	ARP-119-36	¾	$2.68	RP-119	1	$1.56
3½"	ARP-319	1	2.43	ARP-319-36	1½	3.83	RP-319	2	1.85
5¼"	ARP-519	1½	3.24	ARP-519-36	2½	4.99	RP-519	3	2.20
7"	ARP-719	2	4.14	ARP-719-36	3	6.18	RP-719	4	2.61
8¾"	ARP-819	2½	4.86	ARP-819-36	3¾	7.43	RP-819	5¼	3.11
10½"	ARP-1019	3	5.85	ARP-1019-36	4½	9.27	RP-1019	6¼	3.63
12¼"	ARP-1219	3½	6.75	ARP-1219-36	5	10.77	RP-1219	7¼	4.27
14"	ARP-1419	4	7.74	ARP-1419-36	6	12.02	RP-1419	8¼	4.79
15¾"	ARP-1519	4	8.46	ARP-1519-36	6	13.86	RP-1519	9	5.42
17½"	ARP-1719	4¾	9.36	ARP-1719-36	7	15.34	RP-1719	10½	5.94
19¼"	ARP-1919	5	10.26	ARP-1919-36	7½	16.72	RP-1919	12	6.58
21"	ARP-2119	6	11.43	ARP-2119-36	9	18.44	RP-2119	12½	7.10
26¼"	ARP-2619	7½	15.17	ARP-2619-36	11½	22.03	RP-2619	15½	9.35
31½"	ARP-3119	8½	18.88	ARP-3119-36	13½	26.00	RP-3119	19	11.44
35"	ARP-3519	10	20.70	ARP-3519-36	15	28.86	RP-3519	22	13.00

24" WIDE

Aluminum—⅛" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	*Nominal Height	Steel—No. 12 Gauge Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
ARP-324	1¼	$3.40	3½"	RP-324	2¼	$2.61
ARP-524	2	4.77	5¼"	RP-524	3½	3.11
ARP-724	2½	5.91	7"	RP-724	4½	3.47
ARP-824	3	6.86	8¾"	RP-824	6	4.05
ARP-1024	3½	8.62	10½"	RP-1024	7	4.79
ARP-1224	4	9.97	12¼"	RP-1224	8	5.78
ARP-1424	4½	11.50	14"	RP-1424	9	6.77
ARP-1524	5	13.10	15¾"	RP-1524	10	7.68
ARP-1724	5½	14.01	17½"	RP-1724	11	8.67
ARP-1924	6	15.25	19¼"	RP-1924	12	9.65
ARP-2124	6½	16.85	21"	RP-2124	13	10.56

30" WIDE

Aluminum—⅛" Thick Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	*Nominal Height	Steel—No. 12 Gauge Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
ARP-330	1½	$4.64	3½"	RP-330	3	$3.22
ARP-530	2¼	6.53	5¼"	RP-530	4½	3.93
ARP-730	3	8.01	7"	RP-730	6	4.32
ARP-830	3¾	9.32	8¾"	RP-830	8	5.08
ARP-1030	4½	11.74	10½"	RP-1030	9¼	6.02
ARP-1230	5	13.63	12¼"	RP-1230	10¼	7.23
ARP-1430	6	15.68	14"	RP-1430	12	8.44
ARP-1530	6½	17.85	15¾"	RP-1530	13½	9.59
ARP-1730	7	19.12	17½"	RP-1730	15	10.86
ARP-1930	7½	20.77	19¼"	RP-1930	18	12.07
ARP-2130	9	22.95	21"	RP-2130	19	13.22

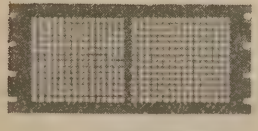
ALUMINUM 9½" Wide

Made of ⅛" Thick Aluminum

Cat. No.	*Nominal Height	Shpg. Wt.	Net Price (B)†
ARP-195	1¾"	¼	$1.62
ARP-395	3½"	½	2.43
ARP-595	5¼"	¾	3.24
ARP-795	7"	1	4.14
ARP-895	8¾"	1¼	4.86
ARP-1095	10½"	1½	5.85
ARP-1295	12¼"	1¾	6.75
ARP-1495	14"	2	7.74

PANELS—19" WIDE

FINISHED IN LIGHT GRAY
Made of 12 Gauge Steel

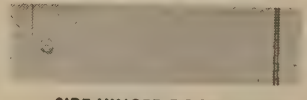


⅜" Sq. Perforations

GRILLE PANELS

Cat. No.	Grille Size	*Nom. Hgt.	Shpg. Wt. Lbs.	Net Price (B)†
GRP-601	3⅞x13⅜"	5¼"	2	$5.07
GRP-602	3⅞x13⅜"	7"	2	5.30
GRP-603	5⅞x13⅜"	8¾"	2½	6.29
GRP-604	*3⅞x13⅜"	8¾"	2½	6.41
GRP-605	7⅞x13⅜"	10½"	2½	6.94
GRP-606	*5⅞x13⅜"	10½"	2½	6.71
GRP-607	*7⅞x13⅜"	12¼"	3	7.45

*Allows 3¼" space at bottom for chassis mounting.



SIDE HINGED DOOR PANELS

Can be used for left or right hand opening. Supplied with a quick turn fastener. Full height piano hinge welded to panel. Cylinder lock (HW-6) available at additional cost.

Cat. No.	Hgt.	Net Price (B)†
SHP-319	3½"	$6.04
SHP-519	5¼"	6.30
SHP-719	7"	6.96
SHP-819	8¾"	7.49
SHP-1019	10½"	8.01
SHP-1219	12¼"	8.66
SHP-1419	14"	9.38
SHP-2119	21"	14.84



SPEAKER PANELS

Perforated metal is spot-welded behind the opening.

Cat. No.	Hgt.	Spkr. Size	Hole Size	Shpg. Wt. Lbs.	Net Price (B)†
SRP-819	8¾"	6"	4¾"	6	$5.70
SRP-1019	10½"	8"	6½"	8	7.07
SRP-1219	12¼"	10"	8½"	9	8.45
SRP-1419	14"	12"	11"	10	9.82

†See quantity discount schedule on page 3.

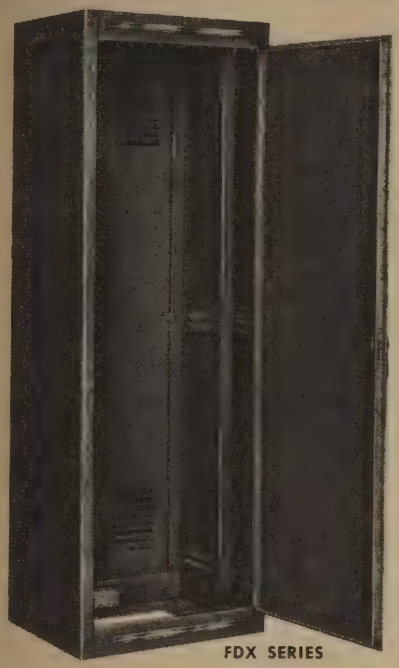
PREMIER PAGE 15

PREMIER METAL PRODUCTS COMPANY / A Division of Sunshine Mining Company

Net

© United Technical Publications

PREMIER HEAVY DUTY RACKS



FDX SERIES



RMX SERIES

FOR 19", 24" AND 30" RACK PANELS — 18" AND 24" DEEP

FINISHED IN ALL PREMIER STANDARD COLORS. IF NOT SPECIFIED, SMOKE BLUE IS FURNISHED.

Rigidly constructed of 16 ga. steel with a 12 ga. steel bottom and welded throughout. Supplied with two pair of 12 ga. steel panel mounting angles fully adjustable front to rear with clearance holes on E.I.A. spacing to accommodate panels, chassis support angles and shelves. 10-32 x 1" screws and captive nuts are furnished.

- Rear doors are hung on sturdy slip-jointed hinges and closed with a chrome handle. Locking handle with 2 keys available at additional cost.
- Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans available at additional cost.
- A rectangular cut-out is made in the bottom for leads, etc.
- RMX-7030 Rack supplied with double rear doors and with a 3-point locking device.
- FDX Series are furnished with locking handle and 2 keys on Front Door.
- ALL RACKS ARE SUPPLIED WITHOUT LOUVRES ON SIDES UNLESS SPECIFIED. Louvres available at additional cost.
- Vertical rounded corner "J" type moldings are supplied with RMX series.
- When joining RMX racks for multiple installation, specify amount of center "U" type moldings (supplied at no additional cost). EXAMPLE: Three RMX-3619 requires two "J" and two "U" moldings.
- A heavy duty duplex "U" ground receptacle and outlet box are furnished in the rear under the door.
- Accommodates accessories, fans, blowers, slides, etc.

18" DEEP RACKS					18" DEEP RACKS WITH FRONT AND REAR DOORS		
Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†	H & W	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
RMX-3619	100	$101.52	42⅞x22"	36¾x19"	FDX-3619	115	$116.41
RMX-4219	130	107.03	48⅛x22"	42 x19"	FDX-4219	120	122.73
RMX-6119	150	124.64	67⅜x22"	61¼x19"	FDX-6119	175	144.41
RMX-7019	170	134.76	76⅛x22"	70 x19"	FDX-7019	200	155.89
RMX-7719	190	142.24	83⅛x22"	77 x19"	FDX-7719	220	164.79
24" DEEP RACKS					**24" DEEP RACKS WITH FRONT AND REAR DOORS**		
RMX-3619-24	110	$107.30	42⅞x22"	36¾x19"	FDX-3619-24	125	$122.25
RMX-4219-24	130	113.02	48⅛x22"	42 x19"	FDX-4219-24	150	128.82
RMX-6119-24	175	131.48	67⅜x22"	61¼x19"	FDX-6119-24	200	151.32
RMX-7019-24	200	142.05	76⅛x22"	70 x19"	FDX-7019-24	255	163.39
RMX-7719-24	225	150.00	83⅛x22"	77 x19"	FDX-7719-24	270	172.72
RMX-2742	170	135.41	48⅛x27"	42 x24"	FDX-2742	180	154.76
RMX-2761	210	149.19	67⅜x27"	61¼x24"	FDX-2761	230	172.11
RMX-2770	240	168.44	76⅛x27"	70 x24"	FDX-2770	260	194.13
RMX-2777	270	176.27	83⅛x27"	77 x24"	FDX-2777	290	202.94
RMX-7030	240	210.51	76⅛x33"	70 x30"			

ORDERING GUIDE

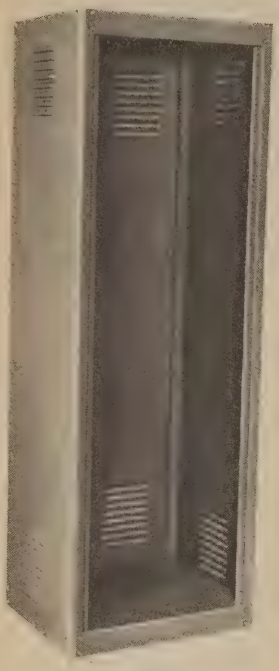
Frame Cat. No.		Frame Cat. No.	Chassis Support Angle (Page 14) Cat. No.	Shelves (Page 14) Cat. No.	Use Chassis Slides (length) (Page 13)	Use Roller Truck (Page 11) Cat. No.
RMX-3619		FDX-3619	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-4219		FDX-4219	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-6119		FDX-6119	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7019		FDX-7019	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7719		FDX-7719	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-3619-24		FDX-3619-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-4219-24		FDX-4219-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-6119-24	OR	FDX-6119-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7019-24		FDX-7019-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7719-24		FDX-7719-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-2742		FDX-2742	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2761		FDX-2761	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2770		FDX-2770	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2777		FDX-2777	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-7030		FDX-7030	CSA-22	S-33-22	20"	FT-1111 or RT-1111-3*

†See quantity discount schedule on page 3.

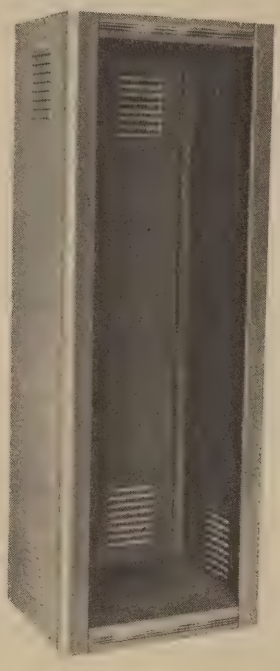
*3"dia. caster

© United Technical Publications

PREMIER CABINET RELAY RACKS



R SERIES



DR SERIES

FRONT DOORS AVAILABLE
See Page 9



FXR SERIES

R SERIES — has front vertical rounded corners.

DR SERIES — has removable rounded front corner mouldings to conceal panel edges and mounting screws. Tops and bottoms are trimmed with aluminum mouldings. Top rear has 2 rows of perforations for additional ventilation.

FXR SERIES—front vertical corners are rounded. Front door supplied with locking chrome handle and two keys.

All units supplied with rear doors hung on sturdy slip-jointed hinges, and closed by a chrome handle. Locking handle with 2 keys is available at additional cost.

Panel mounting angles for the R and DR Series are of 12 ga. steel, welded at front of cabinet to form a 5/16" panel recess. Holes are drilled and tapped for 10-32 screws on E.I.A. spacing. FXR Series is supplied with 1 pair of 12 ga. panel mounting angles fully adjustable front to rear with clearance holes on E.I.A. spacing for additional flexibility to mount accessories. 10-32 screws and captive nuts are furnished.

Rigidly constructed of 16 gauge steel.

Racks are shipped knocked down with all necessary bolts for assembly.

Holes provided in bottom to accommodate casters. Modifications and accessories are available.

Finished in Smoke Blue enamel. Also available in all Premier standard colors. Please specify.

RACKS ARE 22" WIDE x 18" DEEP

	Cat. No.	Overall Height	Panel Space	Use Slide Length*	Shpg. Wt.-Lbs.	Net Price (A)†
R SERIES	R-3619	41 7/8"	36 3/4"	16"	80	$57.86
	R-4219	47 1/8"	42"	16"	90	65.49
	R-6119	66 3/8"	61 1/4"	16"	120	78.98
	R-7719	82 1/8"	77"	16"	140	94.31
DR SERIES	DR-3619	43 1/8"	36 3/4"	16"	85	66.56
	DR-4219	48 3/8"	42"	16"	100	76.28
	DR-6119	67 5/8"	61 1/4"	16"	135	93.86
	DR-7719	83 3/8"	77"	16"	160	110.24
FXR SERIES	FXR-3619	41 7/8"	36 3/4"	16"	93	80.76
	FXR-4219	47 1/8"	42"	16"	105	87.12
	FXR-6119	66 3/8"	61 1/4"	16"	140	115.60
	FXR-7719	82 1/8"	77"	16"	164	136.58

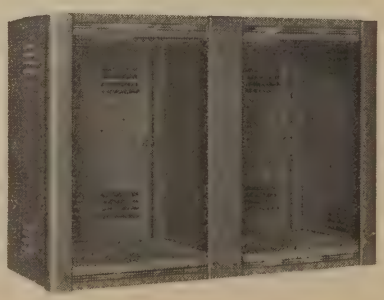
	Cat. No.	Overall Height	Panel Space	Use Slide Length*	Used With	Net Price (A)†
MULTIPLE RACK SERIES	MR-3619	41 7/8"	36 3/4"	16"	R-3619	$50.62
	MR-4219	47 1/8"	42"	16"	R-4219	59.13
	MR-6119	66 3/8"	61 1/4"	16"	R-6119	76.27
	MR-7719	82 1/8"	77"	16"	R-7719	90.83
	DMR-3619	43 1/8"	36 3/4"	16"	DR-3619	67.55
	DMR-4219	48 3/8"	42"	16"	DR-4219	72.39
	DMR-6119	67 5/8"	61 1/4"	16"	DR-6119	80.62
	DMR-7719	83 3/8"	77"	16"	DR-7719	96.20
	MXR-3619	41 7/8"	36 3/4"	16"	FXR-3619	71.01
	MXR-4219	47 1/8"	42"	16"	FXR-4219	82.06
	MXR-6119	66 3/8"	61 1/4"	16"	FXR-6119	102.98
	MXR-7719	82 1/8"	77"	16"	FXR-7719	125.13

*Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting.

†See quantity discount schedule on page 3.

MULTIPLE RACK UNITS

These racks can be joined together to make multiple units by a solid center partition which is bolted to the top and bottom. Each multiple section comprises a top, bottom, rear door and center partition. On MXR Models, front door is also supplied. When ordering multiple units, specify number of units, such as double, triple, quad, etc.



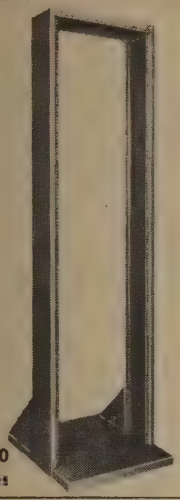
ONE DOUBLE DR3619 EXAMPLE:

One Double DR-3619 consists of one DR-3619 and one DMR-3619. One Triple FXR-3619 consists of one FXR-3619 and two MXR-3619. One Quad R-3619 consists of one R-3619 and three MR-3619.

Net

© United Technical Publications

PREMIER CHANNEL RACKS & DESK CABINETS

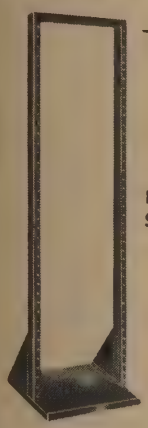


RR-2100 Series

DELUXE UTILITY RACKS

- Made of No. 12 gauge (.104) steel tapped 10-32 on EIA spacings (⅝—⅝—½) both front and rear.
- Uprights 8⅛" deep.
- Panels fit into ½" Recess. Either flat or Formed Panels may be used.
- Top perforated for ventilation when closed front and rear.
- Racks can be bolted side by side.
- There are no screw heads projecting.
- Vertical members and top cross piece are welded together.
- The base and rear supports are shipped knocked down.
- Finished in Smoke Blue.

FOR 19" WIDE PANELS						FOR 24" WIDE PANELS				
Cat. No.	Width	Panel Space	Shpg. Wt. Lbs.	Net Price (A)†	Height	Cat. No.	Width	Panel Space	Shpg. Wt. Lbs.	Net Price (A)†
RR-2164	21⅛"	61¼x19"	85	$47.69	64½"	RR-2664	26⅛"	61¼x24"	100	$61.47
RR-2173	21⅛"	70 x19"	90	51.43	73¼"	RR-2673	26⅛"	70 x24"	105	65.19
RR-2180	21⅛"	77 x19"	95	56.37	80¼"	RR-2680	26⅛"	77 x24"	105	70.19



RR SERIES

CHANNEL RELAY RACKS

- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Smoke Blue.
- Vertical members and top crossbrace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½).
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Base punched to accommodate CA-4 (2") and CA-5 (3") casters.

Panel Space

Cat. No.	H.	W.	D.	Panel Space	Shpg. Wt. Lbs.	Net Price (B)†
RR-800	39¼"	20"	18⅜"	36¾"x19"	40	$29.72
RR-801	74¼"	20"	20⅞"	71¾"x19"	55	35.33
RR-802	79½"	20"	20⅞"	77" x19"	60	40.94
RR-803	69"	20"	20⅞"	66½"x19"	50	33.97



TR SERIES

Panel Space

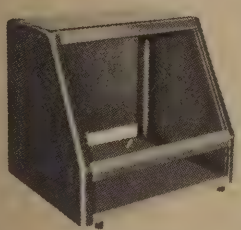
TABLE TYPE RELAY RACKS

TR SERIES

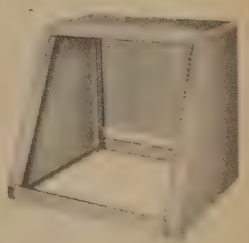
- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Smoke Blue.
- Base constructed of one piece, similar to a
- chassis.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½").
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Panel Space	Shpg. Wt. Lbs.	Net Price (B)†
TR-2119	25"	21"	12"	21x19"	17	$15.63
TR-2819	32"	21"	12"	28x19"	20	18.75

SLOPING INSTRUMENT CABINETS



Ball corner modular sloping desk top instrument cabinets constructed of 16 ga. steel. Front and rear panel openings recessed ½" and tapped for 10/32 screws on EIA spacing. Interlocking removable, perforated rear panel fastens with captive screws and furnished with 1¾" opening at bottom for leads. Assembly screws not visible externally. Shipped knocked down. Provisions are made for mounting to tops of Pedestal Frames. Designed to utilize CMS units below for multiple installations. Top, cross-piece and base finished in Light Gray enamel; Rear and side panels finished in Smoke Blue. Also available in all Premier standard colors.



Cat. No.	W.	H.	D.	Slopped Panel Space	Front Vertical Panel Space	Rear Panel Space	Slope from Vertical	Bottom Panel Space	Shpg. Wt. Lbs.	Price Net (A)†
CSC-201	21¾"	18¼"	18"	12¼x19"	3¼x19"	15¾x19"	30°	—	35	$61.71
CSC-202	21¾"	18⅞"	18⅞"	17½x19"	—	15¾x19"	25°	15¾x19"	40	67.27



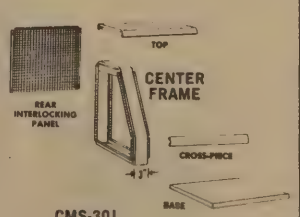
DESIGNED FOR MULTIPLE INSTALLATION

SLOPING INSTRUMENT CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top, cross-piece and base. When ordering multiple units specify number of units, such as Double, Triple, etc.

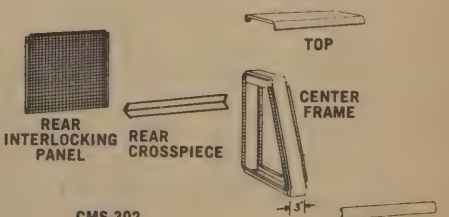
One Triple CSC-201 consists of one CSC-201 and two CMS-301

MULTIPLE SECTION for SLOPING CABINET

Cat. No.	Shpg. Wt. Lbs.	Net Price (A)†
CMS-301	26	$38.09
CMS-302	28	42.34



CMS-301



CMS-302 (No Base)

EACH MULTIPLE SECTION comprises 5 pieces as shown:

EXAMPLE: One Double CSC-201 consists of one CSC-201 and one CMS-301
One Triple CSC-201 consists of one CSC-201 and two CMS-301

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER DESK INSTRUMENT CABINETS



POR Series

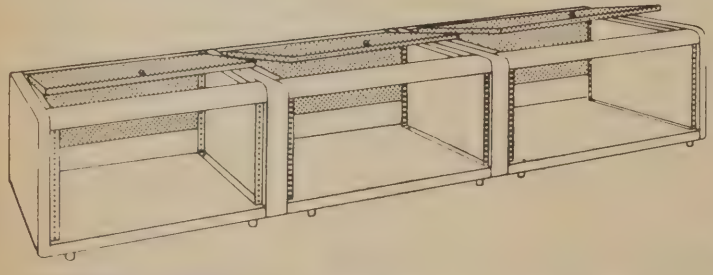
- HANDSOMELY FINISHED IN TWO-TONE SMOKE BLUE AND LIGHT GRAY ENAMEL.
  Top cross braces and base are Light Gray.
  Top and rear panel and side panels are Smoke Blue.
  Other finishes available at extra cost. (See page 50).

15¼" and 18" DEEP FOR STANDARD 19" WIDE PANELS

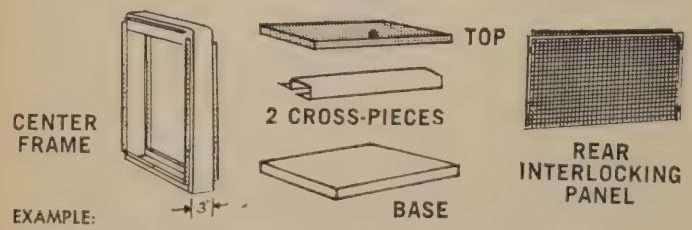
- Sides are attractively ball cornered.
- All screws for assembling cabinets are not visible from the outside.
- Both front and rear verticals are tapped for 10/32 machine screws on E.I.A. spacings so that panels may be mounted on both front and rear if desired.
- Interlocking removable top made of perforated metal and held in place by only one captive screw.
- Interlocking removable rear panel made of perforated metal and held in place by two captive screws.
- Rigidly constructed of 16 ga. steel.
- Rear Panel has 3½" opening on bottom for leads, etc., except on POR-3, 318, 5, 518.
- Panels fit into ½" recess.
- Base supplied with four rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.
- Shipped knocked down with all necessary hardware for easy assembly.

FRONT OR REAR DOORS AVAILABLE (CD Series) See Page 8

15¼" DEEP				ALL CABINETS ARE 21¾" WIDE		18" DEEP			
Catalog No.	Shpg. Wt. Lbs.	Use Slide Length	Net Price (B)†	Overall Height	Panel Space	Catalog No.	Shpg. Wt. Lbs.	Use Slide Length	Net Price (B)†
POR-3	18	14"	$34.40	5⅞"	3½"	POR-318	20	16"	$37.15
POR-5	20	14"	37.10	7⅝"	5¼"	POR-518	22	16"	41.95
POR-7	22	14"	39.37	9⅜"	7"	POR-718	24	16"	42.95
POR-8	24	14"	41.90	11⅛"	8¾"	POR-818	26	16"	43.90
POR-10	26	14"	45.69	12⅞"	10½"	POR-1018	29	16"	50.00
POR-12	28	14"	49.09	14⅝"	12¼"	POR-1218	31	16"	54.44
POR-14	32	14"	54.54	16⅜"	14"	POR-1418	35	16"	60.49
POR-17	40	14"	65.12	19⅞"	17½"	POR-1718	44	16"	71.66
POR-21	44	14"	70.74	23⅜"	21"	POR-2118	48	16"	80.19
POR-26	45	14"	76.09	28⅝"	26¼"	POR-2618	49	16"	84.14
POR-31	50	14"	80.19	33⅞"	31½"	POR-3118	55	16"	89.27
POR-35	55	14"	84.84	37⅜"	35"	POR-3518	60	16"	94.46



EACH MULTIPLE SECTION (MOR Series) comprises 6 pieces as shown.



EXAMPLE:
One Double POR-1218 consists of one POR-1218 and one MOR-1218.
One Triple POR-8 consists of one POR-8 and two MOR-8.

MULTIPLE SECTION FOR DESK INSTRUMENT CABINETS

Cabinets can be joined together to make multiple units by means of a center frame section which is bolted to the top cross pieces and base. Rigidly constructed of 16 ga. steel and finished to match POR units. When ordering multiple units specify number of units, such as Double, Triple, etc.

15¼" DEEP					18" DEEP		
Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	Overall Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
MOR-3	16	$23.99	5⅞"	3½"	MOR-318	18	$25.17
MOR-5	17	25.12	7⅝"	5¼"	MOR-518	19	27.75
MOR-7	18	26.40	9⅜"	7"	MOR-718	20	29.39
MOR-8	19	27.75	11⅛"	8¾"	MOR-818	21	30.89
MOR-10	20	31.87	12⅞"	10½"	MOR-1018	23	35.20
MOR-12	21	34.40	14⅝"	12¼"	MOR-1218	24	37.80
MOR-14	23	38.34	16⅜"	14"	MOR-1418	26	42.29
MOR-17	31	45.69	19⅞"	17½"	MOR-1718	34	50.39
MOR-21	33	49.57	23⅜"	21"	MOR-2118	37	54.92
MOR-26	34	53.62	28⅝"	26¼"	MOR-2618	38	59.40
MOR-31	36	56.10	33⅞"	31½"	MOR-3118	40	62.59
MOR-35	40	59.40	37⅜"	35"	MOR-3518	44	65.56

†See quantity discount schedule on page 3.

PREMIER METAL PRODUCTS COMPANY / A Division of Sunshine Mining Company

Net

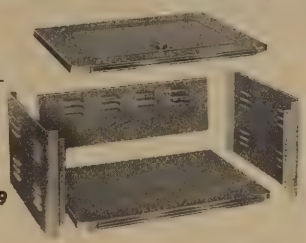
© United Technical Publications

PREMIER DESK CABINET RACKS



DCR SERIES
(Welded)

DRK SERIES
(Knocked Down)



DRK SERIES (Knocked Down With Top Door)	MDK SERIES (Knocked Down With Solid Top)

FRONT DOORS AVAILABLE — See Page 9

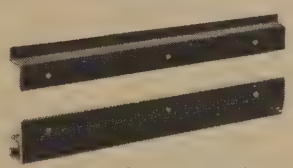
12", 15¼" and 18" DEEP FOR STANDARD 19" WIDE PANEL

- Piano type hinges are used on the top doors, which are provided with snap catches.
- Front vertical corners are rounded and the top and bottom are trimmed with moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a ¼" recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on E.I.A. spacings (⅝-⅝-½).
- DRK is identical to DCR except shipped knocked down with all necessary hardware for easy assembly. MDK is made with solid top and shipped KD with all hardware. On KD models the bolts are not visible from the outside and have the same appearance as the welded models.
- Gussets welded at bottom of rear on Models 170-350 for additional strength.
- Finished in Smoke Blue. Other finishes available at extra cost. (See page 25).

21¾" WIDE x 12" DEEP

	Catalog No.	Overall Height	Available Panel-Space	Shpg. Wt. Lbs.	Net Price (B)†
WITH REMOVABLE REAR PANEL	MDK-50	7"	5¼ x 19"	16	$16.91
	MDK-70	8¾"	7 x 19"	20	18.20
	MDK-80	10½"	8¾ x 19"	21	19.29
	MDK-100	12¼"	10½ x 19"	23	21.55
	MDK-120	14"	12¼ x 19"	25	24.20
	MDK-140	15¾"	14 x 19"	29	26.20
WITH REAR DOOR	MDK-170	19¼"	17½ x 19"	36	32.20
	MDK-210	22¾"	21 x 19"	39	35.54
	MDK-260	28"	26¼ x 19"	40	38.27
	MDK-280	29¾"	28 x 19"	41	39.69

WALL MOUNTING BRACKETS



Catalog No. WB-19

FOR MOUNTING DESK CABINET RACKS ON WALL—REMOVE REAR DOOR AND USE WALL MOUNTING BRACKETS.

Sold in sets only.
Finished in Smoke Blue

Shipping Weight 2½ lbs.
$6.18 set

NOT APPLICABLE ON DCR-70 THROUGH DCR-140

21¾" WIDE x 15¼" DEEP

	Welded Cat. No.	Net Price (B)†	Knocked Down Cat. No.	Net Price (B)†	Overall Height	Panel Space	Shpg. Wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-70	$20.87	DRK-70	$21.91	8¾"	7"	22	14"
	DCR-80	22.23	DRK-80	23.34	10½"	8¾"	24	14"
	DCR-100	24.35	DRK-100	25.57	12¼"	10½"	26	14"
	DCR-120	27.11	DRK-120	28.47	14"	12¼"	28	14"
	DCR-140	31.13	DRK-140	32.69	15¾"	14"	32	14"
WITH DOOR ON TOP AND REAR	DCR-170	35.41	DRK-170	37.18	19¼"	17½"	40	14"
	DCR-190	37.53	DRK-190	39.41	21"	19¼"	42	14"
	DCR-210	38.87	DRK-210	40.81	22¾"	21"	44	14"
	DCR-260	41.69	DRK-260	43.77	28"	26¼"	45	14"
	DCR-310	44.46	DRK-310	46.68	33¼"	31½"	50	14"
	DCR-350	47.27	DRK-350	49.63	36¾"	35"	55	14"

21¾" WIDE x 18" DEEP

	Welded Cat. No.	Net Price (B)†	Overall Height	Panel Space	Shpg. Wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-1880	$25.59	10½"	8¾"	26	16"
	DCR-18100	27.98	12¼"	10½"	29	16"
	DCR-18120	31.17	14"	12¼"	31	16"
	DCR-18140	33.52	15¾"	14"	35	16"
WITH DOOR ON TOP AND REAR	DCR-18170	40.69	19¼"	17½"	44	16"
	DCR-18190	43.16	21"	19¼"	46	16"
	DCR-18210	44.70	22¾"	21"	48	16"
	DCR-18260	47.92	28"	26¼"	49	16"
	DCR-18310	51.16	33¼"	31½"	55	16"
	DCR-18350	54.39	36¾"	35"	60	16"

† See quantity discount schedule on page 3.

* Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting. (See Page 13)

© United Technical Publications

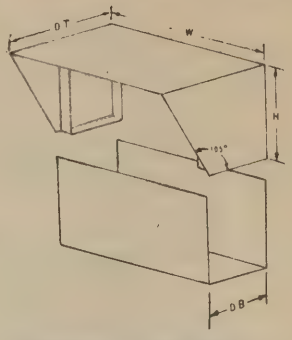
PREMIER CASES

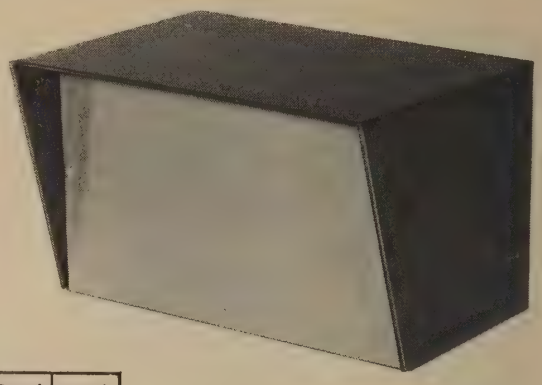
SLOPING COMPACT CASES

Give your equipment a new look with the new DESIGNER SERIES!

STANDARD SCC SERIES
furnished with Smoke Blue outer shell and Light Gray insert.

- Two piece case made of 20 gauge cold rolled steel
- Top of unit extends beyond the front panel
- Supplied with necessary screws for assembly



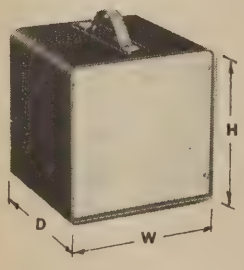


SCC — Standard Series

OVERALL DIMENSIONS

Standard Cat. No.	Net Price (B)†	Height (H)	Width (W)	Depth Top (DT)	Depth Bottom (DB)
SCC-3000	$8.33	6″	10″	7″	5¾″
SCC-3001	9.11	7″	12″	8″	5⅛″
SCC-3002	7.60	3″	8″	5″	3⅞″
SCC-3003	7.97	5″	5″	5″	3⅜″

COMPACT CASES
with ROUNDED CORNERS ON BOTH FRONT AND REAR OF TOP

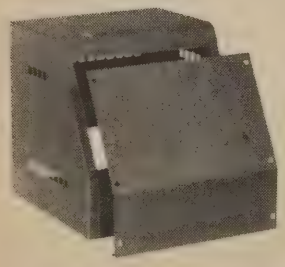


CC — Standard Series

STANDARD CC SERIES
furnished with Smoke Blue case and Light Gray panel.

- Body made of 20 gauge steel
- Front panel made of .064 aluminum
- Carrying handle supplied
- Perforated sides for ventilation
- Base supplied with four rubber feet
- Panel fits into ½″ recess
- Two-inch opening in rear for leads
- Supplied with necessary screws for assembly
- Welded construction

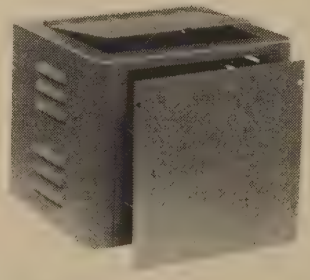
Standard Cat. No.	Net Price (B)†	OVERALL DIMENSIONS Height	Width	Depth	Use Chassis	Wt. in Lbs.
CC-2000	$13.31	8″	6⅛″	8″	ACH 426 5x7x2	4
CC-2001	14.58	8″	8⅛″	8″	ACH 403 7x7x2	5
CC-2002	15.55	8″	10⅛″	8″	ACH 404 7x9x2	6
CC-2003	16.93	9″	8⅛″	12″	ACH 405 7x11x2	7
CC-2004	20.50	11″	11⅛″	18″	ACH 415 10x17x3	10
CC-2005	23.30	12″	14⅛″	18″	ACH 423 13x17x3	11



SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of 20 gauge steel. Finished in Gray Hammertone.

Catalog No.	H. W. D.	Use Chassis No.	Shpg. Wt. Lbs.	Net Price (B)†
SFC-500	8x 8⅛x 8″	CH-403	6	$7.42
SFC-501	8x10⅛x 8″	CH-404	7	8.35
SFC-502	8x14⅛x 8″	CH-406	8	8.90
SFC-503	9x18⅛x 8″	CH-409	10	11.73
SFC-504	12x18⅛x12″	CH-415	14	15.02



HINGED TOP ROUNDED CORNER TYPE

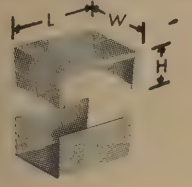
Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of 20 gauge steel. Finished in Gray Hammertone.

Catalog No.	H. W. D.	Panel Size	Use Chassis No.	Shpg. Wt. Lbs.	Net Price (B)†
HTC-200	8x10¾x 8″	8x 8″	CH-403	6	$8.66
HTC-201	8x12¾x 8″	8x10″	CH-404	6½	9.26
HTC-202	8x16¾x 8″	8x14″	CH-406	11	10.47
HTC-203	9x17¾x11″	9x15″	CH-413	6½	19.67
HTC-204	12x20¾x12″	12x18″	CH-415	13½	22.09
HTC-205	8x14¾x 8″	8x12″	CH-405	7¼	9.87

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER CASES



A two piece case made of 16 Ga. (.051) aluminum. Supplied with screws. Natural Aluminum Finish or Gray Hammertone.

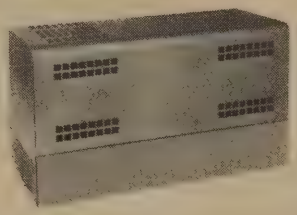
ALUMINUM MINIATURE UTILITY CASES

Natural Aluminum Cat. No.	Net Price (B)†	L.	W.	H.	Shpg. Wt. Lbs.	Gray Hammertone Cat. No.	Net Price (B)†
AMC-1000*	$ .84	2¾"	2⅛"	1¾"	¼	PMC-1000*	$1.05
AMC-1001*	.87	3¼"	2⅛"	1⅝"	¼	PMC-1001*	1.10
AMC-1002*	.92	4"	2⅛"	1⅝"	¼	PMC-1002*	1.18
AMC-1003	1.05	4"	2¼"	2¼"	⅜	PMC-1003	1.27
AMC-1004	1.13	5"	2¼"	2¼"	½	PMC-1004	1.41
AMC-1005	1.23	5"	4"	3"	½	PMC-1005	1.73
AMC-1006	1.23	5¼"	3"	2⅛"	1	PMC-1006	1.49
AMC-1007	1.58	6"	5"	4"	¾	PMC-1007	2.20
AMC-1008	2.02	7"	5"	3"	1⅛	PMC-1008	2.53
AMC-1009	2.63	8"	6"	3½"	1½	PMC-1009	3.11
AMC-1010	2.80	10"	6"	3½"	1¾	PMC-1010	3.69
AMC-1011	3.85	12"	7"	4"	2	PMC-1011	4.40
AMC-1012	4.20	17"	5"	4"	½	PMC-1012	4.95
AMC-1013	1.49	10"	2"	1⅝"	¼	PMC-1013	2.20
AMC-1014	1.84	12"	2½"	2¼"	¼	PMC-1014	2.56
AMC-1015	1.13	4"	2"	2¾"	⅜	PMC-1015	1.29
AMC-1016	1.13	4¼"	2¼"	1½"	¼	PMC-1016	1.29

*18 Gauge (.040)

AMPLIFIER FOUNDATIONS

STANDARD TYPE



TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Hammertone.

CHASSIS constructed of one piece with corners spot-welded. Finished in Gray Hammertone.

Cat. No.	Chassis Size	Shpg. Wt. Lbs.	Net Price (B)†
AF-510	5x10x3"	5	$11.06
AF-615	6x14x3"	7	12.29
AF-1017	10x17x3"	11	15.46
AF-1317	13x17x3"	13	17.40

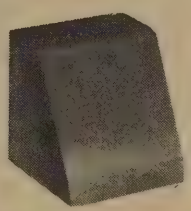
PERFORATED TYPE COVERS



TOP COVER made of perforated steel and has rounded corners with solid ends. 6" high except PC-57*. Finished in Gray Hammertone.

Cat. No.	W.	D.	Use Chassis No.	Shpg. Wt. Lbs.	Net Price (B)†
*PC-57	7"	5"	ACH or CH-426	1	$5.42
PC-510	10"	5"	ACH or CH-401	1¾	5.56
PC-615	14"	6"	ACH or CH-402	2⅜	6.42
PC-717	17"	7"	ACH or CH-409	3	7.06
PC-1012	12"	10"	ACH or CH-412	3	7.24
PC-1017	17"	10"	ACH or CH-415	3¼	8.74

*4" high.



STEEL AND ALUMINUM SLOPING PANEL CASES

ROUND TOP CORNERS WITH SLOPING FRONT

20 gauge Steel Gray Hammertone Finish. 18 gauge (.040) Aluminum—Natural Aluminum finish.

Steel Cat. No.	W. D. H.	Shpg. Wt. Lbs.	Net Price (B)†	Aluminum Cat. No.	Net Price (B)†
SPC-1200	4 3/16x4 1/16x4 3/16	¾	$2.67	ASPC-1200	$2.67
SPC-1201	5 3/16x4 1/16x4 3/16	1	2.84	ASPC-1201	2.84
SPC-1202	6 3/16x4 1/16x4 3/16	1	3.00	ASPC-1202	3.00
SPC-1203	7 3/16x4 1/16x4 3/16	1½	3.24	ASPC-1203	3.24

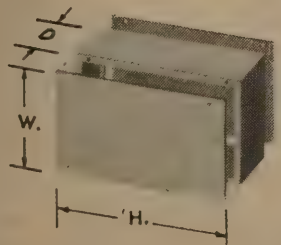


2 in 1 STEEL & ALUMINUM METER CASES

Center Hole for 2" meter (2 3/16" dia.) increases to 3" (2 13/16" dia). meter hole by simply removing a knock-out. Size: 4 3/16x4 5/16x4 1/16". Supplied with two ½" dia. knockouts. 20 gauge steel—Gray Hammertone Finish, 18 gauge (.040) Aluminum—Natural Aluminum Finish.

	Cat. No.	Shpg. Wt.	Net Price (B)†
ALUMINUM	ASPC-23	¾	$2.73
STEEL	SPC-23	¾	2.73

UTILITY CASES



ALUMINUM

Constructed of 16 ga. (.051) aluminum with ½" flanged edges, spot welded corners and two removable flat covers. Natural Aluminum finish or Gray Hammertone.

Natural Aluminum Cat. No.	Net Price (B)†	Size H.	W.	D.	Shpg. Wt. Lbs.	Gray Hammertone Cat. No.	Net Price (B)†
AC-442	$1.92	4"	4"	2"	½	PAC-442	$2.29
AC-453	2.03	4"	5"	3"	¾	PAC-453	2.41
AC-564	2.34	5"	6"	4"	1	PAC-564	2.86
AC-596	3.96	5"	9"	6"	1½	PAC-596	4.46
AC-666	3.10	6"	6"	6"	1½	PAC-666	3.60
AC-1276	3.80	12"	7"	6"	2¼	PAC-1276	4.30
AC-1597	5.42	15"	9"	7"	3½	PAC-1597	6.12
AC-695	7.47	6"	9"	5"	1½	PAC-695	8.29

STEEL

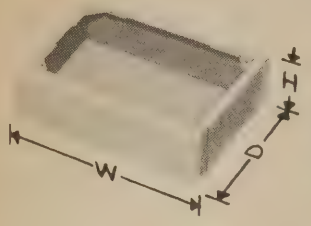
Constructed of 20 ga. sheet with ½" flanged edges, spot welded corners, and two removable flat covers. Finished in Gray Hammertone.

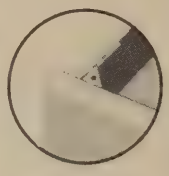
Cat. No.	H.	W.	D.	Shpg. Wt. Lbs.	Net Price (B)†
C-442	4"	4"	2"	⅞	$2.29
C-453	4"	5"	3"	1¼	2.41
C-564	5"	6"	4"	1¾	2.86
C-596	5"	9"	6"	3	4.46
C-666	6"	6"	6"	2¼	3.60
C-695	6"	9"	5"	3	4.30
C-754	7"	5"	4"	2	2.72
C-8101	10"	10"	8"	6	5.83
C-1276	12"	7"	6"	4½	6.12

†See quantity discount schedule on page 3.

© United Technical Publications

PREMIER STEEL and ALUMINUM CHASSIS





EXCLUSIVE PREMIER FEATURE!
View of Chassis Showing Gusset Spot-Welded in Corner.

STEEL AND ALUMINUM BLANK

Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength with prefabricated hole for mounting a bottom plate. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides. Steel chassis are zinc plated and made of 20 gauge cold rolled steel, except those marked * which are of 16 gauge. Aluminum chassis are made of 18 gauge (.040) aluminum, except those marked * which are of 14 gauge (.064).

Natural Aluminum Finish.

ALUMINUM						STEEL		
Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†	Size D.	W.	H.	Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
ACH-400	½	$1.89	5½″	9½″	1½″	CH-400	1	$2.56
ACH-401	¾	2.41	5″	10″	3″	CH-401	1½	2.79
ACH-402	1	3.60	6″	14″	3″	CH-402	2½	3.15
ACH-403	½	2.17	7″	7″	2″	CH-403	1¼	2.56
ACH-404	½	2.30	7″	9″	2″	CH-404	1½	2.68
ACH-405	¾	2.46	7″	11″	2″	CH-405	1⅞	2.84
ACH-406	¾	2.58	7″	13″	2″	CH-406	2	3.10
ACH-407	1	4.11	7″	15″	3″	CH-407	2¾	3.69
ACH-408	1	3.60	4″	17″	3″	CH-408	2¼	3.38
ACH-409	1½	4.19	7″	17″	3″	CH-409	3⅛	3.97
ACH-410	1⅛	4.01	8″	17″	2″	CH-410	2¾	3.69
ACH-411	1½	4.40	8″	17″	3″	CH-411	5¼	4.03
ACH-412	1¼	4.19	10″	12″	3″	CH-412	2¾	3.69
ACH-413	1¼	4.47	10″	14″	3″	CH-413	3¼	3.75
ACH-414	1¼	4.40	10″	17″	2″	CH-414	3¼	3.75
ACH-415*	1⅞	4.98	10″	17″	3″	CH-415*	6	4.46
ACH-416*	2	6.70	10″	17″	4″	CH-416*	7½	5.65
ACH-417*	1¾	5.16	11″	17″	2″	CH-417*	5¼	4.94
ACH-418*	2	6.01	11″	17″	3″	CH-418*	6¼	5.53
ACH-419*	1⅞	5.32	12″	17″	2″	CH-419*	5	4.75
ACH-420*	2⅛	6.29	12″	17″	3″	CH-420*	7	5.65
ACH-421*	2⅞	7.26	12″	17″	4″	CH-421*	8½	6.07
ACH-422*	1⅞	5.44	13″	17″	2″	CH-422*	6	5.65
ACH-423*	2⅛	6.47	13″	17″	3″	CH-423*	7	6.35
ACH-424*	2½	7.90	13″	17″	4″	CH-424*	10	7.43
ACH-425	⅞	3.04	7″	11″	3″	CH-425	2¼	3.56
ACH-426	¼	1.89	5″	7″	2″	CH-426	1	2.19
ACH-427	1¼	4.29	8½″	15″	3″	CH-427	3	4.16
ACH-428	¼	2.17	5″	7″	3″	CH-428	1¼	2.79
ACH-429	¾	2.76	5″	13″	3″	CH-429	2	3.43
ACH-430	1	3.55	8″	12″	3″	CH-430	2½	3.56
ACH-431	¼	1.83	4″	6″	2″	CH-431	1	2.25
ACH-432	¼	2.12	4″	6″	3″	CH-432	1	2.97
ACH-433	⅞	3.04	7″	12″	3″	CH-433	2½	3.38
ACH-434	1	4.01	6″	17″	3″	CH-434	4	3.69
ACH-435*	2½	7.56	10″	23″	3″	CH-435*	10	5.94
ACH-436	¼	1.72	4″	6″	1½″	CH-436	¾	2.25
ACH-437	⅜	1.99	4″	8″	2″	CH-437	1	2.84
ACH-438*	3	13.28	17″	17″	4″	CH-438*	13	10.56
—	—	—	10″	17″	5″	CH-439*	8½	8.32
—	—	—	13″	17″	5″	CH-440*	11	9.21
ACH-441	1	3.04	8″	10″	2½″	CH-441	2½	3.10

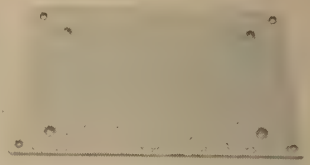
*Made of 14 gauge (.064) aluminum.

Chassis Mounting Brackets Available

*Made of 16 gauge steel.

†See quantity discount schedule on page 3.

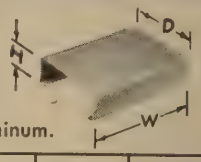
ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates are zinc plated and made of 20 gauge steel. Aluminum plates made of 18 gauge (.040). Natural aluminum finish.

ALUMINUM			STEEL		
Cat. No.	Net Price (B)†	Size	Cat. No.	Shpg. Wt. Lbs.	Net Price (B)†
ABP-400	$1.11	5½× 9½″	BP-400	1	$1.19
ABP-401	1.11	5 ×10″	BP-401	1	1.19
ABP-402	1.67	6 ×14″	BP-402	1	1.78
ABP-403	1.11	7 × 7″	BP-403	1	1.19
ABP-404	1.11	7 × 9″	BP-404	1	1.19
ABP-405	1.28	7 ×11″	BP-405	1	1.37
ABP-406	1.56	7 ×13″	BP-406	2	1.65
ABP-407	1.67	7 ×15″	BP-407	2	1.78
ABP-408	1.28	4 ×17″	BP-408	2	1.37
ABP-409	1.78	7 ×17″	BP-409	2	1.91
ABP-410	1.95	8 ×17″	BP-410	2	2.08
ABP-412	1.83	10 ×12″	BP-412	2	1.97
ABP-413	1.95	10 ×14″	BP-413	2	2.08
ABP-414	2.12	10 ×17″	BP-414	2	2.25
ABP-418	2.23	11 ×17″	BP-418	3	2.38
ABP-419	2.67	12 ×17″	BP-419	3	2.84
ABP-422	2.95	13 ×17″	BP-422	3	3.15
ABP-423	1.11	5 × 7″	BP-423	1	1.19
ABP-424	1.28	5 ×13″	BP-424	1	1.37
ABP-425	1.67	8 ×12″	BP-425	2	1.78
ABP-426	1.11	4 × 6″	BP-426	1	1.19
ABP-427	1.51	7 ×12″	BP-427	2	1.60
ABP-428	1.67	6 ×17″	BP-428	2	1.78
ABP-429	3.23	10 ×23″	BP-429	2	3.43
ABP-430	1.23	4 × 8″	BP-430	1	1.32
ABP-431	3.61	17 ×17″	BP-431	4	3.87
ABP-432	2.40	8½×15″	BP-432	1½	2.56
ABP-433	1.39	8 ×10″	BP-433	1	1.49

ALUMINUM OPEN END CHASSIS

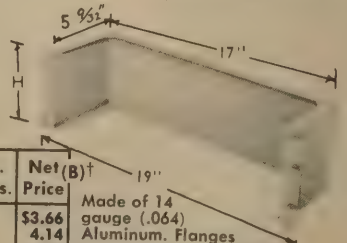


Made of 18 ga. (.040) Aluminum.

Cat. No.	D.	W.	H.	Shpg. Wt. Lbs.	Net Price (B)†
ACH-1350	2⅝″	2¾″	1¼″	¼	$ .88
ACH-1351	1¾″	3⅛″	1″	¼	.88
ACH-1352	3¼″	4½″	2″	¼	1.05
ACH-1353	2¾″	4⅛″	1″	¼	1.05
ACH-1354	3¾″	4⅛″	1½″	¼	1.05
ACH-1355	3″	6⅛″	1¼″	¼	1.22
ACH-1356	5¾″	4⅛″	1½″	¼	1.29
ACH-1357	4″	3⅛″	1″	½	1.05
ACH-1358	4″	4⅛″	1″	½	1.22
ACH-1359	4″	5⅛″	1″	½	1.22
ACH-1360	4″	6⅛″	1″	½	1.29

ALUMINUM VERTICAL PANEL CHASSIS

To FIT 19" STANDARD RACKS



Cat. No.	H.	Shpg. Wt. Lbs.	Net (B)† Price
ACH-1200	1¾″	¾	$3.66
ACH-1201	3½″	1¾	4.14
ACH-1202	5¼″	1½	4.72
ACH-1203	7″	2	5.20
ACH-1204	8¾″	2¼	5.97
ACH-1205	10½″	2¾	6.83
ACH-1206	12¼″	3	8.09
ACH-1207	14″	3¼	9.24

Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5⅜2″. Gussets are spot welded in each corner for greater strength. Etched finish.

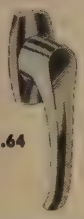
FOR SIDE HINGED PANELS (SHP SERIES)

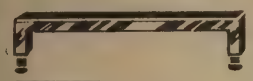
Net

© United Technical Publications

PREMIER HARDWARE

HW-1
NON-LOCKING HANDLE
Chrome plated
Net Price **$2.64**
(A)†

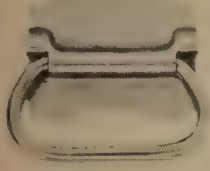




HW-2A
CHROME PLATED HANDLE
Net Price **$1.17**
(A)†

HW-3
LOCKING HANDLE
with 2 keys—
Chrome plated
Net Price **$4.97**
(A)†

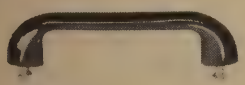




HW-5
DROP HANDLE
Finished in Smoke Blue. Also available in all Premier Standard colors.
Net Price **$1.51**
(A)†

HW-6
CYLINDER LOCK
with 2 keys
Nickel plated
Net Price **$3.15**
(A)†



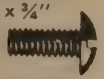


HW-7
BLACK NYLON HANDLE
with 2 screws
Net Price **$1.04**
(A)†



HW-8
QUICK TURN FASTENER
Nickel plated
Net Price **$1.56**
(A)†

HW-13
TRUSS HEAD MACHINE SCREWS 10/32 x ¾"
Nickel plated
Net Price (A)†
$.43 bag of 40





HW-14
10/32 x 1" PHILLIPS WASHER HEAD SCREWS and CAPTIVE NUTS.
Packaged 20 ea./bag
Net Price **$1.60**
bag of 20
(A)†

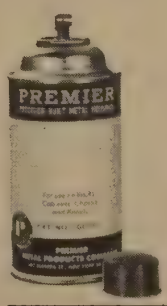


HEAVY DUTY OUTLET BOXES

For Internal Rack Mounting

- Completely wired with circuit breaker. Ready for use
- Supplied with 6' Neoprene cord set with molded plug
- Rated at 15 Amperes. 130 Volts continuous duty
- "U" ground outlets—soldered connections
- Mounting centers 6"
- 1½" wide x 1⅛" deep
- Mounts to crosspiece on PRXA, FA, FDX & RMX frames
- Steel case finished in Gray Hammertone

Model No.	Length	No. of Outlets	Rack Panel Space	Price Net (A)†
OB-161	56¾"	9	61¼"†	$21.04
OB-170	65¼"	10	70"†	24.57
OB-177	72½"	11	77"†	27.13

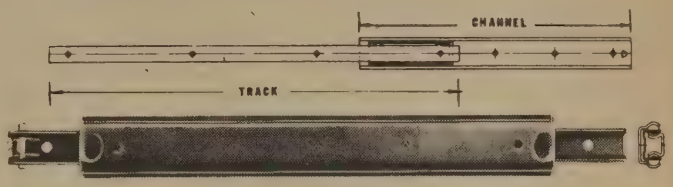


SPRAY CAN LACQUER

Available in 3 colors
12 oz. CAN
Packaged 6 to case

Cat. No.	To Match	Net Price (B)†
GHL-102	Gray Hammertone	$2.78
SBL-105	Smoke Blue	3.00
LGL-106	Light Gray	3.00

UTILITY SLIDES



"A" SERIES

- May be mounted on side or underneath.
- Ball bearing spacer and patented silencer spring eliminates slide noise and vibration.
- All members made of 16 gauge cold rolled steel.
- Black oxidized finish.

Catalog No.	Slide Travel	Channel Length	Track Length	Load Cap.	Net Price (A)† pair
A-50-13	9"	11"	13"	50	$3.71 pr.
A-40-15	11"	11"	15"	40	3.79 pr.
A-30-165	12½"	11"	16½"	30	4.11 pr.
A-30-185	14½"	11"	18½"	30	4.37 pr.



50 LB. — FULL EXTENSION 3 PC. SLIDE

- 50 lb. load rating • 3 piece full extension
- Ball bearings and nylon rollers
- Positive mechanical stop • Instant disconnect
- Side mounted — only ½" width required
- CR steel, zinc plated and clear iridite

Cat. No.	Slide Length And Extension	Net Price (A)† pair
LFE-50-14	14"	$6.58 pr.
LFE-50-16	16"	7.05 pr.
LFE-50-20	20"	7.70 pr.
LFE-50-22	22"	8.27 pr.



*Foot operated friction brake for positive locking wheel.
**With roller bearing wheel.

2" - 3" - 4" DIA. CASTERS

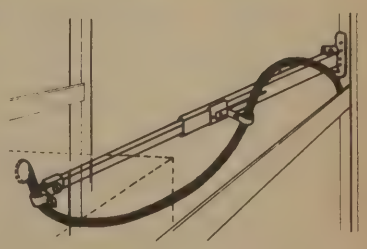
Made of non-marking composition wheel with Ball Bearing Swivel Plate. Packed one set of 4 in box with screws for assembly.

Cat. No.	Kind of Wheel	Wheel Size	Overall Height	Cap. per Caster—Lbs.	Net Price (A)†
CA-4	Plaskite	2" dia. x 1⅜"	2⅞"	80	$3.64
CA-5	Rockite	3" dia. x 1¼"	3⅜"	225	9.56
CA-6	Soft Rubber	Double 2" dia. x 1⅜"	2⅜"	125	10.04
CA-7*	Rockite	3" dia. x 1¼"	3⅜"	225	13.06
CA-8**	Rockite	4" dia. x 1⅜"	5¼"	450	43.87

BALL BEARING ACTION CABLE RETRACTOR

FOR CONTROL OF POWER SUPPLY CABLES

The PREMIER CABLE RETRACTOR is designed for easy and fast installation in both new and existing equipment. It is attached to rear of cabinet and controls power supply cables most efficiently.
As the chassis is extended, the retractor pivots and the inner ball bearing actuated member glides out as necessary. Spring tension keeps cable "jam-proof"



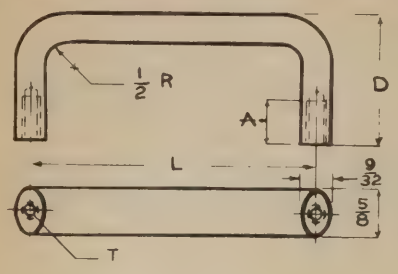
Cat. No. PCR-3-16
Net Price (A)† **$19.62**

†See quantity discount schedule on page 3.

© United Technical Publications

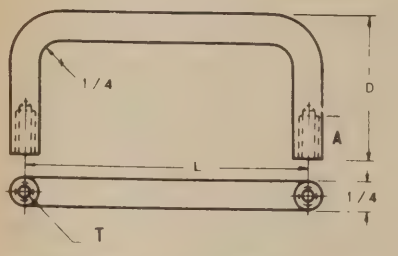
PREMIER

HANDLES MODIFICATIONS-FINISHES



5/8" OVAL HW-16 SERIES — ALUMINUM
5/8" OVAL HW-17 SERIES — BRASS

Cat. No.	L	D	A	T	Net Price (A)†
HW-16A1	3	1 3/32	3/32	10-24	$2.32
HW-16A4	4 5/16	1 1/2	1/2	10-24	2.45
HW-16A6	6 5/16	1 3/4	1/2	10-24	2.80
HW-17B1	3	1 3/32	3/32	10-32	3.07
HW-17B4	4 5/16	1 1/2	1/2	10-32	3.24
HW-17B6	6 5/16	1 3/4	1/2	10-32	3.83



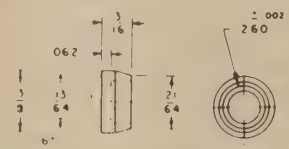
1/4" ROUND HW-19 SERIES — BRASS
1/4" ROUND HW-20 SERIES — ALUMINUM

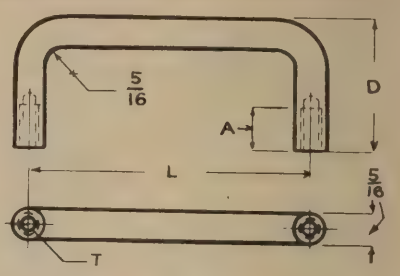
Cat. No.	L	D	A	T	Net Price (A)†
HW-19B1	2	1 1/2	5/16	8-32	$1.56
HW-19B2	3	1 1/2	5/16	8-32	1.56
HW-19B3	4	1 1/2	5/16	8-32	1.68
HW-19B4	6	1 1/2	5/16	8-32	1.73
HW-20A1	2	1 1/2	5/16	8-32	1.51
HW-20A2	3	1 1/2	5/16	8-32	1.51
HW-20A3	4	1 1/2	5/16	8-32	1.65
HW-20A4	6	1 1/2	5/16	8-32	1.73

†See quantity discount schedule on page 3.

FERRULES FOR ABOVE HANDLES

HW-23AF (Aluminum) Net Price (A)† $.18
HW-24BF (Brass) Net Price (A)† $.18



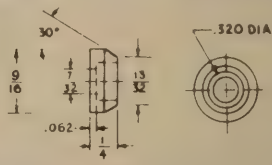


5/16" ROUND HW-18 SERIES — BRASS

Cat. No.	L	D	A	T	Net Price (A)†
HW-18B3	3	1 5/16	7/16	8-32	$1.69
HW-18B13	4 5/16	1 1/2	5/16	10-32	1.82
HW-18B14	6	1 1/2	5/16	10-32	1.82
HW-18B16	6 7/16	1 3/4	5/16	10-32	2.00

FERRULES FOR ABOVE HANDLES

HW-25BF (Brass) Net Price (A)† $.23



HANDLE SPECIFICATIONS

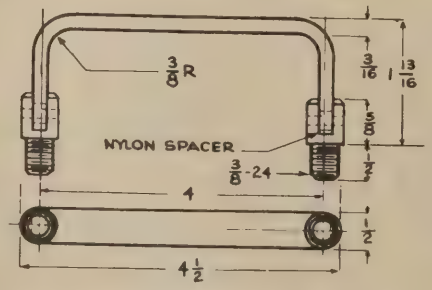
MATERIAL

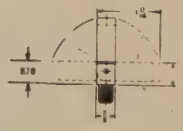
Aluminum: QQ-A-325-A (except HW-21A)
Brass: QQ-B-626 Comp 22½ Hard

FINISH

Black Anodize per MIL-A-8625 Type II
Nickel Plate and Polish per MIL-QQ-N-290 Type VI

DROP HANDLES — HW-21 AND HW-22 SERIES





HW-21A — BOW-ALUMINUM
MIL Spec QQ-A-274

HW-22B — BRASS

Cat. No.	Material	Net Price (A)†
HW-21A	Aluminum	$4.14
HW-22B	Brass	4.45

NOTE: Handle and Ferrules are furnished with nylon spacer and roll-pin 1/8 dia. to hold bow in any given position. Swings 180° to either plane.

MODIFICATIONS: Customized modifications for standard units and specialized enclosures and consoles are available upon request and separate quotations.

VENTILATION PROVISIONS:

Louvres: 3", 4", and 6" louvres are available in clusters or singles for patterns as required.

Perforations: Patterned square and round holes are available in rows and clusters.

Screen Weldments: A large variety of perforated and expanded metal screens are available for weldments into cabinets and panels.

HOLES & CUTOUTS:

Round, square, rectangular, special shapes, fan mounting, etc., holes and cutouts may be specified

HANDLES & LOCKS:

Flush handles, drop handles, locks for drawers and doors may be ordered where not included in standard units.

MISCELLANEOUS:

Special sizes in height, width and depths; inverted bases, special mounting requirements, reinforcements, brackets, etc. may be incorporated into standard and special units.

PREMIER COLOR FINISHES

Standard Finish on Schedule "B" items are as listed in catalog.

Standard Finish on Schedule "A" items are as listed in catalog or finished in any choice of other Premier Standard colors at no extra charge. Specify when ordering. When color is not specified, standard finish will be furnished. Premier color chips are available.

Premier Color	Federal Standard No. 595
LIGHT GRAY	26440
BEIGE TAN	26521
SMOKE BLUE	25189
WHITE	27875
CHARCOAL BROWN	24091
CHARCOAL GRAY	26152
GREEN	24148
BLACK	27038
BRIGHT BLUE	25102
GRAY HAMMERTONE	—
PRIMER (Zinc Chromate)	MIL-SPEC. 6889A

© United Technical Publications

AVX Aerovox®

Quick-reference listing capacitors/ filters



The complete line of AVX electrical and electronic capacitors, filters and microcircuits is covered in a 228 page "Product Specifier."

Included in the "Product Specifier" is basic technical data, application information, MIL spec and industry data along with detailed product information on multi-layer ceramic, paper, film, mica, oil-filled, high voltage, SCR, EDC, feed-thru, disc and high voltage multiplier capacitors. A complete section is devoted to AVX capabilities in thin and thick films, hybrid microcircuits, chip arrays and DIP's. Also featured are filters including RFI/EMI types, active and passive wave filters.

Copies of this catalog are available from your local AVX Franchised Industrial Distributor, or by writing to AVX Aerovox Corporation.

AVX Aerovox®

Ceralam® Multilayer Ceramic Capacitors

AVX Type	Case Style	Capacitance Range	Working Voltage Ratings	Operating Temperature	MIL-C Specification	Dissipation Factor	Temperature Characteristics
ULA	Uncased Chip	1 pF to 1 μF	25 50 100	−55°C to +125°C	MIL-C-55681	.1 to 2.5%	NPO, X7F, X7R, Z5U
Skycap	Radial Lead Epoxy Dipped Rectangular	2.2 pF to 4.7 μF	50 100 200	−55°C to +125°C	MIL-C-11015D (Reference)	.1 to 2.5% Max.	NPO, X7R, Z5U
CK05, CK06 CKR05, CKR06	Radial Lead Molded Case Rectangular	10 pF to 1 μF	50 100 200	−55°C to +125°C	MIL-C-11015D MIL-C-39014B	2.5% Max.	BX
SC605 Ceraseal	Radial Lead Molded Case	.56 μF to 2 μF	50	−55°C to +125°C	MIL-C-11015D (Reference)	2.5% Max.	BX
CK12BX, CKR13BX, BR CKR14BX, BR CK15, BR CK16BR	Axial Lead Molded Tubular	10 pF to 3.3 μF	50 100	−55°C to +125°C	MIL-C-11015D	2.5% Max.	BX, BR
CKR11BX CKR12BX CKR14BX, BR CKR15BX, BR CKR16BR	Axial Lead Molded Tubular	10 pF to 3.3 μF	50 100	−55°C to +125°C	MIL-C-39014B	2.5% Max.	BX, BR
MC ML	Molded Case Tubular Axial & Radial Leads	1 pF to 7.5 μF	25 50 100 200	−55°C to +125°C	MIL-C-39014B MIL-C-11015 (Reference)	.1% to 2.5% Max.	NPO, X7F, X7R
HF-1 HF-11	Microwave Foil-Lead Pellet Axial & Radial Lead	.1 pF to 1000 pF	100 200 300 500	−55°C to +125°C	Not Applicable	Q = 10,000 Min. @ 100 mHz	P90 ±20 ppm

Plastic Film and Paper Dielectrics

Dielectric	Voltage Capability DC Volts	Voltage Capability AC Volts	Capacitance	Capacitance Tolerance	Δ C/Temp.	Insulation Resistance MΩxμF	Frequency
Polystyrene/ Foil	50 to 1600	Up to 300 V @ 60 Hz	10 pF to 1 μF	±20% to ±.1%	−120 ppm/°C −55°C to +85°C	10^4 @ 25°C 10^3 @ 85°C	DC to 100 kHz
Metallized Polycarbonate	50 to 600	Up to 240 V @ 400 Hz	.01 μF to 12 μF	±20% to ±1%	±2% −55°C to +125°C ±1% −25°C to +85°C	10^3 @ 25°C 10^4 @ 85°C 10^3 @ 125°C	DC to 100 kHz
Mylar/ Foil	50 to 1000	Up to 280 V @ 60 Hz	.001 μF to .5 μF	±20% to ±1%	+15%, −5% −55°C to +125°C ±2.5% −25°C to +85°C	$5x10^4$ @ 25°C $5x10^3$ @ 85°C 10^2 @ 125°C	DC to 10 kHz
Metallized Mylar	50 to 600	Up to 220 V @ 60 Hz	.001 μF to 12 μF	±20% to ±1%	+15%, −5% −55°C to +125°C ±2.5% −25°C to +85°C	10^4 @ 25°C 10^3 @ 85°C 40 @ 125°C	DC to 10 kHz
Metallized Paper	150 to 600	Up to 220 V @ 60 Hz	.001 μF to 12 μF	±20% to ±10%	+12.5%, −7.5% −55°C to +125°C ±5% −25°C to +85°C	$2x10^3$ @ 25°C 50 @ 85°C	DC to 1 kHz

Miniature Tubular Low Pass EMI/RFI Filters

Typical Characteristics

AVX Type	Capacitor Dielectric	Circuit Type	D.C. Volt Rating 125°C	Max. Current Amps	Min. Att. @ 150 kHz db	Size O.D. x L
FL	Ceramic	L	28	.25 10	42 28	.375 x .540
			50	.25 10	47 26	.406 x .580
			100	.25 10	34 18	.406 x .580
			200	.25 10	27 10	.406 x .890
FP	Ceramic	Pi	50	.25 10	70 30	.406 x .580
			100	.25 10	58 22	.406 x .580
			200	.25 10	39 15	.406 x .890
IN	Paper/Film	L	200	.25 10	45 16	.670 x 1.0
		Pi	200	.25 10	66 16	.670 x 1 3/16

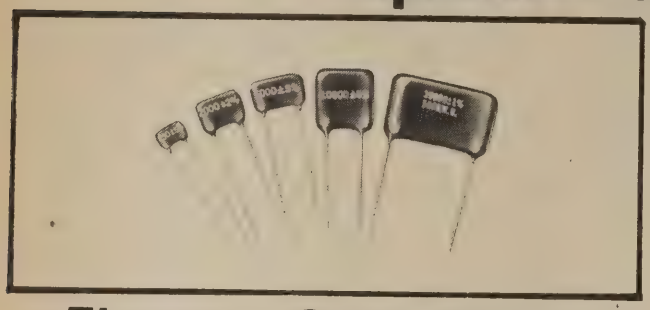
© United Technical Publications

Arco/LDP

LORAL DISTRIBUTOR PRODUCTS

A Division of Loral Corporation

Your One Source for Capacitors and Electronic Components

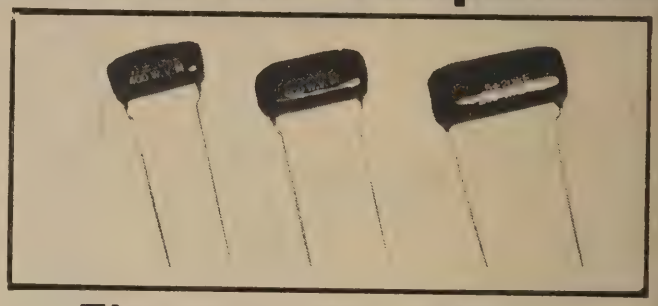


Elmenco Capacitors

DIPPED MICA

Only 1 Failure Per 43,000,000 Unit-Hours!

- It has been computed that "debugged" DM30, 10,000 MMF units, when subjected to 257,000 hours of life at 85°C with 100% of the rated DC voltage applied, will yield only 1 FAILURE PER 43,000,000 UNIT-HOURS!
- DM15, DM16, DM19, DM20 . . . perfect for miniaturization and for new designs using printed wiring circuits. Also available in DM30, DM42 and DM43.
- New "hairpin" parallel leads insure easy application.
- Exceed all electrical requirements of military specification MIL-C-5A.
- DM5 — subminiature completely encapsulated mica capacitors. Ideal for high density miniature applications.

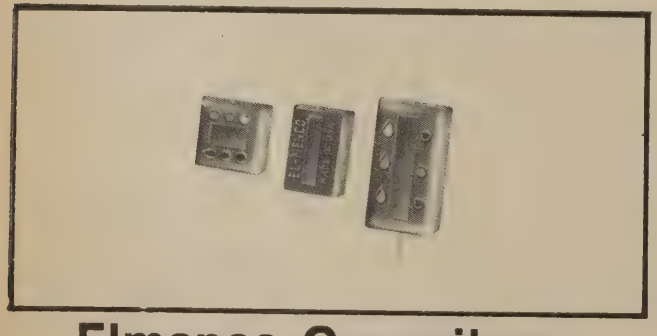


Elmenco Capacitors

DIPPED TUBULARS

Only 1 Failure in 7,168,000 Unit-Hours!

- Life tests at 100°C with rated voltage applied have yielding only 1 FAILURE PER 716,800 UNIT-HOURS for 1 MFD. Since the number of unit-hours of these capacitors is inversely proportional to the capacitance, 0.1 MFD Mylar-Paper Dipped capacitors will yield only 1 FAILURE PER 7,168,000 UNIT-HOURS!
- Working volts DC: 200, 400, 600, 1000 and 1600.
- Durez phenolic resin impregnated.
- Tolerances: ±10% and ±20% (closer tolerances available).
- Dielectric strength: 2 or 2½ times rated voltage, depending upon working voltage.
- Exceed all electrical requirements of E.I.A. specification RS-164 and military specifications MIL-C-91A and MIL-C-25A.

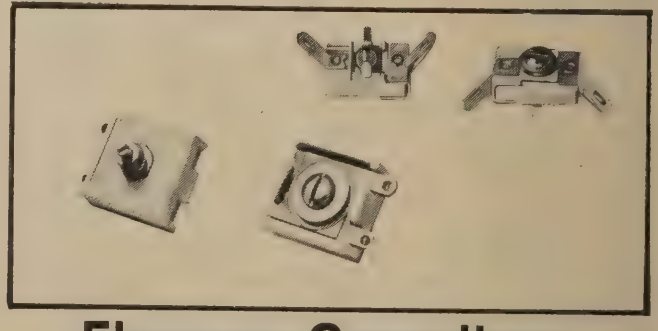


Elmenco Capacitors

MOLDED SILVERED MICA

Superior Performance!

- Unmatched for excellent stability, dielectric strength, high insulation resistance, extremely high "Q" and correspondingly low power factor.
- Units can be subjected to a short "debugging" life test at elevated voltage and temperature for removal of early life failures and for improved reliability.



Elmenco Capacitors

TRIMMERS/PADDERS

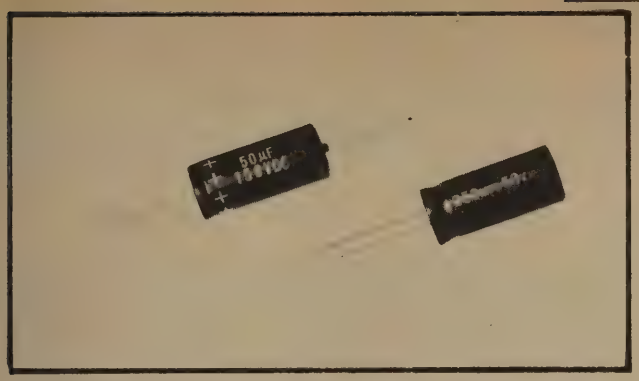
Design Versatility!

- Available in 350 VDC and 500 VDC as well as other test voltages.
- All bases are of low-loss steatite.
- Special lugs are obtainable for printed circuitry.
- Miniature units are available.
- Solder Lugs can be bent in any position without affecting the capacity setting due to the rigid construction.
- Various types of mounting brackets are available for all trimmers.
- Units can be constructed for special applications.

CONTACT YOUR LOCAL Arco/LDP DISTRIBUTOR FOR CATALOGS AND SPECIFICATIONS

ELECTRONIC COMPONENTS FOR INDUSTRY SOLD NATIONALLY THROUGH Arco/LDP DISTRIBUTORS

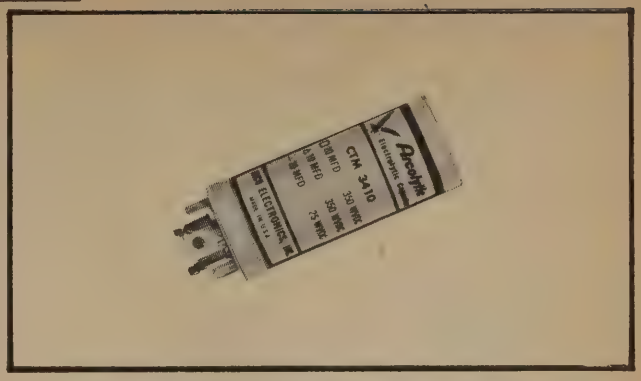
© United Technical Publications



Arcolytic Capacitors

MINIATURE ALUMINUM ELECTROLYTICS

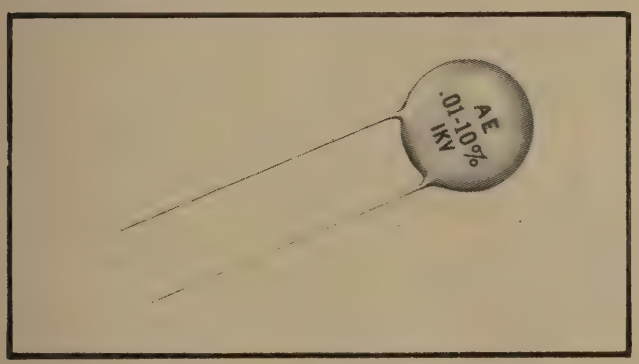
- Ultra-small units are made for transistor circuitry and other sub-miniature applications.
- High quality, low cost electrolytic capacitors, with windings sealed in an aluminum can protected by a vinyl sleeve.
- Operation temperature: −30°C to +85°C.
- Available in either axial or radial lead construction.
- Available voltages: 3, 6, 12, 15, 25, 50, 100, 150, 250, and 350 VDCW.



Arcolytic Capacitors

TWIST MOUNT ELECTROLYTICS

- Hermetically sealed in aluminum cans.
- Made with 99.99% pure aluminum foil.
- Designed for high temperature operation: 85°C.
- Suitable to withstand high surge voltages and ripple currents.
- Built and tested to meet EIA specification RS-154.
- Greater shelf, operating life and dependable performance in T.V., Radio and Hi-Fi applications.
- Available in single, and multiple section units.



Arcolytic Capacitors

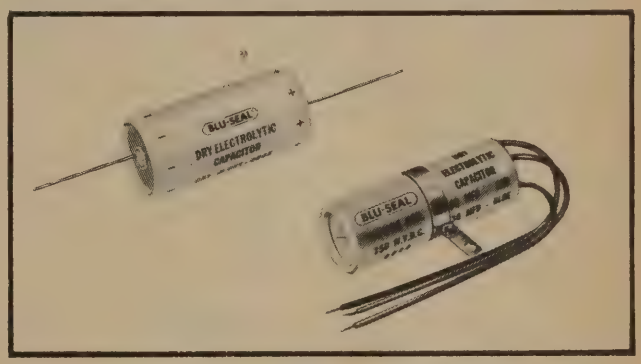
CERAMIC DISC

- Low cost, small size for by-pass and coupling applications in IF and RF circuits, where temperature coefficient is unimportant.
- Outstanding moisture resistance due to rugged phenolic coating and high temperature way impregnation.
- Conservative design provides extra reserve for resistance to surges and temporary overloads.
- Available in 1000, 3000 and 6000 VCDW, and temperature compensating (TO; NPO; N750) and stable types.
- Ideal for original equipment or for replacement.

NEW 85° COMPUTER GRADE ALUMINUM ELECTROLYTICS

Made by STM CORPORATION — available through ARCO/LDP distributors.

- Designed for high capacitance applications in: Digital Computer Power Supplies, Industrial Control Equipment and energy storage requirements.
- High reliability due to the use of specially developed seal, and high purity aluminum construction.
- Long shelf life.
- Available in both standard and extended capacitor ranges.
- Designed to operate at full rated voltage in ambient temperatures of 85°C.



Arcolytic Capacitors

TUBULAR ELECTROLYTICS

- Available in single and multiple sections.
- Excellent moisture resistance due to construction, either hermetically sealed aluminum tube with insulating cardboard sleeves, or double insulated wax filled cardboard tubes.
- Maximum operating temp: 85°C single section units
  75°C multiple section units
- Built and tested to meet EIA specification RS-154.
- Extended shelf and operating life at both normal and elevated temperatures.

SERVICE KITS

- Packaged popular products to simplify replacement service on radios, T.V. or Hi-Fi equipment.
- Ideally suited for laboratories, schools, or shop.
- Free premium with each kit has many home, or shop applications.
- Popular values supplied to ease in designing of engineering breadboards.

Arco/LDP

LORAL DISTRIBUTOR PRODUCTS
A Division of Loral Corporation

CONTACT YOUR LOCAL Arco/LDP DISTRIBUTOR FOR CATALOGS AND SPECIFICATIONS

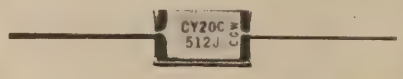
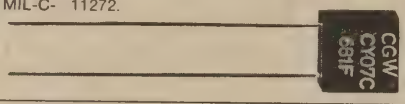
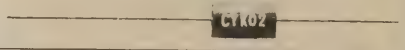
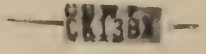
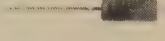
ELECTRONIC COMPONENTS FOR INDUSTRY SOLD NATIONALLY THROUGH Arco/LDP DISTRIBUTORS

© United Technical Publications

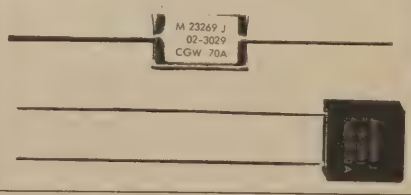
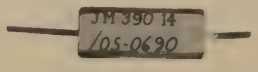
CORNING Fixed Glass-Ceramic Capacitors

CORNING Glass Dielectric Capacitors, styles CYFM, TYO, and CYR, utilizing a multilayer monolithic construction, provide the ultimate in stability and reliability. These are ideally suited for critical applications such as coupling, decoupling, filtering and timing circuits.

CORNING Glass-K™ Glass-Ceramic dielectric capacitors, styles CYK and CKR, utilizing a multilayer monolithic construction, provide a high capacitance-to-volume ratio along with the reliable performance associated with glass dielectric capacitors. To provide design flexibility, the Glass-K capacitor is offered in several stability characteristics.

		CGW/MIL	CAPACITANCE RANGE (pf)	VOLTAGE	TOLERANCE
CYFM	Glass dielectric, fusion sealed, environment-proof performance, ultimate stability. TC +140 ppm/°C. QPL to MIL-C-11272. 	CYFM10/CY10	0.5 to 200 220 to 300	500 300	±1,2,5,10%
		CYFM15/CY15	220 to 510 560 to 1200	500 300	±1,2,5,10%
		CYFM20/CY20	560 to 3300 3600 to 5100	500 300	±1,2,5,10%
		CYFM30/CY30	3600 to 6200 6800 to 10,000	500 300	±1,2,5,10%
TYO	Glass dielectric, glass stability in radial lead configuration. T. C. +140 ppm/° C. QPL to MIL-C- 11272. 	TY06/CY06	1 to 560	300	±1,2,5,10,20%
		TY07/CY07	620 to 1000	300	±1,2,5,10,20%
		TY08/CY08	1100 to 2400	300	±1,2,5,10,20%
CYK	Glass ceramic dielectric in three stability characteristics — T (+ 2 — 10%), U (+ 2-15%), V (+ 20 — 45%). QPL to MIL-C-11015/25. 	CYK01/CK31	270 to 51,000	50	±5,10,20%
		CYK02/CK32	12,000 to 100,000	50	±5,10,20%
CYK	Glass ceramic dielectric. Stability characteristics — X (+ 15 — 15%), R (+ 15 — 25%). QPL to MIL-C-11015/20. 	CYK12/CK12	10 to 4700 5600 to 10,000	100 50	±10,20%
		CYK13/CK13	5600 to 10,000 12,000 to 22,000	100 50	±10,20%
		CYK14/CK14	12,000 to 100,000	100	±10,20%
CGC	Ceramic dielectric, EIA stability characteristic X5U (+22, −56% from −55° to +85°C). 	CGC-2	10 to 27,000	50	±10%, ±20% +80%, −20% GMV
		CGC-3	10,000 to 100,000	50	
		CGC-4	51,000 to 180,000	50	
		CGC-5	100,000 to 330,000	50	

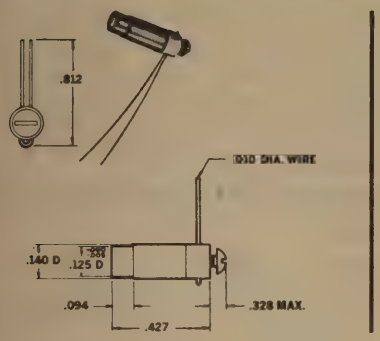
ESTABLISHED RELIABILITY

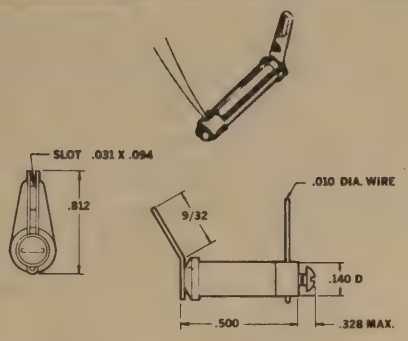
CYR	MIL-C-23269, fixed glass, established reliability specification, supersedes MIL-C-11272 for new design. Axial lead CYR 10, 15, 20, 30. Radial lead CYR 51, 52, 53. QPL to MIL-C-23269. 	CYR10	.5 to 200 220 to 300	500 300	±1,2,5%
		CYR15	220 to 510 560 to 1200	500 300	±1,2,5%
		CYR20	560 to 3300 3600 to 5100	500 300	±1,2,5%
		CYR30	3600 to 6200 6800 to 10,000	500 300	±1,2,5%
		CYR51	1 to 560	300	±1,2,5%
		CYR52	620 to 1000	300	±1,2,5%
		CYR53	1100 to 2400	300	±1,2,5%
CKR	MIL-C-39014, fixed ceramic, established reliability specification, supersedes MIL-C-11015 for new design. QPL to MIL-C-39014. 	CKR11	10 to 4700 5600 to 10,000	100 50	±10,20%
		CKR12	5600 to 10,000 12,000 to 22,000	100 50	±10,20%
		CKR14	12,000 to 100,000	100	±10,20%

© United Technical Publications

E. F. JOHNSON COMPANY®

Miniature Teflon® dielectric trimmer-capacitors





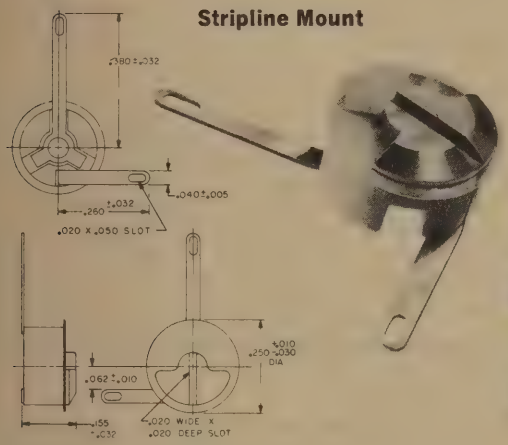
These trimming capacitors are ideally suited for VHF and UHF applications requiring low minimum capacity and delta C. They provide high resolution and electrical stability. Tuning is linear. Q is high (2000 @ 150 MHz typically). Insulation resistance 10^6 megohms. Temperature range —55° to +150°C. High resistance to shock and vibration.

Metal parts are gold plated. Insulation is Teflon®.

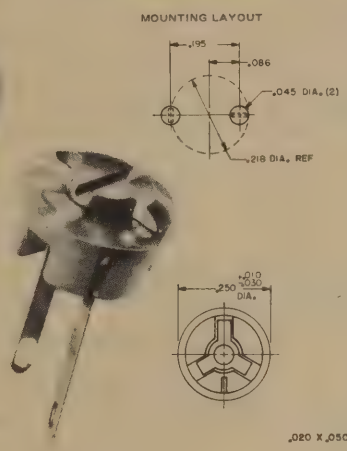
® Teflon is a registered trade name of Du Pont Co.

Cat. No.	Mounting	Nom. pf. Max.	Cap. Per Sec. Min.	Torque Oz. In.	Voltage Breakdown	Adjustment Turns Per Inch	Net Price
273-0001-001	PC	1.5	.25	.2-3.0	2,000	80	$0.60
273-0001-002	Solder Lug	1.5	.25	.2-3.0	2,000	80	.70

Stripline Mount



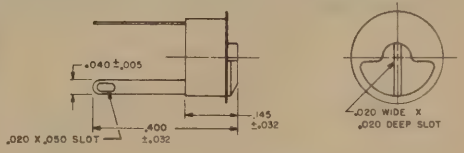
Printed Circuit Mount



New subminiature trimmer capacitor for limited delta C applications. Thin Teflon (TFE) dielectric provides superior electrical characteristics (Q, TC, VDC).

Stator is high alumina for low loss and high mechanical strength. Rotor is machined from brass. Terminals are beryllium copper and brass, silver plated and Iridited.

Figure of Merit (Q) is typically 2500 at 1 MHz., 300 at 100 MHz. Insulation resistance 10,000 megohms min. after one minute at 100 VDC. Starting and running torque 0.4 to 1.5 oz. in.

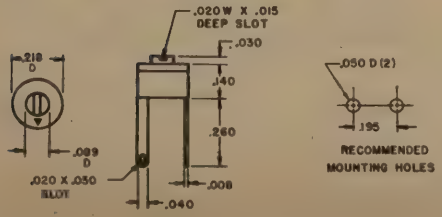


Electrical Characteristics

Cat. No.	Description	Nominal Capacitance Range (pF)	Working Voltage To 85°C	Working Voltage To 125°C	Minimum Breakdown Voltage at 25°C	Net Price
273-0005-005	Printed Circuit Mount	1.1 to 3.5	100 VDC	50 VDC	200 VDC	$0.80
273-0005-175	Stripline Mount	1.1 to 3.5	100 VDC	50 VDC	200 VDC	.85

Ceramic disc trimmer capacitors





This new micro-miniature ceramic disc trimmer exhibits extreme stability and long life due to encapsulation of the rotor plate in titinate. The stator is of HIGH ALUMINA for lower loss and higher strength under extreme environmental conditions. Smooth, linear tuning is realized by precision lapping of bearing surfaces. Designed to meet or exceed applicable portions of MIL-C-81. Operating range is —55° to 125°C. Working Voltage 100 VDC up to 85°C, 50 VDC up to 125°C.

Catalog Number	Nominal Capacity (pF.) Min.	Nominal Capacity (pF.) Max.	Minimum DC Voltage Breakdown	Net Price
274-0009-005	2.5	9.0	200	$3.95
274-0020-005	3.5	20.0	200	3.95
274-0025-005	5.0	25.0	200	3.95

© United Technical Publications

Net

E. F. JOHNSON COMPANY

Air Variable Capacitors

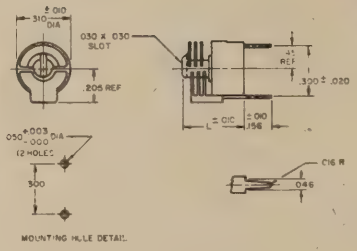
Johnson sub-miniature air variable capacitors are available in a variety of sizes, mounting configurations and section types. Rotors and stators are precision machined from one piece of solid brass for outstanding stability, uniformity and freedom from moisture entrapment. They offer high "Q" ... typically 2000 @ 150 MH_2 and exceptionally low temperature coefficient: Type T plus 30± 15ppm/°C; Type U plus 45± 15 ppm/°C. Metal parts are silver-plated. Types U and V ceramic is steatite grade L-423 or better. Type T ceramic is 95% Alumina grade L-624 or better.

Type "T" Air Variable Capacitors

Designed to meet or exceed E1A-RS 2-4 and M1LSTP. 202 C methods 204 A and 201 A. Offer excellent retrace characteristics. Can be supplied with tuning slot on both ends of rotor. High temperature versions available as specials.

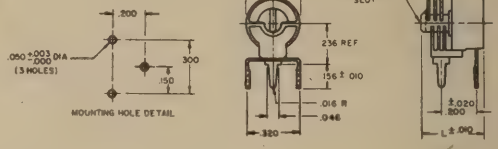


ACTUAL SIZE
Vertical
Mount





ACTUAL SIZE
Horizontal
Mount



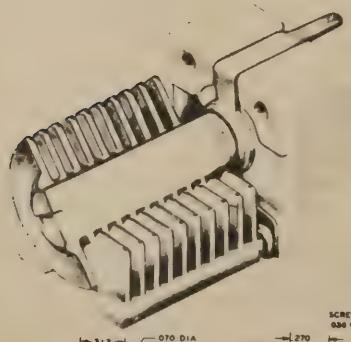
Specifications

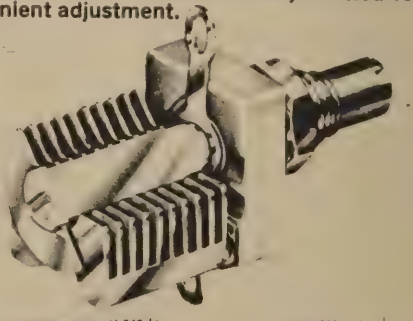
Vertical Mounting Cat. No.	Horizontal Mounting Cat. No.	Nominal Capacity pF. Min.	Max.	Total Plates	Air Gap (Inches)	Minimum DC Voltage Breakdown	Length (Inch)	Vertical Net Price	Horizontal Net Price
187-0103-005	187-0103-105	1.3	5.4	6	.008	250	.36	$0.66	$0.70
187-0106-005	187-0106-105	1.7	11.0	12	.008	250	.47	.70	.74
187-0109-005	187-0109-105	1.9	15.7	12	.008	250	.58	.78	.82

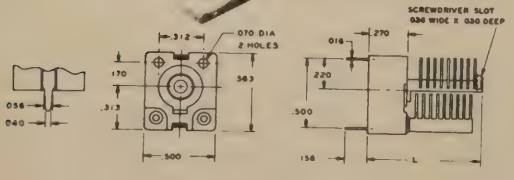
Also available as specials with minimum of 4 plates to maximum of 20 plates.

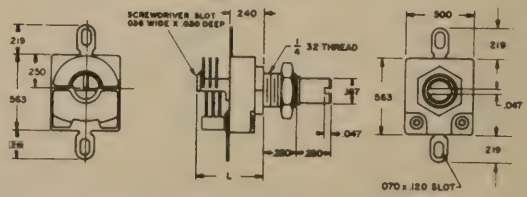
Type "V" Capacitors

High capacity in small space. Exceptionally uniform delta C and voltage characteristics. High torque (2½ to 10 ounce inches). Slotted rotor or shaft extension for convenient adjustment.









Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Bkdwn.	Air Gap	Net Price
SINGLE SECTION—Printed Circuit Types							
193-0004-005	13	1.4	8	37/64"	650	.010"	$0.90
193-0006-005	20	1.7	12	11/16"	650	.010"	.95
193-0008-005	27	2.0	16	25/32"	650	.010"	1.00
193-0010-005	34	2.2	20	57/64"	650	.010"	1.05

Capacitors with .016" air gap available as specials.

Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Bkdwn.	Air Gap	Net Price
SINGLE SECTION—Panel Mount Type							
193-0004-001	13	1.4	8	35/64"	650	.010"	$1.10
193-0006-001	20	1.7	12	21/32"	650	.010"	1.15
193-0008-001	27	2.0	16	3/4"	650	.010"	1.20
193-0010-001	34	2.2	20	55/64"	650	.010"	1.25

Capacitors with .016" air gap available as specials.

Net

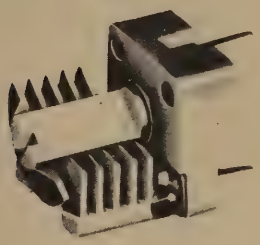
© United Technical Publications

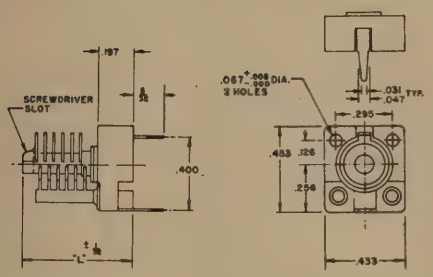
E. F. JOHNSON COMPANY

Air Variable Capacitors

Type "U" Capacitors

Rotors and stators precision machined from solid brass extrusions provide mechanical stability as well as exceptionally uniform delta C and voltage characteristics. No special tools required for installation. Specials available in production quantities with features including front shaft extensions and special platings.

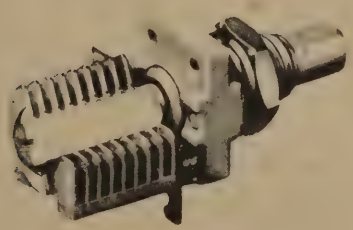


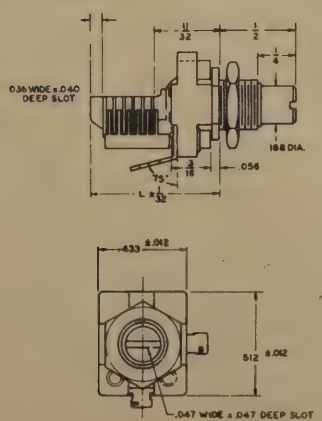


Printed Circuit Mounting—Single Section

Cat. No.	Nom. Cap. pf. per Sec. Max.	Nom. Cap. pf. per Sec. Min.	Plates Per Section	L ± 1/32"	Volts Peak Brkdn.	Air Gap	Net Price
189-0501-005	4.2	1.2	4	27/64"	650	.010	$0.64
189-0502-005	6.7	1.3	6	15/32"	650	.010	.66
189-0503-005	9.2	1.4	8	33/64"	650	.010	.64
189-0504-005	11.6	1.5	10	9/16"	650	.010	.66
189-0505-005	14.1	1.7	12	39/64"	650	.010	.68
189-0506-005	16.7	1.8	14	43/64"	650	.010	.70
189-0507-005	19.3	2.0	16	23/32"	500	.010	.72
189-0508-005	21.9	2.2	18	49/64"	500	.010	.74
189-0509-005	24.5	2.4	20	13/16"	500	.010	.76

Capacitors with .016" air gap available as specials. Two-hole mounting type "U" with press-in acetal fastener for chassis mounting also available.





Panel Mounting, Type "U" Capacitors—Single Section

Cat. No.	Nom. Cap. pf. per Sec. Max.	Nom. Cap. pf. per Sec. Min.	Plates Per Section	L ± 1/32"	Volts Peak Brkdn.	Air Gap	Net Price
189-0563-001	9.2	1.4	8	9/16"	650	.010	$0.94
189-0564-001	11.6	1.5	10	5/8"	650	.010	.95
189-0565-001	14.1	1.7	12	43/64"	650	.010	.97
189-0566-001	16.7	1.8	14	23/32"	650	.010	.99
189-0567-001	19.3	2.0	16	49/64"	500	.010	1.00
189-0568-001	21.9	2.2	18	13/16"	500	.010	1.02
189-0569-001	24.5	2.4	20	7/8"	500	.010	1.05

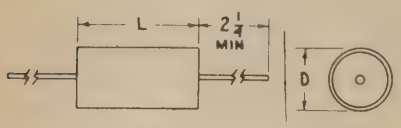
Capacitors with .016" air gap available as specials. Differential type "U" with PC mounting also available.

METALLIZED MYLAR* CAPACITORS

TYPE AM
MINIATURE TUBULAR

Type AM CAPACITORS are designed to withstand the most rugged environmental conditions. They are hermetically sealed and will withstand most military environmental and electrical requirements.

Type AM Capacitors are available in a variety of mounting styles. Size is given for grounded case style. For floating case, Circuit B, add 1/16" to length. Write for further information.



200 VOLTS D.C.

BASIC PART NO.	CAP MFD	SIZE CIRCUIT A OR F D	L
AM2-103	0.01	0.174	9 16
AM2-123	.012	.174	9 16
AM2-153	.015	.174	9 16
AM2-183	.018	.174	9 16
AM2-223	.022	.187	9 16
AM2-273	.027	.187	9 16
AM2-333	.033	.235	9 16
AM2-393	.039	.235	9 16
AM2-473	.047	.235	9 16
AM2-563	.056	.235	3 4
AM2-683	.068	.235	3 4
AM2-823	.082	.235	3 4
AM2-104	0.1	.235	3 4
AM2-124	.12	.312	3 4
AM2-154	.15	.312	3 4
AM2-184	.18	.312	3 4
AM2-224	.22	.312	3 4
AM2-274	.27	.400	3 4
AM2-334	.33	.400	3 4
AM2-394	.39	.400	3 4
AM2-474	.47	.400	1 1 16
AM2-564	.56	.400	1 1 16
AM2-684	.68	.400	1 1 16
AM2-824	.82	.562	1 1 16
AM2-105	1.0	.562	1 1 16
AM2-155	1.5	.562	1 1 4
AM2-205	2.0	.670	1 1 4
AM2-305	3.0	.670	1 1 2
AM2-405	4.0	.670	1 3 4
AM2-505	5.0	.750	1 3 4
AM2-805	8.0	1.0	1 3 4
AM2-106	10.0	1.0	2 1 4

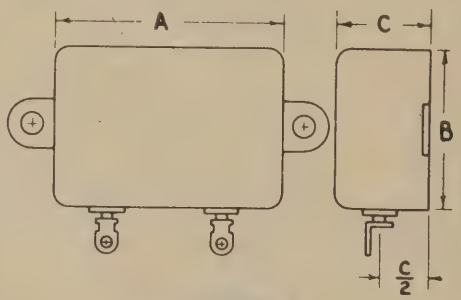
★ DUPONT POLYESTER FILM

METALLIZED MYLAR*
CHARACTERISTICS

Metallized MYLAR* satisfies the requirements of high resistance, low absorption, excellent retrace and capacitance stability over a wide temperature range and high ambient operating conditions. The self-healing characteristics are well known and extend the useful life of the capacitor. The second, and most overlooked feature, is the possibility of making full use of the highest volts-per-mil rating of the film by eliminating all the weak dielectric areas. This results in extreme small size without sacrificing life, reliability and economy. Temperature range is minus 90°C to 125°C without voltage deviation. All units are extended foil construction.

TYPE AB
BATHTUB STYLE

Type AB CAPACITORS are hermetically sealed in bathtub containers and designed to operate under the most severe military environment and electrical conditions.



200 VOLTS D.C.

PART NUMBER	CAP. MFD.	CASE SIZE A	B	C
AB2-504	0.5	1 1/8	1	13/16
AB2-105	1.0	1 1 8	1	13 16
AB2-205	2.0	1 1 8	1	13 16
AB2-405	4.0	1 3/4	1	3/4
AB2-505	5.0	1 3/4	1	3/4
AB2-605	6.0	1 3/4	1 1/4	7 8
AB2-805	8.0	1 3/4	1 1/4	7 8
AB2-106	10.0	2	1 3/4	7 8
AB2-126	12.0	2	1 3/4	7 8
AB2-156	15.0	2	1 3/4	7 8
AB2-206	20.0	2	2	1 1 8
AB2-306	30.0	2	2	1 1 4

TYPE AZ
EPOXY COATED

Type AZ CAPACITORS are an economical version of the Type AM. These capacitors are not designed to withstand an extremely rugged environment, but they are suitable for most commercial applications.

Style W is tubular with axial leads.
Style X is tubular with radial leads.
Style Y is rectangular with axial leads.
Style Z is rectangular with radial leads.

HOW TO ORDER

Select the style required. Find style, voltage and capacitance in the table. Establish the part number by selecting the heading (i.e. AZ2-etc.) and adding the capacitance code and style letter. Make certain that capacitance tolerance is indicated as a separate item.

AZ2 is rated at 200 volts and AZ3 is rated at 300 volts operating.

TYPE AZ
STYLE W AND X 200 WVDC

Cap MFD	Cap Code	AZ2 D Max.	AZ2 L Max.	AZ3 D Max.	AZ3 L Max.
.01	103	.23	.38	.26	.38
.012	123	.24	.38	.23	.51
.015	153	.25	.38	.24	.51
.018	183	.23	.51	.25	.51
.022	223	.24	.51	.26	.51
.027	273	.25	.51	.28	.51
.033	333	.26	.51	.29	.51
.039	393	.27	.51	.26	.70
.047	473	.29	.51	.28	.70
.056	563	.26	.70	.29	.70
.068	683	.27	.70	.31	.70
.082	823	.29	.70	.33	.70
.1	104	.30	.70	.35	.70
.12	124	.32	.70	.37	.70
.15	154	.39	.70	.40	.70
.18	184	.39	.70	.43	.70
.22	224	.39	.70	.39	.95
.27	274	.44	.70	.42	.95
.33	334	.44	.70	.45	.95
.39	394	.47	.70	.48	.95
.47	474	.44	.95	.52	.95
.56	564	.47	.95	.55	.95
.68	684	.50	.95	.60	.95
.82	824	.50	.95	.65	.95
1.0	105	.57	.95	.64	1.13
1.5	155	.66	1.13	.75	1.13
2.0	205	.75	1.13	.85	1.13
3.0	305	.75	1.38	.84	1.63
4.0	405	.87	1.63	1.09	1.26
5.0	505	.87	1.63	1.05	1.63
8.0	805	1.07	1.63		
10.0	106	1.19	1.63		

TYPE EP
PLASTIC FILM HIGH VOLTAGE DC FILTER CAPACITOR

TYPE EP Capacitors are designed for commercial service. Economy and reliability were the determination factors. CP70 Containers oil filled. For 65°C operation.

PART NUMBER	CAP. MFD.	VOLTS DCW	A ±1/16	B ±1/16	C ±1/16	E MAX.
EP20-105	1.0	2000	2 1/2	1 3 16	2 3/4	1 1/8
EP20-205	2	2000	2 1/2	1 3 16	4	1 1/8
EP20-405	4	2000	3 3/4	1 3/4	3 1/2	1 1/8
EP20-805	8	2000	3 3/4	2 1/4	4 3/4	1 1/8
EP20-106	10	2000	3 3/4	3 3 16	4 1/2	1 1/8
EP30-504	0.5	3000	2 1/2	1 3 16	2 1/2	1 1/8
EP30-105	1.0	3000	2 1/2	13 16	3 3/4	1 1/8
EP30-205	2	3000	3 3/4	1 1 4	4 1/2	1 1/8
EP30-405	4	3000	3 3/4	2 1 4	4 3/4	1 1/8
EP30-805	8	3000	4 9/16	3 3 4	4 3/4	1 1/8
EP40-254	.25	4000	2 1/2	13 16	2 1/8	1 1/8
EP40-105	1	4000	3 3/4	1 1 4	3 1/2	1 1/8
EP40-205	2	4000	3 3 4	1 3 4	4 1/2	1 1 8
EP40-405	4	4000	4 9/16	3 3 4	3 3/4	1 1 8

PART NUMBER	CAP. MFD.	VOLTS DCW	A ±1/16	B ±1/16	C ±1/16	E MAX.
EP50-504	.05	5000	2 1/2	1 3/16	4	1 1/8
EP50-105	1.0	5000	3 3/4	1 3/4	3 3/4	1 1/8
EP50-205	2	5000	3 3/4	2 1/4	4 3/4	1 1/8
EP50-405	4	5000	4 9/16	3 3/4	4 3/4	1 1/8
EP80-104	0.1	8000	3 3/4	1 3/4	2 1/2	2 1/4
EP80-504	.5	8000	3 3/4	2 1/4	4 3/4	2 1/4
EP80-105	1.0	8000	3 3/4	3 3/16	5 1/4	2 1/4
EP100-104	0.1	10,000	3 3/4	1 3/4	3	2 1/4
EP100-254	0.25	10,000	3 3/4	1 3/4	4 1/4	2 1/4
EP100-504	0.5	10,000	3 3/4	2 1/4	5 3/4	2 1/4
EP100-105	1.0	10,000	4 9/16	3 3/4	5 1/2	2 1/4
EP100-205	2	10,000	4 9/16	3 3/4	10	2 1/4

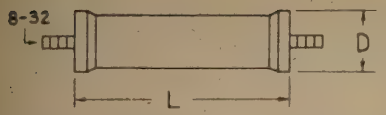
Plastic Capacitors, Inc.

Contact your distributor for prices

© United Technical Publications

HIGH VOLTAGE FILTER CAPACITORS

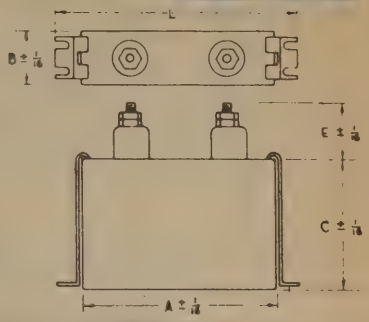
SMALLEST SIZE AVAILABLE ANYWHERE



All glass containers with 'D' dimensions of 19/32 have 2-1/2 inch long 18 tinned copper pigtail leads.

CONTAINER is a hard glass pillar with silver fused to each end. A metal ferrule is soldered to each end assuring hermetic sealing. The stud is silver soldered to the ferrule. All parts are tin plated.

TYPE OF and **TYPE LK** capacitors are hermetically sealed, rated for operation at 85°C at full nameplate rating, and will withstand most environmental and electrical specifications in general use. Size is very small due to the nature of the dielectric used, and the particular attention to processing.



TYPE OF GLASS CONTAINER

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS L	D
OF20-103	.01	2000	1 3/16	19/32
OF20-203	.02	2000	1 9/16	19/32
OF20-503	.05	2000	1 3/4	3/4
OF20-104	0.1	2000	2 1/4	3/4
OF20-254	0.25	2000	2 3/4	29/32
OF20-504	0.5	2000	2	1 3/8
OF30-103	.01	3000	1 9/16	19/32
OF30-203	.02	3000	1 3/4	3/4
OF30-503	.05	3000	2 1/4	3/4
OF30-104	0.1	3000	1 3/4	1 1/8
OF30-254	0.25	3000	2	1 3/8
OF30-504	0.5	3000	2 3/4	1 5/8
OF40-103	.01	4000	1 3 16	3/4
OF40-203	.02	4000	1 3 4	3/4
OF40-503	.05	4000	2	13/16
OF40-104	0.1	4000	2	1 1/8
OF40-254	0.25	4000	2 1/4	1 5/8
OF40-504	0.5	4000	3 3/4	1 5/8
OF50-201	.0002	5000	1 3/16	19/32
OF50-501	.0005	5000	1 3/16	19/32
OF50-102	.001	5000	1 3/16	19/32
OF50-202	.002	5000	1 3/16	19/32
OF50-502	.005	5000	1 5/8	19/32
OF50-103	.01	5000	1 3/4	3/4
OF50-203	.02	5000	2 1/4	3/4
OF50-503	.05	5000	2 1/4	29/32
OF50-104	0.1	5000	2 1/4	1 3/8
OF50-254	0.25	5000	3	1 5/8
OF50-504	0.5	5000	6	1 5/8
OF60-502	.005	6000	1 5/8	19/32
OF60-103	.01	6000	1 3/4	3/4
OF60-203	.02	6000	2 1/4	3/4
OF60-503	.05	6000	3 1/4	29/32
OF60-254	0.25	6000	4	1 5/8
OF80-501	.0005	8000	1 9/16	19/32
OF80-102	.001	8000	1 9/16	19/32
OF80-202	.002	8000	1 3/4	19/32
OF80-502	.005	8000	1 3/4	3/4
OF80-103	.01	8000	2 1/4	3/4
OF80-203	.02	8000	2 3/4	29/32
OF80-503	.05	8000	2 3/4	1 3/8
OF80-104	0.1	8000	3 5/8	1 5/8
OF80-204	0.2	8000	7	1 5/8
OF100-501	.0005	10KV	1 5/8	19/32
OF100-102	.001	10KV	1 5/8	19/32
OF100-202	.002	10KV	1 5/8	3/4
OF100-502	.005	10KV	1 3/4	13/16
OF100-103	.01	10KV	2 1/4	29/32
OF100-203	.02	10KV	2 3/4	1 1/8
OF100-503	.05	10KV	2 3/4	1 5/8
OF100-603	.06	10KV	3	1 5/8
OF100-104	0.1	10KV	5	1 5/8
OF150-501	.0005	15KV	2 1/4	19/32
OF150-202	.002	15KV	2 1/4	3/4
OF150-502	.005	15KV	2 3/4	1 1/8
OF150-103	.01	15KV	3 3/4	1 1/8
OF150-203	.02	15KV	4 1/4	1 3/8
OF150-503	.05	15KV	7	1 5/8
OF200-102	.001	20KV	3 1/2	3/4
OF200-202	.002	20KV	3 1/2	13/16
OF200-502	.005	20KV	3 1/2	1 1/8
OF200-103	.01	20KV	4 1/2	1 1/8
OF200-203	.02	20KV	4 1/2	1 5/8
OF300-201	.0002	30KV	4 9/16	19/32
OF300-501	.0005	30KV	4 9/16	19/32
OF300-502	.005	30KV	5	1 3/8
OF300-103	.01	30KV	6 1/2	1 5/8
OF300-203	.02	30KV	9	1 5/8
OF400-202	.002	40KV	6 1/2	1 1/8
OF400-502	.005	40KV	6 1/2	1 5/8
OF500-501	.0005	50KV	8 1/4	3/4
OF500-102	.001	50KV	8 1/4	13/16
OF500-202	.002	50KV	8 1/4	1 1/8
OF500-502	.005	50KV	10 3/4	1 3/8

TYPE LK CP70 CONTAINER

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS A	B	C	E
LK6-504	.5	600	1 3/4	1	2 1/8	3/4
LK6-105	1	600	1 3/4	1	2 1/8	3/4
LK6-605	6	600	2 1/2	1 3/16	4 1/2	3/4
LK6-106	10	600	3 3/4	1 1/4	4 1/2	3/4
LK6-256	25	600	3 3/4	2 1/4	5 3/4	3/4
LK10-254	.25	1000	1 3/4	1	2 1/8	3/4
LK10-504	.5	1000	1 3/4	1	2 1/8	3/4
LK10-205	2	1000	1 3/4	1	3 1/2	3/4
LK10-405Y	4	1000	2 1/2	1 3/16	3 3/4	3/4
LK10-605	6	1000	2 1/2	1 3/16	5	3/4
LK10-805	8	1000	2 1/2	1 3/16	6 1/4	3/4
LK10-256	25	1000	3 3/4	2 1/4	6 1/4	3/4
LK20-104	.1	2000	1 3/4	1	2 1/8	1 1/8
LK20-254	.25	2000	1 3/4	1	2 1/8	1 1/8
LK20-504	.5	2000	1 3/4	1	2 1/8	1 1/8
LK20-105	1.0	2000	1 3/4	1	3 1/4	1 1/8
LK20-205	2	2000	2 1/2	1 3/16	3 1/2	1 1/8
LK20-405	4	2000	2 1/2	1 3/16	5 1/2	1 1/8
LK20-805Y	8	2000	3 3/4	1 3/4	4 1/2	1 1/8
LK20-106	10	2000	3 3/4	1 3/4	5 1/4	1 1/8
LK20-126	12	2000	3 3/4	1 3/4	6 1/4	1 1/8
LK20-156	15	2000	3 3/4	2 1/4	6	1 1/8
LK20-306	30	2000	4 9/16	3 3/4	5 3/4	1 1/8
LK20-506	50	2000	4 9/16	3 3/4	9 1/4	1 1/8
LK30-104	.1	3000	1 3/4	1	2 1/8	1 1/8
LK30-105	1	3000	1 3/4	1	5 1/4	1 1/8
LK30-205	2	3000	2 1/2	1 3/16	5 1/2	1 1/8
LK30-405	4	3000	3 3/4	1 1/4	6 1/4	1 1/8
LK30-805	8	3000	3 3/4	2 1/4	6 1/2	1 1/8
LK30-106	10	3000	3 3/4	3 3/16	5 3/4	1 1/8
LK30-306Z	30	3000	4 9/16	3 3/4	11 1/2	1 1/8
LK40-104	.1	4000	1 3/4	1	2 1/8	1 1/8
LK40-105	1	4000	2 1/2	1 3/16	4	1 1/8
LK40-205	2	4000	2 1/2	1 3/16	6 3/4	1 1/8
LK40-405	4	4000	3 3/4	1 3/4	6	1 1/8
LK40-106	10	4000	4 9/16	3 3/4	5 1/2	1 1/8
LK40-256Y	25	4000	4 9/16	3 3/4	11	1 1/8
LK50-104	.1	5000	1 3/4	1	2 1/8	1 1/8
LK50-504	.5	5000	1 3/4	1	4 3/4	1 1/8
LK50-105	1	5000	2 1/2	1 3/16	5	1 1/8
LK50-405	4	5000	3 3/4	2 1/4	6 1/4	1 1/8
LK50-805	8	5000	4 9/16	3 3/4	6 1/4	1 1/8
LK50-106Y	10	5000	4 9/16	3 3/4	7 1/2	1 1/8
LK80-254	.25	8000	3 3/4	1 1/4	3 3/4	1 1/2
LK80-504	.5	8000	3 3/4	1 1/4	5 3/4	1 1/2
LK80-105	1	8000	3 3/4	1 3/4	7	1 1/2
LK80-205Y	2	8000	4 9/16	3 3/4	5 1/4	1 1/2
LK80-405Y	4	8000	4 9/16	3 3/4	8 1/2	1 1/2
LK80-106Y	10	8000	7 5/16	5 9/16	9	1 1/2
LK100-104	.1	10KV	3 3/4	1 3/4	3 1/4	2 1/4
LK100-254	.25	10KV	3 3/4	1 3/4	3 3/4	2 1/4
LK100-105	1	10KV	3 3/4	2 1/4	7 1/4	2 1/4
LK100-126Y	12	10KV	13 1/2	4 1/8	11	2 1/4
LK150-503	.05	15KV	3 3/4	1 3/4	3 1/2	2 3/4
LK150-104	.1	15KV	3 3/4	1 3/4	3 3/4	2 3/4
LK150-504	.5	15KV	3 3/4	3 3/16	6 1/2	2 3/4
LK150-105	1	15KV	4 9/16	3 3/4	8 1/2	2 3/4
LK150-205Y	2	15KV	6	4 5/8	9 1/4	2 3/4
LK150-805	8	15KV	13 1/2	6 1/8	11 7/8	2 3/4
LK200-103	.01	20KV	3 3/4	2 1/4	3 1/4	2 3/4
LK200-203	.02	20KV	3 3/4	2 1/4	3 1/4	2 3/4
LK200-503	.05	20KV	3 3/4	2 1/4	3 3/4	2 3/4
LK200-104	.1	20KV	3 3/4	2 1/4	4 3/4	2 3/4
LK200-504	.5	20KV	4 9/16	3 3/4	7 1/2	2 3/4
LK300-103	.01	30KV	3 3/4	3 3/16	4	3 7/8
LK300-503	.05	30KV	3 3/4	3 3/16	5 1/2	3 7/8
LK300-205	2	30KV	13 1/2	6 1/8	12 7/8	3 7/8
LK400-503	.05	40KV	4 9/16	3 3/4	5 1/2	3 7/8
LK400-504	.5	40KV	13 1/2	5 1/8	12 7/8	3 7/8
LK500-203	.02	50KV	4 9/16	3 3/4	7 1/2	6
LK500-104	.1	50KV	8	4	9 1/4	6
LK500-254Z	.25	50KV	7 5/16	5 9/16	11	6

Plastic Capacitors, Inc.

Contact your distributor for prices

© United Technical Publications

IEC CAPACITORS

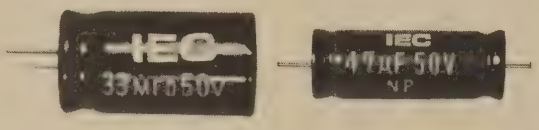
INTERNATIONAL ELECTRONICS CORPORATION

ELECTROLYTIC CAPACITORS



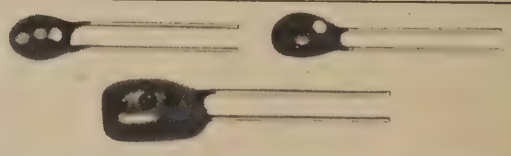
Miniature Aluminum Electrolytic—Axial and radial lead styles with welded construction, in PVC insulated aluminum cans. Unique spinning and crimping method assures a tight fitting end seal that provides proper venting while effectively resisting humidity and cleaning agents.

Capacitance Range	.47 MFD—2000 MFD
Operating Voltage	6.3 Volts D.C.—450 Volts D.C.
Temperature	—40°C to +85°C



Non-Polarized Electrolytic—Designed for use in circuits seeing polarity reversals, such as speaker crossover networks, and bypass applications. A unique method of sealing permits the capacitor leads to be connected directly to the electrolytic element.

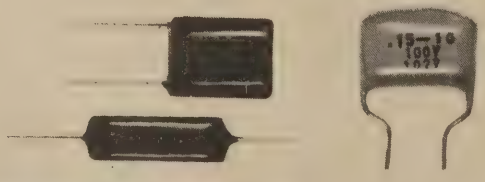
Capacitor Range	1.0 MFD—100 MFD
Operating Voltage	25, 35, 50 Volts D.C.
Temperature	—30°C to +85°C



Dipped Solid Tantalum—Epoxy-dipped miniature capacitors with radial leads for printed circuit applications.

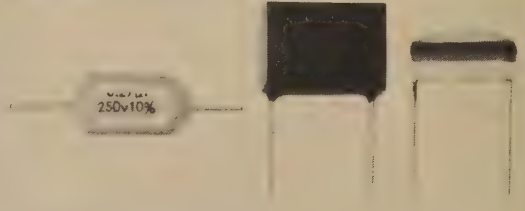
Capacitance Range	.1 MFD—100 MFD
Operating Voltage	3 Volts D.C.—35 Volts D.C.
Temperature	—55°C to +85°C

POLYESTER FILM CAPACITORS



Subminiature Polyester Film—Subminiature package with radial leads for easy insertion in printed circuit boards. Axial and radial lead versions are triple epoxy dipped to assure a high insulation resistance and humidity protection.

Capacitance Range	.001 MFD—.5 MFD
Operating Voltage	100, 200, 400, 600 Volts D.C.
Temperature	—40°C to +85°C, with no derating



Metalized Polyester Film—Non-inductively wound, extended foil construction. Self-healing characteristics assure extended life in all applications.

Capacitance Range	.0047 MFD—10 MFD
Operating Voltage	63 Volts D.C.—600 Volts D.C.
Temperature	—40°C to +125°C

Over 4,000 types and sizes available from stock.

Our manufacturing and distribution control system guarantees that we never run short. So IEC or our distributors can deliver the capacitors you want, when you want them.

And we know that quality is as crucial as delivery. That's why our capacitors are built for accuracy and have to pass the industry's most demanding life tests before shipment. These are some of the reasons leading manufacturers of entertainment and industrial equipment everywhere depend on IEC.

If you use electrolytic or film capacitors, trust IEC to deliver quality at a competitive price. For complete details, write or call International Electronics Corporation.

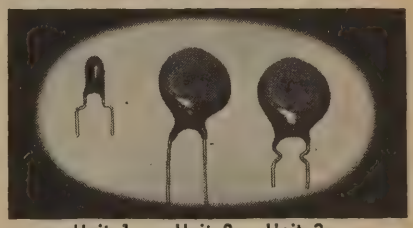
IEC

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 196D DIPPED TANTALEX® SOLID-TANTALUM CAPACITORS

- Epoxy-Dipped Coating Economically Provides Good Electrical and Mechanical Protection
- High Stability, Very Little Capacitance Change, Even at Outer Limits of Operating Temperature Range (-55C to +85C)
- Low Dissipation Factor Permits Higher Ripples
- Radial Leads For Mounting on Printed Boards
- Capacitors Listed Here Have Long Straight Leads (See Unit 2 in Photo). Numbers Ending with A1 indicate .125" Lead Spacing; Numbers Ending with A3 have .250" Lead Spacing. For Short Crimped Pin Leads (.178" L.) with .250" Lead Spacing, Change A1 to E3 (See Unit 1) and Change A3 to B3 (See Unit 3).
- For complete technical data, refer to latest issue of Engineering Bulletin 3545.



Unit 1 Unit 2 Unit 3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.	H. x W. x T.
4 WVDC, 5.3 V SURGE			
10	196D106X0004HA1	196D106X9004HA1	.375 x .175 x .175
12	—	196D126X9004HA1	.375 x .175 x .175
47	196D476X0004JA1	196D476X9004JA1	.425 x .225 x .225
56	—	196D566X9004JA1	.425 x .225 x .225
82	—	196D826X9004KA1	.450 x .225 x .225
100	196D107X0004KA1	196D107X9004KA1	.450 x .225 x .225
180	—	196D187X9004LA3	.500 x .450 x .250
220	196D227X0004LA3	196D227X9004LA3	.500 x .450 x .250
6 WVDC, 8 V SURGE			
6.8	196D685X0006HA1	196D685X9006HA1	.375 x .175 x .175
8.2	—	196D825X9006HA1	.375 x .175 x .175
33	196D336X0006JA1	196D336X9006JA1	.425 x .225 x .225
39	—	196D396X9006JA1	.425 x .225 x .225
47	196D476X0006KA1	196D476X9006KA1	.450 x .225 x .225
56	—	196D566X9006KA1	.450 x .225 x .225
68	196D686X0006KA1	196D686X9006KA1	.450 x .225 x .225
120	—	196D127X9006LA3	.500 x .450 x .250
150	196D157X0006LA3	196D157X9006LA3	.500 x .450 x .250
270	—	196D277X9006MA3	.800 x .600 x .275
330*	196D337X0006MA3	196D337X9006MA3	.800 x .600 x .275
10 WVDC, 13 V SURGE			
4.7	196D475X0010HA1	196D475X9010HA1	.375 x .175 x .175
5.6	—	196D565X9010HA1	.375 x .175 x .175
22	196D226X0010JA1	196D226X9010JA1	.425 x .225 x .225
27	—	196D276X9010JA1	.425 x .225 x .225
33	196D336X0010KA1	196D336X9010KA1	.450 x .225 x .225
39	—	196D396X9010KA1	.450 x .225 x .225
82	—	196D826X9010LA3	.500 x .450 x .250
100	196D107X0010LA3	196D107X9010LA3	.500 x .450 x .250
180	—	196D187X9010MA3	.800 x .600 x .275
220	196D227X0010MA3	196D227X9010MA3	.800 x .600 x .275
15 WVDC, 20 V SURGE			
3.3	196D335X0015HA1	196D335X9015HA1	.375 x .175 x .175
3.9	—	196D395X9015HA1	.375 x .175 x .175
15	196D156X0015JA1	196D156X9015JA1	.425 x .225 x .225
18	—	196D186X9015JA1	.425 x .225 x .225
22	196D226X0015KA1	196D226X9015KA1	.450 x .225 x .225
56	—	196D566X9015LA3	.500 x .450 x .250
68	196D686X0015LA3	196D686X9015LA3	.500 x .450 x .250
120	—	196D127X9015MA3	.800 x .600 x .275
150	196D157X0015MA3	196D157X9015MA3	.800 x .600 x .275
20 WVDC, 26 V SURGE			
2.7	—	196D275X9020HA1	.375 x .175 x .175
10	196D106X0020JA1	196D106X9020JA1	.425 x .225 x .225
12	—	196D126X9020JA1	.425 x .225 x .225
15	196D156X0020KA1	196D156X9020KA1	.450 x .225 x .225
39	—	196D396X9020LA3	.500 x .450 x .250
47	196D476X0020LA3	196D476X9020LA3	.500 x .450 x .250
82	—	196D826X9020MA3	.800 x .600 x .275
100	196D107X0020MA3	196D107X9020MA3	.800 x .600 x .275
25 WVDC, 32 V SURGE			
1.2	—	196D125X9025HA1	.375 x .175 x .175
1.5	196D155X0025HA1	196D155X9025HA1	.375 x .175 x .175
1.8	—	196D185X9025HA1	.375 x .175 x .175
2.2	196D225X0025HA1	196D225X9025HA1	.375 x .175 x .175
5.6	—	196D565X9025JA1	.425 x .225 x .225
6.8	196D685X0025JA1	196D685X9025JA1	.425 x .225 x .225
8.2	—	196D825X9025JA1	.425 x .225 x .225
10	196D106X0025KA1	196D106X9025KA1	.450 x .225 x .225
12	—	196D126X9025KA1	.450 x .225 x .225
18	—	196D186X9025LA3	.500 x .450 x .250
22	196D226X0025LA3	196D226X9025LA3	.500 x .450 x .250
27	—	196D276X9025LA3	.500 x .450 x .250
33	196D336X0025LA3	196D336X9025LA3	.500 x .450 x .250
39	—	196D396X9025MA3	.800 x .600 x .275
47	196D476X0025MA3	196D476X9025MA3	.800 x .600 x .275
56	—	196D566X9025MA3	.800 x .600 x .275
68	196D686X0025MA3	196D686X9025MA3	.800 x .600 x .275
35 WVDC, 46 V SURGE			
.10	196D104X0035HA1	196D104X9035HA1	.375 x .175 x .175
.12	—	196D124X9035HA1	.375 x .175 x .175
.15	196D154X0035HA1	196D154X9035HA1	.375 x .175 x .175
.18	—	196D184X9035HA1	.375 x .175 x .175
.22	196D224X0035HA1	196D224X9035HA1	.375 x .175 x .175
.27	—	196D274X9035HA1	.375 x .175 x .175
.33	196D334X0035HA1	196D334X9035HA1	.375 x .175 x .175
.39	—	196D394X9035HA1	.375 x .175 x .175
.47	196D474X0035HA1	196D474X9035HA1	.375 x .175 x .175
.56	—	196D564X9035HA1	.375 x .175 x .175
.68	196D684X0035HA1	196D684X9035HA1	.375 x .175 x .175
.82	—	196D824X9035HA1	.375 x .175 x .175
1.0	196D105X0035HA1	196D105X9035HA1	.375 x .175 x .175
1.2	—	196D125X9035JA1	.425 x .225 x .225
1.5	196D155X0035JA1	196D155X9035JA1	.425 x .225 x .225
1.8	—	196D185X9035JA1	.425 x .225 x .225
2.2	196D225X0035JA1	196D225X9035JA1	.425 x .225 x .225
2.7	—	196D275X9035JA1	.425 x .225 x .225
3.3	196D335X0035JA1	196D335X9035JA1	.425 x .225 x .225
3.9	—	196D395X9035JA1	.425 x .225 x .225
4.7	196D475X0035JA1	196D475X9035JA1	.425 x .225 x .225
5.6	—	196D565X9035KA1	.450 x .225 x .225
6.8	196D685X0035KA1	196D685X9035KA1	.450 x .225 x .225
8.2	—	196D825X9035LA3	.500 x .450 x .250
10	196D106X0035LA3	196D106X9035LA3	.500 x .450 x .250
12	—	196D126X9035LA3	.500 x .450 x .250
15	196D156X0035LA3	196D156X9035LA3	.500 x .450 x .250
18	—	196D186X9035MA3	.800 x .600 x .275
22	196D226X0035MA3	196D226X9035MA3	.800 x .600 x .275
27	—	196D276X9035MA3	.800 x .600 x .275
33	196D336X0035MA3	196D336X9035MA3	.800 x .600 x .275
50 WVDC, 65 V SURGE			
.10	196D104X0050HA1	196D104X9050HA1	.375 x .175 x .175
.12	—	196D124X9050HA1	.375 x .175 x .175
.15	196D154X0050HA1	196D154X9050HA1	.375 x .175 x .175
.18	—	196D184X9050HA1	.375 x .175 x .175
.22	196D224X0050HA1	196D224X9050HA1	.375 x .175 x .175
.27	—	196D274X9050HA1	.375 x .175 x .175
.33	196D334X0050HA1	196D334X9050HA1	.375 x .175 x .175
.39	—	196D394X9050HA1	.375 x .175 x .175
.47	196D474X0050HA1	196D474X9050HA1	.375 x .175 x .175
.56	—	196D564X9050HA1	.375 x .175 x .175
.68	196D684X0050HA1	196D684X9050HA1	.375 x .175 x .175
.82	—	196D824X9050HA1	.375 x .175 x .175
1.0	196D105X0050HA1	196D105X9050HA1	.375 x .175 x .175
1.2	—	196D125X9050JA1	.425 x .225 x .225
1.5	196D155X0050JA1	196D155X9050JA1	.425 x .225 x .225
1.8	—	196D185X9050JA1	.425 x .225 x .225
2.2	196D225X0050JA1	196D225X9050JA1	.425 x .225 x .225
2.7	—	196D275X9050JA1	.425 x .225 x .225
3.3	196D335X0050JA1	196D335X9050JA1	.425 x .225 x .225
3.9	—	196D395X9050KA1	.450 x .225 x .225
4.7	196D475X0050KA1	196D475X9050KA1	.450 x .225 x .225

Copyright 1971, Sprague Products Company

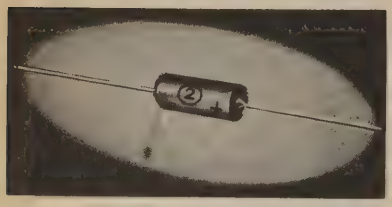
IND-REM-2-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 150D TANTALEX® SOLID-TANTALUM CAPACITORS



- Hermetically Sealed Metal Case.
- Solid Electrolyte Cannot Leak or Corrode, Even if Hermetic Seal is Accidentally Broken.
- Exhibit Stable Capacitance and Low Dissipation Factor over Temperature Range of −80°C to +85°C. With Appropriate Voltage Derating, May Be Operated to +125°C.
- Listed Units have Capacitance Tolerance of ±10%. Capacitors with asterisk (*) are also available with capacitance tolerance of ±20%. For ±20% tolerance, change 9th character in catalog number from 9 to 0.
- Capacitors with star (★) have extended capacitance ratings (higher capacitance, smaller cases) required in some new equipment designs.
- Listed Units have Plastic Sleeves. For Bare Case, end Cat. No. in "0" instead of "2."
- For complete technical data, refer to latest issue of Engineering Bulletin 3520.

µF	Size Code	Cat. No.
6 WVDC — 8 VDC SURGE		
.22	A	150D224X9006A2*
.27	A	150D274X9006A2
.33	A	150D334X9006A2*
.39	A	150D394X9006A2
.47	A	151D474X9006A2*
.56	A	150D564X9006A2
.68	A	150D684X9006A2*
.82	A	150D824X9006A2
1.0	A	150D105X9006A2*
1.2	A	150D125X9006A2
1.5	A	150D155X9006A2*
1.8	A	150D185X9006A2
2.2	A	150D225X9006A2*
2.7	A	150D275X9006A2
3.3	A	150D335X9006A2*
3.9	A	150D395X9006A2
4.7	A	150D475X9006A2*
5.6	A	150D565X9006A2
6.8	A	150D685X9006A2*
8.2	B	150D825X9006B2
10	B	150D106X9006B2*
10	A	★150D106X9006A2*
12	B	150D126X9006B2
12	A	★150D126X9006A2
15	B	150D156X9006B2*
18	B	150D186X9006B2
22	B	150D226X9006B2*
27	B	150D276X9006B2
33	B	150D336X9006B2*
39	B	150D396X9006B2
47	B	150D476X9006B2*
56	B	150D566X9006B2
60	B	150D606X9006B2*
68	R	150D686X9006R2*
68	B	★150D686X9006B2*
82	R	150D826X9006R2
82	B	★150D826X9006B2
100	R	150D107X9006R2*
100	B	★150D107X9006B2*
120	R	150D127X9006R2*
150	R	150D157X9006R2*
180	R	150D187X9006R2*
220	S	150D227X9006S2*
270	S	150D227X9006S2*
330	S	150D337X9006S2*
330	R	★150D337X9006R2*
390	R	★150D397X9006R2
470	R	★150D477X9006R2*
560	S	★150D567X9006S2
680	S	★150D687X9006S2*
820	S	★150D827X9006S2
1000	S	★150D108X9006S2*
10 WVDC — 13 VDC SURGE		
.22	A	150D224X9010A2*
.27	A	150D274X9010A2
.33	A	150D334X9010A2*
.39	A	150D394X9010A2
.47	A	150D474X9010A2*
.56	A	150D564X9010A2
.68	A	150D684X9010A2*
.82	A	150D824X9010A2
1.0	A	150D105X9010A2*
1.2	A	150D125X9010A2
1.5	A	150D155X9010A2*
1.8	A	150D185X9010A2
2.2	A	150D225X9010A2*
2.7	A	150D275X9010A2
3.3	A	150D335X9010A2*
3.9	A	150D395X9010A2
4.7	A	150D475X9010A2*
5.6	B	150D565X9010B2
5.6	A	★150D565X9010A2
6.8	B	150D685X9010B2
6.8	A	★150D685X9010A2*
8.2	B	150D825X9010B2
8.2	A	★150D825X9010A2
10	B	150D106X9010B2*
12	B	150D126X9010B2
15	B	150D156X9010B2*
18	B	150D186X9010B2
22	B	150D226X9010B2*
27	B	150D276X9010B2
33	B	150D336X9010B2*
39	B	150D396X9010B2
40	B	150D406X9010B2*
47	R	150D476X9010R2*
47	B	★150D476X9010B2*
56	R	150D566X9010R2
56	B	★150D566X9010B2
68	R	150D686X9010R2*
68	B	★150D686X9010B2*
82	R	150D826X9010R2
82	B	★150D826X9010B2
100	R	150D107X9010R2*
120	R	150D127X9010R2*
150	S	150D157X9010S2*
150	R	★150D157X9010R2*
180	S	150D187X9010S2
180	R	★150D187X9010R2*
220	S	150D227X9010S2*
220	R	★150D227X9010R2*
270	R	★150D277X9010R2
330	S	★150D337X9010S2*
390	S	★150D397X9010S2
470	S	★150D477X9010S2*
560	S	★150D567X9010S2
15 WVDC — 18 VDC SURGE		
.22	A	150D224X9015A2*
.27	A	150D274X9015A2
.33	A	150D334X9015A2*
.39	A	150D394X9015A2
.47	A	150D474X9015A2*
.56	A	150D564X9015A2
.68	A	150D684X9015A2*
.82	A	150D824X9015A2
1.0	A	150D105X9015A2*
1.2	A	150D125X9015A2
1.5	A	150D155X9015A2*
1.8	A	150D185X9015A2
2.2	A	150D225X9015A2*
2.7	A	150D275X9015A2
3.3	A	150D335X9015A2*
3.9	B	150D395X9015B2
3.9	A	★150D395X9015A2
4.7	B	150D475X9015B2*
4.7	A	★150D475X9015A2*
5.6	B	150D565X9015B2
5.6	A	★150D565X9015A2
6.8	B	150D685X9015B2*
8.2	B	150D825X9015B2
10	B	150D106X9015B2*
12	B	150D126X9015B2
15	B	150D156X9015B2*
18	B	150D186X9015B2
22	B	150C226X9015B2*
27	R	150D276X9015R2
27	B	★150D276X9015B2
33	R	150D336X9015R2*
33	B	★150D336X9015B2*
39	R	150D396X9015R2
39	B	★150D396X9015B2
47	R	150D476X9015R2*
56	R	150D566X9015R2
68	R	150D686X9015R2*
82	S	150D826X9015S2
82	R	★150D826X9015R2
100	S	150D107X9015S2*
100	R	★150D107X9015R2
120	S	150D127X90152S
120	R	★150D127X9015R2
150	S	150D157X9015S2*
150	R	★150D157X9015R2*
180	R	★150D187X9015R2
220	S	★150D227X9015S2*
270	S	★150D277X9015S2
330	S	★150D337X9015S2*
20 WVDC — 23 VDC SURGE		
.0047	A	150D472X9020A2*
.0056	A	150D562X9020A2
.0068	A	150D682X9020A2*
.0082	A	150D822X9020A2
.01	A	150D103X9020A2*
.012	A	150D123X9020A2
.015	A	150D153X9020A2*
.018	A	150D183X9020A2
.022	A	150D223X9020A2*
.027	A	150D273X9020A2
.033	A	150D333X9020A2*
.039	A	150D393X9020A2
.047	A	150D473X9020A2*
.056	A	150D563X9020A2
.068	A	150D683X9020A2*
.082	A	150D823X9020A2
.10	A	150D104X9020A2*
.12	A	150D124X9020A2
.15	A	150D154X9020A2*
.18	A	150D184X9020A2
.22	A	150D224X9020A2*
.27	A	150D274X9020A2
.33	A	150D334X9020A2*
.39	A	150D394X9020A2
.47	A	150D474X9020A2*
.56	A	150D564X9020A2
.68	A	150D684X9020A2*
.82	A	150D824X9020A2
1.0	A	150D105X9020A2*
1.2	A	150D125X9020A2
1.5	A	150D155X9020A2*
1.8	A	150D185X9020A2
2.2	A	150D225X9020A2*
2.7	B	150D275X9020B2
2.7	A	★150D275X9020A2
3.3	B	150D335X9020B2*
3.3	A	★150D335X9020A2*
3.9	B	150D395X9020B2
3.9	A	★150D395X9020A2
4.7	B	150D475X9020B2*
5.6	B	150D565X9020B2
6.8	B	150D685X9020B2*
8.2	B	150D825X9020B2
10	B	150D106X9020B2*
12	B	150D126X9020B2
15	B	150D156X9020B2*
18	R	150D186X9020R2
18	B	★150D186X9020B2
22	R	150D226X9020R2*
22	B	★150D226X9020B2*
27	R	150D276X9020R2
27	B	★150D276X9020B2
33	R	150D336X9020R2*
39	R	150D396X9020R2
47	R	150D476X9020R2*
56	S	150D566X9020S2
56	R	★150D566X9020R2
68	S	150D686X9020S2*
68	R	★150D686X9020R2*
82	S	150D826X9020S2
82	R	★150D826X9020R2
100	S	150D107X9020S2*
100	R	★150D107X9020R2*
120	R	★150D127X9020R2
150	S	★150D157X9020S2*
180	S	★150D187X9020S2
220	S	★150D227X9020S2*
30 WVDC — 34 VDC SURGE		
2.2	A	★150D225X9030A2*
2.7	A	★150D275X9030A2
12	B	★150D126X9030B2
15	B	★150D156X9030B2*
18	B	★150D186X9030B2
56	R	★150D566X9030R2
68	R	★150D686X9030R2*
82	S	★150D826X9030S2
100	S	★150D107X9030S2*

DIMENSIONS

Code	D. x L.
A	.135″ x .286″
B	.185″ x .474″
R	.289″ x .686″
S	.351″ x .786″

Copyright 1971, Sprague Products Company

Sizes subject to change without notice

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

µF	Size Code	Cat. No.
35 WVDC — 40 VDC SURGE		
.0047	A	150D472X9035A2*
.0056	A	150D562X9035A2
.0068	A	150D682X9035A2*
.0082	A	150D822X9035A2
.01	A	150D103X9035A2*
.012	A	150D123X9035A2
.015	A	150D153X9035A2*
.018	A	150D183X9035A2
.022	A	150D223X9035A2*
.027	A	150D273X9035A2
.033	A	150D333X9035A2*
.039	A	150D393X9035A2
.047	A	150D473X9035A2*
.056	A	150D563X9035A2
.068	A	150D683X9035A2*
.082	A	150D823X9035A2
.10	A	150D104X9035A2*
.12	A	150D124X9035A2
.15	A	150D154X9035A2*
.18	A	150D184X9035A2
.22	A	150D224X9035A2*
.27	A	150D274X9035A2
.33	A	150D334X9035A2*
.39	A	150D394X9035A2
.47	A	150D474X9035A2*
.56	A	150D564X9035A2
.68	A	150D684X9035A2*
.82	A	150D824X9035A2
1.0	A	150D105X9035A2*
1.2	B	150D125X9035B2
1.2	A	★150D125X9035A2
1.5	B	150D155X9035B2*
1.5	A	★150D155X9035A2*
1.8	B	150D185X9035B2
1.8	A	★150D185X9035A2
2.2	B	150D225X9035B2*
2.7	B	150D275X9035B2
3.3	B	150D335X9035B2*
3.9	B	150D395X9035B2
4.7	B	150D475X9035B2*
5.6	B	150D565X9035B2
6.8	B	150D685X9035B2*
8.2	R	150D825X9035R2
8.2	B	★150D825X9035B2
10	R	150D106X9035R2*
10	B	★150D106X9035B2*
12	R	150D126X9035R2
15	R	150D156X9035R2*
18	R	150D186X9035R2
22	R	150D226X9035R2*
27	S	150D276X9035S2
27	R	★150D276X9035R2
33	S	150D336X9035S2*
33	R	★150D336X9035R2*
39	S	150D396X9035S2
39	R	★150D396X9035R2
47	S	150D476X9035S2*
47	R	★150D476X9035R2*
56	S	★150D566X9035S2
68	S	★150D686X9035S2*
50 WVDC — 65 VDC SURGE		
.0047	A	150D472X9050A2*
.0056	A	150D562X9050A2
.0068	A	150D682X9050A2*
.0082	A	150D822X9050A2
.01	A	150D103X9050A2*
.012	A	150D123X9050A2
.015	A	150D153X9050A2*
.018	A	150D183X9050A2
.022	A	150D223X9050A2*
.027	A	150D273X9050A2
.033	A	150D333X9050A2*
.039	A	150D393X9050A2
.047	A	150D473X9050A2*
.056	A	150D563X9050A2
.068	A	150D683X9050A2*
.082	A	150D823X9050A2
.1	A	150D104X9050A2*
.12	A	150D124X9050A2
.15	A	150D154X9050A2*
.18	A	150D184X9050A2
.22	A	150D224X9050A2*
.27	A	150D274X9050A2
.33	A	150D334X9050A2*
.39	A	150D394X9050A2
.47	A	150D474X9050A2*
.56	A	150D564X9050A2
.68	A	150D684X9050A2*
.82	A	150D824X9050A2
1.0	A	150D105X9050A2*
1.2	B	150D125X9050B2
1.2	A	★150D125X9050A2
1.5	B	150D155X9050B2*
1.5	A	★150D155X9050A2*
1.8	B	150D185X9050B2
2.2	B	150D225X9050B2*
2.7	B	150D275X9050B2
3.3	B	150D335X9050B2*
3.9	B	150D395X9050B2
4.7	B	150D475X9050B2*
5.6	R	150D565X9050R2
5.6	B	★150D565X9050B2
6.8	R	150D685X9050R2*
6.8	B	★150D685X9050B2*
8.2	R	150D825X9050R2
10	R	150D106X9050R2*
12	R	150D126X9050R2
15	R	150D156X9050R2*
18	R	150D186X9050R2
22	S	150D226X9050S2*
22	R	★150D226X9050R2*
27	R	★150D276X9050R2
33	S	★150D336X9050S2*
39	S	★150D396X9050S2
60 WVDC — 78 VDC SURGE		
.0047	A	150D472X9060A2*
.0056	A	150D562X9060A2
.0068	A	150D682X9060A2*
.0082	A	150D822X9060A2
.01	A	150D103X9060A2*
.012	A	150D123X9060A2
.015	A	150D153X9060A2*
.018	A	150D183X9060A2
.022	A	150D223X9060A2*
.027	A	150D273X9060A2
.033	A	150D333X9060A2*
.039	A	150D393X9060A2
.047	A	150D473X9060A2*
.056	A	150D563X9060A2
.068	A	150D683X9060A2*
.082	A	150D823X9060A2
.1	A	150D104X9060A2*
.12	A	150D124X9060A2
.15	A	150D154X9060A2*
.18	A	150D184X9060A2
.22	A	150D224X9060A2*
.27	A	150D274X9060A2
.33	A	150D334X9060A2*
.39	A	150D394X9060A2
.47	A	150D474X9060A2*
.56	A	150D564X9060A2
.68	A	150D684X9060A2*
.82	B	150D824X9060B2
1.0	B	150D105X9060B2*
1.2	B	150D125X9060B2
1.5	B	150D155X9060B2*
1.8	B	150D185X9060B2
2.2	B	150D225X9060B2*
2.7	B	150D275X9060B2
3.3	B	150D335X9060B2*
3.9	B	150D395X9060B2
4.7	R	150D475X9060R2*
5.6	R	150D565X9060R2
6.8	R	150D685X9060R2*
8.2	R	150D825X9060R2
10	R	150D106X9060R2*
12	S	150D126X9060S2
15	S	150D156X9060S2*
18	S	150D186X9060S2
22	S	150D226X9060S2*
75 WVDC — 97 VDC SURGE		
.0047	A	150D472X9075A2*
.0056	A	150D562X9075A2
.0068	A	150D682X9075A2*
.0082	A	150D822X9075A2
.01	A	150D103X9075A2*
.012	A	150D123X9075A2
.015	A	150D153X9075A2*
.018	A	150D183X9075A2
.022	A	150D223X9075A2*
.027	A	150D273X9075A2
.033	A	150D333X9075A2*
.039	A	150D393X9075A2
.047	A	150D473X9075A2*
.056	A	150D563X9075A2
.068	A	150D683X9075A2*
.082	A	150D823X9075A2
.1	A	150D104X9075A2*
.12	A	150D124X9075A2
.15	A	150D154X9075A2*
.18	A	150D184X9075A2
.22	A	150D224X9075A2*
.27	A	150D274X9075A2
.33	A	150D334X9075A2*
.39	A	150D394X9075A2
.47	A	150D474X9075A2*
.56	A	150D564X9075A2
.68	A	150D684X9075A2*
.82	B	150D824X9075B2
1.0	B	150D105X9075B2*
1.2	B	150D125X9075B2
1.5	B	150D155X9075B2*
1.8	B	150D185X9075B2
2.2	B	150D225X9075B2*
2.7	B	150D275X9075B2
3.3	B	150D335X9075B2*
3.9	B	150D395X9075B2
4.7	R	150D475X9075R2*
5.6	R	150D565X9075R2
6.8	R	150D685X9075R2*
8.2	R	150D825X9075R2
10.0	R	150D106X9075R2*
12.0	S	150D126X9075S2
15.0	S	150D156X9075S2*
100 WVDC — 115 VDC SURGE		
.0047	A	150D472X9100A2*
.0056	A	150D562X9100A2
.0068	A	150D682X9100A2*
.0082	A	150D822X9100A2
.01	A	150D103X9100A2*
.012	A	150D123X9100A2
.015	A	150D153X9100A2*
.018	A	150D183X9100A2
.022	A	150D223X9100A2*
.027	A	150D273X9100A2
.033	A	150D333X9100A2*
.039	A	150D393X9100A2
.047	A	150D473X9100A2*
.056	A	150D563X9100A2
.068	A	150D683X9100A2*
.082	A	150D823X9100A2
.1	A	150D104X9100A2*
.12	A	150D124X9100A2
.15	A	150D154X9100A2*
.18	A	150D184X9100A2
.22	A	150D224X9100A2*
.27	A	150D274X9100A2
.33	A	150D334X9100A2*
.39	A	150D394X9100A2
.47	A	150D474X9100A2*
.56	A	150D564X9100A2
.68	B	150D684X9100B2*
.82	B	150D824X9100B2
1.0	B	150D105X9100B2*
1.2	B	150D125X9100B2
1.5	B	150D155X9100B2*
1.8	B	150D185X9100B2
2.2	B	150D225X9100B2*
2.7	B	150D275X9100B2
3.3	R	150D335X9100R2*
3.9	R	150D395X9100R2
4.7	R	150D475X9100R2*
5.6	R	150D565X9100R2
6.8	R	150D685X9100R2*
125 WVDC — 140 VDC SURGE		
.0047	A	150D472X9125A2*
.0056	A	150D562X9125A2
.0068	A	150D682X9125A2*
.0082	A	150D822X9125A2
.01	A	150D103X9125A2*
.012	A	150D123X9125A2
.015	A	150D153X9125A2*
.018	A	150D183X9125A2
.022	A	150D223X9125A2*
.027	A	150D273X9125A2
.033	A	150D333X9125A2*
.039	A	150D393X9125A2
.047	A	150D473X9125A2*
.056	A	150D563X9125A2
.068	A	150D683X9125A2*
.082	A	150D823X9125A2
.1	A	150D104X9125A2*
.12	A	150D124X9125A2
.15	A	150D154X9125A2*
.18	A	150D184X9125A2
.22	A	150D224X9125A2*
.27	A	150D274X9125A2
.33	A	150D334X9125A2*
.39	A	150D394X9125A2
.47	A	150D474X9125A2*
.56	B	150D564X9125B2
.68	B	150D684X9125B2*
.82	B	150D824X9125B2
1.0	B	150D105X9125B2*
1.2	B	150D125X9125B2
1.5	B	150D155X9125B2*
1.8	B	150D185X9125B2
2.2	B	150D225X9125B2*

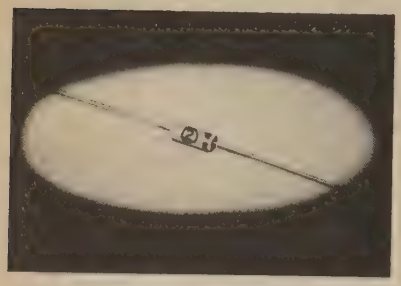
Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 162D RED TOP® SOLID-TANTALUM CAPACITORS



- Miniature commercial/industrial capacitors, intended for use in compactly designed equipment.
- Metal cases with resin end seals.
- Priced competitively with molded-case capacitors.
- Operating temperature range, −55 C to +85 C.
- Listed units have capacitance tolerance of ±10%. Capacitors with asterisk (*) also available with tolerance of ±20%. When ordering ±20% capacitors, change 9th character of cat. no. from 9 to 0.
- Listed capacitors have heat-shrunk polyester film insulating sleeve. For bare metal case, change last character of cat. no. from 2 to 0, and subtract .005" from diam. and .010" from length.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 3536.

μF	Dia. x Length	Cat. No.
2 WVDC		
8.2	.095 x .260	162D825X9002BC2
10	.095 x .260	162D106X9002BC2*
12	.110 x .290	162D126X9002CD2
15	.110 x .290	162D156X9002CD2*
18	.110 x .290	162D186X9002CD2
22	.110 x .290	162D226X9002CD2*
27	.110 x .290	162D276X9002CD2
33	.110 x .290	162D336X9002CD2*
39	.180 x .345	162D396X9002DD2
47	.180 x .345	162D476X9002DD2*
56	.180 x .345	162D566X9002DD2
68	.180 x .345	162D686X9002DD2*
4 WVDC		
5.6	.095 x .260	162D565X9004BC2
6.8	.095 x .260	162D685X9004BC2*
8.2	.110 x .290	162D825X9004CD2
10	.110 x .290	162D106X9004CD2*
12	.110 x .290	162D126X9004CD2
15	.110 x .290	162D156X9004CD2*
18	.110 x .290	162D186X9004CD2
22	.110 x .290	162D226X9004CD2*
27	.180 x .345	162D276X9004DD2
33	.180 x .345	162D336X9004DD2*
39	.180 x .345	162D396X9004DD2
47	.180 x .345	162D476X9004DD2*
56	.180 x .420	162D566X9004EE2
68	.180 x .420	162D686X9004EE2*
6 WVDC		
3.9	.095 x .260	162D395X9006BC2
4.7	.095 x .260	162D475X9006BC2*
5.6	.110 x .290	162D565X9006CD2
6.8	.110 x .290	162D685X9006CD2*
8.2	.110 x .290	162D825X9006CD2
10	.110 x .290	162D106X9006CD2*
12	.110 x .290	162D126X9006CD2
15	.110 x .290	162D156X9006CD2*
18	.180 x .345	162D186X9006DD2
22	.180 x .345	162D226X9006DD2*
27	.180 x .345	162D276X9006DD2
33	.180 x .345	162D336X9006DD2*
39	.180 x .420	162D396X9006EE2
47	.180 x .420	162D476X9006EE2*
56	.180 x .420	162D566X9006EE2
10 WVDC		
2.7	.095 x .260	162D275X9010BC2
3.3	.095 x .260	162D335X9010BC2*
3.9	.110 x .290	162D395X9010CD2
4.7	.110 x .290	162D475X9010CD2*
5.6	.110 x .290	162D565X9010CD2
6.8	.110 x .290	162D685X9010CD2*
8.2	.110 x .290	162D825X9010CD2
10	.110 x .290	162D106X9010CD2*
12	.180 x .345	162D126X9010DD2
15	.180 x .345	162D156X9010DD2*
18	.180 x .345	162D186X9010DD2
22	.180 x .345	162D226X9010DD2*
27	.180 x .420	162D276X9010EE2
33	.180 x .420	162D336X9010EE2*
39	.180 x .420	162D396X9010EE2

μF	Dia. x Length	Cat. No.
15 WVDC		
1.8	.095 x .260	162D185X9015BC2
2.2	.095 x .260	162D225X9015BC2*
2.7	.110 x .290	162D275X9015CD2
3.3	.110 x .290	162D335X9015CD2*
3.9	.110 x .290	162D395X9015CD2
4.7	.110 x .290	162D475X9015CD2*
5.6	.110 x .290	162D565X9015CD2
6.8	.110 x .290	162D685X9015CD2*
8.2	.180 x .345	162D825X9015DD2
10	.180 x .345	162D106X9015DD2*
12	.180 x .345	162D126X9015DD2
15	.180 x .345	162D156X9015DD2*
18	.180 x .420	162D186X9015EE2
22	.180 x .420	162D226X9015EE2*
20 WVDC		
1.2	.095 x .260	162D125X9020BC2
1.5	.095 x .260	162D155X9020BC2*
1.8	.110 x .290	162D185X9020CD2
2.2	.110 x .290	162D225X9020CD2*
2.7	.110 x .290	162D275X9020CD2
3.3	.110 x .290	162D335X9020CD2*
3.9	.110 x .290	162D395X9020CD2
4.7	.110 x .290	162D475X9020CD2*
5.6	.180 x .345	162D565X9020DD2
6.8	.180 x .345	162D685X9020DD2*
8.2	.180 x .345	162D825X9020DD2
10	.180 x .345	162D106X9020DD2*
12	.180 x .420	162D126X9020EE2
15	.180 x .420	162D156X9020EE2*
25 WVDC		
0.56	.095 x .260	162D564X9025BC2
0.68	.095 x .260	162D684X9025BC2*
0.82	.095 x .260	162D824X9025BC2
1.0	.095 x .260	162D105X9025BC2*
1.2	.110 x .290	162D125X9025CD2
1.5	.110 x .290	162D155X9025CD2*
1.8	.110 x .290	162D185X9025CD2
2.2	.110 x .290	162D225X9025CD2*
2.7	.110 x .290	162D275X9025CD2
3.3	.110 x .290	162D335X9025CD2*
3.9	.180 x .345	162D395X9025DD2
4.7	.180 x .345	162D475X9025DD2*
5.6	.180 x .345	162D565X9025DD2
6.8	.180 x .345	162D685X9025DD2*
8.2	.180 x .420	162D825X9025EE2
10	.180 x .420	162D106X9025EE2*
35 WVDC		
0.0047	.095 x .260	162D472X9035BC2*
0.0056	.095 x .260	162D562X9035BC2
0.0068	.095 x .260	162D682X9035BC2*
0.0082	.095 x .260	162D822X9035BC2
0.010	.095 x .260	162D103X9035BC2*
0.012	.095 x .260	162D123X9035BC2
0.015	.095 x .260	162D153X9035BC2*
0.018	.095 x .260	162D183X9035BC2
0.022	.095 x .260	162D223X9035BC2*
0.027	.095 x .260	162D273X9035BC2
0.033	.095 x .260	162D333X9035BC2*
0.039	.095 x .260	162D393X9035BC2
0.047	.095 x .260	162D473X9035BC2*

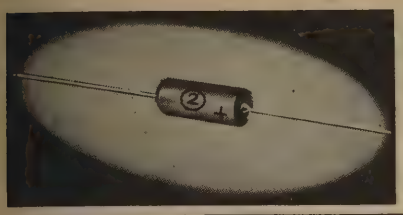
μF	Dia. x Length	Cat. No.
0.056	.095 x .260	162D563X9035BC2
0.068	.095 x .260	162D683X9035BC2*
0.082	.095 x .260	162D823X9035BC2
0.10	.095 x .260	162D104X9035BC2*
0.12	.095 x .260	162D124X9035BC2
0.15	.095 x .260	162D154X9035BC2*
0.18	.095 x .260	162D184X9035BC2
0.22	.095 x .260	162D224X9035BC2*
0.27	.095 x .260	162D274X9035BC2
0.33	.095 x .260	162D334X9035BC2*
0.39	.095 x .260	162D394X9035BC2
0.47	.095 x .260	162D474X9035BC2*
0.56	.110 x .290	162D564X9035CD2
0.68	.110 x .290	162D684X9035CD2*
0.82	.110 x .290	162D824X9035CD2
1.0	.110 x .290	162D105X9035CD2*
1.2	.110 x .290	162D125X9035CD2
1.5	.110 x .290	162D155X9035CD2*
1.8	.180 x .345	162D185X9035DD2
2.2	.180 x .345	162D225X9035DD2*
2.7	.180 x .345	162D275X9035DD2
3.3	.180 x .345	162D335X9035DD2*
3.9	.180 x .345	162D395X9035DD2
4.7	.180 x .345	162D475X9035DD2*
5.6	.180 x .420	162D565X9035EE2
6.8	.180 x .420	162D685X9035EE2*
50 WVDC		
0.0047	.095 x .260	162D472X9050BC2*
0.0056	.095 x .260	162D562X9050BC2
0.0068	.095 x .260	162D682X9050BC2*
0.0082	.095 x .260	162D822X9050BC2
0.010	.095 x .260	162D103X9050BC2*
0.012	.095 x .260	162D123X9050BC2
0.015	.095 x .260	162D153X9050BC2*
0.018	.095 x .260	162D183X9050BC2
0.022	.095 x .260	162D223X9050BC2*
0.027	.095 x .260	162D273X9050BC2
0.033	.095 x .260	162D333X9050BC2*
0.039	.095 x .260	162D393X9050BC2
0.047	.095 x .260	162D473X9050BC2*
0.056	.095 x .260	162D563X9050BC2
0.068	.095 x .260	162D683X9050BC2*
0.082	.095 x .260	162D823X9050BC2
0.10	.095 x .260	162D104X9050BC2*
0.12	.095 x .260	162D124X9050BC2
0.15	.095 x .260	162D154X9050BC2*
0.18	.095 x .260	162D184X9050BC2
0.22	.095 x .260	162D224X9050BC2*
0.27	.095 x .260	162D274X9050BC2
0.33	.110 x .290	162D334X9050CD2*
0.39	.110 x .290	162D394X9050CD2
0.47	.110 x .290	162D474X9050CD2*
0.56	.110 x .290	162D564X9050CD2
0.68	.110 x .290	162D684X9050CD2*
0.82	.110 x .290	162D824X9050CD2
1.0	.110 x .290	162D105X9050CD2*
1.2	.180 x .345	162D125X9050DD2
1.5	.180 x .345	162D155X9050DD2*
1.8	.180 x .345	162D185X9050DD2
2.2	.180 x .345	162D225X9050DD2*
2.7	.180 x .420	162D275X9050EE2
3.3	.180 x .420	162D335X9050EE2*
3.9	.180 x .420	162D395X9050EE2
4.7	.180 x .420	162D475X9050EE2*

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS



MIL-C-26655 Solid TANTALUM CAPACITORS

- Military Version of Type 150D.
- CS12, Bare Tube; CS13, Insulating Sleeve
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of −55C to +85C. Also −55C to +125C With Voltage Derating
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 3520.1
- For Insulated Style CS13, Add 0.010" to Diameter and 0.036" to Length

SIZE CODE

A = .125" D. x .250" L.	C = .279" D. x .650" L.
B = .175" D. x .438" L.	D = .341" D. x .750" L.

µF	Size Code	Tol.	CS12 Type Designation	CS13 Type Designation
6 WVDC				
5.6	A	10%	CS12BB565K	CS13BB565K
6.8	A	10%	CS12BB685K	CS13BB685K
6.8	A	20%	CS12BB685M	CS13BB685M
47	B	10%	CS12BB476K	CS13BB476K
47	B	20%	CS12BB476M	CS13BB476M
56	B	10%	CS12BB566K	CS13BB566K
150	C	10%	CS12BB157K	CS13BB157K
150	C	20%	CS12BB157M	CS13BB157M
180	C	10%	CS12BB187K	CS13BB187K
270	D	10%	CS12BB277K	CS13BB277K
330	D	10%	CS12BB337K	CS13BB337K
330	D	20%	CS12BB337M	CS13BB337M
10 WVDC				
3.9	A	10%	CS12BC395K	CS13BC395K
4.7	A	10%	CS12BC475K	CS13BC475K
4.7	A	20%	CS12BC475M	CS13BC475M
27	B	10%	CS12BC276K	CS13BC276K
33	B	10%	CS12BC336K	CS13BC336K
33	B	20%	CS12BC336M	CS13BC336M
39	B	10%	CS12BC396K	CS13BC396K
82	C	10%	CS12BC826K	CS13BC826K
100	C	10%	CS12BC107K	CS13BC107K
100	C	20%	CS12BC107M	CS13BC107M
120	C	10%	CS12BC127K	CS13BC127K
180	D	10%	CS12BC187K	CS13BC187K
220	D	10%	CS12BC227K	CS13BC227K
220	D	20%	CS12BC227M	CS13BC227M
15 WVDC				
2.7	A	10%	CS12BD275K	CS13BD275K
3.3	A	10%	CS12BD335K	CS13BD335K
3.3	A	20%	CS12BD335M	CS13BD335M
18	B	10%	CS12BD186K	CS13BD186K
22	B	10%	CS12BD226K	CS13BD226K
22	B	20%	CS12BD226M	CS13BD226M
56	C	10%	CS12BD566K	CS13BD566K
68	C	10%	CS12BD686K	CS13BD686K
68	C	20%	CS12BD686M	CS13BD686M
120	D	10%	CS12BD127K	CS13BD127K
150	D	10%	CS12BD157K	CS13BD157K
150	D	20%	CS12BD157M	CS13BD157M
20 WVDC				
1.2	A	10%	CS12BE125K	CS13BE125K
1.5	A	10%	CS12BE155K	CS13BE155K
1.5	A	20%	CS12BE155M	CS13BE155M
1.8	A	10%	CS12BE185K	CS13BE185K
2.2	A	10%	CS12BE225K	CS13BE225K
2.2	A	20%	CS12BE225M	CS13BE225M
8.2	B	10%	CS12BE825K	CS13BE825K
10	B	10%	CS12BE106K	CS13BE106K
10	B	20%	CS12BE106M	CS13BE106M
12	B	10%	CS12BE126K	CS13BE126K
15	B	10%	CS12BE156K	CS13BE156K
15	B	20%	CS12BE156M	CS13BE156M
27	C	10%	CS12BE276K	CS13BE276K
33	C	10%	CS12BE336K	CS13BE336K
33	C	20%	CS12BE336M	CS13BE336M
39	C	10%	CS12BE396K	CS13BE396K
47	C	10%	CS12BE476K	CS13BE476K
47	C	20%	CS12BE476M	CS13BE476M
56	D	10%	CS12BE566K	CS13BE566K
68	D	10%	CS12BE686K	CS13BE686K
68	D	20%	CS12BE686M	CS13BE686M
82	D	10%	CS12BE826K	CS13BE826K
100	D	10%	CS12BE107K	CS13BE107K
100	D	20%	CS12BE107M	CS13BE107M
35 WVDC				
.33	A	10%	CS12BF334K	CS13BF334K
.33	A	20%	CS12BF334M	CS13BF334M
.39	A	10%	CS12BF394K	CS13BF394K
.47	A	10%	CS12BF474K	CS13BF474K
.47	A	20%	CS12BF564K	CS13BF474M
.56	A	10%	CS12BF564K	CS13BF564K
.68	A	10%	CS12BF684K	CS13BF684K
.68	A	20%	CS12BF684M	CS13BF684M
.82	A	10%	CS12BF824K	CS13BF824K
1.0	A	10%	CS12BF105K	CS13BF105K
1.0	A	20%	CS12BF105M	CS13BF105M
1.2	B	10%	CS12BF125K	CS13BF125K
1.5	B	10%	CS12BF155K	CS13BF155K
1.5	B	20%	CS12BF155M	CS13BF155M
1.8	B	10%	CS12BF185K	CS13BF185K
2.2	B	10%	CS12BF225K	CS13BF225K
2.2	B	20%	CS12BF225M	CS13BF225M
2.7	B	10%	CS12BF275K	CS13BF275K
3.3	B	10%	CS12BF335K	CS13BF335K
3.3	B	20%	CS12BF335M	CS13BF335M
3.9	B	10%	CS12BF395K	CS13BF395K
4.7	B	10%	CS12BF475K	CS13BF475K
4.7	B	20%	CS12BF475M	CS13BF475M
5.6	B	10%	CS12BF565K	CS13BF565K
6.8	B	10%	CS12BF685K	CS13BF685K
6.8	B	20%	CS12BF685M	CS13BF685M
8.2	C	10%	CS12BF825K	CS13BF825K
10	C	10%	CS12BF106K	CS13BF106K
10	C	20%	CS12BF106M	CS13BF106M
12	C	10%	CS12BF126K	CS13BF126K
15	C	10%	CS12BF156K	CS13BF156K
15	C	20%	CS12BF156M	CS13BF156M
18	C	10%	CS12BF186K	CS13BF186K
22	C	10%	CS12BF226K	CS13BF226K
22	C	20%	CS12BF226M	CS13BF226M
27	D	10%	CS12BF276K	CS13BF276K
33	D	10%	CS12BF336K	CS13BF336K
33	D	20%	CS12BF336M	CS13BF336M
39	D	10%	CS12BF396K	CS13BF396K
47	D	10%	CS12BF476K	CS13BF476K
47	D	20%	CS12BF476M	CS13BF476M
50 WVDC				
1.0	A	10%	CS12BG105K	CS13BG105K
1.0	A	20%	CS12BG105M	CS13BG105M
1.2	B	10%	CS12BG125K	CS13BG125K
1.5	B	10%	CS12BG155K	CS13BG155K
1.5	B	20%	CS12BG155M	CS13BG155M
1.8	B	10%	CS12BG185K	CS13BG185K
2.2	B	10%	CS12BG225K	CS13BG225K
2.2	B	20%	CS12BG225M	CS13BG225M
2.7	B	10%	CS12BG275K	CS13BG275K
3.3	B	10%	CS12BG335K	CS13BG335K
3.3	B	20%	CS12BG335M	CS13BG335M
3.9	B	10%	CS12BG395K	CS13BG395K
4.7	B	10%	CS12BG475K	CS13BG475K
4.7	B	20%	CS12BG475M	CS13BG475M
5.6	C	10%	CS12BG565K	CS13BG565K
6.8	C	10%	CS12BG685K	CS13BG685K
6.8	C	20%	CS12BG685M	CS13BG685M
8.2	C	10%	CS12BG825K	CS13BG825K
10	C	10%	CS12BG106K	CS13BG106K
10	C	20%	CS12BG106M	CS13BG106M
12	C	10%	CS12BG126K	CS13BG126K
15	C	10%	CS12BG156K	CS13BG156K
15	C	20%	CS12BG156M	CS13BG156M
18	C	10%	CS12BG186K	CS13BG186K
22	D	10%	CS12BG226K	CS13BG226K
22	D	20%	CS12BG226M	CS13BG226M
75 WVDC				
.10	A	10%	CS12BH104K	CS13BH104K
.10	A	20%	CS12BH104M	CS13BH104M
.12	A	10%	CS12BH124K	CS13BH124K
.15	A	10%	CS12BH154K	CS13BH154K
.15	A	20%	CS12BH154M	CS13BH154M
.18	A	10%	CS12BH184K	CS13BH184K
.22	A	10%	CS12BH224K	CS13BH224K
.22	A	20%	CS12BH224M	CS13BH224M
.27	A	10%	CS12BH274K	CS13BH274K
.33	A	10%	CS12BH334K	CS13BH334K
.33	A	20%	CS12BH334M	CS13BH334M
.39	A	10%	CS12BH394K	CS13BH394K
.47	A	10%	CS12BH474K	CS13BH474K
.47	A	20%	CS12BH474M	CS13BH474M
.56	A	10%	CS12BH564K	CS13BH564K
.68	A	10%	CS12BH684K	CS13BH684K
.68	A	20%	CS12BH684M	CS13BH684M
.82	B	10%	CS12BH824K	CS13BH824K
1.0	B	10%	CS12BH105K	CS13BH105K
1.0	B	20%	CS12BH105M	CS13BH105M
1.2	B	10%	CS12BH125K	CS13BH125K
1.5	B	10%	CS12BH155K	CS13BH155K
1.5	B	20%	CS12BH155M	CS13BH155M
1.8	B	10%	CS12BH185K	CS13BH185K
2.2	B	10%	CS12BH225K	CS13BH225K
2.2	B	20%	CS12BH225M	CS13BH225M
2.7	B	10%	CS12BH275K	CS13BH275K
3.3	B	10%	CS12BH335K	CS13BH335K
3.3	B	20%	CS12BH335M	CS13BH335M
3.9	B	10%	CS12BH395K	CS13BH395K
4.7	C	10%	CS12BH475K	CS13BH475K
4.7	C	20%	CS12BH475M	CS13BH475M
5.6	C	10%	CS12BH565K	CS13BH565K
6.8	C	10%	CS12BH685K	CS13BH685K
6.8	C	20%	CS12BH685M	CS13BH685M
8.2	C	10%	CS12BH825K	CS13BH825K
10	C	10%	CS12BH106K	CS13BH106K
10	C	20%	CS12BH106M	CS13BH106M
12	D	10%	CS12BH126K	CS13BH126K
15	D	10%	CS12BH156K	CS13BH156K
15	D	20%	CS12BH156M	CS13BH156M
100 WVDC				
.0047	A	10%	CS12BJ472K	CS13BJ472K
.0047	A	20%	CS12BJ472M	CS13BJ472M
.0056	A	10%	CS12BJ562K	CS13BJ562K
.0068	A	10%	CS12BJ682K	CS13BJ682K
.0068	A	20%	CS12BJ682M	CS13BJ682M
.0082	A	10%	CS12BJ822K	CS13BJ822K
.01	A	10%	CS12BJ103K	CS13BJ103K
.01	A	20%	CS12BJ103M	CS13BJ103M
.012	A	10%	CS12BJ123K	CS13BJ123K
.015	A	10%	CS12BJ153K	CS13BJ153K
.015	A	20%	CS12BJ153M	CS13BJ153M
.018	A	10%	CS12BJ183K	CS13BJ183K
.022	A	10%	CS12BJ223K	CS13BJ223K
.022	A	20%	CS12BJ223M	CS13BJ223M
.027	A	10%	CS12BJ273K	CS13BJ273K
.033	A	10%	CS12BJ333K	CS13BJ333K
.033	A	20%	CS12BJ333M	CS13BJ333M
.039	A	10%	CS12BJ393K	CS13BJ393K
.047	A	10%	CS12BJ473K	CS13BJ473K
.047	A	20%	CS12BJ473M	CS13BJ473M
.056	A	10%	CS12BJ563K	CS13BJ563K
.068	A	10%	CS12BJ683K	CS13BJ683K
.068	A	20%	CS12BJ683M	CS13BJ683M
.082	A	10%	CS12BJ823K	CS13BJ823K
.10	A	10%	CS12BJ104K	CS13BJ104K
.10	A	20%	CS12BJ104M	CS13BJ104M
.12	A	10%	CS12BJ124K	CS13BJ124K
.15	A	10%	CS12BJ154K	CS13BJ154K
.15	A	20%	CS12BJ154M	CS13BJ154M
.18	A	10%	CS12BJ184K	CS13BJ184K
.22	A	10%	CS12BJ224K	CS13BJ224K
.22	A	20%	CS12BJ224M	CS13BJ224M
.27	A	10%	CS12BJ274K	CS13BJ274K
.33	A	10%	CS12BJ334K	CS13BJ334K
.33	A	20%	CS12BJ334M	CS13BJ334M
.39	A	10%	CS12BJ394K	CS13BJ394K
.47	A	10%	CS12BJ474K	CS13BJ474K
.47	A	20%	CS12BJ474M	CS13BJ474M
.56	A	10%	CS12BJ564K	CS13BJ564K
.68	B	10%	CS12BJ684K	CS13BJ684K
.68	B	20%	CS12BJ684M	CS13BJ684M
.82	B	10%	CS12BJ824K	CS13BJ824K
1.0	B	10%	CS12BJ105K	CS13BJ105K
1.0	B	20%	CS12BJ105M	CS13BJ105M
1.2	B	10%	CS12BJ125K	CS13BJ125K
1.5	B	10%	CS12BJ155K	CS13BJ155K
1.5	B	20%	CS12BJ155M	CS13BJ155M
1.8	B	10%	CS12BJ185K	CS13BJ185K
2.2	B	10%	CS12BJ225K	CS13BJ225K
2.2	B	20%	CS12BJ225M	CS13BJ225M
2.7	B	10%	CS12BJ275K	CS13BJ275K

Copyright 1971, Sprague Products Company

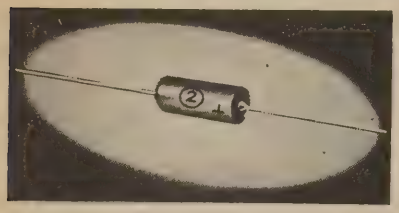
IND-REM-7A-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CSR13 ESTABLISHED RELIABILITY CAPACITORS to MIL-C-39003



- Solid-electrolyte tantalum type. Glass-to-metal hermetic seal. 125 C operation.
- Handled by Sprague and Sprague industrial distributors in full compliance with MIL-STD-790. Manufactured, marked, packed, shipped, received, inspected, stored in separate area, free from contamination or mix-up with other components.
- Cap. Tol. indicated by 10th character in part no K = 10%, M = 20%.
- For technical data, see latest issue of Engineering Bulletin 3520.2.

SIZE CODE

A = .135"D. x .286"L.	C = .289"D. x .686"L.
B = .185"D. x .474"L.	D = .351"D. x .786"L.

µF	Size Code	L (2%) Failure Rate	M (1%) Failure Rate	P (.1%) Failure Rate	R (.01%) Failure Rate
6 WVDC					
5.6	A	CSR13B565KL	CSR13B565KM	CSR13B565KP	CSR13B565KR
6.8	A	CSR13B685KL	CSR13B685KM	CSR13B685KP	CSR13B685KR
6.8	A	CSR13B685ML	CSR13B685MM	CSR13B685MP	CSR13B685MR
47	B	CSR13B476KL	CSR13B476KM	CSR13B476KP	CSR13B476KR
47	B	CSR13B476ML	CSR13B476MM	CSR13B476MP	CSR13B476MR
56	B	CSR13B566KL	CSR13B566KM	CSR13B566KP	CSR13B566KR
150	C	CSR13B157KL	CSR13B157KM	CSR13B157KP	CSR13B157KR
150	C	CSR13B157ML	CSR13B157MM	CSR13B157MP	CSR13B157MR
180	C	CSR13B187KL	CSR13B187KM	CSR13B187KP	CSR13B187KR
270	D	CSR13B277KL	CSR13B277KM	CSR13B277KP	CSR13B277KR
330	D	CSR13B337KL	CSR13B337KM	CSR13B337KP	CSR13B337KR
330	D	CSR13B337ML	CSR13B337MM	CSR13B337MP	CSR13B337MR
10 WVDC					
3.9	A	CSR13C395KL	CSR13C395KM	CSR13C395KP	CSR13C395KR
4.7	A	CSR13C475KL	CSR13C475KM	CSR13C475KP	CSR13C475KR
4.7	A	CSR13C475ML	CSR13C475MM	CSR13C475MP	CSR13C475MR
27	B	CSR13C276KL	CSR13C276KM	CSR13C276KP	CSR13C276KR
33	B	CSR13C336KL	CSR13C336KM	CSR13C336KP	CSR13C336KR
33	B	CSR13C336ML	CSR13C336MM	CSR13C336MP	CSR13C336MR
39	B	CSR13C396KL	CSR13C396KM	CSR13C396KP	CSR13C396KR
82	C	CSR13C826KL	CSR13C826KM	CSR13C826KP	CSR13C826KR
100	C	CSR13C107KL	CSR13C107KM	CSR13C107KP	CSR13C107KR
100	C	CSR13C107ML	CSR13C107MM	CSR13C107MP	CSR13C107MR
120	C	CSR13C127KL	CSR13C127KM	CSR13C127KP	CSR13C127KR
180	D	CSR13C187KL	CSR13C187KM	CSR13C187KP	CSR13C187KR
220	D	CSR13C227KL	CSR13C227KM	CSR13C227KP	CSR13C227KR
220	D	CSR13C227ML	CSR13C227MM	CSR13C227MP	CSR13C227MR
15 WVDC					
2.7	A	CSR13D275KL	CSR13D275KM	CSR13D275KP	CSR13D275KR
3.3	A	CSR13D335KL	CSR13D335KM	CSR13D335KP	CSR13D335KR
3.3	A	CSR13D335ML	CSR13D335MM	CSR13D335MP	CSR13D335MR
18	B	CSR13D186KL	CSR13D186KM	CSR13D186KP	CSR13D186KR
22	B	CSR13D226KL	CSR13D226KM	CSR13D226KP	CSR13D226KR
22	B	CSR13D226ML	CSR13D226MM	CSR13D226MP	CSR13D226MR
56	C	CSR13D566KL	CSR13D566KM	CSR13D566KP	CSR13D566KR
68	C	CSR13D686KL	CSR13D686KM	CSR13D686KP	CSR13D686KR
68	C	CSR13D686ML	CSR13D686MM	CSR13D686MP	CSR13D686MR
120	D	CSR13D127KL	CSR13D127KM	CSR13D127KP	CSR13D127KR
150	D	CSR13D157KL	CSR13D157KM	CSR13D157KP	CSR13D157KR
150	D	CSR13D157ML	CSR13D157MM	CSR13D157MP	CSR13D157MR
20 WVDC					
1.2	A	CSR13E125KL	CSR13E125KM	CSR13E125KP	CSR13E125KR
1.5	A	CSR13E155KL	CSR13E155KM	CSR13E155KP	CSR13E155KR
1.5	A	CSR13E155ML	CSR13E155MM	CSR13E155MP	CSR13E155MR
1.8	A	CSR13E185KL	CSR13E185KM	CSR13E185KP	CSR13E185KR
2.2	A	CSR13E225KL	CSR13E225KM	CSR13E225KP	CSR13E225KR
2.2	A	CSR13E225ML	CSR13E225MM	CSR13E225MP	CSR13E225MR
8.2	B	CSR13E825KL	CSR13E825KM	CSR13E825KP	CSR13E825KR
10	B	CSR13E106KL	CSR13E106KM	CSR13E106KP	CSR13E106KR
10	B	CSR13E106ML	CSR13E106MM	CSR13E106MP	CSR13E106MR
12	B	CSR13E126KL	CSR13E126KM	CSR13E126KP	CSR13E126KR
15	B	CSR13E156KL	CSR13E156KM	CSR13E156KP	CSR13E156KR
15	B	CSR13E156ML	CSR13E156MM	CSR13E156MP	CSR13E156MR
27	C	CSR13E276KL	CSR13E276KM	CSR13E276KP	CSR13E276KR
33	C	CSR13E336KL	CSR13E336KM	CSR13E336KP	CSR13E336KR
20 WVDC – (Cont.)					
33	C	CSR13E336ML	CSR13E336MM	CSR13E336MP	CSR13E336MR
39	C	CSR13E396KL	CSR13E396KM	CSR13E396KP	CSR13E396KR
47	C	CSR13E476KL	CSR13E476KM	CSR13E476KP	CSR13E476KR
47	C	CSR13E476ML	CSR13E476MM	CSR13E476MP	CSR13E476MR
56	D	CSR13E566KL	CSR13E566KM	CSR13E566KP	CSR13E566KR
68	D	CSR13E686KL	CSR13E686KM	CSR13E686KP	CSR13E686KR
68	D	CSR13E686ML	CSR13E686MM	CSR13E686MP	CSR13E686MR
82	D	CSR13E826KL	CSR13E826KM	CSR13E826KP	CSR13E826KR
100	D	CSR13E107KL	CSR13E107KM	CSR13E107KP	CSR13E107KR
100	D	CSR13E107ML	CSR13E107MM	CSR13E107MP	CSR13E107MR
35 WVDC					
5.6	B	CSR13F565KL	CSR13F565KM	CSR13F565KP	CSR13F565KR
6.8	B	CSR13F685KL	CSR13F685KM	CSR13F685KP	CSR13F685KR
6.8	B	CSR13F685ML	CSR13F685MM	CSR13F685MP	CSR13F685MR
22	C	CSR13F226KL	CSR13F226KM	CSR13F226KP	CSR13F226KR
22	C	CSR13F226ML	CSR13F226MM	CSR13F226MP	CSR13F226MR
27	D	CSR13F276KL	CSR13F276KM	CSR13F276KP	CSR13F276KR
33	D	CSR13F336KL	CSR13F336KM	CSR13F336KP	CSR13F336KR
33	D	CSR13F336ML	CSR13F336MM	CSR13F336MP	CSR13F336MR
39	D	CSR13F396KL	CSR13F396KM	CSR13F396KP	CSR13F396KR
47	D	CSR13F476KL	CSR13F476KM	CSR13F476KP	CSR13F476KR
47	D	CSR13F476ML	CSR13F476MM	CSR13F476MP	CSR13F476MR
50 WVDC					
.0047	A	CSR13G472KL	CSR13G472KM	CSR13G472KP	CSR13G472KR
.0047	A	CSR13G472ML	CSR13G472MM	CSR13G472MP	CSR13G472MR
.0056	A	CSR13G562KL	CSR13G562KM	CSR13G562KP	CSR13G562KR
.0068	A	CSR13G682KL	CSR13G682KM	CSR13G682KP	CSR13G682KR
.0068	A	CSR13G682ML	CSR13G682MM	CSR13G682MP	CSR13G682MR
.0082	A	CSR13G822KL	CSR13G822KM	CSR13G822KP	CSR13G822KR
.01	A	CSR13G103KL	CSR13G103KM	CSR13G103KP	CSR13G103KR
.01	A	CSR13G103ML	CSR13G103MM	CSR13G103MP	CSR13G103MR
.012	A	CSR13G123KL	CSR13G123KM	CSR13G123KP	CSR13G123KR
.015	A	CSR13G153KL	CSR13G153KM	CSR13G153KP	CSR13G153KR
.015	A	CSR13G153ML	CSR13G153MM	CSR13G153MP	CSR13G153MR
.018	A	CSR13G183KL	CSR13G183KM	CSR13G183KP	CSR13G183KR
.022	A	CSR13G223KL	CSR13G223KM	CSR13G223KP	CSR13G223KR
.022	A	CSR13G223ML	CSR13G223MM	CSR13G223MP	CSR13G223MR
.027	A	CSR13G273KL	CSR13G273KM	CSR13G273KP	CSR13G273KR
.033	A	CSR13G333KL	CSR13G333KM	CSR13G333KP	CSR13G333KR
.033	A	CSR13G333ML	CSR13G333MM	CSR13G333MP	CSR13G333MR
.039	A	CSR13G393KL	CSR13G393KM	CSR13G393KP	CSR13G393KR
.047	A	CSR13G473KL	CSR13G473KM	CSR13G473KP	CSR13G473KR
.047	A	CSR13G473ML	CSR13G473MM	CSR13G473MP	CSR13G473MR
.056	A	CSR13G563KL	CSR13G563KM	CSR13G563KP	CSR13G563KR
.068	A	CSR13G683KL	CSR13G683KM	CSR13G683KP	CSR13G683KR
.068	A	CSR13G683ML	CSR13G683MM	CSR13G683MP	CSR13G683MR
.082	A	CSR13G823KL	CSR13G823KM	CSR13G823KP	CSR13G823KR
.1	A	CSR13G104KL	CSR13G104KM	CSR13G104KP	CSR13G104KR
.1	A	CSR13G104ML	CSR13G104MM	CSR13G104MP	CSR13G104MR
.12	A	CSR13G124KL	CSR13G124KM	CSR13G124KP	CSR13G124KR
.15	A	CSR13G154KL	CSR13G154KM	CSR13G154KP	CSR13G154KR
.15	A	CSR13G154ML	CSR13G154MM	CSR13G154MP	CSR13G154MR
.18	A	CSR13G184KL	CSR13G184KM	CSR13G184KP	CSR13G184KR
.22	A	CSR13G224KL	CSR13G224KM	CSR13G224KP	CSR13G224KR
.22	A	CSR13G224ML	CSR13G224MM	CSR13G224MP	CSR13G224MR

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE CSR13 SOLID-ELECTROLYTE TANTALUM CAPACITORS (Cont.)

µF	Size Code	L (2%) Failure Rate	M (1%) Failure Rate	P (.1%) Failure Rate	R (.01%) Failure Rate
50 WVDC – (Cont.)					
.27	A	CSR13G274KL	CSR13G274KM	CSR13G274KP	CSR13G274KR
.33	A	CSR13G334KL	CSR13G334KM	CSR13G334KP	CSR13G334KR
.33	A	CSRI3G334ML	CSR13G334MM	CSR13G334MP	CSR13G334MR
.39	A	CSR13G394KL	CSR13G394KM	CSR13G394KP	CSR13G394KR
.47	A	CSR13G474KL	CSR13G474KM	CSR13G474KP	CSR13G474KR
.47	A	CSR13G474ML	CSR13G474MM	CSR13G474MP	CSR13G474MR
.56	A	CSR13G564KL	CSR13G564KM	CSR13G564KP	CSR13G564KR
.68	A	CSR13G684KL	CSR13G684KM	CSR13G684KP	CSR13G684KR
.68	A	CSR13G684ML	CSR13G684MM	CSR13G684MP	CSR13G684MR
.82	A	CSR13G824KL	CSR13G824KM	CSR13G824KP	CSR13G824KR
1	A	CSR13G105KL	CSR13G105KM	CSR13G105KP	CSR13G105KR
1	A	CSR13G105ML	CSR13G105MM	CSR13G105MP	CSR13G105MR
1.2	B	CSR13G125KL	CSR13G125KM	CSR13G125KP	CSG13G125KR
1.5	B	CSR13G155KL	CSR13G155KM	CSR13G155KP	CSR13G155KR
1.5	B	CSR13G155ML	CSR13G155MM	CSR13G155MP	CSR13G155MR
1.8	B	CSR13G185KL	CSR13G185KM	CSR13G185KP	CSR13G185KR
2.2	B	CSR13G225KL	CSR13G225KM	CSR13G225KP	CSR13G225KR
2.2	B	CSR13G225ML	CSR13G225MM	CSR13G225MP	CSR13G225MR
2.7	B	CSR13G275KL	CSR13G275KM	CSR13G275KP	CSR13G275KR
3.3	B	CSR13G335KL	CSR13G335KM	CSR13G335KP	CSR13G335KR
3.3	B	CSR13G335ML	CSR13G335MM	CSR13G335MP	CSR13G335MR
3.9	B	CSR13G395KL	CSR13G395KM	CSR13G395KP	CSR13G395KR
4.7	B	CSR13G475KL	CSR13G475KM	CSR13G475KP	CSR13G475KR
4.7	B	CSR13G475ML	CSR13G475MM	CSR13G475MP	CSR13G475MR
5.6	C	CSR13G565KL	CSR13G565KM	CSR13G565KP	CSR13G565KR
6.8	C	CSR13G685KL	CSR13G685KM	CSR13G685KP	CSR13G685KR
6.8	C	CSR13G685ML	CSR13G685MM	CSR13G685MP	CSR13G685MR
8.2	C	CSR13G825KL	CSR13G825KM	CSR13G825KP	CSR13G825KR
10	C	CSR13G106KL	CSR13G106KM	CSR13G106KP	CSR13G106KR
10	C	CSR13G106ML	CSR13G106MM	CSR13G106MP	CSR13G106MR
12	C	CSR13G126KL	CSR13G126KM	CSR13G126KP	CSR13G126KR
15	C	CSR13G156KL	CSR13G156KM	CSR13G156KP	CSR13G156KR
15	C	CSR13G156ML	CSR13G156MM	CSR13G156MP	CSR13G156MR
18	C	CSR13G186KL	CSR13G186KM	CSR13G186KP	CSR13G186KR
22	D	CSR13G226KL	CSR13G226KM	CSR13G226KP	CSR13G226KR
22	D	CSR13G226ML	CSR13G226MM	CSR13G226MP	CSR13G226MR
75 WVDC					
.1	A	CSR13H104KL	CSR13H104KM	CSR13H104KP	CSR13H104KR
.1	A	CSR13H104ML	CSR13H104MM	CSR13H104MP	CSR13H104MR
.12	A	CSR13H124KL	CSR13H124KM	CSR13H124KP	CSR13H124KR
.15	A	CSR13H154KL	CSR13H154KM	CSR13H154KP	CSR13H154KR
.15	A	CSR13H154ML	CSR13H154MM	CSR13H154MP	CSR13H154MR
.18	A	CSR13H184KL	CSR13H184KM	CSR13H184KP	CSR13H184KR
.22	A	CSR13H224KL	CSR13H224KM	CSR13H224KP	CSR13H224KR
.22	A	CSR13H224ML	CSR13H224MM	CSR13H224MP	CSR13H224MR
.27	A	CSR13H274KL	CSR13H274KM	CSR13H274KP	CSR13H274KR
.33	A	CSR13H334KL	CSR13H334KM	CSR13H334KP	CSR13H334KR
.33	A	CSR13H334ML	CSR13H334MM	CSR13H334MP	CSR13H334MR
.39	A	CSR13H394KL	CSR13H394KM	CSR13H394KP	CSR13H394KR
.47	A	CSR13H474KL	CSR13H474KM	CSR13H474KP	CSR13H474KR
.47	A	CSR13H474ML	CSR13H474MM	CSR13H474MP	CSR13H474MR
.56	A	CSR13H564KL	CSR13H564KM	CSR13H564KP	CSR13H564KR
.68	A	CSR13H684KL	CSR13H684KM	CSR13H684KP	CSR13H684KR
.68	A	CSR13H684ML	CSR13H684MM	CSR13H684MP	CSR13H684MR
.82	B	CSR13H824KL	CSR13H824KM	CSR13H824KP	CSR13H824KR
1	B	CSR13H105KL	CSR13H105KM	CSR13H105KP	CSR13H105KR
1	B	CSR13H105ML	CSR13H105MM	CSR13H105MP	CSR13H105MR
1.2	B	CSR13H125KL	CSR13H125KM	CSR13H125KP	CSR13H125KR
1.5	B	CSR13H155KL	CSR13H155KM	CSR13H155KP	CSR13H155KR
1.5	B	CSR13H155ML	CSR13H155MM	CSR13H155MP	CSR13H155MR
1.8	B	CSR13H185KL	CSR13H185KM	CSR13H185KP	CSR13H185KR
2.2	B	CSR13H225KL	CSR13H225KM	CSR13H225KP	CSR13H225KR
2.2	B	CSR13H225ML	CSR13H225MM	CSR13H225MP	CSR13H225MR
2.7	B	CSR13H275KL	CSR13H275KM	CSR03H275KP	CSR13H275KR
3.3	B	CSR13H335KL	CSR13H335KM	CSR13H335KP	CSR13H335KR

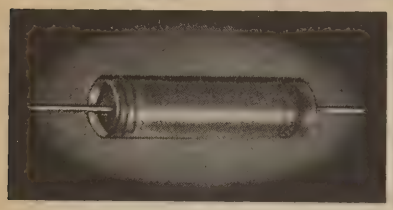
µF	Size Code	L (2%) Failure Rate	M (1%) Failure Rate	P (.1%) Failure Rate	R (.01%) Failure Rate
75 WVDC – (Cont.)					
3.3	B	CSR13H335ML	CSR13H335MM	CSR13H335MP	CSR13H335MR
3.9	B	CSR13H395KL	CSR13H395KM	CSR13H395KP	CSR13H395KR
4.7	C	CSR13H475KL	CSR13H475KM	CSR13H475KP	CSR13H475KR
4.7	C	CSR13H475ML	CSR13H475MM	CSR13H475MP	CSR13H475MR
5.6	C	CSR13H565KL	CSR13H565KM	CSR13H565KP	CSR13H565KR
6.8	C	CSR13H685KL	CSR13H685KM	CSR13H685KP	CSR13R685KR
6.8	C	CSR13H685ML	CSR13H685MM	CSR13H685MP	CSR13H685MR
8.2	C	CSR13H825KL	CSR13H825KM	CSR13H825KP	CSR13H825KR
10	C	CSR13H106KL	CSR13H106KM	CSR13H106KP	CSR13H106KR
10	C	CSR13H106ML	CSR13H106MM	CSR13H106MP	CSR13H106MR
12	D	CSR13H126KL	CSR13H126KM	CSR13H126KP	CSR13H126KR
15	D	CSR13H156KL	CSR13H156KM	CSR13H156KP	CSR13H156KR
15	D	CSR13H156ML	CSR13H156MM	CSR13H156MP	CSR13H156MR
100 WVDC					
.0047	A	CSR13J472KL	CSR13J472KM	CSR13J472KP	CSR13J472KR
.0047	A	CSR13J472ML	CSR13J472MM	CSR13J472MP	CSR13J472MR
.0056	A	CSR13J562KL	CSR13J562KM	CSR13J562KP	CSR13J562KR
.0068	A	CSR13J682KL	CSR13J682KM	CSR13J682KP	CSR13J682KR
.0068	A	CSR13J682ML	CSR13J682MM	CSR13J682MP	CSR13J682MR
.0082	A	CSR13J822KL	CSR13J822KM	CSR13J822KP	CSR13J822KR
.01	A	CSR13J103KL	CSR13J103KM	CSR13J103KP	CSR13J103KR
.01	A	CSR13J103ML	CSR13J103MM	CSR13J103MP	CSR13J103MR
.012	A	CSR13J123KL	CSR13J123KM	CSR13J123KP	CSR13J123KR
.015	A	CSR13J153KL	CSR13J153KM	CSR13J153KP	CSR13J153KR
.015	A	CSR13J153ML	CSR13J153MM	CSR13J153MP	CSR13J153MR
.018	A	CSR13J183KL	CSR13J183KM	CSR13J183KP	CSR13J183KR
.022	A	CSR13J223KL	CSR13J223KM	CSR13J223KP	CSR13J223KR
.022	A	CSR13J223ML	CSR13J223MM	CSR13J223MP	CSR13J223MR
.027	A	CSR13J273KL	CSR13J273KM	CSR13J273KP	CSR13J273KR
.033	A	CSR13J333KL	CSR13J333KM	CSR13J333KP	CSR13J333KR
.033	A	CSR13J333ML	CSR13J333MM	CSR13J333MP	CSR13J333MR
.039	A	CSR13J393KL	CSR13J393KM	CSR13J393KP	CSR13J393KR
.047	A	CSR13J473KL	CSR13J473KM	CSR13J473KP	CSR13J473KR
.047	A	CSR13J473ML	CSR13J473MM	CSR13J473MP	CSR13J473MR
.056	A	CSR13J563KL	CSR13J563KM	CSR13J563KP	CSR13J563KR
.068	A	CSR13J683KL	CSR13J683KM	CSR13J683KP	CSR13J683KR
.068	A	CSR13J683ML	CSR13J683MM	CSR13J683MP	CSR13J683MR
.082	A	CSR13J823KL	CSR13J823KM	CSR13J823KP	CSR13J823KR
.1	A	CSR13J104KL	CSR13J104KM	CSR13J104KP	CSR13J104KR
.1	A	CSR13J104ML	CSR13J104MM	CSR13J104MP	CSR13J104MR
.12	A	CSR13J124KL	CSR13J124KM	CSR13J124KP	CSR13J124KR
.15	A	CSR13J154KL	CSR13J154KM	CSR13J154KP	CSR13J154KR
.15	A	CSR13J154ML	CSR13J154MM	CSR13J154MP	CSR13J154MR
.18	A	CSR13J184KL	CSR13J184KM	CSR13J184KP	CSR13J184KR
.22	A	CSR13J224KL	CSR13J224KM	CSR13J224KP	CSR13J224KR
.22	A	CSR13J224ML	CSR13J224MM	CSR13J224MP	CSR13J224MR
.27	A	CSR13J274KL	CSR13J274KM	CSR13J274KP	CSR13J274KR
.33	A	CSR13J334KL	CSR13J334KM	CSR13J334KP	CSR13J334KR
.33	A	CSR13J334ML	CSR13J334MM	CSR13J334MP	CSR13J334MR
.39	A	CSR13J394KL	CSR13J394KM	CSR13J394KP	CSR13J394KR
.47	A	CSR13J474KL	CSR13J474KM	CSR13J474KP	CSR13J474KR
.47	A	CSR13J474ML	CSR13J474MM	CSR13J474MP	CSR13J474MR
.56	A	CSR13J564KL	CSR13J564KM	CSR13J564KP	CSR13J564KR
.68	B	CSR13J684KL	CSR13J684KM	CSR13J684KP	CSR13J684KR
.68	B	CSR13J684ML	CSR13J684MM	CSR13J684MP	CSR13J684MR
.82	B	CSR13J824KL	CSR13J824KM	CSR13J824KP	CSR13J824KR
1.0	B	CSR13J105KL	CSR13J105KM	CSR13J105KP	CSR13J105KR
1.0	B	CSR13J105ML	CSR13J105MM	CSR13J105MP	CSR13J105MR
1.2	B	CSR13J125KL	CSR13J125KM	CSR13J125KP	CSR13J125KR
1.5	B	CSR13J155KL	CSR13J155KM	CSR13J155KP	CSR13J155KR
1.5	B	CSR13J155ML	CSR13J155MM	CSR13J155MP	CSR13J155MR
1.8	B	CSR13J185KL	CSR13J185KM	CSR13J185KP	CSR13J185KR
2.2	B	CSR13J225KL	CSR13J225KM	CSR13J225KP	CSR13J225KR
2.2	B	CSR13J225ML	CSR13J225MM	CSR13J225MP	CSR13J225MR
2.7	B	CSR13J275KL	CSR13J275KM	CSR13J275KP	CSR13J275KR

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS



85 C FOIL TANTALEX® CAPACITORS

- Small Size, Electrically Stable, Long Life. For Data, See Latest Issue of Engineering Bulletin 3601
- 110D and 112D Available as MIL-C-3965 Units
- For Cap. Tol. see 9th Character in Cat. No. 0 = ±20%, 8 = ±15 , 3 = +30, −15%, 5 = +50, −15%, 7 = +75, −15%.
- Plastic Wrap. For Bare Case, End Cat. No. in "0" Instead of "1"

DIMENSIONS

Case	D x L	Case	D x L
D	0.203 x 0.812	P	0.390 x 2.875
G	0.296 x 1.000	R	0.483 x 2.875
J	0.390 x 1.562	Y	0.546 x 2.875
M	0.390 x 2.250		

TYPE 110D
POLARIZED PLAIN-FOIL

µF	Case	Catalog No.
3 WORKING VOLTS D-C		
10	D	110D106X0003D1
55	G	110D556X0003G1
160	J	110D167X0003J1
350	M	110D357X0003M1
440	P	110D447X0003P1
1100	R	110D118X0003R1
1300	Y	110D138X0003Y1
6 WORKING VOLTS D-C		
8	D	110D805X0006D1
35	G	110D356X0006G1
100	J	110D107X0006J1
200	M	110D207X0006M1
300	P	110D307X0006P1
460	R	110D467X0006R1
560	Y	110D567X0006Y1
10 WORKING VOLTS D-C		
6	D	110D605X0010D1
25	G	110D256X0010G1
80	J	110D806X0010J1
160	M	110D167X0010M1
220	P	110D227X0010P1
350	R	110D357X0010R1
420	Y	110D427X0010Y1
15 WORKING VOLTS D-C		
4.5	D	110D455X0015D1
18	G	110D186X0015G1
55	J	110D556X0015J1
110	M	110D117X0015M1
160	P	110D167X0015P1
260	R	110D267X0015R1
320	Y	110D327X0015Y1
25 WORKING VOLTS D-C		
3	D	110D305X0025D1
12	G	110D126X0025G1
35	J	110D356X0025J1
70	M	110D706X0025M1
100	P	110D107X0025P1
180	R	110D187X0025R1
210	Y	110D217X0025Y1
30 WORKING VOLTS D-C		
2.5	D	110D255X0030D1
10	G	110D106X0030G1
30	J	110D306X0030J1
60	M	110D606X0030M1
85	P	110D856X0030P1
150	R	110D157X0030R1
180	Y	110D187X0030Y1
50 WORKING VOLTS D-C		
1.5	D	110D155X0050D1
6	G	110D605X0050G1
20	J	110D206X0050J1
40	M	110D406X0050M1
55	P	110D556X0050P1
100	R	110D107X0050R1
120	Y	110D127X0050Y1
60 WORKING VOLTS D-C		
1.2	D	110D125X0060D1
5	G	110D505X0060G1
17	J	110D176X0060J1
34	M	110D346X0060M1
48	P	110D486X0060P1
85	R	110D856X0060R1
100	Y	110D107X0060Y1
75 WORKING VOLTS D-C		
1	D	110D105X0075D1
4	G	110D405X0075G1
14	J	110D146X0075J1
28	M	110D286X0075M1
40	P	110D406X0075P1
70	R	110D706X0075R1
88	Y	110D886X0075Y1
100 WORKING VOLTS D-C		
0.8	D	110D804X0100D1
3	G	110D305X0100G1
10	J	110D106X0100J1
20	M	110D206X0100M1
30	P	110D306X0100P1
57	R	110D576X0100R1
70	Y	110D706X0100Y1
150 WORKING VOLTS D-C		
0.5	D	110D504X0150D1
2	G	110D205X0150G1
7	J	110D705X0150J1
14	M	110D146X0150M1
20	P	110D206X0150P1
40	R	110D406X0150R1
47	Y	110D476X0150Y1
200 WORKING VOLTS D-C		
0.35	D	110D354X8200D1
1.5	G	110D155X8200G1
5.0	J	110D505X8200J1
10.0	M	110D106X8200M1
15.0	P	110D156X8200P1
25	R	110D256X8200R1
35	Y	110D356X8200Y1
250 WORKING VOLTS D-C		
0.3	D	110D304X8250D1
1.2	G	110D125X8250G1
4.0	J	110D405X8250J1
8.0	M	110D805X8250M1
12.0	P	110D126X8250P1
20	R	110D206X8250R1
30	Y	110D306X8250Y1
300 WORKING VOLTS D-C		
0.25	D	110D254X8300D1
1	G	110D105X8300G1
3	J	110D305X8300J1
7	M	110D705X8300M1
10	P	110D106X8300P1
18	R	110D186X8300R1
375 WORKING VOLTS D-C		
0.2	D	110D204X8375D1
0.8	G	110D804X8375G1
2.5	J	110D255X8375J1
5	M	110D505X8375M1
7	P	110D705X8375P1
12	R	110D126X8300R1
450 WORKING VOLTS D-C		
0.15	D	110D154X8450D1
0.65	G	110D654X8450G1
2	J	110D205X8450J1
4	M	110D405X8450M1
6	P	110D605X8450P1

TYPE 111D
NON-POLARIZED PLAIN-FOIL

µF	Case	Catalog No.
6 WORKING VOLTS N.P.		
7	D	111D705X0006D1
25	G	111D256X0006G1
85	J	111D856X0006J1
170	M	111D177X0006M1
250	P	111D257X0006P1
360	R	111D367X0006R1
470	Y	111D477X0006Y1
10 WORKING VOLTS N.P.		
4	D	111D405X0010D1
16	G	111D166X0010G1
55	J	111D556X0010J1
110	M	111D117X0010M1
150	P	111D157X0010P1
230	R	111D237X0010R1
280	Y	111D287X0010Y1
15 WORKING VOLTS N.P.		
2.5	D	111D255X0015D1
10	G	111D106X0015G1
35	J	111D356X0015J1
70	M	111D706X0015M1
100	P	111D107X0015P1
160	R	111D167X0015R1
200	Y	111D207X0015Y1
25 WORKING VOLTS N.P.		
1.5	D	111D155X0025D1
6	G	111D605X0025G1
20	J	111D206X0025J1
40	M	111D406X0025M1
60	P	111D606X0025P1
100	R	111D107X0025R1
120	Y	111D127X0025Y1
30 WORKING VOLTS N.P.		
1.4	D	111D145X0030D1
5.5	G	111D555X0030G1
18	J	111D186X0030J1
36	M	111D366X0030M1
45	P	111D456X0030P1
85	R	111D856X0030R1
100	Y	111D107X0030Y1
50 WORKING VOLTS N.P.		
0.8	D	111D804X0050D1
3	G	111D305X0050G1
10	J	111D106X0050J1
20	M	111D206X0050M1
30	P	111D306X0050P1
50	R	111D506X0050R1
65	Y	111D656X0050Y1
60 WORKING VOLTS N.P.		
0.6	D	111D604X0060D1
2.5	G	111D255X0060G1
8.5	J	111D855X0060J1
17	M	111D176X0060M1
24	P	111D246X0060P1
45	R	111D456X0060R1
53	Y	111D536X0060Y1
75 WORKING VOLTS N.P.		
0.5	D	111D504X0075D1
2	G	111D205X0075G1
7	J	111D705X0075J1
14	M	111D146X0075M1
20	P	111D206X0075P1
40	R	111D406X0075R1
47	Y	111D476X0075Y1
100 WORKING VOLTS N.P.		
0.4	D	111D404X0100D1
1.5	G	111D155X0100G1
5	J	111D505X0100J1
10	M	111D106X0100M1
15	P	111D156X0100P1
30	R	111D306X0100R1
37	Y	111D376X0100Y1
150 WORKING VOLTS N.P.		
0.25	D	111D254X0150D1
1.0	G	111D105X0150G1
3.5	J	111D355X0150J1
7	M	111D705X0150M1
10	P	111D106X0150P1
20	R	111D206X0150R1
24	Y	111D246X0150Y1
200 WORKING VOLTS N.P.		
0.15	D	111D154X8200D1
0.75	G	111D754X8200G1
2.5	J	111D255X8200J1
5.0	M	111D505X8200M1
7.5	P	111D755X8200P1
14	R	111D146X8200R1
17	Y	111D176X8200Y1
250 WORKING VOLTS N.P.		
0.15	D	111D154X8250D1
0.6	G	111D604X8250G1
2.0	J	111D205X8250J1
4.0	M	111D405X8250M1
6.0	P	111D605X8250P1
12	R	111D126X8250R1
15	Y	111D156X8250Y1
300 WORKING VOLTS N.P.		
0.1	D	111D104X8300D1
.5	G	111D504X8300G1
1.5	J	111D155X8300J1
3.5	M	111D355X8300M1
5	P	111D505X8300P1
9.5	R	111D955X8300R1

TYPE 112D
POLARIZED ETCHED-FOIL

µF	Case	Catalog No.
15 WORKING VOLTS D-C		
15	D	112D156C7015D1
36	D	112D366C7015D1
60	G	112D606C7015G1
130	G	112D137C7015G1
200	J	112D207C7015J1
370	J	112D377C7015J1
400	M	112D407C7015M1
580	P	112D587C7015P1
780	M	112D787C7015M1
1100	P	112D118C7015P1
2000	R	112D208C7015R1
2500	Y	112D258C7015Y1
25 WORKING VOLTS D-C		
10	D	112D106C7025D1
23	D	112D236C7025D1
40	G	112D406C7025G1
80	G	112D806C7025G1
120	J	112D127C7025J1
240	J	112D247C7025J1
250	M	112D257C7025M1
350	P	112D357C7025P1
510	M	112D517C7025M1
720	P	112D727C7025P1
1300	R	112D138C7025R1
1600	Y	112D168C7025Y1
30 WORKING VOLTS D-C		
8	D	112D805C7030D1
19	D	112D196C7030D1
32	G	112D326C7030G1
67	G	112D676C7030G1
110	J	112D117C7030J1
200	J	112D207C7030J1
220	M	112D227C7030M1
300	P	112D307C7030P1
420	M	112D427C7030M1
590	P	112D597C7030P1
1100	R	112D118C7030R1
1400	Y	112D148C7030Y1
50 WORKING VOLTS D-C		
4.5	D	112D455C5050D1
8	D	112D805C5050D1
18	G	112D186C5050G1
29	G	112D296C5050G1
60	J	112D606C5050J1
85	J	112D856C5050J1
100	M	112D107C5050M1
150	P	112D157C5050P1
180	M	112D187C5050M1
260	P	112D267C5050P1
470	R	112D477C5050R1
580	Y	112D587C5050Y1
60 WORKING VOLTS D-C		
4	D	112D405C5060D1
75 WORKING VOLTS D-C		
3	D	112D305C5075D1
4	D	112D405C5075D1
12	G	112D126C5075G1
15	G	112D156C5075G1
30	J	112D306C5075J1
45	J	112D456C5075J1
70	M	112D706C5075M1
95	M	112D956C5075M1
100	P	112D107C5075P1
130	P	112D137C5075P1
250	R	112D257C5075R1
300	Y	112D307C5075Y1
100 WORKING VOLTS D-C		
2	D	112D205C3100D1
3	D	112D305C3100D1
8	G	112D805C3100G1
10	G	112D106C3100G1
25	J	112D256C3100J1
30	J	112D306C3100J1
50	M	112D506C3100M1
63	M	112D636C3100M1
70	P	112D706C3100P1
90	P	112D906C3100P1
170	R	112D177C3100R1
210	Y	112D217C3100Y1
150 WORKING VOLTS D-C		
1	D	112D105C3150D1
1.6	D	112D165C3150D1
4	G	112D405C3150G1
5.5	G	112D555C3150G1
13	J	112D136C3150J1
17	J	112D176C3150J1
25	M	112D256C3150M1
35	M	112D356C3150M1
36	P	112D366C3150P1
50	P	112D506C3150P1
90	R	112D906C3150R1
120	Y	112D127C3150Y1
200 WORKING VOLTS D-C		
3	G	112D305X0200G1
9	J	112D905X0200J1
19	M	112D196X0200M1
27	P	112D276X0200P1
55	R	112D556X0200R1
66	Y	112D666X0200Y1
250 WORKING VOLTS D-C		
2	G	112D205X0250G1
6	J	112D605X0250J1
13	M	112D136X0250M1
19	P	112D196X0250P1
37	R	112D376X0250R1
45	Y	112D456X0250Y1
300 WORKING VOLTS D-C		
1.8	G	112D185X0300G1
5	J	112D505X0300J1
11	M	112D116X0300M1
15	P	112D156X0300P1
28	R	112D286X0300R1

TYPE 113D
NON-POLARIZED ETCHED-FOIL

µF	Case	Catalog No.
15 WORKING VOLTS N.P.		
10	D	113D106C7015D1
25	D	113D256C7015D1
40	G	113D406C7015G1
90	G	113D906C7015G1
120	J	113D127C7015J1
250	J	113D257C7015J1
250	M	113D257C7015M1
350	P	113D357C7015P1
530	M	113D537C7015M1
760	P	113D767C7015P1
1400	R	113D148C7015R1
2000	Y	113D208C7015Y1
25 WORKING VOLTS N.P.		
5	D	113D505C7025D1
14	D	113D146C7025D1
20	G	113D206C7025G1
50	G	113D506C7025G1
70	J	113D706C7025J1
140	J	113D147C7025J1
140	M	113D147C7025M1
200	P	113D207C7025P1
290	M	113D297C7025M1
420	P	113D427C7025P1
800	R	113D807C7025R1
1100	Y	113D118C7025Y1
30 WORKING VOLTS N.P.		
4.5	D	113D455C7030D1
11	D	113D116C7030D1
18	G	113D186C7030G1
39	G	113D396C7030G1
60	J	113D606C7030J1
110	J	113D117C7030J1
120	M	113D127C7030M1
170	P	113D177C7030P1
220	M	113D227C7030M1
320	P	113D327C7030P1
600	R	113D607C7030R1
850	Y	113D857C7030Y1
50 WORKING VOLTS N.P.		
2.5	D	113D255C5050D1
4	D	113D405C5050D1
10	G	113D106C5050G1
14	G	113D146C5050G1
30	J	113D306C5050J1
40	J	113D406C5050J1
60	M	113D606C5050M1
80	P	113D806C5050P1
84	M	113D846C5050M1
120	P	113D127C5050P1
230	R	113D237C5050R1
310	Y	113D317C5050Y1
75 WORKING VOLTS N.P.		
1.5	D	113D155C5075D1
2	D	113D205C5075D1
6	G	113D605C5075G1
7	G	113D705C5075G1
15	J	113D156C5075J1
20	J	113D206C5075J1
35	M	113D356C5075M1
43	M	113D436C5075M1
50	P	113D506C5075P1
60	P	113D606C5075P1
110	R	113D117C5075R1
160	Y	113D167C5075Y1
100 WORKING VOLTS N.P.		
1	D	113D105C3100D1
1.4	D	113D145C3100D1
4	G	113D405C3100G1
5	G	113D505C3100G1
12	J	113D126C3100J1
14	J	113D146C3100J1
25	M	113D256C3100M1
29	M	113D296C3100M1
35	P	113D356C3100P1
41	P	113D416C3100P1
78	R	113D786C3100R1
110	Y	113D117C3100Y1
150 WORKING VOLTS N.P.		
0.5	D	113D504C3150D1
0.75	D	113D754C3150D1
2	G	113D205C3150G1
2.7	G	113D275C3150G1
6	J	113D605C3150J1
7.5	J	113D755C3150J1
12	M	113D126C3150M1
15	M	113D156C3150M1
18	P	113D186C3150P1
22	P	113D226C3150P1
43	R	113D436C3150R1
60	Y	113D606C3150Y1

Copyright 1971, Sprague Products Company

IND-REM-3-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

125 C FOIL TANTALEX® CAPACITORS

- Small size, electrically stable, long life. For data, see latest Engineering Bulletin 3602.
- For Cap. Tol. see 9th Character in Cat. No. 0 = ±20%, 8 = ±15%, 3 = +30, −15%, 5= +50, −15%, 7 = +75, −15%.
- Listed units have plastic wrap. For bare metal case units, end Cat. No. in "0" instead of "1".

Call Your Sprague Industrial Distributor For Quantity Prices

Size Code	D. x L.	Size Code	D. x L.
E	0.203 x 0.843	Q	0.390 x 2.968
H	0.296 x 1.125	S	0.483 x 2.968
K	0.390 x 1.656	Z	0.546 x 2.968
N	0.390 x 2.343		



TYPE 120D
POLARIZED PLAIN-FOIL STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
4.5	E	120D455X0010E1
18	H	120D186X0010H1
55	K	120D556X0010K1
110	N	120D117X0010N1
160	Q	120D167X0010Q1
260	S	120D267X0010S1
320	Z	120D327X0010Z1
15 WORKING VOLTS D-C		
3	E	120D305X0015E1
12	H	120D126X0015H1
35	K	120D356X0015K1
70	N	120D706X0015N1
100	Q	120D107X0015Q1
180	S	120D187X0015S1
210	Z	120D217X0015Z1
30 WORKING VOLTS D-C		
1.5	E	120D155X0030E1
6	H	120D605X0030H1
20	K	120D206X0030K1
40	N	120D406X0030N1
55	Q	120D556X0030Q1
100	S	120D107X0030S1
120	Z	120D127X0030Z1
50 WORKING VOLTS D-C		
1	E	120D105X0050E1
4	H	120D405X0050H1
14	K	120D146X0050K1
28	N	120D286X0050N1
40	Q	120D406X0050Q1
70	S	120D706X0050S1
88	Z	120D886X0050Z1
65 WORKING VOLTS D-C		
0.8	E	120D804X0065E1
3	H	120D305X0065H1
10	K	120D106X0065K1
20	N	120D206X0065N1
30	Q	120D306X0065Q1
57	S	120D576X0065S1
70	Z	120D706X0065Z1
100 WORKING VOLTS D-C		
0.5	E	120D504X0100E1
2	H	120D205X0100H1
7	K	120D705X0100K1
14	N	120D146X0100N1
20	Q	120D206X0100Q1
40	S	120D406X0100S1
47	Z	120D476X0100Z1
150 WORKING VOLTS D-C		
0.35	E	120D354X0150E1
1.5	H	120D155X0150H1
5	K	120D505X0150K1
10	N	120D106X0150N1
15	Q	120D156X0150Q1
25	S	120D256X0150S1
30	Z	120D306X0150Z1
200 WORKING VOLTS D-C		
0.25	E	120D254X8200E1
1	H	120D105X8200H1
3	K	120D305X8200K1
7	N	120D705X8200N1
10	Q	120D106X8200Q1
18	S	120D186X8200S1
250 WORKING VOLTS D-C		
0.2	E	120D204X8250E1
0.8	H	120D804X8250H1
2.5	K	120D255X8250K1
5	N	120D505X8250N1
8	Q	120D805X8250Q1
12	S	120D126X8250S1
300 WORKING VOLTS D-C		
0.15	E	120D154X8300E1
0.65	H	120D654X8300H1
2	K	120D205X8300K1
4	N	120D405X8300N1
6	Q	120D605X8300Q1

TYPE 121D
NON-POLARIZED PLAIN-FOIL STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
2.5	E	121D255X0010E1
10	H	121D106X0010H1
35	K	121D356X0010K1
70	N	121D706X0010N1
100	Q	121D107X0010Q1
160	S	121D167X0010S1
200	Z	121D207X0010Z1
15 WORKING VOLTS N.P.		
1.5	E	121D155X0015E1
6	H	121D605X0015H1
20	K	121D206X0015K1
40	N	121D406X0015N1
60	Q	121D606X0015Q1
100	S	121D107X0015S1
120	Z	121D127X0015Z1
30 WORKING VOLTS N.P.		
0.8	E	121D804X0030E1
3	H	121D305X0030H1
10	K	121D106X0030K1
20	N	121D206X0030N1
30	Q	121D306X0030Q1
50	S	121D506X0030S1
65	Z	121D656X0030Z1
50 WORKING VOLTS N.P.		
0.5	E	121D504X0050E1
2	H	121D205X0050H1
7	K	121D705X0050K1
14	N	121D146X0050N1
20	Q	121D206X0050Q1
40	S	121D406X0050S1
47	Z	121D476X0050Z1
65 WORKING VOLTS N.P.		
0.4	E	121D404X0065E1
1.5	H	121D155X0065H1
5	K	121D505X0065K1
10	N	121D106X0065N1
15	Q	121D156X0065Q1
30	S	121D306X0065S1
37	Z	121D376X0065Z1
100 WORKING VOLTS N.P.		
0.25	E	121D254X0100E1
1.0	H	121D105X0100H1
3.5	K	121D355X0100K1
7	N	121D705X0100N1
10	Q	121D106X0100Q1
20	S	121D206X0100S1
24	Z	121D246X0100Z1
150 WORKING VOLTS N.P.		
0.15	E	121D154X0150E1
0.75	H	121D754X0150H1
2.5	K	121D255X0150K1
5.0	N	121D505X0150N1
7.5	Q	121D755X0150Q1
13	S	121D136X0150S1
16	Z	121D166X0150Z1
200 WORKING VOLTS N.P.		
0.1	E	121D104X8200E1
0.5	H	121D504X8200H1
1.5	K	121D155X8200K1
3.5	N	121D355X8200N1
5.0	Q	121D505X8200Q1
9.5	S	121D955X8200S1
250 WORKING VOLTS N.P.		
0.1	E	121D104X8250E1
0.4	H	121D404X8250H1
1.2	K	121D125X8250K1
2.5	N	121D255X8250N1
4.0	Q	121D405X8250Q1

TYPE 122D
POLARIZED ETCHED-FOIL STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
15	E	122D156C7010E1
60	H	122D606C7010H1
200	K	122D207C7010K1
400	N	122D407C7010N1
580	Q	122D587C7010Q1
15 WORKING VOLTS D-C		
10	E	122D106C7015E1
40	H	122D406C7015H1
120	K	122D127C7015K1
250	N	122D257C7015N1
350	Q	122D357C7015Q1
30 WORKING VOLTS D-C		
4.5	E	122D455C5030E1
18	H	122D186C5030H1
60	K	122D606C5030K1
100	N	122D107C5030N1
150	Q	122D157C5030Q1
50 WORKING VOLTS D-C		
3	E	122D305C5050E1
12	H	122D126C5050H1
30	K	122D306C5050K1
70	N	122D706C5050N1
100	Q	122D107C5050Q1
65 WORKING VOLTS D-C		
2	E	122D205C3065E1
8	H	122D805C3065H1
25	K	122D256C3065K1
50	N	122D506C3065N1
70	Q	122D706C3065Q1
100 WORKING VOLTS D-C		
1	E	122D105C3100E1
4	H	122D405C3100H1
13	K	122D136C3100K1
25	N	122D256C3100N1
36	Q	122D366C3100Q1

TYPE 122D
POLARIZED ETCHED-FOIL MAXIMUM RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
36	E	122D366C7010E1
130	H	122D137C7010H1
370	K	122D377C7010K1
780	N	122D787C7010N1
1100	Q	122D118C7010Q1
2000	S	122D208C7010S1
2500	Z	122D258C7010Z1
15 WORKING VOLTS D-C		
23	E	122D236C7015E1
80	H	122D806C7015H1
240	K	122D247C7015K1
510	N	122D517C7015N1
720	Q	122D727C7015Q1
1300	S	122D138C7015S1
1600	Z	122D168C7015Z1
20 WORKING VOLTS D-C		
19	E	122D196C7020E1
67	H	122D676C7020H1
200	K	122D207C7020K1
420	N	122D427C7020N1
590	Q	122D597C7020Q1
1100	S	122D118C7020S1
1400	Z	122D148C7020Z1
30 WORKING VOLTS D-C		
8	E	122D805C5030E1
29	H	122D296C5030H1
85	K	122D856C5030K1
180	N	122D187C5030N1
260	Q	122D267C5030Q1
470	S	122D477C5030S1
580	Z	122D587C5030Z1
50 WORKING VOLTS D-C		
4	E	122D405C5050E1
15	H	122D156C5050H1
45	K	122D456C5050K1
95	N	122D956C5050N1
130	Q	122D137C5050Q1
250	S	122D257C5050S1
300	Z	122D307C5050Z1
65 WORKING VOLTS D-C		
3	E	122D305C3065E1
10	H	122D106C3065H1
30	K	122D306C3065K1
63	N	122D636C3065N1
90	Q	122D906C3065Q1
170	S	122D177C3065S1
210	Z	122D217C3065Z1
100 WORKING VOLTS D-C		
1.6	E	122D165C3100E1
5.5	H	122D555C3100H1
17	K	122D176C3100K1
35	N	122D356C3100N1
50	Q	122D506C3100Q1
90	S	122D906C3100S1
120	Z	122D127C3100Z1
150 WORKING VOLTS D-C		
0.75	E	122D754C3150E1
2.5	H	122D255C3150H1
7.5	K	122D755C3150K1
15	N	122D156C3150N1
22	Q	122D226C3150Q1
41	S	122D416C3150S1
51	Z	122D516C3150Z1
200 WORKING VOLTS D-C		
1.7	H	122D175X0200H1
5	K	122D505X0200K1
11	N	122D116X0200N1
15	Q	122D156X0200Q1
28	S	122D286X0200S1
250 WORKING VOLTS D-C		
1.3	H	122D135X0250H1
4	K	122D405X0250K1
8	N	122D805X0250N1
12	Q	122D126X0250Q1

TYPE 123D
NON-POLARIZED ETCHED-FOIL STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
10	E	123D106C7010E1
40	H	123D406C7010H1
120	K	123D127C7010K1
250	N	123D257C7010N1
350	Q	123D357C7010Q1
15 WORKING VOLTS N.P.		
5	E	123D505C7015E1
20	H	123D206C7015H1
70	K	123D706C7015K1
140	N	123D147C7015N1
200	Q	123D207C7015Q1
30 WORKING VOLTS N.P.		
2.5	E	123D255C5030E1
10	H	123D106C5030H1
30	K	123D306C5030K1
60	N	123D606C5030N1
80	Q	123D806C5030Q1
50 WORKING VOLTS N.P.		
1.5	E	123D155C5050E1
6	H	123D605C5050H1
15	K	123D156C5050K1
35	N	123D356C5050N1
50	Q	123D506C5050Q1
65 WORKING VOLTS N.P.		
1	E	123D105C3065E1
4	H	123D405C3065H1
12	K	123D126C3065K1
25	N	123D256C3065N1
35	Q	123D356C3065Q1
100 WORKING VOLTS N.P.		
0.5	E	123D504C3100E1
2	H	123D205C3100H1
6	K	123D605C3100K1
12	N	123D126C3100N1
18	Q	123D186C3100Q1

TYPE 123D
NON-POLARIZED ETCHED-FOIL MAXIMUM RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
25	E	123D256C7010E1
90	H	123D906C7010H1
250	K	123D257C7010K1
530	N	123D537C7010N1
760	Q	123D767C7010Q1
1400	S	123D148C7010S1
2000	Z	123D208C7010Z1
15 WORKING VOLTS N.P.		
14	E	123D146C7015E1
50	H	123D506C7015H1
140	K	123D147C7015K1
290	N	123D297C7015N1
420	Q	123D427C7015Q1
800	S	123D807C7015S1
1100	Z	123D118C7015Z1
20 WORKING VOLTS N.P.		
11	E	123D116C7020E1
39	H	123D396C7020H1
110	K	123D117C7020K1
230	N	123D237C7020N1
320	Q	123D327C7020Q1
600	S	123D607C7020S1
850	Z	123D857C7020Z1
30 WORKING VOLTS N.P.		
4	E	123D405C5030E1
14	H	123D146C5030H1
40	K	123D406C5030K1
84	N	123D846C5030N1
120	Q	123D127C5030Q1
230	S	123D237C5030S1
310	Z	123D317C5030Z1
50 WORKING VOLTS N.P.		
2	E	123D205C5050E1
7	H	123D705C5050H1
20	K	123D206C5050K1
43	N	123D436C5050N1
60	Q	123D606C5050Q1
110	S	123D117C5050S1
160	Z	123D167C5050Z1
65 WORKING VOLTS N.P.		
1.4	E	123D145C3065E1
5	H	123D505C3065H1
14	K	123D146C3065K1
29	N	123D296C3065N1
41	Q	123D416C3065Q1
78	S	123D786C3065S1
110	Z	123D117C3065Z1
100 WORKING VOLTS N.P.		
0.75	E	123D754C3100E1
2.7	H	123D275C3100H1
7.5	K	123D755C3100K1
15	N	123D156C3100N1
22	Q	123D226C3100Q1
43	S	123D436C3100S1
60	Z	123D606C3100Z1

Copyright 1971, Sprague Products Company

IND-REM-4-EBAP

Sizes subject to change without notice

© United Technical Publications

SPRAGUE CAPACITORS

MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL24 & CL25

- For −55C to +85C Operation up to 150 Volts in Military and Industrial Electronic Equipment
- Low Leakage Current and Stable Temperature Coefficient Makes Possible Its Use in Many Circuits Where Aluminum Foil Designs Are Undesirable
- The Electrolyte System Used Assures Long Operating and Shelf Life, excellent Low-temperature Performance, Chemical Stability and Inertness
- Dimensions Listed Are For Bare Metal-Case. For Insulated Case Add 1/64" to Diameter and 1/8" to Length
- MIL Version of Sprague Type 112D
- Type CL24 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve Is Desired, Order Type CL25

Call Your Sprague Industrial Distributor For Current Quantity Prices

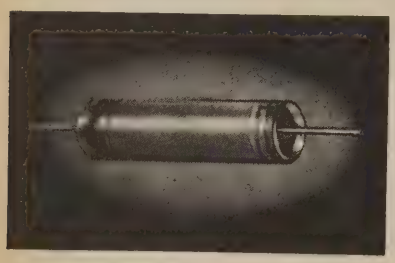


DIMENSIONS

Code	D. x L.	Code	D. x L.
D	13/64 x 3/4	M	25/64 x 2 3/16
G	19/64 x 15/16	P	25/64 x 2 13/16
J	25/64 x 1 1/2		

µF	WVDC	Size Code	Military Designation*	
15	15	D	CL24BE150UP3	CL25BE150UP3
60	15	G	CL24BE600UP3	CL25BE600UP3
200	15	J	CL24BE201UP3	CL25BE201UP3
400	15	M	CL24BE401UP3	CL25BE401UP3
580	15	P	CL24BE581UP3	CL25BE581UP3
10	25	D	CL24BG100UP3	CL25BG100UP3
40	25	G	CL24BG400UP3	CL25BG400UP3
120	25	J	CL24BG121UP3	CL25BG121UP3
250	25	M	CL24BG251UP3	CL25BG251UP3
350	25	P	CL24BG351UP3	CL25BG351UP3
8	30	D	CL24BH080UP3	CL25BH080UP3
32	30	G	CL24BH320UP3	CL25BH320UP3
110	30	J	CL24BH111UP3	CL25BH111UP3
220	30	M	CL24BH221UP3	CL25BH221UP3
300	30	P	CL24BH301UP3	CL25BH301UP3
4.5	50	D	CL24BJ4R5TP3	CL25BJ4R5TP3
18	50	G	CL24BJ180TP3	CL25BJ180TP3
60	50	J	CL24BJ600TP3	CL25BJ600TP3
100	50	M	CL24BJ101TP3	CL25BJ101TP3
150	50	P	CL24BJ151TP3	CL25BJ151TP3
3	75	D	CL24BL030TP3	CL25BL030TP3
12	75	G	CL24BL120TP3	CL25BL120TP3
30	75	J	CL24BL300TP3	CL25BL300TP3
70	75	M	CL24BL700TP3	CL25BL700TP3
100	75	P	CL24BL101TP3	CL25BL101TP3
2	100	D	CL24BN020SP3	CL25BN020SP3
8	100	G	CL24BN080SP3	CL25BN080SP3
25	100	J	CL24BN250SP3	CL25BN250SP3
50	100	M	CL24BN500SP3	CL25BN500SP3
70	100	P	CL24BN700SP3	CL25BN700SP3
1	150	D	CL24BQ010SP3	CL25BQ010SP3
4	150	G	CL24BQ040SP3	CL25BQ040SP3
13	150	J	CL24BQ130SP3	CL25BQ130SP3
25	150	M	CL24BQ250SP3	CL25BQ250SP3
36	150	P	CL24BQ360SP3	CL25BQ360SP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.



MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL34 and CL35

- For use in military and industrial electronic equipment. Designed to operate over the temperature range of −55C to +85C
- Long operation and shelf life, excellent low temperature performance, and optimum electrical characteristics
- For use in circuits where aluminum foil units are unsatisfactory
- Low leakage current and good temperature coefficient
- Type CL34 is a bare metal case unit. If an outer insulating sleeve is desired, order Type CL35
- MIL version of Sprague Type 110D

Call Your Sprague Industrial Distributor For Current Quantity Prices

DIMENSIONS

Code	D. x L.	Code	D. x L.
D	3/16 x 11/16	M	3/8 x 2 1/8
G	9/32 x 7/8	P	3/8 x 2 3/4
J	3/8 x 1 7/16		

µF	WVDC	Size Code	Military Designation*	
10	3	D	CL34BA100MP3	CL35BA100MP3
50	3	G	CL34BA500MP3	CL35BA500MP3
8	6	D	CL34BB080MP3	CL35BB080MP3
30	6	G	CL34BB300MP3	CL35BB300MP3
100	6	J	CL34BB101MP3	CL35BB101MP3
200	6	M	CL34BB201MP3	CL35BB201MP3
300	6	P	CL34BB301MP3	CL35BB301MP3
6	10	D	CL34BD060MP3	CL35BD060MP3
25	10	G	CL34BD250MP3	CL35BD250MP3
80	10	J	CL34BD800MP3	CL35BD800MP3
160	10	M	CL34BD161MP3	CL35BD161MP3
220	10	P	CL34BD221MP3	CL35BD221MP3
4.5	15	D	CL34BE4R5MP3	CL35BE4R5MP3
10	15	G	CL34BE100MP3	CL35BE100MP3
18	15	G	CL34BE180MP3	CL35BE180MP3
55	15	J	CL34BE550MP3	CL35BE550MP3
110	15	M	CL34BE111MP3	CL35BE111MP3
160	15	P	CL34BE161MP3	CL35BE161MP3
2.5	30	D	CL34BH2R5MP3	CL35BH2R2MP3
30	30	J	CL34BH300MP3	CL35BH300MP3
60	30	M	CL34BH600MP3	CL35BH600MP3
85	30	P	CL34BH850MP3	CL35BH850MP3
1.5	50	D	CL34BJ1R5MP3	CL35BJ1R5MP3
6	50	G	CL34BJ060MP3	CL35BJ060MP3
20	50	J	CL34BJ200MP3	CL35BJ200MP3
40	50	M	CL34BJ400MP3	CL35BJ400MP3
55	50	P	CL34BJ550MP3	CL35BJ550MP3
1	75	D	CL34BL010MP3	CL35BL010MP3
4	75	G	CL34BL040MP3	CL35BL040MP3
14	75	J	CL34BL140MP3	CL35BL140MP3
28	75	M	CL34BL280MP3	CL35BL280MP3
40	75	P	CL34BL400MP3	CL35BL400MP3
0.8	100	D	CL34BN0R8MP3	CL35BN0R8MP3
3	100	G	CL34BN030MP3	CL35BN030MP3
10	100	J	CL34BN100MP3	CL35BN100MP3
20	100	M	CL34BN200MP3	CL35BN200MP3
30	100	P	CL34BN300MP3	CL35BN300MP3
0.5	150	D	CL34BQ0R5MP3	CL35BQ0R5MP3
2	150	G	CL34BQ020MP3	CL35BQ020MP3
4	150	J	CL34BQ040MP3	CL35BQ040MP3
7	150	J	CL34BQ070MP3	CL35BQ070MP3
8	150	M	CL34BQ080MP3	CL35BQ080MP3
12	150	M	CL34BQ120MP3	CL35BQ120MP3
14	150	M	CL34BQ140MP3	CL35BQ140MP3
20	150	P	CL34BQ200MP3	CL35BQ200MP3
.35	200	D	CL34BRR35LP3	CL35BRR35LP3
1.5	200	G	CL34BR1R5LP3	CL35BR1R5LP3
5	200	J	CL34BR050LP3	CL35BR050LP3
10	200	M	CL34BR100LP3	CL35BR100LP3
15	200	P	CL34BR150LP3	CL35BR150LP3
.30	250	D	CL34BSR30LP3	CL35BSR30LP3
1.2	250	G	CL34BS1R2LP3	CL35BS1R2LP3
4	250	J	CL34BS040LP3	CL35BS040LP3
8	250	M	CL34BS080LP3	CL35BS080LP3
12	250	P	CL34BS120LP3	CL35BS120LP3
1	300	G	CL34BX010LP3	CL35BX010LP3
3	300	J	CL34BX030LP3	CL35BX030LP3
7	300	M	CL34BX070LP3	CL35BX070LP3
10	300	P	CL34BX100LP3	CL35BX100LP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.

Copyright 1971, Sprague Products Company

IND-REM-8-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

MIL-C-3965 TUBULAR FOIL TANTALUM ELECTROLYTICS

TYPES CL20, CL21, CL22, CL23, CL30, CL31, CL32, and CL33

- Meet Requirements of Military Specification MIL-C-3965
- Small Electrically Stable Foil Tantalums, Long, Reliable Life
- Available in Industrial Equivalents as Types 120D, 121D, 122D, 123D
- Temperature Rating 125C Types Marked (★) Have Insulating Sleeves. All Others are Bare Case
- Capacitance Tolerance
  L = +15, —15% T = +50, —15%
  M = +20, —20% U = +75, —15%
  S = +30, —15%
- Call Your Sprague Industrial Distributor for Current Quantity Prices

SIZE CODE (Diam x Length)

E 13/64 x 3/4	N 25/64 x 2 1/4
H 19/64 x 1 1/32	Q 25/64 x 2 7/8
K 25/64 x 1 9/16	



µF	Size Code	MIL Type Number to MIL-C-3965/17C	MIL Type Number to MIL-C-3965/17B*
TYPE CL20 POLARIZED ETCHED FOIL			
10 WVDC			
15	E	CL20BE150UPE	CL20CD150UP3
60	H	CL20BE600UPE	CL20CD600UP3
200	K	CL20BE201UPE	CL20CD201UP3
400	N	CL20BE401UPE	CL20CD401UP3
580	Q	CL20BE581UPE	CL20CD581UP3
15 WVDC			
10	E	CL20BG100UPE	CL20CE100UP3
40	H	CL20BG400UPE	CL20CE400UP3
120	K	CL20BG121UPE	CL20CE121UP3
250	N	CL20BG251UPE	CL20CE251UP3
350	Q	CL20BG351UPE	CL20CE351UP3
20 WVDC			
8	E	CL20BH080UPE	———
32	H	CL20BH320UPE	———
110	K	CL20BH111UPE	———
220	N	CL20BH221UPE	———
300	Q	CL20BH301UPE	———
30 WVDC			
4.5	E	CL20BJ4R5TPE	CL20CH4R5TP3
18	H	CL20BJ180TPE	CL20CH180TP3
60	K	CL20BJ600TPE	CL20CH600TP3
100	N	CL20BJ101TPE	CL20CH101TP3
150	Q	CL20BJ151TPE	CL20CH151TP3
50 WVDC			
3	E	CL20BL030TPE	CL20CJ030TP3
12	H	CL20BL120TPE	CL20CJ120TP3
30	K	CL20BL300TPE	CL20CJ300TP3
70	N	CL20BL700TPE	CL20CJ700TP3
100	Q	CL20BL101TPE	CL20CJ101TP3
65 WVDC			
2	E	CL20BN020SPE	CL20CK020TP3
8	H	CL20BN080SPE	CL20CK080TP3
25	K	CL20BN250SPE	CL20CK250TP3
50	N	CL20BN500SPE	CL20CK500TP3
70	Q	CL20BN700SPE	CL20CK700TP3
100 WVDC			
1	E	CL20BQ010SPE	CL20CN010SP3
4	H	CL20BQ040SPE	CL20CN040SP3
13	K	CL20BQ130SPE	CL20CN130SP3
25	N	CL20BQ250SPE	CL20CN250SP3
36	Q	CL20BQ360SPE	CL20CN360SP3
TYPE CL21★ POLARIZED ETCHED FOIL			
10 WVDC			
15	E	CL21BE150UPE	CL21CD150UP3
60	H	CL21BE600UPE	CL21CD600UP3
200	K	CL21BE201UPE	CL21CD201UP3
400	N	CL21BE401UPE	CL21CD401UP3
580	Q	CL21BE581UPE	CL21CD581UP3
15 WVDC			
10	E	CL21BG100UPE	CL21CE100UP3
40	H	CL21BG400UPE	CL21CE400UP3
120	K	CL21BG121UPE	CL21CE121UP3
250	N	CL21BG251UPE	CL21CE251UP3
350	Q	CL21BG351UPE	CL21CE351UP3
20 WVDC			
8	E	CL21BH080UPE	———
32	H	CL21BH320UPE	———
110	K	CL21BH111UPE	———
220	N	CL21BH221UPE	———
300	Q	CL21BH301UPE	———

µF	Size Code	MIL Type Number to MIL-C-3965/17C	MIL Type Number to MIL-C-3965/17B*
30 WVDC			
4.5	E	CL21BJ4R5TPE	CL21CH4R5TP3
18	H	CL21BJ180TPE	CL21CH180TP3
60	K	CL21BJ600TPE	CL21CH600TP3
100	N	CL21BJ101TPE	CL21CH101TP3
150	Q	CL21BJ151TPE	CL21CH151TP3
50 WVDC			
3	E	CL21BL030TPE	CL21CJ030TP3
12	H	CL21BL120TPE	CL21CJ120TP3
30	K	CL21BL300TPE	CL21CJ300TP3
70	N	CL21BL700TPE	CL21CJ700TP3
100	Q	CL21BL101TPE	CL21CJ101TP3
65 WVDC			
2	E	CL21BN020SPE	CL21CK020TP3
8	H	CL21BN080SPE	CL21CK080TP3
25	K	CL21BN250SPE	CL21CK250TP3
50	N	CL21BN500SPE	CL21CK500TP3
70	Q	CL21BN700SPE	CL21CK700TP3
100 WVDC			
1	E	CL21BQ010SPE	CL21CN010SP3
4	H	CL21BQ040SPE	CL21CN040SP3
13	K	CL21BQ130SPE	CL21CN130SP3
25	N	CL21BQ250SPE	CL21CN250SP3
36	Q	CL21BQ360SPE	CL21CN360SP3
TYPE CL22 NON-POLARIZED ETCHED FOIL (MIL-C-3965/18C) (MIL-C-3965/18B)			
10 WVDC			
10	E	CL22BE100UNE	CL22CD100UN3
40	H	CL22BE400UNE	CL22CD400UN3
120	K	CL22BE121UNE	CL22CD121UN3
250	N	CL22BE251UNE	CL22CD251UN3
350	Q	CL22BE351UNE	CL22CD351UN3
15 WVDC			
5	E	CL22BG050UNE	CL22CE050UN3
20	H	CL22BG200UNE	CL22CE200UN3
70	K	CL22BG700UNE	CL22CE700UN3
140	N	CL22BG141UNE	CL22CE141UN3
200	Q	CL22BG201UNE	CL22CE201UN3
20 WVDC			
4.5	E	CL22BH4R5UNE	———
18	H	CL22BH180UNE	———
60	K	CL22BH600UNE	———
120	N	CL22BH121UNE	———
170	Q	CL22BH171UNE	———
30 WVDC			
2.5	E	CL22BJ2R5TNE	CL22CH2R5TN3
10	H	CL22BJ100TNE	CL22CH100TN3
30	K	CL22BJ300TNE	CL22CH300TN3
60	N	CL22BJ600TNE	CL22CH600TN3
80	Q	CL22BJ800TNE	CL22CH800TN3
50 WVDC			
1.5	E	CL22BL1R5TNE	CL22CJ1R5TN3
6	H	CL22BL060TNE	CL22CJ060TN3
15	K	CL22BL150TNE	CL22CJ150TN3
35	N	CL22BL350TNE	CL22CJ350TN3
50	Q	CL22BL500TNE	CL22CJ500TN3
65 WVDC			
1	E	CL22BN010TNE	CL22CK010TN3
4	H	CL22BN040TNE	CL22CK040TN3
12	K	CL22BN120TNE	CL22CK120TN3
25	N	CL22BN250TNE	CL22CK250TN3
35	Q	CL22BN350TNE	CL22CK350TN3
100 WVDC			
.5	E	CL22BQ0R5SNE	CL22CN0R5SN3
2	H	CL22BQ020SNE	CL22CN020SN3
6	K	CL22BQ060SNE	CL22CN060SN3
12	N	CL22BQ120SNE	CL22CN120SN3
18	Q	CL22BQ180SNE	CL22CN180SN3

µF	Size Code	MIL Type Number to MIL-C-3965/18C	MIL Type Number to MIL-C-3965/18B*
TYPE CL23★ NON-POLARIZED ETCHED FOIL			
10 WVDC			
10	E	CL23BE100UNE	CL23CD100UN3
40	H	CL23BE400UNE	CL23CD400UN3
120	K	CL23BE121UNE	CL23CD121UN3
250	N	CL23BE251UNE	CL23CD251UN3
350	Q	CL23BE351UNE	CL23CD351UN3
15 WVDC			
5	E	CL23BG050UNE	CL23CE050UN3
20	H	CL23BG200UNE	CL23CE200UN3
70	K	CL23BG700UNE	CL23CE700UN3
140	N	CL23BG141UNE	CL23CE141UN3
200	Q	CL23BG201UNE	CL23CE201UN3
20 WVDC			
4.5	E	CL23BH4R5UNE	———
18	H	CL23BH180UNE	———
60	K	CL23BH600UNE	———
120	N	CL23BH121UNE	———
170	Q	CL23BH171UNE	———
30 WVDC			
2.5	E	CL23BJ2R5TNE	CL23CH2R5TN3
10	H	CL23BJ100TNE	CL23CH100TN3
30	K	CL23BJ300TNE	CL23CH300TN3
60	N	CL23BJ600TNE	CL23CH600TN3
80	Q	CL23BJ800TNE	CL23CH800TN3
50 WVDC			
1.5	E	CL23BL1R5TNE	CL23CJ1R5TN3
6	H	CL23BL060TNE	CL23CJ060TN3
15	K	CL23BL150TNE	CL23CJ150TN3
35	N	CL23BL350TNE	CL23CJ350TN3
50	Q	CL23BL500TNE	CL23CJ500TN3
65 WVDC			
1	E	CL23BN010TNE	CL23CK010TN3
4	H	CL23BN040TNE	CL23CK040TN3
12	K	CL23BN120TNE	CL23CK120TN3
25	N	CL23BN250TNE	CL23CK250TN3
35	Q	CL23BN350TNE	CL23CK350TN3
100 WVDC			
.5	E	CL23BQ0R5SNE	CL23CN0R5SN3
2	H	CL23BQ020SNE	CL23CN020SN3
6	K	CL23BQ060SNE	CL23CN060SN3
12	N	CL23BQ120SNE	CL23CN120SN3
18	Q	CL23BQ180SNE	CL23CN180SN3
TYPE CL30 POLARIZED PLAIN FOIL (MIL-C-3965/15B) (MIL-C-3965/15A)			
2 WVDC			
10	E	CL30BA100MPE	———
50	H	CL30BA500MPE	———
4 WVDC			
8	E	CL30BB080MPE	———
30	H	CL30BB300MPE	———
100	K	CL30BB101MPE	———
200	N	CL30BB201MPE	———
300	Q	CL30BB301MPE	———
7 WVDC			
6	E	CL30BD060MPE	———
25	H	CL30BD250MPE	———
80	K	CL30BD800MPE	———
160	N	CL30BD161MPE	———
220	Q	CL30BD221MPE	———
10 WVDC			
4.5	E	CL30BE4R5MPE	CL30CD4R5MP3
10	H	CL30BE100MPE	———
18	H	CL30BE180MPE	CL30CD180MP3
55	K	CL30BE550MPE	CL30CD550MP3
110	N	CL30BE111MPE	CL30CD111MP3
160	Q	CL30BE161MPE	CL30CD161MP3

µF	Size Code	MIL Type Number to MIL-C-3965/15B	MIL Type Number to MIL-C-3965/15A*
15 WVDC			
3	E	CL30BG030MPE	CL30CE030MP3
12	H	CL30BG120MPE	CL30CE120MP3
35	K	CL30BG350MPE	CL30CE350MP3
70	N	CL30BG700MPE	CL30CE700MP3
100	Q	CL30BG101MPE	CL30CE101MP3
20 WVDC			
2.5	E	CL30BH2R5MPE	———
10	H	CL30BH100MPE	———
30	K	CL30BH300MPE	———
60	N	CL30BH600MPE	———
85	Q	CL30BH850MPE	———
30 WVDC			
1.5	E	CL30BJ1R5MPE	CL30CH1R5MP3
6	H	CL30BJ060MPE	CL30CH060MP3
20	K	CL30BJ200MPE	CL30CH200MP3
40	N	CL30BJ400MPE	CL30CH400MP3
55	Q	CL30BJ550MPE	CL30CH550MP3
50 WVDC			
1	E	CL30BL010MPE	CL30CJ010MP3
4	H	CL30BL040MPE	CL30CJ040MP3
14	K	CL30BL140MPE	CL30CJ140MP3
28	N	CL30BL280MPE	CL30CJ280MP3
40	Q	CL30BL400MPE	CL30CJ400MP3
65 WVDC			
.8	E	CL30BN0R8MPE	CL30CK0R8MP3
3	H	CL30BN030MPE	CL30CK030MP3
10	K	CL30BN100MPE	CL30CK100MP3
20	N	CL30BN200MPE	CL30CK200MP3
30	Q	CL30BN300MPE	CL30CK300MP3
100 WVDC			
.5	E	CL30BQ0R5MPE	CL30CN0R5MP3
2	H	CL30BQ020MPE	CL30CN020MP3
4	K	CL30BQ040MPE	———
7	K	CL30BQ070MPE	CL30CN070MP3
8	N	CL30BQ080MPE	———
12	N	CL30BQ120MPE	———
14	N	CL30BQ140MPE	CL30CN140MP3
20	Q	CL30BQ200MPE	CL30CN200MP3
150 WVDC			
.35	E	CL30BZR35LPE	CL30CQR35MP3
1.5	H	CL30BZ1R5LPE	CL30CQ1R5MP3
5	K	CL30BZ050LPE	CL30CQ050MP3
10	N	CL30BZ100LPE	CL30CQ100MP3
15	Q	CL30BZ150LPE	CL30CQ150MP3
165 WVDC			
.3	E	CL30B0R30LPE	———
1.2	H	CL30B01R2LPE	———
4	K	CL30B0040LPE	———
8	N	CL30B0080LPE	———
12	Q	CL30B0120LPE	———
200 WVDC			
.27	E	CL30BXR27LPE	———
1	H	CL30BX010LPE	———
3.3	K	CL30BX3R3LPE	———
6.8	N	CL30BX6R8LPE	———
10	Q	CL30BX100LPE	———
250 WVDC			
.22	E	CL30BYR22LPE	———
.82	H	CL30BYR82LPE	———
2.7	K	CL30BY2R7LPE	———
5.6	N	CL30BY5R6LPE	———
8.2	Q	CL30BY8R2LPE	———
300 WVDC			
.15	E	CL30BUR15LPE	———
.56	H	CL30BUR56LPE	———
1.8	K	CL30BU1R8LPE	———
3.9	N	CL30BU3R9LPE	———
5.6	Q	CL30BU5R6LPE	———

*Available until present stocks are exhausted.

Copyright 1971, Sprague Products Company

IND-REM-8A-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

MIL-C-3965 FOIL TANTALUM ELECTROLYTICS, continued

TYPE CL31★ POLARIZED PLAIN FOIL

µF	Size Code	MIL-Type Number to MIL-C-3965/15B	MIL-Type Number to MIL-C-3965/15A*
2 WVDC			
10	E	CL31BA100MPE	———
50	H	CL31BA500MPE	———
4 WVDC			
8	E	CL31BB080MPE	———
30	H	CL31BB300MPE	———
100	K	CL31BB101MPE	———
200	N	CL31BB201MPE	———
300	Q	CL31BB301MPE	———
7 WVDC			
6	E	CL31BD060MPE	———
25	H	CL31BD250MPE	———
80	K	CL31BD800MPE	———
160	N	CL31BD161MPE	———
220	Q	CL31BD221MPE	———
10 WVDC			
4.5	E	CL31BE4R5MPE	CL31CD4R5MP3
10	H	CL31BE100MPE	———
18	H	CL31BE180MPE	CL31CD180MP3
55	K	CL31BE550MPE	CL31CD550MP3
110	N	CL31BE111MPE	CL31CD111MP3
160	Q	CL31BE161MPE	CL31CD161MP3
15 WVDC			
3	E	CL31BG030MPE	CL31CE030MP3
12	H	CL31BG120MPE	CL31CE120MP3
35	K	CL31BG350MPE	CL31CE350MP3
70	N	CL31BG700MPE	CL31CE700MP3
100	Q	CL31BG101MPE	CL31CE101MP3
20 WVDC			
2.5	E	CL31BH2R5MPE	———
10	H	CL31BH100MPE	———
30	K	CL31BH300MPE	———
60	N	CL31BH600MPE	———
85	Q	CL31BH850MPE	———
30 WVDC			
1.5	E	CL31BJ1R5MPE	CL31CH1R5MP3
6	H	CL31BJ060MPE	CL31CH060MP3
20	K	CL31BJ200MPE	CL31CH200MP3
40	N	CL31BJ400MPE	CL31CH400MP3
55	Q	CL31BJ550MPE	CL31CH550MP3
50 WVDC			
1	E	CL31BL010MPE	CL31CJ010MP3
4	H	CL31BL040MPE	CL31CJ040MP3
14	K	CL31BL140MPE	CL31CJ140MP3
28	N	CL31BL280MPE	CL31CJ280MP3
40	Q	CL31BL400MPE	CL31CJ400MP3
65 WVDC			
.8	E	CL31BN0R8MPE	CL31CK0R8MP3
3	H	CL31BN030MPE	CL31CK030MP3
10	K	CL31BN100MPE	CL31CK100MP3
20	N	CL31BN200MPE	CL31CK200MP3
30	Q	CL31BN300MPE	CL31CK300MP3
100 WVDC			
.5	E	CL31BQ0R5MPE	CL31CN0R5MP3
2	H	CL31BQ020MPE	CL31CN020MP3
4	K	CL31BQ040MPE	———
7	K	CL31BQ070MPE	CL31CN070MP3
8	N	CL31BQ080MPE	———
12	N	CL31BQ120MPE	———
14	N	CL31BQ140MPE	CL31CN140MP3
20	Q	CL31BQ200MPE	CL31CN200MP3
150 WVDC			
.35	E	CL31BZR35LPE	CL31CQR35MP3
1.5	H	CL31BZ1R5LPE	CL31CQ1R5MP3
5	K	CL31BZ050LPE	CL31CQ050MP3
10	N	CL31BZ100LPE	CL31CQ100MP3
15	Q	CL31BZ150LPE	CL31CQ150MP3
165 WVDC			
.3	E	CL31BOR30LPE	———
1.2	H	CL31BO1R2LPE	———
4	K	CL31BO040LPE	———
8	N	CL31BO080LPE	———
12	Q	CL31BO120LPE	———
200 WVDC			
.27	E	CL31BXR27LPE	———
1	H	CL31BX010LPE	———
3.3	K	CL31BX3R3LPE	———
6.8	N	CL31BX6R8LPE	———
10	Q	CL31BX100LPE	———
250 WVDC			
.22	E	CL31BYR22LPE	———
.82	H	CL31BYR82LPE	———
2.7	K	CL31BY2R7LPE	———
5.6	N	CL31BY5R6LPE	———
8.2	Q	CL31BY8R2LPE	———
300 WVDC			
.15	E	CL31BUR15LPE	———
.56	H	CL31BUR56LPE	———
1.8	K	CL31BU1R8LPE	———
3.9	N	CL31BU3R9LPE	———
5.6	Q	CL31BU5R6LPE	———

TYPE CL32 NON-POLARIZED PLAIN FOIL

µF	Size Code	MIL-Type Number (MIL-C-3965/16B)	MIL-Type Number (MIL-C-3965/16A)
2 WVDC			
10	E	CL32BA100MNE	———
45	H	CL32BA450MNE	———
140	K	CL32BA141MNE	———
280	N	CL32BA281MNE	———
400	Q	CL32BA401MNE	———
4 WVDC			
7	E	CL32BB070MNE	———
25	H	CL32BB250MNE	———
85	K	CL32BB850MNE	———
170	N	CL32BB171MNE	———
250	Q	CL32BB251MNE	———
7 WVDC			
4	E	CL32BD040MNE	———
16	H	CL32BD160MNE	———
55	K	CL32BD550MNE	———
110	N	CL32BD111MNE	———
150	Q	CL32BD151MNE	———
10 WVDC			
2.5	E	CL32BE2R5MNE	CL32CD2R5MN3
10	H	CL32BE100MNE	CL32CD100MN3
35	K	CL32BE350MNE	CL32CD350MN3
70	N	CL32BE700MNE	CL32CD700MN3
100	Q	CL32BE101MNE	CL32CD101MN3
15 WVDC			
1.5	E	CL32BG1R5MNE	CL32CE1R5MN3
6	H	CL32BG060MNE	CL32CE060MN3
20	K	CL32BG200MNE	CL32CE200MN3
40	N	CL32BG400MNE	CL32CE400MN3
60	Q	CL32BG600MNE	CL32CE600MN3
20 WVDC			
1.4	E	CL32BH1R4MNE	———
5.5	H	CL32BH5R5MNE	———
18	K	CL32BH180MNE	———
36	N	CL32BH360MNE	———
45	Q	CL32BH450MNE	———
30 WVDC			
.8	E	CL32BJ0R8MNE	CL32CH0R8MN3
3	H	CL32BJ030MNE	CL32CH030MN3
10	K	CL32BJ100MNE	CL32CH100MN3
20	N	CL32BJ200MNE	CL32CH200MN3
30	Q	CL32BJ300MNE	CL32CH300MN3
50 WVDC			
.5	E	CL32BL0R5MNE	CL32CJ0R5MN3
2	H	CL32BL020MNE	CL32CJ020MN3
7	K	CL32BL070MNE	CL32CJ070MN3
14	N	CL32BL140MNE	CL32CJ140MN3
20	Q	CL32BL200MNE	CL32CJ200MN3
65 WVDC			
.4	E	CL32BN0R4MNE	CL32CK0R4MN3
1.5	H	CL32BN1R5MNE	CL32CK1R5MN3
5	K	CL42BN050MNE	CL32CK050MN3
10	N	CL32BN100MNE	CL32CK100MN3
15	Q	CL32BN150MNE	CL32CK150MN3
100 WVDC			
.25	E	CL32BQR25MNE	CL32CNR25MN3
1	H	CL32BQ010MNE	CL32CN010MN3
3.5	K	CL32BQ3R5MNE	CL32CN3R5MN3
7	N	CL32BQ070MNE	CL32CN070MN3
10	Q	CL32BQ100MNE	CL32CN100MN3
150 WVDC			
.15	E	CL32BZR15LNE	CL32CQR15MN3
.75	H	CL32BZR75LNE	CL32CQR75MN3
2.5	K	CL32BZ2R5LNE	CL32CQ2R5MN3
5	N	CL32BZ050LNE	CL32CQ050MN3
7.5	Q	CL32BZ7R5LNE	CL32CQ7R5MN3
165 WVDC			
.15	E	CL32BO815LNE	———
.6	H	CL32BO0R6LNE	———
2	K	CL32BO020LNE	———
4	N	CL32BO040LNE	———
6	Q	CL32BO060LNE	———
200 WVDC			
.12	E	CL32BXR12LNE	———
.47	H	CL32BXR47LNE	———
1.5	K	CL32BX1R5LNE	———
3.3	N	CL32BX3R3LNE	———
4.7	Q	CL32BX4R7LNE	———
250 WVDC			
.1	E	CL32BY0R1LNE	———
.39	H	CL32BYR39LNE	———
1.2	K	CL32BY1R2LNE	———
2.2	N	CL32BY2R2LNE	———
3.9	Q	CL32BY3R9LNE	———

TYPE CL33★ NON-POLARIZED PLAIN FOIL

µF	Size Code	MIL-Type Number to MIL-C-3965/16B	MIL-Type Number to MIL-C-3965/16A*
2 WVDC			
10	E	CL33BA100MNE	———
45	H	CL33BA450MNE	———
140	K	CL33BA141MNE	———
280	N	CL33BA281MNE	———
400	Q	CL33BA401MNE	———
4 WVDC			
7	E	CL33BB070MNE	———
25	H	CL33BB250MNE	———
85	K	CL33BB850MNE	———
170	N	CL33BB171MNE	———
250	Q	CL33BB251MNE	———
7 WVDC			
4	E	CL33BD040MNE	———
16	H	CL33BD160MNE	———
55	K	CL33BD550MNE	———
110	N	CL33BD111MNE	———
150	Q	CL33BD151MNE	———
10 WVDC			
2.5	E	CL33BE2R5MNE	CL33CD2R5MN3
10	H	CL33BE100MNE	CL33CD100MN3
35	K	CL33BE350MNE	CL33CD350MN3
70	N	CL33BE700MNE	CL33CD700MN3
100	Q	CL33BE101MNE	CL33CD101MN3
15 WVDC			
1.5	E	CL33BG1R5MNE	CL33CE1R5MN3
6	H	CL33BG060MNE	CL33CE060MN3
20	K	CL33BG200MNE	CL33CE200MN3
40	N	CL33BG400MNE	CL33CE400MN3
60	Q	CL33BG600MNE	CL33CE600MN3
20 WVDC			
1.4	E	CL33BH1R4MNE	———
5.5	H	CL33BH5R5MNE	———
18	K	CL33BH180MNE	———
36	N	CL33BH360MNE	———
45	Q	CL33BH450MNE	———
30 WVDC			
.8	E	CL33BJ0R8MNE	CL33CH0R8MN3
3	H	CL33BJ030MNE	CL33CH030MN3
10	K	CL33BJ100MNE	CL33CH100MN3
20	N	CL33BJ200MNE	CL33CH200MN3
30	Q	CL33BJ300MNE	CL33CH300MN3
50 WVDC			
.5	E	CL33BL0R5MNE	CL33CJ0R5MN3
2	H	CL33BL020MNE	CL33CJ020MN3
7	K	CL33BL070MNE	CL33CJ070MN3
14	N	CL33BL140MNE	CL33CJ140MN3
20	Q	CL33BL200MNE	CL33CJ200MN3
65 WVDC			
.4	E	CL33BN0R4MNE	CL33CK0R4MN3
1.5	H	CL33BN1R5MNE	CL33CK1R5MN3
5	K	CL33BN050MNE	CL33CK050MN3
10	N	CL33BN100MNE	CL33CK100MN3
15	Q	CL33BN150MNE	CL33CK150MN3
100 WVDC			
.25	E	CL33BQR25MNE	CL33CNR25MN3
1	H	CL33BQ010MNE	CL33CN010MN3
3.5	K	CL33BQ3R5MNE	CL33CN3R5MN3
7	N	CL33BQ070MNE	CL33CN070MN3
10	Q	CL33BQ100MNE	CL33CN100MN3
150 WVDC			
.15	E	CL33BZR15LNE	CL33CQR15MN3
.75	H	CL33BZR75LNE	CL33CQR75MN3
2.5	K	CL33BZ2R5LNE	CL33CQ2R5MN3
5	N	CL33BZ050LNE	CL33CQ050MN3
7.5	Q	CL33BZ7R5LNE	CL33CQ7R5MN3
165 WVDC			
.15	E	CL33BOR15LNE	———
.6	H	CL33BO0R6LNE	———
2	K	CL33BO020LNE	———
4	N	CL33BO040LNE	———
6	Q	CL33BO060LNE	———
200 WVDC			
.12	E	CL33BXR12LNE	———
.47	H	CL33BXR47LNE	———
1.5	K	CL33BX1R5LNE	———
3.3	N	CL33BX3R3LNE	———
4.7	Q	CL33BX4R7LNE	———
250 WVDC			
.1	E	CL33BY0R1LNE	———
.39	H	CL33BYR39LNE	———
1.2	K	CL33BY1R2LNE	———
2.2	N	CL33BY2R2LNE	———
3.9	Q	CL33BY3R9LNE	———

*Available until present stocks are exhausted.

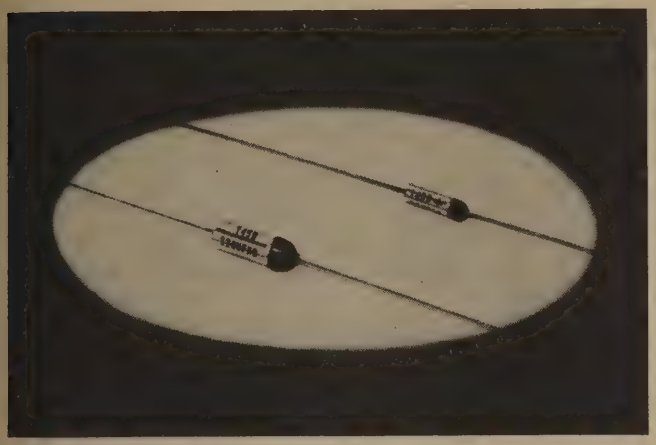
Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 145D GELLED ELECTROLYTE SINTERED-PELLET MINIATURE TANTALEX® CAPACITORS



- High Volumetric Efficiency—Designed for Use in Miniature Commercial and Industrial Printed Wiring Boards, Packaged Circuit Modules, Low-Frequency Filters, and Allied Applications Where Space is at a Premium
- Elastomer End Seals Capped With Plastic Resin for Additional Protection—Prevents Electrolyte Leakage and Lead Breakage
- Will Operate at Temperatures from −55C to +85C Without Voltage Derating
- Capacitors Shown Below Have Outer Plastic-Film Insulation. For Units With Bare Case, Change Last Digit of Catalog Number From 2 to 0
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 3750

μF	Diam.	Length	Catalog Number*
		6 WVDC	
27	0.115	0.312	145D276X0006E2
180	0.145	0.600	145D187X0006H2
560	0.225	0.700	145D567X0006J2
		8 WVDC	
22	0.115	0.312	145D226X0008E2
150	0.145	0.600	145D157X0008H2
470	0.225	0.700	145D477X0008J2
		10 WVDC	
18	0.115	0.312	145D186X0010E2
120	0.145	0.600	145D127X0010H2
390	0.225	0.700	145D397X0010J2
		12 WVDC	
15	0.115	0.312	145D156X0012E2
100	0.145	0.600	145D107X0012H2
330	0.225	0.700	145D337X0012J2
		15 WVDC	
12	0.115	0.312	145D126X0015E2
82	0.145	0.600	145D826X0015H2
270	0.225	0.700	145D277X0015J2
		20 WVDC	
10	0.115	0.312	145D106X0020E2
68	0.145	0.600	145D686X0020H2
220	0.225	0.700	145D227X0020J2
		25 WVDC	
8.2	0.115	0.312	145D825X0025E2
56	0.145	0.600	145D566X0025H2
180	0.225	0.700	145D187X0025J2

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Diam.	Length	Catalog Number*
		30 WVDC	
6.8	0.115	0.312	145D685X0030E2
47	0.145	0.600	145D476X0030H2
150	0.225	0.700	145D157X0030J2
		35 WVDC	
5.6	0.115	0.312	145D565X0035E2
39	0.145	0.600	145D396X0035H2
120	0.225	0.700	145D127X0035J2
		40 WVDC	
4.7	0.115	0.312	145D475X0040E2
33	0.145	0.600	145D336X0040H2
100	0.225	0.700	145D107X0040J2
		50 WVDC	
3.9	0.115	0.312	145D395X0050E2
27	0.145	0.600	145D276X0050H2
82	0.225	0.700	145D826X0050J2
		60 WVDC	
3.3	0.115	0.312	145D335X0060E2
22	0.145	0.600	145D226X0060H2
68	0.225	0.700	145D686X0060J2
		75 WVDC	
2.2	0.115	0.312	145D225X0075E2
2.7	0.115	0.312	145D275X0075E2
15	0.145	0.600	145D156X0075H2
18	0.145	0.600	145D186X0075H2
47	0.225	0.700	145D476X0075J2
56	0.225	0.700	145D566X0075J2

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*Catalog Numbers listed are for ±20% tolerance capacitors. For units with a capacitance tolerance of ±10%, change the digit following the letter X from 0 to 9.

Copyright 1971, Sprague Products Company

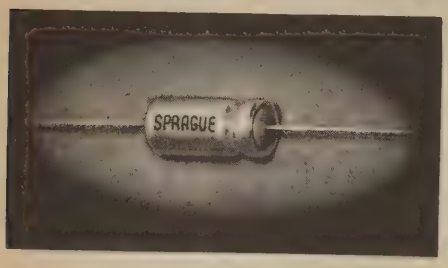
IND-REM-6B-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 130D 125 C SINTERED-ANODE TANTALEX® CAPACITORS



DIMENSIONS

Code	D x L	Code	D x L	Code	D x L	Code	D x L
C	.203 x .515	F	.296 x .703	T	.390 x .828	W	.390 x 1.312

- Reliable, Superior Quality Capacitors With no Voltage Derating for 125C Operation
- Especially Suited for Military Electronics
- Meets 2000 Cycle MIL Missile Vibration Requirements
- Clean, Shoulder-Less Design Simplifies Mounting on Printed Wiring Boards
- Voltage Ratings From 4 WVDC Through 100 WVDC
- Capacitances from 1.7 μF to 1200 μF
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletins 3701 and 3701.2
- Listed Units Have Plastic-Film Insulation. For Bare Metal Cases, Change Last Digit of Cat. No. to "0"

Call Your Sprague Industrial Distributor For Current Quantity Prices

GROUP 1: ±10%, +20, −15%, and +75, −15% Capacitance Tolerance with outer plastic-film insulation

μF	WVDC	Case Code	Catalog Number ±10%	±20—15%	±75—15%
27	4	C	130D276X9004C2	130D276C2004C2	130D276C7004C2
30	4	C	130D306X9004C2	130D306C2004C2	130D306C7004C2
120	4	F	130D127X9004F2	130D127C2004F2	130D127C7004F2
140	4	F	130D147X9004F2	130D147C2004F2	130D147C7004F2
290	4	T	130D297X9004T2	130D297C2004T2	130D297C7004T2
330	4	T	130D337X9004T2	130D337C2004T2	130D337C7004T2
22	5	C	130D226X9005C2	130D226C2005C2	130D226C7005C2
25	5	C	130D256X9005C2	130D256C2005C2	130D256C7005C2
100	5	F	130D107X9005F2	130D107C2005F2	130D107C7005F2
120	5	F	130D127X9005F2	130D127C2005F2	130D127C7005F2
260	5	T	130D267X9005T2	130D267C2005T2	130D267C7005T2
290	5	T	130D297X9005T2	130D297C2005T2	130D297C7005T2
18	7	C	130D186X9007C2	130D186C2007C2	130D186C7007C2
20	7	C	130D206X9007C2	130D206C2007C2	130D206C7007C2
85	7	F	130D856X9007F2	130D856C2007F2	130D856C7007F2
100	7	F	130D107X9007F2	130D107C2007F2	130D107C7007F2
220	7	T	130D227X9007T2	130D227C2007T2	130D227C7007T2
250	7	T	130D257X9007T2	130D257C2007T2	130D257C7007T2
13	10	C	130D136X9010C2	130D136C2010C2	130D136C7010C2
15	10	C	130D156X9010C2	130D156C2010C2	130D156C7010C2
55	10	F	130D556X9010F2	130D556C2010F2	130D556C7010F2
70	10	F	130D706X9010F2	130D706C2010F2	130D706C7010F2
150	10	T	130D157X9010T2	130D157C2010T2	130D157C7010T2
170	10	T	130D177X9010T2	130D177C2010T2	130D177C7010T2
9	15	C	130D905X9015C2	130D905C2015C2	130D905C7015C2
10	15	C	130D106X9015C2	130D106C2015C2	130D106C7015C2
45	15	F	130D456X9015F2	130D456C2015F2	130D456C7015F2
50	15	F	130D506X9015F2	130D506C2015F2	130D506C7015F2
100	15	T	130D107X9015T2	130D107C2015T2	130D107C7015T2
110	15	T	130D117X9015T2	130D117C2015T2	130D117C7015T2
7	20	C	130D705X9020C2	130D705C2020C2	130D705C7020C2
8	20	C	130D805X9020C2	130D805C2020C2	130D805C7020C2
35	20	F	130D356X9020F2	130D356C2020F2	130D356C7020F2
40	20	F	130D406X9020F2	130D406C2020F2	130D406C7020F2
80	20	T	130D806X9020T2	130D806C2020T2	130D806C7020T2
100	20	T	130D107X9020T2	130D107C2020T2	130D107C7020T2
4.5	30	C	130D455X9030C2	130D455C2030C2	130D455C7030C2
5	30	C	130D505X9030C2	130D505C2030C2	130D505C7030C2
22	30	F	130D226X9030F2	130D226C2030F2	130D226C7030F2
25	30	F	130D256X9030F2	130D256C2030F2	130D256C7030F2
55	30	T	130D556X9030T2	130D556C2030T2	130D556C7030T2
60	30	T	130D606X9030T2	130D606C2030T2	130D606C7030T2
3.6	40	C	130D365X9040C2	130D365C2040C2	130D365C7040C2
4	40	C	130D405X9040C2	130D405C2040C2	130D405C7040C2
18	40	F	130D186X9040F2	130D186C2040F2	130D186C7040F2
20	40	F	130D206X9040F2	130D206C2040F2	130D206C7040F2
45	40	T	130D456X9040T2	130D456C2040T2	130D456C7040T2
50	40	T	130D506X9040T2	130D506C2040T2	130D506C7040T2
3	50	C	130D305X9050C2	130D305C2050C2	130D305C7050C2
3.5	50	C	130D355X9050C2	130D355C2050C2	130D355C7050C2
13	50	F	130D136X9050F2	130D136C2050F2	130D136C7050F2
15	50	F	130D156X9050F2	130D156C2050F2	130D156C7050F2
35	50	T	130D356X9050T2	130D356C2050T2	130D356C7050T2
40	50	T	130D406X9050T2	130D406C2050T2	130D406C7050T2
2.5	70	C	130D255X9070C2	130D255C2070C2	130D255C7070C2
10	70	F	130D106X9070F2	130D106C2070F2	130D106C7070F2
11	70	F	130D116X9070F2	130D116C2070F2	130D116C7070F2
27	70	T	130D276X9070T2	130D276C2070T2	130D276C7070T2
30	70	T	130D306X9070T2	130D306C2070T2	130D306C7070T2
1.7	85	C	130D175X9085C2	130D175C2085C2	130D175C7085C2
9	85	F	130D905X9085F2	130D905C2085F2	130D905C7085F2
18	85	T	130D186X9085T2	130D186C2085T2	130D186C7085T2
1.7	100	C	130D175X9100C2	130D175C2100C2	130D175C7100C2
6.8	100	F	130D685X9100F2	130D685C2100F2	130D685C7100F2
14	100	T	130D146X9100T2	130D146C2100T2	130D146C7100T2

GROUP 2: ±20% and ±10% Capacitance Tolerance with outer plastic-film insulation

These capacitors have approximately twice the capacitance of Group 1 Capacitors of the same physical size at a given voltage rating.

μF	WVDC	Case Code	±20% Tol.	±10% Tol.
68	4	C	130D686X0004C2	130D686X9004C2
270	4	F	130D277X0004F2	130D277X9004F2
560	4	T	130D567X0004T2	130D567X9004T2
1200	4	W	130D128X0004W2	130D128X9004W2
56	5	C	130D566X0005C2	130D566X9005C2
220	5	F	130D227X0005F2	130D227X9005F2
430	5	T	130D437X0005T2	130D437X9005T2
850	5	W	130D857X0005W2	130D857X9005W2
47	7	C	130D476X0007C2	130D476X9007C2
180	7	F	130D187X0007F2	130D187X9007F2
390	7	T	130D397X0007T2	130D397X9007T2
750	7	W	130D757X0007W2	130D757X9007W2
33	10	C	130D336X0010C2	130D336X9010C2
120	10	F	130D127X0010F2	13CD127X9010F2
270	10	T	130D277X0010T2	130D277X9010T2
540	10	W	130D547X0010W2	130D547X9010W2
22	15	C	130D226X0015C2	130D226X9015C2
100	15	F	130D107X0015F2	130D107X9015F2
180	15	T	130D187X0015T2	130D187X9015T2
350	15	W	130D357X0015W2	130D357X9015W2
15	20	C	130D156X0020C2	130D156X9020C2
68	20	F	130D686X0020F2	130D686X9020F2
150	20	T	130D157X0020T2	130D157X9020T2
300	20	W	130D307X0020W2	130D307X9020W2
10	30	C	130D106X0030C2	130D106X9030C2
47	30	F	130D476X0030F2	130D476X9030F2
82	30	T	130D826X0030T2	130D826X9030T2
160	30	W	130D167X0030W2	130D167X9030W2
8.2	40	C	130D825X0040C2	130D825X9040C2
39	40	F	130D396X0040F2	130D396X9040F2
68	40	T	130D686X0040T2	130D686X9040T2
140	40	W	130D147X0040W2	130D147X9040W2
6.8	50	C	130D685X0050C2	130D685X9050C2
33	50	F	130D336X0050F2	130D336X9050F2
56	50	T	130D566X0050T2	130D566X9050T2
110	50	W	130D117X0050W2	130D117X9050W2
4.7	70	C	130D475X0070C2	130D475X9070C2
22	70	F	130D226X0070F2	130D226X9070F2
43	70	T	130D436X0070T2	130D436X9070T2
86	70	W	130D866X0070W2	130D866X9070W2
3.6	85	C	130D365X0085C2	130D365X9085C2
14	85	F	130D146X0085F2	130D146X9085F2
25	85	T	130D256X0085T2	130D256X9085T2
56	85	W	130D566X0085W2	130D566X9085W2
3	100	C	130D305X0100C2	130D305X9100C2
11	100	F	130D116X0100F2	130D116X9100F2
22	100	T	130D226X0100T2	130D226X9100T2

Copyright 1971, Sprague Products Company

IND-REM-4A-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 130D TANTALEX® CAPACITORS, continued

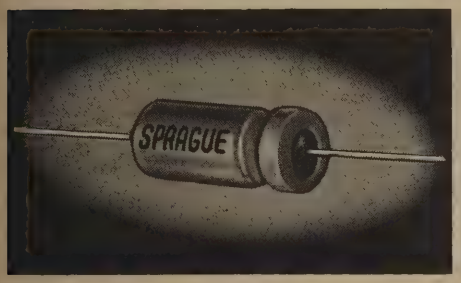
GROUP 3: ±20% and ±10% Capacitance Tolerance with outer plastic-film insulation

These are extended-range capacitors, with substantially higher capacitance than units of the same physical size in Groups 1 or 2.

µF	WVDC	Case Code	Catalog Number*	µF	WVDC	Case Code	Catalog Number*	µF	WVDC	Case Code	Catalog Number*	µF	WVDC	Case Code	Catalog Number*
200	4	C	130D207X0004C2	82	10	C	130D826X0010C2	150	20	F	130D157X0020F2	100	40	F	130D107X0040F2
820	4	F	130D827X0004F2	100	10	C	130D107X0010C2	180	20	F	130D187X0020F2	140	40	T	130D147X0040T2
1500	4	T	130D158X0004T2	330	10	F	130D337X0010F2	220	20	F	130D227X0020F2	220	40	T	130D227X0040T2
				390	10	F	130D397X0010F2	330	20	T	130D337X0020T2				
180	5	C	130D187X0005C2	680	10	T	130D687X0010T2	390	20	T	130D397X0020T2				
680	5	F	130D687X0005F2	820	10	T	130D827X0010T2	470	20	T	130D477X0020T2	12	50	C	130D126X0050C2
1400	5	T	130D148X0005T2									15	50	C	130D156X0050C2
				68	15	C	130D686X0015C2	33	30	C	130D336X0030C2	22	50	C	130D226X0050C2
120	7	C	130D127X0007C2	270	15	F	130D277X0015F2	120	30	F	130D127X0030F2	47	50	F	130D476X0050F2
150	7	C	130D157X0007C2	560	15	T	130D567X0015T2	270	30	T	130D277X0030T2	56	50	F	130D566X0050F2
470	7	F	130D477X0007F2									82	50	F	130D826X0050F2
560	7	F	130D567X0007F2	39	20	C	130D396X0020C2	18	40	C	130D186X0040C2	82	50	T	130D826X0050T2
1000	7	T	130D108X0007T2	47	20	C	130D476X0020C2	27	40	C	130D276X0040C2	110	50	T	130D117X0050T2
1200	7	T	130D128X0007T2	56	20	C	130D566X0020C2	68	40	F	130D686X0040F2	180	50	T	130D187X0050T2

* Numbers shown are ±20% capacitors. For units with ±10% capacitance tolerance, change digit after X from 0 to 9.

TYPE 109D SINTERED-ANODE TANTALEX® CAPACITORS



DIMENSIONS

Code	D x L	Code	D x L	Code	D x L	Code	D x L
C	.203 x .515	F	.296 x .703	T	.390 x .828	W	.390 x 1.312

- Intended for Applications Where Reliable Design in Military Equipment is Required
- Double Spun TFE-fluorocarbon Elastomer High Temp. End Seals
- Large Values of Capacitance in Small Physical Size
- Listed Units Have Plastic S'eeves
- For Bare Case, End Catalog Number in "0" instead of "2"
- May Be Operated at 85C at Rated Voltage and to 105C With 15% Voltage Derating
- Will Meet 2000 Cycle Missile Vibration Requirements
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 3700 and 3700.2

Call Your Sprague Industrial Distributor For Current Quantity Prices

GROUP 1: Available in Capacitance Tolerances of ±10%, +20, −15%; +75, −15%

µF	WVDC	Size Code	Catalog Number ±10%	Catalog Number +20, −15%	Catalog Number +75, −15%
27	6	C	109D276X9006C2	109D276C2006C2	109D276C7006C2
30	6	C	109D306X9006C2	109D306C2006C2	109D306C7006C2
120	6	F	109D127X9006F2	109D127C2006F2	109D127C7006F2
140	6	F	109D147X9006F2	109D147C2006F2	109D147C7006F2
290	6	T	109D297X9006T2	109D297C2006T2	109D297C7006T2
330	6	T	109D337X9006T2	109D337C2006T2	109D337C7006T2
22	8	C	109D226X9008C2	109D226C2008C2	109D226C7008C2
25	8	C	109D256X9008C2	109D256C2008C2	109D256C7008C2
100	8	F	109D107X9008F2	109D107C2008F2	109D107C7008F2
120	8	F	109D127X9008F2	109D127C2008F2	109D127C7008F2
260	8	T	109D276X9008T2	109D267C2008T2	109D276C7008T2
290	8	T	109D297X9008T2	109D297C2008T2	109D297C7008T2
18	10	C	109D186X9010C2	109D186C2010C2	109D186C7010C2
20	10	C	109D206X9010C2	109D206C2010C2	109D206C7010C2
85	10	F	109D856X9010F2	109D856C2010F2	109D856C7010F2
100	10	F	109D107X9010F2	109D107C2010F2	109D107C7010F2
220	10	T	109D227X9010T2	109D227C2010T2	109D227C7010T2
250	10	T	109D257X9010T2	109D257C2010T2	109D257C7010T2
13	15	C	109D136X9015C2	109D136C2015C2	109D136C7015C2
15	15	C	109D156X9015C2	109D156C2015C2	109D156C7015C2
55	15	F	109D556X9015F2	109D556C2015F2	109D556C7015F2
70	15	F	109D706X9015F2	109D706C2015F2	109D706C7015F2
150	15	T	109D157X9015T2	109D157C2015T2	109D157C7015T2
170	15	T	109D177X9015T2	109D177C2015T2	109D177C7015T2
9	25	C	109D905X9025C2	109D905C2025C2	109D905C7025C2
11	25	C	109D106X9025C2	109D106C2025C2	109D106C7025C2
45	25	F	109D456X9025F2	109D456C2025F2	109D456C7025F2
50	25	F	109D506X9025F2	109D506C2025F2	109D506C7025F2
100	25	T	109D107X9025T2	109D107C2025T2	109D107C7025T2
110	25	T	109D117X9025T2	109D117C2025T2	109D117C7025T2
7	30	C	109D705X9030C2	109D705C2030C2	109D705C7030C2
8	30	C	109D805X9030C2	109D805C2030C2	109D805C7030C2
35	30	F	109D356X9030F2	109D356C2030F2	109D356C7030F2
40	30	F	109D406X9030F2	109D406C2030F2	109D406C7030F2
80	30	T	109D806X9030T2	109D806C2030T2	109D806C7030T2
100	30	T	109D107X9030T2	109D107C2030T2	109D107C7030T2
4.5	50	C	109D455X9050C2	109D455C2050C2	109D455C7050C2
5	50	C	109D505X9050C2	109D505C2050C2	109D505C7050C2
22	50	F	109D226X9050F2	109D226C2050F2	109D226C7050F2
25	50	F	109D256X9050F2	109D256C2050F2	109D256C7050F2
55	50	T	109D556X9050T2	109D556C2050T2	109D556C7050T2
60	50	T	109D606X9050T2	109D606C2050T2	109D606C7050T2
3.6	60	C	109D365X9060C2	109D365C2060C2	109D365C7060C2
4	60	C	109D405X9060C2	109D405C2060C2	109D405C7060C2
18	60	F	109D186X9060F2	109D186C2060F2	109D186C7060F2
20	60	F	109D206X9060F2	109D206C2060F2	109D206C7060F2
45	60	T	109D456X9060T2	109D456C2060T2	109D456C7060T2
50	60	T	109D506X9060T2	109D506C2060T2	109D506C7060T2
3	75	C	109D305X9075C2	109D305C2075C2	109D305C7075C2
3.5	75	C	109D355X9075C2	109D355C2075C2	109D355C7075C2
13	75	F	109D136X9075F2	109D136C2075F2	109D136C7075F2
15	75	F	109D156X9075F2	109D156C2075F2	109D156C7075F2
35	75	T	109D356X9075T2	109D356C2075T2	109D356C7075T2
40	75	T	109D406X9075T2	109D406C2075T2	109D406C7075T2
2.5	100	C	109D255X9100C2	109D255C2100C2	109D255C7100C2
10	100	F	109D106X9100F2	109D106C2100F2	109D106C7100F2
11	100	F	109D116X9100F2	109D116C2100F2	109D116C7100F2
27	100	T	109D276X9100T2	109D276C2100T2	109D276C7100T2
30	100	T	109D306X9100T2	109D306C2100T2	109D306C7100T2
1.7	125	C	109D175X9125C2	109D175C2125C2	109D175C7125C2
9	125	F	109D905X9125F2	109D905C2125F2	109D905C7125F2
18	125	T	109D186X9125T2	109D186C2125T2	109D186C7125T2
1.7	150	C	109D175X9150C2	109D175C2150C2	109D175C7150C2
6.8	150	F	109D685X9150F2	109D685C2150F2	109D685C7150F2
14	150	T	109D146X9150T2	109D146C2150T2	109D146C7150T2

Copyright 1971, Sprague Products Company

IND-REM-5-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 109D TANTALEX® CAPACITORS, continued

GROUP 2: Available in Capacitance Tolerances of ±20% and ±10%

These capacitors have approximately twice the capacitance of Group I Capacitors of the same physical size at a given voltage rating.

μF	WVDC	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
68	6	C	109D686X0006C2	109D686X9006C2
270	6	F	109D277X0006F2	109D277X9006F2
560	6	T	109D567X0006T2	109D567X9006T2
1200	6	W	109D128X0006W2	109D128X9006W2
56	8	C	109D566X0008C2	109D566X9008C2
220	8	F	109D227X0008F2	109D227X9008F2
430	8	T	109D437X0008T2	109D437X9008T2
850	8	W	109D857X0008W2	109D857X9008W2
47	10	C	109D476X0010C2	109D476X9010C2
180	10	F	109D187X0010F2	109D187X9010F2
390	10	T	109D397X0010T2	109D397X9010T2
750	10	W	109D757X0010W2	109D757X9010W2
33	15	C	109D336X0015C2	109D336X9015C2
120	15	F	109D127X0015F2	109D127X9015F2
270	15	T	109D277X0015T2	109D277X9015T2
540	15	W	109D547X0015W2	109D547X9015W2
22	25	C	109D226X0025C2	109D226X9025C2
100	25	F	109D107X0025F2	109D107X9025F2
180	25	T	109D187X0025T2	109D187X9025T2
350	25	W	109D357X0025W2	109D357X9025W2
15	30	C	109D156X0030C2	109D156X9030C2
68	30	F	109D686X0030F2	109D686X9030F2
150	30	T	109D157X0030T2	109D157X9030T2
300	30	W	109D307X0030W2	109D307X9030W2
10	50	C	109D106X0050C2	109D106X9050C2
47	50	F	109D476X0050F2	109D476X9050F2
82	50	T	109D826X0050T2	109D826X9050T2
160	50	W	109D167X0050W2	109D167X9050W2
8.2	60	C	109D825X0060C2	109D825X9060C2
39	60	F	109D396X0060F2	109D396X9060F2
68	60	T	109D686X0060T2	109D686X9060T2
140	60	W	109D147X0060W2	109D147X9060W2
6.8	75	C	109D685X0075C2	109D685X9075C2
33	75	F	109D336X0075F2	109D336X9075F2
56	75	T	109D566X0075T2	109D566X9075T2
110	75	W	109D117X0075W2	109D117X9075W2
4.7	100	C	109D475X0100C2	109D475X9100C2
22	100	F	109D226X0100F2	109D226X9100F2
43	100	T	109D436X0100T2	109D436X9100T2
86	100	W	109D866X0100W2	109D866X9100W2
3.6	125	C	109D365X0125C2	109D365X9125C2
14	125	F	109D146X0125F2	109D146X9125F2
25	125	T	109D256X0125T2	109D256X9125T2
56	125	W	109D566X0125W2	109D566X9125W2
3	150	C	109D305X0150C2	109D305X9150C2
11	150	F	109D116X0150F2	109D116X9150F2
22	150	T	109D226X0150T2	109D226X9150T2

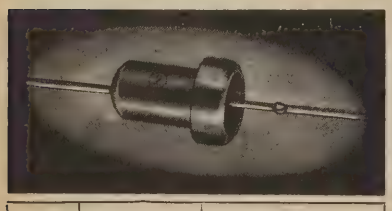
GROUP 3: Available in Capacitance Tolerances of ±20% and ±10%

These are extended-range capacitors, with substantially higher capacitance than units of the same physical size in Groups 1 or 2.

μF	WVDC	Case Code	Catalog Number*
200	6	C	109D207X0006C2
820	6	F	109D827X0006F2
1500	6	T	109D158X0006T2
180	8	C	109D187X0008C2
680	8	F	109D687X0008F2
1400	8	T	109D148X0008T2
120	10	C	109D127X0010C2
150	10	C	109D157X0010C2
470	10	F	109D477X0010F2
560	10	F	109D567X0010F2
1000	10	T	109D108X0010T2
1200	10	T	109D128X0010T2
82	15	C	109D826X0015C2
100	15	C	109D107X0015C2
330	15	F	109D337X0015F2
390	15	F	109D397X0015F2
680	15	T	109D687X0015T2
820	15	T	109D827X0015T2
68	25	C	109D686X0025C2
270	25	F	109D277X0025F2
560	25	T	109D567X0025T2
39	30	C	109D396X0030C2
47	30	C	109D476X0030C2
56	30	C	109D566X0030C2
150	30	F	109D157X0030F2
180	30	F	109D187X0030F2
220	30	F	109D227X0030F2
330	30	T	109D337X0030T2
390	30	T	109D397X0030T2
470	30	T	109D477X0030T2
33	50	C	109D336X0050C2
120	50	F	109D127X0050F2
270	50	T	109D277X0050T2
18	60	C	109D186X0060C2
27	60	C	109D276X0060C2
68	60	F	109D686X0060F2
100	60	F	109D107X0060F2
140	60	T	109D147X0060T2
220	60	T	109D227X0060T2
12	75	C	109D126X0075C2
15	75	C	109D156X0075C2
22	75	C	109D226X0075C2
47	75	F	109D476X0075F2
56	75	F	109D566X0075F2
82	75	F	109D826X0075F2
82	75	T	109D826X0075T2
110	75	T	109D117X0075T2
180	75	T	109D187X0075T2

* Numbers shown are ±20% capacitors. For units with ±10% capacitance tolerance, change digit after X from 0 to 9.

TYPE 133D "CUP STYLE" TANTALEX® CAPACITORS



Size Code	Dimensions Dia. x Length
U	7/32 x 15/32
V	9/32 x 11/16
T	3/8 x 49/64

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

- −55C to +125C Operation At Full Rating. May be Up-Rated 50% for Operation at 85C
- Meet Stringent Vibration Requirements in Military and Missile Applications
- Sintered Anode for Unusual Capacitance Stability, Large Values of Capacitance in Small Physical Size
- For Units with Outer Plastic Insulating Tube, Substitute 4 for 0 at End of Catalog Number
- Also Available as Type 132D for 85C Operation
- For Complete Technical Data See Latest Issue of Engineering Bulletins 3710 and 3711

μF	Size Code	Catalog Number −15, +20% Tol.	Catalog Number ±10% Tol.
		4 WORKING VOLTS D-C	
30	U	133D306C2004U0	133D306X9004U0
140	V	133D147C2004V0	133D147X9004V0
320	T	133D327C2004T0	133D327X9004T0
		5 WORKING VOLTS D-C	
25	U	133D256C2005U0	133D256X9005U0
		7 WORKING VOLTS D-C	
20	U	133D206C2007U0	133D206X9007U0
100	V	133D107C2007V0	133D107X9007V0
250	T	133D257C2007T0	133D257X9007T0
		10 WORKING VOLTS D-C	
15	U	133D156C2010U0	133D156X9010U0
70	V	133D706C2010V0	133D706X9010V0
170	T	133D177C2010T0	133D177X9010T0
		15 WORKING VOLTS D-C	
10	U	133D106C2015U0	133D106X9015U0
		20 WORKING VOLTS D-C	
8	U	133D805C2020U0	133D805X9020U0
40	V	133D406C2020V0	133D406X9020V0
100	T	133D107C2020T0	133D107X9020T0
		30 WORKING VOLTS D-C	
5	U	133D505C2030U0	133D505X9030U0
25	V	133D256C2030V0	133D256X9030V0
60	T	133D606C2030T0	133D606X9030T0
		40 WORKING VOLTS D-C	
4	U	133D405C2040U0	133D405X9040U0
20	V	133D206C2040V0	133D206X9040V0
50	T	133D506C2040T0	133D506X9040T0
		50 WORKING VOLTS D-C	
3.5	U	133D355C2050U0	133D355X9050U0
15	V	133D156C2050V0	133D156X9050V0
40	T	133D406C2050T0	133D406X9050T0
		70 WORKING VOLTS D-C	
2	U	133D205C2070U0	133D205X9070U0
11	V	133D116C2070V0	133D116X9070V0
30	T	133D306C2070T0	133D306X9070T0
		85 WORKING VOLTS D-C	
1.7	U	133D175C2085U0	133D175X9085U0
9	V	133D905C2085V0	133D905X9085V0
25	T	133D256C2085T0	133D256X9085T0

Copyright 1971, Sprague Products Company

IND-REM-6-ERAE

Sizes subject to change without notice.

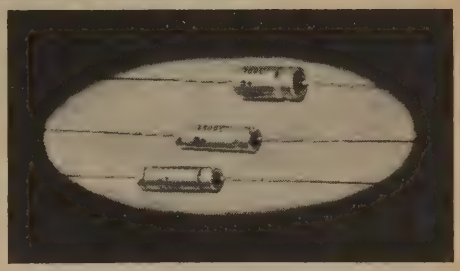
© United Technical Publications

SPRAGUE CAPACITORS

TYPE 137D HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS

- Glass-to-metal Hermetic Seal Makes Type 137D Capacitors Especially Well Suited For Use in Satellites and Other Space Equipment.
- Gelled-electrolyte For Optimum Performance Characteristics
- High Volumetric Efficiency Results in Space Savings
- Operating Temperature Range of —55C to +175C
- Available in Voltage Ratings From 6 WVDC Through 150 WVDC At 85C With Appropriate Derating For Higher Temperature Operation
- Capacitors Listed Below Have Outer Plastic Insulating Sleeve. For Units with Bare Case, End Catalog Number in 0 Instead of 2
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin Number 3703

Call Your Sprague Industrial Distributor For Current Quantity Prices



μF	Case Size	Catalog Number*
6 WVDC		
68	C	137D686X0006C2
140	C	137D147X0006C2
270	F	137D277X0006F2
560	F	137D567X0006F2
560	A	137D567X0006A2
560	T	137D567X0006T2
1000	T	137D108X0006T2
1200	W	137D128X0006W2
8 WVDC		
56	C	137D566X0008C2
120	C	137D127X0008C2
220	F	137D227X0008F2
470	F	137D477X0008F2
470	A	137D477X0008A2
470	T	137D477X0008T2
850	T	137D857X0008T2
1000	W	137D108X0008W2
10 WVDC		
39	C	137D396X0010C2
47	C	137D476X0010C2
82	C	137D826X0010C2
100	C	137D107X0010C2
150	F	137D157X0010F2
180	F	137D187X0010F2
330	F	137D337X0010F2
330	A	137D337X0010A2
330	T	137D337X0010T2
390	F	137D397X0010F2
390	A	137D397X0010A2
390	T	137D397X0010T2
600	T	137D607X0010T2
680	W	137D687X0010W2
750	T	137D757X0010T2
820	W	137D827X0010W2
15 WVDC		
33	C	137D336X0015C2
68	C	137D686X0015C2
120	F	137D127X0015F2
270	F	137D277X0015F2
270	A	137D277X0015A2
270	T	137D277X0015T2
540	T	137D547X0015T2
560	W	137D567X0015W2
20 WVDC		
27	C	137D276X0020C2
56	C	137D566X0020C2
100	F	137D107X0020F2
220	F	137D227X0020F2
220	A	137D227X0020A2
220	T	137D227X0020T2
390	T	137D397X0020T2
470	W	137D477X0020W2

μF	Case Size	Catalog Number*
25 WVDC		
22	C	137D226X0025C2
47	C	137D476X0025C2
100	F	137D107X0025F2
180	F	137D187X0025F2
180	A	137D187X0025A2
180	T	137D187X0025T2
350	T	137D357X0025T2
390	W	137D397X0025W2
30 WVDC		
18	C	137D186X0030C2
39	C	137D396X0030C2
82	F	137D826X0030F2
150	F	137D157X0030F2
150	A	137D157X0030A2
150	T	137D157X0030T2
300	T	137D307X0030T2
330	W	137D337X0030W2
35 WVDC		
12	C	137D126X0035C2
15	C	137D156X0035C2
27	C	137D276X0035C2
33	C	137D336X0035C2
56	F	137D566X0035F2
68	F	137D686X0035F2
100	F	137D107X0035F2
100	A	137D107X0035A2
100	T	137D107X0035T2
120	F	137D127X0035F2
120	A	137D127X0035A2
120	T	137D127X0035T2
180	T	137D187X0035T2
220	T	137D227X0035T2
220	W	137D227X0035W2
270	W	137D277X0035W2
50 WVDC		
10	C	137D106X0050C2
22	C	137D226X0050C2
47	F	137D476X0050F2
82	F	137D826X0050F2
82	A	137D826X0050A2
82	T	137D826X0050T2
160	T	137D167X0050T2
180	W	137D187X0050W2
60 WVDC		
8.2	C	137D825X0060C2
18	C	137D186X0060C2
39	F	137D396X0060F2
68	F	137D686X0060F2
68	A	137D686X0060A2
68	T	137D686X0060T2
140	T	137D147X0060T2
150	W	137D157X0060W2

μF	Case Size	Catalog Number*
75 WVDC		
5.6	C	137D565X0075C2
6.8	C	137D685X0075C2
12	C	137D126X0075C2
15	C	137D156X0075C2
27	F	137D276X0075F2
33	F	137D336X0075F2
47	F	137D476X0075F2
47	A	137D476X0075A2
47	T	137D476X0075T2
56	F	137D566X0075F2
56	A	137D566X0075A2
56	T	137D566X0075T2
82	T	137D826X0075T2
100	W	137D107X0075W2
110	T	137D117X0075T2
120	W	137D127X0075W2
100 WVDC		
3.9	C	137D395X0100C2
4.7	C	137D475X0100C2
15	F	137D156X0100F2
18	F	137D186X0100F2
22	F	137D226X0100F2
33	A	137D336X0100A2
33	T	137D336X0100T2
43	A	137D436X0100A2
43	T	137D436X0100T2
68	W	137D686X0100W2
86	W	137D866X0100W2
125 WVDC		
3.6	C	137D365X0125C2
9.0	F	137D905X0125F2
14	F	137D146X0125F2
18	T	137D186X0125T2
25	T	137D256X0125T2
28	A	137D286X0125A2
56	W	137D566X0125W2
150 WVDC		
1.7	C	137D175X0150C2
3.0	C	137D305X0150C2
6.8	F	137D685X0150F2
11	F	137D116X0150F2
14	T	137D146X0150T2
22	T	137D226X0150T2
22	A	137D226X0150A2
47	W	137D476X0150W2

DIMENSIONS

Case Code	Diam. x Length
C	0.219 x 0.515
F	0.312 x 0.704
A	0.312 x 1.095
T	0.406 x 0.828
W	0.406 x 1.312

* Catalog numbers listed above are for ±20% tolerance capacitors. For units with capacitance tolerance of +20%, —15% change X0 in middle of catalog number to C2; for +75, —15% change digits to C7; for ±10% change digits to X9.

Copyright 1971, Sprague Products Company

IND-REM-6A-ERAE

Sizes subject to change without notice.

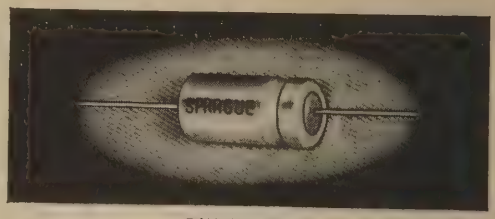
© United Technical Publications

SPRAGUE CAPACITORS

MIL-C-3965 TUBULAR SINTERED-ANODE TANTALEX® CAPACITORS—TYPES CL64 and CL65

- MIL Version of Proven Sprague Type 130D Capacitors
- Capacitors Listed on This Page Have Characteristic B (85C). Also Available in Characteristic C (125C).
- Voltage Ratings From 6 WVDC Through 125 WVDC
- Type CL64 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve is Desired, Order Type CL65.
- Capacitance Tolerance: K = ±10%; M = ±20%

Call Your Sprague Industrial Distributor For Quantity Prices



DIMENSIONS

Code	D x L.	Code	D x L.	Code	D x L.
T1	.188" x .453"	T2	.281" x .641"	T3	.375" x .766"

µF	Size Code	CL64 Type Number*	CL65 Type Number*
6 WVDC			
30	T1	CL64BB300KPE	CL65BB300KPE
30	T1	CL64BB300MPE	CL65BB300MPE
68	T1	CL64BB680MPE	CL65BB680MPE
140	T2	CL64BB141KPE	CL65BB141KPE
140	T2	CL64BB141MPE	CL65BB141MPE
270	T2	CL64BB271MPE	CL65BB271MPE
330	T3	CL65BB331KPE	CL65BB331KPE
330	T3	CL64BB331MPE	CL65BB331MPE
560	T3	CL64BB561MPE	CL65BB561MPE
8 WVDC			
25	T1	CL64BC250KPE	CL65BC250KPE
25	T1	CL64BC250MPE	CL65BC250MPE
56	T1	CL64BC560MPE	CL65BC560MPE
220	T2	CL64BC221MPE	CL65BC221MPE
430	T3	CL64BC431MPE	CL65BC431MPE
10 WVDC			
20	T1	CL64BD200KPE	CL65BD200KPE
20	T1	CL64BD200MPE	CL65BD200MPE
47	T1	CL64BD470MPE	CL65BD470MPE
100	T2	CL64BD101KPE	CL65BD101KPE
100	T2	CL64BD101MPE	CL65BD101MPE
180	T2	CL64BD181MPE	CL65BD181MPE
250	T3	CL64BD251KPE	CL65BD251KPE
250	T3	CL64BD251MPE	CL65BD251MPE
390	T3	CL64BD391MPE	CL65BD391MPE
15 WVDC			
15	T1	CL64BE150KPE	CL65BE150KPE
15	T1	CL64BE150MPE	CL65BE150MPE
33	T1	CL64BE330MPE	CL65BE330MPE
70	T2	CL64BE700KPE	CL65BE700KPE
70	T2	CL64BE700MPE	CL65BE700MPE
120	T2	CL64BE121MPE	CL65BE121MPE
170	T3	CL64BE171KPE	CL65BE171KPE
170	T3	CL64BE171MPE	CL65BE171MPE
270	T3	CL64BE271MPE	CL65BE271MPE
25 WVDC			
10	T1	CL64BG100KPE	CL65BG100KPE
10	T1	CL64BG100MPE	CL65BG100MPE
22	T1	CL64BG220MPE	CL65BG220MPE
100	T2	CL64BG101MPE	CL65BG101MPE
180	T3	CL64BG181MPE	CL65BG181MPE
30 WVDC			
8	T1	CL64BH080KPE	CL65BH080KPE
8	T1	CL64BH080MPE	CL65BH080MPE
15	T1	CL64BH150MPE	CL65BH150MPE
40	T2	CL64BH400KPE	CL65BH400KPE
40	T2	CL64BH400MPE	CL65BH400MPE
68	T2	CL64BH680MPE	CL65BH680MPE
100	T3	CL64BH101KPE	CL65BH101KPE
100	T3	CL64BH101MPE	CL65BH101MPE
150	T3	CL64BH151MPE	CL65BH151MPE
50 WVDC			
5	T1	CL64BJ050KPE	CL65BJ050KPE
5	T1	CL64BJ050MPE	CL65BJ050MPE
10	T1	CL64BJ100MPE	CL65BJ100MPE
25	T2	CL64BJ250KPE	CL65BJ250KPE
25	T2	CL64BJ250MPE	CL65BJ250MPE
47	T2	CL64BJ470MPE	CL65BJ470MPE
60	T3	CL64BJ600KPE	CL65BJ600KPE
60	T3	CL64BJ600MPE	CL65BJ600MPE
82	T3	CL64BJ820MPE	CL65BJ820MPE
60 WVDC			
4	T1	CL64BK040KPE	CL65BK040KPE
4	T1	CL64BK040MPE	CL65BK040MPE
8.2	T1	CL64BK8R2MPE	CL65BK8R2MPE
20	T2	CL64BK200KPE	CL65BK200KPE
20	T2	CL64BK200MPE	CL65BK200MPE
39	T2	CL64BK390MPE	CL65BK390MPE
50	T3	CL64BK500KPE	CL65BK500KPE
50	T3	CL64BK500MPE	CL65BK500MPE
68	T3	CL64BK680MPE	CL65BK680MPE
75 WVDC			
3.5	T1	CL64BL3R5KPE	CL65BL3R5KPE
3.5	T1	CL64BL3R5MPE	CL65BL3R5MPE
6.8	T1	CL64BL6R8MPE	CL65BL6R8MPE
15	T2	CL64BL150KPE	CL65BL150KPE
15	T2	CL64BL150MPE	CL65BL150MPE
33	T2	CL64BL330MPE	CL65BL330MPE
40	T3	CL64BL400KPE	CL65BL400KPE
40	T3	CL64BL400MPE	CL65BL400MPE
56	T3	CL64BL560MPE	CL65BL560MPE
100 WVDC			
2.5	T1	CL64BN2R5KPE	CL65BN2R5KPE
2.5	T1	CL64BN2R5MPE	CL65BN2R5MPE
4.7	T1	CL64BN4R7MPE	CL65BN4R7MPE
11	T2	CL64BN110KPE	CL65BN110KPE
11	T2	CL64BN110MPE	CL65BN110MPE
22	T2	CL64BN220MPE	CL65BN220MPE
30	T3	CL64BN300KPE	CL65BN300KPE
30	T3	CL64BN300MPE	CL65BN300MPE
43	T3	CL64BN430MPE	CL65BN430MPE
125 WVDC			
1.7	T1	CL64BP1R7MPE	CL65BP1R7MPE
1.7	T1	CL64BP1R7KPE	CL65BP1R7KPE
3.6	T1	CL64BP3R6MPE	CL65BP3R6MPE
3.6	T1	CL64BP3R6KPE	CL65BP3R6KPE
9	T2	CL64BP090MPE	CL65BP090MPE
9	T2	CL64BP090KPE	CL65BP090KPE
14	T2	CL64BP140MPE	CL65BP140MPE
14	T2	CL64BP140KPE	CL65BP140KPE
18	T3	CL64BP180MPE	CL65BP180MPE
18	T3	CL64BP180KPE	CL65BP180KPE
25	T3	CL64BP250MPE	CL65BP250MPE
25	T3	CL64BP250KPE	CL65BP250KPE

*For Vibration Guide 1 or 2, change last digit in Type Number to 1 or 2.

Copyright 1971, Sprague Products Company

IND-REM-9b-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

MIL-C-3965 HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS—TYPE CL66 & CL67



- Glass-to-Metal Hermetic Seal Makes These Capacitors Especially Well-Suited For Use In Satellites and Other Applications Requiring The Benefits of true Hermetic Sealing
- May Be Operated At Temperatures Up To 175C
- Extremely low leakage Current
- Military Version Of Well-Known Sprague Type 137D
- Capacitors Listed Here Have Capacitance Tolerance Of ±10%. For ±5% Capacitors, Change 10th Character In MIL Type No. From K To J. For ±20% Capacitance Tolerance, Change K To M

Call Your Sprague Industrial Distributor For Current Quantity Prices

µF	Diam. x Length*	MIL Type Number Bare Case	MIL Type Number w/Insulating Sleeve
	6 WVDC		
30	.187 x .453	CL66BB300KPG	CL67BB300KPG
68	.187 x .453	CL66BB680KPG	CL67BB680KPG
140	.187 x .453	CL66BB141KPG	CL67BB141KPG
270	.281 x .641	CL66BB271KPG	CL67BB271KPG
330	.281 x .641	CL66BB331KPG	CL67BB331KPG
560	.281 x .641	CL66BB561KPG	CL67BB561KPG
	8 WVDC		
25	.187 x .453	CL66BC250KPG	CL67BC250KPG
56	.187 x .453	CL66BC560KPG	CL67BC560KPG
220	.281 x .641	CL66BC221KPG	CL67BC221KPG
430	.281 x .641	CL66BC431KPG	CL67BC431KPG
	10 WVDC		
20	.187 x .453	CL66BD200KPG	CL67BD200KPG
47	.187 x .453	CL66BD470KPG	CL67BD470KPG
100	.187 x .453	CL66BD101KPG	CL67BD101KPG
180	.281 x .641	CL66BD181KPG	CL67BD181KPG
250	.281 x .641	CL66BD251KPG	CL67BD251KPG
390	.281 x .641	CL66BD391KPG	CL67BD391KPG
	15 WVDC		
15	.187 x .453	CL66BE150KPG	CL67BE150KPG
33	.187 x .453	CL66BE330KPG	CL67BE330KPG
70	.187 x .453	CL66BE700KPG	CL67BE700KPG
120	.281 x .641	CL66BE121KPG	CL67BE121KPG
170	.281 x .641	CL66BE171KPG	CL67BE171KPG
270	.281 x .641	CL66BE271KPG	CL67BE271KPG
	25 WVDC		
10	.187 x .453	CL66BG100KPG	CL67BG100KPG
22	.187 x .453	CL66BG220KPG	CL67BG220KPG
100	.281 x .641	CL66BG101KPG	CL67BG101KPG
180	.281 x .641	CL66BG181KPG	CL67BG181KPG
	30 WVDC		
8	.187 x .453	CL66BH080KPG	CL67BH080KPG
15	.187 x .453	CL66BH150KPG	CL67BH150KPG
40	.187 x .453	CL66BH400KPG	CL67BH400KPG
68	.281 x .641	CL66BH680KPG	CL67BH680KPG
100	.281 x .641	CL66BH101KPG	CL67BH101KPG
150	.281 x .641	CL66BH151KPG	CL67BH151KPG
	50 WVDC		
5	.187 x .453	CL66BJ050KPG	CL67BJ050KPG
10	.187 x .453	CL66BJ100KPG	CL67BJ100KPG
25	.281 x .641	CL66BJ250KPG	CL67BJ250KPG
47	.281 x .641	CL66BJ470KPG	CL67BJ470KPG
60	.281 x .641	CL66BJ600KPG	CL67BJ600KPG
82	.281 x .641	CL66BJ820KPG	CL67BJ820KPG
	60 WVDC		
4	.187 x .453	CL66BK040KPG	CL67BK040KPG
8.2	.187 x .453	CL66BK8R2KPG	CL67BK8R2KPG
20	.281 x .641	CL66BK200KPG	CL67BK200KPG
39	.281 x .641	CL66BK390KPG	CL67BK390KPG
50	.281 x .641	CL66BK500KPG	CL67BK500KPG
68	.281 x .641	CL66BK680KPG	CL67BK680KPG
	75 WVDC		
3.5	.187 x .453	CL66BL3R5KPG	CL67BL3R5KPG
6.8	.187 x .453	CL66BL6R8KPG	CL67BL6R8KPG
15	.187 x .453	CL66BL150KPG	CL67BL150KPG
33	.281 x .641	CL66BL330KPG	CL67BL330KPG
40	.281 x .641	CL66BL400KPG	CL67BL400KPG
56	.281 x .641	CL66BL560KPG	CL67BL560KPG
	100 WVDC		
2.5	.187 x .453	CL66BN2R5KPG	CL67BN2R5KPG
4.7	.187 x .453	CL66BN4R7KPG	CL67BN4R7KPG
11	.281 x .641	CL66BN110KPG	CL67BN110KPG
22	.281 x .641	CL66BN220KPG	CL67BN220KPG
30	.281 x 1.032	CL66BN300KPG	CL67BN300KPG
43	.281 x 1.032	CL66BN430KPG	CL67BN430KPG
	125 WVDC		
1.7	.187 x .453	CL66BP1R7KPG	CL67BP1R7KPG
3.6	.187 x .453	CL66BP3R6KPG	CL67BP3R6KPG
9	.281 x .641	CL66BP090KPG	CL67BP090KPG
14	.281 x .641	CL66BP140KPG	CL67BP140KPG
25	.375 x .765	CL66BP250KPG	CL67BP250KPG

*Dimensions shown are for CL66 capacitors. For CL67 units, add .031" to diameter and .063" to length.

Copyright 1971, Sprague Products Company

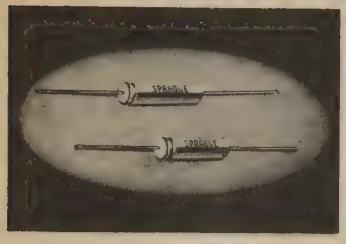
IND-REM-9C-ERAE

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 500D MINIATURE METAL-CASE ALUMINUM 'LYTICS



- Economy Line "Made-in-America" Quality at Import Prices
- Excellent Low Temperature Operation
- Reliability at Low Cost
- Withstand High Surge Voltages
- Long Shelf Life, Extremely Low Leakage Current
- High Capacitance in Ultra-Small Physical Size
- Furnished with Plastic Outer Insulating Sleeves
- Packaged 5 to A Handy Rigid Kleer-Pak Plastic Box
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3149

3 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G003BA7
2	.260 x .536	500D205G003BA7
3	.260 x .536	500D305G003BA7
4	.260 x .536	500D405G003BA7
5	.260 x .536	500D505G003BA7
6	.260 x .536	500D605G003BA7
8	.260 x .536	500D805G003BA7
10	.260 x .536	500D106G003BA7
15	.260 x .536	500D156G003BA7
20	.260 x .536	500D206G003BA7
25	.260 x .536	500D256G003BA7
30	.260 x .536	500D306G003BA7
50	.260 x .723	500D506G003BB7
65	.260 x .723	500D656G003BB7
75	.322 x .723	500D756G003CB7
100	.322 x .723	500D107G003CB7
130	.322 x .723	500D137G003CB7
150	.322 x .848	500D157G003CC7
200	.322 x .848	500D207G003CC7
250	.385 x .848	500D257G003DC7
300	.385 x .848	500D307G003DC7
400	.385 x .973	500D407G003DD7
500	.385 x 1.286	500D507G003DF7
600	.385 x 1.286	500D607G003DF7
800	.385 x 1.536	500D807G003DH7
900	.448 x 1.286	500D907G003EF7
1000	.448 x 1.536	500D108G003EH7
1200	.448 x 1.536	500D128G003EH7
1500	.510 x 1.536	500D158G003FH7
1800	.510 x 1.536	500D188G00DFH7
2000	.510 x 1.536	500D208G003FH7
2200	.510 x 1.786	500D228G003FJ7
2500	.510 x 1.786	500D258G003FJ7

6 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G006BA7
2	.260 x .536	500D205G006BA7
3	.260 x .536	500D305G006BA7
4	.260 x .536	500D405G006BA7
5	.260 x .536	500D505G006BA7
6	.260 x .536	500D605G006BA7
8	.260 x .536	500D805G006BA7
10	.260 x .536	500D106G006BA7
15	.260 x .536	500D156G006BA7
20	.260 x .536	500D206G006BA7
25	.260 x .723	500D256G006BB7
35	.260 x .723	500D356G006BB7
50	.260 x .723	500D506G006BB7
75	.322 x .723	500D756G006CB7
90	.322 x .723	500D906G006CB7
100	.322 x .848	500D107G006CC7
140	.322 x .848	500D147G006CC7
150	.385 x .848	500D157G006DC7
200	.385 x .848	500D207G006DC7
250	.385 x .973	500D257G006DD7
300	.385 x .973	500D307G006DD7
400	.385 x 1.286	500D407G006DF7
500	.385 x 1.536	500D507G006DH7
600	.385 x 1.536	500D607G006DH7
700	.448 x 1.286	500D707G006EF7
800	.448 x 1.536	500D807G006EH7
950	.448 x 1.536	500D957G006EH7
1000	.510 x 1.286	500D108G006FF7
1200	.510 x 1.536	500D128G006FH7
1500	.510 x 1.536	500D158G006FH7
1800	.510 x 1.786	500D188G006FJ7
2000	.510 x 1.786	500D208G006FJ7

12 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G012BA7
2	.260 x .536	500D205G012BA7
3	.260 x .536	500D305G012BA7
4	.260 x .536	500D405G012BA7
5	.260 x .536	500D505G012BA7
6	.260 x .536	500D605G012BA7
8	.260 x .536	500D805G012BA7
10	.260 x .536	500D106G012BA7
15	.260 x .536	500D156G012BA7
20	.260 x .723	500D206G012BB7
25	.260 x .723	500D256G012BB7
30	.260 x .723	500D306G012BB7
50	.322 x .723	500D506G012CB7
60	.322 x .723	500D606G012CB7
75	.322 x .848	500D756G012CC7
90	.385 x .723	500D906G012DB7
100	.322 x .848	500D107G012CC7
140	.385 x .848	500D147G012DC7
150	.385 x .973	500D157G012DD7
190	.385 x .973	500D197G012DD7
200	.385 x 1.286	500D207G012DF7
250	.385 x 1.286	500D257G012DF7
290	.385 x 1.286	500D297G012DF7
390	.385 x 1.536	500D397G012DH7
400	.448 x 1.286	500D407G012EF7
450	.448 x 1.286	500D457G012EF7
500	.448 x 1.536	500D507G012EH7
600	.448 x 1.536	500D607G012EH7
800	.510 x 1.536	500D807G012FH7
1000	.510 x 1.786	500D108G012FJ7
1200	.510 x 1.786	500D128G012FJ7

16 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G016BA7
2	.260 x .536	500D205G016BA7
3	.260 x .536	500D305G016BA7
4	.260 x .536	500D405G016BA7
5	.260 x .536	500D505G016BA7
6	.260 x .536	500D605G016BA7
8	.260 x .536	500D805G016BA7
10	.260 x .536	500D106G016BA7
15	.260 x .723	500D156G016BB7
20	.260 x .723	500D206G016BB7
25	.260 x .723	500D256G016BB7
30	.322 x .723	500D306G016CB7
35	.322 x .723	500D356G016CB7
50	.322 x .723	500D506G016CB7
75	.322 x .848	500D756G016CC7
85	.385 x .723	500D856G016DB7
90	.322 x .848	500D906G016CC7
100	.385 x .848	500D107G016DC7
130	.385 x .848	500D137G016DC7
150	.385 x .973	500D157G016DD7
180	.385 x .973	500D187G016DD7
200	.385 x 1.286	500D207G016DF7
250	.385 x 1.286	500D257G016DF7
300	.385 x 1.536	500D307G016DH7
350	.385 x 1.536	500D357G016DH7
400	.448 x 1.286	500D407G016EF7
450	.448 x 1.536	500D457G016EH7
500	.448 x 1.536	500D507G016EH7
600	.448 x 1.536	500D607G016EH7
800	.510 x 1.536	500D807G016FH7
1000	.510 x 1.786	500D108G016FJ7

25 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G025BA7
2	.260 x .536	500D205G025BA7
3	.260 x .536	500D305G025BA7
4	.260 x .536	500D405G025BA7
5	.260 x .536	500D505G025BA7
6	.260 x .536	500D605G025BA7
8	.260 x .536	500D805G025BA7
10	.260 x .723	500D106G025BB7
15	.260 x .723	500D156G025BB7
20	.322 x .723	500D206G025CB7
25	.322 x .723	500D256G025CB7
30	.322 x .723	500D306G025CB7
35	.322 x .723	500D356G025CB7
50	.322 x .848	500D506G025CC7
75	.385 x .848	500D756G025DC7
100	.385 x .973	500D107G025DD7
150	.385 x 1.286	500D157G025DF7
200	.385 x 1.536	500D207G025DH7
250	.448 x 1.286	500D257G025EF7
300	.448 x 1.536	500D307G025EH7
350	.448 x 1.536	500D357G025EH7
400	.510 x 1.286	500D407G025FF7
450	.510 x 1.536	500D457G025FH7
500	.510 x 1.536	500D507G025FH7
600	.510 x 1.786	500D607G025FJ7

50 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105G050BA7
2	.260 x .536	500D205G050BA7
3	.260 x .536	500D305G050BA7
4	.260 x .536	500D405G050BA7
5	.260 x .723	500D505G050BB7
6	.260 x .723	500D605G050BB7
8	.260 x .723	500D805G050BB7
10	.322 x .723	500D106G050CB7
15	.322 x .723	500D156G050CB7
20	.322 x .848	500D206G050CC7
25	.322 x .848	500D256G050CC7
35	.385 x .848	500D356G050DC7
50	.385 x .973	500D506G050DD7
75	.385 x 1.286	500D756G050DF7
100	.385 x 1.536	500D107G050DH7
120	.448 x 1.286	500D127G050EF7
150	.448 x 1.536	500D157G050EH7
200	.510 x 1.286	500D207G050FF7
250	.510 x 1.286	500D257G050FF7
300	.510 x 1.536	500D307G050FH7
350	.510 x 1.786	500D357G050FJ7
400	.510 x 1.786	500D407G050FJ7

100 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105F100BA7
2	.260 x .723	500D205F100BB7
3	.322 x .723	500D305F100CB7
4	.322 x .723	500D405F100CB7
5	.322 x .848	500D505F100CC7
6	.322 x .848	500D605F100CC7
8	.385 x .848	500D805F100DC7
10	.385 x .848	500D106F100DC7
15	.385 x .848	500D156F100DD7
20	.385 x 1.286	500D206F100DF7
25	.385 x 1.536	500D256F100DH7
30	.385 x 1.536	500D306F100DH7
40	.448 x 1.536	500D406F100EH7
50	.510 x 1.536	500D506F100FH7
60	.510 x 1.536	500D606F100FH7
75	.510 x 1.786	500D756F100FJ7

150 WVDC

µF	D. x L.	Cat. No.
1	.260 x .536	500D105F150BA7
2	.260 x .723	500D205F150BB7
3	.322 x .723	500D305F150CB7
4	.322 x .848	500D405F150CC7
5	.322 x .848	500D505F150CC7
6	.385 x .848	500D605F150DC7
7	.385 x .848	500D705F150DC7
8	.385 x .848	500D805F150DC7
10	.385 x .973	500D106F150DD7
15	.385 x 1.286	500D156F150DF7
20	.385 x 1.536	500D206F150DH7
25	.448 x 1.286	500D256F150EF7
30	.448 x 1.536	500D306F150EH7
35	.510 x 1.536	500D356F150FH7
40	.510 x 1.536	500D406F150FH7
50	.510 x 1.786	500D506F150FJ7

200 WVDC

µF	D. x L.	Cat. No.
1	.260 x .723	500D105F200BB7
2	.322 x .723	500D205F200CB7
3	.322 x .848	500D305F200CC7

Copyright 1971, Sprague Products Company

IND-REM-14A-EBAP

All sizes subject to change without notice.

© United Technical Publications

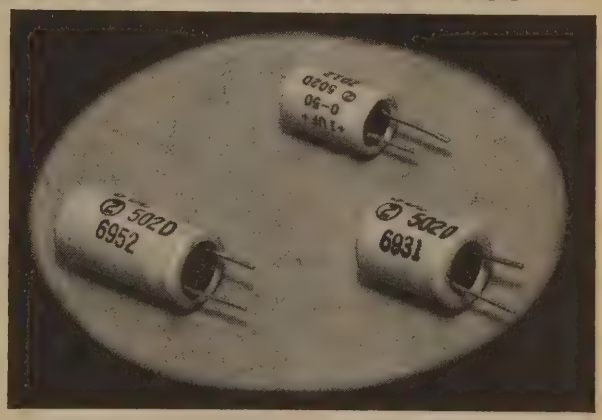
SPRAGUE CAPACITORS

TYPE 500D ALUMINUM ELECTROLYTICS, continued

µF	D. x L.	Cat. No.
4	.385 x .848	500D405F200DC7
5	.385 x .848	500D505F200DC7
6	.385 x .973	500D605F200DD7
8	.385 x 1.286	500D805F200DF7
10	.385 x 1.286	500D106F200DF7
15	.448 x 1.286	500D156F200EF7
20	.448 x 1.536	500D206F200EH7
25	.510 x 1.536	500D256F200FH7
30	.510 x 1.786	500D306F200FJ7
250 WVDC		
1	.322 x .723	500D105F250CB7
2	.385 x .723	500D205F250DB7
3	.385 x .848	500D305F250DC7
4	.385 x .973	500D405F250DD7
5	.385 x 1.286	500D505F250DF7
6	.385 x 1.286	500D605F250DF7
8	.385 x 1.536	500D805F250DH7
10	.448 x 1.286	500D106F250EF7
12	.448 x 1.536	500D126F250EH7
15	.510 x 1.536	500D156F250FH7
20	.510 x 1.786	500D206F250FJ7
300 WVDC		
1	.322 x .723	500D105F300CB7
2	.385 x .848	500D205F300DC7
3	.385 x .973	500D305F300DD7
4	.385 x 1.286	500D405F300DF7
5	.385 x 1.286	500D505F300DF7
6	.385 x 1.536	500D605F300DH7
8	.448 x 1.536	500D805F300EH7
10	.448 x 1.536	500D106F300EH7
12	.510 x 1.536	500D126F300FH7
15	.510 x 1.536	500D156F300FH7
350 WVDC		
1	.322 x .848	500D105F350CC7
2	.385 x .848	500D205F350DC7
3	.385 x .973	500D305F350DD7
4	.385 x 1.286	500D405F350DF7
5	.385 x 1.536	500D505F350DH7
6	.385 x 1.536	500D605F350DH7
8	.448 x 1.536	500D805F350EH7
10	.510 x 1.536	500D106F350FH7
12	.510 x 1.536	500D126F350FH7
15	.510 x 1.786	500D156F350FJ7
400 WVDC		
1	.385 x .848	500D105F400DC7
2	.385 x 1.286	500D205F400DF7
3	.385 x 1.536	500D305F400DH7
4	.448 x 1.286	500D405F400EF7
5	.448 x 1.536	500D505F400EH7
6	.510 x 1.286	500D605F400FF7
8	.510 x 1.536	500D805F400FH7
10	.510 x 1.786	500D106F400FJ7
450 WVDC		
1	.385 x .848	500D105F450DC7
2	.385 x 1.286	500D205F450DF7
3	.448 x 1.286	500D305F450EF7
4	.448 x 1.536	500D405F450EH7
5	.510 x 1.286	500D505F450FF7
6	.510 x 1.536	500D605F450FH7
8	.510 x 1.786	500D805F450FJ7

TYPE 502D VERTI-LYTIC® MINIATURE ELECTROLYTICS

- Moderately Priced For Use In "Personal" Radios, Auto Radios, Portable Tape Recorders, Etc., Yet Their Mechanical And Electrical Characteristics Make Them Well-Suited For High Quality Industrial Instrumentation.
- Operating Temperature Range, −20C to +85C.
- Excellent Capacitance Stability And Equivalent Series Resistance, Low Leakage Current.
- Welds At All Critical Anode And Cathode Terminations Assure Freedom From Open Circuits, Even When Operated In The Millivolt Or Microvolt Range.
- Metal-Encased, With Thermoplastic Insulating Sleeve.
- For Complete Technical Data, Refer To Latest Issue Of Engineering Bulletin 3152.



- Designed For Space-Saving Vertical Installation On High-Density Printed Wiring Boards.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

µF	Diameter	Length	Lead Spacing	Catalog Number
3 WVDC (4 VDC Surge)				
68	.410	.577	.200	502D686G003CC1C
150	.410	.577	.200	502D157G003CC1C
330	.410	.827	.200	502D337G003CE1C
6 WVDC (8 VDC Surge)				
47	.410	.577	.200	502D476G006CC1C
100	.410	.577	.200	502D107G006CC1C
220	.410	.827	.200	502D227G006CE1C
16 WVDC (20 VDC Surge)				
33	.410	.577	.200	502D336G016CC1C
47	.410	.577	.200	502D476G016CC1C
68	.410	.577	.200	502D686G016CC1C
150	.410	.827	.200	502D157G016CE1C
25 WVDC (35 VDC Surge)				
15	.410	.577	.200	502D156G025CC1C
22	.410	.577	.200	502D226G025CC1C
33	.410	.577	.200	502D336G025CC1C
68	.410	.827	.200	502D686G025CE1C
100	.410	.827	.200	502D107G025CE1C
50 WVDC (65 VDC Surge)				
1.0	.410	.577	.200	502D105G050CC1C
1.5	.410	.577	.200	502D155G050CC1C
2.2	.410	.577	.200	502D225G050CC1C
3.3	.410	.577	.200	502D335G050CC1C
4.7	.410	.577	.200	502D475G050CC1C
6.8	.410	.577	.200	502D685G050CC1C
10	.410	.577	.200	502D106G050CC1C
15	.410	.577	.200	502D156G050CC1C
22	.410	.827	.200	502D226G050CE1C
33	.410	.827	.200	502D336G050CE1C
47	.410	.827	.200	502D476G050CE1C

Copyright 1971, Sprague Products Company

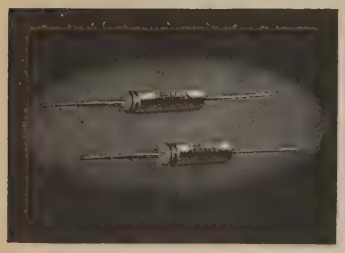
IND-REM-148-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE TE LITTL-LYTIC® ELECTROLYTICS



- Ultra-Small — Excellent, Dependable Replacement Units for Transistorized Equipment Presently on the Market
- Reliability at Reasonable Prices
- All-Welded Construction — No Pressure Joints to Cause "Open" or Intermittent Circuits
- No Corrosion as with Competitive Units
- Extremely Low Leakage Current, Long Shelf Life
- Withstand Temperatures Up to 85C (185F)
- Furnished with Clear Plastic Outer Insulating Sleeves
- Packed 5 to a Handy Rigid Kleer-Pak® Plastic Box

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3150

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
3 WVDC			
1	.260 x .536	TE-1050	30D105G003BA2
2	.260 x .536	TE-1051	30D205G003BA2
3	.260 x .536	TE-1052	30D305G003BA2
4	.260 x .536	TE-1052.1	30D405G003BA2
5	.260 x .536	TE-1052.2	30D505G003BA2
6	.260 x .536	TE-1052.3	30D605G003BA2
8	.260 x .536	TE-1052.5	30D805G003BA2
10	.260 x .536	TE-1053	30D106G003BA2
15	.260 x .536	TE-1053.5	30D156G003BA2
20	.260 x .536	TE-1054	30D206G003BA2
25	.260 x .536	TE-1055	30D256G003BA2
30	.260 x .536	TE-1055.5	30D306G003BA2
50	.260 x .723	TE-1058	30D506G003BB2
65	.260 x .723	TE-1058.5	30D656G003BB2
75	.322 x .723	TE-1059	30D756G003CB2
100	.322 x .723	TE-1059.5	30D107G003CB2
130	.322 x .723	TE-1060.1	30D137G003CB2
150	.322 x .848	TE-1061	30D157G003CC2
200	.322 x .848	TE-1064	30D207G003CC2
250	.385 x .848	TE-1065	30D257G003DC2
300	.385 x .848	TE-1066	30D307G003DC2
400	.385 x .973	TE-1067	30D407G003DD2
500	.385 x 1.286	TE-1068	30D507G003DF2
600	.385 x 1.286	TE-1069.1	30D607G003DF2
800	.385 x 1.536	TE-1070.1	30D807G003DH2
6 WVDC			
1	.260 x .536	TE-1080	30D105G006BA2
2	.260 x .536	TE-1081	30D205G006BA2
3	.260 x .536	TE-1082	30D305G006BA2
4	.260 x .536	TE-1083	30D405G006BA2
5	.260 x .536	TE-1084	30D505G006BA2
6	.260 x .536	TE-1085	30D605G006BA2
8	.260 x .536	TE-1086	30D805G006BA2
10	.260 x .536	TE-1087	30D106G006BA2
15	.260 x .536	TE-1089	30D156G006BA2
20	.260 x .536	TE-1090	30D206G006BA2
25	.260 x .723	TE-1091	30D256G006BB2
30	.260 x .723	TE-1092*	30D306G006BB2
35	.260 x .723	TE-1093	30D356G006BB2
50	.322 x .723	TE-1100	30D506G006CB2
75	.322 x .723	TE-1101.5	30D756G006CB2
90	.322 x .723	TE-1101.7	30D906G006CB2
100	.322 x .848	TE-1102	30D107G006CC2
140	.322 x .848	TE-1102.5	30D147G006CC2
150	.385 x .848	TE-1103	30D157G006DC2
200	.385 x .848	TE-1104	30D207G006DC2
250	.385 x .973	TE-1105	30D257G006DD2
300	.385 x 1.286	TE-1106	30D307G006DF2
400	.385 x 1.286	TE-1107	30D407G006DF2
500	.385 x 1.536	TE-1107.5	30D507G006DH2
600	.385 x 1.536	TE-1108.5	30D607G006DH2

*Available until present stocks are exhausted.

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
12 WVDC			
1	.260 x .536	TE-1120	30D105G012BA2
2	.260 x .536	TE-1121	30D205G012BA2
3	.260 x .536	TE-1122	30D305G012BA2
4	.260 x .536	TE-1123	30D405G012BA2
5	.260 x .536	TE-1127	30D505G012BA2
6	.260 x .536	TE-1127.1	30D605G012BA2
8	.260 x .536	TE-1127.3	30D805G012BA2
10	.260 x .536	TE-1128	30D106G012BA2
15	.260 x .536	TE-1129	30D156G012BA2
20	.260 x .723	TE-1130	30D206G012BB2
25	.260 x .723	TE-1131	30D256G012BB2
30	.260 x .723	TE-1132.1	30D306G012BB2
50	.322 x .723	TE-1133	30D506G012CB2
60	.322 x .723	TE-1133.5	30D606G012CB2
75	.322 x .848	TE-1134	30D756G012CC2
90	.385 x .723	TE-1134.5	30D906G012DB2
100	.322 x .848	TE-1135	30D107G012CC2
140	.385 x .848	TE-1135.5	30D147G012DC2
150	.385 x .973	TE-1136	30D157G012DD2
190	.385 x .973	TE-1136.5	30D197G012DD2
200	.385 x 1.286	TE-1137	30D207G012DF2
250	.385 x 1.286	TE-1138	30D257G012DF2
290	.385 x 1.286	TE-1139	30D297G012DF2
390	.385 x 1.536	TE-1140	30D397G012DH2
16 WVDC			
1	.260 x .536	TE-1148	30D105G016BA2
2	.260 x .536	TE-1149	30D205G016BA2
3	.260 x .536	TE-1150	30D305G016BA2
4	.260 x .536	TE-1151	30D405G016BA2
5	.260 x .536	TE-1152	30D505G016BA2
6	.260 x .536	TE-1153	30D605G016BA2
8	.260 x .536	TE-1154	30D805G016BA2
10	.260 x .536	TE-1155	30D106G016BA2
15	.260 x .723	TE-1156	30D156G016BB2
20	.260 x .723	TE-1157	30D206G016BB2
25	.260 x .723	TE-1157.1	30D256G016BB2
30	.322 x .723	TE-1158	30D306G016CB2
35	.322 x .723	TE-1159	30D356G016CB2
50	.322 x .723	TE-1160	30D506G016CB2
75	.322 x .848	TE-1161	30D756G016CC2
85	.385 x .723	TE-1161.5	30D856G016DB2
90	.322 x .848	TE-1161.7	30D906G016CC2
100	.385 x .848	TE-1162	30D107G016DC2
130	.385 x .848	TE-1162.5	30D137G016DC2
150	.385 x .973	TE-1163	30D157G016DD2
180	.385 x .973	TE-1163.7	30D187G016DD2
200	.385 x 1.286	TE-1164	30D207G016DF2
250	.385 x 1.286	TE-1164.5	30D257G016DF2
300	.385 x 1.536	TE-1165.5	30D307G016DH2
350	.385 x 1.536	TE-1166	30D357G016DH2

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
25 WVDC			
1	.260 x .536	TE-1200	30D105G025BA2
2	.260 x .536	TE-1201	30D205G025BA2
3	.260 x .536	TE-1201.1	30D305G025BA2
4	.260 x .536	TE-1201.2	30D405G025BA2
5	.260 x .536	TE-1202	30D505G025BA2
6	.260 x .536	TE-1203	30D605G025BA2
8	.260 x .536	TE-1203.5	30D805G025BA2
10	.260 x .723	TE-1204	30D106G025BB2
15	.260 x .723	TE-1205	30D156G025BB2
20	.322 x .723	TE-1206	30D206G025CB2
25	.322 x .723	TE-1207	30D256G025CB2
30	.322 x .723	TE-1207.5	30D306G025CB2
35	.322 x .723	TE-1208	30D356G025CB2
50	.322 x .848	TE-1209	30D506G025CC2
75	.385 x .848	TE-1210	30D756G025DC2
100	.385 x .973	TE-1211	30D107G025DD2
150	.385 x 1.286	TE-1212	30D157G025DF2
200	.385 x 1.536	TE-1213	30D207G025DH2
50 WVDC			
1	.260 x .536	TE-1300	30D105G050BA2
2	.260 x .536	TE-1301	30D205G050BA2
3	.260 x .536	TE-1302	30D305G050BA2
4	.260 x .536	TE-1302.1	30D405G050BA2
5	.260 x .723	TE-1303	30D505G050BB2
6	.260 x .723	TE-1303.1	30D605G050BB2
8	.260 x .723	TE-1303.3	30D805G050BB2
10	.322 x .723	TE-1304	30D106G050CB2
15	.322 x .723	TE-1304.2	30D156G050CB2
20	.322 x .848	TE-1305	30D206G050CC2
25	.322 x .848	TE-1305.5	30D256G050CC2
35	.385 x .848	TE-1306	30D356G050DC2
50	.385 x .973	TE-1307	30D506G050DD2
75	.385 x 1.286	TE-1308	30D756G050DF2
100	.385 x 1.536	TE-1309	30D107G050DH2
100 WVDC			
1	.260 x .536	TE-1400	30D105F100BA2
2	.260 x .723	TE-1401	30D205F100BB2
3	.322 x .723	TE-1402	30D305F100CB2
4	.322 x .723	TE-1403	30D405F100CB2
5	.322 x .848	TE-1404	30D505F100CC2
6	.322 x .848	TE-1405	30D605F100CC2
8	.385 x .848	TE-1406	30D805F100DC2
10	.385 x .848	TE-1407	30D106F100DC2
15	.385 x .973	TE-1408	30D156F100DD2
20	.385 x 1.286	TE-1409	30D206F100DF2
25	.385 x 1.536	TE-1410	30D256F100DH2
30	.385 x 1.536	TE-1411	30D306F100DH2
150 WVDC			
1	.260 x .536	TE-1500	30D105F150BA2
2	.260 x .723	TE-1501	30D205F150BB2
3	.322 x .723	TE-1502	30D305F150CB2
4	.322 x .848	TE-1503	30D405F150CC2
5	.322 x .848	TE-1504	30D505F150CC2
6	.385 x .848	TE-1505	30D605F150DC2
7	.385 x .848	TE-1505.5	30D705F150DC2
8	.385 x .848	TE-1506	30D805F150DC2
10	.385 x .973	TE-1507	30D106F150DD2
15	.385 x 1.286	TE-1508.1	30D156F150DF2
20	.385 x 1.536	TE-1509	30D206F150DH2

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

Copyright 1971, Sprague Products Company

IND-REM-15-EBAP

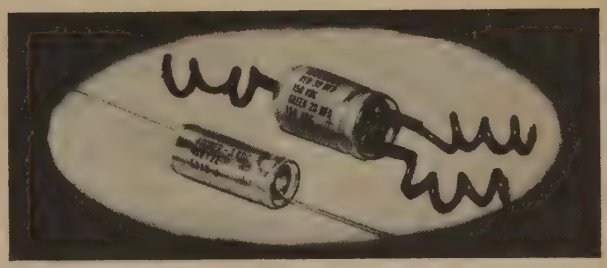
Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE TVA ATOM® ELECTROLYTICS

- The Smallest Dependable Standard Tubular—Designed for 85C (185F) Operation in Voltages to 475 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phono Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Insulating Tube



µF	WVDC	D. x L.	Cat. No.
		SINGLE UNITS	
1000	1	1 1/16 x 2 5/16	TVA-1080
750	3	1 3/32 x 1 19/32	TVA-1097
50	6	1 1/32 x 3/4	TVA-1100
100	6	1 1/32 x 7/8	TVA-1101
250	6	1 3/32 x 1	TVA-1102
500	6	1 3/32 x 1 19/32	TVA-1103
1000	6	3/4 x 1 13/16	TVA-1104
1500	6	1 3/16 x 2 1/16	TVA-1105
2000	6	1 3/16 x 2 1/16	TVA-1106
2000	10 (non-polar)	1 x 2 5/16	TVAN-1129
3000	10	3/4 x 1 11/16	TVA-1129.2
4000	10	7/8 x 1 11/16	TVA-1129.4
5000	10	7/8 x 2	TVA-1129.5
10,000	10	1 x 2 11/16	TVA-1129.8
8	10NP	9/16 x 1 5/16	TVAN-1112
50	10NP	9/16 x 1 9/16	TVAN-1117
160	10NP	1 1/16 x 1 13/16	TVAN-1120
100	12	1 1/32 x 7/8	TVA-1130
250	12	1 3/32 x 1 5/16	TVA-1131
500	12	1 5/32 x 1 19/32	TVA-1132
1000	12	1 3/16 x 1 13/16	TVA-1133
100	15	1 3/32 x 7/8	TVA-1160
250	15	1 3/32 x 1 5/16	TVA-1161
500	15	1 5/32 x 1 19/32	TVA-1162
1000	15	1 3/16 x 1 13/16	TVA-1163
1200	15	1 3/16 x 2 5/16	TVA-1164
2000	15	1 5/16 x 2 13/16	★TVA-1170
3000	15	1 1/16 x 4 1/16	TVA-1175
1500	16	7/8 x 1 5/8	TVA-1175.2
4000	16	1 1/8 x 1 7/8	TVA-1175.4
5000	16	1 x 2 3/16	TVA-1175.5
10,000	16	1 x 3 5/16	TVA-1175.8
1500	20	1 1/16 x 1 13/16	TVA-1190
2300	20	1 x 2 7/8	TVA-1194
2	25	9/32 x 1 9/32	TVA-1201
2	25NP	9/16 x 1 9/16	TVAN-1202
4	25NP	1 5/16 x 1 5/16	★TVAN-1202.2
5	25	9/32 x 1 9/32	TVA-1203
5	25NP	9/16 x 1 5/16	TVAN-1203.1
8	25NP	1 1/16 x 1 13/16	★TVAN-1203.8
10	25	9/32 x 3/4	TVA-1204
10	25NP	9/16 x 1 5/16	TVAN-1204.1
20	25	1 1/32 x 3/4	TVA-1204.5
25	25	1 1/32 x 3/4	TVA-1205
50	25	1 1/32 x 7/8	TVA-1206
50	25NP	1 1/16 x 1 13/16	TVAN-1206.1
100	25	1 3/32 x 1	TVA-1207
100	25NP	1 1/16 x 1 5/16	TVAN-1207.1
150	25	1 3/16 x 1 5/16	TVA-1207.5
250	25	1 5/32 x 1 5/16	TVA-1208
500	25	3/4 x 1 13/16	TVA-1209
1000	25	1 3/16 x 2 5/16	TVA-1211
1500	25	1 1/8 x 1 5/8	TVA-1212
2000	25	1 1/16 x 2 5/16	TVA-1213
4000	25	1 1/4 x 2 1/8	TVA-1214.2
5000	25	1 1/4 x 2 5/8	TVA-1214.5

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

µF	WVDC	D. x L.	Cat. No.
3	30NP	1 1/16 x 1 5/16	TVAN-1215
20	30NP	1 1/16 x 1 9/16	TVAN-1220
10	40NP	9/16 x 1 13/16	TVAN-1230
5500	35	1 1/8 x 3 5/16	TVA-1229
1	50	9/32 x 1 9/32	TVA-1300
2	50	9/32 x 1 9/32	TVA-1301
2	50NP	1 1/16 x 1 13/16	TVAN-1301.1
3	50	9/16 x 1 9/32	TVA-1302
3	50NP	9/16 x 1 9/16	TVAN-1302.1
4	50NP	1 1/16 x 1 7/16	★TVAN-1302.5
5	50	9/32 x 3/4	TVA-1303
5	50NP	1 1/16 x 2 5/16	TVAN-1303.1
10	50	1 1/32 x 3/4	TVA-1304
10	50NP	1 1/16 x 2 1/16	TVAN-1304.1
15	50	1 1/32 x 3/4	TVA-1305
20	50	1 1/32 x 7/8	TVA-1305.5
25	50	1 1/32 x 7/8	TVA-1306
50	50	1 3/32 x 1	TVA-1308
50	50NP	1 3/16 x 2 1/16	TVAN-1308.1
100	50	1 3/32 x 1 19/32	TVA-1310
150	50	1 5/32 x 1 19/32	TVA-1311
250	50	1 3/16 x 1 9/16	TVA-1312
500	50	1 x 1 15/16	TVA-1315
2000	50	1 3/8 x 3 5/8	TVA-1318.2
3000	50	1 x 4 1/16	TVA-1318.4
4000	50	1 1/4 x 3 1/8	TVA-1318.5
5000	50	1 3/8 x 3 1/8	TVA-1318.7
10	90	1 3/32 x 7/8	TVA-1320
10	100NP	1 1/16 x 1 13/16	TVAN-1333
1	150	9/32 x 1 9/32	TVA-1400
4	150	1 1/32 x 7/8	TVA-1402
4	150NP	9/16 x 1 13/16	TVAN-1402.1
5	150	1 1/32 x 7/8	TVA-1403
8	150	1 3/32 x 7/8	TVA-1405
10	150	1 3/32 x 1	TVA-1406
10	150NP	1 3/16 x 1 9/16	TVAN-1406.1
12	150	1 3/32 x 1 5/16	TVA-1407
16	150	3/8 x 1 1/2	TVA-1409
20	150	1 3/32 x 1 19/32	TVA-1410
25	150	1 5/32 x 1 5/16	TVA-1411
30	150	1 5/32 x 1 19/32	TVA-1412
40	150	1 3/16 x 1 9/16	TVA-1413
50	150	1 3/16 x 1 13/16	TVA-1414
60	150	1 5/16 x 1 9/16	TVA-1415
80	150	1 5/16 x 1 9/16	TVA-1418
100	150	1 5/16 x 2 1/16	TVA-1420
150	150	1 1/16 x 2 1/16	TVA-1422
200	150	1 1/16 x 2 9/16	TVA-1423
300	150	1 1/16 x 3 5/16	TVA-1425
80	175	1 1/16 x 2 1/16	TVA-1430
2	200NP	9/16 x 1 9/16	TVAN-1435.1
60	200NP	1 1/16 x 2 13/16	TVAN-1440
100	200	1 1/16 x 2 5/16	TVA-1445
1	250	1 1/32 x 3/4	TVA-1500
4	250	1 3/32 x 1	TVA-1501
8	250	1 3/32 x 1 19/32	TVA-1503
10	250	1 5/32 x 1 5/16	TVA-1504
12	250	1 3/32 x 2 1/16	TVA-1505

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

★ Mounting straps attached

Copyright 1971, Sprague Products Company

All sizes subect to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

ATOM® ELECTROLYTICS, continued

μF	WVDC	D. x L.	Cat. No.
		SINGLE UNITS (Cont.)	
16	250	13/16 x 1 5/16	TVA-1507
20	250	13/16 x 1 5/16	TVA-1508
30	250	13/16 x 1 13/16	TVA-1510
40	250	13/16 x 2 1/16	TVA-1511
50	250	1 5/16 x 1 13/16	TVA-1512
60	250	1 x 1 13/16	TVA-1513
70	250	1 1/16 x 2 1/16	TVA-1515
100	250	1 1/16 x 2 5/16	TVA-1522
100	300	1 1/16 x 3 1/16	TVA-1573
4	350	13/32 x 1 5/16	TVA-1601
5	350NP	13/16 x 1 13/16	TVAN-1602
8	350	15/32 x 1 5/16	TVA-1603
10	350	3/4 x 1 5/16	TVA-1604
10	350NP	1 1/16 x 2 1/16	TVAN-1604.1
12	350	13/16 x 1 5/16	TVA-1605
16	350	13/16 x 1 5/16	TVA-1607
20	350	13/16 x 1 13/16	TVA-1608
30	350	13/16 x 2 1/16	TVA-1610
40	350	15/16 x 2 1/16	TVA-1611
60	350	1 1/16 x 2 1/16	TVA-1613
100	350	1 1/16 x 2 13/16	TVA-1620
10	400NP	1 1/16 x 2 1/16	★TVAN-1650
20	400NP	1 1/16 x 2 5/16	TVAN-1652
1	450	13/32 x 7/8	TVA-1700
2	450	13/32 x 1 5/16	TVA-1701
4	450	15/32 x 1 5/16	TVA-1702
5	450	1 1/16 x 1 5/16	TVA-1703
8	450	3/4 x 1 5/16	TVA-1704
10	450	13/16 x 1 5/16	TVA-1705
12	450	13/16 x 1 5/16	TVA-1706
16	450	13/16 x 1 13/16	TVA-1708
20	450	15/16 x 1 13/16	TVA-1709
30	450	15/16 x 2 1/16	TVA-1711
40	450	1 1/16 x 2 1/16	TVA-1712
50	450	1 1/16 x 2 5/16	TVA-1713
60	450	1 1/16 x 2 13/16	TVA-1714
80	450	1 1/16 x 3 13/16	TVA-1716
100	450	1 1/16 x 4 1/16	TVA-1718
10	475	13/16 x 2 1/16	TVA-1802
20	475	15/16 x 2 5/16	TVA-1804
8	500	15/16 x 1 13/16	TVA-1902
10	500	15/16 x 1 13/16	TVA-1903
12	500	15/16 x 2 1/16	TVA-1904
16	500	1 x 2 5/16	TVA-1905
20	500	1 1/16 x 2 5/16	TVA-1906
40	500	1 1/16 x 3 1/16	TVA-1908
8	600	1 1/16 x 3 3/16	TVA-1962
10	600	1 1/16 x 3 3/16	TVA-1963
16	600	1 1/16 x 4 3/16	TVA-1965
20	600	1 1/16 x 4 3/16	TVA-1966
		DUAL UNITS (COMMON NEGATIVE)—3 LEADS	
10-10	25-25	15/16 x 1 9/16	★TVA-2210
10-10	50-50	13/16 x 1 5/16	★TVA-2315
8.8	150-150	13/16 x 1 5/16	TVA-2415
16-16	150-150	13/16 x 1 9/16	★TVA-2420
30-20	150-150	15/16 x 1 9/16	★TVA-2421
20-12	150-150	13/16 x 1 9/16	★TVA-2425
20-20	150-150	13/16 x 1 9/16	★TVA-2428
30-30	150-150	15/16 x 1 9/16	★TVA-2434
40-20	150-150	15/16 x 1 9/16	★TVA-2438
40-30	150-150	15/16 x 1 13/16	★TVA-2442
40-40	150-150	15/16 x 2 1/16	★TVA-2445
50-30	150-150	15/16 x 2 1/16	★TVA-2450
50-50	150-150	15/16 x 2 1/16	★TVA-2453
60-20	150-150	15/16 x 2 1/16	★TVA-2455
60-40	150-150	15/16 x 2 13/16	★TVA-2456
60-60	150-150	15/16 x 2 13/16	★TVA-2457
80-20	150-150	15/16 x 2 9/16	★TVA-2459
80-30	150-150	15/16 x 2 5/16	★TVA-2460
80-40	150-150	15/16 x 2 9/16	★TVA-2461
80-50	150-150	15/16 x 2 9/16	★TVA-2462
100-50	150-150	1 1/16 x 2 13/16	★TVA-2463
200-5	150-150	1 1/16 x 3 9/16	★TVA-2467
60-1	200-200	15/16 x 2 5/16	★TVA-2493
200-5	200-200	1 1/16 x 3 13/16	★TVA-2498
20-20	250-250	15/16 x 1 13/16	★TVA-2515
40-10	250-250	15/16 x 2 1/16	★TVA-2520
80-10	250-250	1 1/16 x 2 5/16	★TVA-2525
60-32	300-300	1 1/16 x 3 1/16	★TVA-2585
8-8	450-450	15/16 x 1 13/16	★TVA-2720
10-10	450-450	15/16 x 2 1/16	★TVA-2722
16-8	450-450	15/16 x 2 5/16	★TVA-2725
20-20	450-450	15/16 x 2 13/16	TVA-2730
30-30	450-450	1 1/16 x 3 5/16	★TVA-2735
40-40	450-450	1 1/16 x 4 1/16	★TVA-2740
50-30	450-450	1 1/16 x 4 1/16	★TVA-2743
80-30	450-450	1 1/16 x 4 9/16	★TVA-2750
20-100	475-50	1 1/16 x 2 9/16	★TVA-2765
		DUAL UNIT (SEPARATE SECTIONS)—4 LEADS	
120-120	150-150	1 1/16 x 4	TU-2120
		TRIPLE UNITS	
40-40-250	150-150-10	1 x 2 1/16	★TVA-3406
20-20-20	150-150-25	15/16 x 1 9/16	★TVA-3415
30-30-100	150-150-12	15/16 x 2 1/16	★TVA-3419
60-40-250	150-150-15	1 1/16 x 2 1/16	★TVA-3421.5
40-20-20	150-150-25	15/16 x 1 13/16	★TVA-3422.9
40-30-20	150-150-25	15/16 x 2 1/16	★TVA-3423
40-40-20	150-150-25	15/16 x 2 5/16	★TVA-3425
40-40-100	150-150-25	15/16 x 2 9/16	★TVA-3427
50-30-20	150-150-25	15/16 x 2 5/16	★TVA-3430
50-30-100	150-150-25	15/16 x 2 9/16	★TVA-3432
50-30-200	150-150-25	1 1/16 x 2 5/16	★TVA-3433
50-50-20	150-150-25	1 x 2 5/16	★TVA-3436
80-40-20	150-150-25	1 1/16 x 2 1/16	★TVA-3437.1
20-20-20	150-150-150	15/16 x 1 13/16	★TVA-3440
30-25-20	150-150-150	15/16 x 2 5/16	★TVA-3442
30-30-20	150-150-150	15/16 x 2 5/16	★TVA-3443
30-30-30	150-150-150	15/16 x 2 5/16	★TVA-3444
40-20-10	150-150-150	15/16 x 2 5/16	★TVA-3445
40-20-20	150-150-150	15/16 x 2 1/16	★TVA-3446
40-30-20	150-150-150	15/16 x 2 5/16	★TVA-3448
40-30-30	150-150-150	1 1/16 x 2 9/16	★TVA-3449
40-40-20	150-150-150	15/16 x 2 9/16	★TVA-3450
40-40-40	150-150-150	1 1/16 x 2 9/16	★TVA-3451
50-30-20	150-150-150	1 1/16 x 2 9/16	★TVA-3453
50-50-50	150-150-150	1 1/16 x 3 1/16	★TVA-3453.5
60-40-40	150-150-150	1 1/16 x 2 9/16	★TVA-3454.3
80-40-20	150-150-150	1 1/16 x 3 1/16	★TVA-3455
80-40-40	150-150-150	1 1/16 x 3 1/16	★TVA-3456
80-50-50	150-150-150	1 1/16 x 3 5/16	★TVA-3456.5
80-60-20	150-150-150	1 1/16 x 3 1/16	★TVA-3457
80-80-80	150-150-150	1 1/16 x 3 13/16	TVA-3457.5
100-30-10	150-150-150	1 1/16 x 2 13/16	★TVA-3458
12-12-20	450-450-25	1 1/16 x 2 1/16	★TVA-3716
20-20-20	450-450-25	1 1/16 x 2 9/16	★TVA-3718
40-40-20	450-450-25	1 1/16 x 4 1/16	★TVA-3720
40-20-20	450-450-450	1 1/16 x 4 1/16	★TVA-3740

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

★ Mounting straps attached.

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE TVL TWIST-LOK® ELECTROLYTICS

- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance in TV, Radio and Hi-Fi
- Designed for 85C (185F) Operation
- Stand Up Under Extremely High Temperatures Often Encountered in TV, Hi-Fi, and Auto Radio Cabinets
- Withstand High Surge Voltages
- Ideal for High Ripple Selenium Rectifier Circuits
- Can Be Safely Mounted "Above Ground" Using Phenolic Mounting Plate and Insulating Tube
- Easy to Mount—Unit Locks Firmly in Place with a Twist of the Tabs



The Twist-lok Capacitors listed here include only popular ratings for industrial applications. For the complete line of more than 2400 Twist-lok Capacitors, please refer to Distributor's Guide to Replacement Electrolytic Capacitors, C-1005.

μF	WVDC	Dia. x Length	Cat. No.
SINGLE UNITS			
225	15	¾ x 2	TVL-1160
1000	15	1 x 1½	TVL-1165
2000	15	1⅜ x 2	TVL-1168
3000	15	1⅜ x 2	TVL-1170
4000	15	1⅜ x 2	TVL-1173
500	25	1 x 1½	TVL-1220
1000	25	1⅜ x 2	TVL-1230
3000	35	1⅜ x 2½	TVL-1269
5000	45	1⅜ x 4½	TVL-1295
100	50	¾ x 2	TVL-1317
150	50	¾ x 2½	TVL-1320
250	50	1 x 2	TVL-1324
500	50	1⅜ x 2	TVL-1330
1000	50	1⅜ x 2½	TVL-1338
1500	50	1⅜ x 2½	TVL-1341
2000	50	1⅜ x 2½	TVLP-1342
2000	75	1⅜ x 3½	TVLP-1375
50	150	1 x 1½	TVL-1415
100	150	1 x 1½	TVL-1423
120	150	1 x 2	TVL-1425
120	150	1⅜ x 2	TVL-1426
140	150	1 x 2½	TVL-1428
150	150	1 x 2	TVL-1429
150	150	1⅜ x 2	TVL-1430
200	150	1⅜ x 2	TVL-1431
200	150	1 x 3	TVL-1431.1
300	150	1⅜ x 2	TVL-1434
500	150	1⅜ x 3½	TVL-1439.5
125	200	1 x 2½	TVL-1470
150	200	1 x 3	TVL-1471
150	200	1⅜ x 2	TVL-1471.1
160	200	1⅜ x 2	TVL-1473
200	200	1⅜ x 2	TVL-1475
200	200	1 x 3½	TVL-1475.1
300	200	1⅜ x 2½	TVL-1480
400	200	1⅜ x 3½	TVL-1485
500	200	1⅜ x 4	TVL-1490
20	250	1 x 1½	TVL-1509
40	250	1 x 2	TVL-1519
80	250	1 x 2	TVL-1530
100	250	1 x 3	TVL-1535
150	250	1 x 2½	TVL-1539
150	250	1⅜ x 2	TVL-1540
160	250	1⅜ x 2½	TVL-1541
160	250	1 x 3	TVL-1541.1
200	250	1⅜ x 2½	TVL-1547
250	250	1⅜ x 4	TVL-1548
300	250	1⅜ x 2½	TVL-1550
80	300	1 x 2½	TVL-1573
100	300	1 x 2½	TVL-1578
125	300	1⅜ x 2½	TVL-1580
150	300	1⅜ x 3½	TVL-1584
160	300	1⅜ x 2½	TVL-1585
200	300	1⅜ x 3	TVL-1586
250	300	1⅜ x 3	TVL-1590
30	350	1 x 2	TVL-1617
40	350	1 x 2	TVL-1621
50	350	1 x 2	TVL-1622
60	350	1 x 2½	TVL-1624
80	350	1⅜ x 2	TVL-1630
125	350	1⅜ x 2½	TVL-1638
150	350	1⅜ x 2½	TVL-1642
200	350	1⅜ x 3½	TVL-1643
250	350	1⅜ x 3½	TVL-1644.2
320	350	1⅜ x 4	TVL-1645
10	450	1 x 1½	TVL-1705
20	450	1 x 2	TVL-1714
30	450	1 x 2½	TVL-1720
40	450	1 x 2½	TVL-1725
50	450	1 x 2½	TVL-1728
80	450	1⅜ x 2½	TVL-1735
100	450	1⅜ x 2½	TVL-1750
125	450	1⅜ x 3	TVL-1760
150	450	1⅜ x 3½	TVL-1770
160	450	1⅜ x 4	TVL-1772
10	500	1 x 1½	TVL-1940
20	500	1 x 2	TVL-1943
30	500	1 x 2½	TVL-1947
40	500	1 x 2½	TVL-1950
80	500	1⅜ x 2½	TVL-1958
90	500	1⅜ x 2½	TVL-1960
20	600	1⅜ x 4	TVL-1990
DUAL UNITS			
1000-1000	15-15	1 x 2½	TVL-2160
500-500	25-25	1⅜ x 2	TVL-2233
1000-500	25-25	1⅜ x 2	TVL-2239
1000-500	30-30	1⅜ x 2½	TVLP-2242.9
100-100	50-50	1 x 1½	TVL-2326
40-40	150-150	1 x 1½	TVL-2428
50-30	150-150	1 x 1½	TVL-2432
50-50	150-150	1 x 1½	TVL-2435
70-30	150-150	1 x 2	TVL-2439
80-40	150-150	1⅜ x 2	TVL-2442
80-50	150-150	1 x 2	TVL-2442.1
80-60	150-150	1 x 3	TVL-2442.2
200-200	150-150	1⅜ x 2½	TVL-2447
30-30	175-175	1 x 2	TVL-2449
60-60	200-200	1 x 1¾	TVL-2461
60-60	200-200	1⅜ x 2	TVL-2462
100-100	200-200	1⅜ x 2	TVL-2464
250-100	200-200	1⅜ x 3	TVL-2475
300-300	200-200	1⅜ x 4	TVL-2475.5
20-20	250-250	1 x 1½	TVL-2515
40-40	250-250	1 x 1¾	TVL-2520
150-150	250-250	1⅜ x 2½	TVL-2535
200-200	250-250	1⅜ x 4	TVL-2538
150-250	300-150	1⅜ x 3	TVL-2560.7
80-80	300-300	1⅜ x 2½	TVL-2585
150-100	300-300	1⅜ x 3	TVL-2591
200-80	300-300	1⅜ x 4	TVL-2593
200-100	300-300	1⅜ x 4	TVL-2595
20-20	350-350	1 x 2	TVL-2626
30-30	350-350	1 x 2½	TVL-2628
50-10	350-350	1 x 3	TVL-2629
50-30	350-350	1⅜ x 2	TVL-2630
80-40	350-350	1⅜ x 2½	TVL-2634
80-80	350-350	1⅜ x 2½	TVL-2635
100-60	350-350	1⅜ x 2½	TVL-2639
100-100	350-350	1⅜ x 3	TVL-2641
150-100	350-350	1⅜ x 3½	TVL-2642.4
150-150	350-350	1⅜ x 3½	TVL-2642.5
160-10	350-350	1⅜ x 3	TVL-2643
200-200	350-350	1⅜ x 4½	TVL-2645.5
300-20	350-350	1⅜ x 4	TVL-2645.7
100-30	400-50	1⅜ x 2	TVL-2655
80-80	400-200	1⅜ x 3½	TVL-2656
80-60	400-400	1⅜ x 3	TVL-2677
80-80	400-400	1⅜ x 4	TVL-2678
120-40	400-400	1⅜ x 4	TVL-2679
20-160	450-250	1⅜ x 2½	TVL-2722.7
80-200	450-250	1⅜ x 4½	TVL-2722.8
80-2	450-350	1⅜ x 2½	TVL-2738.5
10-10	450-450	1 x 2	TVL-2750
15-15	450-450	1 x 2½	TVL-2753
20-10	450-450	1 x 2	TVL-2754
20-20	450-450	1 x 2½	TVL-2755
30-10	450-450	1 x 2½	TVL-2757
30-30	450-450	1⅜ x 2	TVL-2759
40-20	450-450	1⅜ x 2	TVL-2762
40-40	450-450	1⅜ x 2½	TVL-2764
50-50	450-450	1⅜ x 3	TVL-2767
60-20	450-450	1⅜ x 2½	TVL-2768
60-60	450-450	1⅜ x 3	TVL-2772
80-10	450-450	1⅜ x 3	TVL-2776
80-20	450-450	1⅜ x 2½	TVL-2776.5
80-40	450-450	1⅜ x 3½	TVL-2778
80-50	450-450	1⅜ x 3½	TVL-2778.5
80-80	450-450	1⅜ x 3½	TVL-2779
100-40	450-450	1⅜ x 3½	TVL-2780
100-60	450-450	1⅜ x 3½	TVL-2782
100-100	450-450	1⅜ x 4	TVL-2782.5
80-160	475-250	1⅜ x 4½	TVL-2808
20-100	475-400	1⅜ x 3	TVL-2813
80-50	475-475	1⅜ x 3½	TVL-2851
10-10	500-500	1 x 2	TVL-2933
20-20	500-500	1⅜ x 2	TVL-2935
30-30	500-500	1⅜ x 2	TVL-2937
40-40	500-500	1⅜ x 2½	TVL-2940
60-40	500-500	1⅜ x 3½	TVL-2944

Copyright 1971, Sprague Products Company

REM-10-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.
TRIPLE UNITS			
850-400-4	16-16-11.5	1 x 2½	TVL-3021
500-500-100	16-16-16	1 x 1¾	TVL-3026.8
40-20-20	150-150-150	1 x 1½	TVL-3437
40-30-20	150-150-150	1 x 2	TVL-3438
40-40-40	150-150-150	1 x 1¾	TVL-3440
50-50-50	150-150-150	1 x 2	TVL-3442
60-40-20	150-150-150	1 x 1¾	TVL-3443
60-60-60	150-150-150	1 x 2½	TVL-3443.13
80-40-20	150-150-150	1 x 2	TVL-3444
200-150-150	150-150-150	1⅜ x 3	TVL-3452
250-200-10	150-150-150	1⅜ x 4	TVL-3453
250-200-50	175-175-175	1⅜ x 4	TVL-3454.12
60-200-140	200-150-150	1⅜ x 3	TVL-3461.4
200-200-40	200-150-150	1⅜ x 3	TVL-3461.7
250-200-50	200-150-150	1⅜ x 3½	TVL-3461.8
250-100-5	200-200-200	1⅜ x 3	TVL-3489.5
250-200-10	200-200-200	1⅜ x 4	TVL-3490
250-200-50	200-200-200	1⅜ x 3½	TVL-3491
20-20-20	250-250-250	1 x 1¾	TVL-3532
40-20-20	250-250-250	1 x 2	TVL-3540
100-60-20	300-250-250	1⅜ x 3	TVL-3562
125-20-20	300-300-50	1⅜ x 3½	TVL-3574.3
140-100-100	300-300-50	1⅜ x 3½	TVL-3574.8
80-40-40	300-300-300	1⅜ x 2½	TVL-3583
200-100-2	300-300-300	1⅜ x 4	TVL-3588
150-100-100	350-350-50	1⅜ x 4½	TVL-3628.5
15-10-20	350-350-25	1 x 1½	TVL-3630
250-3-200	350-350-25	1⅜ x 4	TVL-3636.18
150-5-100	350-350-50	1⅜ x 2½	TVL-3637.3
150-100-200	350-350-25	1⅜ x 3½	TVL-3637.10
100-60-20	350-350-200	1⅜ x 4	TVL-3639.2
30-20-10	350-350-350	1 x 2½	TVL-3639.8
50-50-50	350-350-350	1⅜ x 3½	TVL-3639.9
60-50-50	350-350-350	1⅜ x 2½	TVL-3641
80-60-60	350-350-350	1⅜ x 3½	TVL-3642
100-100-40	350-350-350	1⅜ x 4	TVL-3646.5
140-140-20	350-350-350	1⅜ x 4	TVL-3648
200-120-80	350-350-350	1⅜ x 4½	TVL-3648.6
160-100-60	350-350-350	1⅜ x 4½	TVL-3648.7
80-80-200	400-200-25	1⅜ x 3	TVL-3651.8
80-80-100	400-200-50	1⅜ x 3	TVL-3652
10-4-20	400-350-25	1 x 2	TVL-3668
80-40-100	400-400-50	1⅜ x 3	TVL-3683
80-40-150	400-400-50	1⅜ x 4	TVL-3684
100-10-80	400-400-350	1⅜ x 3½	TVL-3689.3
50-160-50	450-250-50	1⅜ x 4	TVL-3711.2
50-10-160	450-350-250	1⅜ x 4½	TVL-3719.4
80-80-100	400-350-50	1⅜ x 3	TVL-3719.9
80-2-25	450-350-25	1⅜ x 2½	TVL-3719.10
80-50-100	450-350-200	1⅜ x 3½	TVL-3723.7
20-20-20	450-350-350	1 x 3½	TVL-3724.12
50-10-50	450-400-250	1⅜ x 4	TVL-3725.11
10-10-20	450-450-25	1 x 2	TVL-3731
20-20-20	450-450-25	1 x 2½	TVL-3739
80-20-100	450-450-50	1⅜ x 3	TVL-3757
80-50-50	450-450-50	1⅜ x 4	TVL-3757.1
80-50-250	450-450-50	1⅜ x 3½	TVL-3757.4
50-20-4	450-450-350	1 x 3½	TVL-3774.6
80-80-10	450-450-400	1⅜ x 4½	TVL-3775.7
80-80-20	450-450-400	1⅜ x 3½	TVL-3775.9
10-10-10	450-450-450	1 x 2	TVL-3776
15-15-10	450-450-450	1 x 3	TVL-3778
15-15-15	450-450-450	1 x 2½	TVL-3778.2
20-20-20	450-450-450	1⅜ x 2	TVL-3780
40-30-20	450-450-450	1⅜ x 2½	TVL-3784
40-40-10	450-450-450	1⅜ x 2½	TVL-3785
40-40-20	450-450-450	1⅜ x 2½	TVL-3786
40-40-40	450-450-450	1⅜ x 3	TVL-3787
50-20-4	450-450-450	1 x 3½	TVL-3787.5
60-20-20	450-450-450	1⅜ x 3	TVL-3789
60-40-20	450-450-450	1⅜ x 3	TVL-3791
60-50-30	450-450-450	1⅜ x 3½	TVL-3791.3
80-30-20	450-450-450	1⅜ x 3½	TVL-3791.8
80-40-20	450-450-450	1⅜ x 3	TVL-3793
80-50-30	450-450-450	1⅜ x 4	TVL-3793.3
50-40-40	475-475-25	1⅜ x 3½	TVL-3816.11
80-18-10	475-475-475	1⅜ x 3½	TVL-3875
10-10-10	500-500-500	1 x 2½	TVL-3952
30-20-20	500-500-500	1⅜ x 2½	TVL-3956

μF	WVDC	Dia. x Length	Cat. No.
QUADRUPLE UNITS			
80-40-40-40	150-150-150-25	1⅜ x 2	TVL-4432
250-200-10-10	175-175-150-150	1⅜ x 3½	TVL-4449
300-200-20-20	175-175-150-150	1⅜ x 4½	TVL-4449.2
200-200-60-30	175-175-175-175	1⅜ x 3½	TVL-4450
200-200-200-30	175-175-175-175	1⅜ x 4½	TVL-4451
450-80-60-5	200-200-175-175	1⅜ x 4½	TVL-4469
450-80-150-5	200-200-175-175	1⅜ x 4½	TVL-4469.5
80-80-50-50	200-200-200-50	1⅜ x 2	TVL-4475.5
240-240-160-5	200-200-200-200	1⅜ x 4½	TVL-4479.4
160-50-50-10	200-200-200-200	1⅜ x 2½	TVL-4479.5
240-180-160-5	200-200-200-200	1⅜ x 4½	TVL-4479.8
250-200-40-10	200-200-200-200	1⅜ x 3½	TVL-4479.10
250-200-20-10	200-200-200-200	1⅜ x 3½	TVL-4479.11
450-160-60-5	200-200-200-200	1⅜ x 4½	TVL-4479.14
250-200-10-10	250-250-250-250	1⅜ x 4	TVL-4541
250-200-40-10	250-250-250-250	1⅜ x 4	TVL-4542
40-20-10-10	300-300-300-300	1⅜ x 2	TVL-4578
100-150-5-100	350-200-150-50	1⅜ x 3	TVL-4603.7
10-20-10-50	350-200-200-50	1⅜ x 2	TVL-4603.13
120-100-100-100	350-300-150-75	1⅜ x 4	TVL-4604.15
40-80-10-10	350-300-300-300	1⅜ x 2½	TVL-4605.6
150-20-200-120	350-350-175-175	1⅜ x 4	TVL-4608.10
100-50-100-100	350-350-200-50	1⅜ x 3½	TVL-4608.11
20-5-100-100	350-350-200-50	1⅜ x 2	TVL-4608.12
50-10-150-100	350-350-200-25	1⅜ x 2½	TVL-4608.13
100-100-60-100	350-350-200-50	1⅜ x 4	TVL-4609.1
100-60-10-100	350-350-200-150	1⅜ x 4½	TVL-4609.4
40-40-20-20	350-350-350-25	1⅜ x 2½	TVL-4621.6
40-40-40-40	350-350-350-25	1⅜ x 2½	TVL-4622.3
150-100-20-100	350-350-350-25	1⅜ x 4½	TVL-4622.9
150-100-10-60	350-350-350-50	1⅜ x 4½	TVL-4624.8
150-100-10-100	350-350-350-50	1⅜ x 4	TVL-4633.8
100-40-30-50	350-350-350-50	1⅜ x 4	TVL-4634
20-20-20-20	350-350-350-350	1⅜ x 2½	TVL-4634.13
150-100-5-60	350-350-350-75	1⅜ x 4	TVL-4634.15
40-20-20-10	350-350-350-350	1⅜ x 2	TVL-4635
40-40-40-40	350-350-350-350	1⅜ x 2½	TVL-4635.3
80-60-40-20	350-350-350-350	1⅜ x 3½	TVL-4635.7
100-100-50-50	350-350-350-350	1⅜ x 4	TVL-4635.15
150-100-20-20	350-350-350-350	1⅜ x 4½	TVL-4635.23
250-100-100-25	350-350-350-350	1⅜ x 4½	TVL-4635.27
80-80-4-100	400-200-150-50	1⅜ x 3½	TVL-4636.3
40-80-100-25	400-350-200-50	1⅜ x 3	TVL-4654
40-100-80-10	400-350-350-350	1⅜ x 4	TVL-4661.4
80-40-100-20	400-400-50-25	1⅜ x 3	TVL-4663.4
100-10-30-20	400-400-50-50	1⅜ x 2½	TVL-4663.5
80-10-80-100	400-400-250-50	1⅜ x 3	TVL-4664.8
100-10-20-20	400-400-350-50	1⅜ x 3	TVL-4666.2
80-40-10-20	400-400-400-25	1⅜ x 3	TVL-4669
80-40-10-100	400-400-400-200	1⅜ x 3	TVL-4671.2
100-80-10-10	400-400-400-400	1⅜ x 3½	TVL-4683
100-80-30-10	400-400-400-400	1⅜ x 4½	TVL-4638.8
20-160-50-50	450-250-75-50	1⅜ x 4	TVL-4701.3
40-30-15-50	450-350-300-50	1⅜ x 3	TVL-4705.8
10-140-100-20	450-350-300-300	1⅜ x 4	TVL-4705.9
20-15-20-20	450-450-25-25	1⅜ x 2	TVL-4712
30-20-160-40	450-450-250-150	1⅜ x 4	TVL-4714.4
80-50-20-50	450-450-250-50	1⅜ x 4	TVL-4714.6
30-20-160-10	450-450-250-250	1⅜ x 4	TVL-4714.10
80-50-20-150	450-450-250-25	1⅜ x 4	TVL-3714.11
80-50-10-20	450-450-450-25	1⅜ x 4	TVL-4739.9
80-30-20-40	450-450-450-150	1⅜ x 4	TVL-4754
80-80-2-20	450-450-450-250	1⅜ x 4½	TVL-4757.7
10-10-10-10	450-450-450-450	1⅜ x 2	TVL-4760
20-20-20-20	450-450-450-450	1⅜ x 2½	TVL-4763
30-30-20-20	450-450-450-450	1⅜ x 3	TVL-4769.4
40-20-20-20	450-450-450-450	1⅜ x 2½	TVL-4771.7
40-40-20-20	450-450-450-450	1⅜ x 2½	TVL-4773
40-40-30-30	450-450-450-450	1⅜ x 4	TVL-4774
40-40-40-40	450-450-450-450	1⅜ x 3½	TVL-4775
70-25-5-5	450-450-450-450	1⅜ x 2½	TVL-4781
10-80-40-100	475-400-400-50	1⅜ x 4	TVL-4805.2
80-40-30-10	475-450-450-450	1⅜ x 3½	TVL-4814.4
30-4-4-200	475-475-475-25	1⅜ x 2	TVL-4818.4
100-4-4-200	475-475-475-25	1⅜ x 4	TVL-4818.5
80-4-4-200	475-475-475-25	1⅜ x 3½	TVL-4823
20-20-20-20	475-475-475-475	1⅜ x 2½	TVL-4834
80-30-4-4	475-475-475-475	1⅜ x 3½	TVL-4845

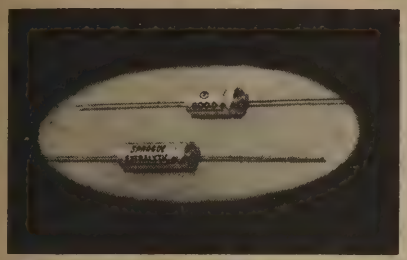
Copyright 1971, Sprague Products Company

REM-11-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS



TYPE 600D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Extended Operating Temperature Range From —55C to +125C
- Industrial version of CU12 and CU13 units
- Dual Rating Makes Possible Operation At Either 85C or 125C
- Voltage Ratings Up to 250 Volts D-C
- Improved Oxide Systems, Etching Techniques, and End Seals; a New Electrolyte Makes The Type 600D Equivalent to Or Better Than Comparable Foil Tantalum Capacitors.
- Lower Cost and One Third The Weight of Comparable Foil Tantalums

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3455.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

µF	Case Code	Catalog Number†
7 WVDC @ 85C, 5 WVDC @ 125C		
120	KD	600D127G007KD4
220	DD	600D227G007DD4
270	DE	600D277G007DE4
390	DG	600D397G007DG4
560	DJ	600D567G007DJ4
820	DL	600D827G007DL4
1000	DX	600D108G007DX4
10 WVDC @ 85C, 7 WVDC @ 125C		
100	KD	600D107G010KD4
180	DE	600D187G010DE4
220	DE	600D227G010DE4
330	DG	600D337G010DG4
470	DJ	600D447G010DJ4
680	DL	600D687G010DL4
820	DX	600D827G010DX4
15 WVDC @ 85C, 10 WVDC @ 125C		
68	KD	600D686G015KD4
82	KD	600D826G015KD4
150	DD	600D157G015DD4
180	DE	600D187G015DE4
270	DG	600D277G015DG4
390	DJ	600D397G015DJ4
560	DL	600D567G015DL4
680	DX	600D687G015DX4
20 WVDC @ 85C, 15 WVDC @ 125C		
68	KD	600D686G020KD4
100	DD	600D107G020DD4
140	DE	600D147G020DE4
220	DG	600D227G020DG4
290	DJ	600D297G020DJ4
440	DL	600D447G020DL4
600	DX	600D607G020DX4
30 WVDC @ 85C, 20 WVDC @ 125C		
33	KD	600D336G030KD4
47	KD	600D476G030KD4
82	DD	600D826G030DD4
100	DE	600D107G030DE4
120	DG	600D127G030DG4
150	DG	600D157G030DG4
220	DJ	600D227G030DJ4
330	DL	600D337G030DL4
390	DX	600D397G030DX4
40 WVDC @ 85C, 30 WVDC @ 125C		
30	KD	600D306G040KD4
50	DD	600D506G040DD4
70	DE	600D706G040DE4
100	DG	600D107G040DG4
140	DJ	600D147G040DJ4
210	DL	600D217G040DL4
280	DX	600D287G040DX4
50 WVDC @ 85C, 40 WVDC @ 125C		
22	KD	600D226G050KD4
33	DD	600D336G050DD4
47	DE	600D476G050DE4
56	DG	600D566G050DG4
68	DG	600D686G050DG4
100	DJ	600D107G050DJ4
150	DL	600D157G050DL4
180	DX	600D187G050DX4
60 WVDC @ 85C, 50 WVDC @ 125C		
17	KD	600D176G060KD4
25	DD	600D256G060DD4
40	DE	600D406G060DE4
60	DG	600D606G060DG4
80	DJ	600D806G060DJ4
120	DL	600D127G060DL4
160	DX	600D167G060DX4
75 WVDC @ 85C, 60 WVDC @ 125C		
12	KD	600D126F075KD4
22	DD	600D226F075DD4
33	DE	600D336F075DE4
47	DG	600D476F075DG4
68	DJ	600D686F075DJ4
100	DL	600D107F075DL4
120	DX	600D127F075DX4
100 WVDC @ 85C, 75 WVDC @ 125C		
8.2	KD	600D825F100KD4
12	DD	600D126F100DD4
15	DE	600D156F100DE4
22	DG	600D226F100DG4
33	DJ	600D336F100DJ4
47	DL	600D476F100DL4
68	DX	600D686F100DX4
150 WVDC @ 85C, 100 WVDC @ 125C		
4.7	KD	600D475F150KD4
5.6	KD	600D565F150KD4
8.2	DD	600D825F150DD4
12	DE	600D126F150DE4
18	DG	600D186F150DG4
22	DJ	600D226F150DJ4
33	DL	600D336F150DL4
56	DX	600D566F150DX4
200 WVDC @ 85C, 150 WVDC @ 125C		
4	KD	600D405F200KD4
6	DD	600D605F200DD4
8	DE	600D805F200DE4
13	DG	600D136F200DG4
17	DJ	600D176F200DJ4
26	DL	600D266F200DL4
39	DX	600D396F200DX4
250 WVDC @ 85C, 200 WVDC @ 125C		
3.3	KD	600D335F250KD4
5.6	DD	600D565F250DD4
6.8	DE	600D685F250DE4
10	DG	600D106F250DG4
12	DJ	600D126F250DJ4
22	DL	600D226F250DL4
27	DX	600D276F250DX4

TABLE OF DIMENSIONS

Case Code	With Outer Insulation D	L
KD	.296 x	1.000
DD	.390 x	1.000
DE	.390 x	1.187
DG	.390 x	1.437
DJ	.390 x	1.687
DL	.390 x	2.249
DX	.390 x	2.749

†Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter and 1/16" from length.

TYPE PE OCTAL-BASE ELECTROLYTICS

- For Applications where Rapid Changing of Capacitors is Desired
- Will Fit Standard Octal-Base Tube Sockets
- Hermetically Sealed in Metal Cans for Long Life
- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages

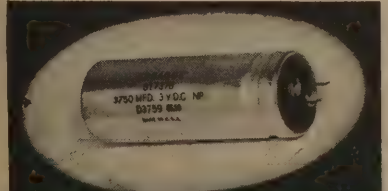


µF	WVDC	Diam. x Lgth.	Cat. No.
100	350	1⅜ x 3	PE-1636
10	450	1⅝ x 2½	PE-1705
20	450	1⅝ x 2½	PE-1714
40	450	1⅜ x 2½	PE-1725
80	450	1⅜ x 3½	PE-1730
20-20	150-150	1⅝ x 2½	PE-2415
40-40	150-150	1⅝ x 2½	PE-2428

Call Your Sprague Distributor for Prices

µF	WVDC	Diam. x Lgth.	Cat. No.
10-10	450-450	1⅝ x 2½	PE-2750
20-20	450-450	1⅜ x 2½	PE-2755
40-40	450-450	1⅜ x 3½	PE-2764
10-10-10	450-450-450	1⅝ x 2½	PE-3776
20-20-20	450-450-450	1⅜ x 3	PE-3780
30-30-10-20	450-450-450-50	1⅜ x 3½	PE-4741

Call Your Sprague Distributor for Prices



SPECIAL PURPOSE ELECTROLYTIC CAPACITORS

- Designed to Filter Low Voltage Power Supplies For Aircraft
- Solder Lug Terminals

µF	D. x L.	VDC	Catalog Number	
1250	1 x 2¾	3NP	D16255	(S17377)*
3750	1⅜ x 3⅝	3NP	D3759	(S17378)*

*Please use "S" number when ordering.

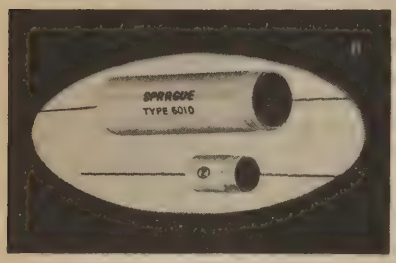
Copyright 1971, Sprague Products Company

IND-REM-17-EBAP

All sizes subject to changes without notice.

© United Technical Publications

SPRAGUE CAPACITORS



TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Supplement 600D With Higher Capacitance
- Industrial version of CU16 and CU17 units
- Pressure-sensitive Safety Vent
- Designed to Operate at a Temperature Range of —55C to +85C
- Unique New Electrolyte, High-gain Etched Foil, Improved Oxide System Provide Long Life With Superior Electrical Characteristics
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3456

Call Your Sprague Industrial Distributor For Current Quantity Prices

µF	D. x L.	Catalog Number*
5 WVDC, 7 WDV SURGE		
750	.687 x 1.250	601D757G005FE4
1200	.812 x 1.250	601D128G005GE4
1500	.687 x 1.750	601D158G005FJ4
1700	.937 x 1.250	601D178G005HE4
2300	.687 x 2.250	601D238G005FL4
2400	.812 x 1.750	601D248G005GJ4
2700	.687 x 2.750	601D278G005FP4
3500	.687 x 3.250	601D358G005FS4
3600	.812 x 2.250	601D368G005GL4
4200	.687 x 3.750	601D428G005FT4
4300	.812 x 2.750	601D438G005GP4
4700	1.062 x 1.750	601D478G005JJ4
5200	.937 x 2.250	601D528G005HL4
5500	.812 x 3.250	601D558G005GS4
6100*	.937 x 2.750	601D618G005HP4
6700	.812 x 3.750	601D678G005GT4
7100	1.062 x 2.250	601D718G005JL4
7900	.937 x 3.250	601D798G005HS4
8300	1.062 x 2.750	601D838G005JP4
9600	.937 x 3.750	601D968G005HT4
10000	1.062 x 3.250	601D109G005JS4
13000	1.062 x 3.750	601D139G005JT4
7.5 WVDC, 10 VDC SURGE		
650	.687 x 1.250	601D657G7R5FE4
1000	.812 x 1.250	601D108G7R5GE4
1300	.687 x 1.750	601D138G7R5FJ4
1400	.937 x 1.250	601D148G7R5HE4
1900	.687 x 2.250	601D198G7R5FL4
2000	.812 x 1.750	601D208G7R5GJ4
2200	.687 x 2.750	601D228G7R5FP4
2900	.687 x 3.250	601D298G7R5FS4
3000	.812 x 2.250	601D308G7R5GL4
3500	.687 x 3.750	601D358G7R5FT4
3600	.812 x 2.750	601D368G7R5GP4
4000	1.062 x 1.750	601D408G7R5JJ4
4400	.937 x 2.250	601D448G7R5HL4
4600	.812 x 3.250	601D468G7R5GS4
5100	.937 x 2.750	601D518G7R5HP4
5600	.812 x 3.750	601D568G7R5GT4
6000	1.062 x 2.250	601D608G7R5JL4
6600	.937 x 3.250	601D668G7R5HS4
7000	1.062 x 2.750	601D708G7R5JP4
8100	.937 x 3.750	601D818G7R5HT4
9000	1.062 x 3.250	601D908G7R5JS4
11000	1.062 x 3.750	601D119G7R5JT4
10 WVDC, 15 VDC SURGE		
540	.687 x 1.250	601D547G010FE4
850	.812 x 1.250	601D857G010GE4
1000	.687 x 1.750	601D108G010FJ4
1200	.937 x 1.250	601D128G010HE4
1600	.687 x 2.250	601D168G010FL4
1700	.812 x 1.750	601D178G010GJ4
1800	.687 x 2.750	601D188G010FP4
2400	.687 x 3.250	601D248G010FS4
2500	.812 x 2.250	601D258G010GL4
2900	.687 x 3.750	601D298G010FT4
3000	.812 x 2.750	601D308G010GP4
3300	1.062 x 1.750	601D338G010JJ4
3600	.937 x 2.250	601D368G010HL4
3800	.812 x 3.250	601D388G010GS4
4200	.937 x 2.750	601D428G010HP4
4700	.812 x 3.750	601D478G010GT4
5000	1.062 x 2.250	601D508G010JL4
5500	.937 x 3.250	601D558G010HS4
5800	1.062 x 2.750	601D588G010JP4
6700	.937 x 3.750	601D678G010HT4
7500	1.062 x 3.250	601D758G010JS4
9100	1.062 x 3.750	601D918G010JT4
15 WVDC, 20 VDC SURGE		
400	.687 x 1.250	601D407G015FE4
650	.812 x 1.250	601D657G015GE4
800	.687 x 1.750	601D807G015FJ4
930	.937 x 1.250	601D937G015HE4
1200	.687 x 2.250	601D128G015FL4
1300	.812 x 1.750	601D138G015GJ4
1400	.687 x 2.750	601D148G015FP4
1800	.687 x 3.250	601D188G015FS4
15 WVDC, 20 VDC SURGE (Cont.)		
1900	.812 x 2.250	601D198G015GL4
2200	.687 x 3.750	601D228G015FT4
2500	1.062 x 1.750	601D258G015JJ4
2700	.937 x 2.250	601D278G015HL4
2900	.812 x 3.250	601D298G015GS4
3200	.937 x 2.750	601D328G015HP4
3500	.812 x 3.750	601D358G015GT4
3800	1.062 x 2.250	601D388G015JL4
4200	.937 x 3.250	601D428G015HS4
4400	1.062 x 2.750	601D448G015JP4
5100	.937 x 3.750	601D518G015HT4
5700	1.062 x 3.250	601D578G015JS4
6900	1.062 x 3.750	601D698G015JT4
20 WVDC, 30 VDC SURGE		
290	.687 x 1.250	601D297G020FE4
460	.812 x 1.250	601D467G020GE4
580	.687 x 1.750	601D587G020FJ4
660	.937 x 1.250	601D667G020HE4
900	.812 x 1.750	601D907G020GJ4
1000	.687 x 2.750	601D108G020FP4
1300	.687 x 3.250	601D138G020FS4
1600	.687 x 3.750	601D168G020FT4
1800	1.062 x 1.750	601D188G020JJ4
1900	.937 x 2.250	601D198G020HL4
2000	.812 x 3.250	601D208G020GS4
2300	.937 x 2.750	601D238G020HP4
2500	.812 x 3.750	601D258G020GT4
2700	1.062 x 2.250	601D278G020JL4
2900	.937 x 3.250	601D298G020HS4
3100	1.062 x 2.750	601D318G020JP4
3600	.937 x 3.750	601D368G020HT4
4000	1.062 x 3.250	601D408G020JS4
4900	1.062 x 3.750	601D498G020JT4
25 WVDC, 40 VDC SURGE		
220	.687 x 1.250	601D227G025FE4
350	.812 x 1.250	601D357G025GE4
440	.687 x 1.750	601D447G025FJ4
500	.937 x 1.250	601D507G025HE4
660	.687 x 2.250	601D667G025FL4
680	.812 x 1.250	601D687G025JE4
700	.812 x 1.750	601D707G025GJ4
770	.687 x 2.750	601D777G025FP4
990	.687 x 3.250	601D997G025FS4
1000	.812 x 2.250	601D108G025GL4
1200	.687 x 3.750	601D128G025FT4
1300	1.062 x 1.750	601D138G025JJ4
1500	.812 x 3.250	601D158G025GS4
1700	.937 x 2.750	601D178G025HP4
1900	.812 x 3.750	601D198G025GT4
2000	1.062 x 2.250	601D208G025JL4
2200	.937 x 3.250	601D228G025HS4
2300	1.062 x 2.750	601D238G025JP4
2700	.937 x 3.750	601D278G025HT4
3000	1.062 x 3.250	601D308G025JS4
3700	1.062 x 3.750	601D378G025JT4
30 WVDC, 45 VDC SURGE		
190	.687 x 1.250	601D197G030FE4
310	.812 x 1.250	601D317G030GE4
390	.687 x 1.750	601D397G030FJ4
440	.937 x 1.250	601D447G030HE4
580	.687 x 2.250	601D587G030FL4
600	1.062 x 1.250	601D607G030JE4
620	.812 x 1.750	601D627G030GJ4
680	.687 x 2.750	601D687G030FP4
870	.687 x 3.250	601D877G030FS4
880	.937 x 1.750	601D887G030HJ4
930	.812 x 2.250	601D937G030GL4
1000	.687 x 3.750	601D108G030FT4
1200	1.062 x 1.750	601D128G030JJ4
1400	.812 x 3.250	601D148G030GS4
1500	.937 x 2.750	601D158G030HP4
1700	.812 x 3.750	601D178G030GT4
1800	1.062 x 2.250	601D188G030JL4
2000	.937 x 3.250	601D208G030HS4
2100	1.062 x 2.750	601D218G030JP4
2400	.937 x 3.750	601D248G030HT4
2700	1.062 x 3.250	601D278G030JS4
3300	1.062 x 3.750	601D338G030JT4
40 WVDC, 60 VDC SURGE		
140	.687 x 1.250	601D147G040FE4
220	.812 x 1.250	601D227G040GE4
270	.687 x 1.750	601D277G040FJ4
300	.937 x 1.250	601D307G040HE4
400	.687 x 2.250	601D407G040FL4
430	1.062 x 1.250	601D437G040JE4
440	.812 x 1.750	601D447G040GJ4
480	.687 x 2.750	601D487G040FP4
620	.687 x 3.250	601D627G040FS4
630	.937 x 1.750	601D637G040HJ4
660	.812 x 2.250	601D667G040GL4
760	.687 x 3.750	601D767G040FT4
770	.812 x 2.750	601D777G040GP4
860	1.062 x 1.750	601D867G040JJ4
950	.937 x 2.250	601D957G040HL4
1000	.812 x 3.250	601D108G040GS4
1100	.937 x 2.750	601D118G040HP4
1200	.812 x 3.750	601D128G040GT4
1400	.937 x 3.250	601D148G040HS4
1500	1.062 x 2.750	601D158G040JP4
1700	.937 x 3.750	601D178G040HT4
1900	1.062 x 3.250	601D198G040JS4
2300	1.062 x 3.750	601D238G040JT4
50 WVDC, 75 VDC SURGE		
110	.687 x 1.250	601D117G050FE4
170	.812 x 1.250	601D177G050GE4
220	.687 x 1.750	601D227G050FJ4
250	.937 x 1.250	601D257G050HE4
330	.687 x 2.250	601D337G050FL4
340	1.062 x 1.250	601D347G050JE4
350	.812 x 1.750	601D357G050GJ4
380	.687 x 2.750	601D387G050FP4
500	.687 x 3.250	601D507G050FS4
600	.687 x 3.750	601D607G050FT4
680	1.062 x 1.750	601D687G050JJ4
750	.937 x 2.250	601D757G050HL4
790	.812 x 3.250	601D797G050GS4
870	.937 x 2.750	601D877G050HP4
950	.812 x 3.750	601D957G050GT4
1000	1.062 x 2.250	601D108G050JL4
1100	.937 x 3.250	601D118G050HS4
1500	1.062 x 3.250	601D158G050JS4
1800	1.062 x 3.750	601D188G050JT4
75 WVDC, 100 VDC SURGE		
45	.687 x 1.250	601D456F075FE4
75	.812 x 1.250	601D756F075GE4
95	.687 x 1.750	601D956F075FJ4
100	.937 x 1.250	601D107F075HE4
140	.687 x 2.250	601D147F075FL4
150	.812 x 1.750	601D157F075GJ4
160	.687 x 2.750	601D167F075FP4
210	.687 x 3.250	601D217F075FS4
220	.812 x 2.250	601D227F075GL4
260	.687 x 3.750	601D267F075FT4
290	1.062 x 1.750	601D297F075JJ4
320	.937 x 2.250	601D327F075HL4
340	.812 x 3.250	601D347F075GS4
380	.937 x 2.750	601D387F075HP4
400	.812 x 3.750	601D407F075GT4
440	1.062 x 2.250	601D447F075JL4
490	.937 x 3.250	601D497F075HS4
500	1.062 x 2.750	601D507F075JP4
600	.937 x 3.750	601D607F075HT4
660	1.062 x 3.250	601D667F075JS4
800	1.062 x 3.750	601D807F075JT4
100 WVDC, 150 VDC SURGE		
25	.687 x 1.250	601D256F100FE4
45	.812 x 1.250	601D456F100GE4
55	.687 x 1.750	601D556F100FJ4
65	.937 x 1.250	601D656F100HE4
80	.687 x 2.250	601D806F100FL4
90	.812 x 1.750	601D906F100GJ4
95	.687 x 2.750	601D956F100FP4
120	.687 x 3.250	601D127F100FS4
130	.812 x 2.250	601D137F100GL4
150	.687 x 3.750	601D157F100FT4
180	1.062 x 1.750	601D187F100JJ4

*Catalog numbers listed are for capacitors with outer insulation. For bare case change "4" to "0" at end of catalog number and subtract .062" from diameter and .125" from length.

Copyright 1971, Sprague Products Company

IND-REM-16-EBAP

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS, Continued

µF	D. x L.	Catalog Number*
100 WVDC, 150 VDC SURGE (Cont.)		
200	.812 x 3.250	601D207F100GS4
230	.937 x 2.750	601D237F100HP4
250	.812 x 3.750	601D257F100GT4
280	1.062 x 2.250	601D287F100JL4
300	.937 x 3.250	601D307F100HS4
320	1.062 x 2.750	601D327F100JP4
370	.937 x 3.750	601D377F100HT4
420	1.062 x 3.250	601D427F100JS4
500	1.062 x 3.750	601D507F100JT4
150 WVDC, 200 VDC SURGE		
18	.687 x 1.250	601D186F150FE4
30	.812 x 1.250	601D306F150GE4
35	.687 x 1.750	501D356F150FJ4
45	.937 x 1.250	601D456F150HE4
55	.687 x 2.250	601D556F150FL4
60	.812 x 1.750	601D606F150GJ4
65	.687 x 2.750	601D656F150FP4
150 WVDC, 200 VDC SURGE (Cont.)		
85	.687 x 3.250	601D856F150FS4
90	.937 x 1.750	601D906F150HJ4
95	.812 x 2.250	601D956F150GL4
100	.687 x 3.750	601D107F150FT4
130	1.062 x 1.750	601D137F150JJ4
140	.812 x 3.250	601D147F150GS4
160	.937 x 2.750	601D167F150HP4
170	.812 x 3.750	601D177F150GT4
190	1.062 x 2.250	601D197F150JL4
210	.937 x 3.250	601D217F150HS4
230	1.062 x 2.750	601D237F150JP4
260	.937 x 3.750	601D267F150HT4
290	1.062 x 3.250	601D297F150JS4
360	1.062 x 3.750	601D367F150JT4
200 WVDC, 250 VDC SURGE		
16	.687 x 1.250	601D166F200FE4
25	.812 x 1.250	601D256F200GE4
200 WVDC, 250 VDC SURGE (Cont.)		
30	.687 x 1.750	601D306F200FJ4
35	.937 x 1.250	601D356F200HE4
45	.687 x 2.750	601D456F200FL4
50	.812 x 1.750	601D506F200GJ4
55	.687 x 2.750	601D556F200FP4
70	.687 x 3.250	601D706F200FS4
75	.812 x 2.250	601D756F200GL4
85	.687 x 3.750	601D856F200FT4
90	.812 x 2.750	601D906F200GP4
100	.812 x 3.250	601D107F200GS4
110	.937 x 2.250	601D117F200HL4
130	.937 x 2.750	601D137F200HP4
140	.812 x 3.750	601D147F200GT4
160	1.062 x 2.250	601D167F200JL4
170	.937 x 3.250	601D177F200HS4
180	1.062 x 2.750	601D187F200JP4
210	.937 x 3.750	601D217F200HT4
240	1.062 x 3.250	601D247F200JS4
290	1.062 x 3.750	601D297F200JT4

*Catalog numbers listed are for capacitors with outer insulation. For bare case change "4" to "0" at end of cat. no. and subtract .062" from D, and .125" from L.



TYPE 602D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Large Cylindrical Power Supply Filter Capacitors With Exceptional Performance Over Long and Trouble-free life
- High Ripple Current Capability
- Designed For Continuous Operation Over Temperature Range of —55 C to +85 C
- Extremely Useful on Input of Power Supply Filters, as They Will Safely Carry as Much as 10 amps of Ripple Current at 120 Hz
- Superior Humidity Seal
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3457

µF	D. x L.	Catalog Number*
5 WVDC, 7 VDC SURGE		
8,000	1.438 x 2.188	602D802G5ROAA2A
17,000	1.438 x 3.188	602D173G5ROAB2A
25,000	1.438 x 4.188	602D253G5ROAC2A
29,000	1.438 x 4.688	602D293G5ROAD2A
34,000	1.438 x 5.188	602D343G5ROAE2A
37,000	1.438 x 5.688	602D373G5ROAF2A
40,000	2.062 x 3.188	602D403G5ROBB2A
60,000	2.062 x 4.188	602D603G5ROBC2A
70,000	2.062 x 4.688	602D703G5ROBD2A
80,000	2.062 x 5.188	602D803G5ROBE2A
90,000	2.062 x 5.688	602D903G5ROBF2A
10 WVDC, 15 VDC SURGE		
5,000	1.438 x 2.188	602D502G010AA2A
10,000	1.438 x 3.188	602D103G010AB2A
15,000	1.438 x 4.188	602D153G010AC2A
17,000	1.438 x 4.688	602D173G010AD2A
20,000	1.438 x 5.188	602D203G0T0AE2A
22,000	1.438 x 5.688	602D223G010AF2A
24,000	2.062 x 3.188	602D243G010BB2A
37,000	2.062 x 4.188	602D373G010BC2A
43,000	2.062 x 4.688	602D433G010BD2A
48,000	2.062 x 5.188	602D483G010BE2A
55,000	2.062 x 5.688	602D553G010BF2A
15 WVDC, 20 VDC SURGE		
4,000	1.438 x 2.188	602D402G015AA2A
8,000	1.438 x 3.188	602D802G015AB2A
12,000	1.438 x 4.188	602D123G015AC2A
14,000	1.438 x 4.688	602D143G015AD2A
16,000	1.438 x 5.188	602D163G015AE2A
18,000	1.438 x 5.688	602D183G015AF2A
20,000	2.062 x 3.188	602D203G015BB2A
30,000	2.062 x 4.188	602D303G015BC2A
35,000	2.062 x 4.688	602D353G015BD2A
40,000	2.062 x 5.188	602D403G015BE2A
45,000	2.062 x 5.688	602D453G015BF2A
20 WVDC, 30 VDC SURGE		
2,800	1.438 x 2.188	602D282G020AA2A
5,100	1.438 x 3.188	602D512G020AB2A
8,600	1.438 x 4.188	602D862G020AC2A
20 WVDC, 30 VDC SURGE (Cont.)		
10,000	1.438 x 4.688	602D103G020AD2A
11,000	1.438 x 5.188	602D113G020AE2A
13,000	1.438 x 5.688	602D133G020AF2A
20,000	2.062 x 4.188	602D203G020BC2A
23,000	2.062 x 4.688	602D233G020BD2A
26,000	2.062 x 5.188	602D263G020BE2A
30,000	2.062 x 5.688	602D303G020BF2A
25 WVDC, 40 VDC SURGE		
2,500	1.438 x 2.188	602D252G025AA2A
5,000	1.438 x 3.188	602D502G025AB2A
7,500	1.438 x 4.188	602D752G025AC2A
8,700	1.438 x 4.688	602D872G025AD2A
10,000	1.438 x 5.188	602D103G025AE2A
11,000	1.438 x 5.688	602D113G025AF2A
17,000	2.062 x 4.188	602D173G025BC2A
20,000	2.062 x 4.688	602D203G025BD2A
23,000	2.062 x 5.188	602D233G025BE2A
25,000	2.062 x 5.688	602D253G025BF2A
30 WVDC, 45 VDC SURGE		
2,200	1.438 x 2.188	602D222G030AA2A
4,400	1.438 x 3.188	602D442G030AB2A
6,600	1.438 x 4.188	602D662G030AC2A
7,700	1.438 x 4.688	602D772G030AD2A
8,800	1.438 x 5.188	602D882G030AE2A
9,900	1.438 x 5.688	602D992G030AF2A
10,000	2.062 x 3.188	602D103G030BB2A
15,000	2.062 x 4.188	602D153G030BC2A
17,000	2.062 x 4.688	602D173G030BD2A
20,000	2.062 x 5.188	602D203G030BE2A
22,000	2.062 x 5.688	602D223G030BF2A
40 WVDC, 55 VDC SURGE		
1,800	1.438 x 2.188	602D182G040AA2A
3,700	1.438 x 3.188	602D372G040AB2A
5,500	1.438 x 4.188	602D552G040AC2A
6,400	1.438 x 4.688	602D642G040AD2A
7,400	1.438 x 5.188	602D742G040AE2A
8,200	1.438 x 5.688	602D822G040AF2A
9,000	2.062 x 3.188	602D902G040BB2A
40 WVDC, 55 VDC SURGE (Cont.)		
13,000	2.062 x 4.188	602D133G040BC2A
15,000	2.062 x 4.688	602D153G040BD2A
18,000	2.062 x 5.188	602D183G040BE2A
19,000	2.062 x 5.688	602D193G040BF2A
50 WVDC, 75 VDC SURGE		
1,400	1.438 x 2.188	602D142G050AA2A
2,900	1.438 x 3.188	602D292G050AB2A
4,400	1.438 x 4.188	602D442G050AC2A
5,100	1.438 x 4.688	602D512G050AD2A
5,800	1.438 x 5.188	602D582G050AE2A
6,600	1.438 x 5.688	602D662G050AF2A
10,000	2.062 x 4.188	602D103G050BC2A
11,000	2.062 x 4.688	602D113G050BD2A
13,000	2.062 x 5.188	602D133G050BE2A
15,000	2.062 x 5.688	602D153G050BF2A
75 WVDC, 100 VDC SURGE		
530	1.438 x 2.188	602D531F075AA2A
1,000	1.438 x 3.188	602D102F075AB2A
1,600	1.438 x 4.188	602D162F075AC2A
1,800	1.438 x 4.688	602D182F075AD2A
2,000	1.438 x 5.188	602D202F075AE2A
2,400	1.438 x 5.688	602D242F075AF2A
2,600	2.062 x 3.188	602D262F075BB2A
3,900	2.062 x 4.188	602D392F075BC2A
4,500	2.062 x 4.688	602D452F075BD2A
5,000	2.062 x 5.188	602D502F075BE2A
5,800	2.062 x 5.688	602D582F075BF2A
100 WVDC, 150 VDC SURGE		
250	1.438 x 2.188	602D251F100AA2A
500	1.438 x 3.188	602D501F100AB2A
800	1.438 x 4.188	602D801F100AC2A
900	1.438 x 4.688	602D901F100AD2A
1,000	1.438 x 5.188	602D102F100AE2A
1,100	1.438 x 5.688	602D112F100AF2A
1,200	2.062 x 3.188	602D122F100BB2A
1,800	2.062 x 4.188	602D182F100BC2A
2,100	2.062 x 4.688	602D212F100BD2A
2,400	2.062 x 5.188	602D242F100BE2A
2,600	2.062 x 5.688	602D262F100BF2A

*Catalog numbers listed are for capacitors with outer insulation. For bare case, change 14th character of cat. no. from "2" to "0" and subtract .063" from both diameter and length. Capacitors listed have low-screw insert terminals. For high-screw insert terminals, change last character of cat. no. from "A" to "B".

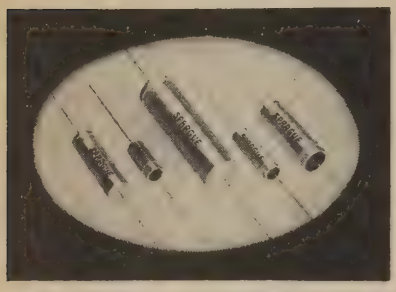
Copyright 1971, Sprague Products Company

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 39D POWERLYTIC® ELECTROLYTIC CAPACITORS



Designed for applications which require the greatest possible capacitance in small physical case sizes.

- Type 39D capacitors supplement the original Type 36D Can-type Powerlytic line by offering high-capacitance units in axial-lead tubular configuration.
- Welds at all critical anode and cathode terminals eliminate riveted or pressure connections to assure freedom from open circuit even during operation in the microvolt or millivolt signal range.
- Improved molded phenolic end seals.
- Furnished with outer plastic insulating sleeve.
- Operating temperature range, −20 C to +85 C.
- These capacitors are provided with a pressure-sensitive safety vent.
- Low ESR, low leakage currents.
- For complete technical data, see latest issue of Sprague Engineering Bulletin 3415.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUALITY PRICES

µF	Diam.xLength	Catalog Number*
3 WVDC, 4 VDC SURGE		
400	.562x1.250	39D407G003EE4
900	.562x1.750	39D907G003EJ4
1300	.562x2.250	39D138G003EL4
1400	.812x1.250	39D148G003GE4
1800	.687x1.750	39D188G003FJ4
2100	.937x1.250	39D218G003HE4
2700	.687x2.250	39D278G003FL4
2900	.812x1.750	39D298G003GJ4
3000	1.062x1.250	39D308G003JE4
3600	.687x2.750	39D368G003FP4
4200	.937x1.750	39D428G003HJ4
4300	.812x2.250	39D438G003GL4
5700	.812x2.750	39D578G003GP4
6000	1.062x1.750	39D608G003JJ4
8500	.937x2.750	39D858G003HP4
9000	1.062x2.250	39D908G003JL4
10000	.937x3.250	39D109G003HS4
12000	1.062x2.750	39D129G003JP4
15000	1.062x3.250	39D159G003JS4
18000	1.062x3.750	39D189G003JT4
6 WVDC, 8 VDC SURGE		
300	.562x1.250	39D307G006EE4
600	.562x1.750	39D607G006EJ4
900	.562x2.250	39D907G006EL4
1000	.812x1.250	39D108G006GE4
1200	.687x1.750	39D128G006FJ4
1500	.937x1.250	39D158G006HE4
1900	.687x2.250	39D198G006FL4
2000	.687x2.250	39D208G006GJ4
2100	1.062x1.250	39D218G006JE4
2500	.687x2.750	39D258G006FP4
3000	.812x2.250	39D308G006GL4
4000	.812x2.750	39D408G006GP4
4200	1.062x1.750	39D428G006JJ4
6000	.937x2.750	39D608G006HP4
6300	1.062x2.250	39D638G006JL4
7500	.937x3.250	39D758G006HS4
8500	1.062x2.750	39D858G006JP4
10000	1.062x3.250	39D109G006JS4
12000	1.062x3.750	39D129G006JT4

µF	Diam.xLength	Catalog Number*
10 WVDC, 12 VDC SURGE		
250	.562x1.250	39D257G010EE4
500	.562x1.750	39D507G010EJ4
800	.562x2.250	39D807G010EL4
850	.812x1.250	39D857G010GE4
1000	.687x1.750	39D108G010FJ4
1200	.937x1.250	39D128G010HE4
1600	.687x2.250	39D168G010FL4
1700	.812x1.750	39D178G010GJ4
2100	.687x2.750	39D218G010FP4
2500	.812x2.250	39D258G010GL4
3400	.812x2.750	39D348G010GP4
3500	1.062x1.250	39D358G010JJ4
5000	.937x2.750	39D508G010HP4
5200	1.062x2.250	39D528G010JL4
6300	.937x3.250	39D638G010HS4
7100	1.062x2.750	39D718G010JP4
8800	1.062x3.250	39D888G010JS4
10000	1.062x3.750	39D109G010JT4
15 WVDC, 18 VDC SURGE		
200	.562x1.250	39D207G015EE4
400	.562x1.750	39D407G015EJ4
600	.562x2.250	39D607G015EL4
800	.687x1.750	39D807G015FJ4
950	.937x1.250	39D957G015HE4
1200	.687x2.250	39D128G015FL4
1300	.812x1.750	39D138G015GJ4
1600	.687x2.750	39D168G015FP4
1900	.812x2.250	39D198G015GL4
2500	.812x2.750	39D258G015GP4
2600	1.062x1.750	39D268G015JJ4
3800	.937x2.750	39D388G015HP4
4000	1.062x2.250	39D408G015JL4
4700	.937x3.250	39D478G015HS4
5300	1.062x2.750	39D538G015JP4
6600	1.062x3.250	39D668G015JS4
8000	1.062x3.750	39D808G015JT4

µF	Diam.xLength	Catalog Number*
25 WVDC, 30 VDC SURGE		
100	.562x1.250	39D107G025EE4
200	.562x1.750	39D207G025EJ4
350	.562x2.250	39D357G025EL4
450	.687x1.750	39D457G025FJ4
500	.937x1.250	39D507G025HE4
700	.687x2.250	39D707G025FL4
750	.812x1.750	39D757G025GJ4
800	1.062x1.250	39D807G025JE4
950	.687x2.750	39D957G025FP4
1000	.812x2.250	39D108G025GL4
1100	.937x1.750	39D118G025HJ4
1500	.812x2.750	39D158G025GP4
1600	1.062x1.750	39D168G025JJ4
1700	.937x2.250	39D178G025HL4
2200	.937x2.750	39D228G025HP4
2400	1.062x2.250	39D248G025JL4
2800	.937x3.250	39D288G025HS4
3200	1.062x2.750	39D328G025JP4
4000	1.062x3.250	39D408G025JS4
4700	1.062x3.750	39D478G025JT4
30 WVDC, 40 VDC SURGE		
75	.562x1.250	39D756G030EE4
150	.562x1.750	39D157G030EJ4
250	.562x2.250	39D257G030EL4
350	.687x1.750	39D357G030FJ4
400	.937x1.250	39D407G030HE4
500	.687x2.250	39D507G030FL4
600	1.062x1.250	39D607G030JE4
700	.687x2.750	39D707G030FP4
850	.812x2.250	39D857G030GL4
1100	.812x2.750	39D118G030GP4
1200	.937x2.250	39D128G030HL4
1700	.937x2.750	39D178G030HP4
1800	1.062x2.250	39D188G030JL4
2100	.937x3.250	39D218G030HS4
2400	1.062x2.750	39D248G030JP4
3000	1.062x3.250	39D308G030JS4
3600	1.062x3.750	39D368G030JT4

*These capacitors have outer insulation. For units with bare case, change last character in catalog number from 4 to 0, and subtract .062" from diameter and .125" from length.

Copyright 1971, Sprague Products Company

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 39D POWERLYTIC® ELECTROLYTICS, continued

μF	Diam. x Length	Catalog Number*
40 WVDC, 50 VDC SURGE		
75	.562x1.250	39D756G040EE4
150	.562x1.750	39D157G040EJ4
200	.562x2.250	39D207G040EL4
250	.812x1.250	39D257G040GE4
300	.687x1.750	39D307G040FJ4
350	.937x1.250	39D357G040HE4
450	.687x2.250	39D457G040FL4
500	.812x1.750	39D507G004GJ4
600	.687x2.750	39D607G040FP4
750	.812x2.250	39D757G040GL4
1000	.812x2.750	39D108G040GP4
1100	.937x2.250	39D118G040HL4
1500	.937x2.750	39D158G040HP4
1600	1.062x2.250	39D168G040JL4
1900	.937x3.250	39D198G040HS4
2100	1.062x2.750	39D218G040JP4
2600	1.062x3.250	39D268G040JS4
3200	1.062x3.750	39D328G040JT4
50 WVDC, 65 VDC SURGE		
50	.562x1.250	39D506G050EE4
100	.562x1.750	39D107G050EJ4
150	.562x2.250	39D157G050EL4
200	.687x1.750	39D207G050FJ4
250	.937x1.250	39D257G050HE4
350	.687x2.250	39D357G050FL4
450	.687x2.750	39D457G050FP4
500	.812x2.250	39D507G050GL4
700	.812x2.750	39D707G050GP4
750	1.062x1.750	39D757G050JJ4
800	.937x2.250	39D807G050HL4
1100	.937x2.750	39D118G050HP4
1300	.937x3.250	39D138G050HS4
1500	1.062x2.750	39D158G050JP4
1900	1.062x3.250	39D198G050JS4
2300	1.062x3.750	39D238G050JT4
75 WVDC, 95 VDC SURGE		
30	.562x1.250	39D306G075EE4
75	.562x1.750	39D756G075EJ4
100	.562x2.250	39D107G075EL4
150	.687x1.750	39D157G075FJ4
200	.687x2.250	39D207G075FL4
250	1.062x1.250	39D257G075JE4
300	.687x2.750	39D307G075FP4
350	.812x2.250	39D357G075GL4
450	.812x2.750	39D457G075GP4
500	.937x2.250	39D507G075HL4
700	.937x2.750	39D707G075HP4
750	1.062x2.250	39D757G075JL4
850	.937x3.250	39D857G075HS4
1000	1.062x2.750	39D108G075JP4
1200	1.062x3.250	39D128G075JS4
1500	1.062x3.750	39D158G075JT4
100 WVDC, 125 VDC SURGE		
15	.562x1.250	39D156F100EE4
35	.562x1.750	39D356F100EJ4
55	.562x2.250	39D556F100EL4
60	.812x1.250	39D606F100GE4
75	.687x1.750	39D756F100FJ4
90	.937x1.250	39D906F100HE4
110	.687x2.250	39D117F100FL4
120	.812x1.750	39D127F100GJ4
130	1.062x1.250	39D137F100JE4
150	.687x2.750	39D157F100FP4
180	.937x1.750	39D187F100HJ4
190	.812x2.250	39D197F100GL4
250	.812x2.750	39D257F100GP4
260	1.062x1.750	39D267F100JJ4
280	.937x2.250	39D287F100HL4
370	.937x2.750	39D377F100HP4
390	1.062x2.250	39D397F100JL4
460	.937x3.250	39D467F100HS4
520	1.062x2.750	39D527F100JP4
650	1.062x3.250	39D657F100JS4
780	1.062x3.750	39D787F100JT4
150 WVDC, 175 VDC SURGE		
10	.562x1.250	39D106F150EE4
25	.562x1.750	39D256F150EJ4
40	.562x2.250	39D406F150EL4
50	.687x1.750	39D506F150FJ4
60	.937x1.250	39D606F150HE4
80	.687x2.250	39D806F150FL4
85	.812x1.750	39D856F150GJ4
88	1.062x1.250	39D886F150JE4
100	.687x2.750	39D107F150FP4
120	.812x2.250	39D127F150GL4
170	.812x2.750	39D177F150GP4
190	.937x2.250	39D197F150HL4
250	.937x2.750	39D257F150HP4
260	1.062x2.250	39D267F150JL4
310	.937x3.250	39D317F150HS4
350	1.062x2.750	39D357F150JP4
440	1.062x3.250	39D447F150JS4
530	1.062x3.750	39D537F150JT4
200 WVDC, 250 VDC SURGE		
9	.562x1.250	39D905F200EE4
15	.562x1.750	39D156F200EJ4
25	.562x2.250	39D256F200EL4
30	.812x1.250	39D306F200GE4
35	.687x1.750	39D356F200FJ4
40	.937x1.250	39D406F200HE4
55	.812x1.750	39D556F200FL4
60	.687x2.750	39D606F200GJ4
75	.937x1.750	39D756F200FP4
80	.812x2.250	39D806F200HJ4
90	.812x2.750	39D906F200GL4
120	.937x2.750	39D127F200GP4
130	.937x2.750	39D137F200HL4
170	1.062x2.250	39D177F200HP4
180	.937x3.250	39D187F200JL4
220	1.062x2.750	39D227F200HS4
250	1.062x2.750	39D257F200JP4
310	1.062x3.250	39D317F200JS4
370	1.062x3.750	39D377F200JT4
250 WVDC, 300 VDC SURGE		
7	.562x1.250	39D705F250EE4
15	.562x1.750	39D156F250EJ4
20	.562x2.250	39D206F250EL4
30	.687x1.750	39D306F250FJ4
35	.937x1.250	39D356F250HE4
45	.687x2.250	39D456F250FL4
50	1.062x1.250	39D506F250JE4
60	.687x2.750	39D606F250FP4
70	.812x2.250	39D706F250GL4
95	.812x2.750	39D956F250GP4
100	.937x2.250	39D107F250HL4
140	.937x2.750	39D147F250HP4
150	1.062x2.250	39D157F250JL4
180	.937x3.250	39D187F250HS4
200	1.062x2.750	39D207F250JP4
250	1.062x3.250	39D257F250JS4
300	1.062x3.750	39D307F250JT4
300 WVDC, 350 VDC SURGE		
5	.562x1.250	39D505F300EE4
10	.562x1.750	39D106F300EJ4
15	.562x2.250	39D156F300EL4
20	.687x1.750	39D206F300FJ4
25	.937x1.250	39D256F300HE4
30	.687x2.250	39D306F300FL4
40	.687x2.750	39D406F300FP4
50	.812x2.250	39D506F300GL3
65	.812x2.750	39D656F300GP4
75	.937x2.250	39D756F300HL4
100	.937x2.750	39D107F300HP4
120	.937x3.250	39D127F300HS4
130	1.062x2.750	39D137F300JP4
170	1.062x3.250	39D177F300JS4
200	1.062x3.750	39D207F300JT4
350 WVDC, 400 VDC SURGE		
4	.562x1.250	39D405F350EE4
8	.562x1.750	39D805F350EJ4
12	.562x2.250	39D126F350EL4
15	.687x1.750	39D156F350FJ4
20	.687x2.250	39D206F350FL4
25	.812x1.750	39D256F350GJ4
30	.687x2.750	39D306F350FP4
40	.812x2.250	39D406F350GL4
50	.812x2.750	39D506F350GP4
60	.937x2.250	39D606F350HL4
80	.937x2.750	39D806F350HP4
100	.937x3.250	39D107F350HS4
110	1.062x2.750	39D117F350JP4
130	1.062x3.250	39D137F350JS4
160	1.062x3.750	39D167F350JT4
400 WVDC, 475 VDC SURGE		
2	.562x1.250	39D205F400EE4
5	.562x1.750	39D505F400EJ4
10	.687x1.750	39D106F400FJ4
15	.687x2.250	39D156F400FL4
20	.687x2.750	39D206F400FP4
25	.812x2.250	39D256F400GL4
35	.812x2.750	39D356F400GP4
40	.937x2.250	39D406F400HL4
55	.937x2.750	39D556F400HP4
65	.937x3.250	39D656F400HS4
75	1.062x2.750	39D756F400JP4
90	1.062x3.250	39D906F400JS4
110	1.062x3.750	39D117F400JT4
450 WVDC, 525 VDC SURGE		
1	.562x1.250	39D105F450EE4
3	.562x1.750	39D305F450EJ4
5	.562x2.250	39D505F450EL4
10	.687x2.250	39D106F450FL4
15	.687x2.750	39D156F450FP4
20	.812x2.250	39D206F450GL4
25	.812x2.750	39D256F450GP4
35	.937x2.750	39D356F450HP4
45	.937x3.250	39D456F450HS4
50	1.062x2.750	39D506F450JP4
65	1.062x3.250	39D656F450JS4
75	1.062x3.750	39D756F450JT4

*These capacitors have outer insulation. For units with bare case, change last character in catalog number from 4 to 0, and subtract .062" from diameter and .125" from length.

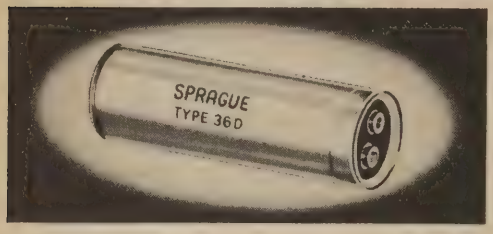
Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTICS



- Maximum space economy at operating temperatures to 85 C.
- Low ESR, low leakage currents.
- Extremely long shelf life.
- Uses most reliable seal developed by Sprague for aluminum electrolytic capacitors.
- Pressure-type safety vents employing silicone rubber are used on all cases.
- Capacitors with star (★) have extended capacitance ratings (higher capacitance, smaller cases) required in some new equipment designs.
- For technical data, refer to Sprague Engineering Bulletins 3431 and 3431.3.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

3 WVDC, 4 VDC SURGE

µF	Size Code	Catalog Number*
10000	AA	36D103G003AA2A
13000	AA	36D133G003AA2A★
20000	AB	36D203G003AB2A
26000	AB	36D263G003AB2A★
30000	AC	36D303G003AC2A
36000	AD	36D363G003AD2A
39000	AC	36D393G003AC2A★
41000	AE	36D413G003AE2A
45000	AD	36D453G003AD2A★
46000	AF	36D463G003AF2A
47000	BB	36D473G003BB2A
52000	AE	36D523G003AE2A★
59000	AF	36D593G003AF2A★
70000	BC	36D703G003BC2A
80000	CB	36D803G003CB2A
82000	BD	36D823G003BD2A
94000	BE	36D943G003BE2A
96000	BC	36D963G003BC2A★
100000	BF	36D104G003BF2A
110000	BD	36D114G003BD2A★
120000	CC	36D124G003CC2A
120000	BE	36D124G003BE2A★
140000	CD	36D144G003CD2A
140000	BF	36D144G003BF2A★
160000	CE	36D164G003CE2A
160000	CC	36D164G003CC2A★
170000	DC	36D174G003DC2A
180000	CF	36D184G003CF2A
180000	CD	36D184G003CD2A★
200000	DD	36D204G003DD2A
210000	CE	36D214G003CE2A★
230000	DE	36D234G003DE2A
240000	CF	36D244G003CF2A★
240000	DC	36D244G003DC2A★
270000	DF	36D274G003DF2A
280000	DD	36D284G003DD2A★
320000	DE	36D324G003DE2A★
360000	DF	36D364G003DF2A★
650000	DJ	36D654G003DJ2A★

6 WVDC, 8 VDC SURGE

µF	Size Code	Catalog Number*
7000	AA	36D702G006AA2A
10000	AA	36D103G006AA2A★
14000	AB	36D143G006AB2A
20000	AB	36D203G006AB2A★
21000	AC	36D213G006AC2A
25000	AD	36D253G006AD2A
29000	AE	36D293G006AE2A
30000	AC	36D303G006AC2A★
32000	AF	36D323G006AF2A
33000	BB	36D333G006BB2A
36000	AD	36D363G006AD2A★
40000	AE	36D403G006AE2A★
45000	AF	36D453G006AF2A★
50000	BC	36D503G006BC2A
57000	CB	36D573G006CB2A
58000	BD	36D583G006BD2A
66000	BE	36D663G006BE2A
75000	BF	36D753G006BF2A
75000	BC	36D753G006BC2A★
86000	CC	36D863G006CC2A
87000	BD	36D873G006BD2A★
100000	CD	36D104G006CD2A
100000	BE	36D104G006BE2A★
110000	CE	36D114G006CE2A
110000	BF	36D114G006BF2A★
120000	DC	36D124G006DC2A
120000	CC	36D124G006CC2A★
140000	DD	36D144G006DD2A
140000	CD	36D144G006CD2A★
160000	DE	36D164G006DE2A
160000	CE	36D164G006CE2A★
180000	CF	36D184G006CF2A★
190000	DF	36D194G006DF2A
190000	DC	36D194G006DC2A★
220000	DD	36D224G006DD2A★
250000	DE	36D254G006DE2A★
280000	DF	36D284G006DF2A★
480000	DJ	36D484G006DJ2A★

10 WVDC, 12 VDC SURGE

µF	Size Code	Catalog Number*
6000	AA	36D602G010AA2A
9000	AA	36D902G010AA2A★
12000	AB	36D123G010AB2A
18000	AC	36D183G010AC2A
18000	AB	36D183G010AB2A★
21000	AD	36D213G010AD2A
24000	AE	36D243G010AE2A
27000	AF	36D273G010AF2A
27000	AC	36D273G010AC2A★
28000	BB	36D283G010BB2A
31000	AD	36D313G010AD2A★
36000	AE	36D363G010AE2A★
41000	AF	36D413G010AF2A★
42000	BC	36D423G010BC2A
48000	CB	36D483G010CB2A
49000	BD	36D493G010BD2A
56000	BE	36D563G010BE2A
58000	BC	36D583G010BC2A★
63000	BF	36D633G010BF2A
68000	BD	36D683G010BD2A★
72000	CC	36D723G010CC2A
78000	BE	36D783G010BE2A★
84000	CD	36D843G010CD2A
88000	BF	36D883G010BF2A★
96000	CE	36D963G010CE2A
100000	CF	36D104G010CF2A
100000	DC	36D104G010DC2A
100000	CC	36D104G010CC2A★
120000	CD	36D124G010CD2A★
120000	DD	36D124G010DD2A
130000	CE	36D134G010CE2A★
140000	DE	36D144G010DE2A
150000	CF	36D154G010CF2A★
150000	DC	36D154G010DC2A★
160000	DF	36D164G010DF2A
180000	DD	36D184G010DD2A★
200000	DE	36D204G010DE2A★
230000	DF	36D234G010DF2A★
390000	DJ	36D394G010DJ2A★

15 WVDC, 18 VDC SURGE

µF	Size Code	Catalog Number*
4600	AA	36D462G015AA2A
7500	AA	36D752G015AA2A★
9200	AB	36D922G015AB2A
13000	AC	36D133G015AC2A
15000	AB	36D153G015AB2A★
16000	AD	36D163G015AD2A
18000	AE	36D183G015AE2A
20000	AF	36D203G015AF2A
21000	BB	36D213G015BB2A
22000	AC	36D223G015AC2A★
26000	AD	36D263G015AD2A★
30000	AE	36D303G015AE2A★
31000	BC	36D313G015BC2A
34000	AF	36D343G015AF2A★
36000	CB	36D363G015CB2A
37000	BD	36D373G015BD2A
42000	BE	36D423G015BE2A
47000	BF	36D473G015BF2A
50000	BC	36D503G015BC2A★
54000	CC	36D543G015CC2A
58000	BD	36D583G015BD2A★
63000	CD	36D633G015CD2A
66000	BE	36D663G015BE2A★
72000	CE	36D723G015CE2A
75000	BF	36D753G015BF2A★
80000	DC	36D803G105DC2A
81000	CF	36D813G015CF2A
83000	CC	36D833G015CC2A★
93000	DD	36D933G015DD2A
97000	CD	36D973G015CD2A★
100000	DE	36D104G015DE2A
110000	CE	36D114G015CE2A★
120000	CF	36D124G015CF2A★
120000	DC	36D124G015DC2A★
120000	DF	36D124G015DF2A
140000	DD	36D144G015DD2A★
160000	DE	36D164G015DE2A★
180000	DF	36D184G015DF2A★
300000	DJ	36D304G015DJ2A★

25 WVDC, 30 VDC SURGE

µF	Size Code	Catalog Number*
2700	AA	36D272G025AA2A
4500	AA	36D452G025AA2A★
5500	AB	36D552G025AB2A
8200	AC	36D822G025AC2A
9000	AB	36D902G025AB2A★
9600	AD	36D962G025AD2A
11000	AE	36D113G025AE2A
12000	AF	36D123G025AF2A
13000	AC	36D133G025AC2A★
16000	AD	36D163G025AD2A★
18000	AE	36D183G025AE2A★
18000	BC	36D183G025BC2A
20000	AF	36D203G025AF2A★
21000	CB	36D213G025CB2A
22000	BD	36D223G025BD2A
25000	BE	36D253G025BE2A
28000	BF	36D283G025BF2A
30000	BC	36D303G025BC2A★
32000	CC	36D323G025CC2A
35000	BD	36D353G025BD2A★
38000	CD	36D383G025CD2A
40000	BE	36D403G025BE2A★
43000	CE	36D433G025CE2A
45000	BF	36D453G025BF2A★
47000	DC	36D473G025DC2A
48000	CF	36D483G025CF2A
50000	CC	36D503G025CC2A★
55000	DD	36D553G025DD2A
58000	CD	36D583G025CD2A★
63000	DE	36D633G025DE2A
66000	CE	36D663G025CE2A★
71000	DF	36D713G025DF2A
75000	CF	36D753G025CF2A★
75000	DC	36D753G025DC2A★
88000	DD	36D883G025DD2A★
100000	DE	36D104G025DE2A★
110000	DF	36D114G025DF2A★
190000	DJ	36D194G025DJ2A★

30 WVDC, 40 VDC SURGE

µF	Size Code	Catalog Number*
2000	AA	36D202G030AA2A
4000	AB	36D402G030AB2A
4000	AA	36D402G030AA2A★
6000	AC	36D602G030AC2A
7200	AD	36D722G030AD2A
8000	AB	36D802G030AB2A★
8300	AE	36D832G030AE2A
9300	AF	36D932G030AF2A
9500	BB	36D952G030BB2A
12000	AC	36D123G030AC2A★
14000	AD	36D143G030AD2A★
14000	BC	36D143G030BC2A
16000	BD	36D163G030BD2A
16000	AE	36D163G030AE2A★
18000	AF	36D183G030AF2A★
19000	BE	36D193G030BE2A
21000	BF	36D213G030BF2A
24000	CC	36D243G030CC2A
26000	BC	36D263G030BC2A★
28000	CD	36D283G030CD2A
30000	BD	36D303G030BD2A★
32000	CE	36D323G030CE2A
35000	BE	36D353G030BE2A★
36000	DC	36D363G030DC2A
37000	CF	36D373G030CF2A
39000	BF	36D393G030BF2A★
42000	DD	36D423G030DD2A
44000	CC	36D443G030CC2A★
48000	DE	36D483G030DE2A
51000	CD	36D513G030CD2A★

DIMENSIONS

Code	D.xL.	Code	D.xL.	Code	D.xL.	Code	D.xL.
AA	1.453x2.250	AF	1.453x5.750	BF	2.078x5.750	CF	2.578x5.750
AB	1.453x3.250	BB	2.078x3.250	CB	2.578x3.250	DC	3.078x4.250
AC	1.453x4.250	BC	2.078x4.250	CC	2.578x4.250	DD	3.078x4.750
AD	1.453x4.750	BD	2.078x4.750	CD	2.578x4.750	DE	3.078x5.250
AE	1.453x5.250	BE	2.078x5.250	CE	2.578x5.250	DF	3.078x5.750
						DJ	3.078x8.750

*Capacitors listed have outer plastic-film insulation. For bare case, change 13th character of cat. no. from "2" to "0" and subtract .078" from diameter and .125" from length. Capacitors listed have low-insert terminals. For high-insert or solder-lug terminals, change last character of cat. no. from "A" to "B" or "C", respectively.

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 36D POWERLYTIC® ELECTROLYTICS, continued

µF	Size Code	Catalog Number*
54000	DF	36D543G030DF2A
59000	CE	36D593G030CE2A★
66000	CF	36D663G030CF2A★
66000	DC	36D663G030DC2A★
76000	DD	36D763G030DD2A★
86000	DE	36D863G030DE2A★
97000	DF	36D973G030DF2A★
160000	DJ	36D164G030DJ2A★
40 WVDC, 50 VDC SURGE		
1800	AA	36D182G040AA2A
2900	AA	36D292G040AA2A★
3600	AB	36D362G040AB2A
5500	AC	36D552G040AC2A
5800	AB	36D582G040AB2A★
6400	AD	36D642G040AD2A
7300	AE	36D732G040AE2A
8300	AF	36D832G040AF2A
8400	BB	36D842G040BB2A
8700	AC	36D872G040AC2A★
10000	AD	36D103G040AD2A★
12000	AE	36D123G040AE2A★
12000	BC	36D123G040BC2A
13000	AF	36D133G040AF2A★
14000	BD	36D143G040BD2A
16000	BE	36D163G040BE2A
19000	BF	36D193G040BF2A
20000	BC	36D203G040BC2A★
21000	CC	36D213G040CC2A
23000	BD	36D233G040BD2A★
25000	CD	36D253G040CD2A
26000	BE	36D263G040BE2A★
28000	CE	36D283G040CE2A
30000	BF	36D303G040BF2A★
31000	DC	36D313G040DC2A
32000	CF	36D323G040CF2A
34000	CC	36D343G040CC2A★
37000	DD	36D373G040DD2A
40000	CD	36D403G040CD2A★
42000	DE	36D423G040DE2A
45000	CE	36D453G040CE2A★
48000	DF	36D483G040DF2A
51000	CF	36D513G040CF2A★
51000	DC	36D513G040DC2A★
60000	DD	36D603G040DD2A★
68000	DE	36D683G040DE2A★
76000	DF	36D763G040DF2A★
120000	DJ	36D124G040DJ2A★
50 WVDC, 65 VDC SURGE		
1300	AA	36D132G050AA2A
2400	AA	36D242G050AA2A★
2600	AB	36D262G050AB2A
3900	AC	36D392G050AC2A
4600	AD	36D462G050AD2A
4800	AB	36D482G050AB2A★
5200	AE	36D522G050AE2A
5900	AF	36D592G050AF2A
6000	BB	36D602G050BB2A
7200	AC	36D722G050AC2A★
8400	AD	36D842G050AD2A★
9000	BC	36D902G050BC2A
9600	AE	36D962G050AE2A★
10000	BD	36D103G050BD2A
11000	AF	36D113G050AF2A★
12000	BE	36D123G050BE2A
13000	BF	36D133G050BF2A
15000	CC	36D153G050CC2A
16000	BC	36D163G050BC2A★
18000	CD	36D183G050CD2A
19000	BD	36D193G050BD2A★
20000	CE	36D203G050CE2A
21000	BE	36D213G050BE2A★
22000	DC	36D223G050DC2A
23000	CF	36D233G050CF2A
24000	BF	36D243G050BF2A★
26000	DD	36D263G050DD2A
27000	CC	36D273G050CC2A★
30000	DE	36D303G050DE2A
31000	CD	36D313G050CD2A★
34000	DF	36D343G050DF2A
36000	CE	36D363G050CE2A★
40000	CF	36D403G050CF2A★
41000	DC	36D413G050DC2A★
48000	DD	36D483G050DD2A★
54000	DE	36D543G050DE2A★
61000	DJ	36D613G050DJ2A★
100000	DJ	36D104G050DJ2A★
75 WVDC, 95 VDC SURGE		
850	AA	36D851G075AA2A
1400	AA	36D142G075AA2A★
1700	AB	36D172G075AB2A
2500	AC	36D252G075AC2A
2800	AB	36D282G075AB2A★
3000	AD	36D302G075AD2A
3400	AE	36D342G075AE2A
3800	AF	36D382G075AF2A
3900	BB	36D392G075BB2A
4200	AC	36D422G075AC2A★
4900	AD	36D492G075AD2A★
5600	AE	36D562G075AE2A★
5900	BC	36D592G075BC2A
6300	AF	36D632G075AF2A★
6700	CB	36D672G075CB2A
6900	BD	36D692G075BD2A
7800	BE	36D782G075BE2A
8800	BF	36D882G075BF2A
10000	CC	36D103G075CC2A
10000	BC	36D103G075BC2A★
11000	CD	36D113G075CD2A
12000	BD	36D123G075BD2A★
13000	BE	36D133G075BE2A★
13000	CE	36D133G075CE2A
14000	DC	36D143G075DC2A
15000	CF	36D153G075CF2A
15000	BF	36D153G075BF2A★
17000	CC	36D173G075CC2A★
17000	DD	36D173G075DD2A
20000	DE	36D203G075DE2A
20000	CD	36D203G075CD2A★
22000	DF	36D223G075DF2A
23000	CE	36D233G075CE2A★
25000	CF	36D253G075CF2A★
25000	DC	36D253G075DC2A★
29000	DD	36D293G075DD2A★
33000	DE	36D333G075DE2A★
37000	DF	36D373G075DF2A★
60000	DJ	36D603G075DJ2A★
100 WVDC, 125 VDC SURGE		
450	AA	36D451G100AA2A
850	AA	36D851G100AA2A★
900	AB	36D901G100AB2A
1300	AC	36D132G100AC2A
1500	AD	36D152G100AD2A
1700	AB	36D172G100AB2A★
1800	AE	36D182G100AE2A
2000	AF	36D202G100AF2A
2600	AC	36D262G100AC2A★
3000	AD	36D302G100AD2A★
3000	BC	36D302G100BC2A
3400	AE	36D342G100AE2A★
3500	CB	36D352G100CB2A
3600	BD	36D362G100BD2A
3800	AF	36D382G100AF2A★
4000	BE	36D402G100BE2A
4500	BF	36D452G100BF2A
5300	CC	36D532G100CC2A
5800	BC	36D582G100BC2A★
6100	CD	36D612G100CD2A
6800	BD	36D682G100BD2A★
7000	CE	36D702G100CE2A
7700	BE	36D772G100BE2A★
7800	CF	36D782G100CF2A
7800	DC	36D782G100DC2A
8700	BF	36D872G100BF2A★
9100	DD	37D912G100DD2A
9800	CC	36D982G100CC2A★
10000	DE	36D103G100DE2A
11000	DF	36D113G100DF2A
11000	CD	36D113G100CD2A★
13000	CE	36D133G100CE2A★
15000	CF	36D153G100CF2A★
15000	DC	36D153G100DC2A★
16000	DD	36D163G100DD2A★
19000	DE	36D193G100DE2A★
21000	DF	36D213G100DF2A★
36000	DJ	36D363G100DJ2A★
150 WVDC, 175 VDC SURGE		
300	AA	36D301F150AA2A
600	AB	36D601F150AB2A
900	AC	36D901F150AC2A
1100	AD	36D112F150AD2A
1200	AE	36D122F150AE2A
1300	AF	36D132F150AF2A
1400	BB	36D142F150BB2A
2100	BC	36D212F150BC2A
2400	BD	36D242F150BD2A
2700	BE	36D272F150BE2A
3100	BF	36D312F150BF2A
3600	CC	36D362F150CC2A
4200	CD	36D422F150CD2A
4700	CE	36D472F150CE2A
5300	CF	36D532F150CF2A
5300	DC	36D532F150DC2A
6200	DD	36D622F150DD2A
7000	DE	36D702F150DE2A
7800	DF	36D782F150DF2A
200 WVDC, 250 VDC SURGE		
250	AA	36D251F200AA2A
430	AB	36D431F200AB2A
640	AC	36D641F200AC2A
770	AD	36D771F200AD2A
850	AE	36D851F200AE2A
950	AF	36D951F200AF2A
1400	BC	36D142F200BC2A
1600	CB	36D162F200CB2A
1700	BD	36D172F200BD2A
1900	BE	36D192F200BE2A
2100	BF	36D212F200BF2A
2500	CC	36D252F200CC2A
2900	CD	36D292F200CD2A
3300	CE	36D332F200CE2A
3700	CF	36D372F200CF2A
3700	DC	36D372F200DC2A
4300	DD	36D432F200DD2A
4800	DE	36D482F200DE2A
5500	DF	36D552F200DF2A
250 WVDC, 300 VDC SURGE		
170	AA	36D171F250AA2A
350	AB	36D351F250AB2A
530	AC	36D531F250AC2A
630	AD	36D631F250AD2A
700	AE	36D701F250AE2A
780	AF	36D781F250AF2A
800	BB	36D801F250BB2A
1200	BC	36D122F250BC2A
1300	CB	36D132F250CB2A
1400	BD	36D142F250BD2A
1500	BE	36D152F250BE2A
1700	BF	36D172F250BF2A
2000	CC	36D202F250CC2A
2400	CD	36D242F250CD2A
2700	CE	36D272F250CE2A
3000	CF	36D302F250CF2A
3000	DC	36D302F250DC2A
3500	DD	36D352F250DD2A
4000	DE	36D402F250DE2A
4500	DF	36D452F250DF2A
300 WVDC, 350 VDC SURGE		
120	AA	36D121F300AA2A
240	AB	36D241F300AB2A
370	AC	36D371F300AC2A
450	AD	36D451F300AD2A
500	AE	36D501F300AE2A
550	AF	36D551F300AF2A
820	BC	36D821F300BC2A
950	BD	36D951F300BD2A
1100	BE	36D112F300BE2A
1200	BF	36D122F300BF2A
1400	CC	36D142F300CC2A
1600	CD	36D162F300CD2A
1800	CE	36D182F300CE2A
2100	CF	36D212F300CF2A
2100	DC	36D212F300DC2A
2400	DD	36D242F300DD2A
2700	DE	36D272F300DE2A
3100	DF	36D312F300DF2A
350 WVDC, 400 VDC SURGE		
95	AA	36D950F350AA2A
190	AB	36D191F350AB2A
290	AC	36D291F350AC2A
360	AD	36D361F350AD2A
390	AE	36D391F350AE2A
420	BB	36D421F350BB2A
440	AF	36D441F350AF2A
650	BC	36D651F350BC2A
750	CB	36D751F350CB2A
780	BD	36D781F350BD2A
880	BE	36D881F350BE2A
1000	BF	36D102F350BF2A
1100	CC	36D112F350CC2A
1300	CD	36D132F350CD2A
1500	CE	36D152F350CE2A
1600	DC	36D162F350DC2A
1700	CF	36D172F350CF2A
1900	DD	36D192F350DD2A
2200	DE	36D222F350DE2A
2500	DF	36D252F350DF2A
400 WVDC, 475 VDC SURGE		
65	AA	36D650F400AA2A
120	AB	36D121F400AB2A
190	AC	36D191F400AC2A
230	AD	36D231F400AD2A
270	AE	36D271F400AE2A
290	BB	36D291F400BB2A
300	AF	36D301F400AF2A
420	BC	36D421F400BC2A
490	CB	36D491F400CB2A
530	BD	36D531F400BD2A
610	BE	36D611F400BE2A
680	BF	36D681F400BF2A
790	CC	36D791F400CC2A
910	CD	36D911F400CD2A
1000	CE	36D102F400CE2A
1000	DC	36D102F400DC2A
1100	CF	36D112F400CF2A
1200	DD	36D122F400DD2A
1400	DE	36D142F400DE2A
1600	DF	36D162F400DF2A
450 WVDC, 525 VDC SURGE		
50	AA	36D500F450AA2A
100	AB	36D101F450AB2A
140	AC	36D141F450AC2A
170	AD	36D171F450AD2A
190	AE	36D191F450AE2A
210	AF	36D211F450AF2A
220	BB	36D221F450BB2A
330	BC	36D331F450BC2A
380	CB	36D381F450CB2A
390	BD	36D391F450BD2A
440	BE	36D441F450BE2A
490	BF	36D491F450BF2A
570	CC	36D571F450CC2A
660	CD	36D661F450CD2A
760	CE	36D761F450CE2A
850	CF	36D851F450CF2A
860	DC	36D861F450DC2A
1000	DD	36D102F450DD2A
1100	DE	36D112F450DE2A
1200	DF	36D122F450DF2A

*Capacitors listed have outer plastic-film insulation. For bare case, change 13th character of cat. no. from "2" to "0" and subtract .078" from diameter and .125" from length. Capacitors listed have low-insert terminals. For high-insert or solder-lug terminals, change last character of cat. no. from "A" to "B" or "C", respectively.

Copyright 1971, Sprague Products Company

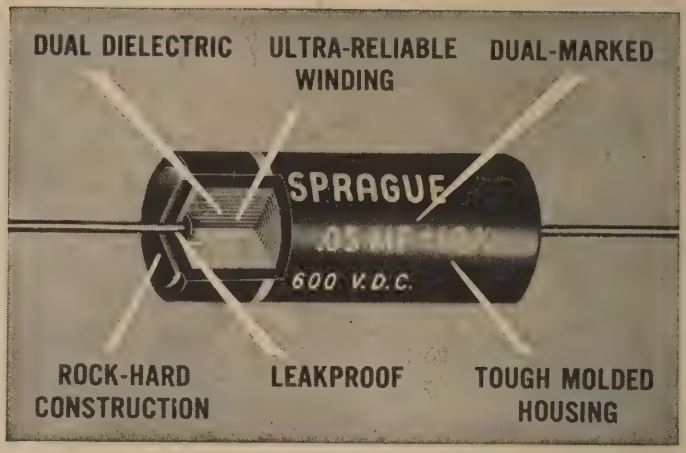
Sizes subject to change without notice

© United Technical Publications

SPRAGUE CAPACITORS

DIFILM® BLACK BEAUTY® MOLDED TUBULARS





- Developed Especially for Long Life Under High Humidity and Temperature Operating Conditions
- Dual Dielectric (film and paper) Combines Best Features of Both Polyester Film and Paper Capacitors
- Exclusive HCX® Solid Impregnated Construction Results in Rock-hard Section
- Won't Leak or Drip

LOOK FOR THE RED MARKINGS ON THE BLACK CASE

- Mica-filled, Non-flammable Molded Case. Won't Crack when Dropped; Soldering won't Harm it
- Every Capacitor Marked Twice. No Twisting the Case to Read Ratings
- Also Available in Handy Sprague Kleer-Pak®
- **Capacitance Tolerance:** ±10% from .001 μF up Except 2TM-M1 ±20%

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 2025

The World's Best Molded Tubular at No Extra Cost!

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
200 WVDC			
.01	5/16 x 1	2TM-S10	160P10392
.02	3/8 x 1 1/4	2TM-S20	.....
.022	3/8 x 1 1/4	2TM-S22	160P22392
.047	3/8 x 1 1/4	2TM-S47	160P47392
.05	3/8 x 1 1/4	2TM-S50	.....
.1	7/16 x 1 1/4	2TM-P10	160P10492
.15	1/2 x 1 1/2	2TM-P15	160P15492
.22	5/8 x 1 7/8	2TM-P22	160P22492
.25	5/8 x 1 7/8	2TM-P25	.....
.47	5/8 x 1 7/8	2TM-P47	160P47492
.5	5/8 x 1 7/8	2TM-P50	.....
1.0	3/4 x 2 1/4	2TM-M1	161P10502
400 WVDC			
.001	5/16 x 1	4TM-D10	160P10294
.005	5/16 x 1	4TM-D50	.....
.01	5/16 x 1	4TM-S10	160P10394
.015	3/8 x 1 1/4	4TM-S15	160P15394
.02	3/8 x 1 1/4	4TM-S20	.....
.022	3/8 x 1 1/4	4TM-S22	160P22394
.025	3/8 x 1 1/4	4TM-S25	.....
.03	3/8 x 1 1/4	4TM-S30	.....
.04	7/16 x 1 1/4	4TM-S40	.....
.047	7/16 x 1 1/4	4TM-S47	160P47394
.05	7/16 x 1 1/4	4TM-S50	.....
.068	1/2 x 1 1/2	4TM-S68	160P68394
.1	1/2 x 1 1/2	4TM-P10	160P10494
.15	5/8 x 1 7/8	4TM-P15	160P15494
.2	5/8 x 1 7/8	4TM-P20	.....
.22	5/8 x 1 7/8	4TM-P22	160P22494
.25	5/8 x 1 7/8	4TM-P25	.....
.47	3/4 x 2 1/4	4TM-P47	160P47494
.5	3/4 x 2 1/4	4TM-P50	.....
1.0	1 x 2 1/2	4TM-M1	161P10594
600 WVDC			
.0004	5/16 x 1	6TM-T40*	.....
.001	5/16 x 1	6TM-D10	160P10296
.0015	5/16 x 1	6TM-D15	160P15296
.002	5/16 x 1	6TM-D20	.....
.0022	5/16 x 1	6TM-D22	160P22296
.0025	5/16 x 1	6TM-D25	.....
.003	5/16 x 1	6TM-D30	.....
.0033	5/16 x 1	6TM-D33	160P33296
.004	3/8 x 1 1/4	6TM-D40	.....

*Available until present stocks are exhausted.

IND-REM-41-EBAP

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

DIFILM® BLACK BEAUTY® MOLDED TUBULARS, continued

µF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
600 WVDC (Cont.)			
.0047	3/8 x 1 1/4	6TM-D47	160P47296
.005	3/8 x 1 1/4	6TM-D50	.....
.006	3/8 x 1 1/4	6TM-D60	.....
.0068	3/8 x 1 1/4	6TM-D68	160P68296
.008	3/8 x 1 1/4	6TM-D80	.....
.01	3/8 x 1 1/4	6TM-S10	160P10396
.015	3/8 x 1 1/4	6TM-S15	160P15396
.02	7/16 x 1 1/4	6TM-S20	.....
.022	7/16 x 1 1/4	6TM-S22	160P22396
.025	7/16 x 1 1/4	6TM-S25	.....
.03	7/16 x 1 1/4	6TM-S30	.....
.033	7/16 x 1 1/4	6TM-S33	160P33396
.035	7/16 x 1 1/4	6TM-S35	.....
.04	1/2 x 1 1/2	6TM-S40	.....
.047	1/2 x 1 1/2	6TM-S47	160P47396
.05	1/2 x 1 1/2	6TM-S50	.....
.06	1/2 x 1 1/2	6TM-S60	.....
.068	1/2 x 1 1/2	6TM-S68	160P68396
.1	5/8 x 1 7/8	6TM-P10	160P10496
.15	5/8 x 1 7/8	6TM-P15	160P15496
.2	3/4 x 2 1/4	6TM-P20	.....
.22	3/4 x 2 1/4	6TM-P22	160P22496
.25	3/4 x 2 1/4	6TM-P25	.....
.47	1 x 2 1/2	6TM-P47	161P47496
.5	1 x 2 1/2	6TM-P50	.....
1.0	1 x 2 1/2	6TM-M1	.....
1000 WVDC			
.0005	5/16 x 1	10TM-T50*	.....
.001	5/16 x 1	10TM-D10	160P102910
.0015	5/16 x 1	10TM-D15	160P152910
.002	3/8 x 1 1/4	10TM-D20	.....
.0022	3/8 x 1 1/4	10TM-D22	160P222910
.003	3/8 x 1 1/4	10TM-D30	.....
.004	3/8 x 1 1/4	10TM-D40	.....
.0047	3/8 x 1 1/4	10TM-D47	160P472910
.005	3/8 x 1 1/4	10TM-D50	.....

µF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
1000 WVDC (Cont.)			
.0068	3/8 x 1 1/4	10TM-D68	160P682910
.01	7/16 x 1 1/4	10TM-S10	160P103910
.015	1/2 x 1 1/2	10TM-S15	160P153910
.02	1/2 x 1 1/2	10TM-S20	.....
.022	1/2 x 1 1/2	10TM-S22	160P223910
.03	5/8 x 1 7/8	10TM-S30	.....
.035	5/8 x 1 7/8	10TM-S35	.....
.047	5/8 x 1 7/8	10TM-S47	160P473910
.05	5/8 x 1 7/8	10TM-S50	.....
.068	5/8 x 1 7/8	10TM-S68	160P683910
.1	3/4 x 2 1/4	10TM-P10	160P104910
.15	3/4 x 2 1/4	10TM-P15	160P154910
1600 WVDC BUFFER CAPACITORS			
.0005	3/8 x 1 1/4	MB-T5*	.....
.001	3/8 x 1 1/4	MB-D1	160P102916
.0015	3/8 x 1 1/4	MB-D15	160P152916
.002	3/8 x 1 1/4	MB-D2	.....
.0022	3/8 x 1 1/4	MB-D22	160P222916
.003	7/16 x 1 1/4	MB-D3	.....
.0033	7/16 x 1 1/4	MB-D33	160P332916
.004	1/2 x 1 1/2	MB-D4	.....
.0047	1/2 x 1 1/2	MB-D47	160P472916
.005	1/2 x 1 1/2	MB-D5	.....
.006	1/2 x 1 1/2	MB-D6	.....
.0068	1/2 x 1 1/2	MB-D68	160P682916
.007	1/2 x 1 1/2	MB-D7	.....
.0075	1/2 x 1 1/2	MB-D75	.....
.008	5/8 x 1 7/8	MB-D8	.....
.01	5/8 x 1 7/8	MB-S1	160P103916
.015	5/8 x 1 7/8	MB-S15	160P153916
.02	5/8 x 1 7/8	MB-S2	.....
.022	5/8 x 1 7/8	MB-S22	160P223916
.03	3/4 x 2 1/4	MB-S3	.....
.04	3/4 x 2 1/4	MB-S4	.....
.05	3/4 x 2 1/4	MB-S5	.....

TYPE 185P HIGH-VOLTAGE TELECAP® DIFILM® CAPACITORS

- Designed to Minimize Corona Effects in High-Voltage
- Suited for Use in Instruments and Other Applications Circuits Which Utilize High Voltage Power Supplies
- Pre-molded Cases are Mechanically Rugged, Non-flammable, and Resistant to Heat and Humidity
- Higher Ripple Voltage Capability, Depending on Frequency, Than Conventional Extended-foil "Non-inductive" Section Capacitors of the Same d-c Voltage
- Standard Capacitance Tolerance, ±10%
- See Latest Issue of Sprague Engineering Bulletin 2011

µF	WVDC	D. x L.	Cat. No.
.047	6,000	1 3/8 x 2 3/4	185P473960
.033	7,000	1 3/8 x 2 3/4	185P333970
.022	8,000	1 3/8 x 2 3/4	185P223980
.00047	10,000	3/4 x 2 1/4	185P4719100
.0010	10,000	1 x 2 1/2	185P1029100
.0015	10,000	1 x 2 1/2	185P1529100
.0022	10,000	1 x 2 1/2	185P2229100
.0033	10,000	1 x 2 1/2	185P3329100
.0047	10,000	1 3/8 x 2 3/4	185P4729100
.0068	10,000	1 3/8 x 2 3/4	185P6829100
.010	10,000	1 3/8 x 2 3/4	185P1039100
.015	10,000	1 3/8 x 2 3/4	185P1539100

*Available until present stocks are exhausted.

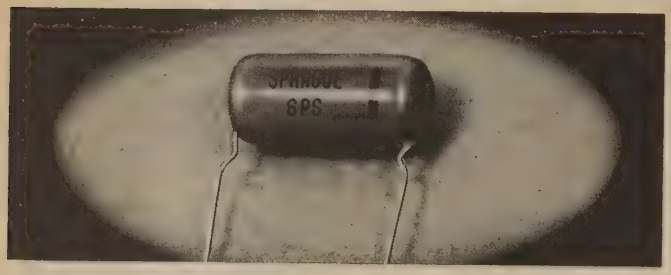
IND-REM-42-EBAP

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

DIFILM® ORANGE DROP® DIPPED TUBULARS



- Dual Dielectric (Film-paper) Solidly Impregnated With Exclusive HCX®—Produces Rock-Hard Capacitor Section
- Crimped Wire Leads for Correct Spacing When Mounted On Printed Wiring Boards.
- Outside Foil on All Units Identified by Black Striping
- Double Dipped in Bright Orange Epoxy Resin—Beats Heat and Humidity
- Won't Leak or Drip
- Capacitance Tolerance, ±10%
- For Complete Data, See Latest Issue of Bulletin 2004

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

µF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
200 VOLTS D-C			
.02	3/8 x 7/8	2PS-S20	.....
.022	25/64 x 7/8	2PS-S22	220P22392
.047	29/64 x 7/8	2PS-S47	220P47392
.05	15/32 x 7/8	2PS-S50	.....
.1	31/64 x 1 3/16	2PS-P10	220P10492
.15	9/16 x 1 3/16	2PS-P15	220P15492
.2	19/32 x 1 5/16	2PS-P20	.....
.22	39/64 x 1 5/16	2PS-P22	220P22492
.25	5/8 x 1 5/16	2PS-P25	.....
.33	5/8 x 1 5/8	2PS-P33	220P33492
.47	45/64 x 1 5/8	2PS-P47	220P47492
.5	23/32 x 1 5/8	2PS-P50	.....
400 VOLTS D-C			
.01	13/32 x 11/16	4PS-S10	220P10394
.015	29/64 x 11/16	4PS-S15	220P15393
.02	13/32 x 7/8	4PS-S20	.....
.022	27/64 x 7/8	4PS-S22	220P22394
.025	7/16 x 7/8	4PS-S25	.....
.03	29/64 x 7/8	4PS-S30	.....
.033	15/32 x 7/8	4PS-S33	220P33394
.04	27/64 x 1 3/16	4PS-S40	.....
.047	29/64 x 1 3/16	4PS-S47	220P47394
.05	29/64 x 1 3/16	4PS-S50	.....
.056	31/64 x 1 3/16	4PS-S56	220P56394
.068	33/64 x 1 3/16	4PS-S68	220P68394
.075	33/64 x 1 3/16	4PS-S75	.....
.1	37/64 x 1 3/16	4PS-P10	220P10494
.15	39/64 x 1 5/16	4PS-P15	220P15494
.2	19/32 x 1 5/8	4PS-P20	.....
.22	39/64 x 1 5/8	4PS-P22	220P22494
.25	41/64 x 1 5/8	4PS-P25	.....
600 VOLTS D-C			
.001	21/64 x 11/16	6PS-D10	220P10296
.0012	21/64 x 11/16	6PS-D12	220P12296
.0015	21/64 x 11/16	6PS-D15	220P15296
.0018	21/64 x 11/16	6PS-D18	220P18296
.002	21/64 x 11/16	6PS-D20	.....
.0022	21/64 x 11/16	6PS-D22	220P22296
.0025	21/64 x 11/16	6PS-D25	.....
.0027	11/32 x 11/16	6PS-D27	220P27296
.003	11/32 x 11/16	6PS-D30	.....
.0033	23/64 x 11/16	6PS-D33	220P33296
.0039	3/8 x 11/16	6PS-D39	220P39296
.004	3/8 x 11/16	6PS-D40	.....
.0047	25/64 x 11/16	6PS-D47	220P47296
.005	25/64 x 11/16	6PS-D50	.....
.0056	25/64 x 11/16	6PS-D56	220P56296
.006	13/32 x 11/16	6PS-D60	.....
.0068	13/32 x 11/16	6PS-D68	220P68296
.0075	23/64 x 7/8	6PS-D75	.....
.008	23/64 x 7/8	6PS-D80	.....
.0082	3/8 x 7/8	6PS-D82	220P82296
.01	25/64 x 7/8	6PS-S10	220P10396
.012	25/64 x 7/8	6PS-S12	220P12396
.015	27/64 x 7/8	6PS-S15	220P15396
.02	31/64 x 7/8	6PS-S20	.....
.022	31/64 x 7/8	6PS-S22	220P22396
.025	17/32 x 7/8	6PS-S25	.....
.027	7/16 x 1 3/16	6PS-S27	220P27396
.03	7/16 x 1 3/16	6PS-S30	.....
.033	15/32 x 1 3/16	6PS-S33	220P33396
.035	15/32 x 1 3/16	6PS-S35	.....
.039	31/64 x 1 3/16	6PS-S39	220P39396
.04	1/2 x 1 3/16	6PS-S40	.....
.047	17/32 x 1 3/16	6PS-S47	220P47396
.05	17/32 x 1 3/16	6PS-S50	.....
.056	35/64 x 1 3/16	6PS-S56	220P56396
.06	9/16 x 1 3/16	6PS-S60	.....
.068	37/64 x 1 3/16	6PS-S68	220P68396
.075	9/16 x 1 5/16	6PS-S75	.....
.082	37/64 x 1 5/16	6PS-S82	220P82396
.1	5/8 x 1 5/16	6PS-P10	220P10496
.15	13/64 x 1 5/8	6PS-P15	220P15496
.2	3/4 x 1 5/8	6PS-P20	.....
.22	25/32 x 1 5/8	6PS-P22	220P22496
.25	13/16 x 1 5/8	6PS-P25	.....
.33	55/64 x 1 5/8	6PS-P33	.....
.47	61/64 x 1 5/8	6PS-P47	.....
1000 VOLTS D-C			
.001	21/64 x 11/16	10PS-D10	220P102910
.0015	11/32 x 11/16	10PS-D15	220P152910
.002	3/8 x 11/16	10PS-D20	.....
.0022	3/8 x 11/16	10PS-D22	220P222910
.003	11/32 x 7/8	10PS-D30	.....
.0033	7/16 x 15/16	10PS-D33	220P332910
.004	3/8 x 7/8	10PS-D40	.....
.0047	13/32 x 7/8	10PS-D47	220P472910
.005	13/32 x 7/8	10PS-D50	.....
.0068	31/64 x 15/16	10PS-D68	220P682910
.01	35/64 x 15/16	10PS-S10	220P103910
.015	17/32 x 1 1/4	10PS-S15	220P153910
.022	37/64 x 1 3/8	10PS-S22	220P223910
.033	19/32 x 1 3/8	10PS-S33	220P333910
.039	43/64 x 1 3/8	10PS-S39	220P393910
.047	43/64 x 1 3/8	10PS-S47	220P473910
.056	47/64 x 1 11/16	10PS-S56	220P563910
.068	47/64 x 1 11/16	10PS-S68	220P683910
.082	49/64 x 1 11/16	10PS-S82	220P823910
.1	49/64 x 1 11/16	10PS-P10	220P104910
1600 VOLTS D-C			
.0005	3/8 x 1 1/4	16PS-T50*	.....
.001	3/8 x 1 1/4	16PS-D10	220P102916
.0015	3/8 x 1 1/4	16PS-D15	220P152916
.002	3/8 x 1 1/4	16PS-D20	.....
.0022	3/8 x 1 1/4	16PS-D22	220P222916
.003	7/16 x 1 1/4	16PS-D30	.....
.0033	7/16 x 1 1/4	16PS-D33	220P332916
.004	1/2 x 1 1/2	16PS-D40	.....
.0047	1/2 x 1 1/2	16PS-D47	220P472916
.005	1/2 x 1 1/2	16PS-D50	.....
.006	1/2 x 1 1/2	16PS-D60	.....
.0068	1/2 x 1 1/2	16PS-D68	220P682916
.007	1/2 x 1 1/2	16PS-D70	.....
.0075	1/2 x 1 1/2	16PS-D75	.....
.008	5/8 x 1 7/8	16PS-D80	.....
.01	5/8 x 1 7/8	16PS-S10	220P103916
.015	5/8 x 1 7/8	16PS-S15	220P153916
.02	5/8 x 1 7/8	16PS-S20	.....
.022	5/8 x 1 7/8	06PS-S22	220P223916
.03	3/4 x 2 1/4	16PS-S30	.....
.033	3/4 x 2 1/4	16PS-S33	220P333916
.04	3/4 x 2 1/4	16PS-S40	.....
.047	3/4 x 2 1/4	16PS-S47	220P473916
.05	3/4 x 2 1/4	16PS-S50	.....
2000 VOLTS D-C			
.001	3/8 x 1 1/4	20PS-D10	.....
.0015	3/8 x 1 1/4	20PS-D15	.....
.0022	3/8 x 1 1/4	20PS-D22	.....
.0033	7/16 x 1 1/4	20PS-D33	.....
.0047	1/2 x 1 1/2	20PS-D47	.....
.0056	1/2 x 1 1/2	20PS-D56	.....
.0068	1/2 x 1 1/2	20PS-D68	.....
.0082	5/8 x 1 7/8	20PS-D82	.....
.027	3/4 x 2 1/4	20PS-S27	.....

*Available until present stock is exhausted

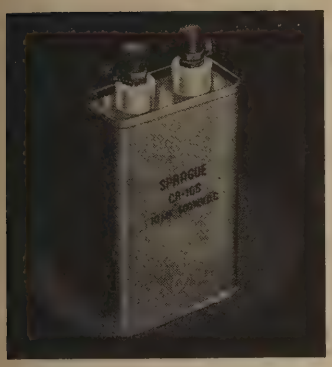
IND-REM-43-EBAP

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE CR RECTANGULAR OIL CAPACITORS



- Hermetically sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely Used in Transmitter Power Supplies and Other High-Voltage Applications



- Furnished With Adapters (as shown above) to Fit Standard Transmitting Tube Plate Caps

Call your Sprague Industrial Distributor for Current Quantity Prices

μF	Size T. x W. x L.	Catalog Number
	600 WVDC	
1.0	1 1/16 x 1 13/16 x 2 1/4	CR-16
2.0	1 1/16 x 1 13/16 x 2 7/8	CR-26
4.0	1 3/16 x 2 1/2 x 3 1/2	CR-46
6.0	1 3/16 x 2 1/2 x 4 3/4	CR-66
8.0	1 1/4 x 3 3/4 x 3 7/8	CR-86
10.0	1 1/4 x 3 3/4 x 4 3/4	CR-106
	1000 WVDC	
.1	1 1/16 x 1 13/16 x 1 5/8	CR-011
.5	1 1/16 x 1 13/16 x 2 1/4	CR-051
1.0	1 1/16 x 1 13/16 x 2 1/4	CR-11
2.0	1 1/16 x 1 13/16 x 3 7/8	CR-21
4.0	1 3/16 x 2 1/2 x 3 5/8	CR-41

μF	Size T. x W. x L.	Catalog Number
	1000 WVDC, cont.	
8.0	1 1/4 x 3 3/4 x 4 3/4	CR-81
10.0	1 3/4 x 3 3/4 x 4 3/4	CR-101
	1500 WVDC	
.5	1 1/16 x 1 13/16 x 2 7/8	CR-0515
4.0	1 1/4 x 3 3/4 x 4 3/4	CR-415
	2000 WVDC	
.25	1 3/16 x 2 1/2 x 2 1/2	CR-0252
.5	1 3/16 x 2 1/2 x 2 7/8	CR-052
1.0	1 3/16 x 2 1/2 x 3 1/2	CR-12
2.0	1 1/4 x 3 3/4 x 4 1/4	CR-22
3.0	1 1/4 x 3 3/4 x 4 3/4	CR-32
4.0	2 1/4 x 3 3/4 x 3 7/8	CR-42

TYPE BP BATHTUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Found
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-Impregnated for Long, Dependable Service Life
- Convenient Mounting Ears are Integral Part of Metal Container



CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Size L. x W. x H.	Catalog Number
	600 WVDC	
.25	1 13/16 x 1 x 3/4	BP-256
.5	1 13/16 x 1 x 1	BP-506
1.0	2 x 1 3/4 x 1	BP-106
2.0	2 x 2 x 1 1/8	BP-206
.05+.05	1 13/16 x 1 x 3/4	BP-2056
.1 + .1	1 13/16 x 1 x 3/4	BP-216
.25+.25	1 13/16 x 1 x 1	BP-2256
.5 + .5	2 x 1 3/4 x 1	BP-2506
.1 + .1 + .1	1 13/16 x 1 x 7/8	BP-316
.5 + .5 + .5	2 x 2 x 1 1/8	BP-356

μF	Size L. x W. x H.	Catalog Number
	1000 WVDC	
.05	1 13/16 x 1 x 3/4	BP-51
.1	1 13/16 x 1 x 3/4	BP-11
.25	1 13/16 x 1 x 7/8	BP-251
.5	2 x 1 3/4 x 7/8	BP-501
1.0	2 x 2 x 1 1/8	BP-101
.05+.05	1 13/16 x 1 x 3/4	BP-2051
.1 + .1	1 13/16 x 1 x 7/8	BP-211
.25+.25	2 x 1 3/4 x 3/4	BP-2251
.5 + .5	2 x 2 x 1 1/8	BP-2501

Copyright 1971, Sprague Products Company

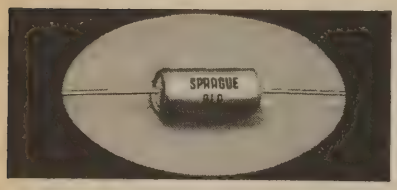
IND-REM-45-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

VITAMIN Q® SUBMINIATURE PAPER CAPACITORS



- Most widely used of all paper capacitors in commercial and military electronic equipment.
- Hermetically sealed in metal cases.
- Electrically and mechanically designed to meet stringent operating requirements.
- Impregnated with Vitamin Q®, a substantially linear, controlled molecular weight hydrocarbon polymer, exclusive with Sprague.
- Vitamin Q impregnation provides higher insulation resistance, longer life than ordinary oils used in conventional capacitors.
- Exceed performance requirements of MIL-C-25A.
- For complete data, see latest issue of Engineering Bulletin 2110.

Call your Sprague Industrial Distributor for current quantity prices.

CHOICE OF INSERTED TAB OR EXTENDED FOIL CONSTRUCTION

In the past, inserted tab capacitors had not been recommended for low-voltage applications. Improvements in design now permit their use at all voltages from 1 to rated, in nearly all applications. The principal difference between the two construction types is that, at resonance, losses are likely to be lower in the extended foil type, because the resistive component of impedance is likely to be higher at resonance in the inserted tab type. Unless unusual circuit requirements make the losses at resonance a critical factor, the inserted tab is recommended because this type of construction permits substantially smaller physical size.

TYPE 91P, INSERTED TAB CONSTRUCTION, 85°C OPERATION

μF	WVDC	D. x L.	Catalog Number* ± 20% Cap. Tol.	± 10% Cap. Tol.	μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.
.001	100	.238 x .812	91P10201S4	91P10291S4	.068	200	.375 x .937	91P68302S4	91P68392S4
	600	.297 x .812	91P10206S4	91P10296S4		300	.463 x .937	91P68303S4	91P68393S4
.0015	100	.238 x .812	91P15201S4	91P15296S4					
	600	.297 x .812	91P15206S4	91P15291S4	.1	100	.375 x .937	91P10401S4	91P10491S4
.0022	600	.297 x .812	91P22206S4	91P22296S4		200	.463 x .937	91P10402S4	91P10492S4
.0033	100	.238 x .812	91P33201S4	91P33291S4		300	.463 x 1.187	91P10403S4	91P10493S4
	600	.297 x .812	91P33206S4	91P33296S4		400	.463 x 1.437	91P10404S4	91P10494S4
.0047	100	.238 x .812	91P47201S4	91P47291S4		600	.625 x 1.187	91P10406S4	91P10496S4
	600	.297 x .812	91P47206S4	91P47296S4	.22				
.0068	600	.297 x .812	91P68206S4	91P68296S4		100	.463 x 1.187	91P22401S4	91P22491S4
.01	100	.238 x .812	91P10301S4	91P10391S4		200	.463 x 1.437	91P22402S4	91P22492S4
	400	.297 x .812	91P10304S4	91P10394S4		300	.625 x 1.187	91P22403S4	91P22493S4
	600	.375 x .937	91P10306S4	91P10396S4		400	.625 x 1.437	91P22404S4	91P22494S4
.015	300	.297 x .812	91P15303S4	91P15393S4		600	.625 x 1.937	91P22406S4	91P22496S4
.022	100	.258 x .812	91P22301S4	91P22391S4	.47	100	.463 x 1.437	91P47401S4	91P47491S4
	200	.297 x .812	91P22302S4	91P22392S4		200	.625 x 1.437	91P47402S4	91P47492S4
	600	.375 x .937	91P22306S4	91P22396S4		400	.733 x 1.937	91P47404S4	91P47494S4
.033	100	.297 x .812	91P33301S4	91P33391S4		600	.812 x 2.187	91P47406S4	91P47496S4
	400	.375 x .937	91P33304S4	91P33394S4					
.047	300	.375 x .937	91P47303S4	91P47393S4	1.0	100	.625 x 1.937	91P10501S4	91P10591S4
	400	.463 x .937	91P47304S4	91P47394S4		200	.733 x 1.937	91P10502S4	91P10592S4
	600	.463 x 1.187	91P47306S4	91P47396S4		400	1.062 x 1.937	91P10504S4	91P10594S4

TYPE 96P, INSERTED TAB CONSTRUCTION, 125°C OPERATION

μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.	μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.
.001	100	.238 x .812	96P10201S4	96P10291S4	.022	100	.258 x .812	96P22301S4	96P22391S4
	600	.297 x .812	96P10206S4	96P10296S4		200	.297 x .812	96P22302S4	96P22392S4
.0015	100	.238 x .812	96P15201S4	96P15291S4		600	.375 x .937	96P22306S4	96P22396S4
	600	.297 x .812	96P15206S4	96P15296S4	.033	100	.297 x .812	96P33301S4	96P33391S4
.0022	600	.297 x .812	96P22206S4	96P22296S4		400	.375 x .937	96P33304S4	96P33394S4
.0033	100	.238 x .812	96P33201S4	96P33291S4	.047	300	.375 x .937	96P47303S4	96P47393S4
	600	.297 x .812	97P33206S4	96P33296S4		400	.463 x .937	96P47304S4	96P47394S4
.0047	100	.238 x .812	96P47201S4	96P47291S4		600	.463 x 1.187	96P47306S4	96P47396S4
	600	.297 x .812	96P47206S4	96P47296S4	.068	200	.375 x .937	96P68302S4	96P68392S4
.0068	600	.297 x .812	96P68206S4	96P68296S4		300	.463 x .937	96P68303S4	96P68393S4
.01	100	.238 x .812	96P10301S4	96P10391S4	.1	100	.375 x .937	96P10401S4	96P10491S4
	400	.297 x .812	96P10304S4	96P10394S4		200	.463 x .937	96P10402S4	96P10492S4
	600	.375 x .937	96P10306S4	96P10396S4		300	.463 x 1.187	96P10403S4	96P10493S3
.015	300	.297 x .812	96P15303S4	96P15393S4		400	.463 x 1.437	96P10404S4	96P10494S4
						600	.625 x 1.187	96P10406S4	96P10496S4
						1000	.625 x 1.687	—	96P104910S4

*Capacitors shown have plastic insulating sleeve. For bare metal case, change last digit in cat. no. from 4 to 2 and subtract .0625" from diameter and length.

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 96P (continued)

μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.	μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10 Cap. Tol.
.22	100	.463 x 1.187	96P22401S4	96P22491S4	.47	100	6.25 x 1.187	96P47401S4	96P47491S4
	200	.463 x 1.437	96P22402S4	96P22492S4		200	.625 x 1.437	96P47402S4	96P47492S4
	300	.625 x 1.187	96P22403S4	96P22493S4		400	.733 x 1.937	96P47404S4	96P47494S4
	400	.625 x 1.437	96P22404S4	96P22494S4		600	.812 x 2.187	96P47406S4	96P47496S4
	600	.625 x 1.937	96P22406S4	96P22496S4	1.0	100	.625 x 1.937	96P10501S4	96P10591S4
						200	.733 x 1.937	96P10502S4	96P10592S4
						400	1.062 x 1.937	96P10504S4	96P10594S4

TYPE 191P, EXTENDED FOIL CONSTRUCTION, 85 C OPERATION

μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.	μF	WVDC	D x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.
.001	600	.297 x .812	191P10206S4	191P10296S4	.15	200	.463 x 1.437	191P15402S4	191P15492S4
.0022	600	.297 x .812	191P22206S4	191P22296S4		400	.625 x 1.437	191P15404S4	191P15494S4
.0047	100	.238 x .812	911P47201S4	191P47291S4					
	300	.297 x .812	191P47203S4	191P47293S4	.22	100	.463 x 1.437	191P22401S4	191P22491S4
.01	100	.297 x .812	191P10301S4	191P10391S4		200	.625 x 1.187	191P22402S4	191P22492S4
	600	.375 x .937	191P10306S4	191P10396S4		400	.625 x 1.687	191P22404S4	191P22494S4
						600	.733 x 1.687	191P22406S4	191P22496S4
.015	100	.297 x .812	191P15301S4	191P15391S4					
	400	.375 x .937	191P15304S4	191P15394S4					
.022	300	.375 x .937	191P22303S4	191P22393S4	.33	100	.625 x 1.187	191P33401S4	191P33491S4
	600	.463 x .937	191P22306S4	191P22396S4					
.033	200	.375 x .937	191P33302S4	191P33392S4					
	600	.463 x 1.187	191P33306S4	191P33396S4					
					.47	100	.625 x 1.437	191P47401S4	191P47491S4
.047	100	.375 x .937	191P47301S4	191P47391S4		200	.625 x 1.687	191P47402S4	191P47492S4
	300	.463 x .937	191P47303S4	191P47393S4		400	.812 x 2.187	191P47404S4	191P47494S4
	400	.463 x 1.187	191P47304S4	191P47394S4		600	.812 x 2.437	191P47406S4	191P47496S4
	600	.463 x 1.437	191P47306S4	191P47396S4					
.068	200	.463 x .937	191P68302S4	191P68392S4	.68	100	.625 x 1.687	191P68401S4	191P68491S4
.1	100	.463 x .937	919P10401S4	191P10491S4					
	200	.463 x 1.187	191P10402S4	191P10492S4					
	300	.463 x 1.437	191P10403S4	191P10493S4					
	400	.625 x 1.187	191P10404S4	191P10494S4	1.0	100	.733 x 1.687	191P10501S4	191P10591S4
	600	.625 x 1.437	191P10406S4	191P10496S4		200	.812 x 2.187	191P10502S4	191P10592S4

TYPE 196P, EXTENDED FOIL CONSTRUCTION, 125 C OPERATION

μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.	μF	WVDC	D. x L.	Catalog Number* ±20% Cap. Tol.	±10% Cap. Tol.
.001	600	.297 x .812	196P10206S4	196P10296S4	.1	100	.463 x .937	196P10401S4	196P10491S4
.0022	600	.297 x .812	196P22206S4	196P22296S4		200	.463 x 1.187	196P10402S4	196P10492S4
						300	.463 x 1.437	196P10403S4	196P10493S4
.0047	100	.238 x .812	196P47201S4	196P47291S4		400	.625 x 1.187	196P10404S4	196P10494S4
	300	.297 x .812	196P47203S4	196P47293S4		600	.625 x 1.437	196P10406S4	196P10496S4
						1000	.733 x 1.687	—	196P104910S4
.01	100	.297 x .812	196P10301S4	106P10391S4					
	600	.375 x .937	196P10306S4	196P10396S4	.15	200	.463 x 1.437	196P15402S4	196P15492S4
	1000	.463 x .937	—	196P103910S4		400	.625 x 1.437	196P15404S4	196P15494S4
.015	100	.297 x .812	196P15301S4	196P15391S4	.22	100	.463 x 1.437	196P22401S4	196P22491S4
	400	.375 x .937	196P15304S4	196P15394S4		200	.625 x 1.187	196P22402S4	196P22492S4
						400	.625 x 1.687	196P22404S4	196P22494S4
.022	300	.375 x .937	196P22303S4	196P22393S4		600	.733 x 1.687	196P22406S4	196P22496S4
	600	.463 x .937	196P22306S4	196P22396S4		1000	.812 x 2.187	—	196P224910S4
.027	200	.375 x .937	—	196P27392S4					
					.33	100	.625 x 1.187	196P33401S4	196P33491S4
.033	200	.375 x .937	196P33302S4	196P33392S4					
	600	.463 x 1.187	196P33306S4	196P33396S4	.47	100	.625 x 1.487	196P47401S4	196P47491S4
						200	.625 x 1.687	196P47402S4	196P47492S4
.039	100	.375 x .937	—	196P39391S4		400	.812 x 2.187	196P47404S4	196P47494S4
						600	.812 x 2.437	196P47406S4	196P47496S4
.047	100	.375 x .937	196P47301S4	196P47391S4		1000	1.062 x 2.437	—	196P474910S4
	300	.463 x .937	196P47303S4	196P47393S4					
	400	.463 x 1.187	196P47304S4	196P47394S4					
	600	.463 x 1.437	196P47306S4	196P47396S4	.68	100	.625 x 1.687	196P68401S4	196P68491S4
.056	200	.463 x .937	—	196P56392S4					
					1.0	100	.733 x 1.687	196P10501S4	196P10591S4
.068	200	.463 x .937	196P68302S4	196P68392S4		200	.812 x 2.187	196P10502S4	196P10592S4

*Capacitors shown have plastic insulating sleeve. For bare metal case, change last digit in cat. no. from 4 to 2 and subtract .0625" from diameter and length.

Copyright 1971, Sprague Products Company

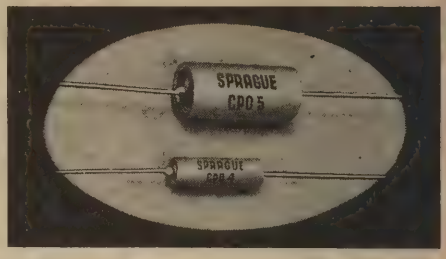
Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE CP04 CAPACITORS TO MIL-C-25C

- Impregnation wth Vitamin Q assures capacitors exceed MIL-C-25C performance requirements.
- Inserted tab construction for applications where minimum size is needed.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP04 has plain metal case.
- Available in Characteristic K (−55C to +125C). ±10% Capacitance Tolerance.
- Only popular insulated section (ungrounded case) capacitors are listed. For grounded case units, consult your Sprague Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.

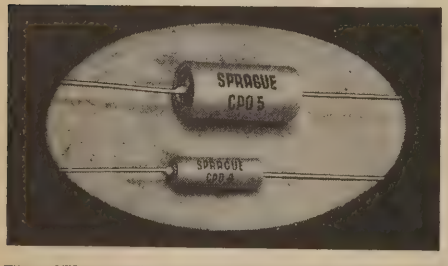


µF	WVDC	D. x L.	Cat. No.*
.001	600	.235 x 3/4	CP04A1KF102K3
.0015	600	.235 x 3/4	CP04A1KF152K3
.0022	600	.235 x 3/4	CP04A1KF222K3
.0033	600	.235 x 3/4	CP04A1KF332K3
.0047	600	.235 x 3/4	CP04A1KF472K3
.0068	600	.235 x 3/4	CP04A1KF682K3
.01	400	.235 x 3/4	CP04A1KE103K3
	600	.312 x 7/8	CP04A1KF103K3
.022	200	.235 x 3/4	CP04A1KC223K3
	600	.312 x 7/8	CP04A1KF223K3
.033	100	.235 x 3/4	CP04A1KB333K3
	400	.312 x 7/8	CP04A1KE333K3
.047	400	.400 x 7/8	CP04A1KE473K3
	600	.400 x 1 1/8	CP04A1KF473K3
.068	200	.312 x 7/8	CP04A1KC683K3
.1	100	.312 x 7/8	CP04A1KB104K3
	200	.400 x 7/8	CP04A1KC104K3
	400	.400 x 1 3/8	CP04A1KE104K3
	600	.562 x 1 1/8	CP04A1KF104K3
	1000	.562 x 1 5/8	CP04A1KG104K3
.22	100	.400 x 1 1/8	CP04A1KB224K3
	200	.400 x 1 3/8	CP04A1KC224K3
	400	.562 x 1 3/8	CP04A1KE224K3
	600	.562 x 1 7/8	CP04A1KF224K3
.47	100	.562 x 1 1/8	CP04A1KB474K3
	200	.562 x 1 3/8	CP04A1KC474K3
	400	.670 x 1 7/8	CP04A1KE474K3
	600	.750 x 2 1/8	CP04A1KF474K3
1.0	100	.562 x 1 7/8	CP05A1KB105K3
	200	.670 x 1 7/8	CP05A1KC105K3
	400	1.000 x 1 7/8	CP04A1KE105K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*For Vibration Grade 1, change last digit of Cat. No. to 1

TYPE CP05 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Inserted tab construction for applications where minimum size is needed.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP05 has insulating sleeve.
- Capacitance Tolerance ±10%. Characteristic K Temperature Range (−55°C to +125°C).
- Only popular insulated section (ungrounded case) capacitors are listed. For grounded case units, consult your Sprague Distributor.

Call your Sprague Industrial Distributor for Quantity Prices.

µF	WVDC	D. x L.	Cat. No.*
.001	600	.298 x 13/16	CP05A1KF102K3
.0015	600	.298 x 13/16	CP05A1KF152K3
.0022	600	.298 x 13/16	CP05A1KF222K3
.0033	600	.298 x 13/16	CP05A1KF332K3
.0047	600	.298 x 13/16	CP05A1KF472K3
.0068	600	.298 x 13/16	CP05A1KF682K3
.01	400	.298 x 13/16	CP05A1KE103K3
	600	.375 x 15/16	CP05A1KF103K3
.022	200	.298 x 13/16	CP05A1KC223K3
	600	.375 x 15/16	CP05A1KF223K3
.033	100	.298 x 13/16	CP05A1KB333K3
	400	.375 x 15/16	CP05A1KE333K3
.047	400	.463 x 15/16	CP05A1KE473K3
	600	.463 x 13/16	CP05A1KF473K3
.068	200	.375 x 15/16	CP05A1KC683K3
.1	100	.463 x 15/16	CP05A1KB104K3
	200	.463 x 15/16	CP05A1KC104K3
	400	.463 x 17/16	CP05A1KE104K3
	600	.625 x 13/16	CP05A1KF104K3
	1000	.625 x 1 11/16	CP05A1KG104K3
.22	100	.463 x 13/16	CP05A1KB224K3
	200	.463 x 17/16	CP05A1KC224K3
	400	.625 x 17/16	CP05A1KE224K3
	600	.625 x 1 15/16	CP05A1KF224K3
.47	100	.625 x 13/16	CP05A1KB474K3
	200	.625 x 17/16	CP05A1KC474K3
	400	.733 x 1 15/16	CP05A1KE474K3
	600	.813 x 2 3/16	CP05A1KF474K3
1.0	100	.625 x 1 15/16	CP05A1KB105K3
	200	.733 x 1 15/16	CP05A1KC105K3
	400	1.063 x 1 15/16	CP05A1KE105K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*For Vibration Grade 1, change last digit of Cat. No. to 1

Copyright 1971, Sprague Products Company

IND-REM-27-ERAE

Sizes subject to change without notice.

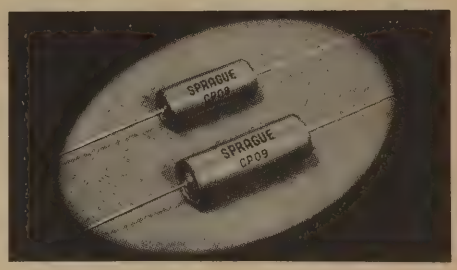
© United Technical Publications

SPRAGUE CAPACITORS

TYPE CP08 CAPACITORS TO MIL-C-25C

- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Capacitance Tolerance ±10%. Characteristic K Temperature Range (−55°C to +125°C).
- Type CP08 has plain metal case.
- Extended foil (so-called non-inductive section) construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.

Call your Sprague Industrial Distributor for Quantity Prices.



µF	WVDC	D. x L.	Cat. No.*
.001	600	.235 x 3/4	CP08A1KF102K3
.0022	600	.235 x 3/4	CP08A1KF222K3
.01	100	.235 x 3/4	CP08A1KB103K3
	600	.312 x 7/8	CP08A1KF103K3
	1000	.400 x 7/8	CP08A1KG103K3
.015	100	.235 x 3/4	CP08A1KB153K3
	400	.312 x 7/8	CP08A1KE153K3
.022	600	.400 x 7/8	CP08A1KF223K3
.027	200	.312 x 7/8	CP08A1KC273K3
.033	200	.312 x 7/8	CP08A1KC333K3
	600	.400 x 1 1/8	CP08A1KF333K3
.039	100	.312 x 7/8	CP08A1KB393K3
.047	100	.312 x 7/8	CP08A1KB473K3
	400	.400 x 1 1/8	CP08A1KE473K3
	600	.400x 1 3/8	CP08A1KF473K3

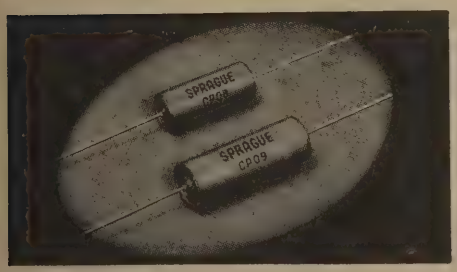
Call Your Sprague Industrial Distributor for Current Quantity Prices

µF	WVDC	D. x L.	Cat. No.*
.056	200	.400 x 7/8	CP08A1KC563K3
.068	200	.400 x 7/8	CP08A1KC683K3
.1	100	.400 x 7/8	CP08A1KB104K3
	200	.400 x 1 1/8	CP08A1KC104K3
	400	.562 x 1 1/8	CP08A1KE104K3
	600	.562 x 1 3/8	CP08A1KF104K3
	1000	.670 x 1 5/8	CP08A1KG104K3
.15	200	.400 x 1 3/8	CP08A1KC154K3
	400	.562 x 1 3/8	CP08A1KE154K3
.22	100	.400 x 1 3/8	CP08A1KB224K3
	200	.562 x 1 1/8	CP08A1KC224K3
	400	.562 x 1 5/8	CP08A1KE224K3
	600	.670 x 1 5/8	CP08A1KF224K3
	1000	.750 x 2 1/8	CP08A1KG224K3

Call Your Sprague Industrial Distributor for Current Quantity Prices

*For Vibration Grade 1, change last digit of Catalog Number to "1."

TYPE CP09 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Available in Characteristic K (−55C to +125C). Capacitance Tolerance ±10%.
- Type CP09 has insulating sleeve.
- Extended foil, non-inductive section construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.

Call your Sprague Industrial Distributor for Quantity Prices.

µF	WVDC	D. x L.	Cat. No.*
.001	600	.298 x 13/16	CP09A1KF102K3
.0022	600	.298 x 13/16	CP09A1KF222K3
.01	100	.298 x 13/16	CP09A1KB103K3
	600	.375 x 15/16	CP09A1KF103K3
	1000	.463 x 15/16	CP09A1KG103K3
.015	100	.298 x 13/16	CP09A1KB153K3
	400	.375 x 15/16	CP09A1KE153K3
.022	600	.463 x 15/16	CP09A1KF223K3
.027	200	.375 x 15/16	CP09A1KC273K3
.033	200	.375 x 15/16	CP09A1KC333K3
	600	.463 x 13/16	CP09A1KF333K3
.039	100	.375 x 15/16	CP09A1KB393K3
.047	100	.375 x 15/16	CP09A1KB473K3
	400	.463 x 13/16	CP09A1KE473K3
	600	.463 x 17/16	CP09A1KF473K3

Call Your Sprague Industrial Distributor for Current Quantity Prices

µF	WVDC	D. x L.	Cat. No.*
.056	200	.463 x 15/16	CP09A1KC563K3
.068	200	.463 x 15/16	CP09A1KC683K3
.1	100	.463 x 15/16	CP09A1KB104K3
	200	.463 x 13/16	CP09A1KC104K3
	400	.625 x 13/16	CP09A1KE104K3
	600	.625 x 17/16	CP09A1KF104K3
	1000	.733 x 11 11/16	CP09A1KG104K3
.15	200	.463 x 17/16	CP09A1KC154K3
	400	.625 x 17/16	CP09A1KE154K3
.22	100	.463 x 17/16	CP09A1KB224K3
	200	.625 x 13/16	CP09A1KC224K3
	400	.625 x 11 11/16	CP09A1KE224K3
	600	.733 x 11 11/16	CP09A1KF224K3
	1000	.813 x 2 3/16	CP09A1KG224K3

Call Your Sprague Industrial Distributor for Current Quantity Prices

*For Vibration Grade 1, change last digit of Catalog Number to "1."

Copyright 1971, Sprague Products Company

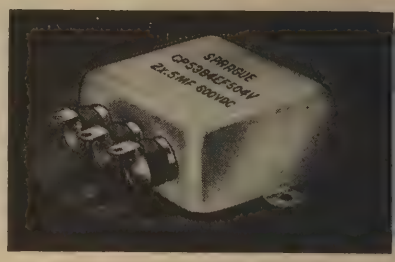
Sizes subject to change without notice.
© United Technical Publications

SPRAGUE CAPACITORS

TYPE CP53 CAPACITORS TO MIL-C-25

- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- Rated for—55°C to +85°C operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections—triple capacitance units have grounded cases

Call Your Sprague Industrial Distributor for Current Quantity Prices



NOTE: Capacitors listed below have capacitance tolerances of +20%, −10% (V) or ±10% (K). For ±20% units, change last letter in catalog number from K to M or V to M.

µF	Volts	L. x W. x H.	Cat. No.
Single Capacitance			
.05	1000	1 13/16 x 1 x 3/4	CP53B1EG503K1
.1	1000	1 13/16 x 1 x 3/4	CP53B1EG104K1
.25	600	1 13/16 x 1 x 3/4	CP53B1EF254K1
.25	1000	1 13/16 x 1 x 7/8	CP53B1EG254K1
.5	600	1 13/16 x 1 x 1	CP53B1EF504K1
.5	1000	2 x 1 3/4 x 7/8	CP53B1EG504K1
1.0	600	2 x 1 3/4 x 1	CP53B1EF105K1
1.0	1000	2 x 2 x 1 1/8	CP53B1EG105K1
2.0	100	2 x 1 3/4 x 7/8	CP53B1EB205K1
2.0	200	2 x 2 x 1	CP53B1EC205K1
2.0	600	2 x 2 x 1 1/8	CP53B1EF205K1
4.0	100	2 x 2 x 1 1/8	CP53B1EB405K1

*Available until present stocks are exhausted.

Call Your Sprague Distributor for Prices

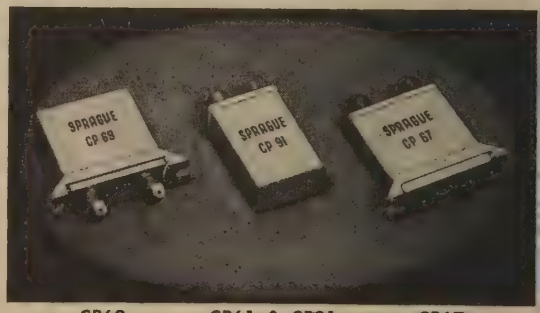
µF	Volts	L. x W. x H.	Cat. No.
Dual Capacitance			
.05+ .05	600	1 13/16 x 1 x 3/4	CP53B4EF503V1
.05+ .05	1000	1 13/16 x 1 x 3/4	CP53B4EG503V1
.1 + .1	600	1 13/16 x 1 x 3/4	CP53B4EF104V1
.1 + .1	1000	1 13/16 x 1 x 7/8	CP53B4EG104V1
.25+ .25	600	1 13/16 x 1 x 1	CP53B4EF254V1
.25+ .25	1000	2 x 1 3/4 x 7/8	CP53B4EF504V1
.5 + .5	600	2 x 1 3/4 x 1	CP53B4EG254V1
.5 + .5	1000	2 x 2 x 1 1/8	CP53B4EG504V1
1.0 +1.0	600	2 x 2 x 1 1/8	CP53B4EF105V1
Triple Capacitance			
.05+.05+.05	600	1 13/16 x 1 x 3/4	CP53B5EF503V1 *
.1 +.1 +.1	600	1 13/16 x 1 x 7/8	CP53B5EF104V1
.5 +.5 +.5	600	2 x 2 x 1 1/8	CP53B5EF504V1

Call Your Sprague Distributor for Prices

TYPE CP61, CP67, CP69, CP91, CAPACITORS to MIL-C-25 C

µF	WVDC	CAT. NO.	SIZE	Mounting Brackets CAT. NO.
TYPE 61*				
.05	600	CP61B1EF503K1	1 5/16 x 1 1/16 x 1 1/16	CP091SB1
.1	600	CP61B1EF104K1	1 5/16 x 1 1/16 x 1 3/8	CP091SB2
.1	600	CP61B6EF104V1	1 5/16 x 1 1/16 x 1 3/8	CP091SB2
.25	600	CP61B1EF254K1	1 5/16 x 1 1/16 x 1 5/8	CP091SB3
.25	600	CP61B6EF254V1	1 5/16 x 1 1/16 x 1 5/8	CP091SB3
.5	600	CP61B1EF504K1	1 5/16 x 1 1/16 x 2	CP091SB4
.5	600	CP61B6EF504V1	1 5/16 x 1 1/16 x 2	CP091SB4
1.0	600	CP61B1EF105K1	1 5/16 x 1 1/16 x 2 3/4	CP091SB6
TYPE CP67 Terminals opposite channel bracket				
.1	600	CP67B1EF104K1	1 3/4 x 4 1/64 x 1 1/16	Integral Channel Brackets
.25	600	CP67B1EF254K1	1 3/4 x 4 1/64 x 1 1/2	
.5	600	CP67B1EF504K1	1 3/4 x 4 1/64 x 2	
1.0	600	CP67B1EF105K1	1 3/4 x 4 1/64 x 2 3/4	
TYPE CP69 Terminals on same end as channel bracket				
.05	600	CP69B1EF503K1	1 3/4 x 4 1/64 x 1 1/16	Integral Channel Brackets
.1	600	CP69B1EF104K1	1 3/4 x 4 1/64 x 1 1/16	
.25	600	CP69B1EF254K1	1 3/4 x 4 1/64 x 1 1/2	
.5	600	CP69B1EF504K1	1 3/4 x 4 1/64 x 2	
1.0	600	CP69B1EF105K1	1 3/4 x 4 1/64 x 2 3/4	
TYPE CP91				
.05	600	CP91B1EF503K1	1 5/16 x 5/8 x 1 1/16	CP091SB1
.25	600	CP91B1EF254K1	1 5/16 x 5/8 x 1 5/8	CP091SB3
.5	600	CP91B1EF504K1	1 5/16 x 5/8 x 2	CP091SB4
1.0	600	CP91B1EF105K1	1 5/16 x 5/8 x 2 3/4	CP091SB6
.05-.05	600	CP91B6EF503V1	1 5/16 x 5/8 x 1 3/8	CP091SB2
.1-.1	600	CP91B6EF104V1	1 5/16 x 5/8 x 1 5/8	CP091SB3
.25-.25	600	CP91B6EF254V1	1 5/16 x 5/8 x 2	CP091SB4
.5-.5	600	CP91B6EF504V1	1 5/16 x 5/8 x 2 3/4	CP091SB6

Call Your Sprague Industrial Distributor for Current Quantity Prices



CP69 CP61 & CP91 CP67

- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Silicone Rubber Compression Terminals for Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague
- These Units Have Capacitance Tolerance of ±10% (K) or +20, −10% (V).

Call Your Sprague Industrial Distributor For Current Quantity Prices

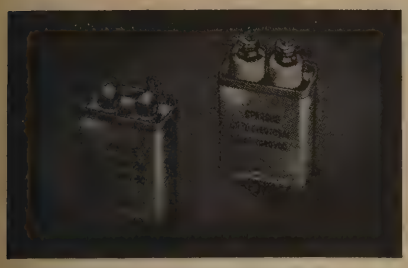
*Available until present stocks are exhausted.

IND-REM-35-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS



TYPE CP70, CP72 CAPACITORS to MIL-C-25

- Ruggedly Designed for Heavy-Duty Applications
- Long Life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seals (B)
- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Designed for Ground Equipment Where Low Temperatures are not Encountered

Call Your Sprague Industrial Distributor For Current Quantity Prices

µF	WVDC	Char. E (E Term.) MIL-C-25A* Cat. No.	Char. E (E Term.) MIL-C-25C Cat. No.	Case Code	Char. F (B Term.) MIL-C-25A* Cat. No.	Char. F (B Term.) MIL-C-25C Cat. No.	Case Code	Char. E (B Term.) MIL-C-25A* Cat. No.	Char. E (B Term.) MIL-C-25C Cat. No.	Case Code	DIMENSIONS Code	W. x T. x H.
.1	1000	CP70E1EG104K	CP72E1EG104K1	A1	—	—	—	—	—	—	A1	1 13/16 x 1 1/16 x 1 5/8
.25	1000	CP70E1EG254K	—	A2	—	—	—	—	—	—	A2	1 13/16 x 1 1/16 x 2 1/4
.25	2000	CP70E1EJ254K	CP72E1EJ254K1	B1	—	—	—	—	—	—	A3	1 13/16 x 1 1/16 x 2 7/8
.5	1000	CP70E1EG504K	CP72E1EG504K1	A2	—	—	—	CP70B1EG504K	CP72B1EG504K1	A2	A4	1 13/16 x 1 1/16 x 3 1/4
.5	1500	CP70E1EH504K	CP72E1EH504K1	A3	—	—	—	—	—	—	A5	1 13/16 x 1 1/16 x 3 7/8
.5	2000	CP70E1EJ504K	CP72E1EJ504K1	B2	—	—	—	—	—	—	A6	1 13/16 x 1 1/16 x 4 3/4
.5	2500	CP70E1EK504K	—	B3	—	—	—	—	—	—	B1	2 1/2 x 1 3/16 x 2 1/2
1.0	600	—	CP72E1EF105K1	A2	—	—	—	—	CP72B1EF105K1	A2	B2	2 1/2 x 1 3/16 x 2 7/8
1.0	1000	CP70E1EG105K	CP72E1EG105K1	A3	—	—	—	CP70B1EG105K	CP72B1EG105K1	A3	B3	2 1/2 x 1 3/16 x 3 1/2
1.0	1500	CP70E1EH105K	—	A6	—	—	—	—	—	—	B4	2 1/2 x 1 3/16 x 3 7/8
1.0	2000	CP70E1EJ105K	CP72E1EJ105K1	B6	—	—	—	—	—	—	B6	2 1/2 x 1 3/16 x 4 3/4
1.0	2500	CP70E1EK105K	—	D2	—	—	—	—	—	—	C2	3 3/4 x 1 1/4 x 3 7/8
2.0	600	—	CP72E1EF205K1	A4	CP70B1FF205K	—	A4	—	CP72B1EF205K1	A4	C3	3 3/4 x 1 1/4 x 4 1/4
2.0	1000	CP70E1EG205K	CP72E1EG205K1	A6	CP70B1FG205K	CP72B1FG205K1	A5	CP70B1EG205K	CP72B1EG205K1	A6	C4	3 3/4 x 1 1/4 x 4 3/4
2.0	1500	—	—	—	—	—	—	CP70B1EH205K	—	B6	D2	3 3/4 x 1 3/4 x 3 7/8
2.0	2000	CP70E1EJ205K	CP72E1EJ205K1	C4	—	—	—	—	—	—	D3	3 3/4 x 1 3/4 x 4
2.0	2500	CP70E1EK205K	—	E5	—	—	—	—	—	—	D4	3 3/4 x 1 3/4 x 4 1/4
4.0	600	—	CP72E1EF405K1	B4	CP70B1FF405K	CP72B1F405K1	B3	—	CP72B1EF405K1	B4	D5	3 3/4 x 1 3/4 x 4 3/4
4.0	1000	CP70E1EG405K	CP72E1EG405K1	C2	CP70B1FG405K	—	B6	CP70B1EG405K	—	C2	E5	3 3/4 x 2 1/4 x 4 3/4
4.0	1500	CP70E1EH405K	CP72E1EH405K1	D4	—	—	—	CP70B1EH405K	—	D4	E6	3 3/4 x 2 1/4 x 5 1/8
4.0	2000	CP70E1EJ405K	CP72E1EJ405K1	E6	—	—	—	—	—	—	F2	3 3/4 x 2 1/2 x 5 3/4
4.0	2500	CP70E1EK405K	—	J2	—	—	—	—	—	—	G4	3 3/4 x 3 3/16 x 5 1/2
6.0	600	—	CP72E1EF605K1	C2	—	—	—	—	CP72B1EF605K1	C2	J2	4 9/16 x 3 3/4 x 4 3/4
6.0	1000	CP70E1EG605K	CP72E1EG605K1	D3	CP70B1FG605K	—	C4	CP70B1EG605K	CP72B1EG605K1	D3		
6.0	1500	CP70E1EH605K	—	E5	CP70B1FH605K	—	E5	CP70B1EH605K	—	E5		
8.0	600	CP70E1EF805K	CP72E1EF805K1	C3	CP70B1FF805K	—	C3	—	CP72B1EF805K1	C3		
8.0	1000	CP70E1EG805K	CP72E1EG805K1	D5	CP70B1FG805K	—	D2	CP70B1EG805K	—	C4		
8.0	1500	CP70E1EH805K	—	F2	—	—	—	CP70B1EH805K	—	F2		
10.0	600	—	CP72E1EF106K1	D3	CP70B1FF106K	CP72B1FF106K1	C4	—	CP72B1EF106K1	D3		
10.0	1000	CP70E1EG106K	CP72E1EG106K1	E5	CP70B1FG106K	—	E5	CP70B1EG106K	—	E5		
10.0	1500	CP70E1EH106K	—	G4	—	—	—	CP70B1EH106K	—	G4		
12.0	1000	CP70E1EG126K	—	E6	—	—	—	CP70B1EG126K	—	E6		
15.0	1000	—	—	—	—	—	—	CP70B1EG156K	—	F2		

155P,* 156P* MOLDED METALLIZED PAPER CAPACITORS



- Superior To Most Competitive Units—Withstand Twice Rated Voltage Tests Giving Extra Design Safety Factor. Stand up Under High Humidity Condition.
- Self-generated Noise Practicallly Non-Existent. • Sealed With Epoxy.
- Type 155P in Molded Case. Type 156P in Premolded Case. • Available in Kleek-Pak® Boxes.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.

µF	D.	L.	Catalog No.
200 VOLTS D-C			
.01	5/16	1	155P10302
.015	5/16	1	155P15302
.02	5/16	1	155P20302
.022	5/16	1	155P22320
.03	5/16	1	155P30302
.033	5/16	1	155P33302
.047	5/16	1	155P47302
.068	5/16	1	155P68302
.1	5/16	1	155P10402
.15	3/8	1 1/4	155P15402
.22	3/8	1 1/4	155P22402
.25	7/16	1 1/4	155P25402
.33	7/16	1 1/4	155P33402
.47	7/16	1 1/4	155P47402
.68	1/2	1 1/2	155P68402
1.0	1/2	1 1/2	155P10502
1.5	5/8	1 7/8	155P15502
3.0	3/4	2 1/4	156P30502
4.5	7/8	2 1/2	156P45502
5.5	7/8	2 1/2	156P55502
6.5	7/8	2 1/2	156P65502
7.5	7/8	2 1/2	156P75502
8.0	1	2 1/2	156P80502
400 VOLTS D-C			
.01	5/16	1	155P10304
.015	5/16	1	155P15304
.02	5/16	1	155P20304
.022	5/16	1	155P22304
.025	3/8	1 1/4	155P25304
.03	3/8	1 1/4	155P30304
.033	3/8	1 1/4	155P33304
.04	3/8	1 1/4	155P40304
.047	3/8	1 1/4	155P47304
.05	3/8	1 1/4	155P50304
.068	3/8	1 1/4	155P68304
.15	1/2	1 1/2	155P15404
.2	1/2	1 1/2	155P20404
.22	1/2	1 1/2	155P22404
.25	5/8	1 7/8	155P25404
.33	5/8	1 7/8	155P33404
.47	5/8	1 7/8	155P47404
.5	5/8	1 7/8	155P50404
.68	3/4	2 1/4	156P68404
1.0	3/4	2 1/4	156P10504
2.0	7/8	2 1/2	156P20504
2.5	1	2 1/2	156P25504
600 VOLTS D-C			
.015	3/8	1 1/4	155P15306
.02	3/8	1 1/4	155P20306
.022	3/8	1 1/4	155P22306
.03	3/8	1 1/4	155P30306
.033	3/8	1 1/4	155P33306
.04	3/8	1 1/4	155P40306
.047	3/8	1 1/4	155P47306
.06	7/16	1 1/4	155P60306
.068	7/16	1 1/4	155P68306
.15	1/2	1 1/2	155P15406
.2	5/8	1 7/8	155P20406
.68	3/4	2 1/4	156P68406
1.0	7/8	2 1/2	156P10506
1.5	1	2 1/2	156P15506

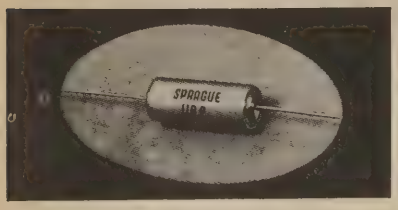
*Available until present stocks are exhausted.

IND-RCM-35A-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS



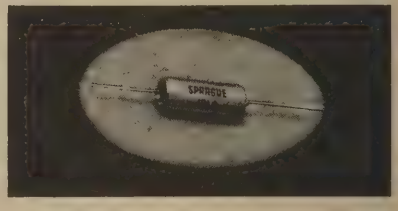
118P DIFILM® METALLIZED CAPACITORS

- Best of Their Type Possible to Produce at the Present State of the Art
- Rated for Operation at 125°C WITHOUT VOLTAGE DERATING
- Unique Dual Dielectric—a Combination of Metallized Paper and of Polyester Film, Impregnated With Special High-Temperature Mineral Wax
- Subjected to Stringent Quality Control During Manufacture
- Higher Insulation Resistance Than Any Other Metallized Paper Capacitors—at 125°C, Minimum Product of Insulation Resistance and Capacitance is 10 Megohm-microfarads for 200 V Units or 40 Megohm-microfarads for 400 and 600 V Units
- Capacitor Sections are Effectively of Non-inductive Construction, Resulting in Capacitors Unmatched by any Other Metallized Capacitors
- Hermetically Sealed, with Glass-to-metal Solder-seal Terminals
- Have Unusual Self-healing Characteristics, in the Rare Event of Capacitor Dielectric Breakdown
- May be Used at Extremely Low Voltages Where Metallized Paper Construction has Previously Been Unsatisfactory
- For Complete Data, see Latest Issue of Engineering Bulletin 2211
- For Units With Outer Plastic Insulating Sleeves, Change Last Digit of Cat. No. From "2" to "4"
- Capacitors Listed Below Are Ungrounded Case (Insulating Section) Units Without Outer Insulating Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor

Call Your Sprague Industrial Distributor For Quantity Prices

μF	D. x L.	±20% Tol. Cat. No.	±10% Tol. Cat. No.
200 WVDC			
.01	.175 x .749	118P10302S2	118P10392S2
.015	.195 x .749	118P15302S2	118P15392S2
.022	.235 x .749	118P22302S2	118P22392S2
.033	.235 x .749	118P33302S2	118P33392S2
.047	.312 x .874	118P47302S2	118P47392S2
.068	.312 x .874	118P68302S2	118P68392S2
.082	.312 x .874		118P82392S2
.1	.312 x .874	118P10402S2	118P10492S2
.15	.312 x 1.124	118P15402S2	118P15492S2
.22	.400 x .874	118P22402S2	118P22492S2
.27	.400 x 1.124		118P27492S2
.33	.400 x 1.124	118P33402S2	118P33492S2
.47	.500 x 1.124	118P47402S2	118P47492S2
.56	.500 x 1.124		118P56492S2
.68	.500 x 1.124	118P68402S2	118P68492S2
.82	.562 x 1.124		118P82492S2
1.0	.562 x 1.124	118P10502S2	118P10592S2
1.5	.562 x 1.624	118P15502S2	118P15592S2
2.0	.670 x 1.624	118P20502S2	118P20592S2
3.0	.670 x 1.874	118P30502S2	118P30592S2
4.0	.750 x 1.874	118P40502S2	118P40592S2
5.0	1.000 x 1.874	118P50502S2	118P50592S2
6.0	1.000 x 1.874	118P60502S2	118P60592S2
8.0	1.000 x 1.874	118P80502S2	118P80592S2
10.0	1.000 x 2.374	118P10602S2	118P10692S2
12.0	1.000 x 2.624	118P12602S2	118P12692S2
400 WVDC			
.15	.500 x 1.124	118P15404S2	118P15494S2
1.0	.750 x 1.874	118P10504S2	118P10594S2
2.0	1.000 x 1.874	118P20504S2	118P20594S2
3.0	1.000 x 2.624	118P30504S2	118P30594S2
600 WVDC			
.01	.312 x .874	118P10306S2	118P10396S2
.047	.400 x 1.124	118P47306S2	118P47396S2
.1	.500 x 1.124	118P10406S2	118P10496S2
.15	.562 x 1.124	118P15406S2	118P15496S2
.22	.562 x 1.374	118P22406S2	118P22496S2
.33	.562 x 1.624	118P33406S2	118P33496S2
.47	.670 x 1.624	118P47406S2	118P47496S2
1.0	1.000 x 1.874	118P10506S2	118P10596S2
2.0	1.000 x 2.124	118P20506S2	118P20596S2
2.5	1.000 x 2.624	118P25506S2	118P25596S2

121P METALLIZED PAPER CAPACITORS



- Designed to Operate at 125C WITHOUT VOLTAGE DERATING—Extremely Important in Military and Industrial Equipment Where Higher Temperatures Are Encountered.
- Quality of These Capacitors Is Surpassed only by Type 118P Units Described Above.
- High Insulation Resistance—at 85C, Minimum Product of Insulation Resistance and Capacitance Is 20 Megohm-Microfarads. At 125C, Minimum Product is 1.0 Megohm-Microfarads.
- Hermetically Sealed With Glass-to-Metal Solder-Seal Terminals—Capacitor Cases Are of Corrosion Resistant Materials—Similar in Appearance to Type 118P.
- May Be Operated at Low Voltages, Unlike Many Other Metallized Capacitors.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 2210.
- Capacitors Listed Below Are Ungrounded Case (Insulated Section) Units Without Outer Insulating Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor.
- For Units With Outer Plastic Insulating Sleeve, Change Last Digit in Cat. No. From 2 to 4.

Call Your Sprague Industrial Distributor For Quantity Prices

μF	WVDC	D. x L.	±20% Tol. Cat. No.	±10% Tol. Cat. No.
150 WVDC				
1.5	150	.562 x 1⅛	121P15501R5S2	121P15591R5S2
2.0	150	.562 x 1⅜	121P20501R5S2	121P20591R5S2
3.0	150	.670 x 1⅜	121P30501R5S2	121P30591R5S2
4.0	150	.670 x 1⅝	121P40501R5S2	121P40591R5S2
5.0	150	.670 x 1⅞	121P50501R5S2	121P50591R5S2
6.0	150	.750 x 1⅞	121P60501R5S2	121P60591R5S2
8.0	150	.750 x 2⅜	121P80501R5S2	121P80591R5S2
10	150	.750 x 2⅝	121P10601R5S2	121P10691R5S2
12	150	1.000 x 1⅞	121P12601R5S2	121P12691R5S2
16	150	1.000 x 2⅜	121P16601R5S2	121P16691R5S2
18	150	1.000 x 2⅝	121P18601R5S2	121P18691R5S2

Copyright 1971, Sprague Products Company

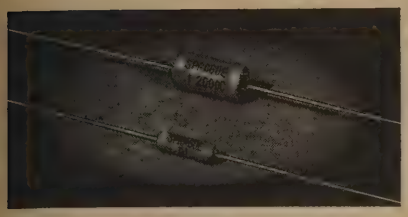
IND-REM-36-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 192P PACER® FILMITE® 'E' CAPACITORS



- New Minimum Construction Size. Extended Foil Film Sections Terminate in End Caps, Best Possible Non-Inductive Section. Rated for −55C to +85C
- Controlled Dimensions—May Be Used With Automatic Insertion Equipment
- Wound With Polyester Film Dielectric and Thin Gage Foil Under Controlled Conditions. Protected by Heat Shrinkable Plastic Sleeve or Epoxy Coating.
- Capacitance Tolerance: ±10%
- Available in Kleer-Pak® Boxes
- For Complete Data, See Latest Issue of Sprague Engineering Bulletin 2066

Call Your Sprague Industrial Distributor For Current Quantity Prices

μF	D	L	Cat. No.
80 VOLTS D-C			
0.0022	0.138	5/16	192P2229R8
0.0027	0.138	5/16	192P2729R8
0.0033	0.138	5/16	192P3329R8
0.0039	0.138	5/16	192P3929R8
0.0047	0.138	5/16	192P4729R8
0.0056	0.170	3/8	192P5629R8
0.0068	0.170	3/8	192P6829R8
0.0082	0.170	3/8	192P8229R8
0.01	0.170	3/8	192P1039R8
0.012	0.170	7/16	192P1239R8
0.015	0.170	7/16	192P1539R8
0.018	0.170	1/2	192P1839R8
0.022	0.170	1/2	192P2239R8
0.027	0.204	7/16	192P2739R8
0.033	0.204	7/16	192P3339R8
0.039	0.204	9/16	192P3939R8
0.047	0.204	9/16	192P4739R8
0.056	0.225	9/16	192P5639R8
0.068	0.225	9/16	192P6839R8
0.082	0.290	1/2	192P8239R8
0.1	0.290	1/2	192P1049R8
0.12	0.290	5/8	192P1249R8
0.15	0.290	5/8	192P1549R8
0.18	0.318	5/8	192P1849R8
0.22	0.318	5/8	192P2249R8
0.27	0.318	7/8	192P2749R8
0.33	0.318	7/8	192P3349R8
0.39	0.318	1 3/16	192P3949R8
0.47	0.318	1 3/16	192P4749R8
200 VOLTS D-C			
0.0001	0.138	5/16	192P10192
0.00012	0.138	5/16	192P12192
0.00015	0.138	5/16	192P15192

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

μF	D	L	Cat. No.
200 VOLTS D-C (Cont.)			
0.00018	0.138	5/16	192P18192
0.00022	0.138	5/16	192P22192
0.00027	0.138	5/16	192P27192
0.00033	0.138	5/16	192P33192
0.00039	0.138	5/16	192P39192
0.00047	0.138	5/16	192P47192
0.00056	0.138	5/16	192P56192
0.00068	0.138	5/16	192P68192
0.00082	0.138	5/16	192P82192
0.001	0.138	5/16	192P10292
0.0012	0.138	5/16	192P12292
0.0015	0.138	5/16	192P15292
0.0018	0.170	5/16	192P18292
0.0022	0.170	5/16	192P22292
0.0027	0.170	5/16	192P27292
0.0033	0.170	5/16	192P33292
0.0039	0.170	7/16	192P39292
0.0047	0.170	7/16	192P47292
0.0056	0.170	7/16	192P56292
0.0068	0.170	7/16	192P68292
0.0082	0.170	1/2	192P82292
0.01	0.170	1/2	192P10392
0.012	0.204	7/16	192P12392
0.015	0.204	7/16	192P15392
0.018	0.204	9/16	192P18392
0.022	0.204	9/16	192P22392
0.027	0.225	9/16	192P27392
0.033	0.225	9/16	192P33392
0.039	0.290	1/2	192P39392
0.047	0.290	1/2	192P47392
0.056	0.290	5/8	192P56392
0.068	0.290	5/8	192P68392
0.082	0.318	5/8	192P82392

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

μF	D	L	Cat. No.
200 VOLTS D-C (Cont.)			
0.1	0.318	5/8	192P10492
0.12	0.318	7/8	192P12492
0.15	0.318	7/8	192P15492
0.18	0.318	1 3/16	192P18492
0.22	0.318	1 3/16	192P22492
400 VOLTS D-C			
0.00047	0.170	3/8	192P47194
0.00056	0.170	3/8	192P56194
0.00068	0.170	3/8	192P68194
0.00082	0.170	3/8	192P82194
0.001	0.170	3/8	192P10294
0.0012	0.170	3/8	192P12294
0.0015	0.170	3/8	192P15294
0.0018	0.170	7/16	192P18294
0.0022	0.170	7/16	192P22294
0.0027	0.204	7/16	192P27294
0.0033	0.204	7/16	192P33294
0.0039	0.204	7/16	192P39294
0.0047	0.204	7/16	192P47294
0.0056	0.225	9/16	192P56294
0.0068	0.225	9/16	192P68294
0.0082	0.225	9/16	192P82294
0.01	0.225	9/16	192P10394
0.012	0.290	1/2	192P12394
0.015	0.290	1/2	192P15394
0.018	0.290	5/8	192P18394
0.022	0.290	5/8	192P22394
0.027	0.318	5/8	192P27394
0.033	0.318	5/8	192P33394
0.039	0.318	7/8	192P39394
0.047	0.318	7/8	192P47394
0.056	0.318	1 3/16	192P56394
0.068	0.318	1 3/16	192P68394

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

TYPE DF METALLIZED FILM ORANGE DROP® CAPACITORS



- Fit Easily into Tight Spots Because They're Smaller Than Other Types of Comparably-Rated Capacitors
- Extremely High Insulation Resistance Insures Peak Performance At Temperatures Up to +85C (185F)
- Radial Leads Are Extra Long For Point-to-Point Wiring and Crimped For Printed Board Insertion
- Double Dipped in Orange Epoxy Resin For Protection Against Heat And Humidity
- Capacitance Tolerance: ±10%
- Same as Sprague O.E.M. Type 277P
- For Complete Data, See Latest Issue of Sprague Engineering Bulletin 2040.

Call Your Sprague Industrial Distributor For Current Quantity Prices

100 WVDC			100 WVDC		
μF	H. x T. x L.	Cat. No.	μF	H. x T. x L.	Cat. No.
.15	15/32 x 1/4 x 13/16	1DF-P15	2.5	13/16 x 19/32 x 1 1/4	1DF-M2.5
.22	1/2 x 1/4 x 13/16	1DF-P22	3.0	25/32 x 9/16 x 1 5/8	1DF-M3
.33	17/32 x 9/16 x 13/16	1DF-P33	3.5	13/16 x 19/32 x 1 5/8	1DF-M3.5
.47	5/8 x 13/32 x 13/16	1DF-P47	4.0	27/32 x 5/8 x 1 5/8	1DF-M4
.68	9/16 x 11/32 x 1 1/4	1DF-P68	4.5	7/8 x 21/32 x 1 5/8	1DF-M4.5
1.0	5/8 x 13/32 x 1 1/4	1DF-M1	5.0	29/32 x 11/16 x 1 5/8	1DF-M5
1.5	1 1/16 x 15/32 x 1 1/4	1DF-M1.5	5.5	15/16 x 23/32 x 1 5/8	1DF-M5.5
2.0	25/32 x 9/16 x 1 1/4	1DF-M2			

200 WVDC			200 WVDC		
μF	H. x T. x L.	Cat. No.	μF	H. x T. x L.	Cat. No.
.15	9/16 x 3/8 x 3/16	2DF-P15	2.5	1 1/16 x 13/16 x 1 1/4	2DF-M2.5
.22	5/8 x 7/16 x 13/16	2DF-P22	3.0	15/16 x 11/16 x 1 5/8	2DF-M3
.33	1 1/16 x 1/2 x 13/16	2DF-P33	3.5	1 x 3/4 x 1 5/8	2DF-M3.5
.47	13/16 x 9/16 x 13/16	2DF-P47	4.0	1 1/16 x 13/16 x 1 5/8	2DF-M4
.68	3/4 x 1/2 x 1 1/4	2DF-P68	4.5	1 1/8 x 7/8 x 1 5/8	2DF-M4.5
1.0	13/16 x 9/16 x 1 1/4	2DF-M1	5.0	1 1/8 x 7/8 x 1 5/8	2DF-M5
1.5	7/8 x 5/8 x 1 1/4	2DF-M1.5	5.5	1 13/16 x 15/16 x 1 5/8	2DF-M5.5
2.0	15/16 x 11/16 x 1 1/4	2DF-M2			

Copyright 1971, Sprague Products Company

IND-REM-40a-EBAP

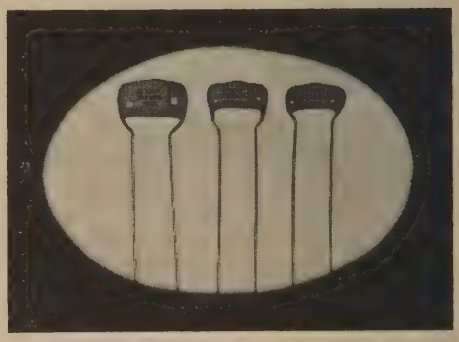
All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 225P FILMITE® 'E' ORANGE DROP® CAPACITORS

- Designed Specifically for Printed Wiring Board Applications and are Furnished with Radial Leads to Facilitate Insertion on Boards
- Find Wide Application in Television Receivers, Radio Sets, and Commercial Electronic Equipment
- Designed for operation at temperatures to 85C
- Capacitor Sections are Wound From Polyester Film and Thin-gage Foil Under Carefully Controlled Atmospheric Conditions
- Protected Against Moisture by a Wax-free Conformal Coating of Epoxy
- Capacitance Tolerance, ±10%
- For Complete Technical Data, Refer to Latest Issue of Sprague Engineering Bulletin 2062



CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Size H. x T. x L.	Catalog Number
	75 WVDC*	
.12	19/32 x 3/8 x 13/16	225P1249R75XD3*
.15	5/8 x 13/32 x 13/16	225P1549R75XD3*
.18	11/16 x 7/16 x 13/16	225P1849R75XD3*
.22	23/32 x 15/32 x 13/16	225P2249R75XD3*
.27	3/4 x 1/2 x 13/16	225P2749R75XD3*
.33	25/32 x 17/32 x 13/16	225P3349R75XD3*
.39	13/16 x 9/16 x 13/16	225P3949R75XD3*
.47	7/8 x 5/8 x 13/16	225P4749R75XD3*
	100 WVDC	
.001	5/16 x 13/64 x 45/64	225P10291WD3
.0012	5/16 x 13/64 x 45/64	225P12291WD3
.0015	5/16 x 13/64 x 45/64	225P15291WD3
.0018	5/16 x 13/64 x 45/64	225P18291WD3
.0022	5/16 x 13/64 x 45/64	225P22291WD3
.0027	5/16 x 13/64 x 45/64	225P27291WD3
.0033	5/16 x 13/64 x 45/64	225P33291WD3
.0039	5/16 x 13/64 x 45/64	225P39291WD3
.0047	5/16 x 13/64 x 45/64	225P47291WD3
.0056	5/16 x 13/64 x 45/64	225P56291WD3
.0068	5/16 x 13/64 x 45/64	225P68291WD3
.0082	5/16 x 13/64 x 45/64	225P82291WD3
.01	5/16 x 13/64 x 45/64	225P10391WD3
.012	5/16 x 13/64 x 45/64	225P12391WD3
.015	5/16 x 13/64 x 45/64	225P15391WD3
.018	5/16 x 13/64 x 45/64	225P18391WD3
.022	5/16 x 13/64 x 45/64	225P22391WD3
.027	21/64 x 15/64 x 45/64	225P27391WD3
.033	21/64 x 15/64 x 45/64	225P33391WD3
.039	11/32 x 1/4 x 45/64	225P39391WD3
.047	11/32 x 1/4 x 45/64	225P47391WD3
.056	3/8 x 9/32 x 45/64	225P56391WD3
.068	3/8 x 9/32 x 45/64	225P68391WD3
.082	17/32 x 21/64 x 45/64	225P82391WD3
.1	17/32 x 21/64 x 45/64	225P10491WD3
.12	19/32 x 3/8 x 13/16	225P12491XD3
.15	5/8 x 13/32 x 13/16	225P15491XD3
.18	11/16 x 7/16 x 13/16	225P18491XD3
.22	23/32 x 15/32 x 13/16	225P22491XD3
.27	3/4 x 1/2 x 13/16	225P27491XD3
.33	25/32 x 17/32 x 13/16	225P33491XD3
.39	13/16 x 9/16 x 13/16	225P39491XD3
.47	7/8 x 5/8 x 13/16	225P47491XD3
.56	57/64 x 9/16 x 1 3/16	225P56491YD3
.68	29/32 x 19/32 x 1 3/16	225P68491YD3
.82	61/64 x 21/32 x 1 3/16	225P82491YD3
1.0-	63/64 x 47/64 x 1 3/16	225P10591YD3

μF	Size H. x T. x L.	Catalog Number
	200 WVDC	
.001	9/16 x 15/64 x 13/16	225P10292XD3
.0015	9/16 x 15/64 x 13/16	225P15292XD3
.0022	9/16 x 15/64 x 13/16	225P22292XD3
.0033	9/16 x 15/64 x 13/16	225P33292XD3
.0047	9/16 x 15/64 x 13/16	225P47292XD3
.0068	19/32 x 1/4 x 13/16	225P68292XD3
.01	19/32 x 1/4 x 13/16	225P10392XD3
.015	19/32 x 1/4 x 13/16	225P15392XD3
.022	19/32 x 1/4 x 13/16	225P22392XD3
.033	5/8 x 9/32 x 13/16	225P33392XD3
.047	5/8 x 9/32 x 13/16	225P47392XD3
.068	41/64 x 5/16 x 13/16	225P68392XD3
.1	23/32 x 3/8 x 13/16	225P10492XD3
.15	3/4 x 27/64 x 13/16	225P15492XD3
.22	25/32 x 15/32 x 13/16	225P22492XD3
.33	23/32 x 27/64 x 1 3/16	225P33492YD3
.47	27/32 x 1/2 x 1 3/16	225P47492YD3
.68	1 9/64 x 27/32 x 1 3/16	225P68492YD3
	400 WVDC	
.001	9/16 x 15/64 x 13/16	225P10294XD3
.0015	9/16 x 15/64 x 13/16	225P15294XD3
.0022	9/16 x 15/64 x 13/16	225P22294XD3
.0033	9/16 x 15/64 x 13/16	225P33294XD3
.0047	9/16 x 15/64 x 13/16	225P47294XD3
.0068	19/32 x 1/4 x 13/16	225P68294XD3
.01	19/32 x 1/4 x 13/16	225P10394XD3
.015	19/32 x 9/32 x 13/16	225P15394XD3
.022	19/32 x 5/16 x 13/16	225P22394XD3
.033	21/32 x 11/32 x 13/16	225P33394XD3
.047	21/32 x 27/64 x 13/16	225P47394XD3
.068	13/16 x 31/64 x 13/16	225P68394XD3
.1	27/32 x 17/32 x 13/16	225P10494XD3
.15	13/16 x 31/64 x 1 3/16	225P15494YD3
.22	57/64 x 9/16 x 1 3/16	225P22494YD3
.33	1 x 47/64 x 1 3/16	225P33494YD3
.47	1 9/64 x 27/32 x 1 3/16	225P47494YD3

*Available until present stocks are exhausted.

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 418P ORANGE DROP® FILMITE® 'E' CAPACITORS

- Widely used in TV, radio, and allied commercial equipment.
- Combine excellent electrical characteristics, compactness, and low cost.
- "Hockeystick" crimped radial-lead design for easy insertion on printed wiring boards.
- Wound with polyester film and thin gage foil under carefully controlled atmospheric conditions.
- Protected against moisture by wax-free conformal coating of epoxy.
- Designed for operation at temperatures to 85 C. May be operated to 125 C with voltage derating.
- Capacitance tolerance, ±10%.
- For complete technical data, refer to latest issue of Sprague Engineering Bulletin 2445.



CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	WVDC	Diam. x Length	Catalog Number
.033	100	.400 x .700	418P33391JD3
.039	100	.400 x .700	418P39391JD3
.047	100	.400 x .700	418P47391JD3
.056	100	.400 x .700	418P56391JD3
.068	100	.400 x .700	418P68391JD3
.082	100	.400 x .900	418P82391KD3
.10	100	.400 x .900	418P10491KD3
.12	100	.450 x .900	418P12491KD3
.15	100	.450 x .900	418P15491KD3
.18	100	.450 x 1.200	418P18491LD3
.22	100	.450 x 1.200	418P22491LD3
.27	100	.500 x 1.200	418P27491LD3
.33	100	.500 x 1.200	418P33491LD3
.39	100	.550 x 1.600	418P39491MD3
.47	100	.550 x 1.600	418P47491MD3
.56	100	.650 x 1.600	418P56491MD3
.68	100	.650 x 1.600	418P68491MD3
.82	100	.700 x 1.600	418P82491MD3
1.0	100	.700 x 1.600	418P19591MD3
.018	200	.400 x .700	418P18392JD3
.022	200	.400 x .700	418P22392JD3
.027	200	.400 x .700	418P27392JD3
.033	200	.400 x .900	418P33392KD3
.039	200	.400 x .900	418P39392KD3
.047	200	.400 x .900	418P47392KD3
.056	200	.400 x 1.200	418P56392LD3
.068	200	.400 x 1.200	418P68392LD3
.082	200	.450 x 1.200	418P82392LD3
.10	200	.450 x 1.200	418P10492LD3
.12	200	.500 x 1.200	418P12492LD3
.15	200	.500 x 1.200	418P15492LD3
.18	200	.550 x 1.200	418P18492LD3
.22	200	.550 x 1.200	418P22492LD3
.27	200	.500 x 1.600	418P27492MD3
.33	200	.500 x 1.600	418P33492MD3
.39	200	.550 x 1.600	418P39492MD3
.47	200	.550 x 1.600	418P47492MD3
.0082	400	.400 x .700	418P82294JD3
.010	400	.400 x .700	418P10394JD3
.012	400	.400 x .700	418P12394JD3
.015	400	.400 x .700	418P15394JD3
.018	400	.400 x .900	418P18394KD3
.022	400	.400 x .900	418P22394KD3
.027	400	.400 x .900	418P27394KD3

μF	WVDC	Diam. x Length	Catalog Number
.033	400	.400 x .900	418P33394KD3
.039	400	.450 x 1.200	418P39394LD3
.047	400	.450 x 1.200	418P47394LD3
.056	400	.500 x 1.200	418P56394LD3
.068	400	.500 x 1.200	418P68394LD3
.082	400	.550 x 1.200	418P82394LD3
.10	400	.550 x 1.200	418P10494LD3
.12	400	.600 x 1.200	418P12494LD3
.15	400	.600 x 1.200	418P15494LD3
.18	400	.600 x 1.600	418P18494MD3
.22	400	.600 x 1.600	418P22494MD3
.27	400	.650 x 1.600	418P27494MD3
.33	400	.650 x 1.600	418P33494MD3
.39	400	.720 x 1.600	418P39494MD3
.47	400	.720 x 1.600	418P47494MD3
.0010	600	.400 x .700	418P10296JD3
.0012	600	.400 x .700	418P12296JD3
.0015	600	.400 x .700	418P15296JD3
.0018	600	.400 x .700	428P18296JD3
.0022	600	.400 x .700	418P22296JD3
.0027	600	.400 x .700	418P27296JD3
.0033	600	.400 x .700	418P33296JD3
.0039	600	.400 x .700	418P39296JD3
.0047	600	.400 x .700	418P47296JD3
.0056	600	.400 x .700	418P56296JD3
.0068	600	.400 x .700	418P68296KD3
.0082	600	.400 x .900	418P82296KD3
.010	600	.400 x .900	418P10396KD3
.012	600	.400 x .900	418P12396KD3
.015	600	.400 x .900	418P15396KD3
.018	600	.450 x .900	418P18396KD3
.022	600	.450 x .900	418P22396KD3
.027	600	.450 x 1.200	418P27396LD3
.033	600	.450 x 1.200	418P33396LD3
.039	600	.550 x 1.200	418P39396LD3
.047	600	.550 x 1.200	418P47396LD3
.056	600	.600 x 1.200	418P56396LD3
.068	600	.600 x 1.200	418P68396LD3
.082	600	.650 x 1.200	418P82396LD3
.10	600	.650 x 1.200	418P10496LD3
.12	600	.700 x 1.600	418P12496MD3
.15	600	.700 x 1.600	418P15496MD3
.18	600	.800 x 1.600	418P18496MD3
.22	600	.800 x 1.600	418P22496MD3

Copyright 1971, Sprague Products Company

Sizes subject to change without notice

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 431P METFILM® 'E' CAPACITORS

- Unique Construction Gives Definite Space Advantages Over Metal-Encased, Molded, or Wax-Coated Cardboard-Case Tubulars of Comparable Ratings.
- Axial-Lead Polyester-Film Capacitor Section Protected Against Moisture By An Outer Wrap of Polyester-Film Tape.
- An Improved End Seal of a Plastic Resin Which Bonds With the Film Wrap and the Tinned Leads Provides Superior Humidity Resistance.
- Because of Their Small Size, These Capacitors Are Particularly Well-Suited For Potting or Encapsulating in Electronic Sub-Assemblies.
- For Complete Technical Data, Refer to The Latest Issue of Sprague Engineering Bulletin 2445.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.



μF	T. x W. x L.	WVDC	Catalog Number
.047	3/32 x 3/16 x 5/8	50	431P4739R5
.068	1/8 x 7/32 x 5/8	50	431P6839R5
.10	5/32 x 7/32 x 5/8	50	431P1049R5
.15	3/16 x 1/4 x 5/8	50	431P1549R5
.22	5/32 x 9/32 x 3/4	50	431P2249R5
.33	3/16 x 5/16 x 3/4	50	431P3349R5
.47	3/16 x 5/16 x 1	50	431P4749R5
.68	3/16 x 3/8 x 1	50	431P6849R5
1.0	1/4 x 13/32 x 1	50	431P1059R5
1.5	9/32 x 1/2 x 1	50	431P1559R5
2.0	3/8 x 9/16 x 1	50	431P2059R5
2.5	11/32 x 17/32 x 1 1/4	50	431P2559R5
3.0	3/8 x 19/32 x 1 1/4	50	431P3059R5
4.0	3/8 x 19/32 x 1 1/2	50	431P4059R5
5.0	13/32 x 19/32 x 1 3/4	50	431P5059R5
6.0	15/32 x 11/16 x 1 1/2	50	431P6059R5
7.0	15/32 x 11/16 x 1 3/4	50	431P7059R5
10.0	9/16 x 25/32 x 1 3/4	50	431P1069R5
12.0	1/2 x 13/16 x 2 1/4	50	431P1269R5
.015	3/32 x 3/16 x 5/8	200	431P15392
.022	1/8 x 3/16 x 5/8	200	431P22392
.033	1/8 x 7/32 x 5/8	200	431P33392
.047	5/32 x 1/4 x 5/8	200	431P47392
.068	5/32 x 9/32 x 3/4	200	431P68392
.1	3/16 x 5/16 x 3/4	200	431P10492
.15	7/32 x 11/32 x 3/4	200	431P15492
.22	1/4 x 13/32 x 3/4	200	431P22492
.33	7/32 x 13/32 x 1	200	431P33492
.47	7/32 x 13/32 x 1 1/4	200	431P47492
.68	5/16 x 17/32 x 1	200	431P68492
1.0	5/16 x 17/32 x 1 1/4	200	431P10592
1.5	11/32 x 9/16 x 1 1/2	200	431P15592
2.0	3/8 x 9/16 x 1 3/4	200	431P20592
2.5	15/32 x 21/32 x 1 1/2	200	431P25592
3.0	15/32 x 21/32 x 1 3/4	200	431P30592
4.0	17/32 x 3/4 x 1 3/4	200	431P40592
5.0	15/32 x 3/4 x 2 1/4	200	431P50592
6.0	15/32 x 25/32 x 2 1/2	200	431P60592
7.0	3/4 x 15/16 x 1 3/4	200	431P70592
10.0	23/32 x 1 x 2 1/4	200	431P10692
12.0	23/32 x 1 x 2 1/2	200	431P12692

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	T. x W. x L.	WVDC	Catalog Number
.0033	3/32 x 3/16 x 5/8	400	431P33294
.0047	1/8 x 3/16 x 5/8	400	431P47294
.0068	5/32 x 7/32 x 5/8	400	431P68294
.01	3/16 x 1/4 x 5/8	400	431P10394
.015	5/32 x 9/32 x 3/4	400	431P15394
.022	3/16 x 5/16 x 3/4	400	431P22394
.033	7/32 x 11/32 x 3/4	400	431P33394
.047	1/4 x 13/32 x 3/4	400	431P47394
.068	7/32 x 3/8 x 1	400	431P68394
.1	9/32 x 7/16 x 1	400	431P10494
.15	5/16 x 17/32 x 1	400	431P15494
.22	13/32 x 19/32 x 1	400	431P22494
.33	11/32 x 9/16 x 1 1/2	400	431P33494
.47	3/8 x 9/16 x 1 3/4	400	431P47494
.68	15/32 x 21/32 x 1 3/4	400	431P68494
1.0	1/2 x 23/32 x 2	400	431P10594
1.5	1/2 x 25/32 x 2 1/2	400	431P15594
.0015	3/32 x 3/16 x 5/8	600	431P15296
.0022	1/8 x 3/16 x 5/8	600	431P22296
.0033	5/32 x 7/32 x 5/8	600	431P33296
.0047	1/8 x 1/4 x 3/4	600	431P47296
.0068	5/32 x 9/32 x 3/4	600	431P68296
.01	3/16 x 5/16 x 3/4	600	431P10396
.015	3/16 x 3/8 x 3/4	600	431P15396
.022	1/4 x 13/32 x 3/4	600	431P22396
.033	7/32 x 3/8 x 1	600	431P33396
.047	7/32 x 3/8 x 1 1/4	600	431P47396
.068	5/16 x 1/2 x 1	600	431P68396
.1	3/8 x 19/32 x 1	600	431P10496
.15	3/8 x 19/32 x 1 1/4	600	431P15496
.22	11/32 x 9/16 x 1 3/4	600	431P22496
.33	7/16 x 21/32 x 1 3/4	600	431P33496
.47	9/16 x 3/4 x 1 3/4	600	431P47496
.68	15/32 x 25/32 x 2 1/2	600	431P68496
1.0	3/4 x 31/32 x 2	600	431P10596
1.5	3/4 x 1 1/16 x 2 1/2	600	431P15596

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

Copyright 1971, Sprague Products Company

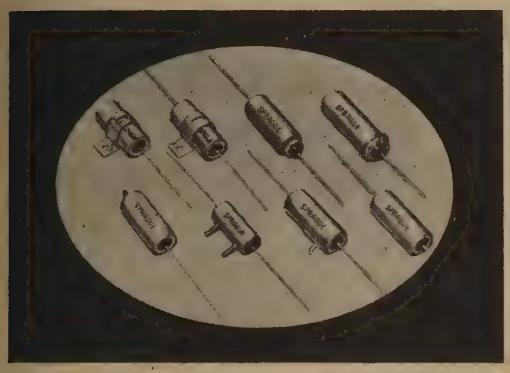
IND-REM-38-ERAE

All sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE 260P
TUBULAR METAL-CLAD METALLIZED FILMITE® 'K' CAPACITORS



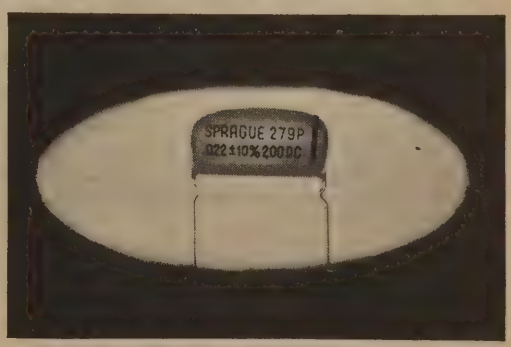
- Designed for Applications Such as Low-frequency Tuned Circuits, Analog Computer Reference Capacitors and Precision Timing and Integrating Circuits
- High Insulation Resistance, High Stability, Minimum Capacitance Change with Temperature, Low Dielectric Absorption and Low Dissipation Factor
- Capacitor Sections are of Non-inductive Construction
- Will Operate at Full Rated D-C Voltage Over the Temperature Range of −55C to +105C
- Capacitance Tolerance ±5%, Voltage Rating 200 WVDC
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin 2705

Call Your Sprague Industrial Distributor for Current Quantity Prices

μF	WVDC	Size D. x L.	Catalog Number
.01	200	.175 x ¾	260P10352S4
.015	200	.195 x ¾	260P15352S4
.022	200	.235 x ¾	260P22352S4
.033	200	.235 x ¾	260P33352S4
.047	200	.312 x ⅞	260P47352S4
.056	200	.312 x ⅞	260P56352S4
.068	200	.312 x ⅞	260P68352S4
.1	200	.312 x ⅞	260P10452S4
.15	200	.312 x 1⅛	260P15452S4
.22	200	.400 x ⅞	260P22452S4
.33	200	.400 x 1⅛	260P33452S4
.47	200	.400 x 1⅜	260P47452S4
.68	200	.562 x 1⅛	260P68452S4
1.0	200	.562 x 1⅜	260P10552S4
2.0	200	.670 x 1⅝	260P20552S4
3.0	200	.750 x 1⅞	260P30552S4
4.0	200	.750 x 2⅛	260P40552S4
5.0	200	.750 x 2⅜	260P50552S4
7.0	200	1.000 x 1⅞	260P70552S4
8.0	200	1.000 x 2⅛	260P80552S4
10.0	200	1.000 x 2⅝	260P10652S4

TYPE 279P ISOFARAD® PLASTIC FILM CAPACITORS

- Isofarad Quality is a Must in Color TV Synchroguide Circuits, Horizontal and Vertical Oscillators, Bridge and Parallel-T Circuits and Other Tuned Circuit Applications Requiring Close Tolerance and Zero Temperature Coefficient of Capacitance
- Superior to Silvered Mica Capacitors, Yet Less Expensive
- Constant Capacitance—Will Not Change More Than ±0.2% from Room Temperature to +80C at a Maximum Rated Voltage. Will Withstand Operating Temperatures to 85C (185F)
- **Capacitance Tolerance:** ±5%
- For Complete Data, See Latest Issue of Sprague Engineering Bulletin 2071



CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	WVDC	Size D. x L.	Catalog Number
.001	500	⅜ x 1	279P10255VB3
.0015	500	⅜ x 1	279P15255VB3
.0022	500	⅜ x 1	279P22255VB3
.0033	500	⅜ x 1	279P33255VB3
.0039	500	⅜ x 1¼	279P39255WB3
.0047	500	⅜ x 1¼	279P47255WB3
.0068	500	⅜ x 1¼	279P68255WB3
.01	500	⅜ x 1¼	279P10355WB3
.015	500	7/16 x 1¼	279P15355XB3
.022	500	½ x 1½	279P22355YB3
.033	500	½ x 1½	279P33355YB3
.047	500	⅝ x 1⅞	279P47355ZB3
.068	500	⅝ x 1⅞	279P68355ZB3

Copyright 1971, Sprague Products Company

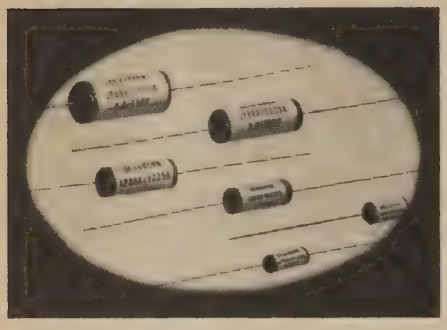
IND-REM-44-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

DEARBORN TYPE LP88 DELTAFILM® 'LP' METALLIZED POLYCARBONATE-FILM CAPACITORS



NOW AVAILABLE FROM SPRAGUE INDUSTRIAL DISTRIBUTORS

(Dearborn Electronics, Inc. is a subsidiary of the Sprague Electric Co.)

- Type LP88 Sets New Standards of Small Physical Size, While Maintaining the Superior Electrical Characteristics of Polycarbonate-film Capacitors.
- High Volume Efficiency . . . Superior Operational Reliability . . . Exceptional Life Expectancy . . . Extremely High Insulation Resistance . . . Low Dissipation Factor (High Q) . . . Low Temperature Coefficient . . . Excellent Resistance to Shock and Vibration.
- Fuz-ion Sealed*—Heat-Shrinkable Plastic Case is Fused to Epoxy, Ensuring Maximum Seal Efficiency. This Exclusive Plastic-to-Resin Sealed Case is Nonconductive, Fungus-Proof, Corrosion-Proof, and Highly Resistant to Humidity and to the Effects of Long-Term Shelf Life.
- Operating Temperature Range, —55C to +125C Without Voltage Derating.
- Capacitance Tolerance, ±10%.
- For Complete Technical Data, See Latest Issue of Dearborn Engineering Bulletin 154.

*Trademark.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

50 WVDC				200 WVDC			
μF	Diameter	Length	Cat. No.	μF	Diameter	Length	Cat. No.
.056	.170	.400	LP88A1A563K	.01	.170	.400	LP88A1C103K
.068	.170	.400	LP88A1A683K	.012	.190	.400	LP88A1C123K
.082	.190	.400	LP88A1A823K	.015	.190	.400	LP88A1C153K
.10	.230	.400	LP88A1A104K	.018	.230	.400	LP88A1C183K
.12	.230	.400	LP88A1A124K	.022	.230	.400	LP88A1C223K
.15	.230	.400	LP88A1A154K	.027	.260	.400	LP88A1C273K
.18	.260	.400	LP88A1A184K	.033	.260	.400	LP88A1C333K
.22	.260	.400	LP88A1A224K	.039	.230	.530	LP88A1C393K
.27	.230	.530	LP88A1A274K	.047	.230	.530	LP88A1C473K
.33	.260	.530	LP88A1A334K	.056	.260	.530	LP88A1C563K
.39	.260	.530	LP88A1A394K	.068	.260	.530	LP88A1C683K
.47	.310	.530	LP88A1A474K	.082	.310	.530	LP88A1C823K
.56	.310	.530	LP88A1A564K	.10	.310	.530	LP88A1C104K
.68	.350	.530	LP88A1A684K	.12	.350	.530	LP88A1C124K
.82	.350	.530	LP88A1A824K	.15	.310	.750	LP88A1C154K
1.0	.310	.750	LP88A1A105K	.18	.310	.750	LP88A1C184K
1.2	.310	.750	LP88A1A125K	.22	.350	.750	LP88A1C224K
1.5	.350	.750	LP88A1A155K	.27	.350	.750	LP88A1C274K
1.8	.400	.750	LP88A1A185K	.33	.400	.750	LP88A1C334K
2.0	.400	.750	LP88A1A205K	.39	.350	1.030	LP88A1C394K
2.2	.400	.750	LP88A1A225K	.47	.400	1.030	LP88A1C474K
2.7	.350	1.030	LP88A1A275K	.56	.400	1.030	LP88A1C564K
3.0	.400	1.030	LP88A1A305K	.68	.440	1.030	LP88A1C684K
3.3	.400	1.030	LP88A1A335K	.82	.490	1.030	LP88A1C824K
3.9	.440	1.030	LP88A1A395K	1.0	.490	1.250	LP88A1C105K
4.7	.440	1.030	LP88A1A475K	1.2	.490	1.250	LP88A1C125K
5.0	.490	1.030	LP88A1A505K	1.5	.560	1.250	LP88A1C155K
5.6	.490	1.030	LP88A1A565K	1.8	.560	1.500	LP88A1C185K
6.8	.490	1.250	LP88A1A685K	2.0	.560	1.500	LP88A1C205K
8.2	.560	1.250	LP88A1A825K	2.2	.610	1.500	LP88A1C225K
10	.610	1.250	LP88A1A106K	2.7	.670	1.500	LP88A1C275K
12	.610	1.500	LP88A1A126K	3.0	.670	1.500	LP88A1C305K
15	.610	1.500	LP88A1A156K	3.3	.740	1.500	LP88A1C335K
18	.670	1.500	LP88A1A186K	3.9	.740	1.500	LP88A1C395K
22	.740	1.500	LP88A1A226K	4.7	.870	1.500	LP88A1C475K
27	.870	1.500	LP88A1A276K	5.0	.870	1.500	LP88A1C505K
33	.870	1.500	LP88A1A336K	5.6	1.000	1.500	LP88A1C565K
39	1.000	1.500	LP88A1A396K	6.8	1.000	1.500	LP88A1C685K
47	1.000	1.750	LP88A1A476K	8.2	1.000	1.750	LP88A1C825K
50	1.000	1.750	LP88A1A506K				

Copyright 1971, Sprague Products Company

IND-REM-44A-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

HYPASS® CAPACITORS



- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Line-conducted Interference from Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

µF	Amps.	WVDC	Dia. x Length	Cat. No.
.5	40	50	1 x 1 13/16	*48P18
.5	60	50	1 x 1 13/16	48P100
.25	20	200	3/4 x 1 13/16	*48P10
.25	20	200	3/4 x 1 13/16	*†80P5
.5	20	200	1 x 1 13/16	*48P14
.1	20	250 (VAC)	11/16 x 1 13/16	*48P9
.1	20	400	11/16 x 1 13/16	*48P6
.1	20	400	11/16 x 1 13/16	*†80P1
.002	15	600	1/4 x 1 3/8	46P12
.005	15	600	1/4 x 1 5/8	46P8
.01	20	600	7/16 x 1 1/4	47P6
.02	20	600	7/16 x 1 1/2	47P8
.1	20	600	11/16 x 1 13/16	*48P8
.1	20	600	11/16 x 1 13/16	*†80P3
.25	20	600	1 x 1 13/16	*48P12
.5	20	600	1 x 2 1/4	*48P16
.005	20	1000	7/16 x 1 1/4	47P12
.01	20	1000	7/16 x 1 1/2	47P13
.005	20	2500	1 x 1 9/16	47P14
.01	20	2500	1 x 1 9/16	47P15
.002	20	5000	1 x 1 9/16	47P16

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

*Has female screw terminals †Bulkhead mounting

TYPE F-400 MIRACLE FILTEROL®



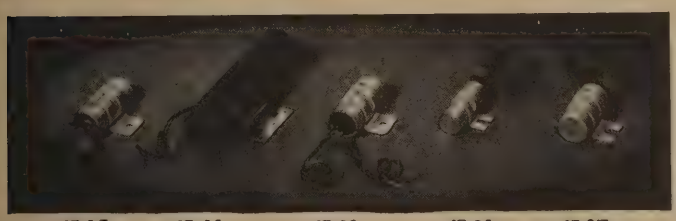


A LINE FILTER THAT REALLY WORKS

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet — Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation — No Unsightly Cord — Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

TYPE IF FILTERS



IF-15 IF-11 IF-21 IF-S1 IF-37

IF-15—TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.

IF-11—DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.

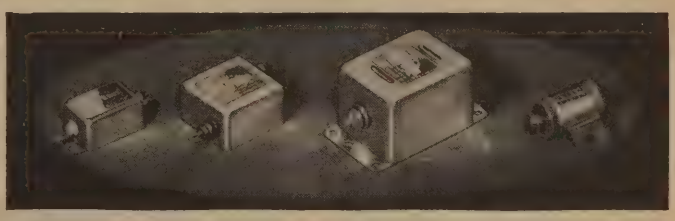
IF-21—COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

IF-S1—SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.

IF-37—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures and governor-type motors. Underwriters' Labs., Inc. listed.

Cat. No.	Volts AC or DC	Dia. x Length
IF-15	220	1 x 2 3/16
IF-11	220	1 3/8 x 5 1/4
IF-21	220	1 x 2 3/16
IF-S1	220	3/4 x 2 1/16
IF-37	220	1 x 2"

FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

Filterol Types 1, 2, and 3 — Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4 — A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4
Filterol 2	10	115	1 1/8 x 2 x 2
Filterol 3	35	115	1 7/8 x 2 7/8 x 3 1/8
Filterol 4	20	115	1" dia. x 1 13/16" long

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

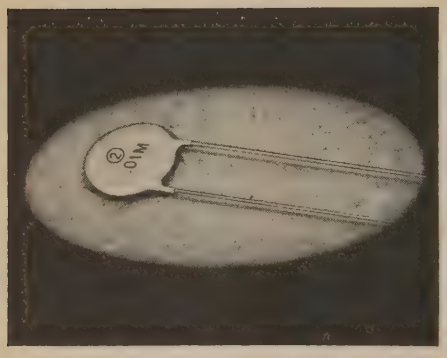
Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS



- Tiny, Tough, Dependable In Every Application
- Low Self-Inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85C (185F) Continuous Operation

Call your Sprague Industrial Distributor for Current Quantity Prices

GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications in IF and RF Circuits
- EIA Designation: 5GA=Z5U, TG=Z5U
- Low Cost, Smallest Size 1 kV General Application Type Available
- Same Characteristics Available In High Voltage Ratings At Low Cost

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
1000 WVDC ±20% Tol.			
5.0	5GA-V50	C023B102E5R0M	5/16 x 5/32
6.8	5GA-V68	C023B102E6R8M	5/16 x 5/32
7.5	5GA-V75	C023B102E7R5M	5/16 x 5/32
8.2	5GA-V82	C023B102E8R2M	5/16 x 5/32
10	5GA-Q10	C023B102E100M	5/16 x 5/32
12	5GA-Q12	C023B102E120M	5/16 x 5/32
15	5GA-Q15	C023B102E150M	5/16 x 5/32
18	5GA-Q18	C023B102E180M	5/16 x 5/32
20	5GA-Q20	C023B102E200M	5/16 x 5/32
22	5GA-Q22	C023B102E220M	5/16 x 5/32
25	5GA-Q25	C023B102E250M	5/16 x 5/32
27	5GA-Q27	C023B102E270M	5/16 x 5/32
30	5GA-Q30	C023B102E300M	5/16 x 5/32
33	5GA-Q33	C023B102E330M	5/16 x 5/32
39	5GA-Q39	C023B102E390M	5/16 x 5/32
47	5GA-Q47	C023B102E470M	5/16 x 5/32
50	5GA-Q50	C023B102E500M	5/16 x 5/32
56	5GA-Q56	C023B102E560M	5/16 x 5/32
68	5GA-Q68	C023B102E680M	5/16 x 5/32
75	5GA-Q75	C023B102E750M	5/16 x 5/32
82	5GA-Q82	C023B102E820M	5/16 x 5/32
100	5GA-T10	C023B102E101M	5/16 x 5/32
120	5GA-T12	C023B102E121M	5/16 x 5/32
150	5GA-T15	C023B102E151M	5/16 x 5/32
180	5GA-T18	C023B102E181M	5/16 x 5/32
200	5GA-T20	C023B102E201M	5/16 x 5/32
220	5GA-T22	C023B102E221M	5/16 x 5/32
250	5GA-T25	C023B102E251M	5/16 x 5/32
270	5GA-T27	C023B102E271M	5/16 x 5/32
300	5GA-T30	C023B102E301M	5/16 x 5/32
330	5GA-T33	C023B102E331M	5/16 x 5/32
360	5GA-T36	C023B102E361M	5/16 x 5/32
390	5GA-T39	C023B102E391M	5/16 x 5/32
470	5GA-T47	C023B102E471M	5/16 x 5/32
1000 WVDC (cont.)			
500	5GA-T50	C023B102E501M	5/16 x 5/32
560	5GA-T56	C023B102E561M	5/16 x 5/32
680	5GA-T68	C023B102E681M	5/16 x 5/32
750	5GA-T75	C023B102E751M	5/16 x 5/32
800	5GA-T80	C023B102E801M	5/16 x 5/32
820	5GA-T82	C023B102E821M	5/16 x 5/32
.001 µF	5GA-D10	C023B102E102M	5/16 x 5/32
.0012	5GA-D12	C023B102E122M	5/16 x 5/32
.0015	5GA-D15	C023B102E152M	5/16 x 5/32
.0018	5GA-D18	C023B102E182M	5/16 x 5/32
.002	5GA-D20	C023B102F202M	3/8 x 5/32
.0022	5GA-D22	C023B102F222M	3/8 x 5/32
.0025	5GA-D25	C023B102F252M	3/8 x 5/32
.0027	5GA-D27	C023B102F272M	3/8 x 5/32
.003	5GA-D30	C023B102F302M	3/8 x 5/32
.0033	5GA-D33	C023B102F332M	3/8 x 5/32
.0039	5GA-D39	C023B102G392M	7/16 x 5/32
.004	5GA-D40	C023B102G402M	7/16 x 5/32
.0047	5GA-D47	C023B102G472M	7/16 x 5/32
.005	5GA-D50	C023B102G502M	7/16 x 5/32
.0068	5GA-D68	C023B102H682M	1/2 x 5/32
.0082	5GA-D82	C023B102J822M	5/8 x 5/32
.01	5GA-S10	C023B102K103M	5/8 x 5/32
.015	5GA-S15	C023B102L153M	11/16 x 5/32
.02	5GA-S20	C023B102P203M	7/8 x 5/32
500 WVDC ±20% Tol.			
.01 µF	5GAS-S10	C023B501G103M	3/8 x 5/32
.02	5GAS-S20	C023B501J203M	5/8 x 5/32
.025	5GA-S25	C023B501K253M	5/8 x 5/32
.04	5GA-S40	C023A501P403M	7/8 x 5/32
.05	5GA-S50	C023A501P503M	7/8 x 5/32
.1	5GA-P10	41C92A10	7/8 x 3/16
3000 WVDC ±20% Tol.			
1.5	30GA-V15	19C306	3/8 x 1/4
3.3	30GA-V33	19C307	3/8 x 1/4
4.7	30GA-V47	19C308	3/8 x 1/4
5.0	30GA-V50	19C309	3/8 x 1/4
6.0	30GA-V60	19C310	3/8 x 1/4
6.8	30GA-V68	19C311	3/8 x 1/4
7.5	30GA-V75	19C291	3/8 x 1/4
8.2	30GA-V82	19C290	3/8 x 1/4
10	30GA-Q10	19C312	3/8 x 1/4
12	30GA-Q12	19C313	3/8 x 1/4
15	30GA-Q15	19C314	3/8 x 1/4
18	30GA-Q18	19C292	3/8 x 1/4
20	30GA-Q20	19C315	3/8 x 1/4
22	30GA-Q22	19C316	3/8 x 1/4
25	30GA-Q25	19C317	3/8 x 1/4
27	30GA-Q27	19C318	3/8 x 1/4
30	30GA-Q30	19C319	3/8 x 1/4
33	30GA-Q33	19C320	3/8 x 1/4
39	30GA-Q39	19C321	3/8 x 1/4
47	30GA-Q47	19C322	3/8 x 1/4
50	30GA-Q50	19C323	3/8 x 1/4
56	30GA-Q56	19C324	3/8 x 1/4
60	30GA-Q60	19C325	3/8 x 1/4
62	30GA-Q62	19C326	3/8 x 1/4
68	30GA-Q68	19C327	3/8 x 1/4
75	30GA-Q75	19C328	3/8 x 1/4
82	30GA-Q82	20C184	7/16 x 1/4
100	30GA-T10	20C43	7/16 x 1/4
120	30GA-T12	20C44	7/16 x 1/4
150	30GA-T15	20C45	7/16 x 1/4
180	30GA-T18	20C46	7/16 x 1/4
200	30GA-T20	20C47	7/16 x 1/4

Copyright 1971, Sprague Products Company

IND-REM-49-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
3000 WVDC (cont.)			
220	30GA-T22	20C48	7/16 x 1/4
250	30GA-T25	20C49	7/16 x 1/4
270	30GA-T27	20C50	7/16 x 1/4
300	30GA-T30	20C51	7/16 x 1/4
330	30GA-T33	20C28A	7/16 x 1/4
390	30GA-T39	20C176	7/16 x 1/4
400	30GA-T40	20C175	7/16 x 1/4
470	30GA-T47	29C289	19/32 x 1/4
500	30GA-T50	29C90	19/32 x 1/4
560	30GA-T56	29C290	19/32 x 1/4
680	30GA-T68	29C288	19/32 x 1/4
750	30GA-T75	29C298	19/32 x 1/4
820	30GA-T82	29C299	19/32 x 1/4
.001 µF	30GA-D10	29C300	19/32 x 1/4
.0012	30GA-D12	29C301	19/32 x 1/4
.0015	30GA-D15	29C302	19/32 x 1/4
.002	30GA-D20	29C303	19/32 x 1/4
.0022	30GA-D22	29C255A	19/32 x 1/4
.0025	30GA-D25	44C63	21/32 x 1/4
.0027	30GA-D27	44C65	21/32 x 1/4
.003	30GA-D30	33C31A1	11/16 x 1/4
.0033	30GA-D33	33C32A2	11/16 x 1/4
.0039	30GA-D39	36C155A	25/32 x 1/4
.004	30GA-D40	36C78A	25/32 x 1/4
.0047	30GA-D47	36C339	25/32 x 1/4
.005	30GA-D50	36C124A	25/32 x 1/4
.006	30GA-D60	41C34A	29/32 x 1/4
.0068	30GA-D68	41C153	29/32 x 1/4
.008	30GA-D80	41C151	29/32 x 1/4
.0082	30GA-D82	41C150	29/32 x 1/4
.01	30GA-S10	41C121A2	29/32 x 1/4
6000 WVDC ±20% Tol.			
1.5	60GA-V15	29C406	5/16 x 5/16
4.7	60GA-V47	29C407	5/16 x 5/16
6.8	60GA-V68	29C408	5/16 x 5/16
8.2	60GA-V82	29C409	5/16 x 5/16
10	60GA-Q10	29C410	5/16 x 5/16
12	60GA-Q12	29C411	5/16 x 5/16
15	60GA-Q15	29C412	5/16 x 5/16
18	60GA-Q18	29C413	5/16 x 5/16
20	60GA-Q20	29C414	5/16 x 5/16
22	60GA-Q22	29C415	5/16 x 5/16
25	60GA-Q25	29C416	5/16 x 5/16
27	60GA-Q27	29C417	5/16 x 5/16
30	60GA-Q30	29C418	5/16 x 5/16
33	60GA-Q33	29C419	5/16 x 5/16
39	60GA-Q39	29C420	5/16 x 5/16
47	60GA-Q47	29C421	5/16 x 5/16
50	60GA-Q50	29C422	5/16 x 5/16
56	60GA-Q56	29C423	5/16 x 5/16
60	60GA-Q60	29C424	5/16 x 5/16
68	60GA-Q68	29C425	5/16 x 5/16
75	60GA-Q75	29C426	5/16 x 5/16
82	60GA-Q82	29C427	5/16 x 5/16
100	60GA-T10	29C428	5/16 x 5/16
120	60GA-T12	29C429	5/16 x 5/16
150	60GA-T15	33C187	11/16 x 5/16
180	60GA-T18	33C188	11/16 x 5/16
200	60GA-T20	33C189	11/16 x 5/16
220	60GA-T22	33C190	11/16 x 5/16

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
6000 WVDC (cont.)			
250	60GA-T25	33C191	11/16 x 5/16
270	60GA-T27	33C192	11/16 x 5/16
300	60GA-T30	36C265	3/4 x 5/16
330	60GA-T33	36C266	3/4 x 5/16
390	60GA-T39	41C9A1	7/8 x 5/16
400	60GA-T40	41C142	7/8 x 5/16
470	60GA-T47	41C80A1	7/8 x 5/16
500	60GA-T50	33C185	11/16 x 5/16
560	60GA-T56	33C186	11/16 x 5/16
680	60GA-T68	33C107	11/16 x 5/16
750	60GA-T75	33C108	11/16 x 5/16
820	60GA-T82	33C109	11/16 x 5/16
.001 µF	60GA-D10	33C90A	11/16 x 5/16
.0012	60GA-D12	33C101	11/16 x 5/16
.0015	60GA-D15	36C253A	3/4 x 5/16
.0022	60GA-D22	41C152	7/8 x 5/16
.0025	60GA-D25	41C250	7/8 x 5/16
.0027	60GA-D27	41C251	7/8 x 5/16
.003	60GA-D30	41C252	7/8 x 5/16
.0033	60GA-D33	41C253	7/8 x 5/16
.0039	60GA-D39	41C254	7/8 x 5/16
.0047	60GA-D47	41C255	7/8 x 5/16

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
7500 WVDC ±20% Tol.			
4.7	75GA-V47	29C387	5/16 x 5/16
8.2	75GA-V82	29C380	5/16 x 5/16
10	75GA-Q10	29C382	5/16 x 5/16
12	75GA-Q12	29C383	5/16 x 5/16
15	75GA-Q15	29C378	5/16 x 5/16
18	75GA-Q18	29C379	5/16 x 5/16
20	75GA-Q20	29C405	5/16 x 5/16
22	75GA-Q22	29C118A	5/16 x 5/16
30	75GA-Q30	29C418A	5/16 x 5/16
33	75GA-Q33	29C419A	5/16 x 5/16
47	75GA-Q47	29C381	5/16 x 5/16
56	75GA-Q56	29C30A	5/16 x 5/16
100	75GA-T10	33C56A2	11/16 x 5/16
220	75GA-T22	33C224	11/16 x 5/16
470	75GA-T47	33C169	11/16 x 5/16
500	75GA-T50	44C89	21/32 x 5/16
560	75GA-T56	44C90	21/32 x 5/16
680	75GA-T68	44C92	21/32 x 5/16
750	75GA-T75	33C175	11/16 x 5/16
820	75GA-T82	33C177	11/16 x 5/16
.001 µF	75GA-D10	33C178	11/16 x 5/16
.0012	75GA-D12	36C334	3/4 x 5/16
.0015	75GA-D15	41C221	7/8 x 5/16
.0018	75GA-D18	41C223	7/8 x 5/16
.002	75GA-D20	41C224	7/8 x 5/16
.0022	75GA-D22	41C225	7/8 x 5/16
.0025	75GA-D25	41C226	7/8 x 5/16

HIGH-K TYPES

- Designed for By-Pass and Coupling Applications Where Additional Capacitance Will Not Affect Circuit Operation
- Smallest Physical Size
- EIA Designation: 5HK=Z5U
- 5HKS-S10 thru 5HK-P10, **500 WVDC,** Capacitance Tolerance: +80 —20%
- All Other 5HK are **1000 WVDC,** Capacitance Tolerance: GMV

µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
SINGLE UNITS			
.001	5HK-D10	C023B102E102P	5/16 x 5/32
.0015	5HK-D15	C023B102F152P	3/8 x 5/32
.002	5HK-D20	C023B102F202P	3/8 x 5/32
.0022	5HK-D22	C023B102F222P	3/8 x 5/32
.0033	5HK-D33	C023B102G332P	7/16 x 5/32
.0039	5HK-D39	C023B102G392P	7/16 x 5/32
.0047	5HK-D47	C023B102H472P	1/2 x 5/32
.005	5HK-D50	C023B102H502P	1/2 x 5/32
.0068	5HK-D68	C023B102J682P	9/16 x 5/32
.0082	5HK-D82	C023B102K822P	11/16 x 5/32
.01	5HK-S10	C023B102L103P	11/16 x 5/32
.01	5HKS-S10	C023B501G103Z	7/16 x 5/32
.015	5HK-S15	C023B501J153Z	9/16 x 5/32

µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
SINGLE UNITS (cont.)			
.02	5HK-S20	C023B501J203Z	9/16 x 5/32
.025	5HK-S25	C023B501K253Z	5/8 x 5/32
.04	5HK-S40	44C124A	11/16 x 3/16
.05	5HK-S50	33C58	11/16 x 3/16
.1	5HK-P10	41C92	7/8 x 3/16
DUAL UNITS			
2 x .001	5HK-2D10	20C253	7/16 x 5/32
2 x .0015	5HK-2D15	55C67	1/2 x 5/32
2 x .002	5HK-2D20	29C175	9/16 x 5/32
2 x .0022	5HK-2D22	29C27	9/16 x 5/32
2 x .0047	5HK-2D47	36C330	3/4 x 5/32
2 x .01	5HK-2S10	41C238	7/8 x 5/32
2 x .02	5HK-2S20	41C219	1 x 7/32

MINIATURIZED DISC CERAMIC CAPACITORS FOR TRANSISTORIZED CIRCUITRY

- Intended for Coupling and By-Pass Applications

Type TG Standard Tolerance ±20%

µF	Volts	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T
.005	100	TG-D50	C023B101E502M	5/16 x 5/32
.01	100	TG-S10	C023B101F103M	3/8 x 5/32
.02	100	TG-S20	C023B101H203M	1/2 x 5/32
.025	100	TG-S25	C023B101H253M	1/2 x 5/32
.03	100	TG-S30	C023A101J303M	5/8 x 5/32
.05	100	TG-S50	29C212A5	9/16 x 5/32
.1	100	TG-P10	33C41B6	11/16 x 5/32
.05	100	TGL-S50	C023B101L503M	11/16 x 5/32

Copyright 1971, Sprague Products Company

IND-REM-50-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

SEMI-STABLE TYPES

- Better Stability Than the General Application Types.
- Ideal for Replacing Other Types of Capacitors Such as Molded Micas, Paper Tubulars, and Mylar Film Tubulars
- Available in 1KV and a Smaller Size 250 Volt Rating
- Tighter Tolerance of ±10% is Better Than General Application Types
- Small Size, Low Cost
- EIA Designation: 10SS=Z5P, 2SS=Z5P

SEMI-STABLE 250 WVDC STANDARD TOLERANCE ±10%

µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
750pF	2SS-T75	C067B251E751K	5/16 x 5/32	.0022	2SS-D22	C067B251F222K	3/8 x 5/32	.0068	2SS-D68	C067B251J682K	9/16 x 5/32
820pF	2SS-T82	C067B251E821K	5/16 x 5/32	.0027	2SS-D27	C067B251G272K	7/16 x 5/32	.0082	2SS-D82	C067B251L822K	11/16 x 5/32
.001	2SS-D10	C067B251E102K	5/16 x 5/32	.0033	2SS-D33	C067B251G332K	7/16 x 5/32	.01	2SS-S10	C067A251M103K	3/4 x 5/32
.0012	2SS-D12	C067B251E122K	5/16 x 5/32	.0039	2SS-D39	C067B251H392K	1/2 x 5/32	.012	2SS-S12	29C527	9/16 x 7/32
.0015	2SS-D15	C067B251F152K	3/8 x 5/32	.0047	2SS-D47	C067B251H472K	1/2 x 5/32	.015	2SS-S15	33C304	11/16 x 7/32
.0018	2SS-D18	C067B251F182K	3/8 x 5/32	.005	2SS-D50	C067B251H502K	1/2 x 5/32	.018	2SS-S18	33C291	11/16 x 7/32
.002	2SS-D20	C067B251F202K	3/8 x 5/32	.0056	2SS-D56	C067B251J562K	9/16 x 5/32	.02	2SS-S20	36C413	3/4 x 7/32

SEMI-STABLE 1000 WVDC STANDARD TOLERANCE ±10%

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
470	10SS-T47	C067B102E471K	5/16 x 5/32	.0018	10SS-D18	C067B102G182K	7/16 x 5/32	.0068	10SS-D68	C067A102M682K	3/4 x 5/32
500	10SS-T50	C067B102E501K	5/16 x 5/32	.002	10SS-D20	C067B102G202K	7/16 x 5/32	.0082	10SS-D82	C067A102P822K	7/8 x 5/32
560	10SS-T56	C067B102E561K	5/16 x 5/32	.0022	10SS-D22	C067B102H222K	1/2 x 5/32	.010	10SS-S10	C067A102P103K	7/8 x 5/32
680	10SS-T68	C067B102E681K	5/16 x 5/32	.0027	10SS-D27	C067B102H272K	1/2 x 5/32	.012	10SS-S12	33C249A	3/4 x 7/32
750	10SS-T75	C067B102F751K	3/8 x 5/32	.0033	10SS-D33	C067B102J332K	9/16 x 5/32	.015	10SS-S15	41C299A	15/16 x 7/32
820	10SS-T82	C067B102F821K	3/8 x 5/32	.0039	10SS-D39	C067B102J392K	9/16 x 5/32	.018	10SS-S18	41C300A1	15/16 x 7/32
.001µF	10SS-D10	C067B102F102K	3/8 x 5/32	.0047	10SS-D47	C067B102K472K	5/8 x 5/32	.02	10SS-S20	41C301A1	15/16 x 7/32
.0012	10SS-D12	C067B102F122K	3/8 x 5/32	.005	10SS-D50	C067B102K502K	5/8 x 5/32	.022	10SS-S22	41C310A1	15/16 x 7/32
.0015	10SS-D15	C067B102G152K	7/16 x 5/32	.0056	10SS-D56	C067B102L562K	11/16 x 5/32				

TEMPERATURE-STABLE TYPES

- Used Where Minimum Capacitance Change With Temperature Is An Important Consideration
- EIA Designation: 10TS=X5E
- Standard Capacitance Tolerance: ±10%
- Rated at **1000 WVDC**

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
3.3	10TS-V33	C028B102E3R3K	5/16 x 5/32	75	10TS-Q75	C028B102E750K	5/16 x 5/32	.001	10TS-D10	C016B102G102K	7/16 x 5/32
5.0	10TS-V50	C028B102E5R0K	5/16 x 5/32	82	10TS-Q82	C028B102E820K	5/16 x 5/32	.0012	10TS-D12	C016B102G122K	7/16 x 5/32
6.8	10TS-V68	C028B102E6R8K	5/16 x 5/32	91	10TS-Q91	C028B102E910K	5/16 x 5/32	.0015	10TS-D15	C016B102J152K	9/16 x 5/32
7.5	10TS-V75	C028B102E7R5K	5/16 x 5/32	100	10TS-T10	C028B102E101K	5/16 x 5/32	.0018	10TS-D18	C016B102J182K	9/16 x 5/32
8.2	10TS-V82	C028B102E8R2K	5/16 x 5/32	120	10TS-T12	C028B102E121K	5/16 x 5/32	.0020	10TS-D20	C016B102J202K	9/16 x 5/32
10	10TS-Q10	C028B102E100K	5/16 x 5/32	150	10TS-T15	C028B102E151K	5/16 x 5/32	.0022	10TS-D22	C016B102J222K	9/16 x 5/32
12	10TS-Q12	C028B102E120K	5/16 x 5/32	180	10TS-T18	C028B102E181K	5/16 x 5/32	.0025	10TS-D25	C016B102K252K	5/8 x 5/32
15	10TS-Q15	C028B102E150K	5/16 x 5/32	200	10TS-T20	C028B102E201K	5/16 x 5/32	.0027	10TS-D27	C016B102K272K	5/8 x 5/32
18	10TS-Q18	C028B102E180K	5/16 x 5/32	220	10TS-T22	C028B102E221K	5/16 x 5/32	.0030	10TS-D30	C016B102K302K	5/8 x 5/32
20	10TS-Q20	C028B102E200K	5/16 x 5/32	250	10TS-T25	C028B102E251K	5/16 x 5/32	.0033	10TS-D33	C016B102L332K	11/16 x 5/32
22	10TS-Q22	C028B102E220K	5/16 x 5/32	270	10TS-T27	C016B102E271K	5/16 x 5/32	.0039	10TS-D39	C016A102M392K	3/4 x 5/32
25	10TS-Q25	C028B102E250K	5/16 x 5/32	300	10TS-T30	C016B102E301K	5/16 x 5/32	.0040	10TS-D40	C016A102M402K	3/4 x 5/32
27	10TS-Q27	C028B102E270K	5/16 x 5/32	330	10TS-T33	C016B102E331K	5/16 x 5/32	.0047	10TS-D47	C016A102P472K	7/8 x 5/32
30	10TS-Q30	C028B102E300K	5/16 x 5/32	390	10TS-T39	C016B102E391K	5/16 x 5/32	.0050	10TS-D50	C016A102P502K	7/8 x 5/32
33	10TS-Q33	C028B102E330K	5/16 x 5/32	470	10TS-T47	C016B102E471K	5/16 x 5/32	.0056	10TS-D56	C016A102P562K	7/8 x 5/32
39	10TS-Q39	C028B102E390K	5/16 x 5/32	500	10TS-T50	C016B102E501K	5/16 x 5/32	.0068	10TS-D68	36C108A	13/16 x 7/32
47	10TS-Q47	C028B102E470K	5/16 x 5/32	560	10TS-T56	C016B102F561K	3/8 x 5/32	.0075	10TS-D75	36C395	13/16 x 7/32
50	10TS-Q50	C028B102E500K	5/16 x 5/32	680	10TS-T68	C016B102F681K	3/8 x 5/32	.0082	10TS-D82	41C306A	15/16 x 7/32
56	10TS-Q56	C028B102E560K	5/16 x 5/32	750	10TS-T75	C016B102F751K	3/8 x 5/32	.01	10TS-S10	41C121A1	15/16 x 7/32
68	10TS-Q68	C028B102E680K	5/16 x 5/32	820	10TS-T82	C016B102F821K	3/8 x 5/32				

DISC CERAMICS FOR AC APPLICATIONS

- Rated at 125 VAC or 1400 VDC
- For AC Line Bypass Application
- For technical data, see latest issue of Engineering Bulletin 6111
- Standard Tolerance ±20%
- Heavy Duty for Long Life

µF	Sprague Products Catalog No.	Sprague O.E.M. Part No.	D. x T.
.001	125L-D10	19C251	3/8 x 7/32
.0015	125L-D15	19C252	3/8 x 7/32
.002	125L-D20	19C253	3/8 x 7/32
.0047	125L-D47	29C145	9/16 x 7/32
.005	125L-D50	29C145A	9/16 x 7/32
.01	125L-S10	36C218	3/4 x 7/32
.02	125L-S20	36C220	3/4 x 1/4
2 x .005	125L-2D50	29C147	9/16 x 1/4
2 x .01	125L-2S10	36C219	3/4 x 1/4

DISC CERAMICS FOR BUFFER APPLICATIONS

- Rated at 2000 WVDC
- Standard Tolerance ±20%

µF	Sprague Products Catalog No.	Sprague O.E.M. Part No.	D. x T.
.001	BL-D10	29C162	9/16 x 7/32
.002	BL-D20	29C163	9/16 x 7/32
.003	BL-D30	29C164	9/16 x 7/32
.004	BL-D40	29C165	9/16 x 7/32
.005	BL-D50	29C251	9/16 x 7/32
.006	BL-D60	44C126	11/16 x 7/32
.007	BL-D70	33C82	11/16 x 7/32
.0075	BL-D75	33C81	11/16 x 7/32
.008	BL-D80	33C84	11/16 x 7/32
.01	BL-S10	36C151	3/4 x 7/32

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

TEMPERATURE-COMPENSATING AND NP0 TYPES

- Zero Temperature-coefficient Capacitors used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and IR
- Eliminate oscillator drift in TV, FM, VHF and AM receivers
- Negative Temperature Coefficient is 30 ppm/°C for N030 types, 80 ppm/°C for N080 types, 150 ppm/°C for N150 types, 220 ppm/°C for N220 types, 330 ppm/°C for N330 types, 470 ppm/°C for N470 types, 750 ppm/°C for N750 types, 1500 ppm/°C for N1500 types and 2200 ppm/°C for N2200 types.
- Capacitance Tolerance: 12 pF & up, ±5%; 10 pF & below, ±0.5 pF
- Rated at **1000 WVDC**
- For use in Tuned Circuits
- Temp-compensating Types Have a Linear Negative Coefficient Curve
- Available in Standard 5% Decade Values.

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
NP0			
1.0	10TCC-V10	C030B102S1R0D	3/8 x 1/4
1.2	10TCC-V12	C030B102S1R2D	3/8 x 1/4
1.5	10TCC-V15	C030B102S1R5D	3/8 x 1/4
1.8	10TCC-V18	C030B102E1R8D	5/16 x 5/32
2.2	10TCC-V22	C030B102E2R2D	5/16 x 5/32
2.7	10TCC-V27	C030B102E2R7D	5/16 x 5/32
3.0	10TCC-V30	C030B102E3R0D	5/16 x 5/32
3.3	10TCC-V33	C030B102E3R3D	5/16 x 5/32
3.9	10TCC-V39	C030B102E2R9D	5/16 x 5/32
4.7	10TCC-V47	C030B102E4R7D	5/16 x 5/32
5.0	10TCC-V50	C030B102E5R0D	5/16 x 5/32
5.6	10TCC-V56	C030B102E5R6D	5/16 x 5/32
6.8	10TCC-V68	C030B102E6R8D	5/16 x 5/32
8.2	10TCC-V82	C030B102E8R2D	5/16 x 5/32
10	10TCC-Q10	C030B102E100D	5/16 x 5/32
12	10TCC-Q12	C030B102E120J	5/16 x 5/32
15	10TCC-Q15	C030B102F150J	3/8 x 5/32
18	10TCC-Q18	C030B102F180J	3/8 x 5/32
20	10TCC-Q20	C030B102F200J	3/8 x 5/32
22	10TCC-Q22	C030B102G220J	7/16 x 5/32
25	10TCC-Q25	C030B102G250J	7/16 x 5/32
27	10TCC-Q27	C030B102G270J	7/16 x 5/32
30	10TCC-Q30	C030B102G300J	7/16 x 5/32
33	10TCC-Q33	C030B102G330J	7/16 x 5/32
39	10TCC-Q39	C030B102H390J	1/2 x 5/32
47	10TCC-Q47	C030B102J470J	9/16 x 5/32
50	10TCC-Q50	C030B102J500J	9/16 x 5/32
56	10TCC-Q56	C030B102J560J	9/16 x 5/32
68	10TCC-Q68	C030B102K680J	5/8 x 5/32
75	10TCC-Q75	C030B102K750J	5/8 x 5/32
82	10TCC-Q82	C030B102L820J	11/16 x 5/32
100	10TCC-T10	C030B102L101J	11/16 x 5/32
120	10TCC-T12	C030A102M121J	3/4 x 5/32
150	10TCC-T15	C030A102P151J	7/8 x 5/32
180	10TCC-T18	33C307	3/4 x 7/32
200	10TCC-T20	33C308	3/4 x 7/32
220	10TCC-T22	33C418	3/4 x 7/32
270	10TCC-T27	41C410	13/16 x 7/32
300	10TCC-T30	41C411	13/16 x 7/32
330	10TCC-T33	41C412	15/16 x 7/32
390	10TCC-T39	41C272	15/16 x 7/32
N030			
1.0	10TCM-V10	C025B102S1R0D	3/8 x 1/4
1.2	10TCM-V12	C025B102S1R2D	3/8 x 1/4
1.5	10TCM-V15	C025B102S1R5D	3/8 x 1/4
1.8	10TCM-V18	C025B102E1R8D	5/16 x 5/32
2.2	10TCM-V22	C025B102E2R2D	5/16 x 5/32
2.7	10TCM-V27	C025B102E2R7D	5/16 x 5/32
3.0	10TCM-V30	C025B102E3R0D	5/16 x 5/32
3.3	10TCM-V33	C025B102E3R3D	5/16 x 5/32
3.9	10TCM-V39	C025B102E3R9D	5/16 x 5/32
4.7	10TCM-V47	C025B102E4R7D	5/16 x 5/32
5.0	10TCM-V50	C025B102E5R0D	5/16 x 5/32
5.6	10TCM-V56	C025B102E5R6D	5/16 x 5/32
6.8	10TCM-V68	C025B102E6R8D	5/16 x 5/32
8.2	10TCM-V82	C025B102E8R2D	5/16 x 5/32
10	10TCM-Q10	C025B102E100D	5/16 x 5/32
12	10TCM-Q12	C025B102E120J	5/16 x 5/32
15	10TCM-Q15	C025B102F150J	3/8 x 5/32
18	10TCM-Q18	C025B102F180J	3/8 x 5/32
20	10TCM-Q20	C025B102F200J	3/8 x 5/32
22	10TCM-Q22	C025B102G220J	7/16 x 5/32
25	10TCM-Q25	C025B102G250J	7/16 x 5/32
27	10TCM-Q27	C025B102G270J	7/16 x 5/32
30	10TCM-Q30	C025B102G300J	7/16 x 5/32
33	10TCM-Q33	C025B102G330J	7/16 x 5/32
39	10TCM-Q39	C025B102H390J	1/2 x 5/32
47	10TCM-Q47	C025B102H470J	1/2 x 5/32
50	10TCM-Q50	C025B102J500J	9/16 x 5/32
56	10TCM-Q56	C025B102J560J	9/16 x 5/32
68	10TCM-Q68	C025B102K680J	5/8 x 5/32
75	10TCM-Q75	C025B102K750J	5/8 x 5/32
82	10TCM-Q82	C025B102K820J	5/8 x 5/32
100	10TCM-T10	C025B102L101J	11/16 x 5/32
120	10TCM-T12	C025A102M121J	3/4 x 5/32
150	10TCM-T15	C025A102P151J	7/8 x 5/32
180	10TCM-T18	C025A102P181J	7/8 x 5/32
200	10TCM-T20	C025A102P201J	7/8 x 5/32
220	10TCM-T22	C025A102P221J	7/8 x 5/32
270	10TCM-T27	33C196	3/4 x 7/32
300	10TCM-T30	36C308	13/16 x 7/32
330	10TCM-T33	41C244	15/16 x 7/32
390	10TCM-T39	41C273	15/16 x 7/32
N080			
2.2	10TCN-V22	C026B102S2R2D	3/8 x 1/4
2.7	10TCN-V27	C026B102S2R7D	3/8 x 1/4
3.0	10TCN-V30	C026B102S3R0D	3/8 x 1/4
3.3	10TCN-V33	C026B102S3R3D	3/8 x 1/4
3.9	10TCN-V39	C026B102S3R9D	3/8 x 1/4
4.7	10TCN-V47	C026B102S4R7D	3/8 x 1/4
5.0	10TCN-V50	C026B102E5R0D	5/16 x 5/32
5.6	10TCN-V56	C026B102E5R6D	5/16 x 5/32
6.8	10TCN-V68	C026B102E6R8D	5/16 x 5/32
8.2	10TCN-V82	C026B102E8R2D	5/16 x 5/32
10	10TCN-Q10	C026B102E100D	5/16 x 5/32
12	10TCN-Q12	C026B102E120J	5/16 x 5/32
15	10TCN-Q15	C026B102F150J	3/8 x 5/32
18	10TCN-Q18	C026B102F180J	3/8 x 5/32
20	10TCN-Q20	C026B102F200J	3/8 x 5/32
22	10TCN-Q22	C026B102F220J	3/8 x 5/32
25	10TCN-Q25	C026B102G250J	7/16 x 5/32
27	10TCN-Q27	C026B102G270J	7/16 x 5/32
30	10TCN-Q30	C026B102G300J	7/16 x 5/32
33	10TCN-Q33	C026B102G330J	7/16 x 5/32
39	10TCN-Q39	C026B102G390J	7/16 x 5/32
47	10TCN-Q47	C026B102H470J	1/2 x 5/32
50	10TCN-Q50	C026B102H500J	1/2 x 5/32
56	10TCN-Q56	C026B102J560J	9/16 x 5/32
68	10TCN-Q68	C026B102J680J	9/16 x 5/32
75	10TCN-Q75	C026B102K750J	5/8 x 5/32
82	10TCN-Q82	C026B102K820J	5/8 x 5/32
100	10TCN-T10	C026B102L101J	11/16 x 5/32
120	10TCN-T12	C026B102L121J	11/16 x 5/32
150	10TCN-T15	C026A102P151J	7/8 x 5/32
180	10TCN-T18	C026A102P181J	7/8 x 5/32
200	10TCN-T20	C026A102P201J	7/8 x 5/32
220	10TCN-T22	C026A102P221J	7/8 x 5/32
270	10TCN-T27	33C219	3/4 x 7/32
300	10TCN-T30	33C197	3/4 x 7/32
330	10TCN-T33	36C325	13/16 x 7/32
390	10TCN-T39	41C274	15/16 x 7/32
470	10TCN-T47	41C222	15/16 x 7/32
N150			
2.2	10TCP-V22	C032B102S2R2D	3/8 x 1/4
2.7	10TCP-V27	C032B102S2R7D	3/8 x 1/4
3.0	10TCP-V30	C032B102S3R0D	3/8 x 1/4
3.3	10TCP-V33	C032B102S3R3D	3/8 x 1/4
3.9	10TCP-V39	C032B102S3R9D	3/8 x 1/4
4.7	10TCP-V47	C032B102S4R7D	3/8 x 1/4
5.0	10TCP-V50	C032B102S5R0D	3/8 x 1/4
5.6	10TCP-V56	C032B102E5R6D	5/16 x 5/32
6.8	10TCP-V68	C032B102E6R8D	5/16 x 5/32
8.2	10TCP-V82	C032B102E8R2D	5/16 x 5/32
10	10TCP-Q10	C032B102E100D	5/16 x 5/32
12	10TCP-Q12	C032B102E120J	5/16 x 5/32
15	10TCP-Q15	C032B102E150J	5/16 x 5/32
18	10TCP-Q18	C032B102F180J	3/8 x 5/32
20	10TCP-Q20	C032B102F200J	3/8 x 5/32
22	10TCP-Q22	C032B102F220J	3/8 x 5/32
25	10TCP-Q25	C032B102F250J	3/8 x 5/32
27	10TCP-Q27	C032B102F270J	3/8 x 5/32
30	10TCP-Q30	C032B102F300J	3/8 x 5/32
33	10TCP-Q33	C032B102G330J	7/16 x 5/32
39	10TCP-Q39	C032B102G390J	7/16 x 5/32
47	10TCP-Q47	C032B102G470J	7/16 x 5/32
50	10TCP-Q50	C032B102H500J	1/2 x 5/32
56	10TCP-Q56	C032B102H560J	1/2 x 5/32
68	10TCP-Q68	C032B102J680J	9/16 x 5/32
75	10TCP-Q75	C032B102J750J	9/16 x 5/32
82	10TCP-Q82	C032B102J820J	9/16 x 5/32
100	10TCP-T10	C032B102K101J	5/8 x 5/32
120	10TCP-T12	C032B102L121J	11/16 x 5/32
150	10TCP-T15	C032A102M151J	3/4 x 5/32
180	10TCP-T18	C032A102P181J	7/8 x 5/32
200	10TCP-T20	C032A102P201J	7/8 x 5/32
220	10TCP-T22	C032A102P221J	7/8 x 5/32
270	10TCP-T27	33C220	3/4 x 7/32
300	10TCP-T30	33C221	3/4 x 7/32
330	10TCP-T33	36C315	13/16 x 7/32
390	10TCP-T39	41C231	15/16 x 7/32
470	10TCP-T47	41C275	15/16 x 7/32
N220			
3.0	10TCR-V30	C033B102S3R0D	3/8 x 1/4
3.3	10TCR-V33	C033B102S3R3D	3/8 x 1/4
3.9	10TCR-V39	C033B102S3R9D	3/8 x 1/4
4.7	10TCR-V47	C033B102S4R7D	3/8 x 1/4

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
N220 (cont.)			
5.0	10TCR-V50	C033B102S5R0D	3/8 x 1/4
5.6	10TCR-V56	C033B102S5R6D	3/8 x 1/4
6.8	10TCR-V68	C033B102E6R8D	5/16 x 5/32
8.2	10TCR-V82	C033B102E8R2D	5/16 x 5/32
10	10TCR-Q10	C033B102E100D	5/16 x 5/32
12	10TCR-Q12	C033B102E120J	5/16 x 5/32
15	10TCR-Q15	C033B102E150J	5/16 x 5/32
18	10TCR-Q18	C033B102E180J	5/16 x 5/32
20	10TCR-Q20	C033B102F200J	3/8 x 5/32
22	10TCR-Q22	C033B102F220J	3/8 x 5/32
25	10TCR-Q25	C033B102F250J	3/8 x 5/32
27	10TCR-Q27	C033B102F270J	3/8 x 5/32
30	10TCR-Q30	C033B102F300J	3/8 x 5/32
33	10TCR-Q33	C033B102G330J	7/16 x 5/32
39	10TCR-Q39	C033B102G390J	7/16 x 5/32
47	10TCR-Q47	C033B102G470J	7/16 x 5/32
50	10TCR-Q50	C033B102G500J	7/16 x 5/32
56	10TCR-Q56	C033B102H560J	1/2 x 5/32
68	10TCR-Q68	C033B102J680J	9/16 x 5/32
75	10TCR-Q75	C033B102J750J	9/16 x 5/32
82	10TCR-Q82	C033B102J820J	9/16 x 5/32
100	10TCR-T10	C033B102K101J	5/8 x 5/32
120	10TCR-T12	C033B102L121J	11/16 x 5/32
150	10TCR-T15	C033B102L151J	11/16 x 5/32
180	10TCR-T18	C033A102M181J	3/4 x 5/32
200	10TCR-T20	C033A102P201J	7/8 x 5/32
220	10TCR-T22	C033A102P221J	7/8 x 5/32
270	10TCR-T27	C033A102P271J	7/8 x 5/32
300	10TCR-T30	C033A102P301J	7/8 x 5/32
330	10TCR-T33	33C199	3/4 x 7/32
390	10TCR-T39	36C321	13/16 x 7/32
470	10TCR-T47	41C235	15/16 x 7/32
560	10TCR-T56	41C277	15/16 x 7/32
N330			
3.0	10TCS-V30	C034B102S3R0D	3/8 x 1/4
3.3	10TCS-V33	C034B102S3R3D	3/8 x 1/4
3.9	10TCS-V39	C034B102S3R9D	3/8 x 1/4
4.7	10TCS-V47	C034B102S4R7D	3/8 x 1/4
5.0	10TCS-V50	C034B102S5R0D	3/8 x 1/4
5.6	10TCS-V56	C034B102S5R6D	3/8 x 1/4
6.8	10TCS-V68	C034B102S6R8D	3/8 x 1/4
8.2	10TCS-V82	C034B102E8R2D	5/16 x 5/32
10	10TCS-Q10	C034B102E100D	5/16 x 5/32
12	10TCS-Q12	C034B102E120J	5/16 x 5/32
15	10TCS-Q15	C034B102E150J	5/16 x 5/32
18	10TCS-Q18	C034B102E180J	5/16 x 5/32
20	10TCS-Q20	C034B102E200J	5/16 x 5/32
22	10TCS-Q22	C034B102F220J	3/8 x 5/32
25	10TCS-Q25	C034B102F250J	3/8 x 5/32
27	10TCS-Q27	C034B102F270J	3/8 x 5/32
30	10TCS-Q30	C034B102F300J	3/8 x 5/32
33	10TCS-Q33	C034B102F330J	3/8 x 5/32
39	10TCS-Q39	C034B102G390J	7/16 x 5/32
47	10TCS-Q47	C034B102G470J	7/16 x 5/32
50	10TCS-Q50	C034B102G500J	7/16 x 5/32
56	10TCS-Q56	C034B102G560J	7/16 x 5/32
68	10TCS-Q68	C034B102H680J	1/2 x 5/32
75	10TCS-Q75	C034B102H750J	1/2 x 5/32
82	10TCS-Q82	C034B102J820J	9/16 x 5/32
100	10TCS-T10	C034B102J101J	9/16 x 5/32
120	10TCS-T12	C034B102K121J	5/8 x 5/32
150	10TCS-T15	C034B102L151J	11/16 x 5/32
180	10TCS-T18	C034A102M181J	3/4 x 5/32
200	10TCS-T20	C034A102M201J	3/4 x 5/32
220	10TCS-T22	C034A102P221J	7/8 x 5/32
270	10TCS-T27	C034A102P271J	7/8 x 5/32
300	10TCS-T30	C034A102P301J	7/8 x 5/32
330	10TCS-T33	33C241	3/4 x 7/32
390	10TCS-T39	36C318	13/16 x 7/32
470	10TCS-T47	41C276	15/16 x 7/32
560	10TCS-T56	41C278	15/16 x 7/32
N470			
3.0	10TCT-V30	C035B102S3R0D	3/8 x 1/4
3.3	10TCT-V33	C035B102S3R3D	3/8 x 1/4
3.9	10TCT-V39	C035B102S3R9D	3/8 x 1/4
4.7	10TCT-V47	C035B102S4R7D	3/8 x 1/4
5.0	10TCT-V50	C035B102S5R0D	3/8 x 1/4
5.6	10TCT-V56	C035B102S5R6D	3/8 x 1/4
6.8	10TCT-V68	C035B102S6R8D	3/8 x 1/4
8.2	10TCT-V82	C035B102S8R2D	3/8 x 1/4
10	10TCT-Q10	C035B102E100D	5/16 x 5/32
12	10TCT-Q12	C035B102E120J	5/16 x 5/32
15	10TCT-Q15	C035B102E150J	5/16 x 5/32
18	10TCT-Q18	C035B102E180J	5/16 x 5/32
20	10TCT-Q20	C035B102E200J	5/16 x 5/32
22	10TCT-Q22	C035B102E220J	5/16 x 5/32
25	10TCT-Q25	C035B102F250J	3/8 x 5/32
27	10TCT-Q27	C035B102F270J	3/8 x 5/32
30	10TCT-Q30	C035B102F300J	3/8 x 5/32
33	10TCT-Q33	C035B102F330J	3/8 x 5/32
39	10TCT-Q39	C035B102F390J	3/8 x 5/32
47	10TCT-Q47	C035B102G470J	7/16 x 5/32
50	10TCT-Q50	C035B102G500J	7/16 x 5/32
56	10TCT-Q56	C035B102G560J	7/16 x 5/32
68	10TCT-Q68	C035B102H680J	1/2 x 5/32
75	10TCT-Q75	C035B102H750J	1/2 x 5/32
82	10TCT-Q82	C035B102H820J	1/2 x 5/32
100	10TCT-T10	C035B102J101J	9/16 x 5/32
120	10TCT-T12	C035B102J121J	9/16 x 5/32
150	10TCT-T15	C035B102K151J	5/8 x 5/32
180	10TCT-T18	C035B102L181J	11/16 x 5/32
200	10TCT-T20	C035B102L201J	11/16 x 5/32
220	10TCT-T22	C035B102M221J	3/4 x 5/32
270	10TCT-T27	C035A102P271J	7/8 x 5/32
300	10TCT-T30	C035A102P301J	7/8 x 5/32
330	10TCT-T33	C035A102P331J	7/8 x 5/32
390	10TCT-T39	C035A102P391J	7/8 x 5/32
470	10TCT-T47	36C344	13/16 x 7/32
560	10TCT-T56	41C248	15/16 x 7/32
680	10TCT-T68	41C291	15/16 x 7/32
750	10TCT-T75	41C292	15/16 x 7/32
N750			
4.7	10TCU-V47	C036B102S4R7D	3/8 x 1/4
5.0	10TCU-V50	C036B102S5R0D	3/8 x 1/4
5.6	10TCU-V56	C036B102S5R6D	3/8 x 1/4
6.8	10TCU-V68	C036B102S6R8D	3/8 x 1/4
8.2	10TCU-V82	C036B102S8R2D	3/8 x 1/4
10	10TCU-Q10	C036B102S100D	3/8 x 1/4
12	10TCU-Q12	C036B102E120J	5/16 x 5/32
15	10TCU-Q15	C036B102E150J	5/16 x 5/32
18	10TCU-Q18	C026B102E180J	5/16 x 5/32
20	10TCU-Q20	C036B102E200J	5/16 x 5/32
22	10TCU-Q22	C026B102E220J	5/16 x 5/32
25	10TCU-Q25	C026B102E250J	5/16 x 5/32
27	10TCU-Q27	C026B102E270J	5/16 x 5/32
30	10TCU-Q30	C026B102E300J	5/16 x 5/32
33	10TCU-Q33	C036B102E330J	5/16 x 5/32
39	10TCU-Q39	C036B102F390J	3/8 x 5/32
47	10TCU-Q47	C036B102F470J	3/8 x 5/32
50	10TCU-Q50	C036B102F560J	3/8 x 5/32
56	10TCU-Q56	C036B102F560J	3/8 x 5/32
68	10TCU-Q68	C036B102G680J	7/16 x 5/32
75	10TCU-Q75	C036B102G750J	7/16 x 5/32
82	10TCU-Q82	C036B102G820J	7/16 x 5/32
100	10TCU-T10	C036B102H101J	1/2 x 5/32
120	10TCU-T12	C036B102H121J	1/2 x 5/32
150	10TCU-T15	C036B102J151J	9/16 x 5/32
180	10TCU-T18	C036B102K181J	5/8 x 5/32
200	10TCU-T20	C036B102K201J	5/8 x 5/32
220	10TCU-T22	C036B102K221J	5/8 x 5/32
270	10TCU-T27	C036B102L271J	11/16 x 5/32
300	10TCU-T30	C036A102M301J	3/4 x 5/32
330	10TCU-T33	C036A102M331J	3/4 x 5/32
390	10TCU-T39	C036A102P391J	7/8 x 5/32
470	10TCU-T47	C036A102P471J	7/8 x 5/32
560	10TCU-T56	33C238	3/4 x 7/32
680	10TCU-T68	36C348	13/16 x 7/32
750	10TCU-T75	41C293	15/16 x 7/32
820	10TCU-T82	41C294	15/16 x 7/32
1000	10TCU-D10	41C295	15/16 x 7/32
N1500			
10	10TCW-Q10	C048B102S100D	3/8 x 1/4
12	10TCW-Q12	C048B102S120J	3/8 x 1/4
15	10TCW-Q15	C048B102S150J	3/8 x 1/4
18	10TCW-Q18	C048B102E180J	5/16 x 5/32
20	10TCW-Q20	C048B102E200J	5/16 x 5/32
22	10TCW-Q22	C048B102E220J	5/16 x 5/32
25	10TCW-Q25	C048B102E250J	5/16 x 5/32
27	10TCW-Q27	C048B102E270J	5/16 x 5/32
30	10TCW-Q30	C048B102E300J	5/16 x 5/32
33	10TCW-Q33	C048B102E330J	5/16 x 5/32
39	10TCW-Q39	C048B102E390J	5/16 x 5/32
47	10TCW-Q47	C048B102F470J	3/8 x 5/32
50	10TCW-Q50	C048B102F500J	3/8 x 5/32
56	10TCW-Q56	C048B102F560J	3/8 x 5/32
68	10TCW-Q68	C048B102F680J	3/8 x 5/32
75	10TCW-Q75	C048B102G750J	7/16 x 5/32
82	10TCW-Q82	C048B102G820J	7/16 x 5/32
100	10TCW-T10	C048B102G101J	7/16 x 5/32
120	10TCW-T12	C048B102G121J	7/16 x 5/32
150	10TCW-T15	C048B102H151J	1/2 x 5/32
180	10TCW-T18	C048B102J181J	9/16 x 5/32
200	10TCW-T20	C048B102J201J	9/16 x 5/32
220	10TCW-T22	C048B102K221J	5/8 x 5/32
270	10TCW-T27	C048B102K271J	5/8 x 5/32
300	10TCW-T30	C048B102L301J	11/16 x 5/32
330	10TCW-T33	C048B102L331J	11/16 x 5/32
390	10TCW-T39	C048A102M391J	3/4 x 5/32
470	10TCW-T47	C048A102P471J	7/8 x 5/32
560	10TCW-T56	C048A102P561J	7/8 x 5/32
680	10TCW-T68	33C263	3/4 x 7/32
750	10TCW-T75	36C363	13/16 x 7/32
820	10TCW-T82	36C364	13/16 x 7/32
1000	10TCW-D10	41C331	15/16 x 7/32
1200	10TCW-D12	41C332	15/16 x 7/32
N2200			
10	10TCY-Q10	C041B102S100D	3/8 x 1/4
12	10TCY-Q12	C041B102S120J	3/8 x 1/4
15	10TCY-Q15	C041B102S150J	3/8 x 1/4
18	10TCY-Q18	C041B102S180J	3/8 x 1/4
20	10TCY-Q20	C041B102S200J	3/8 x 1/4
22	10TCY-Q22	C041B102E220J	5/16 x 5/32
25	10TCY-Q25	C041B102E250J	5/16 x 5/32
27	10TCY-Q27	C041B102E270J	5/16 x 5/32
30	10TCY-Q30	C041B102E300J	5/16 x 5/32
33	10TCY-Q33	C041B102E330J	5/16 x 5/32
39	10TCY-Q39	C041B102E390J	5/16 x 5/32
47	10TCY-Q47	C041B102E470J	5/16 x 5/32
50	10TCY-Q50	C041B102E500J	5/16 x 5/32
56	10TCY-Q56	C041B102E560J	5/16 x 5/32
68	10TCY-Q68	C041B102E680J	5/16 x 5/32
75	10TCY-Q75	C041B102E750J	5/16 x 5/32
82	10TCY-Q82	C041B102F820J	3/8 x 5/32
100	10TCY-T10	C041B102F101J	3/8 x 5/32
120	10TCY-T12	C041B102F121J	3/8 x 5/32
150	10TCY-T15	C041B102G151J	7/16 x 5/32
180	10TCY-T18	C041B102G181J	7/16 x 5/32
200	10TCY-T20	C041B102G201J	7/16 x 5/32
220	10TCY-T22	C041B102H221J	1/2 x 5/32
270	10TCY-T27	C041B102H271J	1/2 x 5/32
300	10TCY-T30	C041B102J301J	9/16 x 5/32
330	10TCY-T33	C041B102J331J	9/16 x 5/32
390	10TCY-T39	C041B102J391J	9/16 x 5/32
470	10TCY-T47	C041B102K471J	5/8 x 5/32
560	10TCY-T56	C041B102L561J	11/16 x 5/32
680	10TCY-T68	C041A102M681J	3/4 x 5/32
750	10TCY-T75	C041A102M751J	3/4 x 5/32
820	10TCY-T82	C041A102P821J	7/8 x 5/32
1000	10TCY-D10	C041A102P102J	7/8 x 5/32
1200	10TCY-D12	33C264	3/4 x 7/32
1500	10TCY-D15	36C365	13/16 x 7/32
1800	10TCY-D18	41C333	15/16 x 7/32
2000	10TCY-D20	41C334	15/16 x 7/32
2200	10TCY-D22	41C335	15/16 x 7/32

Copyright 1971, Sprague Products Company

IND-REM-52-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

HYPERCON® CERAMIC DISCS



- Superior to electrolytic capacitors of similar capacitance values due to very low power factor.
- Ultra-miniature . . . ideal for use in transistorized circuitry.
- For bypass and coupling, but particularly well-suited for any low-voltage use where high capacitance and low power factor are important.
- Capacitance tolerance: Body code C080; +50, −20%. Body code C069; +80, −20%.
- For complete technical data, see latest issue of Engineering Bulletin 6141.

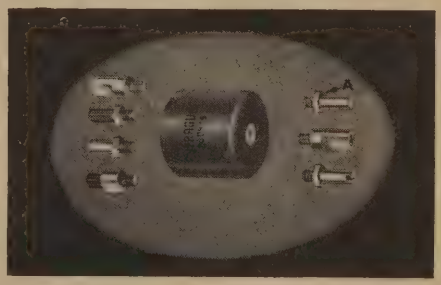
µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
3 WVDC, Body Code C052*			
2.2	HY-150*	C052A3R0P225Z	7/8 x 5/32
12 WVDC, Body Code C080			
.022	HY-340	C080B120C223Y	1/4 x 5/32
.033	HY-345	C080B120E333Y	5/16 x 5/32
.047	HY-350	C080B120F473Y	3/8 x 5/32
.068	HY-355	C080B120F683Y	3/8 x 5/32
.1	HY-360	CP80B120G104Y	7/16 x 5/32
.15	HY-365	C080B120J154Y	9/16 x 5/32
.22	HY-370	C080B120K224Y	5/8 x 5/32
.33	HY-375	C080A120M334Y	3/4 x 5/32
.47	HY-380	C080A120P474Y	7/8 x 5/32

µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
16 WVDC, Body Code C069			
.01	HY-420	C069B160E103Z	5/16 x 5/32
.022	HY-425	C069B160F223Z	3/8 x 5/32
.033	HY-430	C069B160G333Z	7/16 x 5/32
.047	HY-435	C069B160H473Z	1/2 x 5/32
.068	HY-440	C069B160K683Z	5/8 x 5/32
.1	HY-450	C069B160L104Z	11/16 x 5/32
.2	HY-470	C069A160P204Z	7/8 x 5/32
16 WVDC, Body Code C080			
.022	HY-625	C080B160C223Y	1/4 x 5/32
.033	HY-630	C080B160E333Y	5/16 x 5/32
.047	HY-635	C080B160F473Y	3/8 x 5/32
.068	HY-640	C080B160G683Y	7/16 x 5/32
.1	HY-650	C080B160H104Y	1/2 x 5/32
.15	HY-665	C080B160K154Y	5/8 x 3/8
.22	HY-670	C080B160L224Y	11/16 x 3/8
.33	HY-675	C080A160P334Y	7/8 x 3/8

µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
25 WVDC, Body Code C069			
.0047	HY-510	C069B250C472Z	1/4 x 5/32
.01	HY-520	C069B250F103Z	3/8 x 5/32
.022	HY-525	C069B250G223Z	7/16 x 5/32
.033	HY-530	C069B250H333Z	1/2 x 5/32
.047	HY-535	C069B250J473Z	9/16 x 5/32
.068	HY-540	C069B250L683Z	11/16 x 5/32
.1	HY-550	C069A250M104Z	3/4 x 5/32
25 WVDC, Body Code C080			
.015	HY-720	C080B250C153Y	1/4 x 5/32
.022	HY-725	C080B250E223Y	5/16 x 5/32
.033	HY-730	C080B250F333Y	3/8 x 5/32
.047	HY-735	C080B250G473Y	7/16 x 5/32
.068	HY-740	C080B250H683Y	1/2 x 5/32
.1	HY-750	C080B250J104Y	19/32 x 3/8
.15	HY-765	C080B250L154Y	11/16 x 3/8
.22	HY-770	C080A250P224Y	7/8 x 3/8

HIGH-VOLTAGE DOORKNOB CERAMICS

- For Bypass, Arc Suppression and Other High-Voltage Applications
- 20DK-T5 Comes Complete with 7 Terminals, as illustrated. (Packaged 2 per Plastic Box, with 14 terminals
- 30DK-T5 is Supplied with 2 Terminals, as per Style Marked "A"
- Capacitor Body has Female Threads for interchangeable Screw-in Terminals



pF	KV	Diam. x Length	Sprague Products Cat. No.	Sprague O.E.M. Part No.
500	20	1.000 x 1.122	20DK-T5	708C50
500	30	1.312 x 1.312	30DK-T5	715C009501D8303BN

Call Your Sprague Distributor for Current Prices

- Cast in Non-Flammable, Moisture-resistant, Epoxy Resin

SPARK GAPS

- A Spark Gap Consists of a Wire Loop Encased in Phenolic Resin. After the Loop Has Been Encased a Precise Slot is Cut Through The Wire Loop and Its Protective Case to Form a Spark Gap
- Suppress Transient Voltage Surges That Damage Costly Electronic Equipment
- Protect TV Circuits From Damage Caused By the Momentary Arcing or Shorting of Elements Within Expensive Set Components
- Mechanically Sturdy and Electrically Reliable
- Each Unit is Accurately Checked for Voltage Breakdown as Part of the Manufacturing Process
- See Latest Issue of Engineering Bulletin 6145



Capacitance	Arc-over Voltage	Catalog Number
0.75pF	1.5kV ±0.5kV	302C100A2
0.75pF	2.5kV ±0.5kV	302C100A3

TV YOKE CAPACITORS

- High Quality Factor • High Corona Start Voltage
- Does Not Cause Interference or Failure Due to Arcing
- Standard Tolerance ±10%

pF	Sprague Products Catalog Number	Sprague O.E.M. Part Number	Size D. x T.
30TCY 3000 WVDC			
50	30TCY-Q50	29C483	3/4 x 9/32
75	30TCY-Q75	44C113	3/4 x 9/32
100	30TCY-T10	33C269	13/16 x 9/32
130	30TCY-T13	36C368	7/8 x 9/32
150	30TCY-T15	41C340	1 x 5/16
180	30TCY-T18	41C341	1 x 5/16
50TCY 5000 WVDC			
50	50TCY-Q50	44C115	3/4 x 9/32
75	50TCY-Q75	33C270	13/16 x 9/32
100	50TCY-T10	41C344	1 x 5/16
130	50TCY-T13	41C345	1 x 5/16
60TCY 6000 WVDC			
130	60TCY-T13	41C281A4	1 x 5/16

*Available until present stocks are exhausted.

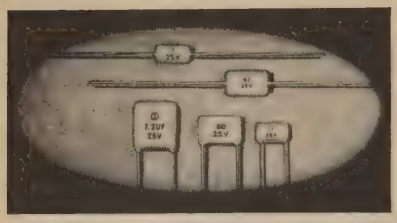
IND-REM-48A-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

2C, 3C, 4C, and 5C MONOLYTHIC® CERAMIC CAPACITORS



- Proven Reliable in Wide Usage Over Many Years of Exacting Service.
- Available in a Variety of Body Formulations, Capacitance Values, and Sizes.
- Made By Spraying Alternate Layers of Ceramic Dielectric Material and Metallic Electrodes, then Firing Into a Single, All But Indestructible Homogeneous Block.
- Protected Against Mechanical Damage and Moisture by a Tough Resin Coating.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6201.

Call Your Sprague Industrial Distributor For Current Quantity Prices

TEMPERATURE CHARACTERISTICS

Formulation	Temp. Range	Max. Change over Temp. Range
N030	−55C to +125C	−30 ±30 ppm/°C
N750	−55C to +125C +25C to + 85C	meets MIL-C-20 Char. UJ −750 ±120 ppm/°C
W5R	−55C to +125C	±15%
Z5U	+10C to + 85C	+22, −56%

DIMENSIONS (in inches)

Type Number*	Length	Width	Thickness†
2C	.300	.300	—
3C	.390	.202	.156
4C	.515	.296	.156
5C	.500	.500	.156

*1st and 2nd characters of catalog number signify Type number
†Axial-lead units only. Thickness of radial-lead units is .125, .156, or .238, depending on capacitance value.

AXIAL-LEAD MONOLYTHIC® CAPACITORS

pF	WVDC	Catalog Number ±20% Cap. Tol.	Catalog Number ±10% Cap. Tol.
FORMULATION N030			
51	200	3C025510X0201B1	3C025510X9201B1
56	200	3C025560X0201B1	3C025560X9201B1
62	200	3C025620X0201B1	3C025620X9201B1
68	200	3C025680X0201B1	3C025680X9201B1
75	200	3C025750X0201B1	3C025750X9201B1
82	200	3C025820X0201B1	3C025820X9201B1
91	200	3C025910X0201B1	3C025910X9201B1
100	200	3C025101X0201B1	3C025101X9201B1
110	200	3C025111X0201B1	3C025111X9201B1
120	200	3C025121X0201B1	3C025121X9201B1
130	200	3C025131X0201B1	3C025131X9201B1
150	200	3C025151X0201B1	3C025151X9201B1
160	200	3C025161X0201B1	3C025161X9201B1
180	200	3C025181X0201B1	3C025181X9201B1
200	200	3C025201X0201B1	3C025201X9201B1
220	200	3C025221X0201B1	3C025221X9201B1
240	200	3C025241X0201B1	3C025241X9201B1
270	200	3C025271X0201B1	3C025271X9201B1
300	200	3C025301X0201B1	3C025301X9201B1
330	200	3C025331X0201B1	3C025331X9201B1
360	200	3C025361X0201B1	3C025361X9201B1
390	200	3C025391X0201B1	3C025391X9201B1
430	200	3C025481X0201B1	3C025431X9201B1
470	200	3C025471X0201B1	3C025471X9201B1
510	200	3C025511X0201B1	3C025511X9201B1
560	200	3C025561X0201B1	3C025561X9201B1
620	200	3C025621X0201B1	3C025621X9201B1
680	200	3C025681X0201B1	3C025681X9201B1
750	200	3C025751X0201B1	3C025751X9201B1
FORMULATION N750			
820	200	3C075821X0201B1	3C075821X9201B1
910	200	3C075911X0201B1	3C075911X9201B1
1000	200	3C075102X0201B1	3C075102X9201B1
1100	200	3C075112X0201B1	3C075112X9201B1
1200	200	3C075122X0201B1	3C075122X9201B1
1300	200	3C075132X0201B1	3C075132X9201B1
1500	200	3C075152X0201B1	3C075152X9201B1
1600	200	3C075162X0201B1	3C075162X9201B1
1800	200	3C075182X0201B1	3C075182X9201B1
2000	200	3C075202X0201B1	3C075202X9201B1
2200	200	3C075222X0201B1	3C075222X9201B1
2400	200	3C075242X0201B1	3C075242X9201B1
2700	200	3C075272X0201B1	3C075272X9201B1
3000	200	3C075302X0201B1	3C075302X9201B1
3300	200	3C075332X0201B1	3C075332X9201B1
FORMULATION W5R			
3900	100	3C067392X0101B1	3C067392X9101B1
4700	100	3C067472X0101B1	3C067472X9101B1
5600	100	3C067562X0101B1	3C067562X9101B1
6800	100	3C067682X0101B1	3C067682X9101B1
8200	100	3C067822X0101B1	3C067822X9101B1
.010μF	100	3C067103X0101B1	3C067103X9101B1
.012	100	3C067123X0101B1	3C067123X9101B1

μF	WVDC	Catalog Number ±20% Cap. Tol.	Catalog Number +80, −20% Cap. Tol.
FORMULATION Z5U			
.015	50	3C023153X0500B1	3C023153D8500B1
.022	50	3C023223X0500B1	3C023223D8500B1
.033	50	3C023333X0500B1	3C023333D8500B1
.047	50	3C023473X0500B1	3C023473D8500B1
.068	50	3C023683X0500B1	3C023683D8500B1
.10	50	3C023104X0500B1	3C023104D8500B1
.15	50	3C023154X0500B1	3C023154D8500B1
.22	50	3C023224X0500B1	3C023224D8500B1
.33	50	4C023334X0500B1	4C023334D8500B1
.47	50	4C023474X0500B1	4C023474D8500B1
.68	50	4C023684X0500B1	4C023684D8500B1
1.0	50	5C023105X0500B1	5C023105D8500B1
1.5	50	5C023155X0500B1	5C023155D8500B1

RADIAL-LEAD MONOLYTHIC CAPACITORS (Formulation Z5U)

μF	Catalog Number +80, −20% Tol.	Catalog Number ±20% Tol.
TYPE 2C—25 WVDC		
.01	2C023103D8250A3	2C023103X0250A3
.015	2C023153D8250A3	2C023153X0250A3
.022	2C023223D8250A3	2C023223X0250A3
.033	2C023333D8250A3	2C023333X0250A3
.047	2C023473D8250A3	2C023473X0250A3
.068	2C023683D8250A3	2C023683X0250A3
.1	2C023104D8250A3	2C023104X0250A3
.15	2C023154D8250A3	2C023154X0250A3
.22	2C023224D8250A3	2C023224X0250A3
.33	2C023334D8250A3	2C023334X0250A3
.47	2C023474D8250A3	2C023474X0250A3
TYPE 3C—25 WVDC		
.01	3C023103D8250A3	3C023103X0250A3
.015	3C023153D8250A3	3C023153X0250A3
.022	3C023223D8250A3	3C023223X0250A3
.033	3C023333D8250A3	3C023333X0250A3
.047	3C023473D8250A3	3C023473X0250A3

Copyright 1971, Sprague Products Company

IND-REM-47-ERAE

Sizes subject to change without notice.

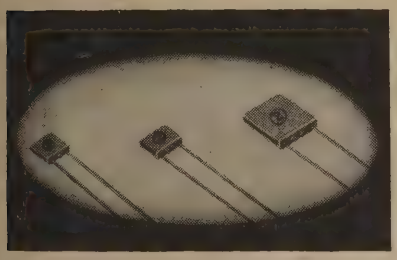
© United Technical Publications

SPRAGUE CAPACITORS

RADIAL-LEAD MONOLYTHIC CAPACITORS, continued

µF	Catalog Number +80,—20% Tol.	Catalog Number ±20% Tol.
.068	3C023683D8250A3	3C023683X0250A3
.1	3C023104D8250A3	3C023104X0250A3
.15	3C023154D8250A3	3C023154X0250A3
.22	3C023224D8250A3	3C023224X0250A3
.33	3C023334D8250A3	3C023334X0250A3
.47	3C023474D8250A3	3C023474X0250A3
TYPE 4C—25 WVDC		
.15	4C023154D8250A3	4C023154X0250A3
.22	4C023224D8250A3	4C023224X0250A3
.33	4C023334D8250A3	4C023334X0250A3
.47	4C023474D8250A3	4C023474X0250A3
.68	4C023684D8250A3	4C023684X0250A3
1.0	4C023105D8250A3	4C023105X0250A3
1.5	4C023155D8250A3	4C023155X0250A3
TYPE 5C—25 WVDC		
.1	5C023104D8250B3	5C023104X0250B3
.15	5C023154D8250B3	5C023154X0250B3
.22	5C023224D8250B3	5C023224X0250B3
.33	5C023334D8250B3	5C023334X0250B3
.47	5C023474D8250B3	5C023474X0250B3
.68	5C023684D8250B3	5C023684X0250B3
1.0	5C023105D8250B3	5C023105X0250B3
1.5	5C023155D8250B3	5C023155X0250B3
2.2	5C023225D8250B3	5C023225X0250B3
3.3	5C023335D8250B3	5C023335X0250B3
TYPE 5C—50 WVDC		
.1	5C023104D8500B3	5C023104X0500B3
.15	5C023154D8500B3	5C023154X0500B3
.22	5C023224D8500B3	5C023224X0500B3
.33	5C023334D8500B3	5C023334X0500B3
.47	5C023474D8500B3	5C023474X0500B3
.68	5C023684D8500B3	5C023684X0500B3
1.0	5C023105D8500B3	5C023105X0500B3
1.5	5C023155D8500B3	5C023155X0500B3

TYPE 7C MONOLYTHIC® CERAMIC CAPACITORS



- Radial Lead Style Especially Designed For Printed Wiring Board Mounting.
- New Phenolic Terminal Base With Stand-Off "Feet" Provides these Advantages: No Resin Run-Down on Leads; Uniform Lead Spacing; No Dirt and Moisture Entrapment; Degreasing Fluid Flows Freely Between Capacitors and Board.
- Made by Spraying Alternate Layers of Ceramic Dielectric Material and Metallic Electrodes, Firing into a Solid Homogeneous block, then Coating with a Tough Phenolic Resin.
- All Capacitors Listed Below Rated at 50 WVDC.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6202.

Call Your Sprague Industrial Distributor For Current Quantity Prices

TEMPERATURE CHARACTERISTICS

Formulation	Temp. Range	Max. Change over Temp. Range
NP0	—55C to +125C	NP0 ±60ppm/°C
N750	—55C to +125C	meets MIL-C-20 Char. UJ
	+25C to + 85C	—750ppm/°C, ±120ppm/°C
W5R	—55C to +125C	±15%
Z5U	+10C to + 85C	+22, —56%

DIMENSIONS (in inches)
(Last letter of catalog number signifies the case code)

Case Code	Length	Width	Thickness
D	.390	.275	.160
E	.535	.550	.160
F	.535	.550	.260

pF	Catalog Number ±20% Cap. Tol.	Catalog Number ±10% Cap. Tol.
FORMULATION NP0		
51	7C082510X0500D	7C082510X9500D
56	7C082560X0500D	7C082560X9500D
62	7C082620X0500D	7C082620X9500D
68	7C082680X0500D	7C082680X9500D
75	7C082750X0500D	7C082750X9500D
82	7C082820X0500D	7C082820X9500D
91	7C082910X0500D	7C082910X9500D
100	7C082101X0500D	7C082101X9500D
110	7C082111X0500D	7C082111X9500D
120	7C082121X0500D	7C082121X9500D
130	7C082131X0500D	7C082131X9500D
150	7C082151X0500D	7C082151X9500D
160	7C082161X0500D	7C082161X9500D
180	7C082181X0500D	7C082181X9500D
200	7C082201X0500D	7C082201X9500D
220	7C082221X0500D	7C082221X9500D
240	7C082241X0500D	7C082241X9500D
270	7C082271X0500D	7C082271X9500D
300	7C082301X0500D	7C082301X9500D
330	7C082331X0500D	7C082331X9500D
360	7C082361X0500D	7C082361X9500D
390	7C082391X0500D	7C082391X9500D
430	7C082431X0500D	7C082431X9500D
470	7C082471X0500D	7C082471X9500D
510	7C082511X0500D	7C082511X9500D
FORMULATION N750		
560	7C075561X0500D	7C075561X9500D
620	7C075621X0500D	7C075621X9500D
680	7C075681X0500D	7C075681X9500D
750	7C075751X0500D	7C075751X9500D
820	7C075821X0500D	7C075821X9500D
910	7C075911X0500D	7C075911X9500D
1000	7C075102X0500D	7C075102X9500D

pF	Catalog Number ±20% Cap. Tol.	Catalog Number ±10% Cap. Tol.
FORMULATION W5R		
1200	7C067122X0500D	7C067122X9500D
1500	7C067152X0500D	7C067152X9500D
1800	7C067182X0500D	7C067182X9500D
2200	7C067222X0500D	7C067222X9500D
2700	7C067272X0500D	7C067272X9500D
3300	7C067332X0500D	7C067332X9500D
3900	7C067392X0500D	7C067392X9500D
4700	7C067472X0500D	7C067472X9500D
5600	7C067562X0500D	7C067562X9500D
6800	7C067682X0500D	7C067682X9500D
8200	7C067822X0500D	7C067822X9500D

µF	±20% Cap. Tol.	+80, —20% Cap. Tol.
FORMULATION Z5U		
.010	7C023103X0500D	7C023103D8500D
.015	7C023153X0500D	7C023153D8500D
.022	7C023223X0500D	7C023223D8500D
.033	7C023333X0500D	7C023333D8500D
.047	7C023473X0500D	7C023473D8500D
.068	7C023683X0500D	7C023683D8500D
.10	7C023104X0500D	7C023104D8500D
.15	7C023154X0500D	7C023154D8500D
.22	7C023224X0500D	7C023224D8500D
.33	7C023334X0500E	7C023334D8500E
.47	7C023474X0500E	7C023474D8500E
.68	7C023684X0500E	7C023684D8500E
1.0	7C023105X0500E	7C023105D8500E
1.5	7C023155X0500E	7C023155D8500E
2.2	7C023225X0500F	7C023225D8500F

Copyright 1971, Sprague Products Company

IND-REM-48-ERAE

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE CAPACITORS

TYPE MS* and 1FM* MICA CAPACITORS



- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality
- Section Foils on Foil Micas are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Molding

TYPE MS* — SILVERED MICA — Capacitance Tolerance, ±5%

μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.
500 WVDC, 1000 V Test		.000070	MS-47	.000620	MS-362	.002700	MS-227	300 WVDC, 600 V Test	
.000018	MS-418	.000091	MS-491	.000700	MS-37	.003000	MS-23	.007000	MS-27
.000024	MS-424	.000130	MS-313	.000750	MS-375	.003600	MS-236	.007500	MS-275
.000025	MS-425	.000160	MS-316	.000800	MS-38	.004000	MS-24	.008000	MS-28
.000027	MS-427	.000240	MS-324	.000900	MS-39	.004300	MS-243	.009000	MS-29
.000036	MS-436	.000360	MS-336	.001300	MS-213	.005600	MS-256	.009100	MS-291
.000040	MS-44	.000400	MS-34	.001600	MS-216	.006000	MS-26		
.000060	MS-46	.000430	MS-343	.001800	MS-218	.006200	MS-262		
.000062	MS-462	.000600	MS-36	.002400	MS-224				

TYPE 1FM* — Capacitance Tolerance, ±20%

μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.	μF	Cat. No.
500 WVDC, 1000 V Test		.000062	1FM-462	.000270	1FM-327	.001200	1FM-212	.004700	1FM-247
.000012	1FM-412	.000068	1FM-468	.000300	1FM-33	.001300	1FM-213	.005000	1FM-25
.000015	1FM-415	.000075	1FM-475	.000330	1FM-333	.001500	1FM-215	.005100	1FM-251
.000018	1FM-418	.000082	1FM-482	.000350	1FM-335	.001600	1FM-216	.005600	1FM-256
.000020	1FM-42	.000091	1FM-491	.000360	1FM-336	.001800	1FM-218	.006000	1FM-26
.000022	1FM-422	.000110	1FM-311	.000390	1FM-339	.002000	1FM-22	.006200	1FM-262
.000024	1FM-424	.000120	1FM-312	.000400	1FM-34	.002200	1FM-222	300 WVDC, 600 V Test	
.000027	1FM-427	.000130	1FM-313	.000430	1FM-343	.002400	1FM-224	.006800	1FM-268
.000030	1FM-43	.000150	1FM-315	.000510	1FM-351	.002500	1FM-225	.007000	1FM-27
.000036	1FM-436	.000160	1FM-316	.000560	1FM-356	.002700	1FM-227	.007500	1FM-275
.000039	1FM-439	.000180	1FM-318	.000620	1FM-362	.003000	1FM-23	.008000	1FM-28
.000043	1FM-443	.000200	1FM-32	.000700	1FM-37	.003300	1FM-233	.009000	1FM-29
.000047	1FM-447	.000220	1FM-322	.000750	1FM-375	.003600	1FM-236	.009100	1FM-291
.000051	1FM-451	.000240	1FM-324	.000910	1FM-391	.004000	1FM-24	.010000	1FM-11
.000056	1FM-456	.000250	1FM-325	.001100	1FM-211	.004300	1FM-243		

TYPE MS DIMENSIONS

Catalog Numbers	L. x W. x T.	Catalog Numbers	L. x W. x T.
MS-55/MS-35	51/64 x 15/32 x 7/32	MS-23	53/64 x 53/64 x 11/32
MS-351/MS-222	53/64 x 53/64 x 9/32	MS-233	53/64 x 53/64 x 9/32
MS-224	53/64 x 53/64 x 11/32	MS-236/MS-282	53/64 x 53/64 x 11/32
MS-225/227	53/64 x 53/64 x 9/32	MS-29/MS-11	1 x 5/8 x 5/16

TYPE 1FM DIMENSIONS

Catalog Numbers	L. x W. x T.	Catalog Numbers	L. x W. x T.
1FM-41/1FM-462	51/64 x 15/32 x 7/32	1FM-362/1FM-233	53/64 x 53/64 x 9/32
1FM-468/1FM-475	53/64 x 53/64 x 9/32	1FM-236/1FM-282	53/64 x 53/64 x 11/32
1FM-482/1FM-356	51/64 x 15/32 x 7/32	1FM-29/1FM-11	1 x 5/8 x 5/16



TYPE 424M DIPPED MICA CAPACITORS

- Expressly Made for Applications Requiring Optimum Capacitance Stability and Retrace Characteristics.
- Designed For Continuous Operation at Temperatures Up to +85 C.
- Not Affected by High Relative Humidity.
- Critically-Tested Mica Dielectric With "Fired-On" Silver electrodes.
- Special Electrode Terminations to Minimize Capacitance Drift and Internal Noise.
- Resin-Impregnated Multiple Phenolic Coating for High Moisture Resistance and Mechanical Strength.
- Capacitance Tolerance, ±5%.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 1015.

μF	L. x W. x T.	Cat. No.	μF	L. x W. x T.	Cat. No.	μF	L. x W. x T.	Cat. No.
500 WVDC			270	.640 x .500 x .190	424ME2700J501	1600	.660 x .530 x .230	424ME1601J501
47	.640 x .500 x .190	424MC47R0J501	300	.640 x .500 x .190	424ME3000J501	1800	.670 x .530 x .240	424ME1801J501
51	.640 x .500 x .190	424MC51R0J501	330	.640 x .500 x .190	424ME3300J501	2000	.670 x .530 x .240	424ME2001J501
56	.640 x .500 x .190	424MC56R0J501	360	.640 x .510 x .200	424ME3600J501	2200	.670 x .530 x .250	424ME2201J501
62	.640 x .500 x .190	424MC62R0J501	390	.640 x .510 x .200	424ME3900J501	2400	.670 x .540 x .260	424ME2401J501
68	.640 x .500 x .190	424MC68R0J501	430	.640 x .510 x .200	424ME4300J501	2700	.680 x .540 x .270	424ME2701J501
75	.640 x .500 x .190	424MC75R0J501	470	.640 x .510 x .200	424ME4700J501	3000	.680 x .550 x .280	424ME3001J501
82	.640 x .500 x .190	424MC82R0J501	510	.650 x .510 x .200	424ME5100J501	3300	.680 x .550 x .290	424ME3301J501
91	.640 x .500 x .190	424MC91R0J501	560	.650 x .510 x .200	424ME5600J501	3600	.680 x .560 x .300	424ME3601J501
100	.640 x .500 x .190	424MC1000J501	620	.650 x .510 x .200	424ME6200J501	3900	.690 x .560 x .310	424ME3901J501
110	.640 x .500 x .190	424MC1100J501	680	.650 x .510 x .210	424ME6800J501	4300	.690 x .570 x .330	424ME4301J501
120	.640 x .500 x .190	424MC1200J501	750	.650 x .510 x .210	424ME7500J501	4700	.700 x .580 x .350	424ME4701J501
130	.640 x .500 x .190	424MC1300J501	820	.650 x .510 x .210	424ME8200J501	5100	.710 x .590 x .370	424ME5101J501
150	.640 x .500 x .190	424MC1500J501	910	.650 x .510 x .210	424ME9100J501			
160	.640 x .500 x .190	424MC1600J501	1000	.650 x .520 x .220	424ME1001J501	300 WVDC		
180	.640 x .500 x .190	424ME1800J501	1100	.650 x .520 x .220	424ME1101J501			
200	.640 x .500 x .190	424ME2000J501	1200	.660 x .520 x .220	424ME1201J501	5600	.680 x .550 x .310	424ME5601J301
220	.640 x .500 x .190	424ME2200J501	1300	.660 x .520 x .220	424ME1301J501	6200	.690 x .560 x .320	424ME6201J301
240	.640 x .500 x .190	424ME2400J501	1500	.660 x .520 x .230	424ME1501J501	6800	.690 x .570 x .330	424ME6801J301

*Available until present stocks are exhausted.

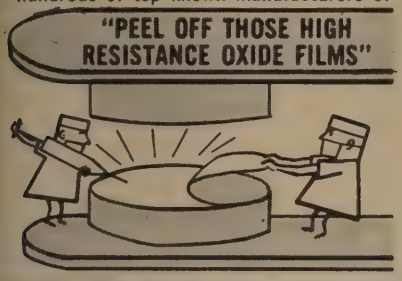
IND-REM-54-EBAP

All sizes subject to change without notice.

© United Technical Publications

CAIG LABORATORIES INC.

The amazing contact cleaner with a world wide reputation for excellence in performance. Used by the professionals who want only the best — Army, Air Force, Navy, Bureau of Standards and hundreds of top known manufacturers of electronic apparatus.



FEATURES:

- CLEANER
- LUBRICANT
- PRESERVATIVE
- ANTI-CORROSIVE

CRAMOLIN® — ELECTRONIC CONTACT CLEANER

"THE LESS YOU USE — THE BETTER IT WORKS!"

THE *BREAK-THRU* FOR

HIGHER PERFORMANCE ELECTRIC CONTACTS

Reduces contact resistance and sparking by dissolving oxide film formations. Temp. operating range −34°C. to 150°C. Effective on all metals and their alloys including gold, silver, copper, etc. Stays on moving contacts. Free of acids. Safe to use. Lasts for years.

Write for Tech Facts Bulletin C-200.

CRAMOLIN: (RED) Fluid for protection and cleaning of old and new contacts.
CRAMOLIN-SPECIAL: (BLUE) Fluid for protection of new contacts.
CRAMOLIN-PASTE: Semi-solid for protection and cleaning High Voltage/Amperage contacts.
CRAMOLIN SPRAY R: CRAMOLIN (RED) in aerosol spray can.

PRICES DESCRIPTION	CRAMOLIN (Red Color)	CRAMOLIN-SPECIAL (Blue Color)	CRAMOLIN-PASTE	*CAEON SOLVENT #27
2 oz. Glass Bottle	$2.25	$2.55		
4 oz. Glass Bottle				$1.60
½ pint Glass Bottle	7.45	8.25		2.85
1 pint, Glass Bottle	14.50	16.00		4.00
1 quart, Glass Bottle	28.00	31.00		6.00
¼ Kg Can (½ lb)			$2.90	
Engineers Kit	7.50	(Contains: CRAMOLIN, CR-Special & Paste.) With Tech Facts.		

IMPROVED CRAMOLIN-SPRAY R NOW WITH FREON® TF SOLVENT

FREE — 6" EXTENSION SPRAY TUBE

Contact Cleaner — Now — for those who prefer the spray can method of application. CRAMOLIN SPRAY R has same properties as CRAMOLIN (RED) FLUID. Packaged in neat spray can with automatic valve. Equipped with a whirl spray head, which will apply CRAMOLIN — breath thin — to most remote areas. The Hygrade propellant and speedy evaporating solvent leaves only a microfilm of actual CRAMOLIN on contact area.



$3.25 6 oz. can Aerosol

"CRAMOLIN-SPRAY MR"

Moisture Repellent — Silicone — Protect — Restore — Clean — Lubricate — For all electric and electronic equipment • Effective as a general cleaner, hydro-repellent, dielectric sealer and lubricant • Has excellent adherence. Safe to use on metals, rubber and synthetic materials • Reduces arcing, stops sparking and creeping currents in high voltage parts, switchboards, control panels, isolators, tube sockets, etc. • Temperature consistency between −50°C to +200°C • Can be used on all electronic equipment which is constantly used in high humidity and water, dust and gas fumes • Prevents corrosion, will not evaporate, will not gum, improves lubricating and sliding properties. Contains silicone.

Write for Bulletin C-201



Sold in bulk. Ask for prices **$3.00** 16 oz. can Aerosol

"CRAMOLIN-SPRAY PLASTIK"

Acrylic Plastic Permanent Coating for Printed Circuits — An air drying, colorless special plastic spray coating for electronic circuits, T.V., Radio, Aerial construction, automotive and many electric applications • It seals, protects, insulates and coats • Is age and weatherproof, water repellent, will not fade, has excellent adherence properties. Tropics proof • Resists acid and alkaline solutions as well as mineral oils • Withstands temperatures up to +180°C. Assures long lasting protective coatings on all metals, alloys & chrome • Protects against creeping currents, short circuits, weakened insulation breakdowns • As a sealant it helps to eliminate corrosion. **TECH BULLETIN P-100**



Sold in bulk. Ask for prices. **$3.00** 16 oz. can Aerosol

"CRAMOLIN-PC SPRAY"

• PROTECTIVE COATING FOR PRINTED CIRCUIT BOARDS • PREVENTS OXIDATION OF PLATES DURING STORAGE PERIODS • SOLDERING AIDS

Solderable Spray Protective Coating for Printed Circuits — Prevents corrosion on printed circuits and serves as a neutral soldering agent (flux). Melts immediately on contact with hot iron. Excellent wetting of all metal surfaces. Minimizes heat transfer to adjacent electrical components. Dries quickly. Sold in bulk. Ask for prices.



Tech Facts Bulletin PC-100 **$4.25** 16 oz. can Aerosol

CLEANING SOLVENT "CAEON SOLVENT #27"

(FREON® TF)
(Trichlorotrifluorethane)

A cleaning agent for removal of oil, grease, and dirt from objects without harm to metal, plastic, or elastomeric parts.

• NON-FLAMMABLE • VIRTUALLY NON-TOXIC • CHEMICALLY AND PHYSICALLY PURE • CHEMICALLY AND THERMALLY INERT • STABLE

The solvent exhibits a washing and penetrating action which aids its cleaning ability. High density and low surface tension enables Caeon #27 to wet the surface of most materials and wash away dirt and sludge.

The solvent is useful in ultrasonic and vapor degreasing equipment. Soils which are normally insoluable in any solvent can often be removed by this solvent with cavitation in ultrasonic units. Vapor rinsing is more easily accomplished without exposing object to high temperatures.

The solvent is compatible with most organic systems. It will remove soils or contaminants and leave the surface 'Residue-Free'. All standard methods of using a solvent may be employed.

Used by Electronic Systems Servicemen Before and After Repair Operations.



Write for Tech Facts. *See Price List on This Page For Bottled Fluid. Caeon Spray #27 in aerosol spray container with extension tube. $3.00—16 oz. can.

WESCOLITE SOLDER KIT

SOLDERING SIMPLIFIED

Combines a New Wonder Flux and the finest silver solder for stronger bond. Fast and easy to use. Soldering of the difficult or impossible metals together or to each other.

$2.50 KIT



No Pre-Cleaning • No After Cleaning Removes oxides, promotes tinning and capillary flow.

WESCOL FLUX

4 oz. dispenser	$1.70	½ gallon	$ 8.00
16 oz. dispenser	3.15	1 gallon	14.00

Wescol Solder 220 . . . Soft Silver Solder. 5/6% Silver. Balance Tin.
1/16" dia., 3/32" dia., 1/8" dia. ..... **$19.95/lb.**
1/32" dia., 3/64" dia. ..... **21.00/lb.**
Shipped in one (1) lb. reels

CHEMTRONICS

Tuner Sprays

The most complete line of tuner contact cleaners, each formulated to perform a specific function or combination of functions. Every ingredient and formulation has been carefully researched and field tested to guarantee its performance as the finest on the market without in any way interfering with the functioning of a tuner.

Tun-O-Wash

Heavy-duty Tuner Degreaser



The first step in repairing a tuner is to start with a clean tuner.

- Leaves no residue
- Safe for plastics
- Non-drift

Tun-O-Wash consists of concentrated, non-flammable, heavy-duty solvents formulated to thoroughly degrease oil, dirt, and gunk encrusted contacts. Does almost as thorough a job as an ultrasonic bath, without its harmful intermittent-causing vibrations. Restores the tuner to its original condition leaving parts and contacts like new. Also excellent for tape recorder and record player mechanisms.

Cat. No.	Description	Net
2400	24 oz. Spray Can	$3.25

Tun-O-Brite

Heavy-duty Tuner Cleaner/Contact Polisher and Lubricant



- Long-lasting
- Won't gunk up or dry out
- Safe for plastics
- Non-drift

A unique non-flammable combination of ingredients that does the complete job of cleaning, polishing, and lubricating tuner contacts.

Cat. No.	Description	Net
BT-8	8 oz. Spray Can	$2.39
BT-16	16 oz. Spray Can	3.49
BT-22	22 oz. Spray Can	4.49

Tun-O-Foam

Foam Tuner Cleaner and Lubricant



Foams away corrosion and dirt each time channel is changed.

- Clings to contacts
- Non-drift
- Safe for plastics

An activated, non-flammable foam specificaly formulated to clean and lubricate silver and gold contacts. Leaves an almost permanent lubricant that retains its lubricity over thousands of channel changes. Capable of withstanding high chassis temperatures to 500°F without drying out.

Cat. No.	Description	Net
TOF-8	8 oz. Spray Can	$2.39
TOF-22	22 oz. Spray Can	4.49

Color Lube

Color TV Tuner Cleaner and Lubricant



- Non-flammable
- Non-drift
- Safe for plastics

Cleans dirty tuners thoroughly, leaving a thin film of silicone lubricant on tuner contacts. Protects contact surfaces against corrosion.

Cat. No.	Description	Net
CL-8	8 oz. Spray Can	$2.39
CL-16	16 oz. Spray Can	3.25

Tun-O-Lube (Regular)

Tuner Cleaner and Lubricant



- Safe for plastics
- Non-drift
- Non-flammable

Provides a long lasting lubricating film which minimizes noise, contact wear, and oxidation.

Cat. No.	Description	Net
301	3 oz. Caddy-Size Spray Can	$ .98
810	8 oz. Spray Can	1.98
1610	16 oz. Spray Can	2.79

No. 800

Nuvistor/Transistor Tuner Cleaner



- Leaves no oily residue
- Non-flammable
- Fast drying
- Non-drift
- Safe for plastics

Nuvistor/Transistor Tuner Cleaner No. 800 will not affect neutralizing capacitors or circuit operation. Fast drying, it leaves no oily residue and restores sensitive tuners to "like-new" operation.

Cat. No.	Description	Net
800	8 oz. Spray Can	$2.19

Circuit Coolers

Intermittent Applications

Circuit coolers are probably the easiest and most efficient way for locating thermal intermittents.

Other Applications

Soldering Delicate Components — Finding PC Board Cracks — Preventing Cold Solder Joints — Preventing Transformer Burnout.

Super Frost Aid



- Cools to −50°F
- Leaves no liquid residue
- Cools twice as many components per can
- Non-flammable
- Safe for plastics

Super Frost Aid is the coldest known circuit cooler. This colder spray makes it more effective and economical to use. Response is quick and decisive.

Cat. No.	Description	Net
1550	15 oz. Spray Can	$2.79

Frost Aid



Similar in all respects to Super Frost Aid with the exception of its cooling power, which is approximately −20°F. Second only to Super Frost Aid.

Cat. No.	Description	Net
850	8 oz. Spray Can	$1.69
1650	16 oz. Spray Can	2.49

Insulating Sprays

No Arc

High Voltage All-Purpose Insulating Spray



- Stops arcing and corona shorts
- Withstands up to 25,000 volts
- No valve clogging

The ultimate improvement in high voltage, insulating aerosol sprays. Completely new, concentrated, red acrylic with special ingredients to prevent valve clogging. Leaves a tough, smooth, protective coating to permanently restore insulation.

Cat. No.	Description	Net
501-1	2 oz. Bottle	$1.15
630	6 oz. Spray Can	1.98

Kleer Spray

Acrylic Insulating and Protective Spray



- Insulates and waterproofs exposed wiring
- Prevents rust and corrosion
- Will not "run"
- Protective coating for antennas

Provides instant protection for exposed wiring and circuits. Dries in minutes to a clear acrylic plastic that acts as an electrical insulator and weather shield. Kleer Spray is fungus and chemical resistant.

Cat. No.	Description	Net
890	16 oz. Spray Can	$1.69

Lubricants

Chem-Oil

All Purpose Penetrating and Lubricating Oil



- Frees rust-frozen nuts and bolts
- Frees frozen yokes
- Protects against rust

Cat. No.	Description	Net
870	8 oz. Spray Can	$1.79

Lubriplate

White Grease Lubricant



High-grade, industrial lubricant in a tube for motors, gears, and bearings of all kinds.

Cat. No.	Description	Net
105	1¾ oz. Tube	$ .80

Net

© United Technical Publications

CHEMTRONICS

Contact & Control Sprays

Contact Kleen

Contact and Control Cleaner



- Leaves no oily residue
- For switches, relays, potentiometers, and other contact devices
- Safe for plastics

A heavy-duty, non-flammable, penetrating cleaner. Melts away oxidation, dirt, and oily deposits.

Cat. No.	Description	Net
605	8 oz. Spray Can	$1.89

Super Trol Aid

Control and Contact Cleaner/Lubricant



- Maintains lubricity from −40°F to 280°F
- Excellent for wirewound and carbon controls, switches, relays, and other contact devices
- Cleans, lubricates, prevents corrosion
- Safe for plastics
- Non-flammable

Heat resistant formula with special silicones maintains long lasting lubrication even at high temperatures. Thorough cleanng action enables it to penetrate even the smallest crevices, making it excellent for tight seal controls.

Cat. No.	Description	Net
302	3 oz. Spray Can	$ .98
820	8 oz. Spray Can	1.98

Glass & Plastic Cleaner

Mask-N-Glas

Anti-static Glass and Plastic Cleaner/Polisher



- Non-abrasive and scratch-proof
- Leaves anti-static surface charge to repel dust and dirt
- Lint-free polishing cloth with every can

The ideal way to clean picture tubes, TV glass, and plastic cabinets.

Cat. No.	Description	Net
840	8 oz. Spray Can	$1.79

Tape Head & Record Cleaners & Accessories

Tape Head Cleaner



- Thoroughly cleans tape heads
- Preserves tapes and improves frequency response
- Safe for all plastics

An aerosol cleaner formulated specifically for cassette, video, reel-to-reel and 8-track recorders and players. Removes dirt, film, and oxides from heads, tape guides, capstan rollers, and all other critical parts. Also available in a bottle with special felt applicator.

Cat. No.	Description	List
THC-6	6 oz. Spray Can	$2.49
504-3	2 oz. Bottle	1.49

Non-Slip

Restores Hardened and Glazed Rubber Drives and Belts



- Fast drying
- Prevents slippage
- Safe for rubber

Restores rubber drives and belts of tape recorders and players to proper speed.

Cat. No.	Description	List
507-7	2 oz. Bottle	$1.50

Record Cleaner



- Anti-static . . . repels dust
- Safe for all records
- Lint-free wiping cloth with every can

Leaves an anti-static charge that repels dust and dirt, keeping records cleaner longer and in better playing condition.

Cat. No.	Description	List
RC-33	5 oz. Spray Can	$1.60

Electronic Cements & Glues

Contact Cement

Forms a Pliable, Super-bond Between Surfaces



- Universal type contact cement
- Water, oil, and heat resistant
- Fast drying

Forms a super-strong bond between practically any kinds of surfaces. Does not require presses or clamps.

Cat. No.	Description	Net
508B-3	3 oz. Bottle (Bubble Pack)	$ .89
508-8	8 oz. Bottle	1.50

Plas-T-Pair

Repair Kit for Plastics



- Forms strongest bond yet known for plastics
- Can be molded into any shape
- Fast setting

Can either be used as a cement or plastic putty. Ideal for repairing TV and radio knobs, cracked or broken plastic cabinets, screw mounts, carrying handle on portable sets, etc.

As a cement, it is extremely strong, fast setting, and waterproof.

When used as a plastic putty, it can be molded and formed into any shape.

Cat. No.	Description	Net
60-Kit	9cc Liquid Solvent; 15cc Plastic Powder (with instruction booklet	$ .89
100-Kit	30cc Liquid Solvent; 40 gr Plastic Powder (with instruction booklet)	1.85
77	90cc Liquid Solvent	1.35
66	3 oz. Plastic Powder	1.35

TV-Radio Cement

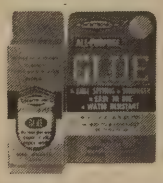


- For repairing speakers
- Dries clear
- Waterproof

For repairing and reconing speakers. Also used for joining glass, plastics, and metals.

Cat. No.	Description	Net
502-2	2 oz. Bottle (with brush applicator)	$ .62

All-Purpose Glue



- Joins wood, metal, rubber, and plastics
- Dries clear
- Waterproof

A fast-drying all purpose glue for almost all types of materials. Forms a permanent invisible bond.

Cat. No.	Description	Net
503-6	2 oz. Bottle (with brush applicator)	$ .62

Solder

Activated Rosin-Core



- Non-corrosive
- Non-hygroscopic
- Meets Federal Specs QQ-S-571d and Mil-S-6872

A fast flowing, activated rosin-core solder with excellent wetting action. The rosin-core flux is predetermined to provide just the right amount of flux in each solder strand for the soldering operation. The rosin residue after soldering is non-corrosive, non-conductive, non-hygroscopic, and fungus resistant. Available in handy dispenser tube and in one pound reels.

Handy pocket-size dispenser tube, ideal for servicemen and hobbyists. Fits easily into any tool kit or tube caddy.

Cat. No.	Description	Net
S-100	110″ of Thin 60/40 Solder in Dispenser Tube	$ .39



One pound spool is ideal for bench work. Comes in a variety of tin-lead alloys and diameters.

Tin/Lead Ratio	Dia. (in.)	Gauge	Net
40/60	1/16 (.062)	16	$1.87
50/60	1/16 (.062)	16	2.25
60/40	1/16 (.062)	16	2.55
60/40	3/64 (.047)	18	2.75
60/40	1/32 (.031)	21	3.30

© United Technical Publications

Trade Discount Applies To List Prices Only

New super HUSH® miracle t.v. tuner cleane

ENGINEERED FOR TUNERS MADE WITH PLASTIC PART

Made with "FREON" TF Solvents



YOU CAN BE SURE WITH NEW SUPER HUSH THE ALL-PURPOSE TV TUNER-CLEANER for COLOR and BLACK/WHITE

FIRST IN QUALITY
100% SILICONE OILS

6 oz. Spray Can	$2.00
8 oz. Spray Can	2.50
16 oz. Economy Spray Can	3.50

FREE 6" Plastic Extender With Every Can

PURITY — All New Super HUSH* and EVER-QUIET* is made with "Freon" TF* solvents with added protective lubricant, with the ability to clean, dissolve or flush away contaminants leaving a residue-free protective surface, and yet will not attack metals, plastics or elastomers.

SAFETY — All New Super HUSH* and EVER-QUIET* is **Nonflammable** and virtually **Non-toxic.**

ELECTRICAL PROPERTIES — All New Super HUSH* and EVER-QUIET* has excellent dielectric properties and high resistance to the flow of electric current.

RESEARCH AND TESTING — New Super HUSH* and EVER-QUIET* was researched, engineered and is continually being tested daily by our own personnel with 40 years experience in the Radio, Electronics and TV Service Field.

ACTION — TV tuners, Color & B/W, push button assemblies, band switches, relays, volume controls, sockets, phono-motors, etc.

"FREON" is a registered trademark of the E. I. Du Pont Co., for their fluorinated hydrocarbon solvents.

---

industrial CEE-16 contact and printed circuit cleaner

CEE-16 contains "Freon" TMC which has stronger solvent characteristics than "Freon" TF, but is gentle enough to be used as a cleaning agent for most common materials of construction including metals, plastics, and elastomers for a short exposure time of cleaning.

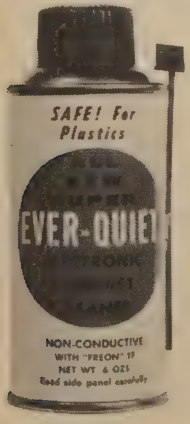
- **Removes Dirt, Oil, Grease, Oxidation and Operating Erosion Dust**
- **Resin-type Flux widely used in Printed Circuits**
- **Electrical Relays**
- **Semi-Conductors**
- **Distributors**
- **Distribution Panels**
- **Switchboards and Switching Devices**
- **Cam Operated Equipment**
- **Cleaning Computer Parts**
- **Guidance Systems and Components, and General Maintenance of Instruments**
- **Optical Lenses**



NOT SAFE FOR ALL PLASTICS
NO OILS
NON-FLAMMABLE

Contains
"FREON" TMC

$3.50 Net



New super EVER-QUIET®

With "FREON" TF

contact cleaner and protective lubricant

FREE 6" Plastic Extender With Every Can

New Low Price!

6 oz. Spray Can	$1.00

Prices Subject To Change Without Notice

FOR THE TECHNICIAN WHO WANTS A LOW PRICE, CONTACT CLEANER WITH HIGH QUALITY

*Trade Mark

CHEMICAL ELECTRONIC ENGINEERING, INC.

Net

© United Technical Publications

GC ELECTRONICS

CHEMICALS AND KITS



SPRA-KLEEN - eliminates noise due to dust, dirt and corrosion on contacts. Just spray, and work controls.
Cat. No. 8666...6 oz.. **Net $ .99**
Cat. No. 8666-16..... **Net $1.95**
16 oz (sprays upside-down)



RELAY-KLEEN - contact cleaner; excellent for cleaning relays and contacts in switchboards, automatic pinball or bowling machines, rocket or satellite circuitry.
Cat. No. 8682....6 oz.. **Net $1.89**
Cat. No. 8682-16..16 oz... **Net $3.49**



JIF - contact and control cleaner - will not harm plastics. Contains no harsh solvents. Cleans, lubricates, long-lasting protection.
Cat. No. 8670-6...6 oz. **Net $1.79**

FORMULA 70
Moisture Remover

PENETRATES • REMOVES MOISTURE LUBRICATES • PREVENTS RUST

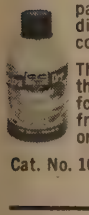


This amazing new high quality lubricant is formulated to penetrate rust and free "frozen" parts. Special ingredients remove moisture (do not trap it); deposit a thin lubricating film. This anti-moisture, protective shield prevents further oxidation.

Excellent for electronic, marine, automotive and hundreds of other every day applications.

Cat. No.		Std. Pkg.	Net
10-700	16 oz. aerosol	12	1.95

EXTRA DRY
SUPER FREEZE MIST
EXTRA DRY SUPER FREEZE MIST



Extra Dry Super Freeze Mist is designed to locate problem capacitors, transistors, and oxidized joints by instantly cooling components.

The extra dry cooling agent in this freeze mist is especially formulated to be non-toxic, odor free and leave no liquid residue on parts.

Cat. No. 10-702 15 oz. Aerosol Std. Pk. 12 ..**Net $2.50**



ZERO-MIST SPRA KOAT - instantly locates defective(intermittent) circuit components due to temperature change. Circuits cooled instantly. Components isolated.
Cat. No. 8667...16 oz.. **Net $2.19**



RUF-KOAT WRINKLE VARNISH hard, durable finish.
Cat. No. 60-12..... **Net $2.25**
12 oz. Black
Cat. No. 60-13..... **Net $2.25**
12 oz. Gray

New MAGIC VISTA
Golden Foam Tuner Cleaner
"PUT NEW LIFE IN TELEVISION TUNERS"



Featuring the New ANY-ANGLE CONSTANT DISCHARGE 360° VALVE

- Cleans, polishes and lubricates tuner contacts
- Lubricant will not run off or evaporate
- Safe for plastics

Cat. No.10-800 8 oz. Aerosol Std. Pk. 12. ....**Net $2.29**



Spra-Koat
RED - X TV CORONA DOPE
Prevents Corona Shorts in High Voltage TV Circuits

New red color coats surface and corners to stop corona effect. Fast drying, silicone base. Has excellent dielectric strength

GC No.		Net
50-12	16 oz. spray can	$2.23

Standard Package 12



GC NON-TOXIC ELECTRO-TET CLEANER

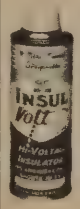
Closely parallels Carbon Tetrachloride, but much safer. Non-flammable, fast drying.
Cat. No. 10-G..1 gallon **Net $7.50**



GC KLEEN-TEX CLEANER

Removes grease, oil, wax. Safe, slow burning, high flash, inexpensive cleaner for motors, chassis, vacuum cleaners, etc.
Cat. No. 11-G..1 gallon **Net $3.75**

INSUL-VOLT
HIGH VOLTAGE INSULATING SPRAY WITH SURE-SHOT CONFINED STREAM



Positive insulation against hi-voltage leaks, arcing and corona shorts. Recommended for use on transformers, electric motors, generators, and all electrical windings. Ideal for servicemen and manufactors of generators, motors and transformers.

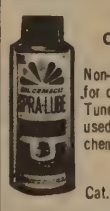
GC. No.	Walsco	Std. Pkg.	
10-608	40-804 6 ounce spray	12	$1.99



WALSCO ACTION

Electronic Silicone Contact Cleaner--won't harm plastics, non-flammable. Provides long-lasting protection.

No.		Net
99-06	6-ounce Spray Can	$ .99
99-16	16-ounce Spray Can	$1.79



COLORMAGIC SPRA LUBE COLOR TV TUNER CLEANER

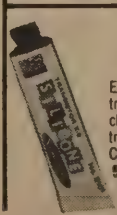
Non-Drift cleaner especially formulated for cleaning and lubricating all color TV Tuners. Completely safe for plastics used in tuners. Made of highest quality chemicals. Safe to use - non-flammable.

Cat. No. 8888 ... 8oz spray can **$1.79**



GC DE-OX-ID KIT WITH NEEDLE INJECTOR

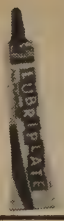
Contains 2-ounce bottle of De-Ox-Id cleaner and hypodermic type of applicator.
Cat. No. 8460..... **Net $1.45**



GC TRANSISTOR Z-5 SILICONE COMPOUND

Essential in maintaining efficient transfer of heat from transistor to chassis. Use whenever replacing transistors.

Cat. No.	1-ounce tube
8101-S	**Net $2.39**



LUBRIPLATE

Super lubricant, grease type; protective. Reduces friction loss, prevents rust and corrosion. Extends bearing life 50% ...increases mechanical efficiency 20% over ordinary lubricant.

No.	Desc	
23-02-S	2-oz tube	$ .75



SUPER GLUE

New miracle cement. Bond strength of over 3000 lbs. per square inch. Particularly suitable for cementing non-porous materials. Cures at room temperature through chemical action. Supplied in two ingredients which must be mixed before application.

No.		Std.Pkg.	Net
40-100	2 - ¾ oz. tubes	12	$ .99



ZERO–MIST
PLASTIC SPRAY EXTENSION INCLUDED FREE!

The new scientific way to locate "intermittence" in electronic equipment, caused by component failures, due to heating. The application of GC Zero-Mist cools components instantly, thereby pinpointing faulty capacitors, transistors, oxidized junctions, etc. Use of GC Flex-Sol spray can extension is recommended.

GC No.		
8667	16 oz. Aerosol	$2.19

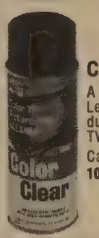
Standard Package 12



WALSCO ACRY-SPRAY

Prevents corrosion, rust, oxidation on all metals.

No.	Net
8665 GC	$1.50



COLOR CLEAR

A color TV picture tube cleaner. Leaves no streaks or residue. Imparts dust repelling anti-static agent to TV screen. Will not harm plastic.

Cat. No.		Net
10-900	14 avdp. oz. aerosol can	1.85



"TUNERLUB"

Assures quiet operation of television tuners. Tunerlub restores smooth positive action to worn and dirty television tuners. Compounded to form a strong film that gives lasting protection to high frequency switch contacts in TV and FM tuners. Free of zinc and other metal oxides which impair high frequency operation.

No.		Std. Pkg.	Net
26-01S	1¾ oz. tube, carded	12	$ .99



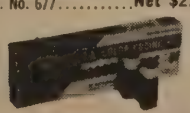
GC TUBE BASE CEMENT
"Repairs CRT and Octal Type Tubes"

Tube Base Cement is ideal for repairing octal and CRT type tubes that have separated from the glass. Easy to apply in plastic squeeze bottle. Set up in approximately 2 hours under normal conditions.

No.		Std. Pkg.	Net
54-2S	2 oz.	6	$ .99

GC E.I.A. COLOR CODING KIT

All standard E.I.A. colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray and White. E.I.A. color chart included.
Cat. No. 677.....**Net $2.50**





NUVI-TRAN TUNER CLEANER
Formulated Especially for Critical Nuvistor and transistor Circuitry

A non-conductive, non-toxic cleaner for cleaning sensitive Nuvistor and Transistor Tuners. Nuvi-Tran will not affect electrical properties, and is safe for all plastics TV tuners.

GC No.		Net
5555	8 oz. spray can.....	$2.29

Standard Package 12



GC PLASTIC & GLASS CLEANER

Spray on - wipe off dirt, dust and grime from all glass and plastic surfaces without streaks or dulling residue. Contains grease - cutting ammonia.

Cat. No. 9082 16 oz spray can

Net $ .79



GC DIAL & SIGNAL LIGHT COLORING KITS

For signal systems, radio dials, decorative lighting, etc. Contains Red, Green, Blue, Amber, Purple and solvent.

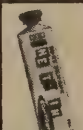
Cat. No. 66-6, kit of 6.. **Net $1.79**

GC RADIO TV CHEMICAL LAB

Twenty, 2-ounce bottles in permanent bench rack. Every needed chemical and cement is included for all types of repairs on speakers, coils, contacts, dials, etc.

Cat. No. 997..... **Net $12.43**

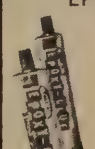




GC DC-Z9 SILICONE HEAT SINK COMPOUND

DC-Z9 increases the efficiency of electronic devices lowering overall temperature level. High heat conductive metallic oxides suspended in silicone dissipate "hot spots". DC-Z9 seals between transistors, diodes, etc., compound will not dry out or harden.

No.		Net
8109-S	1 oz. Tube	$2.63



EPOXY GLUE "SUPER GRIP"

This remarkable Epoxy Glue is specified by NASA for use in it's Space Program. The selection of this particular Epoxy Glue by NASA was made because of it's outstanding properties. Epoxy Glue is dimensionally stable... it won't shrink or expand. It is chemically stable, also resisting acids, alkali, grease, gas, water, etc. High electrical resistance is yet another of it's assets. Mixed in equal amounts from two tubes, it will harden in 5 minutes under 150 degrees F. heat lamp - 2 to 4 hours at room temperature.

No.		Std. Pkg.	Net
347	Kit of two tubes (approx. 4 oz.)	6	$2.50



SILI-SPRA

High quality silicone lubricant. Features new 3-way valve for different flow consistencies. It is paintable — won't contaminate surface. Ideal for aluminum. Can be used in any temperature to 300°F.

Cat. No.		Net
10-600	6 avdp. oz. aerosol can	1.25
10-601	Hang-up package	1.39



AUDIO-VIDEO MAGNETIC TAPE HEAD CLEANER

GC Audio-Video Tape Head Cleaner quickly removes dirt and oxide build-up; won't harm tape, tape coating or paint finish. This cleaner will not interfere with transmission and may be used on running tape. Audio-Visual Tape Head Cleaner eliminates applying cleaner with brush or swab. 6" spray extension is furnished with each can for pinpointing spray.

No.		Std. Pkg.	Net
10-620	16 oz. aerosol	12	$2.35

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

CHEMICALS and TOOLS
INJECTORALL ELECTRONICS CORP.

ALIGNMENT TOOLS

IN 8606 5″ HEX WRENCH — double end net $ .48
IN 8606L 11″ HEX WRENCH — double end net $ .63
IN 8607 5″ HEX WRENCH & SCREWDRIVER net $ .48
IN 8727 7″ TUNER SCREWDRIVER — double end net $ .43
IN 8728L 12″ TUNER SCREWDRIVER — double end net $ .53
IN 9300 5″ MIDGET HEX WRENCH — double end net $ .48
KIT NO. 6 Six Alignment Tools. Glass filled yellow nylon alignment tools as listed above. Greater torque, stronger net $2.49

AIR CONDITIONER

AERO-KLEEN

Oil spray for air-conditioner filters, dripless and scented.

495 16 oz. spray can net $1.79

CEMENTS & GLUES

PHONO GRIP-WELL

Non-slip compound for dial cords, and slipping phono turntables.

68-2 2 oz. glass bottle net $1.17

SPEAKER CEMENT

Vibration proof, fast drying, forms flexible bond; brush in cap, a plastic glue.

201 2 oz. glass bottle net $1.00

STIK-IT GLUE

All purpose glue in squeeze bottle, spreads white, dries clear, spout with attached cap.

39 2 oz. squeeze bottle net $ .39

CIRCUIT COOLERS

CHILL-IT

A refrigerant spray, to pin-point defective electronic components.

179-6 6 oz. spray can net $1.32
179-16 16 oz. spray can net $2.25

EXTRA FROST FREEZER SPRAY

180-15 15 oz. spray can net $2.39

CLEANERS

CONTACT CLEANER

Superior non-toxic spray solvent, dries quickly; with 4″ steel needle.

999WN 6 oz. spray can net $1.79

DEGREASER NO. 3

Air drying cleaning compound, excellent for ultrasonic application.

3 1 gal. can net $9.30

DRIVE WHEEL CLEANER

Cleans and renews neoprene and rubber drive wheels.

251-2 2 oz. glass bottle net $1.17

CLEANERS

BLUE LUBE

A foam, spray, dripless cleaner and lubricant, with 6″ plastic needle.

699-8 (NEW) 8 oz. net $2.10

CLEAR SOUND

A tape head cleaner for cartridges and cassette players, spray can w/swab stick, blister-pack.

252-3 (NEW) 3-oz. net $1.32

FIDELITY RECORD CLEANER

Antistatic spray, cleans and protects records; with record cleaning cloth.

70WC 3 oz. spray can net $1.17

HI-FI CONTROL CLEANER

Cleaner and lubricant for volume controls; with plastic needle.

799-3 3 oz. spray can net $1.00

LENS KLEEN

Plastic cleaner, antistatic, for plastic TV windows and meters; with cleaning cloth.

20 6 oz. aerosol can net $1.79

TAPE HEAD CLEANER

Cleans tape recorder heads, removes squeal, flutter, wow, safe to use, with cotton-covered wire brush.

250-2 2 oz. glass bottle net $1.00
250-8 8 oz. spray can net 2.10

SPRAY CLEAN

Tuner degreaser and all purpose cleaner, safe for plastics, leaves no film, non-flammable, conforms to MIL SPEC O-T-620a.

3-24 24 oz. spray can with plastic nozzle net $3.00

SUPER 100

Tuner cleaner and lubricant, will not affect plastics, contains ANTI-STATIC agent, for color and black & white TV tuners.

		NET
100-3	3 oz. spray w/plastic Needle	$1.00
100-6	6 oz. spray w/steel Needle	2.10
100-8	8 oz. spray w/steel Needle	2.25
100-16	16 oz. spray w/steel Needle	2.99

TUNER CLEANER

Cleaner and lubricant for TV tuners and controls, non-toxic, non-flammable.

		NET
899-6	6 oz. spray can only without Needle	$1.95
899WN	6 oz. spray w/steel Needle	2.10
899-16WN	16 oz. spray w/steel Needle	2.99

ROYAL CLEAN

700-16 16 oz. spray can, tuner degreaser, safe for plastics net $2.59

ROYAL LUBE

701-8 8 oz. spray can, heavy duty foam spray net $2.39

TUNER CARE KIT

700-701 8 oz. and 16 oz. spray cans net $4.95

OILS & LUBRICANTS

SPOT LUBRICATING OIL

Non-gumming, for tape-recorders and record players; with plastic needle.

10-3 3 oz. spray can net $1.00
10-16 16 oz. spray can net $2.25

SQUEAL-STOP

Dry lubricant, leaves no oily film, won't affect wires; with plastic needle.

50 3 oz. spray can net $1.32

LUBRI-SLIDE

61-6 6 oz. spray can of foam contact lubricant net $2.00

PAINTS & VARNISHES

ANTI-FUNGUS VARNISH

Conforms to MIL 173B specifications, natural color; prevents fungus growth.

15-16 16 oz. spray can net..$2.40

INJECTORALL SPRAY PAINTS

With FREE masking tape - 13 oz. ea. net $1.35

GLOSS
300-13 Gloss White
301-13 Appliance White
302-13 Gloss Black
303-13 Clear
307-13 Fire Red
308-13 Ribbon Blue
309-13 Pink
310-13 Rich Blue
311-13 Mist Green
312-13 Light Gray
313-13 Hunter Green
316-13 Light Yellow

FLAT & METALLIC
304-13 Flat White
305-13 Flat Black
306-13 Metal Primer Grey
314-13 Gold
315-13 Aluminum

Fluorescent Paints - 13 oz. spray can net $2.10

FLUORESCENT
325-13 Cerise Red
326-13 Green
327-13 Blue
328-13 Red Orange
329-13 Lemon Yellow

COATINGS & INSULATORS

CLEAR SPRAY

A transparent plastic spray, waterproofs, insulates metal, wood, rubber and paper surfaces.

399 16 oz. spray can net $1.79

RED HI-VOLT

Fast drying insulator, prevents arcing and corona in high voltage circuits, has high dielectric strength.

129-2 2 oz. glass bottle net $1.32
129-6 6 oz. spray can 1.50
129-16 16 oz. spray can 2.40
129G 1 gallon can 12.60

HEAT SINK COMPOUND

COOL-COAT SILICONE GREASE

60-6 6 oz. spray can of a heat transfer compound net $2.99

SERVICE AIDS

TAPE HEAD CLEANING STICKS

Package of 100 sticks with cotton-tipped swabs in a display bag.

255 (NEW) 6 inch net $ .60

JET AIR

Removes dust, lint and dirt from electronic chassis, projectors and precision instruments. Dry air reaches hard-to-get-at places.

8 8 oz. spray can net $1.45

© United Technical Publications

Heeger, Inc., as national sales administrators, present the following chemicals that have found favor with engineers, laboratory technicians and production in industry, to assist them in procuring the best proven material to enable them to arrive at the best results.

From the laboratories of
H. M. H. INDUSTRIES



PROPELLON INSTANT FREEZE

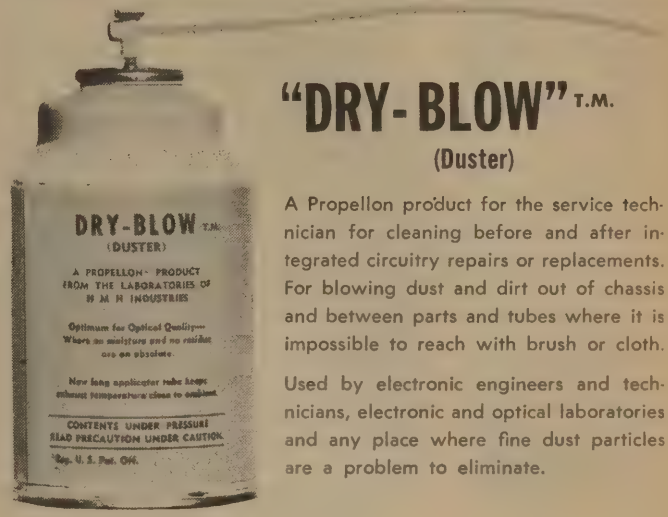
Used by electronic engineers and technicians for detecting defective electronic and electrical parts, due to thermal intermittance. Valuable in the laboratory, field testing, service bench or field work, maintenance of equipment and in the electronic and electrical analysis of trouble. Propellon "Instant Freeze" delivers the lowest temperature practical for above uses. Odorless, non-toxic and non-flammable.

The 12" extender facilitates in directing the spray directly onto the area tested. Also aids in getting into inaccessible places.

12 TO A CASE

PACKED IN 7 OZ. CANS AND 15 OZ. CANS — 12" EXTENDER FREE WITH EACH CAN

7 OZ. CAN, with 12" extender.....ea. $1.45
15 OZ. CAN, with 12" extender.....ea. $2.25



"DRY-BLOW" T.M.

(Duster)

A Propellon product for the service technician for cleaning before and after integrated circuitry repairs or replacements. For blowing dust and dirt out of chassis and between parts and tubes where it is impossible to reach with brush or cloth.

Used by electronic engineers and technicians, electronic and optical laboratories and any place where fine dust particles are a problem to eliminate.

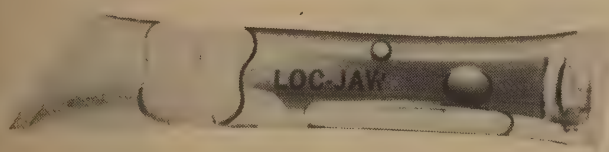
12 TO A CASE

PACKED in 15 OZ. CANS — 18" EXTENDER FREE WITH EACH CAN

15 OZ. CAN, with 18" extender.....ea. $2.25

From the laboratories of
HASCOL ENTERPRISES

LOC-JAW



A SCIENTIFICALLY COMPOUNDED ADHERENT FORMULA

"Loc-Jaw" is an "Epoxy" base compound for bonding metal to metal, glass to glass, glass to wood, wood to wood, metal to wood, etc. Properly proportioned, it hermetically seals small parts and connections. After setting, it actively resists salt water and salt air, gasoline, chemicals and solvents of all types and withstands temperatures up to 300° F. Applicable to many industrial uses. Packed in its own plastic container and applicator. Indispensable where an adherent or sealer is needed.

INDIVIDUAL PLASTIC CONTAINER .....ea. $ .98
BAG OF 10 .....per bag $9.50

From HASCOL LABORATORIES

SAL-MET

NON-CORROSIVE FLUX

- **SOLDERS COPPER TO ALUMINUM**
- **ALUMINUM TO ALUMINUM**
- **SOLDERS ALL METALS**



A scientific laboratory non-corrosive flux for soldering all metals. By using "SAL-MET," copper can be soldered to aluminum, aluminum to aluminum, copper to steel, copper to copper; in fact, any metal to metal is possible. No special preparation on material to be soldered. Use conventional solder, applied with quick heat, regular soldering iron, torch or pot.

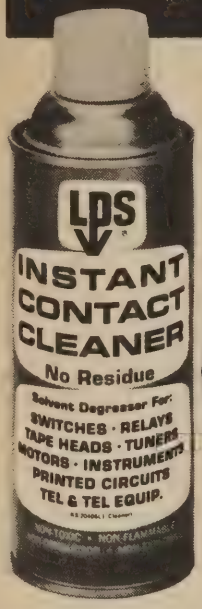
1 oz. Tubes.....ea. $1.08
1 lb. Can.....ea. $8.60

WRITE FOR COMPLETE CATALOG

PRICES SUBJECT TO CHANGE

L M B®

NEW! INSTANT CONTACT CLEANER



Penetrates Minute Crevices To Clean & Degrease Instantly!

A CHEMICALLY PURE CLEANING AGENT WITH:

1. **SELECTIVE CLEANING POWER** — removes greases, oils, dirt and organic soils with no effect on the article being cleaned.
2. **EXCELLENT PENETRATING AND WETTING ACTION** — Its high density and low surface tension permits maximum penetration of most minute crevices where its superior wetting action then cleans even most difficult materials.
3. **PURITY** — evaporates completely — leaves **NO** residue.
4. **SAFETY** — Non-explosive, non-flammable, non-toxic.
5. **STABILITY** — does not react chemically with other materials.

7-OZ. AEROSOL CAN
(12 to case, Wgt. 8-lbs) per can **$1.98**
16-OZ. AEROSOL CAN
(12 to case, Wgt. 15-lbs) per can **$3.75**

ALSO AVAILABLE IN BULK, ASK FOR PRICES

INSTANT COLD GALVANIZE

NOT A PAINT! 95% PURE ZINC!

Equals Hot Dip Galvanizing At 1/2 The Cost!



LPS Instant Cold Galvanize is a ready-to-use **95% PURE ZINC** compound that provides long-lasting protection from rust and corrosion. It is **NOT A PAINT!** When applied to iron or steel it generates a positive electric current that flows to the base metal. This electrochemical action fuses the zinc compound with the metal. Corrosion will attack only the outer zinc coating leaving the metal to be protected rust free. If coating is penetrated LPS Instant Cold Galvanize will sacrifice itself to protect the exposed base metal. **RUST CANNOT SPREAD. COVERAGE** - approximately 50 square feet per pound. **COST** - pennies per square foot. **TOUCH DRY** - in minutes . . . can be painted over in 6 hours or 30 minutes after baking at 350° for 15 minutes.

GALVANIZE . . . WORLD'S FINEST RUST INHIBITOR!

7-OZ. AEROSOL CAN (12 to case, Wgt. 8-lbs) per can **$1.98**
16-OZ. AEROSOL CAN
(12 to case, Wgt. 15-lbs) per can **$3.75**
ALSO AVAILABLE IN BULK, ASK FOR PRICES

LPS No. 1

CLEAN, GREASELESS (Light)



LPS No. 1 is a clean, greaseless liquid (.0001 in.) microfilm that dries wet parts and electrical systems in seconds; stops rust and corrosion on **ALL** metals and parts in storage, manufacture and shipment; lubricates even the most delicate mechanisms from −100° to +600° F.; frees frozen parts **FAST**. Forms a Dry, Non-Toxic, Non-Tacky Film in 24 to 48 hours that can be painted, plated, soldered, welded and printed over. Contains no silicones or chlorinated solvents. Harmless to rubber, plastic, paint and finishes. Lubricates stepper and micro switches. The ideal Rust Inhibitor for electrical-electronic equipment, connectors and sockets, relays, switches, solenoids, and other equipment requiring clean, greaseless protection.

7-OZ. AEROSOL CAN
(12 to case, Wgt. 8-lbs) per can **$1.40**
16-OZ. AEROSOL CAN
(12 to case, Wgt. 15-lbs) per can **$2.35**

LPS No. 2

PROTECTS ALL METALS FOR 1 YEAR or MORE! (Medium)

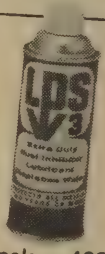


LPS No. 2 is an oily (.0001) microfilm that protects **ALL** metals from rust and corrosion for one year or more—outdoors for lesser periods. Displaces moisture and is an excellent fine lubricant and penetrant. LPS No. 2 is recommended where a wet coating — lubricant — rust inhibitor is needed. Harmless to rubber, plastics, paint or finishes. Contains no chlorinated solvents or silicones. Fine miscible lubricant for precision machinery and equipment. Loosens rusty and frozen parts fast, penetrates to lubricate **DEEP** into inaccessible places. Ideal Rust Inhibitor for outdoor electrical-electronic systems.

7-OZ. AEROSOL CAN
(12 to case, Wgt. 8-lbs) per can **$1.69**
16-OZ. AEROSOL CAN
(12 to case, Wgt. 15-lbs) per can **$2.75**

LPS No. 3

HEAVY DUTY COATING (.0002 Inch Waxy Film)



LPS No. 3 is a (.0002 in.) transparent, waxy compound that lubricates and protects **ALL** metals from rust and corrosion for **TWO YEARS OR MORE** under severe outdoor, moisture, salt and chemical conditions. Salt spray cabinet test on steel panels — 408 hours — **NO RUST!** Finest chain-cable-conveyor lubricant and rust inhibitor. Widely used and recommended for aircraft, ships, railroads, chemical plants, offshore rigs, dairies, breweries, packing plants, overseas shipments. Displaces moisture and is an excellent penetrating lubricant. Contains no silicones or chlorinated solvents. Harmless to rubber, plastic, paints and finishes. A heavy duty Rust Inhibitor — drying agent for flooded equipment and machinery, outdoor electrical systems, irrigation systems, heavy equipment and vehicles.

7-OZ. AEROSOL CAN
(12 to case, Wgt. 8-lbs) per can **$1.69**
16-OZ. AEROSOL CAN
(12 to case, Wgt. 15-lbs) per can **$2.75**

LPS No. 1, No. 2, No. 3 Are Also Available In Bulk Quantities, Ask For Prices

Trade Discount Applies To List Prices Only
© United Technical Publications



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

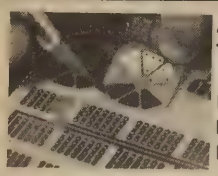
Then...

call your local distributor for fast, reliable service!

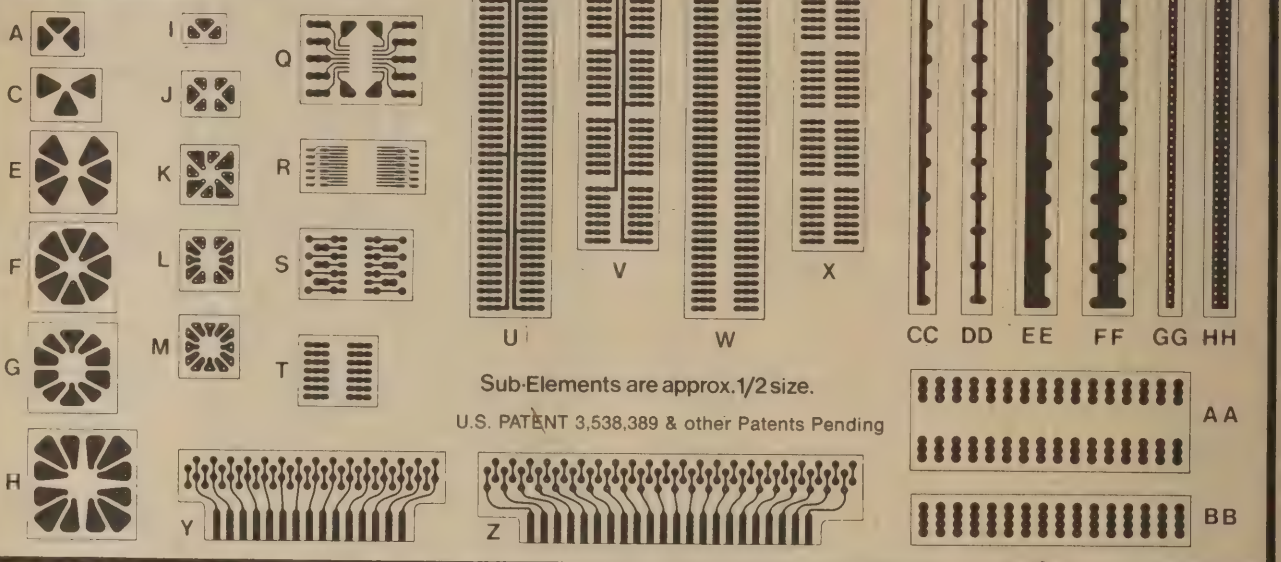
circuit-stik®

INSTANT CIRCUIT BOARDS™ • FOR INDUSTRY

ADHESIVE BACKED COPPER PATTERNS



A PROVEN TECHNIQUE TO PRODUCE HIGH RELIABILITY CIRCUIT BOARDS *DIRECTLY* FROM SKETCHES OR LOGIC DIAGRAMS.



This aerospace proven concept in circuit packaging permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams.
All sub-element conductors are preplated and ready for soldering. Etched copper sub-elements are supplied on thin substrates which have a high strength pressure sensitive adhesive backing. They are designed to withstand soldering temperatures, and offer exceptionally good adhesion strength, yet can be removed when changes require a Circuit-Stik "instant" modification.

THE "1000" SERIES (MFR'S. TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE PRE-DRILLED ON .100-INCH GRID TO MATCH PRE-PUNCHED BOARD MATERIAL — REQUIRES NO DRILLING AND NO TERMINALS

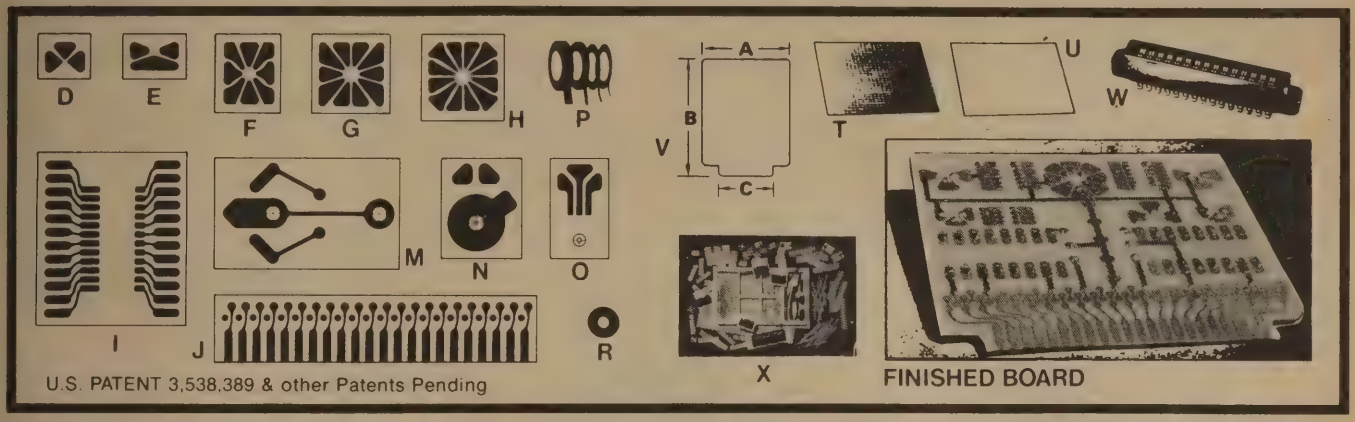
Mfr's Type	Fig.	Pcs. Per Pkg.	Sub-Element Description	Price
TO-5 & 10-18 Sub-Elements				
1001-010	A	10	TO-18 or TO-5 3 Lead	$ 2.50
1001-030	A	30	TO-18 or TO-5 3 Lead on 5 strips	6.75
1021-010	C	10	TO-5 3 Lead	2.50
1021-030	C	30	TO-5 3 Lead on 5 strips	6.75
1023-010	E	10	TO-5 6 Lead	3.00
1023-030	E	30	TO-5 6 Lead on 5 strips	8.10
1024-010	F	10	TO-5 8 Lead	3.00
1024-030	F	30	TO-5 8 Lead on 5 strips	8.10
1025-010	G	10	TO-5 10 Lead	3.00
1025-030	G	30	TO-5 10 Lead on 5 strips	8.10
1026-010	H	10	TO-5 12 Lead	3.50
1026-030	H	30	TO-5 12 Lead on 5 strips	9.45
Compact TO-5 Sub-Elements				
1031-010	I	10	Compact, TO-5 or TO-18 3 Lead	$ 2.50
1031-030	I	30	Compact, TO-5 3 Lead on 5 strips	6.75
1033-010	J	10	Compact, TO-5, 6 Lead	3.00
1033-030	J	30	Compact, TO-5 6 Lead on 5 strips	8.10
1034-010	K	10	Compact, TO-5 8 Lead	3.00
1034-030	K	30	Compact, TO-5 8 Lead on 5 strips	8.10
1035-010	L	10	Compact, TO-5 10 Lead	3.00
1035-030	L	30	Compact, TO-5 10 Lead on 5 strips	8.10
1036-010	M	10	Compact, TO-5 12 Lead	3.50
1036-030	M	30	Compact TO-5 12 Lead on 5 strips	9.45
Flat Pack Sub-Elements, Spread Lead Configuration				
1061-010	Q	10	Flat Pack, 10 Lead	$ 3.00
1062-010	Q	10	Flat Pack, 14 Lead	3.00
1066-010	Q	10	Flat Pack, 22 Lead	6.00
1067-010	Q	10	Flat Pack, 24 Lead	6.00
1069-005	Q	5	Flat Pack, 28 Lead	4.25
1073-005	Q	5	Flat Pack, 36 Lead	5.00
1075-005	Q	5	Flat Pack, 40 Lead	6.50
1076-005	Q	5	Flat Pack, 42 Lead	6.50
Compact Flat Pack Sub-Elements				
1081-010	R	10	Compact, Flat Pack, 10 Lead	$ 3.00
1082-010	R	10	Compact, Flat Pack, 14 Lead	3.00
1086-010	R	10	Compact, Flat Pack, 22 Lead	5.00
1087-010	R	10	Compact, Flat Pack, 24 Lead	$ 5.00
1089-005	R	5	Compact, Flat Pack, 28 Lead	3.00
1093-005	R	5	Compact, Flat Pack, 36 Lead	4.00
1095-005	R	5	Compact, Flat Pack, 40 Lead	5.00
1096-005	R	5	Compact, Flat Pack, 42 Lead	5.00
Dual-In-Line Package Sub-Elements				
1101-010	S	10	Dual-In-Line 14 Lead	$ 3.00
1101-030	S	30	Dual-In-Line 14 Lead on 5 strips	8.10
1102-010	T	10	Dual-In-Line 14 Lead	3.00
1202-005	U	5	6 DIP's/Strip, 14/16 Lead, pwr. and gnd. avail.	7.75
1204-005	V	5	6 DIP's/Strip, 14 Lead, pwr. and gnd. pins 7/14	6.50
1206-005	W	5	Universal, 30 DIP's on 5 strips	7.75
1208-005	X	5	6 DIP's/Strip, 14 Lead	6.50
Plug-In Connector Strips "Hard Gold over Nickel Plate"				
1351-005	Y	5	15 Pin, .100" Spacing, Component Side	$ 6.25
1352-005	Y	5	15 Pin, .100" Spacing, Circuit Side	6.25
1353-005	Y	5	15 Pin, .125" Spacing, Component Side	6.25
1354-005	Y	5	15 Pin, .125" Spacing, Circuit Side	6.25
1355-005	Y	5	15 Pin, .156" Spacing, Component Side	6.25
1356-005	Y	5	15 Pin, .156" Spacing, Circuit Side	6.25
1361-005	Z	5	22 Pin, .100" Spacing, Component Side	7.50
1362-005	Z	5	22 Pin, .100" Spacing, Circuit Side	7.50
1363-005	Z	5	22 Pin, .125" Spacing, Component Side	7.50
1364-005	Z	5	22 Pin, .125" Spacing, Circuit Side	7.50
1365-005	Z	5	22 Pin, .156" Spacing, Component Side	7.50
1366-005	Z	5	22 Pin, .156" Spacing, Circuit Side	7.50
Discrete Component Strips				
1302-005	AA	5	16 Discrete, Component Strip, mounts 80	$ 5.50
1311-010	BB	10	Universal Strip, mounts 80 discretes	6.00
Distribution Strips				
1321-010	CC	10	.100" wide	$ 3.50
1322-010	DD	10	.063" wide	4.10
1323-010	EE	10	.250" wide	4.50
1324-010	FF	10	.250" wide	4.80
1325-010	GG	10	Single Row .100" hole spacing	4.00
1326-010	HH	10	Double Row .100" hole spacing	4.50

© United Technical Publications

circuit-stik®

INSTANT CIRCUIT BOARDS™ • FOR INDUSTRY

ADHESIVE BACKED COPPER PATTERNS

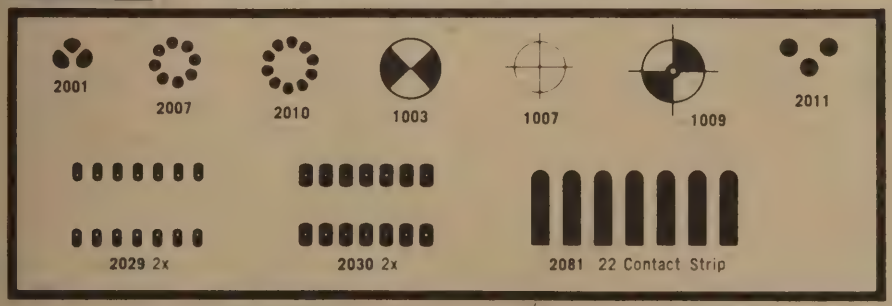


U.S. PATENT 3,538,389 & other Patents Pending

THE "2000" SERIES (MFR'S TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE FOR COMPACTNESS — AND ARE NOT DRILLED.

Mfr's Type	Fig.	Pcs. Per Pkg.	Sub-Element Description	Price
2001-010	D	10	TO-18 3 Lead	$ 2.00
2001-030	D	30	TO-18 3 Lead on 5 strips	5.40
2021-010	E	10	TO-5 3 Lead	2.00
2021-030	E	30	TO-5 3 Lead on 5 strips	5.40
2024-010	F	10	TO-5 8 Lead	$ 2.50
2024-030	F	30	TO-5 8 Lead on 5 strips	6.75
2025-010	G	10	TO-5 10 Lead	2.50
2025-030	G	30	TO-5 10 Lead on 5 strips	6.75
2026-010	H	10	TO-5 12 Lead	3.00
2026-030	H	30	TO-5 12 Lead on 5 strips	8.10
2102-010	I	10	MSI Dual-In-Line 24 Lead	6.00
2367-005	J	5	22 Pin Connector, Gold Plated .156 Spacing, Component Side	6.25
2368-005	J	5	22 Pin Connector Strip, .156 Spacing, Circuit Side	6.25
2301-005	L	5	21 Discrete Components per Strip 105 total	4.75
2401-010	M	10	TO-3 Subelement (Flange Mtg.)	5.00
2402-010	N	10	SCR Stud Mtg.	3.00
2403-010	O	10	SCR Flat Pkg. Mtg.	3.00
			Copper Tape, Pressure Sensitive Adhesive	
7101	P	1	.062" wide x 9 ft. long	$ .75
7102	P	1	.100" wide x 9 ft. long	.90
7103	P	1	.187" wide x 9 ft. long	1.00
7104	P	1	.250" wide x 9 ft. long	2.00
7105	P	1	.031" wide x 9 ft long	.75
7106	P	1	.040" wide x 9 ft. long	.75
7107	P	1	.050" wide x 9 ft. long	.75
			Mylar Tape, Pressure Sensitive Adhesive	
7151	P	1	.100" wide x 30 ft. long	$ 1.00
7152	P	1	.150" wide x 30 ft. long	1.25
7153	P	1	.200" wide x 30 ft. long	$ 1.50
7154	P	1	.300" wide x 30 ft. long	2.00
			Copper Donut Pads, Pressure Sensitive Adhesive	
7201	R	250	.100" diameter	$ 2.50
7202	R	250	.125" diameter	2.50
7203	R	250	.187" diameter	3.00
7204	R	250	.250" diameter	3.50
7251	U	5	Copper Sheet, 5" x 6", Adhesive Backing	5.75
7261	U	5	Epoxy-Glass Insulative Sheet, 5" x 6" Adhesive Backing	5.75
			Epoxy-Glass Board Material	
7301	T	1	Pre-punched 8½" x 17" .100 Spacing	$ 8.00
7351	U	1	Plain 6" x 12"	1.95
7352	U	1	Plain 12" x 18"	5.35
			Pre-Shaped Boards	
7402	V	1	Pre-Punched/"A"-4.5", "B"-6.5", "C"-22 pins	$ 5.25
7405	V	1	Pre-punched/"A"-4.0", "B"-4.5, "C"-15 pins	4.25
7452	V	1	Plain "A"-4.5", "B"-6.5", "C"-22 pins	2.95
7455	V	1	Plain/"A"-4.0", "B"-4.5", "C"-15 pins	2.35
			Connectors, .156 Pin Spacing	
7501	W	1	15 Pins	$ 2.35
7502	W	1	30 Pins	2.75
7503	W	1	22 Pins	3.00
7504	W	1	44 Pins	3.50
8951	X	1	Prototype Kit	$99.50

PRECISION PRINTED ARTWORK SYMBOLS FROM CENTRON ENGINEERING, INC.



Mfr's. Type	Description	Symb. Per Pkg.	Per Package Price
2001	TO-18 2x 3 Lead	250	$ 6.50
2011	TO-5 2x 3 Lead	250	6.50
2007	TO-5 2x 8 Lead	250	6.50
2010	TO-5 2x 10 Lead	250	6.50
1003	Reg. Target	250	6.50
1007	Reg. Target	250	6.50
1009	Reg. Target	250	6.50
2029	14 Lead Plug-In	250	7.50
2030	14 Lead Plug-In	250	7.50
2081	Connector Strips .156 Spacing, 2x	30	5.00

CIRCUIT ARTWORK TAPE (BLACK CREPE) 20 YARD ROLLS

Mfr's. Type	Size	Rolls Per Pkg.	Per Package Price
CT 100-031	.031"	1	$ .75
CT 100-040	.040"	1	.75
CT 100-050	.050"	1	.75
CT 100-062	.062"	1	.75
CT 100-080	.080"	1	.75
CT 100-093	.093"	1	.75

Mfr's. Type	Size	Rolls Per Pkg.	Per Package Price
CT 100-100	.100"	1	$ .75
CT 100-125	.125"	1	.75
CT 100-156	.156"	1	.75
CT 100-187	.187"	1	.75
CT 100-200	.200"	1	.75
CT 100-250	.250"	1	.75

DONUT PADS (BLACK)

Mfr's. Type	O.D.	I.D.	Donut Pads Per Pkg.	Per Package Price
P-7100	.100	.031	500	$ 2.50
P-7140	.125	.031	500	2.00
P-7260	.187	.040	500	2.00
P-7300	.200	.040	500	2.00
P-7420	.250	.062	500	2.00
P-7460	.300	.062	500	2.50
P-7500	.312	.062	500	2.50
P-7540	.375	.062	500	2.50
P-7600	.400	.062	500	3.25
P-7720	.500	.062	500	3.75

© United Technical Publications

PRINTED CIRCUITS
INJECTORALL ELECTRONICS CORP.

PRINTED CIRCUITS

Cat. #	Description	
500	**P.C. KIT** A low cost kit that comes complete with all materials to make a printed circuit board. Consists of two copper clad boards, a resist ink pen, resist ink solvent, a 6 oz. bottle of etchant, a 1/16" drill bit and a 5 x 7 x 2" plastic case in which the boards are etched. Comes with complete directions. Packaged on a display card.	$5.95
650 NEW	**PHOTOSENSITIVE P.C. KIT** KIT 650 is a complete kit using a photographic method to produce professional quality printed circuits. No dark room is necessary. Contains 2 photo-sensitive 3x4½" phenolic boards, a photographic test negative and an ultra-violet light source. Materials are included to make negatives of magazine layouts. Also contains exposure glass, clamps, developer, etchant, trays, resist remover, drill and complete instructions. Ideal for solid-state and integrated circuits. Packed in a display box. Wt. 3 lbs.	$10.80
652	**COPPER CLAD BOARD KIT** 3 boards, packed in a hanging package.	$1.20
	RESIST INK PEN	
195	Fine felt tip, blister-pack.	$1.25
196	Medium tip, blister-pack.	1.25
	RESIST INK SOLVENT	
198	2 ounce glass bottle.	$ .90
198G	1 gallon can.	9.30
	ETCHANT	
199	1 pint — removes excess copper.	$1.57
199Q	1 quart	2.25
199G	1 gallon	8.50
65-16	**POLY SPRAY** A polyurethane insulator for coating printed circuits. 16 oz. spray can.	$2.40
D2	**DEVELOPER** For photosensitized boards.	$2.00

PRINTED CIRCUIT REPLACEMENT BOARDS

	1 oz. COPPER-CLAD BAKELITE LAMINATES — One side copper	
PC1	1/16" XXXP bakelite 3" x 4½"	$ .40
PC2	1/16" XXXP bakelite 4" x 6"	.60
PC3	1/16" XXXP bakelite 6" x 9"	1.10
	1 oz. G-10 EPOXY GLASS BASE LAMINATES — One side copper	
PC5	1/16" G-10 epoxy glass 3" x 4½"	$ .70
PC6	1/16" G-10 epoxy glass 4" x 6"	1.30
PC7	1/16" G-10 epoxy glass 6" x 9"	2.50
	2 oz. G-10 EPOXY GLASS BASE LAMINATES — One side copper	
PC9	1/16" G-10 epoxy glass 3" x 4½"	$ .75
PC10	1/16" G-10 epoxy glass 4" x 6"	1.50
PC11	1/16" G-10 epoxy glass 6" x 9"	3.00
	Light Sensitived Coated Board 1 oz. COPPER-CLAD BAKELITE LAMINATES — One side copper 1/16" XXXP bakelite, sensitized	
PC13	3" x 4½"	$ .75
PC14	4" x 6"	1.00
PC15	6" x 9"	2.00
	1 oz. G-10 EPOXY GLASS BASE LAMINATES — One side copper 1/16" G-10 epoxy glass, sensitized	
PC17	3" x 4½"	$1.00
PC18	4" x 6"	2.00
PC19	6" x 9"	4.00

PHOTO RESIST



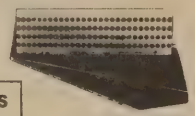
For coating printed circuit boards. Photo Resist is a high quality resist which will cause less pin-holing and has less sensitivity to white light exposure than other resists.

PC194 3 oz. spray can — net $2.70

LAYOUT STRIPS AND CIRCLES

Pressure sensitive etch resist strips come in 1/16" and 1/8" widths. Donut circles are 3/16".

PC20 assorted — net $1.20



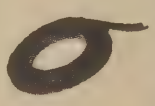
DRAFTING AIDS



Reduces drawing time/1:1 scale. Pressure sensitized popular combination of IC pads, transistor pads, donuts, fingers, targets, precision grid and 1/16" tape.

PC21 assorted — net $4.95

DRAFTING TAPE



Four sizes, 720" rolls of black tape resist.

PC22-1	1/32"	.031	net $1.20
PC22-2	1/16"	.062	net 1.20
PC22-3	3/32"	.093	net 1.20
PC22-4	1/8"	.125	net 1.20

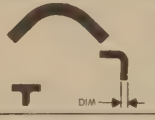
DONUT TERMINAL PADS



The outside diameter is .187". The inside diameter is .062". Pressure sensitive.

PC23 package — net $1.00

ELBOWS, T's AND CORNERS



Combination pack, scale 1:1, 1/16" diameter. Pressure sensitive.

PC24 assorted — net $1.50

TRANSISTOR TO 5 — 3 LEAD



Pressure sensitive. Accurate to ±.002 or better. Scale 1:1 symbols.

PC25 package — net $1.00

TRANSISTOR TO 5 — 8 LEAD



Pressure sensitive. Accurate to ±.002 or better. Scale 1:1 symbols.

PC26 package — net $1.00

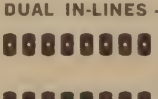
TRANSISTOR TO 5 — 10 LEAD



Pressure sensitive. Accurate to ±.002 or better. Scale 1:1 symbols.

PC27 package — net $1.00

DUAL IN-LINES — 16 PIN



Pressure sensitive. Accurate to ±.002 or better. Scale 1:1 symbols.

PC28 package — net $1.00

FLAT PACK — 14 LEAD



Pressure sensitive. Accurate to ±.002 or better. Scale 1:1 symbols.

PC29 package — net $1.00



FINGER CONNECTOR STRIPS .125

Pressure sensitive symbols. Scale 1:1.

PC30 package — net $1.00

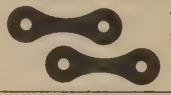
TARGETS



Pressure sensitive symbols. Scale 1:1. For registration or photo reduction.

PC31 package — net $1.00

DOUBLE TEAR DROP



The outside diameter is .187". The inside diameter is .062".

PC32 package — net $1.00

LAYOUT FILM (PRECISION GRID)



Precision grids are printed in non - reproducible blue. Matte finish "MYLAR." Accurate to ±.002". Grids are 1:10, .100 spacing, accent every tenth line.

PC33 4" x 6" — net $1.20

STRIPPABLE FILM

Red adhesive-back plastic film laminated on clear plastic. For making negatives by cut and peel method.

PC34 4" x 6" — net $1.20

BREADBOARDS

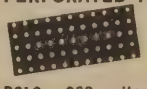
KIT 654



Contains one 4" x 4" board with .093 diameter holes. Insulated stand-offs and springclip push-in terminals. Board may be cut and filed to size.

B654 kit — net $1.20

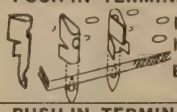
PERFORATED PLASTIC BOARDS



Made of 1/16" phenolic with holes either regularly spaced or staggered for transistors.

B653	.062	alternate	3" x 4"	net $ .55
B655	.062	alternate	3" x 6"	net .75
B656	.062	alternate	4" x 8"	net 1.08
B657	.093	straight	3" x 4"	net .55
B658	.093	straight	3" x 6"	net .70
B659	.093	straight	4" x 8"	net .99

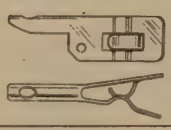
PUSH-IN TERMINALS .062



For perforated boards with .062 holes. Solder-type.

B660 package of 30 — net $.79

PUSH-IN TERMINALS .093



For perforated boards with .093 holes. Spring - clip type. Will hold up to seven leads without soldering.

B661 package of 10 — net $.99

BREADBOARD BRACKETS



An assortment of brackets for attaching controls, switches and jacks to circuit boards. Contains control, Z and L brackets.

B662 assorted — net $.99

© United Technical Publications

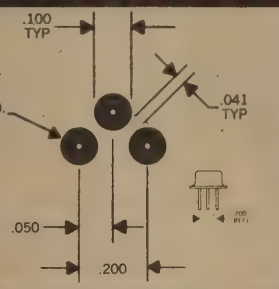
GC ELECTRONICS

drafting aids

Pressure-sensitive electronic component drafting aids

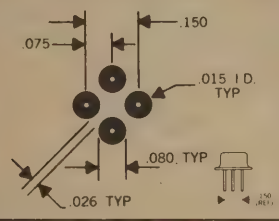
Dimensions shown actual size, 1X scale (1:1). For 2X or 4X dimensions, multiply the dimensions shown by 2 or 4 respectively. Bishop Multi-Pad Configurations (the time-savers) and other pressure-sensitive aids are available in convenient, economical quantities. Special "repeat" adhesive allows you to re-position several times if design changes dictate. All patterns accurate to ±.002" (IPC Standard), or better.

3-LEAD TO-5 PATTERNS



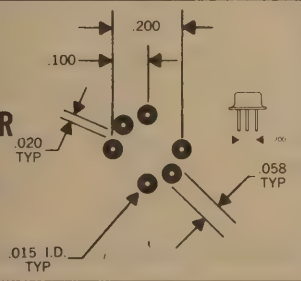
SCALE	CAT. NO.	QTY./ PKG.
1X (1:1)	21-100	18
2X (2:1)	21-200	18
4X (4:1)	21-400	16

4-LEAD TO-5 PATTERNS



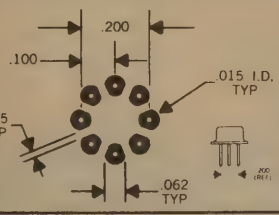
1X (1:1)	21-101	20
2X (2:1)	21-201	18
4X (4:1)	21-401	16

DUAL TRANSISTOR TO-5 PATTERNS



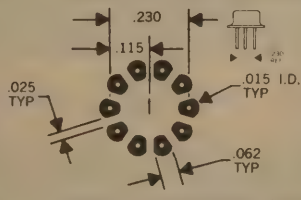
1X (1:1)	21-102	20
2X (2:1)	21-202	18
4X (4:1)	21-402	16

8-LEAD TO-5 PATTERNS



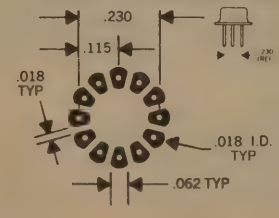
1X (1:1)	21-103	20
2X (2:1)	21-203	18
4X (4:1)	21-403	16

10-LEAD TO-5 PATTERNS



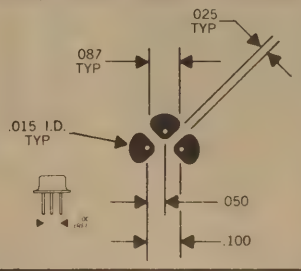
1X (1:1)	21-104	20
2X (2:1)	21-204	18
4X (4:1)	21-404	16

12-LEAD TO-5 PATTERNS



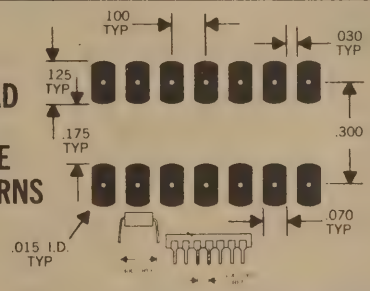
1X (1:1)	21-105	20
2X (2:1)	21-205	18
4X (4:1)	21-405	16

TO-18 PATTERNS



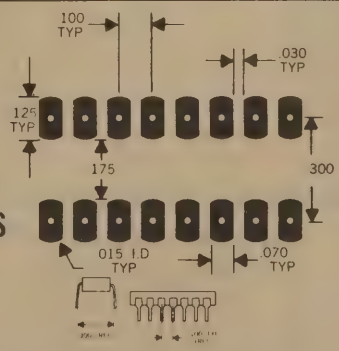
SCALE	CAT. NO.	QTY / PKG.
1X (1:1)	21-110	20
2X (2:1)	21-210	18
4X (4:1)	21-410	16

14-LEAD DUAL IN-LINE PATTERNS



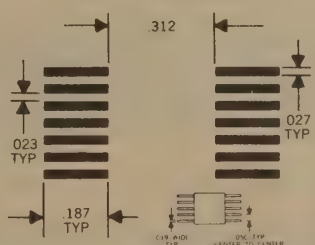
1X (1:1)	21-120	16
2X (2:1)	21-220	16
4X (4:1)	21-420	5

16-LEAD DUAL IN-LINE PATTERNS



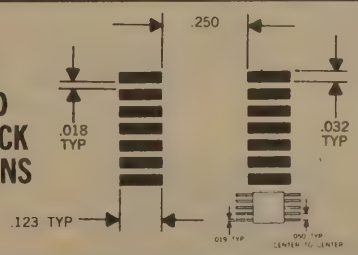
1X (1:1)	21-121	16
2X (2:1)	21-221	16
4X (4:1)	21-421	5

14-LEAD FLATPACK PATTERNS



1X (1:1)	21-130	16
2X (2:1)	21-230	16
4X (4:1)	21-430	5

14-LEAD FLATPACK PATTERNS



1X (1:1)	21-131	16
2X (2:1)	21-231	16
4X (4:1)	21-431	5

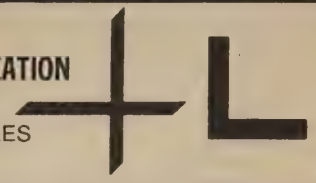
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

GC ELECTRONICS

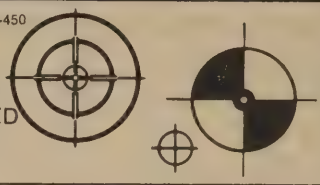
drafting aids

DELINEATION MARKS
2 STYLES



SCALE	CAT. NO.	QTY./ PKG.
1X (1:1)	21-152	15
2X (2:1)	21-252	18
4X (4:1)	21-452	16

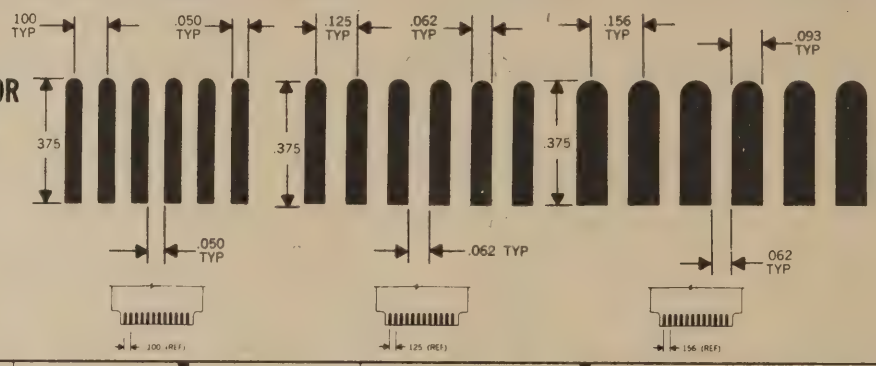
TARGETS
ASSORTED STYLES



SCALE	CAT. NO.	QTY./ PKG.
1X (1:1)	21-150	24
2X (2:1)	21-250	18
4X (4:1)	21-450	5

Target 21-450, 4 X (4:1) only. For actual size see page 6.

CONNECTOR CONTACT PATTERNS



.100" Center to Center

1X (1;1)	21-140	8
2X (2:1)	21-240	6
4X (4:1)	21-440	5

.125" Center to Center

1X (1:1)	21-141	8
2X (2:1)	21-241	6
4X (4:1)	21-441	5

.156" Center to Center

1X (1:1)	21-142	8
2X (2:1)	21-242	6
4X (4:1)	21-442	5

PRECISION PRINTED CIRCUIT DRAFTING TAPE

Width	Cat. No.	Length/ Roll
.015	21-001	360"
.020	21-002	360"
.031	21-003	360"
.040	21-004	360"
.062	21-005	360"
.080	21-006	360"
.093	21-007	360"
.100	21-008	360"
.125	21-009	360"
156	21-010	360"

DONUT PADS



OD	ID	CAT. NO.	QTY.
.062"	.025"	21-020	84
.093"	.031"	21-021	84
.100"	.031"	21-022	84
.125"	.031"	21-023	125
.187"	.031"	21-024	126
.250"	.062"	21-025	126

COMBINATION PACK
ELBOWS, TEE'S AND UNIVERSAL CORNERS



DIM.	CAT. NO.	QTY. PKG.
.040"	21-030	48
.062"	21-031	63
.100"	21-032	54
.125"	21-033	30

SPECIAL COMBINATION POPULAR ASSORTMENT
(CONTAINS MOST POPULAR DRAFTING AIDS.)

CAT. NO. 21-600 1X (1:1) SCALE

Description	Qty.	Same as in Cat. No.
TAPE	1 Roll	21-004
PADS	16	21-021
CONNECTOR	3	21-142
TARGET	2	21-150
DUAL IN-LINE PATTERN	8	21-120
FLATPACK 3-LEAD TO-5 PATTERNS	4	21-130
TO-18 8-LEAD TO-5 PATTERNS	4	21-100
TO-18 10-LEAD TO-5 PATTERNS	8	21-110
	4	21-103
	4	21-104

CAT. NO. 21-601 2X (2:1) SCALE

Description	Qty.	Same as in Cat. No.
TAPE	1 Roll	21-005
PADS	16	21-023
CONNECTOR	3	21-242
TARGET	2	21-250
DUAL IN-LINE PATTERN	8	21-220
FLATPACK 3-LEAD TO-5 PATTERNS	4	21-230
TO-18 8-LEAD TO 5 PATTERNS	5	21-200
TO-18 10-LEAD TO-5 PATTERNS	8	21-210
	3	21-203
	3	21-204

CAT. NO. 21-602 4X (4:1) SCALE

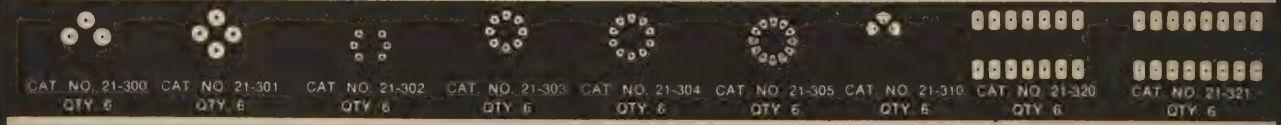
Description	Qty.	Same as in Cat. No.
TAPE	1 Roll	21-009
PADS	16	21-025
CONNECTOR	2	21-442
TARGET	2	21-450
DUAL IN-LINE PATTERN	4	21-420
FLATPACK 3-LEAD TO-5 PATTERNS	1	21-430
TO-18 8-LEAD TO-5 PATTERNS	2	21-400
TO-18 10-LEAD TO-5 PATTERNS	4	21-410
	1	21-403
	1	21-404

"B" Neg® negative drafting system

Pressure-sensitive opaque black film, with clear, grid-centered pads, patterns, and component symbols for "instant" transparencies without photography.

All "B" Neg® patterns are IX scale (1:1). Patterns shown are actual size.

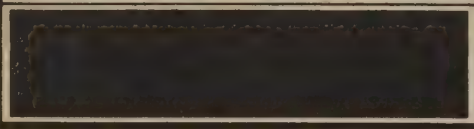
NOTE: Keep an extra supply of Opaque Blanks on hand for patching and revising.



CAT. NO. 21-300 QTY. 6	CAT. NO. 21-301 QTY. 6	CAT. NO. 21-302 QTY. 6	CAT. NO. 21-303 QTY. 6	CAT. NO. 21-304 QTY. 6	CAT. NO. 21-305 QTY. 6	CAT. NO. 21-310 QTY. 6	CAT. NO. 21-320 QTY. 6	CAT. NO. 21-321 QTY. 6
3-LEAD TO-5 PATTERNS	4-LEAD TO-5 PATTERNS	DUAL TRANSISTOR TO-5 PATTERNS	8-LEAD TO-5 PATTERNS	10-LEAD TO-5 PATTERNS	12-LEAD TO-5 PATTERNS	TO-18 PATTERNS	14-LEAD DUAL IN-LINE PATTERNS	16-LEAD DUAL IN-LINE PATTERNS



CAT. NO. 21-330 QTY. 6	CAT. NO. 21-331 QTY. 6	CAT. NO. 21-340 QTY. 6	CAT. NO. 21-341 QTY. 5	CAT. NO. 21-342 QTY. 6	CAT. NO. 21-370 QTY. 6	CAT. NO. 21-371 QTY. 6	CAT. NO. 21-372 QTY. 6
14-LEAD FLATPACK PATTERNS	14-LEAD FLATPACK PATTERNS (WIDE)	.100" Center to Center	.125" Center to Center	.156" Center to Center	GRID-CENTERED PADS		DELINEATION MARKS
		CONNECTOR CONTACT PATTERNS					



BLANKS
SIZE
3.562" x 1.500"
CAT. NO. 21-354
QTY. 6

SPECIAL COMBINATION POPULAR ASSORTMENT
CAT. NO. 21-603

Description	Same as in Cat. No.	Qty.
PAD	21-370	3
DUAL IN-LINE 3-LEAD TO-5 PATTERNS	21-320	3
	21-300	3
CONNECTOR	21-342	3
BLANK	21-354	3
FLATPACK	21-330	3

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

GC ELECTRONICS

chemicals, materials & accessories

Production chemicals, materials, accessories & kits

Adequate (and economical) sizes and quantities of the basic materials for making several average-size PC boards. Chemicals are packaged for long shelf life of unused portions.

ETCH RESIST SENSITIZER
(3 OZ. AEROSOL)
COVERS 600-800 SQUARE INCHES
CAT. NO. 22-230



DEVELOPING SOLUTION
16 OUNCE
CAT. NO. 22-234



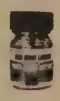
ETCHING SOLUTION
6 OUNCE — CAT. NO. 22-237
32 OUNCE — CAT. NO. 22-238



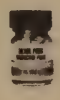
STRIPPING SOLUTION
2 OUNCE
CAT. NO. 22-240



ETCH RESIST LACQUER
½ OUNCE
CAT. NO. 22-244



SILVER PRINT
½ TROY OUNCE
CAT. NO. 22-246

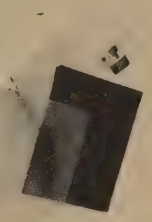


CONTACT FRAME
FOR BOARDS UP TO 5¾" x 7½"
CAT. NO. 22-280



LAYOUT FILM
(2 SHEETS 8½"x11")
CAT. NO. 22-290

RUBY LITH
(1 SHEET 8" x 10")
CAT. NO. 22-294



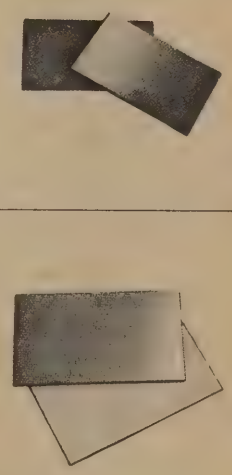
PC BOARD

3" x 5" x 1/16" COPPER ONE SIDE
CAT. NO. 22-250

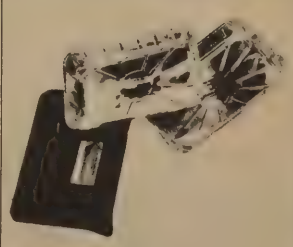
3" x 5" x 1/16" COPPER BOTH SIDES
CAT. NO. 22-255

4" x 6" x 1/16" COPPER ONE SIDE
CAT. NO. 22-260

4" x 6" x 1/16" COPPER BOTH SIDES
CAT. NO. 22-265



TRAY SET
(2 ALUM.; 1 PLASTIC
SIZE 5" x 7")
CAT. NO. 22-284



PRINTED CIRCUIT KIT

A complete assortment of all materials needed for producing printed (etched) circuits—per Method I. Kit contains 4½" x 3", 4½" x 2", and 2¼" x 3" (2) copper clad boards, etching solution, etch resist lacquer, layout strips and circles, polishing pad, and burnishing tool. With instruction manual and plastic case which serves as etching tank.
CAT. NO. 22-296

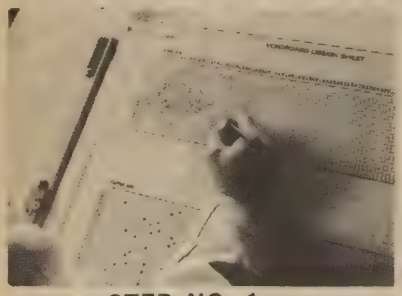


WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

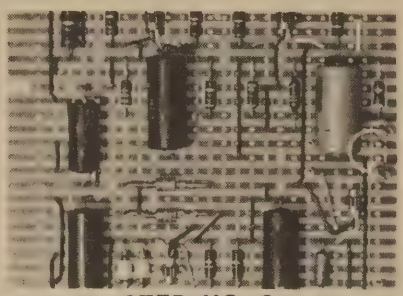
VERO ELECTRONICS inc.

VEROBOARD* BK-6 KITS ETC.



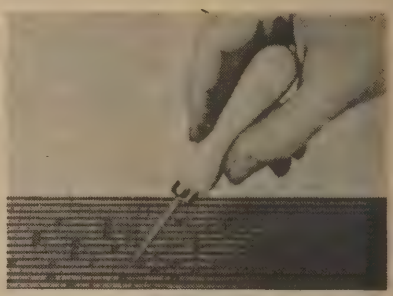
STEP NO. 1

First stage is to lay out the circuit plan on a Vero Design Sheet — printed to represent the plain and copper sides of the appropriate Veroboard — allowing proper spacing for components and indicating where the copper strips are to be broken.



STEP NO. 2

Layout components on the back (plain) side of the Veroboard across the copper strips inserting leads into appropriate holes. You now have connected your components as required using the copper strips as your interconnectors. Leads may be soldered directly to the strips using a light, printed circuit type iron. Careful soldering will enable you to remove components and replace them if required.



STEP NO. 3

Break the circuit where required by breaking the copper strips with the Vero spotface cutter provided in your kit. The cutter is a precision, hardened steel tool which has a pilot pin that fits into any hole, and two cutting edges. Simply turn the cutter several times and the copper strip in the area of the chosen hole will be removed. Your circuit is now complete.

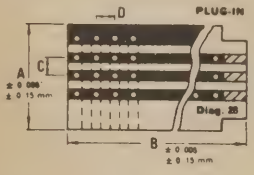
*PATENTED

VERO MODEL BK-6 Kit — With 6 assorted Veroboards, Vero spotface cutter and instructions. List Price **$5.95**

VERO MODEL BK-7 Kit — With 8 assorted Veroboards up to 18" lg., plain Veroboard with staggered grid, spotface cutter, terminal pin insertion tool, 500 terminal pins, reproducible design sheet and instructions. List Price **$29.95**

VERO MODEL MC-10 Kit — Integrated circuit breading kit designed for dual in line integrated circuits. Contains single sided 18" long board, plug in single and double sided Veroboard, plain glass board all pierced on .1" x .1" centers. Also includes connector, pins, tools and design sheet. List Price **$29.95**

"X-Y" PLUG-IN VEROBOARD — DOUBLE SIDED

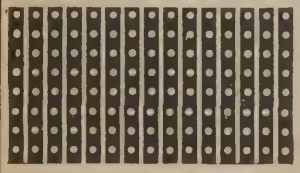


Part No.	Price 1-5	Contact No.	Thk.	A	B	C	D	Dia. of Hole	Compatible Connector
1912	7.75	32	.062	4.5	6.5	.1	.1	.040	2234

PLUG-IN VEROBOARD — SINGLE SIDED

Part No.	Price 1-5	Contact No.	Thk.	A	B	C	D	Dia. of Hole	Compatible Connector
322*	4.35	32	.062	4.5	6.5	.1	.1	.040	2234
323*	4.70	40	.062	4.5	6.5	.1	.1	.040	2236
308*	4.15	32	.062	3.75	5.1	.1	.1	.040	2234
11246	4.05	22	.062	4.5	6.5	.156	.1	.052	2245

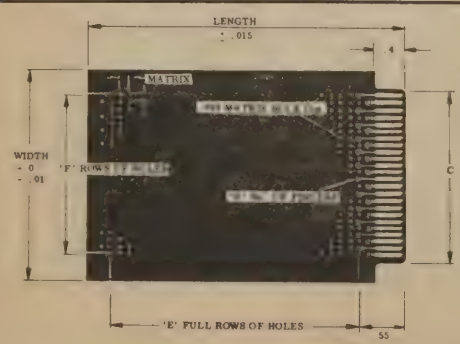
FULLY PIERCED COPPER CLAD SINGLE SIDED VEROBOARD .1 x .1 MATRIX



Part No.	Price 1-5	Length	Width	No. of Pierced Copper Strips	Thk.	Hole Dia.
126*	6.60	17.9	4.7	38	.062	.040
122*	4.75	17.9	3.75	34	.062	.040
124	8.65	17.9	7.05	60	.062	.040

*NOTE: For G10 FR4 Epoxy Glass add FG to Part No.

FINGER BOARDS — EPOXY GLASS, 1/16 THICK, .1x.1 MATRIX GOLD PLATED CONNECTOR FINGERS



Epoxy Glass Part No.	Size	D Contacts	Contact Spacing	C	E	F	Price 1-5	Compatible Connector
10236	4.5x6.5	22	.156	3.572	58	42	7.00	2243
10238	5x8	22	.156	3.572	73	42	7.50	2243
10239	5x8	32	.1	3.294	73	42	7.30	2234
10237	4.5x6.5	32	.1	3.294	58	42	6.60	2234
10295	4.5x6.5	40	.1	4.029	58	42	7.50	2236
11253	5x8	40	.1	4.029	73	42	8.30	2236
10290	4.5x6.5	44 (22 Each Side)	.156	3.572	52	42	7.15	2245/2
12846	4.5x6.5	80 (40 Each Side)	.1	4.029	58	42	7.25	2236/2

Trade Discount Applies To List Prices Only
© United Technical Publications

VERO ELECTRONICS inc.

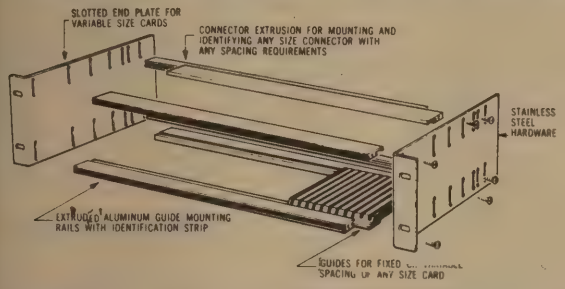
VERO D.I.P. BOARDS



Epoxy Glass Part #	Price 1-5	Paper Part #	Price 1-5	Width	Length	Contacts	Spacing	Compatible Connector #
11821	7.35	11820	5.50	4.5	6.5	40	.1	2236
11823	7.65	11822	5.85	4.5	6.5	43	.1	2238 Keyed
11825	8.85	11824	6.90	4.5	6.5	44 22 Each Side	.156	2245/2
12499	9.90			4.5	6.5	80-40 Each Side		2236/2

VERORACK 3 CARD FRAME KIT

To provide maximum versatility during the development of electronic equipment and thus reduce costs, System 3A Kits are provided with slotted end plates so that a range of card widths can be accommodated within each standard height. Variation in card depth is achieved by the use of three guide moulding lengths. Standard card spacing is 0.5". A unique universal connector rail extrusion allows mounting of connectors at any point along the 17.0" length and with the use of the connector locating strip connectors are automatically positioned on 0.5" centers. Hardware for 32 connectors, two identification strips numbered 1-32 and 32-1 and two plain strips are included. A 17" hinged front panel can also be supplied.



PART NUMBERING INFORMATION FOR VR3 KITS

VR3A - 3U - L - HP

- HP — HINGED FRONT PANEL
- L — S — 2⅜" LONG GUIDE; M — 5⅜" LONG GUIDE; L — 6⅜" LONG GUIDE
- 3U — 2U — 3.5" END PLATE HEIGHT; 3U — 5.25" END PLATE HEIGHT; 4U — 7.0" END PLATE HEIGHT; 5U — 8.75" END PLATE HEIGHT
- VR3A — VERO RACK 3A SYSTEM

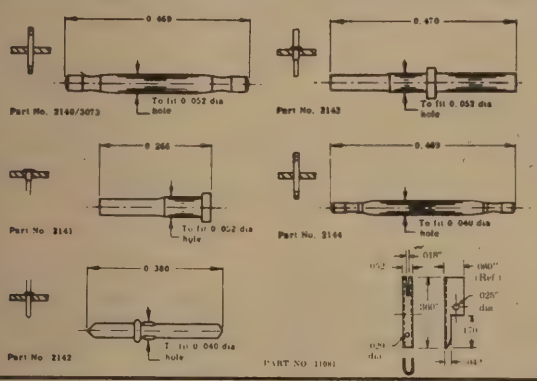


SPOT FACE CUTTERS

This cutter when used by hand, or, with the handle removed and fitted in a bench drill will remove the copper strips locally to make a copper break. Best results are obtained when light pressure is used.

Veroboard Hole Matrix

Part No.	ins.	Price
2022	0.1, 0.156 and 0.2	1.68



TERMINAL PINS AND PIN INSERTION TOOLS

These pins are intended for use in .040 ins. (1 mm.) and 0.052 ins. (1.3 mm.) diameter holes. Hand tools are available to insert "through" pin types.

Part No.	Hole Diameter ins.	Price	Compatible Insertion Tool Part No.	Price
2140	0.052	12.63M	2150	2.20
2141	0.052	12.09M	none	—
2142	0.040	12.09M	2151	2.20
2143	0.052	12.36M	2150	2.20
2144	0.040	12.36M	2151	2.20
11081	0.052	11.75M	2152	2.20
11082	0.040	11.75M	2152	2.20

All pins are packed in packets of 1000.

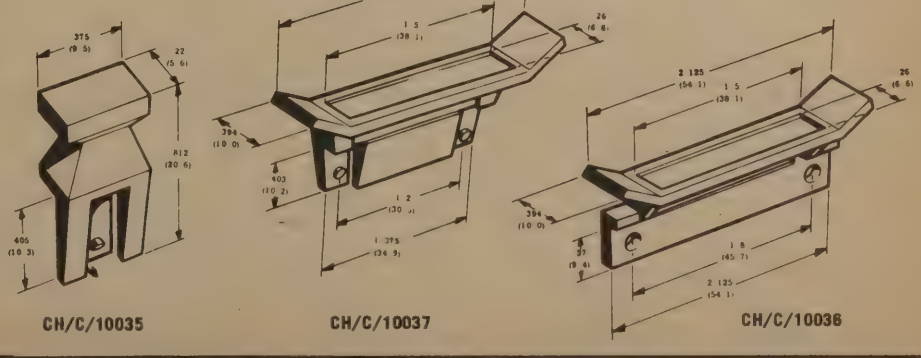
PC CARD HANDLES

SPECIFICATION

MATERIAL Noryl
Temperature Range —60° to +125° C.
Colors Available in Handles CH/C/10036 CH/C/10037, CH/C/10035 as follows:

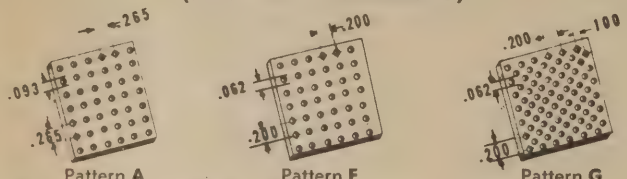
Black	Standard
White	/1
Red	/2
Blue	/3
Green	/4
Yellow	/5

Vero Number	Net per Pkg. of 10 1-5 Pkgs.	6-25 Pkgs.
10035	$1.60	$1.30
10036	2.90	2.40
10037	2.90	2.40



Vector Electronic Company
INCORPORATED

VECTORBORD®
(ALL FIRE RETARDANT)



Pattern A | Pattern F | Pattern G

Pattern	Hole Dia.	Spacing	Pattern	Hole Dia.	Spacing	Pattern	Hole Dia.	Spacing
A	.093	.265 Ctrs.	B	.062	.188 Ctrs.	H	.062	.100 Ctrs.
C	.093	.200 Ctrs.	E	.062	.141 Ctrs.	G	.062	.20 x .10
			F	.062	.200 Ctrs.			

Versatile, economical, and easy-to-use Vectorbord* (Pre-Punched Terminal Board) having precision pre-punched holes at repetitive grid spacings is recommended for both experimental work and for many production jobs. Vectorbord* accepts eyelets, standard turned or Vector Push-in terminals as well as self tap screws for attaching necessary hardware. A complete line of such terminals is available from Vector. Save time, work, and money by using Vectorbord* and parts in your circuitry. May be sawed, drilled or punched.

EXPLANATION OF MATERIALS:

Phenolic: Type PBE-P, Grade FR-2.

Epoxy Glass: (WE) per MIL-P-18177C, Type GEE, Grade FR-4; except "H" which may be epoxy glass composite (GP). Epoxy Paper (EP) Type PEE per MIL-P-22324, Grade FR-3.

Cat. No.	Pattern	Hole Size	Dimensions	No. of Holes	Material	Price 1-19
PHENOLIC						
18A18	A	.093	4.8" x 4.8" x 1/16"	18 x 18	Phenolic	$ .45
32A9	A	.093	8.51" x 2.41" x 1/16"	32 x 9	Phenolic	.52
32AA9	A	.093	8.51" x 2.41" x 3/32"	32 x 9	Phenolic	.62
32AA18	A	.093	8.51" x 4.8" x 3/32"	32 x 18	Phenolic	.87
64A18	A	.093	16.99" x 4.8" x 1/16"	64 x 18	Phenolic	1.30
64AA18	A	.093	16.99" x 4.8" x 3/32"	64 x 18	Phenolic	1.66
64AA32	A	.093	16.99" x 8.51" x 3/32"	64 x 32	Phenolic	2.86
45B30	B	.062	8.51" x 5.69" x 1/16"	45 x 30	Phenolic	.87
90B30	B	.062	16.97" x 5.69" x 1/16"	90 x 30	Phenolic	1.89
85C24	C	.093	16.99" x 4.8" x 1/16"	85 x 24	Phenolic	1.30
42G22	G	.062	8.51" x 4.5" x 1/16"	(42 x 22) x 2	Phenolic	.85
42G24	G	.062	8.51" x 4.8" x 1/16"	(42 x 23) x 2	Phenolic	.87
85G22	G	.062	16.99" x 4.5" x 1/16"	(85 x 22) x 2	Phenolic	1.52
85G24	G	.062	16.99" x 4.8" x 1/16"	(85 x 24) x 2	Phenolic	1.54
EPOXY GLASS						
64A18WE	A	.093	16.99" x 4.8" x 1/16"	64 x 18	WE	3.87
120E33WE	E	.062	17" x 4.8" x 1/16"	120 x 33	WE	4.15
175F99WE	F	.062	35" x 20" x 1/16"	175 x 99	WE	28.08
42G24WE	G	.062	8.51" x 4.8" x 1/16"	(42 x 23) x 2	WE	1.97
85G24WE	G	.062	16.99" x 4.8" x 1/16"	(85 x 23) x 2	WE	3.96
170H48GP	H	.062	17" x 4.8" x 1/16"	169 x 47	GP	3.98
170H48WE-032	H	.062	17" x 4.8" x 1/32"	169 x 47	WE	3.57
EPOXY PAPER						
32AA18EP	A	.093	8.51" x 4.8" x 3/32"	32 x 18	EP	1.64
64AA18EP	A	.093	16.99" x 4.8" x 3/32"	64 x 18	EP	3.05
64AA32EP	A	.093	16.99" x 8.51" x 3/32"	64 x 32	EP	5.39
120E33EP	E	.062	17" x 4.8" x 1/16"	120 x 33	EP	2.38
85F24EP	F	.062	16.99" x 4.8" x 1/16"	85 x 23	EP	2.28
85G24EP	G	.062	16.99" x 4.8" x 1/16"	(85 x 23) x 2	EP	2.28
85G42EP	G	.062	16.99" x 8.51" x 1/16"	(85 x 42) x 2	EP	3.95

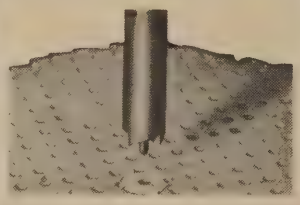
*VECTORBORD is a registered trade mark of Vector Electronic Company.
Prices subject to change without notice.

COPPER CLAD VECTORBORD FOR MOUNTING D.I.P. AND FLAT PACKS

User can make his own etched circuits. Ideal for prototypes and many production uses. The last number in each part number indicates whether a board is clad on one or two sides. Phenolic is NEMA Grade FR-2 flame retardant 1 oz. copper clad paper base phenolic. Epoxy glass (WE) is flame retardant Type FL-GF per MIL-P-13949D 2 oz. copper clad. Epoxy paper (EP) is flame retardant Type FL-PH per MIL-P-13949D 2 oz. copper clad.

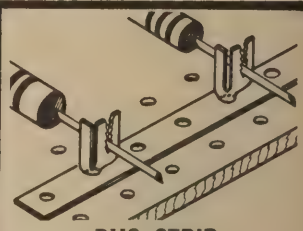
For copperclad Vectorbord with direct positive photoresist coating see last page. For copperclad Micro-Vectorbord see next page.

Cat. No.	Pattern	Hole Size	Dimensions	No. of Holes	Material	Price
PRE-PUNCHED						
3070-1XXXP	F	.062	6.5" x 4.5" x 1/16"	28 x 22	Phen. C1	$ .87
42F22C1	F	.062	4.5" x 8.51" x 1/16"	42 x 22	Phen. C1	1.04
85F42WEC1	F	.062	16.99" x 8.51" x 1/16"	85 x 42	WEC1	7.25
42G22WEC1	G	.062	8.5" x 4.5" x 1/16"	(42 x 22) x 2	WEC1	2.65
42G22WEC2	G	.062	8.5" x 4.5" x 1/16"	(42 x 22) x 2	WEC2	2.70
UNPUNCHED						
CU45/27-1			4.5" x 2.73" x 1/16"		Phen. C1	.35
CU45/30WE-1			4.5" x 3" x 1/16"		WEC1	.72
CU65/27WE-1			6.5" x 2.73" x 1/16"		WEC1	.89
CU65/45-1			6.5" x 4.5" x 1/16"		Phen. C1	.62
CU65/45-2			6.5" x 4.5" x 1/16"		Phen. C1	.82
CU65/45WE-1			6.5" x 4.5" x 1/16"		WEC1	1.39
CU65/45WE-2			6.5" x 4.5" x 1/16"		WEC2	1.58
CU70/45WE-1			7.0" x 4.5" x 1/16"		WEC1	1.49
CU85/45-1			8.5" x 4.5" x 1/16"		Phen. C1	.73
CU85/45WE-1			8.5" x 4.5" x 1/16"		WEC1	1.78
CU85/45WE-2			8.5" x 4.5" x 1/16"		WEC2	2.03
CU90/80-1			9.0" x 7.99" x 1/16"		Phen. C1	1.37
CU159/80WE-1			15.85" x 7.98" x 1/16"		WEC1	5.75



PAD CUTTER TOOLS for isolating terminals from rest of copper cladding leave copper "do-nut" around hole for solder tie. Shank type fits hand or machine drill chuck. Handle type for hand use.

Cat. No.	Pilot Pin Dia.	Ring O.D.	Handle	Price
P116	.055	.250	No	$1.85
P116A	.055	.188	No	1.98
P116B	.055	.250	Yes	2.45
P116C	.055	.188	Yes	2.58
P138A	.040	.125	Yes	2.58
P138C	.040	.125	No	1.98
P138D	.022	.125	Yes	2.58
P138E	.022	.125	No	1.98



BUS STRIP

Prepunched narrow brass tinned mounts to prepunched boards with Zip Push-In terminals or screws. Make connections wherever required quickly.

Cat. No.	Description	Price (Pkg. 10)
T57	16" long .093" holes spaced .265"	$1.79
T58	8" long .093" holes spaced .265"	1.10
T104	17" long .062" holes spaced .2"	1.21
T107	14" long .042" holes spaced .1"	2.39

PUSH-IN TERMINALS TO FIT .062" DIA. HOLES



T28

T28 Miniklip. Beryllium copper, tintillate plating. Holds up to 6 leads. Pkg. 100, $1.61, Pkg. 1000, $11.44.

Insertion Tool P91, shaft, no handle, $.59. Tool P91A Insertion Tool with handle, $1.50.



T28-1

T28-1 Miniklip. Shorter version of T28. Tail extends .062" beyond 1/16" circuit board. Pkg. 100, $1.61, Pkg. 1000, $11.44. Insertion Tool P91, shaft, no handle, $.59 Tool P91A Insertion Tool with handle, $1.50.



T28-2

T28-2 Miniklip. Same as T28 except has slotted bottom end. Pkg. 100, $2.14. Pkg. 1000, $15.60.

Insertion Tool P91, shaft, no handle, $.59 Tool P91A Insertion Tool with handle, $1.50.



T32A-1

T32A-1 Springclip. For fast, reliable circuit set-ups without soldering. Half hard brass with steel spring, tintillate plated. Pkg. 10, $1.40. Pkg. 100, $10.30. Pkg. 1000, $78.00.

P136 Insertion Tool, $1.49. PATENTED

PUSH-IN TERMINALS TO FIT .093" DIA. HOLES



T9.4

T9.4 Zip Terminal. Holds wires in serrated slots until soldered. Half hard brass, tintillate plating. Pkg. 100, $1.44. Pkg. 1000, $10.18.

Insertion Tool P122B, $1.40. PATENTED



T9.6

T9.6 Zip Terminal. Holds wires in serrated slot until soldered. Beryllium copper, tintillate plating. Pkg. 100, $2.40. Pkg. 1000, $15.66.

Insertion Tool P122B, $1.40. PATENTED



T30N-2

T30N-2 Springclip. For fast, reliable circuit setups without soldering. Half hard brass with steel spring, tintillate plated. Pkg. 10, $.99. Pkg. 100, $7.23. Pkg. 1000, $50.44.

Insertion Tool P92A, $.50 ea. PATENTED



T32A

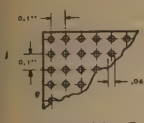
T32A Springclip. For fast, reliable circuit set-ups without soldering. Half hard brass with steel spring, tintillate plated. Pkg. 10, $1.40. Pkg. 100, $10.30. Pkg. 1000, $78.00.

P136 Insertion Tool, $1.49. PATENTED

Net

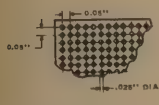
© United Technical Publications

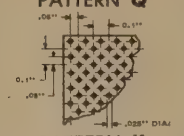
MICRO-VECTORBORD®

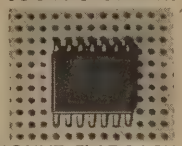

PATTERN P


PATTERN Q


MOUNT DIP SOCKETS OR I.C.s


PATTERN M


PATTERN K


MOUNT FLAT PACK

Micro-Vectorbord has been specially designed to mount integrated circuits. "P" pattern accepts Dual-In-Line sockets for I.C.'s; "M" pattern will accept flat pack leads. Many Vector terminals fit Micro-Vectorbord. All flame retardant.

EXPLANATION OF MATERIALS FOR MICRO-VECTORBORD

Phenolic: Phenolic paper laminate Type PBE-P per Fed. Spec. L-P-513, NEMA Grade FR-2. Epoxy Glass boards (WE), meet MIL-P-18177C Type GEE, NEMA Grade FR-4; except "P" which may be epoxy glass composite (GP). Epoxy Paper laminate (EP) Type PEE per MIL-P-22324, NEMA Grade FR-3. Copper clad, 2 oz., per MIL-P-13949 is Type FL-GF for glass epoxy and Type FL-PH for epoxy paper. -1 or -2 in part no. indicates whether board clad 1 or 2 sides.

Cat. No.	Pattern	Hole Size	Dimensions	No. of Holes	Material	Price 1-19
44P29-062	P	.042	3" x 4.5" x 1/16"	44 x 29	WE	$ 1.09
59P19-032	P	.042	2" x 6" x 1/32"	59 x 19	WE	.89
59P44-032	P	.042	4.5" x 6" x 1/32"	59 x 44	WE	1.61
64P44-062	P	.042	4.5" x 6.5" x 1/16"	64 x 44	WE	1.79
64P44-062EP	P	.042	4.5" x 6.5" x 1/16"	64 x 44	EP	1.69
64P44-062EPC1	P	.042	4.5" x 6.5" x 1/16"	64 x 44	EP	2.19
64P44-062EPC2	P	.042	4.5" x 6.5" x 1/16"	64 x 44	EP	2.34
64P44-062XXXP	P	.042	4.5" x 6.5" x 1/16"	64 x 44	Phen.	1.49
76M38-032	M	.025	2" x 4" x 1/32"	76 x 38	WE	.89
84P44-062	P	.042	4.5" x 8.5" x 1/16"	84 x 44	WE	2.22
84P44-062EP	P	.042	4.5" x 8.5" x 1/16"	84 x 44	EP	2.10
84Q42062EP	Q	.042	8.5" x 17" x 1/16"	(84 x 42) x 2	EP	6.11
126M76-032	M	.025	4" x 6.5" x 1/32"	126 x 76	WE	2.29
138P42-062EP	P	.042	4.5" x 13.9" x 1/16"	138 x 42	EP	3.26
168K38-032	K	.025	4" x 17" x 1/32"	(168 x 38) x 2	WE	4.89
169P26-062	P	.042	2.73" x 17" x 1/16"	169 x 26	WE	2.75
169P26-062EP	P	.042	2.73" x 17" x 1/16"	169 x 26	EP	2.55
169P44-062	P	.042	4.5" x 17" x 1/16"	169 x 44	WE	4.36
169P44-062C1	P	.042	4.5" x 17" x 1/16"	169 x 44	WE	5.89
169P44-062C2	P	.042	4.5" x 17" x 1/16"	169 x 44	WE	6.27
169P44-062EP	P	.042	4.5" x 17" x 1/16"	169 x 44	EP	3.83
169P44-062EPC1	P	.042	4.5" x 17" x 1/16"	169 x 44	EP	5.36
169P44-062EPC2	P	.042	4.5" x 17" x 1/16"	169 x 44	EP	5.75
169P44-062XXXP	P	.042	4.5" x 17" x 1/16"	169 x 44	Phen.	3.19
169P47-062EP	P	.042	4.8" x 17" x 1/16"	169 x 47	EP	3.98
169P59-016	P	.042	6" x 17" x 1/64"	169 x 59	WE	5.69
169P59-032C1	P	.042	6.0" x 17" x 1/32"	169 x 59	WE	7.35
169P59-047	P	.042	6" x 17" x 3/64"	169 x 59	WE	5.89
169P59-062XXXP	P	.042	6.0" x 17" x 1/16"	169 x 59	Phen.	4.28
169P84-062	P	.042	8.5" x 17" x 1/16"	169 x 84	WE	7.99
169P84-062C1	P	.042	8.5" x 17" x 1/16"	169 x 84	WE	10.98
169P84-062C2	P	.042	8.5" x 17" x 1/16"	169 x 84	WE	11.70
169P84-062EP	P	.042	8.5" x 17" x 1/16"	169 x 84	EP	6.79
349P84-062	P	.042	8.5" x 35" x 1/16"	349 x 84	WE	15.99

TERMINALS AND PINS TO FIT .042" AND .025" DIAMETER HOLES



T42-1

T42-1 Micro-Klip. Beryllium copper, Tintillate plating. Main slot holds 3 or 4 .025" dia. wires. Hole in tab for .018" transistor lead. Pkg. 100 $1.82, Pkg. 1000 $11.70. P149 insertion tool $1.49 ea.

K32

K32 J pin has long .025" sq. tail for wire wrapping. Insert in T42-1 for .042" dia. hole. Pkg. 100 $1.49, Pkg. 1000 $11.50.

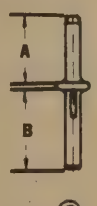


T44

T44 Miniwrap Terminal has .025" sq. Wire-Wrap* tail, extends 3/16" beyond board surface to permit 5 #26AWG connections, 6 turns ea., Phosphor bronze, tintillate plate. Pkg. 100, $2.96. Pkg. 1000, $25.70. A13 Installation Tool, $1.69 ea. *Gardner-Denver Trade Mark.

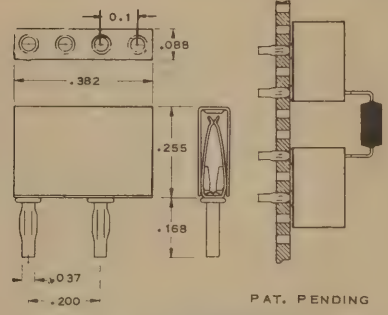
INBORD PINS

Press fit tightly in .042" or .025" dia. holes. Use for plug pins, tie points. .042 d. mate with receptacles R23 A or B & Vectorconn. Insertion Tools, P133A for .042 pins & P131A for .025 pins, $1.75 ea. Phos. Brz., suffix "A" nickle, gold flash; suffix "C" bright tin plate.



Part No.	Dimensions A	B	C	Pkg. 50	Pkg. 1000
K24A	.255	.375	.040	$1.44	$20.59
K24C	.255	.375	.040	.86	11.21
K26A	.160	.195	.040	.92	13.16
K26C	.160	.195	.040	.69	8.58
K27A	.160	.195	.024	.86	11.16
K27C	.160	.195	.024	.69	8.20
K31A	.160	.195	.040	.99	14.50
K31C	.160	.195	.040	.79	9.50
K36A	.293	.400	.024	1.25	17.98
K36C	.293	.400	.024	.95	14.50
K37A	.255	.140	.024	.95	12.95
K37C	.255	.140	.024	.80	9.10
K38A	.062	.600	.040	1.49	25.50
K38C	.062	.600	.040	.99	16.15

PLUG IN ALL CONNECTIONS



T45-4 IMP-CLIP

IMP-CLIPS are spring sockets for D.I.P.'s, transistors, resistors, etc., with leads .010" - .032" dia. Push into "P" Vectorbord (.042" holes), provide 4 connections per quad or 32 per bus. Top or bottom insertion. Stack side by side, providing socket for D.I.P.'s and 3 additional wires for connecting up. No solder needed. Ideal for breadboarding. Insulating coat on sides. Reliable. Quads 1/4" high, .39" long, 0.095" wide. Beryllium copper springs. Current 5 Amps.

Cat. No.	Description	Pkg. Qty.	Net Price
T45-4	Quads per fig.	Pkg. 4	$2.29
T45-32	Bus Strips, 32 contacts	Pkg. 2	2.29
P154	Insertion and Removal Tool		2.79

I.C.P. AND TRANSISTOR SOCKETS


RA10-1
I.C.P. Socket

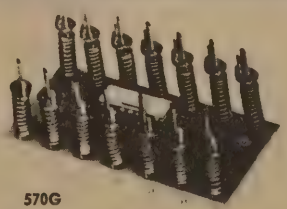

RA3.4
Low Profile
Transistor
Socket


RA9
Transistor
Socket

Transistor Sockets accept 4 leads on 0.2" diam. circle. MFE and Beryl. Cop. contacts.

I.C.P. Sockets fit TO-5 size 8 or 10 leads. Formed to insert in 0.1" spaced holes (P or H pattern bds.) D.I.P. body and Beryl. copper contacts.

Cat. No.	No. Tabs	Saddle	Price 1 - 49
RA-3.4	3	No	$ .21
RA-9	4	No	.46
RA-9.1	4	Yes	.55
RA-88-1	8	No	.98
RA-10-1	10	No	1.04


570G

SOLDERLESS SOCKETS saves experimental time. Multiple connections can be made to any pin by connecting wires to corresponding SOLDERLESS SPRINGCLIP TERMINAL which is permanently connected to socket contact. Tube socket types mount on Vectorbord with furnished hardware; 570B and 570G press fit in .093 holes spaced on .265 centers.

Cat. No.	Description	Price
567-1C	Solderless Octal Socket	$1.50
568-1C	Solderless Noval (9 pin) Socket	1.65
569-1C	Solderless Miniature (7 pin) Socket	1.35
570B	Solderless Universal Transistor Socket	2.49
570F	Solderless 12 pin I.C. Breadboarding Socket	3.95
570G	Solderless 14 pin D.I.P. Breadboarding Socket	3.95

INTEGRATED CIRCUIT SOCKETS (D.I.P.)

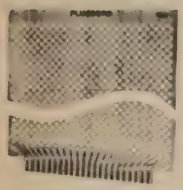

D.I.P. Socket
R-714 and R-176
Wire-Wrap Type

New D.I.P. R-714 Sockets, available with leads fitting .042 holes. R-714-1 intended for soldering direct to P.C. pads. R-716 and R-716-1 have 16 contacts and leads in similar arrangement, with 8 leads per side instead of 7.

Cat. No.	Description	Price
R-714 (Pkg. 5)	Wire-wrap leads. 14 contacts on R-714, 16 contacts on R-716.	$4.90/pkg.
R-716 (Pkg. 5)	Glass filled nylon, Phos. brz. nickel, gold plated contacts.	$5.90/pkg.
R-714-1 (Pkg. 5)	R-714-1, 14 contacts, R-716-1, 16 contacts.	$3.20/pkg. Short Tabs
R-716-1 (Pkg. 5)	Nylon casting, Phos. brz. tin pltd. contacts.	$3.85/pkg. Short Tabs

VECTOR ELECTRONIC CO., INC.

Vector PLUGBORDS SPEED PLUG-IN CIRCUIT CONSTRUCTION

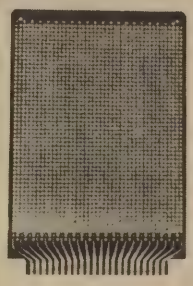


838WE-1GN

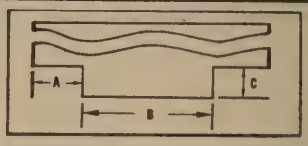
DISCRETE COMPONENT PLUGBORDS ETCHED CONTACT TYPES

These boards are 4½" x 6½" x 1/16" and have an overall grid of .062" diameter holes on alternate .1" centers for easy component placement. 2 oz. etched copper contacts are available both gold plated and solder alloy plated for economy. T28 push-in terminals, conventional turned terminals, or eyelets may also be used. Boards are supplied in epoxy glass Type FL-GF per MIL-P-13949 on types with "WE" in part number and epoxy paper Type FL-PH per MIL-P-13949 on all other types. Mate with R644 Receptacle. "GN" denotes gold plated contacts.

Cat. No.	Contacts	L	W	Material	Notch Dimension A	B	C	Net Price 1-19 pcs.
838	43	6.5	4.5	Epoxy paper	.408	3.58	.375	$3.89
838-1	43	6.5	4.5	Epoxy paper	.458	3.58	.375	3.89
838A	22	6.5	4.5	Epoxy paper	.408	3.58	.375	2.81
838A-1	22	6.5	4.5	Epoxy paper	.458	3.58	.375	2.81
838AWE	22	6.5	4.5	Glass epoxy	.408	3.58	.375	3.17
838AWE-1GN	22	6.5	4.5	Glass epoxy	.458	3.58	.375	4.70
838WE	43	6.5	4.5	Glass epoxy	.408	3.58	.375	3.86
838WE-1GN	43	6.5	4.5	Glass epoxy	.458	3.58	.375	5.81



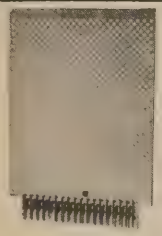
3662



UNIVERSAL TYPE 3662 848PWE

Versatile D.I.P. type plugbords with boards punched in overall pattern of .042" diameter holes on .1" centers and furnished without any etched circuit pattern. Both models are FR-4, epoxy glass per MIL-P-13949, Type FL-GF. Model 3662 has 44 2 oz. etched gold plated contacts (total 2 sides). Mates with R644 Receptacle. Model 848PWE has 35 two-tier Elco Varicon contacts. Mates with R635 Receptacle. Can accommodate 50 14-pin or 40 16-pin D.I.P's.

Cat. No.	Contacts	Length	Width	Notch Dimension A	B	C	Net Price 1-19 pcs.
3662	44	6.5	4.5	.458	3.58	.375	$6.95
848PWE	35	6.5	4.5	.397	3.70	.750	6.29

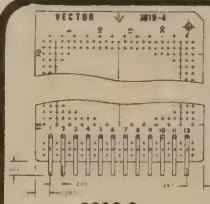


848WE

DISCRETE COMPONENT PLUGBORDS ELCO VARICON TYPE

These boards furnished with an overall grid of .062" holes on alternate .1" centers for easy component placement. Reliable Elco Varicon contacts are staked to bottom edge and mate with listed receptacles. T28 Push-In terminals or conventional turned terminals or eyelets may be used for component mounting. 812 and 837 types use single tier contacts; 848 WE, double tier. Material: Epoxy glass per MIL-P-18177, Type GEE.

Cat. No.	Contacts	L	W	Material	Notch Dimension A	B	C	Net Price
812	16	6.5	4.5	Epoxy paper	No notches			$2.98
812WE	16	6.5	4.5	Epoxy glass	No notches			3.53
837	12	4.5	3	Epoxy paper	No notches			2.33
837WE	12	4.5	3	Epoxy paper	No notches			2.58
848WE	35	6.5	4.5	Epoxy glass	.397	3.70	.750	6.09



3819-3

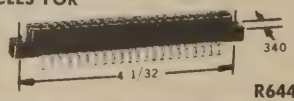
3819 SERIES EJBORD D.I.P. PLUGBORD

3819 Ejbord Type D.I.P. Plugbord has overall pattern of .042" dia. holes on .1" centers and Ejbord .040" dia. pin type contacts. Recommended for maximum contact reliability. Plugbords featured have either lower 0.2" centered, or upper and lower tier 0.1" centered Ejbord Pin contacts. Board material is epoxy glass per MIL-P-18177, Type GEE. -1 and -2 can accommodate 50 14-pin or 40 16-pin D.I.P's; -3 and -4 will hold 18 14-pin or 15 16-pin D.I.P's.

Cat. No.	L	W	Contacts No.	Type	Ctrs.	Mating Receptacle	Net Price
3819-1	6.5	4.5	20	Lower	0.2	R120-S or -P	$3.50
3819-2	6.5	4.5	41	20 lower 21 upper	0.1	R241-S or -P	4.99
3819-3	4.5	2.73	12	Lower	0.2	R112-S or -P	2.15
3819-4	4.5	2.73	25	12 lower 13 upper	0.1	R225-S or -P	3.25

*Receptacle Suffix "S" means Solder Tail and "P" means Narrow Tab to go in Printed Circuit Hole.

RECEPTACLES FOR PRINTED CIRCUIT CARDS



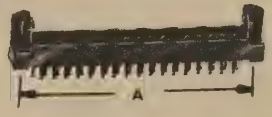
R644

All receptacles below dual-sided for use with etched contacts on one or both sides of cards. Diallyl phthalate castings, except R636 electrical grade phenolic and R644-2 glass filled phenolic. Contacts nickel gold, except R636 silver gold.

Cat. No.	No. of Contacts	Tab Type	Dim. A	Net Price
R644	22/44 spcd. .156"	Solder Tail	4.03	$2.97
R644-1	22/44 spcd. .156"	Wire Wrap* .031 x .062	4.29	3.96
R644-2	22/44 spcd. .1"	Wire Wrap .025" square	2.85	2.22
R630	15/30 spcd. .156"	Wire Wrap .025" square	2.94	2.57
R636	36/72 spcd. .1"	Wire Wrap .025" square	4.26	4.70

*Trademark Gardner-Denver Co.

RECEPTACLES FOR ELCO VARICON CONTACTS

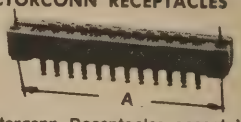


R635

Contacts are phosphor bronze, nickel and gold plated. Castings are diallyl phthalate. Single tier receptacles are open end type. Tabs are combination .078" taper and solder tab.

Cat. No.	Dim. A	No. of Contacts	For Plugbord Series	Net Price
R612-1	2.80	12, single tier	837	$2.08
R616-1	3.68	16, single tier	812	2.60
R635	3.93	35, double tier	848, 3476	5.35

VECTORCONN RECEPTACLES



R112-S

Vectorconn Receptacles accept Vector Ejbord and Inbord Pins or any .040" dia. round pin. Castings are diallyl phthalate. Solder tab or printed circuit contacts are beryllium copper, nickel gold plated, on .2" centers for double tier.

Cat. No.	No. of Contacts	Dim. A	Net Price
R120-S or P	20	4.35	$1.70
R241-S or P	41	4.00	2.70
R112-S or P	12	2.74	1.50
R225-S or P	25	2.74	1.86

Suffix "S" means solder eye tail; "P" means printed circuit tab.

BR27 SERIES RECEPTACLE MTD. CARD GUIDES

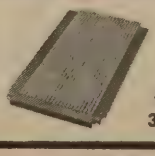
Provides support for receptacle supported circuit boards. All except BR27-2 used for Plugbords with centered contacts. BR27-2 accommodates Plugbords with .050" offset contacts. Sold in pairs with mtg. hardware, $.75/pr.

Cat. No.	Use With Receptacle	Board Width
BR27	R644 & R644-1	4.5
BR27-1	R636	4.5
BR27-1	R644 & R644-1	4.25
BR27-2	R644 & R644-1	4.25
BR27-3	R630	2.73
BR27-4	R644-2	2.73

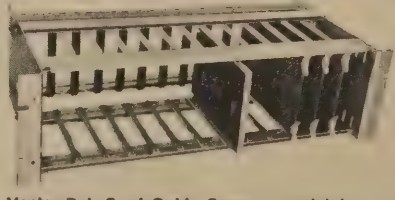


3690 CARD EXTENDER

44 etched (total 2 sides) .156" spaced nickel gold plated fingers. For 4.5 x 4 to 7½" Plugbords with 22 (or 21) .156" spaced etched contacts on either or both sides. Overall 4½ x 7½ x 1/16". $8.59 ea. 3690-1 without receptacle $4.25.



Extender 3690



VECTOR-PAK DISCRETE CARD GUIDE CAGE WITH VECTOR PLUGBORDS INSTALLED

Vector-Pak Card Guide Cages, completely assembled, are 5¼" high x 9" deep x 19" wide slotted for rack mounting with six heavy extruded aluminum cross members, aluminum side walls, and will accommodate cards 3" to 4½" wide and up to 7⅞" in length. Infinitely variable connector mounting without drilling holes.

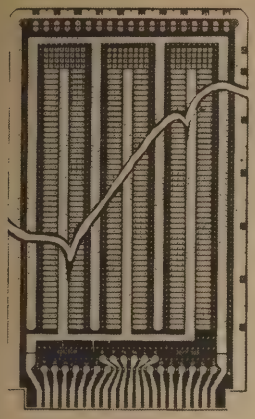
CCK-13 Cage is partially assembled for quick setup. This cage is supplied with discrete aluminum card guides to accommodate 21 cards at ¾" intervals. Guides can be easily adjusted for other spacing in multiples of ¼". $29.50 each.

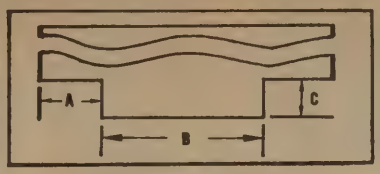
CCK-3 Cage is partially assembled for quick setup. This cage has the same basic structure as CCK-13 but individual card guides are replaced with extruded aluminum guide plates with slots every .150" over entire width of cage. $24.95 each.

VECTOR ELECTRONIC CO., INC.

Net

© United Technical Publications



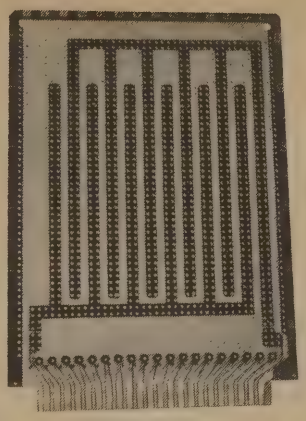


3677

3677 SERIES D.I.P. PLUGBORDS

Mount I.C. sockets and components (up to 24 D.I.P. units with 14 leads or 21 with 16 leads). Supplied with overall punched grid of .042" diameter holes spaced .1" apart, etched 2 oz. copper buses 1 side for Vcc and ground plus 3 hole pad groups and individual pad areas are tinned. FR-4, epoxy glass per MIL-P-13949, Type FL-GF, fire retardant. Gold plated contacts (2 sides). Mate with R644 Receptacle.

Cat. No.	Contacts	Length	Width	Notch Dimensions A	B	C	Net Price 1-19 pcs
3677	44	9.6	4.5	.458	3.58	.375	$9.89
3677-2	44	6.5	4.5	.458	3.58	.375	8.84



3682

3682 TYPE D.I.P. PLUGBORD

Will mount up to 54 D.I.P sockets with 14 pin or 48 units with 16 pins. Overall grid of .042" diameter holes on .1" centers specially for Wire-Wrap* D.I.P. socket types and Vector T44 Miniwrap terminals. 2 oz. copper etched buses 2 oz. copper .070" wide etched one side for Vcc and ground are tinned. 3682-4 type has ground plane on back with etched clearance around each hole for lead isolation. FR-4, epoxy glass per MIL-P-13949 Type FL-GF, fire retardant. 2 oz. copper etched gold plated contacts (2 sides) mates with R644 Receptacle. *T.M. Gardner-Denver.

Cat. No.	Contacts	Length	Width	Notch Dimensions A	B	C	Net Price 1-19 pcs
3682	44	9.6	4.5	.458	3.58	.375	$9.50
3682-2	44	6.5	4.5	.458	3.58	.375	8.49
3682-4	44	6.5	4.5	.458	3.58	.375	9.25

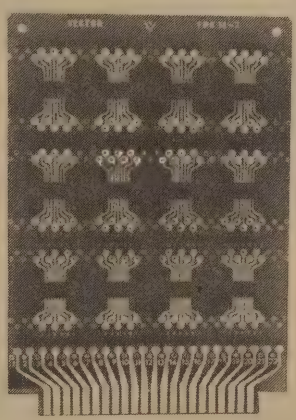


3474

X-Y TYPE D.I.P. PLUGBORDS

2 oz. copper .070" wide etched 2 oz. copper tinned lines running vertically one side horizontally reverse side, or vertically one side only ("Y" Type). Vertical lines interrupted to mount twelve 14 lead D.I.P.'s. Connections between board sides are made with soldered Inbord Pins or wires. Etched tinned lines can be cut with knife or line cutter tool P-139. Board material epoxy paper Type FL-PH per MIL-P-13949, fire retardant. Gold plated contacts. All boards are 6.5 x 4.5 including aluminum Kardej Frame which fits 1/16" card guides.

Cat. No.	Matrix	Contacts	Mating Recept.	Notch Dimension With Kardej A	B	C	Price 1-19 pcs
3474	X-Y	44 etched, 2 sides	R644	.458	3.58	.375	$10.50
3474-3	Y	22 etched, 1 side	R644	.458	3.58	.375	8.08
3476	X-Y	35 Varicon, 1 side	R635	.400	3.70	.750	11.40
3476-3	Y	35 Varicon, 1 side	R635	.400	3.70	.750	8.98
3477	X-Y	44 etched, 2 sides	R636	No Notches			9.94
3477-3	None	44 etched, 2 sides	R636	No Notches			7.54
P139	Line Cutter Tool						1.50

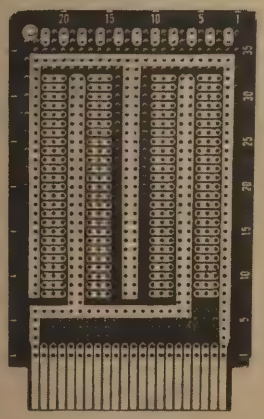


FPA14-2

PLUGGABLE MOUNTING FOR FLAT PACKS

Vector Plugbord FPA-14-2 provides a means of quickly mounting and interconnecting up to twelve 14-lead flat pack integrated circuits on a 4½" x 6½" plug-in circuit board. Pads and lead paths are tin alloy coated for easy soldering of the devices to the board. All pads are numbered and have .042" dia. holes surrounded by a .110" dia. copper area. Vector T42-1 Micro-Klip Terminals or K24 series terminals may be inserted in the holes in the pads, and soldered to facilitate multiple connections to any I.C. lead. Forty-four etched (total 2 sides) independent .156" spaced gold plated contacts are located at the bottom edge. Boards have two predrilled holes for attachment of Vector HA9 ejector handles if required. Mates with R644 or R644-1 receptacle. Current rating for a 10°C. temperature rise is 3 amps. Board material glass epoxy per MIL-P-13949, Type FL-GE, fire retardant.

Cat. No.	No. of Contacts	Material	Net Price
FPA-14-2	44	Epoxy Glass	$6.25

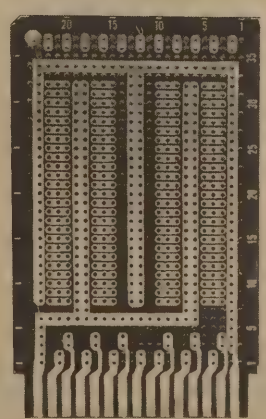


3795-3

3795 SERIES D.I.P. PLUGBORD

2.73" wide x 4.5" long x 1/16" thick. Mounts component and I.C. sockets (up to 6 on tin alloy coated grid version and 16 on etched contact only version). Supplied with prepunched .042" holes on 0.1" centers; etched buses for Vcc and ground on 3795-1 and 3795-3. 3795 and 3795-1, FR-4 epoxy glass per MIL-P-13949, Type FL-GF, gold plated independent contacts (2 sides) mate with R644-2 Receptacle. 3795-2 and -3 same except phenolic per NEMA grade FR-2.

Cat. No.	Etched Grid	A	B	Contacts 0.1 Centers Front	Back	Plating	Board Material	Net Price
3795	No	.221	2.29	22	22	Nkl. Gold	Epoxy Glass	$4.35
3795-1	Yes	.221	2.29	22	22	Nkl. Gold	Epoxy Glass	5.55
3795-2	No	.221	2.29	22	22	Tin Alloy	Phenolic	2.85
3795-3	Yes	.221	2.29	22	22	Nkl. Gold	Phenolic	3.45



3797-2

3797 SERIES D.I.P. PLUGBORD

.273" wide x 4.5" high x 1/16" thick. The 3797 Series Plugbord is similar to 3795 Series Plugbords described at left, except that it has only 30 contacts (15 each side) on .156" centers. R630 with solder eye tails is mating receptacle.

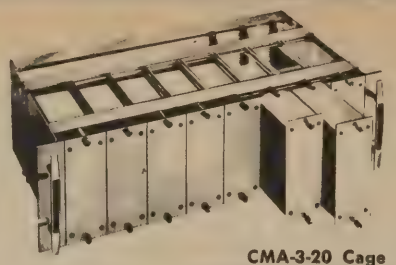
Cat. No.	Etched Grid	A	B	Contacts .156 Centers Front	Back	Plating	Board Material	Net Price
3797	No	.155	2.50	15	15	Nkl. Gld.	Epoxy Glass	$3.76
3797-1	No	.155	2.50	15	15	Tin Alloy	Phenolic	4.74
3797-2	Yes	.155	2.50	15	15	Nkl. Gold	Epoxy Glass	2.96

VECTOR ELECTRONIC CO., INC.

© United Technical Publications

Vector-pak SYSTEM

FOR PACKAGING
- MODULES
- CARDS
- EQUIPMENT

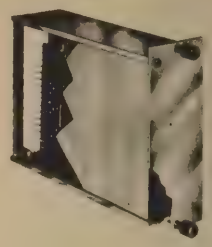


CMA-3-20 Cage with EFP204-6.6 Modules, HA12 Handles, FP52-1 Filler Panels

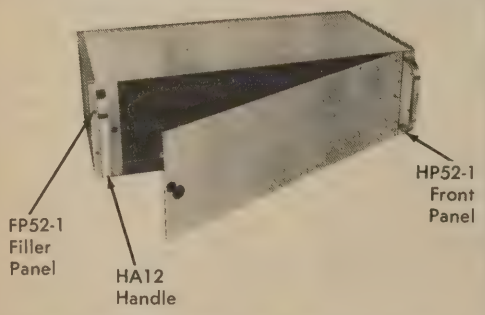
Module cages provide a way of modularizing or housing plug in circuit cards 4½" wide by 6½", or 9.6" or shorter in length. Cages listed accommodate EFP modules (shown at right) and may be mounted in standard 19" relay racks, cabinets, or table top mounted in the new encasements shown below. Cages are all aluminum anodized with heavy .080" side walls, with 6 extruded triple tee strut cross members which have captive grooves for easy mounting of connectors at the rear, and module guides in the forward section. Cages are supplied completely assembled or in kit form to accommodate eight 2" wide, or ten 1.6" wide EFP modules listed at right.

Cat. No.	Description	Net Price
CMA-3-20	Cage, assembled, 8.9" deep with guides, accommodates 8, 2" wide EFP modules 6.6" long.	$49.24
CMK-3/CMG-7	Cage, kit form, 8.9" deep with guides, accommodates 8, 2" wide EFP modules 6.6" long.	39.90
CMA-4-20	Cage, assembled, 11.9" deep with guides, accommodates 8, 2" wide EFP modules 9.6" long.	50.36
CMK-4/CMG7	Cage, kit form, 11.9" deep with guides, accommodates 8, 2" wide EFP modules 9.7" long.	41.00
CMA-3-16	Cage, assembled, 8.9" deep with guides, accommodates 10, 1.6" wide EFP modules, 6.6" long.	53.54
CMK-3/CMG4	Cage, kit form, 8.9" deep with guides, accommodates 10, 1.6" wide EFP modules.	43.40

VECTOR "EFP" (EXTENDED FRONT PANEL) CASES



Vector "EFP" aluminum module cases are made in many sizes to accommodate circuit boards from 2.7" to 7.9" wide and 4.6" to 14" long. All EFP cases will fit Vector PAK Cages. EPF cases have identical top and bottom extruded rails with parallel .062" longitudinal grooves spaced for holding circuit boards, slide out .062" side covers, front and rear panels. Captive thumb screws are provided. Order eight EFP-204-6.6 Cases for CMA-3-20 Cage at $6.07 per case. Order 10 EFP-164-6.6 Cases for CMA-3-16 Cage at $5.90 per case. Order eight EFP-204-9.7 Cases for CMA-4-20 at $6.96 per case.

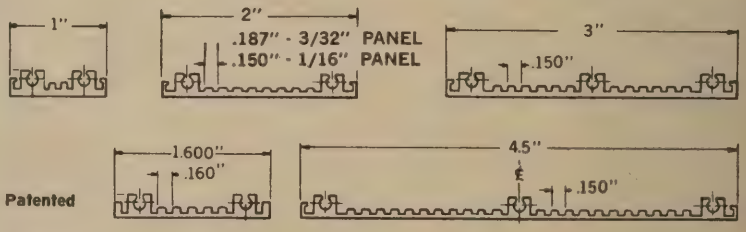


CE-55-95 cage encasement shell with CCK-13, HP52-1 front panel, HA12 handles, FP52-1 filler panels.

VECTOR PAK CAGE ACCESSORIES

Cat. No.	Description	Net Price
CE-55-125	Cage encasement for table top mounting of 5¼" h. by 11.97" d. cages, anodized aluminum finish.	$19.50
CE-55-95	Cage encasement for table top mounting of 5¼" h. by 8.9" d. cages, anodized aluminum finish.	18.50
FP52-1	Filler Panel to close gap between outer-most module and side wall. Pkg. of 2.	1.50
HA-12	Handles, pair with mounting hardware.	2.49
HP52-1	Door for cage encasement supplied with latch, striker plate, 2 filler panels.	12.50

EXTRUDED ALUMINUM RAILS FOR CHASSIS AS USED IN EFP MODULES AND MULTI-MOD CASES



Vector Frame Loc Rails are slotted aluminum rails with natural anodized finish designed to accommodate panels 1/16" or 3/32" in 2" width only. Rails may be used for making chassis and cases for circuit cards. Mitred lengths are furnished with push-in corner brackets plus corner gripping washers and screws for rigid fastening. Listed aluminum covers have four corner holes to pass screws into corner brackets.

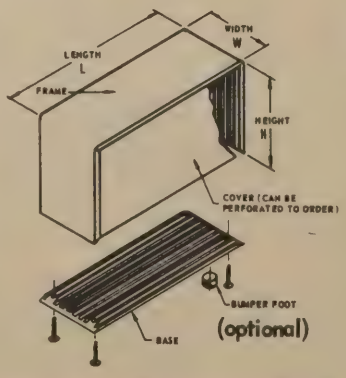
Rail Widths	RAIL LENGTHS — All rails have mitre cut ends and special fasteners except 24" length which have square cut ends.				
	Square Cut 24" Long	4.6" Long	4.9" Long	6.6" Long	17.1" Long
1"	SR1-240-062 $2.93 pr.	SR-46-062 $1.18 pr.		SR1-66-062 $1.40 pr.	SR1-171-062 $2.44 pr.
1.6"		SR16-46-062 $1.39 pr.			
2"	SR2-240-062 $3.84 pr.	SR2-46-062 $1.44 pr.	SR-49-062 $1.46 pr.	SR2-66-062 $1.72 pr.	
2"*		SR2-46-093 $1.44 pr.	SR2-48-093 $1.46 pr.	SR2-66-093 $1.72 pr.	SR2-170-093 $3.20 pr.
3"	SR3-240-062 $4.19 pr.	SR3-46-062 $1.52 pr.		SR3-66-062 $1.85 pr.	SR3-171-062 $3.49 pr.
4½"	SR45-240-062 $5.92 pr.	SR45-46-062 $1.91 pr.		SR45-66-062 $2.40 pr.	

*2" width rail with slots for .093" cards. All others slotted for .062" cards.

MULTI-MOD CASES



Patented Features



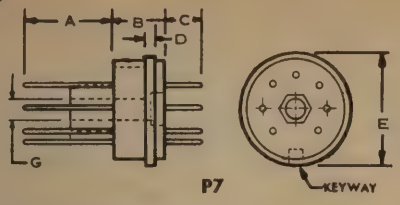
Sleek sturdy aluminum cases with .075" wide slots on .150" centers across case width for effortless screw free mounting of cards or shielding panels. Easily removable 4th side permits side cover to slide off and provides quick access to cards. Good RFI shielding provided by overlapping cover joints. Clear anodized finish is standard.

Cat. No.	Width	Length	Height	For Circuit Card Size	Price 1-49
W16-31-31	1.6"	3.10"	3.10"	2.98 x 2.98	$2.16
W20-46-31	2.0"	4.61"	3.10"	2.98 x 4.50	2.55
W20-46-66	2.0"	4.61"	6.61"	6.50 x 4.49	3.39
W20-66-46	2.0"	6.61"	4.61"	4.49 x 6.50	3.39
W30-66-46	3.0"	6.61"	4.61"	4.49 x 6.50	4.14
W30-86-46	3.0"	8.61"	4.61"	4.49 x 8.50	4.55
W30-100-80	3.0"	10.00"	8.00"	7.88 x 9.89	5.85
W30-140-80	3.0"	14.00"	8.00"	7.88 x 13.89	7.07
W45-66-46	4.5"	6.61"	4.61"	4.49 x 6.50	4.31
W45-86-46	4.5"	8.61"	4.61"	4.49 x 8.50	5.21
W45-100-46	4.5"	10.00"	4.61"	4.49 x 9.89	5.70
FT-3-Pkg. 8		Rubber Bump Feet			.40 Pkg.

VECTOR ELECTRONIC CO., INC.

Net
© United Technical Publications

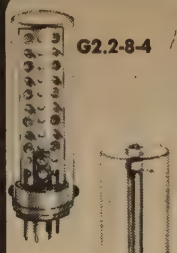
Vector TUBE BASE PLUGS



P7

Vector Tube Base Plugs fit standard 7-pin miniature, 9-pin noval, and 14-pin relay sockets. Round metal cans may be attached with screws to sides. Plugs are mica filled phenolic with phosphor bronze .040" diameter tinned pins. All except K1.14 have center screw hole ⅛" and recessed bottom cavity for small pattern nut on under side.

Catalog No.	Type	DIMENSIONS A	B	C	D	E	Net Price 1-49
P7	7 p. min.	17/32	.300	.265	1/16	.621	$ .47
P9	9 p. nov.	17/32	.300	.265	1/16	.748	.56
K1.402	(same as P9 except no center post)						.56
K1.334	7 Pin hooked		.300	.265	1/16	.621	.53
K1.434	9 Pin hooked		.300	.265	1/16	.748	.60
KR1.334	(same as K1.334 except w/retaining ring)						.62
KR1.434	(same as K1.434 except w/retaining ring)						.84
K1.14	14 Pin	17/32	.300	.265	1/16	.750	1.25
KF1.335	(Similar to K1.334 except has knurl nuts and no keyway.)						1.00
KF1.435	(Similar to K1.434 except has knurl nuts and no keyway.)						1.12



G2.2-8-4



G2.1-8



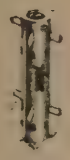
C12-K1.02 (with 514)

ROUND AND SQUARE PLUG-INS

Ideal for packaging hand wired, printed, or solid state plug-in modules. Aluminum cases provide shielding and strength. Wide variety of internal structures eases circuit wiring. 7-, 8- and 9-pin plugs are standard. 14-pin is relay type. Plug key in square Octal based units points toward case corner.

Catalog No.	Bottom Plug	Case Type	Case Height (Less Prongs)	Internal Structure	Net Price 1-49
B-8	8 P. Oct.	1.42" Sq.	2"	None	$1.56
B-10	8 P. Oct.	1.42" Sq.	2.5"	None	1.57
B-10-N	8 P. Oct.	1.42" Sq.	2.5"	Turret	2.52
B-10-T	8 P. Oct.	1.42" Sq.	2.5"	Turret	1.95
B-10-4†	8 P. Oct.	1.42" Sq.	2.5"	Card W/Terms.	2.76
C-10	8 P. Oct.	2" Sq.	2.5"	None	1.50
C-12	8 P. Oct.	2" Sq.	3"	None	1.44
C-12K1.02	8 P. Oct.	2" Sq.	3"	None	1.10
511 (Terminal Card 1.9" x 2.7")†					.85
514 (Terminal Card 1.9" x 2.7")†					1.07
C-12-T	8 P. Oct.	2" Sq.	3"	Turret W/12 Lugs	2.16
G2-10	8 P. Oct.	1.25" Rd.	2.5"	None	1.16
G2-10-4†	8 P. Oct.	1.25" Rd.	2.5"	Card W/Terms.	2.46
G2.1-8	9 P. Min.	.75" Rd.	2"	Spacer	1.45
G2.1-8F	9 P. Min.	.75" Rd.	2"	None	1.49
G2.1-8-4†	9 P. Min.	.75" Rd.	2"	Card W/Terms.	2.30
G2.2-8F	7 P. Min.	.625" Rd.	2"	None	1.49
G2.2-8-4†	7 P. Min.	.625" Rd.	2"	Card W/Terms.	2.28

†511 has .093" holes spaced .265"; 514 has .062" holes, spaced all. 0.1" Ctrs.; B10-4 has wall 1.37" (W), 1.87" (L), W/.093" holes spaced .265" Ctrs., Trmls.; G2-10-4 has wall 1.08" (W), 1.78" (L), W/.093" holes spaced .250", Trmls.; G2.1-8-4 has wall .60" (W), 1.62" (L), W/.062" holes spaced .141" Ctrs., Trmls.; G2.2-8-4 has wall .46" (W), 2" (L) W/.062" holes spaced .141" Ctrs., Trmls.



10-12



8-A12T

POST SOCKET TURRETS

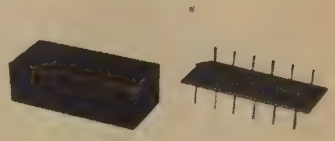
Catalog Numbers Comm. Types	Military Types	Turret Details Height	No. of Term.	No. of Rings	Space Between Rings	Net Price Comm. Type 1-49
OCTAL SOCKET TURRETS						
8-0-9T	681	2"	9	2	1"	$ .68
10-0-9T	683	2½"	9	2	1⅜"	.72
7-PIN SOCKET TURRETS						
6-M-6T	687	1½"	6	1	—	.72
8-M-9T	688	2"	9	2	1"	.79
9-PIN SOCKET TURRETS						
6-N-6T	693	1½"	6	1	—	.72
8-N-9T	694	2"	9	2	1"	.79
TERMINAL TURRETS						
8-12	677	1-27/32"	12	2	1"	.66
10-12	678	2"	12	2	1⅜"	.70
TRANSISTOR TURRETS						
8-A-12T		2-11/32"	12	2	1⅜"	1.23

Note: Tolerance on dimensions 1/16"

Longer or shorter types and other terminals configuration to order.

Vector Socket, Terminal and Transistor Turrets simplify electronic construction. Faster wiring, greater component density and higher reliability are assured by their use. Transistor sockets accommodate 3-in-line or "top-hat" transistors. Commercial types have mica filled sockets, hot tin dipped steel saddles and XXXP phenolic turret posts with brass tinned terminals. Military types (premium grade) have MIL sockets with beryllium copper silver plated socket contacts, brass nickel plated hot tin dipped saddles and glass silicone turret posts with tinned brass terminals.

PATENTED



LOW PROFILE PLUG-IN EPOXY SHELLS AND EPOXY GLASS HEADERS FOR PACKAGING.

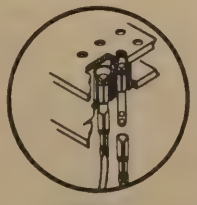
- Hybrid Circuits
- Reed Relays
- Pulse Transformers
- Resistor & Diode Networks
- Analog Circuitry
- Operational Amplifiers

SHELL Catalog No.	Dim. A	Net Price Pkg. 5	HEADERS Dim. A	Blank No Holes Cat. No.	Net Price Pkg. 5	With .042 Pins Installed No.	Cat. No.	Net Price Pkg. 5
3835	.99	$2.00	.92	K3850	$ .50	6	K3852	$2.40
3835-1	1.39	2.00	1.32	K3850-1	.50	8	K3852-1	3.10
3835-2	1.99	2.00	1.92	K3850-2	.60	12	K3852-2	3.80

PATCHBOARDS



PB1020-2



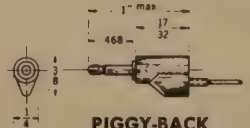
DETAIL



PATCHCORD K2.06



JUMPER PLUG K2.02-1



PIGGY-BACK PATCHORD

Vector Fixed Panel style Patchboards provide simple but reliable low-cost units for multiple connection, single conductor patching for test panels, automation and telemetry equipment, low cost computers, numerical control equipment, paging and speaker systems or other equipment where economy and connection multiplicity are desired.

Extremely low contact resistance (less than .001 ohms) and long contact life (over 2000 insertions per contact without resistance change) assures reliability.

All boards except -4 are marked front and back with horizontal rows lettered alphabetically and vertical columns numbered -4 types have blank front panels. Brackets for mounting are supplied.

Holes for plugs are .093" diameter, spaced on .265" centers. Front panels are removable and may be changed if necessary. Larger contact systems can be made by mounting standard panels adjacent. Special sizes, special marking and screening in colors are made to order at minimum cost.

SPECIFICATIONS:

Panels: Black XXXP phenolic, Type PBE-P. Grade EXXXP per MIL-P 3115, .093" thick with silkscreened white numbers and letters.

Contacts: Beryllium copper, nickel plated gold flashed, 2 holes for soldering on leads. Add letter "A" to Cat. No. if Wire-Wrap* tabs are desired to special order.

Patchcords: Plugs .087" — .091" diameter x .468" long, nickel plated with standard #20 gage wire vinyl insulation. 6" black, 9" yellow, 15" blue.

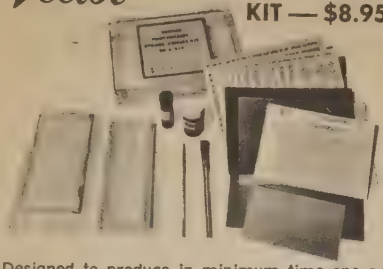
Cat. No.	No. of Contacts	Hole Layout	L W Thick	Net Price 1-49
PB110-2	10	10 x 1	2.985 x .600 x 1"	4.25
PB210-2	20	20 x 2	2.985 x .865 x 1"	4.45
PB510-2	50	10 x 5	2.985 x 1.660 x 1"	6.45
PB1010-2	100	10 x 10	2.985 x 2.985 x 1"	10.85
PB1020-2	200	20 x 10	5.635 x 2.985 x 1"	21.60
PB1520-2	300	20 x 15	5.635 x 4.310 x 1"	32.35
*K2.06	Patchcord, single contact ea. end 6" (25 per bdl.)			bdl/3.04
*K2.09	Patchcord, single contact ea. end 9" (25 per bdl.)			bdl/3.08
*K2.15	Patchcord, single contact ea. end 15" (25 per bdl.)			bdl/3.53
†K9.06	Patchcord, Piggy-back each end 6"			ea. .93
†K9.09	Patchcord, Piggy-back each end 9"			ea. .93
†K9.15	Patchcord, Piggy-back each end 15"			ea. .93
*K-2.02-1	Jumper Plug, Jumper type (25 per bdl.)			bdl/3.35
1723/41	Solderless slip on contact for rear connection			$22.33/M
P115	Crimping tool for above contact			85.00

* Net any quantity † Net price 1-999 * Gardner Denver T.M.

Removable Pre-Programming Patchboard and patchcords also available with 204, 300, 450, 600 and 1200 contacts. Write factory.

© United Technical Publications

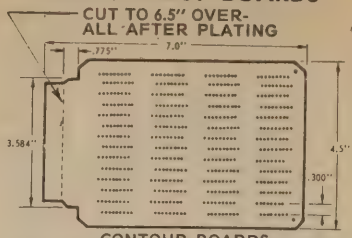
Vector 32X PHOTORESIST ETCHED CIRCUIT KIT — $8.95



Designed to produce in minimum time one or more sharply detailed etched circuit boards from easily made master positive. (This process differs from most other systems which use **NEGATIVE** acting photoresist.) Positive artwork is used with no photography or special darkroom required. Special I.C. patterns provided Apply transfer patterns to mylar film for master positive, place on pre-photo-sensitized Vectorbord® and expose to suitable light source such as photoflood or sunlight. Quickly developed in solution and tray provided. High speed etching in closable plastic box.

KIT CONTENTS: One 4.5" x 6.5" and one 4.5" x 2.73" copper clad (1 side) phenolic board sensitized with **POSITIVE** acting photoresist, developer, etchant, transfer patterns, mylar sheet, cut and peel sheet, touch-up resist and brush, developing tray, and glass exposure plate.

DIRECT POSITIVE PHOTO-RESIST BOARDS



CONTOUR BOARDS
with .042" holes on 0.1" centers for D.I.P's

Ideal for prototypes and many production uses. Last number in part no. indicates whether board is clad 1 or 2 sides. All boards are 1/16" thick with 1 oz. copper on phenolic, 2 oz. on glass epoxy.

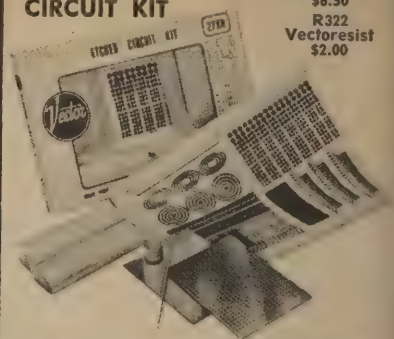
Catalog No.	Nichd	Hole Pat.	L	W	Mat'l.	Pkg. Qty.	Pkg. Price
CU90/80-1R	No	No	9.0	7.99	Phen.	5	$11.75
CU65/45-2R	No	No	6.5	4.5	Phen	5	7.45
CU65/45-1R	No	No	6.5	4.5	Phen	5	5.20
CU45/27-1R	No	No	4.5	2.73	Phen	5	2.65
CU70P45-2R	No	Yes	7.0	4.5	Phen	5	10.20
CU45/30WE-1R	No	No	4.5	3.0	Ep. Gl.	3	2.99
CU70/45WE-1R	No	No	7.0	4.5	Ep. Gl.	3	6.15
CU70/45WE-2RN	Yes	No	7.0	4.5	Ep. Gl.	3	7.35
CU70P45WE-1R	No	Yes	7.0	4.5	Ep. Gl.	3	7.45
CU70P45WE-1RN	Yes	Yes	7.0	4.5	Ep. Gl.	3	7.95
CU159/80WE-1R	No	No	15.85	7.98	Ep. Gl.	2	17.25
*0088-21-16	Developer, 8 oz. bottle					1	1.47

*This special formula developer must be used with direct positive photoresist. Any etchant may be used.

27XA ETCHED CIRCUIT KIT

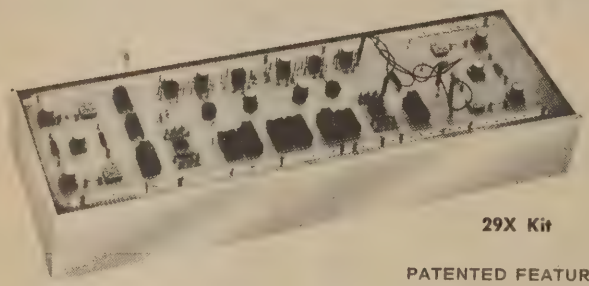
27XA Etched Circuit Kit $6.50

R322 Vectoresist $2.00



Low Cost—Fast—Has Everything Except Hot Water. Specially designed for lab use in making uncomplicated etched circuits. Kit built around Vectoresist, Vector's rub-on resist transfer sheet. Resist lines, dots, or connector pattern transfer by rubbing to furnished 1 oz. copper clad prepunched boards in minutes. Then etch in etchant furnished in heavy plastic bag with special activator in as little as 30 minutes. Kit includes 2 copper clad boards, 4½" x 6½". 2 bags of etchant, 8½" x 11" sheet rub-on Vectoresist, layout paper, complete instructions. See Kit Accessories page for Vectoresist details.

INTEGRATED CIRCUIT EXPERIMENTER'S KIT



29X Kit

PATENTED FEATURES

The 30X Kit is a compact assortment similar to the popular Vector 20X Kit except that it is adapted for use with integrated circuits and other semiconductor devices. Contains 8.6" x 4.6" extruded aluminum Frame-Loc Rail Chassis with "P" Pattern Micro-Vectorbord having .042" dia. holes on .1" ctrs., chassis bus strips, 100 Micro-Klip T42-1 terminals and one P149 Installing Tool, 50 K32 "J" terminals for Wire-Wrapping*, bare and insulated hook-up wire, 2 sheets grid layout paper and adhesive to mount D.I.P sockets. **$10.75.** *T.M. Gardner-Denver.

Kit 31X provides a larger Micro-Vectorbord®, 4½" x 17", holes .042" dia., spaced .1" ctrs., with Frame-Loc Chassis, and a larger assortment of nardware. In addition to hardware supplied in 30X Kit, there are 50 K24C Inbords Pins, two B20F pot and switch mounting brackets, with mtg. screws, lock-washers and nut and four additional sheets of grid layout paper supplied. **$17.50**

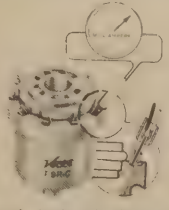
Kit 30XA provides I.C. mounting at minimum cost with an 8½" x 4½" "P" Pattern Micro Vectorbord, as with 30X kit, mounting supports and 100 T24-1 Micro-Klip terminals and installing tool. **$4.50.**

The 29X Kit is a special group of new Vector products especially designed for fast, easy hookups of nearly all package configurations of integrated circuits. The mounting surface is a pre-punched Micro-Vectorbord® having .042" diameter holes on 1/10" grid spacings supported on Vector Frame-Loc Rails 2" high. Dual-in-line packages may be fastened directly to the breadboard with the tails extending through the holes; or special sockets supplied may be used which have square tails which also push into the board. Integrated circuits of the TO-5 type may also be mounted with wafers, which are supplied, or in sockets supplied with leads formed to plug into the board. Transistor sockets whose leads also fit the board are supplied. Supplied T42-1 Micro-Klip push-in terminals fit board holes and are ideal for mounting discrete components of various types. Inbord Pins of .040" diameter also push into the holes for tie points or plug points. Wiring of these leads may be done by use of supplied polyurethane coated solderable wire which may be wrapped around the terminals and soldered through the insulation or by "Daisy Chain" patch cords which will connect directly to the Wire-Wrap* tabs or other pins, thus facilitating quick experimental connection. Flatpacks with .05" spaced leads may also be mounted by use of furnished adaptor plates which plug into the holes of the breadboard. These will normally be soldered to the adapter plate terminals. **$59.75.** *Gardner-Denver Trade Mark.

KIT CONTENTS

14- and 16-pin DIP Sockets, TO-5 ICP Sockets, Transistor Sockets, Flatpack Adapter Plates, T42-1 ZIP Terminals, K24C Inbord Pins, Adapter Wafers, "Daisy Chain" Patchcords, DIP Extractor Tool, P149A Insertion Tool for T-42-1 Terminals, Bus Strips, Layout Paper, Special Contacts, assorted wire, miscellaneous mounting hardware and P pattern Micro-Vectorbord.

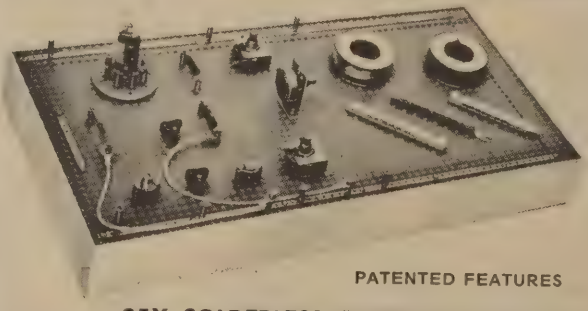
NOVAR AND COMPACTRON CURRENT TEST ADAPTERS



Vector current test adapters make possible tube circuit current or voltage measurements on any pin without cutting leads or making computations. All measurements may be made from the tube side of the electronic equipment without disturbing the chassis. Probes need not be held in position. Current is read at the meter where the two test leads are connected. Other models available.

Cat. No.	Type	Net Price
T-9-R-C	9 Pin Novar	$3.65
T-12-C	12 Pin Compactron	3.95
P-2	Dual Sided Plug-in Probe, required for above.	1.09
T-912-C	Set of Novar and Compactron Adapters with P-2 Probe in case.	9.89

VECTOR BASIC MODEL EXPERIMENTER KITS



PATENTED FEATURES

22X Kit for Transistor Circuitry — Special parts assortment for transistor circuitry. 4.8" x 8½" x 2" extruded aluminum Frame-Loc Chassis rail with 3/32" Vectorbord deck. Transistor sockets include 2 power type, 6 universal type, 75 Zip Push-in Terminals, 20 solderless Springclip terminals, 6 hookup patchcords, bus strip, terminal installing tools, bare and insulated hookup wire, 4 pot and switch brackets, 134 assorted screws, nuts, spacers, brackets. Board as above:

$11.50

25X SOLDERLESS EXPERIMENTER'S KIT

25X Solderless Tube and Transistor Experimenter's Chassis Kit—$21.45. Dual type solderless kit with full complement of tube and transistor sockets. Belongs in every electronics lab. Differs from other Vector kits because it includes large number of Solderless U-Clip terminals and special solderless connectors for pots and switches, plus more of all other components. Detail of contents: 8½" x 17" x 2" Extruded Aluminum chassis frame with 3.32" Vectorbord deck, 2 power and 6 universal transistor sockets with pigtails, 3 each 7 and 9 pin tube, 2-8 pin octal; 100 Zip Push-In Terminals, 90 Solderless Spring-clip terminals, 10 Solderless U-Clips, 10 hookup patchcords, bus strip, 8 wafers to make solderless sockets, terminal installing tools, bare and insulated wire, grid layout paper, 4 pot and switch brackets, 204 assorted screws, nuts, brackets. Board has 3/32" dia. holes on .265" centers.

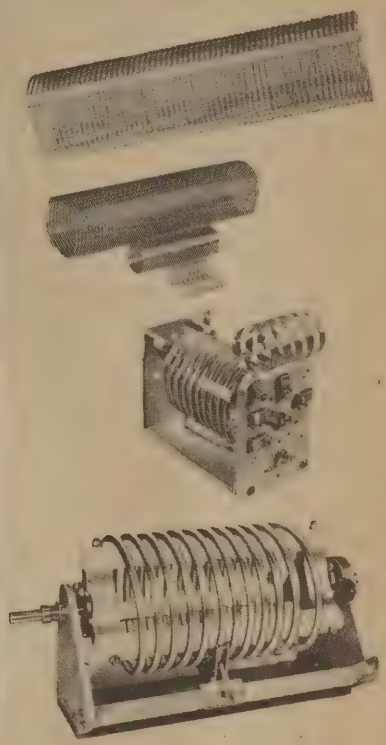
20X Starter Assortment — 4.8" x 8½" x 2" extruded aluminum Frame-Loc Chassis with 3/32" thick Vectorbord deck plus many other parts including: 3 each 7 and 9 pin tube sockets and 2 octal sockets with mounting hardware; 75 patented T9.4 Zip Push-In Terminals; 20 new T30N-2 Solderless Spring-clip with hand insertion tool; 3 sheets layout paper; 54 assorted screws, nuts, spacers. Ideal for beginners or simple circuits. **$6.75** (Not illustrated). Board as above but smaller.

© United Technical Publications

BARKER & WILLIAMSON INC.

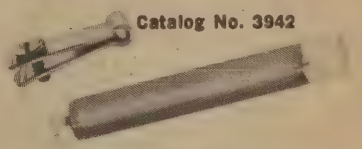
MINIDUCTORS AND COILS

SPECIFICATION						
Model Number	Coil Diameter	Turns per Inch	Length	Wire Size	Inductance (Approx.)	Consumer Net Prices
3001	½"	4	2"	18	.40	1.20
3002	½"	8	2"	18	.96	1.26
3003	½"	16	2"	20	3.2	1.38
3004	½"	32	2"	24	13.7	1.43
3005	⅝"	4	2"	16	.56	1.20
3006	⅝"	8	2"	18	1.4	1.26
3007	⅝"	16	2"	20	4.9	1.38
3008	⅝"	32	2"	24	19.2	1.43
3009	¾"	4	3"	16	.94	1.31
3010	¾"	8	3"	18	2.9	1.50
3011	¾"	16	3"	20	10.9	1.56
3012	¾"	32	3"	24	42.5	1.76
3013	1"	4	3"	16	1.9	1.34
3014	1"	8	3"	18	4.8	1.46
3015	1"	16	3"	20	19.9	1.59
3016	1"	32	3"	24	73.0	1.71
3017	1¼"	4	4"	14	2.56	1.38
3018	1¼"	8	4"	16	9.4	1.64
3019	1¼"	16	4"	18	37.5	1.95
3020	1¼"	32	4"	24	145	2.07
3021	1¾"	4	4"	14	4.5	1.64
3022	1¾"	8	4"	14	17.2	1.70
3023	1¾"	16	4"	18	72.0	2.00
3024	1¾"	32	4"	24	280	2.13
3025	2"	6	10"	12	33	3.53
3026	2"	8	10"	14	60	3.42
3027	2"	10	10"	16	92	3.38
3029	2½"	6	10"	12	52	4.05
3030	2½"	8	10"	14	92	3.86
3031	2½"	10	10"	16	142	3.60
3033	3"	6	10"	12	74	4.91
3034	3"	8	10"	14	135	4.71
3035	3"	10	10"	16	200	4.67



INDUCTANCE CLIP

A convenient device for making adjustable taps on B&W Air-Inductors ranging in wire size from No. 16 to No. 10. Price — Pkg. of 25 — $5.60



Catalog No. 3942

RF PLATE CHOKE MODEL 800

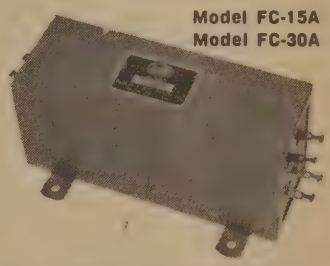
This unit is ideal for parallel or series fed high power final amplifier circuits. It is used for operation in the amateur bands — 80 through 10 meters inclusive. Winding is on a high quality grooved steatite form, threaded on both ends, for mounting with a ¼" — #20 screw. Rating is 2500 VDC at 500 Ma. Size 6" x ¾" in diameter. Shipping weight: 1 lb. Price — $6.30

RF FILAMENT CHOKES for Grounded Grid Amplifiers

Broadband characteristics from 80 through 10 meters inclusive, requiring no tuning. Used with standard types of filament transformers. Cased in sturdy steel shells with mounting brackets. Two types available.

Model No. FC15A for use with one or two tubes requiring a total of not more than 15 amps filament current. Dimensions: 2" x 2½" x 5". Price — $22.43

Model No. FC30A for one or two tubes requiring a total of not more than 30 amps filament current. Dimensions: 2" x 2½" x 5". Price — $28.50



Model FC-15A
Model FC-30A

ARRL HANDBOOK PROJECT KITS

ARRL "Novice Special Transmitter"

A 15 watt, 80-40 meter C.W. Transmitter for the novice constructor. Capable of spanning more than 1000 miles with its signal. 50-75 ohm Pi-net output. Kit includes all electronic and electrical components, knobs, wire and project instructions to complete kit. **Does not** include chassis or other metal material, screws or housing.

B&W Kit No. A111 ..... **Price $59.95**

Other Models Available	B&W Kit No.	Price
"10 Watt One Tube Transmitter"	A112	$69.95
"R.F. Actuated C.W. Monitor"	A113	19.95
"A 75-120 Watt C.W. Transmitter"	A114	85.00
"Matching Indicator For Low Power"	A115	17.95
"Q.R.P. Rig For 3.5 and 7 MHz"	A116	29.50
"Front End Overload Protection"	A117	8.25
"Transistorized VOX"	A118	39.95
"An FM Pip Squeak For 2 Meters"	A119	56.00
"All Band Electronic T.R. Switch"	A120	27.50
"Low Noise Converter For 50 MHz"	A121	43.50
"Low Noise Converter 144 MHz"	A122	48.50
"Trap Antenna"	A124	21.50
"Two Broad Band Toroidal Balun"	A125	10.95
"Wide Range Transmission Line Coupler"	A126	89.65

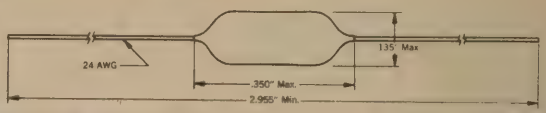


DALE® for Maximum Value in Inductive Components

TYPE IR-2 EPOXY CONFORMAL COATED INDUCTORS

■ Designed primarily for commercial applications
■ Combines durability and low cost ■ Flame retardant coating

Standard tolerance: ±10%. **Inductance range:** .10 μh to 1000 μh. 49 standard values. Q, self-resonant frequency, DC resistance, rated current and core material as specified in MS-75083, 75084 and 75085.

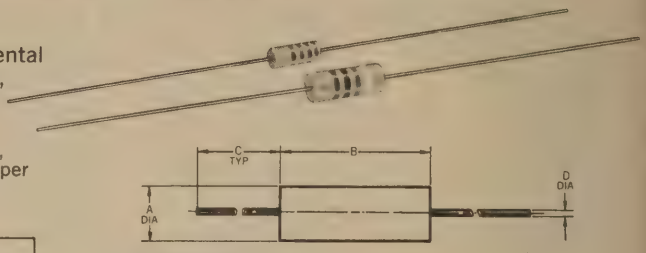


Maximum Dimensions: Body .350" L x .135" W with leads 2.955" L.

TYPE IM-2 and IM-4 MOLDED INDUCTORS

■ Designed to meet electrical, material, mechanical and environmental requirements of MIL-C-15305D ■ Features precision performance, reliability ■ Wide range of inductance values in a small package
■ Flame retardant molded coating

Standard values IM-2 (49) and IM-4 (47). Tolerance, Q, test frequency L & Q, self-resonant frequency, DC resistance, DC current rating and core material per standards shown in the Inductance Range and MIL Standard Chart below.



INDUCTANCE RANGE

MODEL NO.	INDUCTANCE RANGE FROM	INDUCTANCE RANGE TO	CLASSIFICATION GRADE	CLASSIFICATION CLASS	MILITARY STANDARD
IM-2	.10 μh	1.00 μh	1	B	MS-75083
	1.2 μh	27. μh	1	A	MS-75084
	33. μh	1000. μh	1	A	MS-75085
IM-4	.15 μh	33. μh	1	B	MS-18130
	36. μh	240. μh	1	A	MS-90538

DIMENSIONS

MODEL NO.		A	B	C	D
IM-2	MAX.	.105	.260	1.626	.0215
	MIN.	.085	.240	1.250	.0185
IM-4	MAX.	.165	.385	1.626	.027
	MIN.	.145	.365	1.250	.023

STANDARD VALUES & ELECTRICAL SPECIFICATIONS

MODEL NO. IR-2 & IM-2

IND. (μh)	TOL.	Q MIN.	TEST FREQ. L & Q (Mhz)	SELF-RESONANT FREQ. MIN. (Mhz)	DC RESISTANCE MAX. (Ω)	RATED DC CURRENT (ma)	CORE MATERIAL
.10	±10%	40	25.0	680	.08	1350	PHENOLIC
.12	±10%	40	25.0	640	.09	1270	
.15	±10%	38	25.0	600	.10	1200	
.18	±10%	35	25.0	550	.12	1105	
.22	±10%	33	25.0	510	.14	1025	
.27	±10%	33	25.0	430	.16	960	
.33	±10%	30	25.0	410	.22	815	
.39	±10%	30	25.0	365	.30	700	
.47	±10%	30	25.0	330	.35	650	
.56	±10%	30	25.0	300	.50	545	
.68	±10%	28	25.0	275	.60	495	
.82	±10%	28	25.0	250	.85	415	
1.00	±10%	25	25.0	230	1.00	385	
1.20	±10%	25	7.9	150	.18	590	IRON
1.50	±10%	28	7.9	140	.22	535	
1.80	±10%	30	7.9	125	.30	455	
2.20	±10%	30	7.9	115	.40	395	
2.70	±10%	37	7.9	100	.55	355	
3.30	±10%	45	7.9	90	.85	270	
3.90	±10%	45	7.9	80	1.00	250	
4.70	±10%	45	7.9	75	1.20	230	
5.60	±10%	50	7.9	65	1.80	185	
6.80	±10%	50	7.9	60	2.00	175	
8.20	±10%	55	7.9	55	2.70	155	
10.0	±10%	55	7.9	50	3.70	130	
12.0	±10%	45	2.5	40	2.70	155	
15.0	±10%	40	2.5	35	2.80	150	
18.0	±10%	50	2.5	30	3.10	145	
22.0	±10%	50	2.5	25	3.30	140	
27.0	±10%	50	2.5	20	3.50	135	
33.0	±10%	45	2.5	24	3.4	193	FERRITE
39.0	±10%	45	2.5	22	3.6	185	
47.0	±10%	45	2.5	20	4.5	167	
56.0	±10%	45	2.5	18	5.7	150	
68.0	±10%	50	2.5	15	6.7	137	
82.0	±10%	50	2.5	14	7.3	132	
100.	±10%	50	2.5	13	8.	125	
120.	±10%	30	.79	12	13.	100	
150.	±10%	30	.79	11	15.	90	
180.	±10%	30	.79	10	17.	84	
220.	±10%	30	.79	9	21.	76	
270.	±10%	30	.79	8	25.	70	
330.	±10%	30	.79	7	28.	65	
390.	±10%	30	.79	6.5	35.	60	
470.	±10%	30	.79	6	42.	53	
560.	±10%	30	.79	5	46.	51	
680.	±10%	30	.79	4	60.	45	
820.	±10%	30	.79	3.8	65.	43	
1000.	±10%	30	.79	3.4	72.	41	

MODEL NO. IM-4

IND. (μh)	TOL.	Q MIN.	TEST FREQ. L & Q (Mhz)	SELF-RESONANT FREQ. MIN. (Mhz)	DC RESISTANCE MAX. (Ω)	RATED DC CURRENT (ma)	CORE MATERIAL
.15	±20%	50	25.0	525.	.03	2450	PHENOLIC
.22	±20%	50	25.0	450.	.055	1900	
.33	±20%	45	25.0	360.	.09	1400	
.47	±20%	45	25.0	310.	.12	1225	
.56	±10%	50	25.0	280.	.135	1220	
.68	±10%	50	25.0	250.	.15	1100	
.82	±10%	50	25.0	220.	.22	900	
1.00	±10%	50	25.0	200.	.29	830	
1.20	±10%	33	7.9	180.	.42	650	
1.50	±10%	33	7.9	160.	.50	600	
1.80	±10%	33	7.9	150.	.65	525	
2.20	±10%	33	7.9	135.	.95	435	
2.70	±10%	33	7.9	120.	1.20	385	
3.30	±10%	33	7.9	110.	2.00	300	
3.90	±10%	33	7.9	100.	2.30	280	
4.70	±10%	33	7.9	90.	2.60	260	
5.60	±10%	45	7.9	60.	.32	750	IRON
6.80	±10%	50	7.9	55.	.50	600	
8.20	±10%	50	7.9	50.	.60	545	
10.0	±10%	55	7.9	45.	.90	445	
12.0	±10%	65	2.5	42.	1.10	404	
15.0	±10%	65	2.5	40.	1.40	370	
18.0	±10%	75	2.5	34.	2.25	280	
22.0	±10%	75	2.5	30.	2.50	265	
27.0	±10%	60	2.5	25.	2.60	260	
33.0	±10%	65	2.5	19.	3.00	250	
36.0	± 5%	60	2.5	15.5	2.50	180	
39.0	± 5%	60	2.5	14.5	2.60	176	
43.0	± 5%	60	2.5	13.7	2.70	172	
47.0	± 5%	55	2.5	13.0	2.75	170	
51.0	± 5%	55	2.5	12.7	2.85	167	
56.0	± 5%	55	2.5	12.0	3.00	164	
62.0	± 5%	55	2.5	11.5	3.15	160	
68.0	± 5%	55	2.5	11.0	3.30	156	
75.0	± 5%	55	2.5	10.5	3.70	147	
82.0	± 5%	50	2.5	10.3	3.90	143	
91.0	± 5%	50	2.5	10.0	4.30	136	
100.0	± 5%	50	2.5	9.5	4.50	133	
110.0	± 5%	60	.79	8.9	4.90	128	
120.0	± 5%	65	.79	8.7	5.20	124	
130.0	± 5%	65	.79	8.5	5.45	121	
150.0	± 5%	65	.79	8.0	6.05	114	
160.0	± 5%	65	.79	7.5	6.40	111	
180.0	± 5%	65	.79	7.0	6.75	108	
200.0	± 5%	65	.79	6.5	7.10	106	
220.0	± 5%	65	.79	6.2	7.45	103	
240.0	± 5%	65	.79	5.9	7.80	101	

© United Technical Publications

NORTH HILLS · HIGH-PERFORMANCE COILS, ADJUSTABLE & FIXED

TO COVER ALL FREQUENCY RANGES FROM AUDIO TO 200 MHZ

COILS ON CERAMIC FORMS PER MIL-I-10



Series No.	Dimensions (Inches) Dia.	Length	Mtg. Hole Dia. (Inches)
1000	.50	.88	.196
1020	.50	.63	.050, .500 Apart
1100	.33	.63	.166
1300	.70	1.80	.252
1010	.43	.88	.196

Miniature 1000 Series

Part No.	Range Microhenries	Average Q
1000-A	1.0- 1.6	70 @ 7.9 MHz
1000-B	1.6- 2.7	80 @ 7.9 MHz
1000-C	2.7- 4.5	85 @ 7.9 MHz
1000-D	4.5- 8.5	85 @ 7.9 MHz
1000-E	8.5-14.5	75 @ 2.5 MHz
1000-F	14.5-22	65 @ 2.5 MHz
1000-G	22-29	65 @ 2.5 MHz
1000-H	29-55	85 @ 2.5 MHz
1000-I	55-110	80 @ 2.5 MHz
1000-J	110-185	85 @ .79 MHz
1000-K	185-305	85 @ .79 MHz
1000-L	305-515	85 @ .79 MHz
1000-M	515-820	85 @ .79 MHz
1000-N	820-1100	75 @ .79 MHz

RF Printed Circuit Coils

1020-A	0.41- 0.53	75 @ 25 MHz
1020-B	0.85- 1.15	65 @ 7.9 MHz
1020-C	1.87- 2.50	65 @ 7.9 MHz
1020-D	4.0 - 5.4	70 @ 7.9 MHz
1020-E	7.5 -12.5	70 @ 2.5 MHz
1020-F	20 -29	80 @ 2.5 MHz
1020-G	33 -61	80 @ 2.5 MHz
1020-H	80 -120	60 @ 0.79 MHz
1020-I	170 -260	70 @ 0.79 MHz

Subminiature 1100 Series

1100-A	0.9- 1.4	60 @ 7.9 MHz
1100-B	1.4- 1.9	70 @ 7.9 MHz
1100-C	1.9- 2.6	65 @ 7.9 MHz
1100-D	2.6- 3.7	65 @ 7.9 MHz
1100-E	3.7- 5.5	65 @ 7.9 MHz
1100-F	5.5- 7.4	60 @ 7.9 MHz
1100-G	7.4-12.5	70 @ 7.9 MHz
1100-H	12.5-18.0	65 @ 2.5 MHz
1100-I	18.0-28.0	70 @ 2.5 MHz
1100-J	28.0-38.0	70 @ 2.5 MHz
1100-K	38.0-55.0	70 @ 2.5 MHz

Transmitter 1300 Series

1300-A	For use from 90-200 MHz	
1300-B	For use from 40-90 MHz	
1300-C	For use from 20-40 MHz	
1300-D	0.7- 1.1	170 @ 25 MHz
1300-E	1.1- 1.7	130 @ 7.9 MHz
1300-F	1.7- 2.7	140 @ 7.9 MHz
1300-G	2.7- 4.5	140 @ 7.9 MHz
1300-H	4.5- 6.8	140 @ 7.9 MHz
1300-I	6.8-10.8	140 @ 7.9 MHz
1300-J	10.8-17.0	110 @ 2.5 MHz
1300-K	17.0-29.0	95 @ 2.5 MHz
1300-L	29.0-45.0	100 @ 2.5 MHz
1300-M	45.0-75.0	100 @ 2.5 MHz

HF Coils, Variable Approx. ±15%

1010-A	0.118	115 @ 50 MHz
1010-B	0.225	125 @ 25 MHz
1010-C	0.315	130 @ 25 MHz

WIDE ADJUSTMENT RANGE 120 SERIES



120 Series Mica-filled form
PCS-120 Series Phenolic form
.75" O.D. x 1.3" H.
.196" dia. mtg. hole
PC-120 Series Phenolic form
.5" O.D. x 1.25" L.
.05" Pins,
.70" Apart

Part No.	Range Microhenries	Average Q
120-A	2-3	70 @ 7.9 MHz
120-B	3-5	80 @ 7.9 MHz
120-C	5-9	85 @ 7.9 MHz
120-D	9-18	65 @ 2.5 MHz
120-E	18-36	70 @ 2.5 MHz
120-F	36-64	65 @ 2.5 MHz
120-G	64-105	85 @ 2.5 MHz
120-H	105-200	80 @ .79 MHz
120-I	200-500	75 @ .79 MHz
120-J	500-1000	85 @ .79 MHz
120-K	1000-2000	50 @ .25 MHz



Subminiature 600 Series

- Variable ±10%
- Shielded
- 0.3" O.D. x 0.4" H
- .020" Leads .30" Apart

Part No.	Nominal Microhenries	Average Q
600U1X0	1.0	120 @ 7.9 MHz
600U1X5	1.5	120 @ 7.9 MHz
600U2X2	2.2	120 @ 7.9 MHz
600U3X3	3.3	130 @ 7.9 MHz
600U4X7	4.7	125 @ 7.9 MHz
600U6X8	6.8	140 @ 7.9 MHz
600U10X	10	135 @ 7.9 MHz
600U15X	15	130 @ 2.5 MHz
600U22X	22	135 @ 2.5 MHz
600U33X	33	130 @ 2.5 MHz
600U47X	47	130 @ 2.5 MHz
600U68X	68	120 @ 2.5 MHz
600MX10	100	100 @ 2.5 MHz
600MX15	150	125 @ .79 MHz
600MX22	220	130 @ .79 MHz
600MX33	330	125 @ .79 MHz
600MX47	470	120 @ .79 MHz
600MX68	680	100 @ .79 MHz
600M1X0	1000	100 @ .79 MHz



High Q RF Coils, Fixed

- .75" O.D. x .63" H
- Hermetically sealed
- Complete shielding
- For printed circuitry
- For standard circuitry

Part No.	Nominal Microhenries	Average Q
1219-A	0.47 ± 5%	170 @ 20 MHz
1219-B	1.0 ± 5%	170 @ 10 MHz
1219-C	2.2 ± 5%	170 @ 8 MHz
1219-D	4.7 ± 5%	170 @ 5 MHz
1219-E	10 ± 5%	170 @ 3 MHz
1219-F	22 ± 3%	170 @ 1.5 MHz
1219-G	47 ± 3%	170 @ 1 MHz
1219-H	100 ± 3%	170 @ 0.8 MHz
1219-I	220 ± 3%	170 @ 0.7 MHz
1219-J	470 ± 3%	170 @ 0.6 MHz
1219-K	1000 ± 3%	170 @ 0.5 MHz
1219-L	2200 ± 3%	150 @ 0.25 MHz

Hi Q 801, 802 Series, Adjustable ±10%



Industrial
801, 802 Series
1.18" O.D. x .93" H

Hermetically Sealed
MS801, MS802 Series
1.25" O.D. x 1.25" H

Part No.	Nominal Millihenries	Peak Q
801M1X0	1.0	100 @ 10 kHz
801M1X5	1.5	100 @ 10 kHz
801M2X2	2.2	100 @ 10 kHz
801M3X3	3.3	100 @ 10 kHz
801M4X7	4.7	100 @ 10 kHz
801M6X8	6.8	100 @ 10 kHz
801M10X	10	200 @ 20 kHz
801M15X	15	200 @ 20 kHz
801M22X	22	200 @ 20 kHz
801M33X	33	200 @ 20 kHz
801M47X	47	200 @ 20 kHz
801M68X	68	200 @ 20 kHz
801HX10	100	300 @ 30 kHz
801HX15	150	300 @ 30 kHz
801HX22	220	300 @ 30 kHz
801HX33	330	250 @ 20 kHz
801HX47	470	250 @ 20 kHz
801HX68	680	250 @ 20 kHz
801H1X0	1000	150 @ 15 kHz
802M1X0	1.0	400 @ 100 kHz
802M1X5	1.5	400 @ 100 kHz
802M2X2	2.2	400 @ 100 kHz
802M3X3	3.3	400 @ 100 kHz
802M4X7	4.7	400 @ 100 kHz
802M6X8	6.8	400 @ 100 kHz
802M10X	10	400 @ 70 kHz
802M15X	15	400 @ 70 kHz
802M22X	22	400 @ 70 kHz
802M33X	33	400 @ 70 kHz
802M47X	47	400 @ 40 kHz

SHIELDED COILS



- Shielded
- Encapsulated

- .44" Diameter **900 Series**

Part No.	Range Microhenries	Average Q
900-A	0.5- 0.8	80 @ 25 MHz
900-B	0.8- 1.3	70 @ 18 MHz
900-C	1.3- 2.0	60 @ 15 MHz
900-D	2.0- 4.0	70 @ 8 MHz
900-E	4.0- 7.0	70 @ 5 MHz
900-F	7.0-12.0	70 @ 4 MHz
900-G	12.0-20.0	70 @ 3 MHz
900-H	20.0-35.0	70 @ 2.5 MHz
900-I	35.0-60.0	70 @ 2.0 MHz
900-J	60.0-100.0	70 @ 1.0 MHz

- .63" Diameter **1500 Series**

Part No.	Range Millihenries	Average Q
1500-A	.100- .175	80 @ 790 kHz
1500-B	.175- .300	80 @ 790 kHz
1500-C	.300- .500	80 @ 790 kHz
1500-D	.500- .800	75 @ 790 kHz
1500-E	.800-1.15	55 @ 500 kHz
1500-F	1.15-1.50	55 @ 250 kHz
1500-G	1.50-2.30	55 @ 250 kHz
1500-H	2.30-3.50	50 @ 250 kHz
1500-I	3.50-7.50	40 @ 250 kHz

North Hills Electronics, INC.

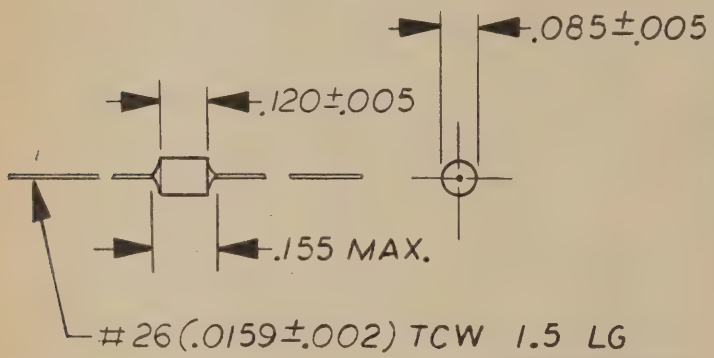
© United Technical Publications

Nytronics, Inc.

Inductors

new! Pee Wee Ductor Series

The amazing **PEE-WEE DUCTOR** represents a 66% size reduction from the smallest magnetically shielded axial leaded inductor series heretofore available anywhere. Furthermore, this size reduction was obtained with negligible loss of electrical performance by employing several unique concepts in RF coil design.



ALL DIMENSIONS IN INCHES

ELECTRICAL CHARACTERISTICS:

Inductance Tolerance: ± 10% (Std).

L,Q,F, values: Measurements per MIL-C-15305.

Incremental Current: Incremental current in table is for 5% reduction in inductance value.

Dielectric Strength: 300 Volts RMS @ Sea Level.

Temperature Coefficient of Inductance values: Temperature Range of −20°C to +80°C.

Inductance	Temp. Coefficient
0.10uH thru 1.0uH	+50 PPM/C
1.2uH thru 10uH	+100 PPM/C
12uH thru 100uH	+200 PPM/C
120uH thru 1000uH	+500 PPM/C

DENSITY CHARACTERISTICS:

Volume: .0007 Cubic Inches

Weight: 0.12 Grams

Shielding: 5% maximum coupling for two units side by side.

Marking: EIA color banded

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS:

Terminal pull: 3 lbs. minimum.

Environmental: Will meet the requirements of MIL-C-15305 Grade and Class 5.

OPTIONS:

Inductance Values: Additional Inductance Values from .025 uH up to 10,000 uH available on special order.

PEE-WEE DUCTOR STANDARD VALUES

NYTRONICS PART NO.	L μH	Q min. @	MC	min. Fo MC	Max. DCR at 25°C Ω	Max. I mA	Incr. I mA
PW- 0.10	.10	52	25	500	.060	1500	*
PW- 0.12	.12	52	25	480	.070	1400	*
PW- 0.15	.15	52	25	450	.080	1300	*
PW- 0.18	.18	55	25	430	.090	1200	*
PW- 0.22	.22	55	25	390	.11	1100	*
PW- 0.27	.27	55	25	340	.12	1000	*
PW- 0.33	.33	52	25	310	.14	950	*
PW- 0.39	.39	52	25	280	.16	900	*
PW- 0.47	.47	50	25	250	.20	800	*
PW- 0.56	.56	50	25	220	.25	750	*
PW- 0.68	.68	48	25	200	.27	700	*
PW- 0.82	.82	48	25	180	.36	600	*
PW- 1.0	1.0	45	25	165	.40	525	*
PW- 1.2	1.2	45	7.9	150	.70	425	*
PW- 1.5	1.5	45	7.9	130	.80	400	*
PW- 1.8	1.8	45	7.9	120	.90	350	*
PW- 2.2	2.2	45	7.9	110	1.3	320	*
PW- 2.7	2.7	45	7.9	100	1.8	275	*
PW- 3.3	3.3	42	7.9	70	1.7	290	*
PW- 3.9	3.9	45	7.9	65	1.8	275	*
PW- 4.7	4.7	45	7.9	58	2.6	225	*
PW- 5.6	5.6	45	7.9	54	2.9	210	*
PW- 6.8	6.8	45	7.9	50	3.3	200	*
PW- 8.2	8.2	45	7.9	48	4.5	170	*
PW- 10	10	45	7.9	45	4.8	165	*
PW- 12	12	45	2.5	40	2.0	250	230
PW- 15	15	45	2.5	36	2.5	230	180
PW- 18	18	45	2.5	31	3.5	195	150
PW- 22	22	46	2.5	28	4.5	170	135
PW- 27	27	48	2.5	25	5.0	160	115
PW- 33	33	48	2.5	23	5.5	150	105
PW- 39	39	48	2.5	22	7.0	140	100
PW- 47	47	50	2.5	21	7.5	135	95
PW- 56	56	52	2.5	19	8.0	130	90
PW- 68	68	55	2.5	18	9.0	120	83
PW- 82	82	55	2.5	16	14	95	65
PW- 100	100	55	2.5	14	16	90	70
PW- 120	120	34	.79	9.5	10	115	40
PW- 150	150	34	.79	8.8	12	105	35
PW- 180	180	34	.79	8.1	15	90	32
PW- 220	220	36	.79	7.8	20	80	30
PW- 270	270	36	.79	7.3	23	75	27
PW- 330	330	36	.79	6.8	26	70	25
PW- 390	390	36	.79	6.0	35	65	23
PW- 470	470	38	.79	5.6	37	60	21
PW- 560	560	40	.79	5.0	40	58	20
PW- 680	680	40	.79	4.3	48	54	18
PW- 820	820	40	.79	3.8	54	47	17
PW-1000	1000	40	.79	3.5	65	43	15

* GREATER THAN MAX I

© United Technical Publications

Nytronics, Inc.

Inductors

Super Wee-Ductor Molded Shielded Inductor

Reliable Molded Shielded Miniature Inductor. Inductance Range: 0.1uH to 100,000 uH.

The **SUPER WEE-DUCTOR** is an R.F. Inductor specifically designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. The SUPER WEE-DUCTOR epoxy molded envelope and shielding offers the design engineer reliability, electrical performance, design flexibility, and minimum coupling in high density packaging.

ELECTRICAL CHARACTERISTICS

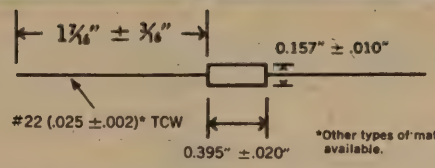
Inductance Tolerance: ±10% std. Other tolerances available.
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Q and Rp Values: Measured on a Q-Meter. Minimum Rp values at listed frequencies are all conservative.
Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.0076 cubic inches
Weight: 0.75 grams maximum
Shielding: At 1000 cycles two units assembled side by side exhibit less than 3% coupling.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G,11 MS.
Marking: Color coded per MIL-C-15305C.



MATERIAL	NYTRONICS CATALOG NO.	L mH	Q min		min. Fo MC	approx. Cd mmF	Max DCR at 125°C Ω	Max. I mA	Incr.** I mA
PHENOLIC	SWD- 0.10	0.10	50	25	500	0.67	0.025	2900	2900
	SWD- 0.12	0.12	51	25	450	0.67	0.034	2800	2800
	SWD- 0.15	0.15	51	25	400	0.67	0.037	2750	2750
	SWD- 0.18	0.18	50	25	375	0.67	0.047	2200	2200
	SWD- 0.22	0.22	49	25	330	0.67	0.067	1700	1700
	SWD- 0.27	0.27	47	25	290	0.67	0.11	1500	1500
	SWD- 0.33	0.33	46	25	280	0.67	0.13	1300	1308
	SWD- 0.39	0.39	44	25	256	0.67	0.18	1100	1100
	SWD- 0.47	0.47	44	25	235	067	0.25	1000	1000
	SWD- 0.56	0.56	43	25	210	0.67	0.33	900	900
	SWD- 0.68	0.68	42	25	190	0.67	0.45	750	750
	SWD- 0.82	0.82	40	25	180	0.67	0.59	600	600
IRON	SWD- 1.0	1.0	47	25	140	0.84	0.070	1900	1900
	SWD- 1.2	1.2	46	7.9	130	0.83	0.083	1600	1600
	SWD- 1.5	1.5	45	7.9	115	0.83	0.12	1300	1308
	SWD- 1.8	1.8	43	7.9	105	0.83	0.14	1200	1200
	SWD- 2.2	2.2	45	7.9	100	0.73	0.19	1100	1100
	SWD- 2.7	2.7	46	7.9	92	0.73	0.26	950	950
	SWD- 3.3	3.3	44	7.9	85	0.76	0.35	800	800
	SWD- 3.9	3.9	44	7.9	75	0.73	0.40	750	750
	SWD- 4.7	4.7	44	7.9	70	0.73	0.55	650	650
	SWD- 5.6	5.6	47	7.9	65	0.73	0.72	550	550
	SWD- 6.8	6.8	50	7.9	55	0.78	1.02	500	500
	SWD- 8.2	8.2	50	7.9	50	0.78	1.32	475	475
	SWD- 10	10	49	7.9	46	0.84	1.62	450	450
	SWD- 12	12	55	2.5	44	0.73	2.00	400	400
FERRITE	SWD- 15	15	44	2.5	49	0.48	0.80	620	250
	SWD- 18	18	45	2.5	45	0.48	0.89	610	235
	SWD- 22	22	46	2.5	41	0.48	0.96	600	220
	SWD- 27	27	49	2.5	38	0.48	1.19	500	200
	SWD- 33	33	45	2.5	34	0.48	1.37	490	190
	SWD- 39	39	53	2.5	29	0.48	1.93	410	180
	SWD- 47	47	52	2.5	27	0.48	2.11	400	175
	SWD- 56	56	49	2.5	25	0.48	2.23	380	160
	SWD- 68	68	51	2.5	21	0.50	2.70	370	150
	SWD- 82	82	45	2.5	10.5	1.70	2.44	360	140

MATERIAL	NYTRONICS CATALOG NO.	L mH	Q min		min. Fo MC	approx. Cd mmF	Max DCR at 125°C Ω	Max. I mA	Incr.** I mA
FERRITE	SWD- 100	100	52	2.5	10.0	1.70	3.12	325	120
	SWD- 120	120	57	.79	9.7	1.40	3.60	290	95
	SWD- 150	150	56	.79	8.5	1.50	4.10	275	90
	SWD- 180	180	60	.79	8.0	1.40	4.40	260	85
	SWD- 220	220	58	.79	7.5	1.30	5.00	250	80
	SWD- 270	270	60	.79	7.0	1.30	5.80	240	70
	SWD- 330	330	54	.79	6.5	1.10	6.40	225	65
	SWD- 390	390	67	.79	6.2	1.00	7.40	200	60
	SWD- 470	470	60	.79	5.7	1.00	9.40	180	58
	SWD- 560	560	60	.79	4.7	1.30	10.5	174	55
	SWD- 680	680	60	.79	4.5	1.10	11.8	168	50
	SWD- 820	820	57	.79	4.2	1.10	13.0	152	45
	SWD- 1000	1000	65	.79	3.8	1.10	17.5	135	40
	SWD- 1200	1200	49	.25	1.5	6.20	22.1	115	35
	SWD- 1500	1500	48	.25	1.2	8.20	26.5	110	33
	SWD- 1800	1800	47	.25	1.0	8.70	29.9	105	30
	SWD- 2200	2200	50	.25	0.97	8.00	33.6	99	27
	SWD- 2700	2700	47	.25	0.92	7.00	47.3	83	25
	SWD- 3300	3300	43	.25	0.84	7.20	53.0	80	22
	SWD- 3900	3900	43	.25	0.80	6.50	73.8	67	20
	SWD- 4700	4700	44	.25	0.74	6.40	81.6	63	19
	SWD- 5600	5600	45	.25	0.73	5.50	98.9	56	17
	SWD- 6800	6800	43	.25	0.66	5.50	111.0	54	16
	SWD- 8200	8200	42	.25	0.54	6.70	119.0	52	15
	SWD- 10,000	10,000	39	.25	0.47	7.30	137.0	49	14
	SWD- 12,000	12,000	31	.079	0.33	12.0	143.0	46	13
	SWD- 15,000	15,000	31	.079	0.29	12.7	157.0	45	12
	SWD- 18,000	18,000	31	.079	0.28	11.2	175.0	41	10
	SWD- 22,000	22,000	27	.079	0.25	11.6	274.0	33	9
	SWD- 27,000	27,000	27	.079	0.21	12.9	308.0	31	8
	SWD- 33,000	33,000	27	.079	0.19	13.3	343.0	30	7.5
	SWD- 39,000	39,000	27	.079	0.17	14.1	376.0	27	6.0
	SWD- 47,000	47,000	23	.079	0.16	13.5	473.0	26	5.5
	SWD- 56,000	56,000	23	.079	0.14	13.2	512.0	25	5.0
	SWD- 68,000	68,000	23	.079	0.13	13.2	580.0	24	4.0
	SWD- 82,000*	82,000	21	.079	0.12	12.8	618.0	23	3.5
	SWD-100,000	100,000	18	.079	0.11	12.3	678.0	22	3.0

****INCREMENTAL CURRENT** The D.C. current required to cause a 5% reduction in the nominal inductance value.

Molded Non-Shielded S, M, and L Inductors

Proven reliability molded inductors designed to meet MIL-C-15305A. Inductance 0.10 to 10,000 uH in three envelopes.

These units, offer the design engineer a rugged, molded inductor that has been recognized for years throughout the industry for exceptional reliability in critical circuitry applications.

ELECTRICAL CHARACTERISTICS

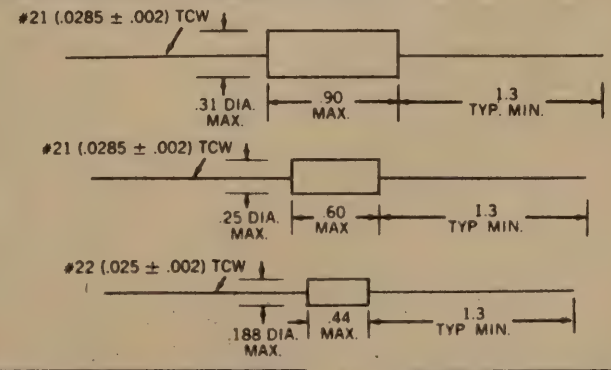
Inductance Tolerance: 0.1 to 22uH ±10% on Q-Meter
27uH to 10,000 ±5% 1,000 cps bridge
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data and measured with full length leads on Grid-Dip Meter.
Q and Rp Values: Measured on Q-Meter.
Rating: ⅓ watt dissipation for series S and M and ½ watt dissipation for L series.

DENSITY CHARACTERISTICS

Volume: S Type — 0.012 cu. in.
M Type — 0.029 cu. in.
L Type — 0.068 cu. in.
Weight: S Type — 0.90 grams
M Type — 2.00 grams
L Type — 4.10 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes. (body mounted)
Marking: Manufacturer data printed



MATERIAL	NYTRONICS PART NO.	L mH	Q min		approx. Fo MC	approx. Cd mmF	max DCR at 125°C Ω	max. I mA
PHENOLIC	RFC-S- 0.10	0.10	85	50	>500	0.4	.02	4000
	RFC-S- 0.12	0.12	85	50	500	0.4	.025	3500
	RFC-S- 0.15	0.15	85	50	>500	0.4	.03	3000
	RFC-S- 0.18	0.18	75	50	500	0.4	.03	3000
	RFC-S- 0.22	0.22	75	50	500	0.4	.03	3000
	RFC-S- 0.27	0.27	70	45	470	0.4	.04	2700
	RFC-S- 0.33	0.33	70	40	440	0.4	.05	2500
	RFC-S- 0.39	0.39	65	40	400	0.4	.08	2000
	RFC-S- 0.47	0.47	80	25	380	0.4	.08	2000
	RFC-S- 0.56	0.56	55	25	330	0.4	.10	1700
	RFC-S- 0.68	0.68	55	25	300	0.4	.12	1500
	RFC-S- 0.82	0.82	50	25	275	0.4	.18	1300
	RFC-S- 1.0	1.0	50	20	250	0.4	.24	1100
	RFC-S- 1.2	1.2	45	20	230	0.4	.35	1000
	RFC-S- 1.5	1.5	45	15	200	0.4	.43	850
	RFC-S- 1.8	1.8	45	15	180	0.4	.65	720
	RFC-S- 2.2	2.2	45	15	165	0.4	.80	610
IRON	RFC-S- 2.7	2.7	55	10	110	0.7	.12	1600
	RFC-S- 3.3	3.3	55	10	100	0.7	.15	1400
	RFC-S- 3.9	3.9	60	10	95	0.7	.23	1200
	RFC-S- 4.7	4.7	70	7.9	90	0.7	.30	1000
	RFC-S- 5.6	5.6	65	7.9	80	0.7	.45	900
	RFC-S- 6.8	6.8	65	7.9	70	0.7	.55	800
	RFC-S- 8.2	8.2	60	7.9	65	0.7	.65	720
	RFC-S- 10	10	60	5	60	0.7	.73	650
	RFC-S- 12	12	65	5	53	0.7	1.1	580
	RFC-S- 15	15	80	2.5	47	0.7	1.4	500
	RFC-S- 18	18	75	2.5	43	0.7	1.6	480
	RFC-S- 22	22	75	2.5	40	0.7	1.8	430
	RFC-S- 27	27	75	2.5	36	0.7	2.7	380
	RFC-S- 33	33	85	2.5	32	0.7	3.5	300

MATERIAL	NYTRONICS PART NO.	L mH	Q min		approx. Fo MC	approx. Cd mmF	max DCR at 125°C Ω	max. I mA
IRON	RFC-S- 39	39	80	2.5	26	0.9	3.8	290
	RFC-S- 47	47	80	2.5	22	1.1	4.0	275
	RFC-S- 56	56	75	2.5	19	1.3	4.4	265
	RFC-S- 68	68	75	2.5	18	1.5	4.7	250
	RFC-S- 82	82	75	2.5	13	2.0	5.3	235
	RFC-S- 100	100	75	1.5	10	2.5	6.0	220
	RFC-M- 120	120	95	1.5	14	1.1	7.5	200
	RFC-M- 150	150	90	1.0	11	1.3	8	190
	RFC-M- 180	180	85	1.0	9	1.8	9	185
	RFC-M- 220	220	95	1.0	7	2.2	10	180
	RFC-M- 270	270	80	1.0	5.5	*3.0	11	172
	RFC-M- 330	330	80	.8	4.5	3.8	12	165
	RFC-M- 390	390	75	.8	4.0	4.1	13	157
	RFC-M- 470	470	75	.8	3.5	4.4	14	150
	RFC-M- 560	560	65	.8	3.1	4.7	16	145
	RFC-M- 680	680	65	.8	2.7	5.0	17	140
	RFC-M- 820	820	65	.8	2.5	5.0	19	132
	RFC-M-1000	1000	70	.5	2.3	5.0	21	125
	RFC-L- 1200	1200	75	.5	2.1	4.4	27	137
	RFC-L- 1500	1500	75	.4	1.9	4.5	29	130
	RFC-L- 1800	1800	65	.4	1.7	4.6	32	125
	RFC-L 2200	2200	65	.25	1.6	4.7	35	120
	RFC-L- 2700	2700	65	.25	1.3	5.0	40	112
	RFC-L- 3300	3300	65	.25	1.2	5.3	45	105
	RFC-L- 3900	3900	65	.25	1.05	5.6	49	100
	RFC-L- 4700	4700	65	.25	.95	6.2	53	95
	RFC-L- 5600	5600	65	.25	.85	6.3	60	90
	RFC-L- 6800	6800	65	.25	.75	6.3	67	86
	RFC-L- 8200	8200	65	.25	.65	7.2	75	82
	RFC-L-10000	10000	65	.15	.50	7.8	80	80

© United Technical Publications

Nytronics, Inc.

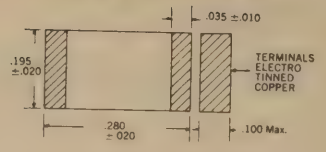
Inductors

The Wee-Chip Inductor

Designed for Micro Circuit and Hybrid Applications


(ACTUAL SIZE)

The Wee-Chip Inductor is a magnetically shielded miniaturized inductor made especially for mounting on substrates. The inductor body is of high stability, low loss ferrite, combined with a coil cavity of optimum cross sectional area, and mean radius produces a unit having excellent "Q" factor. Copper terminations are of the wrap-around type for the highest degree of mounting flexibility.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% Over Entire Range Standard

Dielectric Strength: 500 VRMS

DENSITY CHARACTERISTICS

Volume: 0.0055 Cubic Inches

Weight: 0.35 Grams Max.

MARKING: Manufacturer data printed

ELECTRICAL DATA: WEE-CHIP INDUCTOR

Part No.	L UH ±10%	Q (Min.)	Test Freq. MHz	SRF (Min.) MHz	DCR (Max.) Ohms	Current (Max.) MA
WCI- 15	15	70	2.5	21.5	1.75	345
WCI- 18	18	70	2.5	19.0	1.90	335
WCI- 22	22	75	2.5	17.5	2.20	325
WCI- 27	27	75	2.5	16.0	2.40	310
WCI- 33	33	75	2.5	15.0	2.60	300
WCI- 39	39	75	2.5	14.5	2.75	295
WCI- 47	47	75	2.5	13.0	2.95	285
WCI- 56	56	75	2.5	12.0	3.25	270
WCI- 68	68	75	2.5	11.0	3.50	255
WCI- 82	82	75	2.5	10.5	4.00	235
WCI- 100	100	70	2.5	9.0	4.25	225
WCI- 120	120	70	0.79	8.5	4.50	215
WCI- 150	150	70	0.79	7.0	5.50	200
WCI- 180	180	75	0.79	6.5	6.50	190
WCI- 220	220	75	0.79	6.0	8.00	170
WCI- 270	270	75	0.79	5.5	12.0	140
WCI- 330	330	75	0.79	5.0	13.0	130
WCI- 390	390	75	0.79	4.5	14.0	120
WCI- 470	470	75	0.79	4.0	15.0	115
WCI- 560	560	75	0.79	3.5	22.0	100
WCI- 680	680	70	0.79	3.0	24.0	95
WCI- 820	820	70	0.79	2.5	26.0	90
WCI-1000	1000	70	0.79	2.0	36.0	75

NOTES:
1. Shielding: 2% max. coupling when two units are tested side by side
2. Designed to meet the requirements of MIL-C-15305 grade 2 class B
3. Stability: temp. coefficient of inductance ranges from 100 to 500 PPM/°C depending on inductance
4. Current Ratings: Based on a 35°C temperature rise from an ambient temp of 90°C
5. L, Q & SRF measurements made using Boonton 260-A Q-meter
6. Other inductance values and tolerances available on special order

Pee-Cee Ductor

Subminiature, Shielded Radial Lead Inductor:

High Q Values: 0.10 to 100,000uH

Unitized Epoxy-Molded Construction


(ACTUAL SIZE)

This inductor is designed to meet MIL-C-15305C, Grade 1, Class B. Printed board mounting is facilitated by 0.200 grid spacing and unit has shielded construction to allow maximum density packaging. Standardized in 73 stock values.

ELECTRICAL CHARACTERISTICS

L (Tol.): ±10% over entire range as measured per MIL-C-15305C.

Q and f_o Values: Minimum not less than 80% of specified value.

Dielectric Strength: 840 Volts R.M.S. at sea level.

Working Voltage: 300 Volts D.C.

Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

Incremental Current: Defined as the DC current required to cause a five percent reduction in the nominal inductance value.

DENSITY CHARACTERISTICS

Weight: 1.0 grams maximum

Volume: .015 cubic inches

Shielding: 3% coupling maximum when two units are tested side by side.

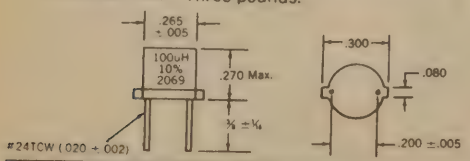
PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.

Moisture, Vibration, and Shock Resistance: Meet requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)

Marking: Manufacturer data printed.

Terminal Pull: Three pounds.



Nytronics Catalog No.	L nom. µh	f MC	Q nom.	Fo nom. MC	D.C.R. 25°C Max. ohms	Max. I m.a.	Incr. I m.a.
PC- 0.10	.10	25	70	>250	0.030	2500	2500
PC- 0.12	.12	25	70	>250	0.030	2500	2500
PC- 0.15	.15	25	70	>250	0.030	2500	2500
PC- 0.18	.18	25	70	>250	0.035	2400	2400
PC- 0.22	.22	25	70	>250	0.038	2300	2300
PC- 0.27	.27	25	80	>250	0.040	2200	2200
PC- 0.33	.33	25	80	>250	0.040	2200	2200
PC- 0.39	.39	25	80	250	0.045	2100	2100
PC- 0.47	.47	25	80	230	0.045	2100	2100
PC- 0.56	.56	25	80	220	0.050	2000	2000
PC- 0.68	.68	25	80	190	0.055	1900	1900
PC- 0.82	.82	25	85	180	0.060	1800	1800
PC- 1.00	1.00	25	85	160	0.070	1700	1700
PC- 1.2	1.2	7.9	90	170	0.085	1670	1670
PC- 1.5	1.5	7.9	100	155	0.100	1540	1540
PC- 1.8	1.8	7.9	115	135	0.110	1470	1470
PC- 2.2	2.2	7.9	110	120	0.120	1410	1410
PC- 2.7	2.7	7.9	110	104	0.125	1380	1380
PC- 3.3	3.3	7.9	90	93.0	0.165	1200	1200
PC- 3.9	3.9	7.9	90	87.0	0.180	1135	1135
PC- 4.7	4.7	7.9	95	79.0	0.245	985	985
PC- 5.6	5.6	7.9	95	72.0	0.265	950	950
PC- 6.8	6.8	7.9	85	63.0	0.330	853	853
PC- 8.2	8.2	7.9	95	60.0	0.460	720	720
PC- 10	10	7.9	90	54.0	0.640	620	620
PC- 12	12	2.5	120	37.0	0.800	545	545
PC- 15	15	2.5	120	28.8	0.865	520	520
PC- 18	18	2.5	115	23.8	0.940	504	504
PC- 22	22	2.5	125	21.3	1.03	460	460
PC- 27	27	2.5	115	20.6	1.18	418	418
PC- 33	33	2.5	120	18.6	1.30	398	398
PC- 39	39	2.5	120	17.7	1.41	385	385
PC- 47	47	2.5	110	14.9	1.61	350	350
PC- 56	56	2.5	115	13.9	2.08	330	330
PC- 68	68	2.5	105	12.9	2.20	320	320
PC- 82	82	2.5	105	11.7	2.42	300	300
PC- 100	100	2.5	95	10.5	2.15	333	333
PC- 120	120	0.790	95	5.60	2.38	316	190
PC- 150	150	0.790	90	5.20	2.52	306	175
PC- 180	180	0.790	95	4.90	2.88	288	150
PC- 220	220	0.790	95	4.60	3.18	273	125
PC- 270	270	0.790	100	4.20	3.50	260	120
PC- 330	330	0.790	100	3.55	4.80	222	110
PC- 390	390	0.790	100	3.45	5.44	209	105
PC- 470	470	0.790	100	3.20	5.90	201	100
PC- 560	560	0.790	95	2.90	6.30	194	90
PC- 680	680	0.790	100	2.70	7.20	181	80
PC- 820	820	0.790	90	2.50	8.00	172	70
PC- 1,000	1,000	0.790	100	2.35	12.0	141	65
PC- 1,200	1,200	0.250	95	2.20	13.5	132	60
PC- 1,500	1,500	0.250	90	1.90	16.5	119	55
PC- 1,800	1,800	0.250	100	1.80	18.0	114	47
PC- 2,200	2,200	0.250	100	1.70	20.5	107	43
PC- 2,700	2,700	0.250	95	1.50	22.5	102	39
PC- 3,300	3,300	0.250	90	1.40	42.0	76	36
PC- 3,900	3,900	0.250	85	1.27	47.5	71	35
PC- 4,700	4,700	0.250	85	1.24	53.0	67	34
PC- 5,600	5,600	0.250	85	0.93	62.5	65	31
PC- 6,800	6,800	0.250	75	0.79	69.5	58	27
PC- 8,200	8,200	0.250	80	0.75	75.0	56	26
PC- 10,000	10,000	0.250	70	0.70	100.0	49	24
PC- 12,000	12,000	0.079	70	50	64	60	40
PC- 15,000	15,000	0.079	70	38	84	52	34
PC- 18,000	18,000	0.079	70	36	93	50	30
PC- 22,000	22,000	0.079	70	32	104	45	28
PC- 27,000	27,000	0.079	70	30	173	35	26
PC- 33,000	33,000	0.079	70	27	187	32	24
PC- 39,000	39,000	0.079	70	26	220	30	22
PC- 47,000	47,000	0.079	70	25	253	28	20
PC- 56,000	56,000	0.079	70	24	285	26	19
PC- 68,000	68,000	0.079	60	20	311	24	18
PC- 82,000	82,000	0.079	60	19	385	22	16
PC 100,000	100,000	0.079	60	17	420	20	15

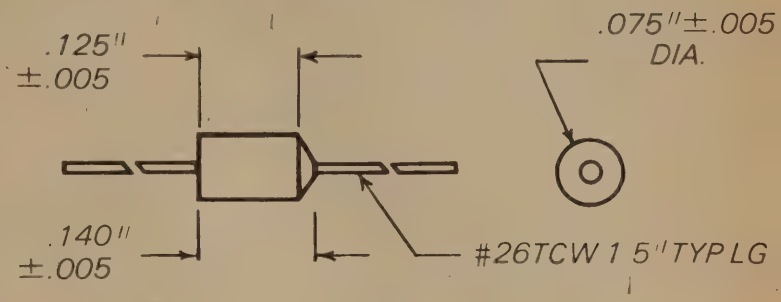
© United Technical Publications

Nytronics, Inc.

Inductors

new! Pee Dee Ductor Series

The Pee Dee Ductor is a new, microminiature, axial-leaded RF inductor for hybrid circuit applications. It is significantly smaller than any unshielded inductor available anywhere. Designed to meet the requirements of MIL-C-15305 Grade 2, Class 5, this reliable, high performance inductor has a standard inductance tolerance of ±10%. Values below 0.1 uh and above 1000 uh are available on special order.



Marking: EIA color banded

ELECTRICAL DATA

PART NO. PD—	L UH	Q (MIN)	TEST FREQ. MHZ	F°MIN MHZ	DCR MAX. OHMS @ 25°C	RATED CURRENT MA
0.10	0.10	42	25	500	0.2	600
0.12	0.12	42	25	450	0.2	600
0.15	0.15	42	25	400	0.25	575
0.18	0.18	45	25	380	0.25	575
0.22	0.22	45	25	360	0.30	565
0.27	0.27	50	25	300	0.30	565
0.33	0.33	45	25	280	0.35	560
0.39	0.39	50	25	260	0.37	550
0.47	0.47	50	25	250	0.39	535
0.56	0.56	50	25	240	0.40	525
0.68	0.68	50	25	220	0.45	500
0.82	0.82	50	25	180	0.50	480
1.0	1.0	50	25	170	0.60	450
1.2	1.2	42	7.9	150	0.70	425
1.5	1.5	45	7.9	130	0.80	400
1.8	1.8	45	7.9	120	0.90	350
2.2	2.2	45	7.9	110	1.3	320
2.7	2.7	45	7.9	105	1.8	275
3.3	3.3	35	7.9	100	1.1	340
3.9	3.9	35	7.9	90	1.4	310
4.7	4.7	35	7.9	85	1.6	290
5.6	5.6	35	7.9	70	1.8	275
6.8	6.8	40	7.9	65	2.0	250
8.2	8.2	40	7.9	62	2.2	245
10	10	45	7.9	60	3.0	210
12	12	45	2.5	35	2.0	250
15	15	45	2.5	30	2.2	245
18	18	45	2.5	25	2.5	230
22	22	45	2.5	23	2.7	220
27	27	50	2.5	21	3.8	195
33	33	50	2.5	20	4.5	170
39	39	50	2.5	16	6.0	150
47	47	50	2.5	14	6.5	145
56	56	50	2.5	12	7.8	135
68	68	55	2.5	10	8.6	130
82	82	50	2.5	9.0	9.8	120
100	100	55	2.5	8.0	11.5	110
120	120	28	.79	7.0	15.0	90
150	150	28	.79	6.0	16.5	88
180	180	25	.79	5.5	22	75
220	220	24	.79	5.2	31	62
270	270	24	.79	5.0	38	56
330	330	24	.79	4.8	42	53
390	390	24	.79	3.6	58	47
470	470	24	.79	3.4	60	45
560	560	24	.79	3.2	65	43
680	680	22	.79	3.0	90	36
820	820	23	.79	2.5	95	34
1000	1000	21	.79	2.0	130	30

Nytronics, Inc.

Inductors

Mili-Ductor

0.10uH to 1000uH Range
0.100" diameter by 0.250" length
49 STANDARD VALUES

The MILI-DUCTOR offers the design engineer epoxy-molded reliability and uniformity in a subminiature R.F. Inductor.
This Inductor line is designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B.

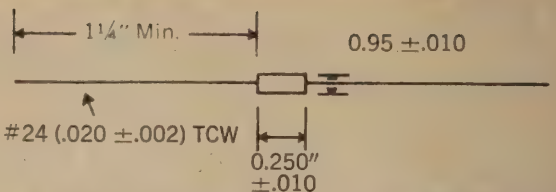
ELECTRICAL CHARACTERISTICS
Inductance Tolerance: ±10% over entire range.
Dielectric Strength: 1000 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Rating: Maximum current based on: 35°C rise in 90° ambient for phenolic, 15°C rise in 90° ambient for iron, 35°C rise in 70° ambient for ferrite core inductors.

DENSITY CHARACTERISTICS
Volume: 0.002 cubic inches; **Weight** .030 grams.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS
Operating Temperature: —55°C to +125°C phenolic core, —55°C to +105°C iron and ferrite core.
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS (body mounted).



Actual Size

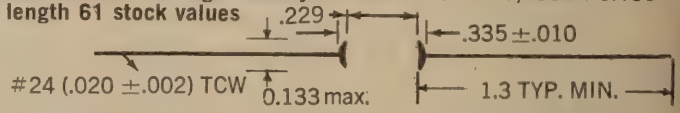


NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I	MATERIAL
	uH		MC	MC	OHMS	mA	
MD-0.10	0.10	40	25	680	0.08	1350	PHENOLIC
MD-0.12	0.12	40	25	640	0.09	1270	PHENOLIC
MD-0.15	0.15	38	25	600	0.10	1200	PHENOLIC
MD-0.18	0.18	35	25	550	0.12	1105	PHENOLIC
MD-0.22	0.22	33	25	510	0.14	1025	PHENOLIC
MD-0.27	0.27	33	25	460	0.16	960	PHENOLIC
MD-0.33	0.33	30	25	410	0.22	815	PHENOLIC
MD-0.39	0.39	30	25	365	0.30	700	PHENOLIC
MD-0.47	0.47	30	25	330	0.35	650	PHENOLIC
MD-0.56	0.56	30	25	310	0.50	545	PHENOLIC
MD-0.68	0.68	28	25	280	0.60	495	PHENOLIC
MD-0.82	0.82	28	25	260	0.85	415	PHENOLIC
MD-1.00	1.00	25	25	240	1.10	385	PHENOLIC
MD-1.20	1.20	30	7.9	150	0.18	860	IRON
MD-1.50	1.50	30	7.9	140	0.22	775	IRON
MD-1.80	1.80	30	7.9	125	0.30	685	IRON
MD-2.20	2.20	30	7.9	115	0.40	585	IRON
MD-2.70	2.70	40	7.9	100	0.50	485	IRON
MD-3.30	3.30	45	7.9	90	0.85	400	IRON
MD-3.90	3.90	45	7.9	80	1.0	350	IRON
MD-4.70	4.70	45	7.9	75	1.2	325	IRON
MD-5.60	5.60	50	7.9	65	1.5	290	IRON
MD-6.80	6.80	50	7.9	60	1.8	265	IRON
MD-8.20	8.20	55	7.9	55	2.4	220	IRON
MD-10.0	10.0	55	7.9	50	3.1	200	IRON
MD-12.0	12.0	45	2.5	40	3.4	200	IRON
MD-15.0	15.0	40	2.5	35	2.75	215	IRON
MD-18.0	18.0	50	2.5	30	3.0	210	IRON
MD-22.0	22.0	50	2.5	25	3.3	200	IRON
MD-27.0	27.0	50	2.5	20	3.6	190	IRON
MD-33.0	33.0	45	2.5	24	3.4	193	FERRITE
MD-39.0	39.0	45	2.5	22	3.6	185	FERRITE
MD-47.0	47.0	45	2.5	20	4.5	167	FERRITE
MD-56.0	56.0	45	2.5	18	5.7	150	FERRITE
MD-68.0	68.0	50	2.5	15	6.7	137	FERRITE
MD-82.0	82.0	50	2.5	14	7.3	132	FERRITE
MD-100	100	50	2.5	13	8.0	125	FERRITE
MD-120	120	30	0.79	12	13	100	FERRITE
MD-150	150	30	0.79	11	15	90	FERRITE
MD-180	180	30	0.79	10	17	84	FERRITE
MD-220	220	30	0.79	9	21	76	FERRITE
MD-270	270	30	0.79	8	25	70	FERRITE
MD-330	330	30	0.79	7	28	65	FERRITE
MD-390	390	30	0.79	6.5	35	60	FERRITE
MD-470	470	30	0.79	6	42	53	FERRITE
MD-560	560	30	0.79	5	46	51	FERRITE
MD-680	680	30	0.79	4	60	45	FERRITE
MD-820	820	30	0.79	3.8	65	43	FERRITE
MD-1000	1000	30	0.79	3.4	72	41	FERRITE

Wee Wee-Ductor

The smallest shielded inductor for high density circuits 0.10 to 10,000uH 0.133" diameter x 0.335" length 61 stock values

The **WEE WEE-DUCTOR** offers the Design Engineer an encapsulated subminiature shielded inductor to solve special problems in density circuit application. This shielded inductor has great inductance-to-size ratio and is designed to meet the stringent requirements of MIL-C-15305C, Grade 1, Class B.



ELECTRICAL CHARACTERISTICS
Inductance Tolerance: ±10% (Q-Meter).
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data, and measured with full length leads on Q-Meter.
Q and Rp Values: Measured on Q-Meter.
Rating: I maximum based on ⅓ watt dissipation.

DENSITY CHARACTERISTICS
Volume: 0.0041 cubic inches **Weight:** 0.50 grams maximum
Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS
Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High Frequency: 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.
Marking: Color coded per MIL-C-15305C.

WEE WEE-DUCTOR STANDARD VALUES

NYTRONICS PART NO.	L	Q min.		approx. Fo	approx. Cd	Max. DCR at 125°C	Max. I	Incr.* I	MATERIAL
	uH		MC	MC	uuF	Ω	mA	mA	
WEE-WEE- 0.10	0.10	42	25	500	0.67	.112	1720	1720	PHENOLIC
WEE-WEE- 0.12	0.12	42	25	500	0.67	.126	1630	1630	
WEE-WEE- 0.15	0.15	42	25	500	0.67	.138	1550	1550	
WEE-WEE- 0.18	0.18	42	25	458	0.67	.165	1420	1420	
WEE-WEE- 0.22	0.22	42	25	414	0.67	.198	1330	1330	
WEE-WEE- 0.27	0.27	42	25	373	0.67	.220	1230	1230	
WEE-WEE- 0.33	0.33	42	25	360	0.66	.258	1140	1140	
WEE-WEE- 0.39	0.39	42	25	339	0.57	.292	1060	1060	
WEE-WEE- 0.47	0.47	41	25	309	0.57	.360	960	960	
WEE-WEE- 0.56	0.56	39	25	295	0.52	.397	915	915	
WEE-WEE- 0.68	0.68	36	25	270	0.52	.472	840	840	
WEE-WEE- 0.82	0.82	35	25	250	0.52	.638	720	720	
WEE-WEE- 1.0	1.0	42	25	170	0.87	.208	1260	1260	IRON
WEE-WEE- 1.2	1.2	38	7.9	150	0.94	.225	1210	1210	
WEE-WEE- 1.5	1.5	38	7.9	139	0.87	.265	1120	1120	
WEE-WEE- 1.8	1.8	38	7.9	129	0.85	.285	1080	1080	
WEE-WEE- 2.2	2.2	36	7.9	118	0.83	.330	1000	1000	
WEE-WEE- 2.7	2.7	38	7.9	106	0.83	.381	935	935	
WEE-WEE- 3.3	3.3	38	7.9	98	0.81	.432	875	875	
WEE-WEE- 3.9	3.9	40	7.9	91	0.79	.576	755	755	
WEE-WEE- 4.7	4.7	42	7.9	83	0.79	.787	650	650	
WEE-WEE- 5.6	5.6	42	7.9	77	0.79	1.04	565	565	
WEE-WEE- 6.8	6.8	45	7.9	67	0.83	1.40	485	485	
WEE-WEE- 8.2	8.2	47	7.9	62	0.81	1.68	440	440	
WEE-WEE- 10	10	51	7.9	55	0.83	2.58	355	355	
WEE-WEE- 12	12	51	2.5	49	0.88	3.65	300	300	
WEE-WEE- 15	15	45	2.5	55	0.56	.862	620	200	
WEE-WEE- 18	18	43	2.5	50	0.57	1.02	570	175	
WEE-WEE- 22	22	42	2.5	45	0.57	1.12	545	160	
WEE-WEE- 27	27	37	2.5	41	0.58	1.28	510	155	

*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.

NYTRONICS PART NO.	L	Q min.		approx. Fo	approx. Cd	Max. DCR at 125°C	Max. I	Incr.* I	MATERIAL
	uH		MC	MC	uuF	Ω	mA	mA	
WEE-WEE- 33	33	46	2.5	37	0.57	1.70	440	150	FERRITE
WEE-WEE- 39	39	38	2.5	33	0.59	1.99	405	145	
WEE-WEE- 47	47	42	2.5	29	0.64	2.41	370	140	
WEE-WEE- 56	56	41	2.5	27	0.54	2.85	340	130	
WEE-WEE- 68	68	46	2.5	23	0.71	3.21	320	120	
WEE-WEE- 82	82	46	2.5	21	0.71	3.57	305	115	
WEE-WEE- 100	100	43	2.5	19	0.71	4.10	280	100	
WEE-WEE- 120	120	50	0.79	16	0.79	5.97	235	80	
WEE-WEE- 150	150	49	0.79	15	0.75	7.05	215	68	
WEE-WEE- 180	180	56	0.79	14	0.72	8.12	200	64	
WEE-WEE- 220	220	53	0.79	12	0.79	14.8	150	60	
WEE-WEE- 270	270	57	0.79	11.5	0.72	16.8	140	58	
WEE-WEE- 330	330	57	0.79	10.5	0.70	18.6	130	56	
WEE-WEE- 390	390	57	0.79	10.0	0.65	21.1	120	54	
WEE-WEE- 470	470	50	0.79	8.5	0.75	32.2	100	52	
WEE-WEE- 560	560	50	0.79	7.5	0.80	36.4	95	50	
WEE-WEE- 680	680	56	0.79	7.0	0.77	41.1	90	48	
WEE-WEE- 820	820	49	0.79	6.5	0.74	45.0	85	47	
WEE-WEE- 1000	1000	49	0.79	6.0	0.74	52.0	80	45	
WEE-WEE- 1200	1200	55	0.25	3.4	1.9	31	100	40	
WEE-WEE- 1500	1500	55	0.25	3.3	1.6	41	90	35	
WEE-WEE- 1800	1800	55	0.25	3.1	1.5	45	86	32	
WEE-WEE- 2200	2200	55	0.25	3.0	1.3	55	78	30	
WEE-WEE- 2700	2700	55	0.25	2.8	1.2	60	74	28	
WEE-WEE- 3300	3300	55	0.25	2.7	1.1	80	65	26	
WEE-WEE- 3900	3900	55	0.25	2.25	1.1	105	56	23	
WEE-WEE- 4700	4700	55	0.25	2.2	1.1	118	53	20	
WEE-WEE- 5600	5600	55	0.25	2.1	1.0	140	48	18	
WEE-WEE- 6800	6800	50	0.25	1.85	1.0	177	43	15	
WEE-WEE- 8200	8200	50	0.25	1.80	1.0	202	40	12	
WEE-WEE-10,000	10,000	50	0.25	1.60	1.0	231	37	10	

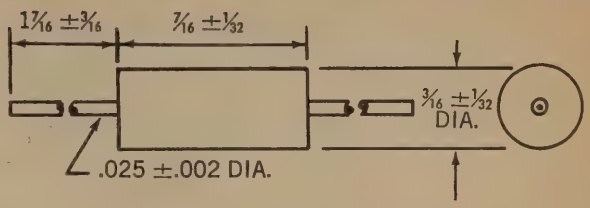
© United Technical Publications

Nytronics, Inc.

Inductors

MS-INDUCTOR SERIES
75008
MOLDED INDUCTOR
(Manufactured per MS-75008)





ALL DIMENSIONS IN INCHES

Proven reliability molded inductors designed to meet MS-75008 and MIL-C-15305C.
Inductance 0.15 to 27.0 uhy

ELECTRICAL CHARACTERISTICS

Inductance Tolerance: 0.15 to 0.47 uhy ±20%; 0.56 to 27.0 uhy ±10%
Dielectric Strength: 700 Volts RMS at sea level
Max. Temp. Rise: 35°C

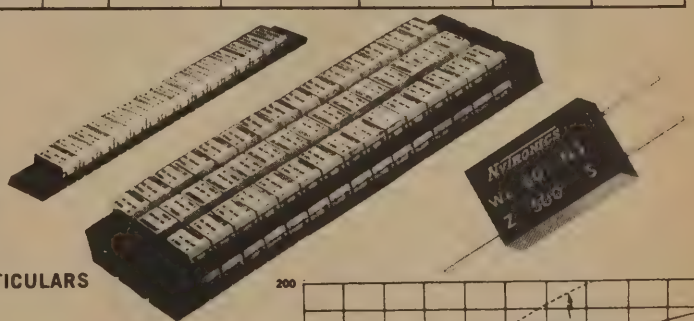
PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes. (body mounted)
Volume: S Type — 0.012 cu. in.
Weight: S Type — 0.90 grams
Marking: Color banded per MIL-C-15305

Nytronics Catalog No.	Type Designation	Former Type Designation	Former MS Part No.	Inductance	Q; Min.	Test Frequency	Self-resonant Frequency, Min.	DC Resistance, Max.	Rated DC Current	Material
				uh		Mc	Mc	Ohms	ma	
75008-21	LT4K027	LT7K125	MS16224-1 and MS75008-1	0.15 ±20%	55	25.0	510	0.030	3,000	
75008-22	LT4K028	LT7K126	MS16224-2 and MS75008-2	0.22 ±20%	50	25.0	415	0.035	2,800	
75008-23	LT4K029	LT7K127	MS16224-3 and MS75008-3	0.33 ±20%	50	25.0	350	0.065	2,000	
75008-24	LT4K030	LT7K128	MS16224-4 and MS75008-4	0.47 ±20%	50	25.0	300	0.085	1,700	
75008-25	LT4K031	—	—	0.56 ±10%	50	25.0	270	0.125	1,450	
75008-26	LT4K032	LT7K129	MS16224-5 and MS75008-5	0.68 ±10%	45	25.0	250	0.150	1,300	
75008-27	LT4K033	—	—	0.82 ±10%	40	25.0	210	0.205	1,100	
75008-28	LT4K034	LT7K130	MS16224-6 and MS75008-6	1.00 ±10%	40	25.0	200	0.290	930	PHENOLIC
75008-29	LT4K035	—	—	1.20 ±10%	30	7.9	180	0.400	785	
75008-30	LT4K036	LT7K131	MS16224-7 and MS75008-7	1.50 ±10%	30	7.9	170	0.485	700	
75008-31	LT4K037	—	—	1.80 ±10%	30	7.9	150	0.740	580	
75008-32	LT4K038	LT7K132	MS16224-8 and MS75008-8	2.20 ±10%	30	7.9	140	0.970	505	
75008-33	LT4K039	LT7K133	MS16224-9 and MS75008-9	2.70 ±10%	30	7.9	120	1.20	460	
75008-34	LT4K040	LT7K134	MS16224-10 and MS75008-10	3.30 ±10%	30	7.9	70	0.140	1,350	
75008-35	LT4K041	LT7K135	MS16224-11 and MS75008-11	3.90 ±10%	30	7.9	65	0.155	1,250	
75008-36	LT4K042	LT7K136	MS16224-12 and MS75008-12	4.70 ±10%	30	7.9	60	0.210	1,100	
75008-37	LT4K043	LT7K137	MS16224-13 and MS75008-13	5.60 ±10%	30	7.9	50	0.280	935	
75008-38	LT4K044	LT7K138	MS16224-14 and MS75008-14	6.80 ±10%	30	7.9	50	0.375	810	
75008-39	LT4K045	LT7K139	MS16224-15 and MS75008-15	8.20 ±10%	30	7.9	48	0.440	750	
75008-40	LT4K046	LT7K140	MS16224-16 and MS75008-16	10.00 ±10%	30	7.9	42	0.605	640	
75008-41	LT4K047	LT7K141	MS16224-17 and MS75008-17	12.00 ±10%	50	2.5	36	1.05	490	
75008-42	LT4K048	LT7K142	MS16224-18 and MS75008-18	15.00 ±10%	55	2.5	30	1.20	460	
75008-43	LT4K049	—	—	18.00 ±10%	60	2.5	30	1.95	360	
75008-44	LT4K050	LT7K143	MS16224-19 and MS75008-19	22.00 ±10%	60	2.5	24	2.20	335	
75008-45	LT4K051	LT7K144	MS16224-20 and MS75008-20	27.00 ±10%	65	2.5	22	2.75	300	IRON

The Wee-Bit
(Nytronics Delay Line Sections)

Unique sectional construction available utilizing individual pre-designed Wee-Bit Pulse Delay elements. 48 hour delivery not 8 weeks. No tooling expenses.



The **WEE-BIT** offers the advantage of assembling a unique sectionalized delay line that reduces delivery on prototype delay lines from weeks to days and eliminates expensive tooling and design efforts. Consisting of pre-designed LC sections called Wee-Bits, a discrete value of delay time is offered. The aggregate number of Wee-Bits determines the total delay time and is a function of delay to rise time ratio. An assembly is made of selected Wee-Bits mounted on printed circuit boards that conform to MIL-P-13949B, stacked or single layer and permits increment of delay to be tapped without disturbing uniform pulse shape. Wee-Bit size 0.401" long by 0.625" wide by 0.230" height and are epoxy molded to meet environmental conditions of MIL-C-15305C. Temperature range —55°C to 125°C. 300 VDC working voltage. Delay time available per Wee-Bit from 10 nanoseconds to 100 nanoseconds in 10 nanoseconds increments. Wee-Bits also stocked with 200 nanoseconds delay. This unique wee line sectionalized delay line concept allows reduction of approximately 40% in number of sections ordinarily required*, flexibility of design, and line tapping.

*Compared to constant K

LEADING ELECTRICAL PARTICULARS

Delay Tolerance:	±5%
Risetime Tolerance:	±20%
Noise:	1 to 10%, less than 3% for most types
Ripple:	1 to 10%, less than 3% for most types
Attenuation:	0.2 db/usec. to 1.0 db/usec. most types 0.2 db/usec.
Temp. Coefe.:	150 $(10)^{6}$ us/us —°C
Impedance:	500 ohms ±5%
Operating Voltage:	300 Volts D.C.

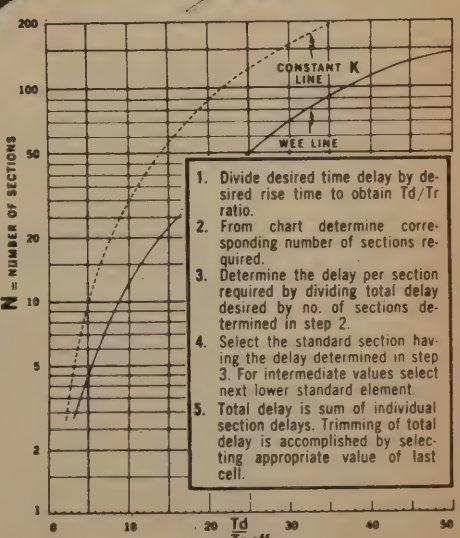
Tr MEASURED AT 10% & 90% and Td MEASURED AT 50% POINTS OF INPUT AND OUTPUT PULSES. Individual Sections furnished in ±5% Tolerance (or ±1NS, whichever is greater) and must be tested in accordance with Nytronics, Inc. DSI 394.

LEADING MECHANICAL PARTICULARS
(for 15 section delay line)

Length of 15 cells	6.125"
Length of 15 cells plus P.C. mounting board	7.141"
Width of cells plus P.C. mounting board	0.750"
Height of cells plus P.C. mounting board	0.330"

Basic cell size: Length — 0.401"
Width — 0.625"
Height — 0.230"

Temperature range and operating environmental conditions are covered by MIL-C-15305B.



1. Divide desired time delay by desired rise time to obtain Td/Tr ratio.
2. From chart determine corresponding number of sections required.
3. Determine the delay per section required by dividing total delay desired by no. of sections determined in step 2.
4. Select the standard section having the delay determined in step 3. For intermediate values select next lower standard element.
5. Total delay is sum of individual section delays. Trimming of total delay is accomplished by selecting appropriate value of last cell.

$Tr\ eff. = \sqrt{Tr^2_{OUT} - Tr^2_{IN}}$

IF $Tr_{OUT} \geq 10x\ Tr_{IN}$, $Tr\ eff. = Tr_{OUT}$

© United Technical Publications

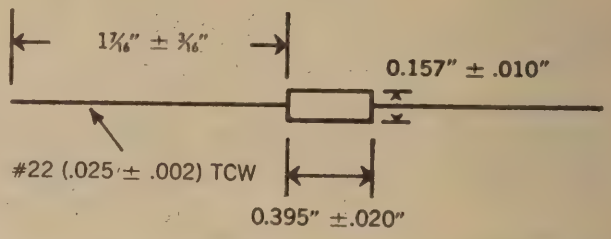
Nytronics, Inc.

Inductors

MS-INDUCTOR SERIES
90537
MOLDED SHIELDED INDUCTOR
(Manufactured per MS-90537)

Ultra-Reliable Molded Shielded Miniature Inductor.
Inductance Range: 0.1uH to 100,000uH.
Unique "T" design eliminates Fine Wire considerations.

The **MS-INDUCTOR SERIES** are R.F. Inductors specifically designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. The unique "T" design eliminates fine wire consideration that has previously concerned design engineers on critical circuitry. The MS-INDUCTOR Series epoxy molded envelope and shielding offers the design engineer reliability, electrical performance, and minimum coupling in high density packaging.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% over the entire inductance range.
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Q and Rp Values: Measured on a Q-Meter. Minimum Rp values at listed frequencies are all conservative.
Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.0076 cubic inches **Weight:** 0.75 grams maximum
Shielding: At 1000 cycles two units assembled side by side exhibit less than 3% coupling.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.

Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.

Marking: Color coded per MIL-C-15305C.

MATERIAL	NYTRONICS CATALOG NO.	L	Q min		approx. Cd	Max DCR at 125°C	Max. I	Incr.** I
		uH		MC	uuF	Ω	mA	mA
PHENOLIC	90537-1	0.10	50	25	0.67	0.025	2900	>2900
	90537-2	0.12	51	25	0.67	0.034	2800	>2800
	90537-3	0.15	51	25	0.67	0.037	2750	>2750
	90537-4	0.18	50	25	0.67	0.047	2200	>2200
	90537-5	0.22	49	25	0.67	0.067	1700	>1700
	90537-6	0.27	47	25	0.67	0.11	1500	>1500
	90537-7	0.33	46	25	0.67	0.13	1300	>1300
	90537-8	0.39	44	25	0.67	0.18	1100	>1100
	90537-9	0.47	44	25	.067	0.25	1000	>1000
	90537-10	0.56	43	25	0.67	0.33	900	> 900
	90537-11	0.68	42	25	0.67	0.45	750	> 750
	90537-12	0.82	40	25	0.67	0.59	600	> 600
IRON	90537-13	1.0	47	25	0.84	0.070	1900	>1900
	90537-14	1.2	46	7.9	0.83	0.093	1600	>1600
	90537-15	1.5	45	7.9	0.83	0.12	1300	>1300
	90537-16	1.8	43	7.9	0.83	0.14	1200	>1200
	90537-17	2.2	45	7.9	0.73	0.19	1100	>1100
	90537-18	2.7	46	7.9	0.73	0.28	950	> 950
	90537-19	3.3	44	7.9	0.76	0.35	800	> 800
	90537-20	3.9	44	7.9	0.73	0.40	750	> 750
	90537-21	4.7	44	7.9	0.73	0.55	650	> 650
	90537-22	5.6	47	7.9	0.73	0.72	550	> 550
	90537-23	6.8	50	7.9	0.78	1.02	500	> 500
	90537-24	8.2	50	7.9	0.78	1.32	475	> 475
	90537-25	10	49	7.9	0.84	1.62	450	> 450
	90537-26	12	55	2.5	0.73	2.00	400	> 400
FERRITE	90537-27	15	44	2.5	0.48	0.80	620	250
	90537-28	18	45	2.5	0.48	0.89	610	235
	90537-29	22	46	2.5	0.48	0.96	600	220
	90537-30	27	49	2.5	0.48	1.19	500	200
	90537-31	33	45	2.5	0.48	1.37	490	190
	90537-32	39	53	2.5	0.48	1.93	410	180
	90537-33	47	52	2.5	0.48	2.11	400	175
	90537-34	56	49	2.5	0.48	2.23	380	160
	90537-35	68	51	2.5	0.50	2.70	370	150
	90537-36	82	45	2.5	1.70	2.44	360	140

MATERIAL	NYTRONICS CATALOG NO.	L	Q min		min. Fo	Max DCR at 125°C	Max. I	Incr.** I
		uH		MC	MC	Ω	mA	mA
FERRITE	90537-37	100	52	2.5	10.0	3.12	325	120
	90537-38	120	57	.79	9.7	3.60	290	95
	90537-39	150	56	.79	8.5	4.10	275	90
	90537-40	180	60	.79	8.0	4.40	260	85
	90537-41	220	58	.79	7.5	5.00	250	80
	90537-42	270	60	.79	7.0	5.80	240	70
	90537-43	330	54	.79	6.5	6.40	225	65
	90537-44	390	67	.79	6.2	7.40	200	60
	90537-45	470	60	.79	5.7	9.50	180	58
	90537-46	560	60	.79	4.7	10.5	174	55
	90537-47	680	60	.79	4.5	11.8	168	50
	90537-48	820	57	.79	4.2	13.0	152	45
	90537-49	1000	65	.79	3.8	17.5	135	40
	90537-50	1200	45	.25	1.5	22.1	115	35
	90537-51	1500	49	.25	1.2	26.5	110	33
	90537-52	1800	47	.25	1.0	29.9	105	30
	90537-53	2200	50	.25	0.97	33.8	99	27
	90537-54	2700	47	.25	0.92	47.3	83	25
	90537-55	3300	43	.25	0.84	53.0	80	22
	90537-56	3900	43	.25	0.80	73.8	67	20
	90537-57	4700	44	.25	0.74	81.6	63	19
	90537-58	5600	45	.25	0.73	98.9	56	17
	90537-59	6800	43	.25	0.66	111.0	54	16
	90537-60	8200	42	.25	0.54	119.0	52	15
	90537-61	10,000	39	.25	0.47	137.0	49	14
	90537-62	12,000	31	.079	0.33	143.0	46	13
	90537-63	15,000	31	.079	0.29	157.0	45	12
	90537-64	18,000	31	.079	0.28	175.0	41	10
	90537-65	22,000	27	.079	0.25	274.0	33	9
	90537-66	27,000	27	.079	0.21	308.0	31	8
	90537-67	33,000	27	.079	0.19	343.0	30	7.5
	90537-68	39,000	27	.079	0.17	376.0	27	6.0
	90537-69	47,000	23	.079	0.16	473.0	26	5.5
	90537-70	56,000	23	.079	0.14	512.0	25	5.0
	90537-71	68,000	23	.079	0.13	580.0	24	4.0
	90537-72	82,000	21	.079	0.12	618.0	23	3.5
	90537-73	100,000	18	.079	0.11	678.0	22	3.0

****INCREMENTAL CURRENT** The D.C. current required to cause a 5% reduction in the nominal inductance value.

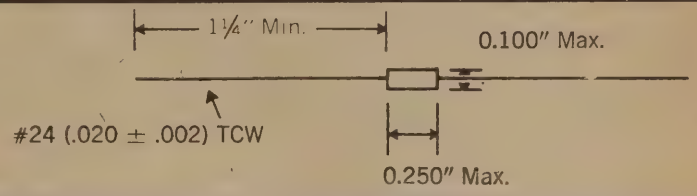
© United Technical Publications

Nytronics, Inc. — Inductors

DECI-DUCTOR

New Subminiature Inductor 0.10uH to 1000uH Range
0.100" diameter by 0.250" length 49 STANDARD VALUES

The **DECI-DUCTOR** offers the design engineer epoxy-molded reliability and uniformity in a subminiature R.F. Inductor. This smallest of Nytronics growing R.F. Inductor line is designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% over entire range.
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Rating: Maximum Current based on 35°C rise in 90°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.002 cubic inches **Weight:** 0.35 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C

Terminal Strength: Meets three pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

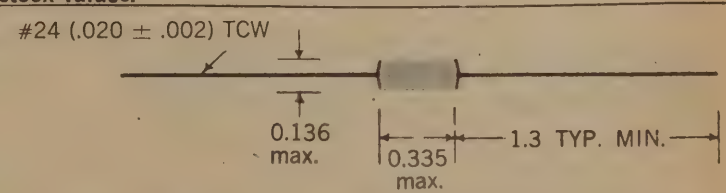
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)
Marking: Color coded per MIL-C-15305C.

MATERIAL	NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I
		uH		MC	MC	OHMS	mA
PHENOLIC	DD-0.10	0.10	40	25	690	0.07	2000
	DD-0.12	0.12	40	25	650	0.08	1900
	DD-0.15	0.15	38	25	600	0.09	1750
	DD-0.18	0.18	38	25	550	0.10	1600
	DD-0.22	0.22	35	25	510	0.11	1550
	DD-0.27	0.27	35	25	470	0.15	1350
	DD-0.33	0.33	32	25	410	0.21	1150
	DD-0.39	0.39	32	25	370	0.29	970
	DD-0.47	0.47	32	25	340	0.35	820
	DD-0.56	0.56	32	25	310	0.48	700
	DD-0.68	0.68	33	25	280	0.65	600
	DD-0.82	0.82	30	25	255	0.82	500
	DD-1.00	1.00	30	25	240	1.10	475
IRON	DD-1.20	1.20	30	7.9	155	0.16	1200
	DD-1.50	1.50	32	7.9	140	0.20	1100
	DD-1.80	1.80	35	7.9	130	0.32	900
	DD-2.20	2.20	35	7.9	120	0.37	760
	DD-2.70	2.70	37	7.9	105	0.49	700
	DD-3.30	3.30	45	7.9	95	0.67	575
	DD-3.90	3.90	45	7.9	87	0.95	500
	DD-4.70	4.70	45	7.9	80	1.10	475
	DD-5.60	5.60	52	7.9	75	1.60	380
	DD-6.80	6.80	52	7.9	65	1.80	350
	DD-8.20	8.20	60	7.9	62	2.40	300
	DD-10.0	10.0	60	7.9	52	3.40	265
IRON	DD-12.0	12.0	45	2.5	42	2.40	300
	DD-15.0	15.0	47	2.5	36	2.70	275
	DD-18.0	18.0	50	2.5	32	3.00	260
	DD-22.0	22.0	50	2.5	28	3.30	250
	DD-27.0	27.0	50	2.5	25	3.80	240
FERRITE	DD-33.0	33.0	50	2.5	30	3.80	260
	DD-39.0	39.0	50	2.5	26	4.10	240
	DD-47.0	47.0	50	2.5	24	4.40	210
	DD-56.0	56.0	50	2.5	22	5.70	205
	DD-68.0	68.0	52	2.5	19	6.50	180
	DD-82.0	82.0	52	2.5	17	7.30	175
	DD-100	100	50	2.5	15	8.20	165
	DD-120	120	28	0.79	14	14	110
	DD-150	150	28	0.79	13	16	105
	DD-180	180	28	0.79	12	18	100
	DD-220	220	26	0.79	11	25	90
	DD-270	270	26	0.79	10	33	75
	DD-330	330	26	0.79	9.0	37	70
	DD-390	390	25	0.79	8.0	51	60
	DD-470	470	27	0.79	7.0	56	58
	DD-560	560	27	0.79	6.5	61	55
	DD-680	680	28	0.79	6.0	70	50
	DD-820	820	28	0.79	5.5	91	45
	DD-1000	1000	28	0.79	5.2	102	40

SUPER WEE-WEE-DUCTOR

An Ultra-Reliable molded shielded inductor. Subminiature size for high density circuits. Great Inductance-to-size ratio. .10 uH to 10,000 uH. 0.136" diameter x 0.335" length. 61 stock values.

The **SUPER WEE-WEE-DUCTOR,** a shielded miniaturized inductor, provides a greater inductance-to-size ratio in a molded epoxy envelope. Use of unique "T" lead construction on all values from .10 uH to 10,000 uH assures exceptional reliability in ranges where fine wire sizes are used. Designed to meet the stringent requirements of MIL-C-15305C, Grade 1, Class B. This provides the design engineer with utmost reliability, electrical performance, and minimum coupling in high density packaging.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% (Q-Meter).
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured with full length leads on Q-Meter.
Q and Rp Values: Measured on Q-Meter.
Rating: 1 maximum based on ⅓ watt dissipation.

DENSITY CHARACTERISTICS

Volume: 0.0041 cubic inches.
Weight: 0.50 grams maximum.
Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: −55°C to + 125°C.
Terminal Strength: Meets five pounds pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High Frequency: 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.
Marking: Color coded per MIL-C-15305C.

© United Technical Publications

Nytronics, Inc.

Inductors

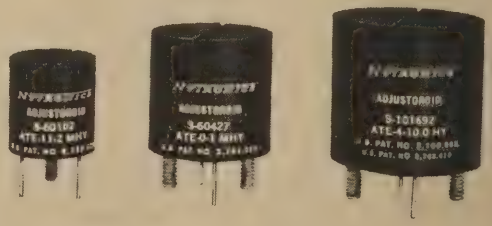
SUPER WEE-WEE-DUCTOR STANDARD VALUES

Material	Nytronics Part No.	L μH	Q min.		min. Fo MC	approx. Cd Pf	Max. DCR at 25°C Ω	Max. I mA	Incr.* I mA
PHENOLIC	SW-W- 0.10	0.10	42	25	480	.70	.087	1650	>1650
	SW-W- 0.12	0.12	42	25	460	.63	.090	1630	>1630
	SW-W- 0.15	0.15	42	25	400	.66	.098	1550	>1550
	SW-W- 0.18	0.18	42	25	360	.62	.117	1420	>1420
	SW-W- 0.22	0.22	42	25	340	.63	.141	1330	>1330
	SW-W- 0.27	0.27	42	25	320	.59	.157	1230	>1230
	SW-W- 0.33	0.33	42	25	295	.55	.178	1140	>1140
	SW-W- 0.39	0.39	42	25	275	.55	.208	1060	>1060
	SW-W- 0.47	0.47	41	25	250	.56	.257	960	> 960
	SW-W- 0.56	0.56	39	25	238	.52	.283	915	> 915
	SW-W- 0.68	0.68	36	25	224	.50	.337	840	> 840
	SW-W- 0.82	0.82	35	25	205	.50	.470	720	> 720
IRON	SW-W- 1.0	1.0	38	25	135	.87	.170	1180	>1180
	SW-W- 1.2	1.2	38	7.9	124	.87	.190	1150	>1150
	SW-W- 1.5	1.5	38	7.9	114	.87	.212	1050	>1050
	SW-W- 1.8	1.8	38	7.9	105	.89	.242	990	> 990
	SW-W- 2.2	2.2	38	7.9	95	.88	.263	950	> 950
	SW-W- 2.7	2.7	38	7.9	85	.83	.320	880	> 880
	SW-W- 3.3	3.3	38	7.9	78	.81	.345	820	> 820
	SW-W- 3.9	3.9	42	7.9	74	.76	.411	755	> 755
	SW-W- 4.7	4.7	42	7.9	68	.75	.562	650	> 650
	SW-W- 5.6	5.6	42	7.9	62	.77	.742	565	> 565
	SW-W- 6.8	6.8	45	7.9	55	.80	1.00	485	> 485
	SW-W- 8.2	8.2	47	7.9	51	.78	1.20	440	> 440
	SW-W- 10	10	51	7.9	45	.78	1.84	355	> 335
	SW-W- 12	12	51	2.5	41	.85	2.60	300	> 300
FERRITE "T" LEAD	SW-W- 15	15	45	2.5	48	.55	.635	610	200
	SW-W- 18	18	45	2.5	44	.55	.728	570	175
	SW-W- 22	22	45	2.5	37	.60	.825	530	160
	SW-W- 27	27	45	2.5	32	.65	.950	500	155

Material	Nytronics Part No.	L μH	Q min.		min. Fo MC	approx. Cd Pf	Max. DCR at 25°C Ω	Max. I mA	Incr.* I mA
FERRITE "T" LEAD	SW-W- 33	33	46	2.5	30	.65	1.26	430	150
	SW-W- 39	39	46	2.5	27	.66	1.42	405	145
	SW-W- 47	47	46	2.5	23	.66	1.72	370	140
	SW-W- 56	56	48	2.5	21	.75	2.03	340	130
	SW-W- 68	68	48	2.5	18.5	.75	2.29	320	120
	SW-W- 82	82	46	2.5	17.0	.75	2.55	305	115
	SW-W- 100	100	46	2.5	15.5	.78	2.92	280	100
	SW-W- 120	120	53	0.79	14.5	.72	3.30	235	80
	SW-W- 150	130	53	0.79	13.0	.70	4.30	215	68
	SW-W- 180	180	53	0.79	11.5	.70	5.40	200	64
	SW-W- 220	220	55	0.79	10.0	.84	6.65	150	60
	SW-W- 270	270	57	0.79	9.50	.74	7.60	140	58
	SW-W- 330	330	57	0.79	8.50	.75	8.50	130	56
	SW-W- 390	390	57	0.79	8.00	.74	10.0	120	54
	SW-W- 470	470	57	0.79	7.20	.70	13.5	100	52
	SW-W- 560	560	61	0.79	6.40	.70	14.5	95	50
	SW-W- 680	680	61	0.79	5.80	.78	16.0	90	48
	SW-W- 820	820	58	0.79	5.30	.78	19.0	85	47
	SW-W- 1000	1000	58	0.79	4.80	.78	21.5	80	45
	SW-W- 1200	1200	55	0.25	2.90	1.9	23	100	40
	SW-W- 1500	1500	55	0.25	2.80	1.6	30	90	35
	SW-W- 1800	1800	55	0.25	2.60	1.5	33	86	32
	SW-W- 2200	2200	55	0.25	2.55	1.3	40	78	30
	SW-W- 2700	2700	55	0.25	2.40	1.2	43	74	28
	SW-W- 3300	3300	55	0.25	2.00	1.1	58	65	26
	SW-W- 3900	3900	55	0.25	1.95	1.1	76	56	23
	SW-W- 4700	4700	55	0.25	1.85	1.1	85	53	20
	SW-W- 5600	5600	55	0.25	1.75	1.0	100	48	18
	SW-W- 6800	6800	50	0.25	1.58	1.0	127	43	15
	SW-W- 8200	8200	50	0.25	1.55	1.0	150	40	12
	SW-W-10,000	10,000	50	0.25	1.45	1.0	190	37	10

*INCREMENT CURRENT — The D.C. current required to cause a 5% reduction in the nominal inductance value.

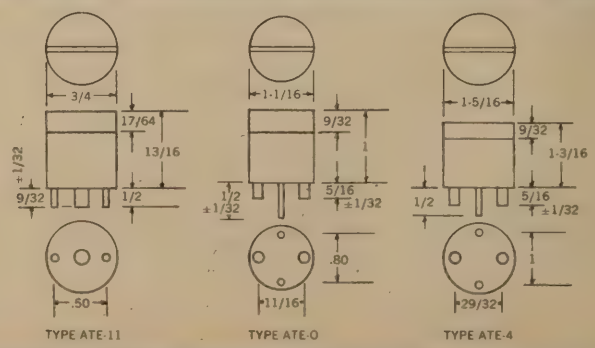
This radically new development in the toroidal coil field offers a miniature variable toroid in one of three case sizes as shown above. The **ADJUSTOROID** was developed especially for printed circuit and similar lightweight applications. This unit is hermetically sealed, and there is no physical contact between the adjusting screw and the toroidal winding.



ADJUSTOROID

(U.S. Patent Numbers 2,762,020 and 3,100,882)

- **Miniature Variable Toroid**
- **Stepless Adjustment**
- **Very High "Q"**
- **Available to 12 Henries**
- **Completely Hermetically Sealed**
- **Fully Shielded**



© United Technical Publications

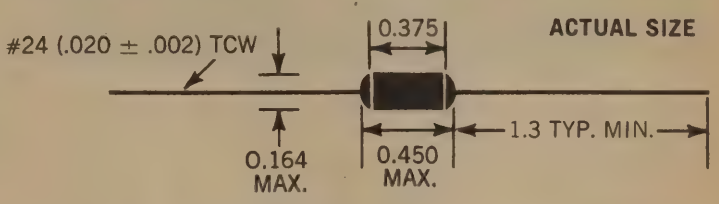
Nytronics, Inc.

Inductors

WEE-DUCTOR

Miniature Shielded Inductor with high inductance-to-size ratio.
0.10uH to 180,000uH in 76 values
Designed to meet MIL-C-15305C.

The **WEE-DUCTOR** was the first miniature shielded inductor that Nytronics standardized for stock delivery. This encapsulated non-flammable shielded unit in a 0.164" diameter by 0.450" long envelope offers the design engineer extremely high inductance for density packaging. The WEE-DUCTOR is designed to meet the environmental requirements of MIL-C-15305C, Grade 1, Class B.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: 0.1 to 22uH ±10% (Q-Meter); 27uH to 1,000 ±5% (1KC Bridge); 1,200uH to 56,000uH ±10% (1KC Bridge) 68,000uH to 180,000uH ±20% (1KC Bridge) measured at point on leads ½ inch from body.

Dielectric Strength: 700 volts RMS at sea level.

Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data, and measured with fuH length leads on Q-Meter.

Q and Rp Values: Measured on Q-Meter. Minimum Rp values on published data sheet are conservative.

Maximum Current: Based on temperature rise not to exceed 40°C at 85°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.0087 cubic inches **Weight:** 0.75 grams maximum
Shielding: Less than 3% coupling with two units measured side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.
Marking: Printed with pertinent data.

MATERIAL	NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	Max. DCR at 125°C	Max. I	Incr* I
		uH		MC	MC	uuF	Ω	mA	mA
PHENOLIC	WEE- 0.10	0.10	63	25	>500	0.67	0.020	4000	4000
	WEE- 0.12	0.12	61	25	>500	0.67	0.029	3350	3350
	WEE- 0.15	0.15	59	25	>500	0.67	0.032	3000	3000
	WEE- 0.18	0.18	57	25	458	0.67	0.040	2850	2850
	WEE- 0.22	0.22	56	25	414	0.67	0.045	2700	2700
	WEE- 0.27	0.27	50	25	373	0.67	0.08	2000	2000
	WEE- 0.33	0.33	48	25	337	0.67	0.09	1900	1900
	WEE- 0.39	0.39	48	25	310	0.67	0.16	1420	1420
	WEE- 0.47	0.47	48	25	283	0.67	0.17	1400	1400
	WEE- 0.56	0.56	45	25	258	0.67	0.36	960	960
	WEE- 0.68	0.68	45	25	235	0.67	0.37	940	940
	WEE- 0.82	0.82	41	25	214	0.67	0.46	870	870
IRON	WEE- 1.0	1.0	42	7.9	164	0.92	0.062	2300	2300
	WEE- 1.2	1.2	43	7.9	150	0.92	0.067	2200	2200
	WEE- 1.5	1.5	41	7.9	135	0.92	0.16	1420	1420
	WEE- 1.8	1.8	42	7.9	124	0.92	0.17	1370	1370
	WEE- 2.2	2.2	42	7.9	112	0.92	0.19	1300	1300
	WEE- 2.7	2.7	41	7.9	107	0.92	0.20	1270	1270
	WEE- 3.3	3.3	40	7.9	91.5	0.92	0.31	1030	1030
	WEE- 3.9	3.9	40	7.9	84.5	0.92	0.33	1000	1000
	WEE- 4.7	4.7	40	7.9	76.5	0.92	0.58	750	750
	WEE- 5.6	5.6	40	7.9	69.5	0.92	0.64	710	710
	WEE- 6.8	6.8	40	7.9	63.5	0.92	0.68	680	680
	WEE- 8.2	8.2	45	7.9	57.5	0.92	1.3	500	500
	WEE- 10	10	46	2.5	52.5	0.92	1.4	480	480
	WEE- 12	12	47	2.5	47.5	0.92	1.5	460	460
	WEE- 15	15	47	2.5	42.5	0.92	1.7	440	440
FERRITE	WEE- 18	18	45	2.5	53.5	0.49	0.88	610	235
	WEE- 22	22	47	2.5	47.0	0.50	0.95	590	220
	WEE- 27	27	42	2.5	44.0	0.48	1.15	530	200
	WEE- 33	33	43	2.5	40.0	0.48	1.2	520	193
	WEE- 39	39	45	2.5	36.5	0.48	1.6	450	183
	WEE- 47	47	46	2.5	33.0	0.49	1.8	420	177
	WEE- 56	56	40	2.5	30.0	0.49	2.2	390	170
	WEE- 68	68	40	2.5	27.0	0.50	2.3	375	165
	WEE- 82	82	42	2.5	17.5	1.0	2.4	360	160
	WEE- 100	100	63	.79	15.0	1.0	2.6	345	157
	WEE- 120	120	62	.79	14.0	1.0	2.9	330	145

MATERIAL	NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	Max. DCR at 125°C	Max. I	Incr* I
		uH		MC	MC	uuF	Ω	mA	mA
FERRITE	WEE- 150	150	63	.79	12.5	1.0	3.3	315	126
	WEE- 180	180	60	.79	11.5	1.0	3.6	300	110
	WEE- 220	220	57	.79	11.0	0.94	4.1	280	105
	WEE- 270	270	52	.79	10.0	0.92	4.8	260	91
	WEE- 330	330	50	.79	9.0	0.92	5.6	240	87
	WEE- 390	390	43	.79	8.5	0.87	6.2	230	72
	WEE- 470	470	66	.79	8.0	0.83	10.0	180	67
	WEE- 560	560	64	.79	7.5	0.82	11.5	170	65
	WEE- 680	680	71	.79	6.5	0.87	12.0	160	60
	WEE- 820	820	67	.79	6.0	0.87	13.8	150	55
	WEE- 1000	1000	62	.79	5.6	0.87	16.0	140	52
	WEE- 1200	1200	52	.250	1.490	9.0	18.2	135	50
	WEE- 1500	1500	51	.250	1.460	8.0	23.7	118	48
	WEE- 1800	1800	51	.250	1.420	6.5	30.2	105	42
	WEE- 2200	2200	50	.250	1.300	6.8	33.7	99	37
	WEE- 2700	2700	51	.250	1.180	6.8	43.1	87	33
	WEE- 3300	3300	52	250	1.050	7.0	48.7	82	30
	WEE- 3900	3900	48	.250	.960	7.0	62.7	72	29
	WEE- 4700	4700	48	.250	.840	7.4	70.5	68	28
	WEE- 5600	5600	48	.250	.810	6.8	104	56	24
	WEE- 6800	6800	45	.250	.740	6.8	118	53	20
	WEE- 8200	8200	38	.250	.580	9.2	146	47	18
	WEE- 10,000	10,000	36	.079	.470	11.5	76.6	66	15
	WEE- 12,000	12,000	36	.079	.370	15.0	109	55	14
	WEE- 15,000	15,000	38	.079	.330	15.0	119	52	13
	WEE- 18,000	18,000	38	.079	.305	15.0	138	49	13
	WEE- 22,000	22,000	32	.079	.295	13.0	219	39	12
	WEE- 27,000	27,000	32	.079	.270	13.0	259	35	12
	WEE- 33,000	33,000	32	.079	.250	12.5	296	33	11
	WEE- 39,000	39,000	30	.079	.215	14.0	395	29	10
	WEE- 47,000	47,000	25	.079	.210	12.5	452	27	9
	WEE- 56,000	56,000	25	.079	.195	12.0	499	26	8
	WEE- 68,000	68,000	20	.079	.130	18.4	395	29	1.1
	WEE- 82,000	82,000	20	.079	.125	16.5	452	27	1.1
	WEE-100,000	100,000	20	.079	.115	16.2	499	26	1.1
	WEE-120,000	120,000	20	.070	.105	16.8	540	23	1.1
	WEE-150,000	150,000	20	.060	.098	13.4	750	20	1.0
	WEE-180,000	180,000	20	.050	.094	13.4	880	18	0.8

*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.

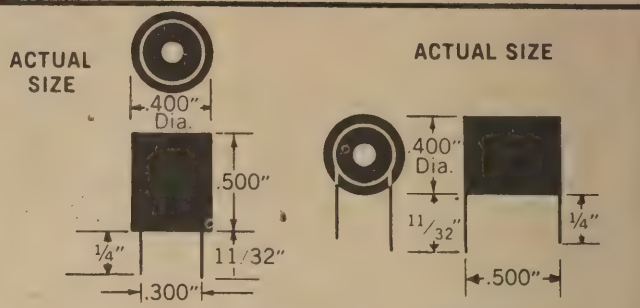
© United Technical Publications

Nytronics, Inc.

Inductors

VARIABLE INDUCTOR

Miniature with inductance range of 0.10 to 4700uH in 29 values.
Encapsulated in epoxy resin for reliability.
Designed to meet MIL-C-15305A.



Terminal Leads #22 (.025 ± .002) VCW.

VERTICAL STYLE HORIZONTAL STYLE

The **VARIABLE INDUCTOR** offers high reliability and exceptional stability over extreme temperature variations. This small lightweight unit is furnished in vertical and horizontal styles to facilitate mounting on printed circuit boards. The unit is designed to meet the requirements of MIL-C-15305A, Grade 1, Class B.

ELECTRICAL CHARACTERISTICS

Inductance Range: 0.33 to 4700uH Tunable Range ±20%
0.15 to 0.22uH Tunable Range ±15%
0.1 Tunable Range ±10%
All measurements at 25°C on Q-Meter using miniature alligator clips mounted 1/32" from body.
Q values ±20%

Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data as measured with Grid-Dip Meter

DENSITY CHARACTERISTICS

Volume: 0.063 cubic inches
Weight: 2.6 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Torque: 0.75 to 5.0 inch-ounces
Use Nytronics Tuning Tool No. B-305 or equal.

Operating Temperature: −55°C to +125°C

Terminal Strength: Meets five pound pull tests.

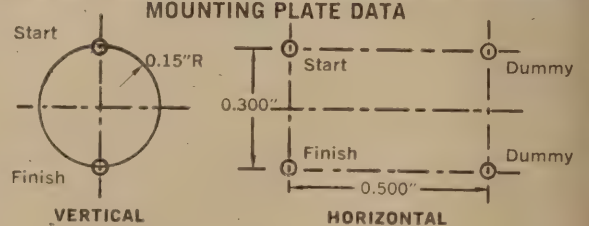
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305A, Grade 1, Class B. Low frequency 10 cps to 55 cps @ .06" total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of 3 mutually perpendicular planes. Shock: 50G, 11ms.

Core Material: Iron

Marking: Manufacturer data printed.

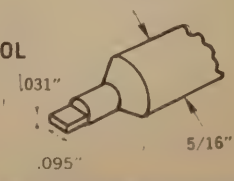
NYTRONICS PART NO.		L nom	Q at L nom		Approx. Fo, L nom	max DCR at 25°C
VIV	VIH	µH		MC	MC	Ω
VIV- 0.10	VIH- 0.10	0.10	85	25.	>500.	0.02
VIV- 0.15	VIH- 0.15	0.15	100	25.	>500.	0.035
VIV- 0.22	VIH- 0.22	0.22	100	25.	>500.	0.04
VIV- 0.33	VIH- 0.33	0.33	100	25.	334.	0.04
VIV- 0.47	VIH- 0.47	0.47	100	25.	285.	0.05
VIV- 0.68	VIH- 0.68	0.68	100	25.	237.	0.07
VIV- 1.00	VIH- 1.00	1.00	90	25.	205.	0.13
VIV- 1.50	VIH- 1.50	1.50	70	7.9	168.	0.24
VIV- 2.20	VIH- 2.20	2.20	73	7.9	135.	0.30
VIV- 3.30	VIH- 3.30	3.30	80	7.9	112.	0.45
VIV- 4.70	VIH- 4.70	4.70	75	7.9	100.0	0.80
VIV- 6.80	VIH- 6.80	6.80	80	7.9	80.0	1.1
VIV- 10.0	VIH- 10.0	10.0	82	7.9	67.0	1.9
VIV- 15.0	VIH- 15.0	15.0	65	2.5	54.2	3.2
VIV- 22.0	VIH- 22.0	22.0	55	2.5	17.5	3.4
VIV- 33.0	VIH- 33.0	33.0	54	2.5	15.0	3.6
VIV- 47.0	VIH- 47.0	47.0	51	2.5	13.2	4.5
VIV- 68.0	VIH- 68.0	68.0	55	2.5	12.0	5.5
VIV- 100	VIH- 100	100.0	50	2.5	10.5	6.7
VIV- 150	VIH- 150	150.	50	.79	3.0	11.0
VIV- 220	VIH- 220	220.	50	.79	2.70	13.0
VIV- 330	VIH- 330	330.	48	.79	2.24	16.0
VIV- 470	VIH- 470	470.	45	.79	1.90	18.0
VIV- 680	VIH- 680	680.	42	.79	1.70	21.0
VIV-1000	VIH-1000	1000.	40	.79	1.40	38.0
VIV-1500	VIH-1500	1500.	40	.25	1.14	54.0
VIV-2200	VIH-2200	2200.	44	.25	0.96	66.0
VIV-3300	VIH-3300	3300.	46	.25	0.86	85.0
VIV-4700	VIH-4700	4700.	48	.25	0.76	99.0

MOUNTING PLATE DATA



TYPICAL ALIGNING TOOL

B-305



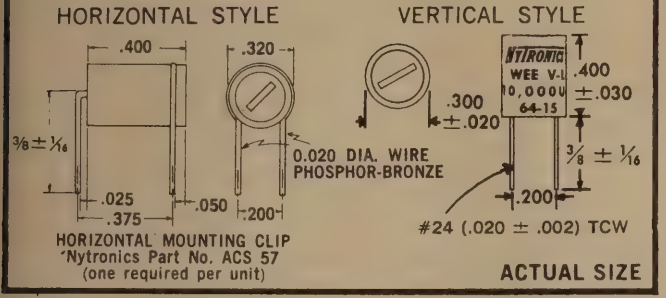
© United Technical Publications

Nytronics, Inc.

Inductors

WEE V-L

Subminiature Shielded Adjustable Inductor
High Q Values
Vertical or Horizontal* Mounting
Unitized Epoxy-Molded Construction
0.400" by 0.300"
0.10 to 100,000uH



The **WEE V-L** is designed to accommodate close inductance adjustments in high-density circuits that demand exceptional stability and high "Q" in the smallest size available.
The **WEE V-L** is designed to meet MIL-C-15305C, Grade 1, Class B. Printed board mounting is facilitated by 0.200 grid spacing and unit has shield construction to allow maximum density packaging. Standardized in 73 stock values.

ELECTRICAL CHARACTERISTICS

Adjustable Inductance Range: ±10%** over entire range as measured per MIL-C-15305C

Q and f_o Values: Minimum not less than 80% of specified value at L nominal.

Dielectric Strength: 840 Volts R.M.S. at sea level.

Working Voltage: 300 Volts D.C.

Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

Incremental Current: Defined as the DC current required to cause a five percent reduction in the nominal inductance value.

DENSITY CHARACTERISTICS

Weight: 1.5 grams maximum

Volume: .0346 cubic inches

Shielding: 3% coupling maximum when two units are tested side by side.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Use Nytronics Tuning Tool No. B-469 or equal.

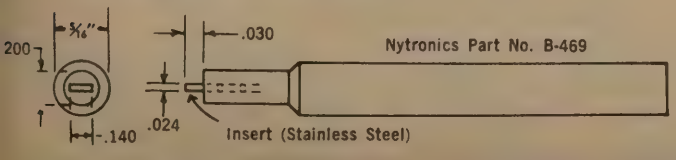
Torque: 0.75 to 6.0 inch-oz.

Operating Temperature: −55°C to +125°C.

Moisture, Vibration, and Shock Resistance: Meet requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)

Marking: Manufacturer data printed.

Terminal Pull: Three pounds.



NYTRONICS CATALOG NO.	L nom. µh	f MC	Q nom.	Fo nom. MC	D.C.R. 25°C Max. ohms	Max. I m.a.	Incr. I m.a.
**WEE V-L 0.10	.10	25	70	>250	0.030	2500	2500
**WEE V-L 0.12	.12	25	70	>250	0.030	2500	2500
WEE V-L 0.15	.15	25	70	>250	0.030	2500	2500
WEE V-L 0.18	.18	25	70	>250	0.035	2400	2400
WEE V-L 0.22	.22	25	70	>250	0.038	2300	2300
WEE V-L 0.27	.27	25	80	>250	0.040	2200	2200
WEE V-L 0.33	.33	25	80	>250	0.040	2200	2200
WEE V-L 0.39	.39	25	80	250	0.045	2100	2100
WEE V-L 0.47	.47	25	80	230	0.045	2100	2100
WEE V-L 0.56	.56	25	80	220	0.050	2000	2000
WEE V-L 0.68	.68	25	80	190	0.055	1900	1900
WEE V-L 0.82	.82	25	85	180	0.060	1800	1800
WEE V-L 1.00	1.00	25	85	160	0.070	1700	1700
WEE V-L 1.2	1.2	7.9	90	170	0.085	1670	1670
WEE V-L 1.5	1.5	7.9	100	155	0.100	1540	1540
WEE V-L 1.8	1.8	7.9	115	135	0.110	1470	1470
WEE V-L 2.2	2.2	7.9	110	120	0.120	1410	1410
WEE V-L 2.7	2.7	7.9	110	104	0.125	1380	1380
WEE V-L 3.3	3.3	7.9	90	93.0	0.165	1200	1200
WEE V-L 3.9	3.9	7.9	90	87.0	0.180	1135	1135
WEE V-L 4.7	4.7	7.9	95	79.0	0.245	985	985
WEE V-L 5.6	5.6	7.9	95	72.0	0.265	950	950
WEE V-L 6.8	6.8	7.9	85	63.0	0.330	853	853
WEE V-L 8.2	8.2	7.9	95	60.0	0.460	720	720
WEE V-L 10	10	7.9	90	54.0	0.640	620	620
WEE V-L 12	12	2.5	120	37.0	0.800	545	545
WEE V-L 15	15	2.5	120	28.8	0.865	520	520
WEE V-L 18	18	2.5	115	23.8	0.940	504	504
WEE V-L 22	22	2.5	125	21.3	1.03	460	460
WEE V-L 27	27	2.5	115	20.6	1.18	418	418
WEE V-L 33	33	2.5	120	18.6	1.30	398	398
WEE V-L 39	39	2.5	120	17.7	1.41	385	385
WEE V-L 47	47	2.5	110	14.9	1.61	350	350
WEE V-L 56	56	2.5	115	13.9	2.08	330	330
WEE V-L 68	68	2.5	105	12.9	2.20	320	320
WEE V-L 82	82	2.5	105	11.7	2.42	300	300
WEE V-L 100	100	2.5	95	10.5	2.15	333	333
WEE V-L 120	120	0.790	95	5.60	2.38	316	190
WEE V-L 150	150	0.790	90	5.20	2.52	306	175
WEE V-L 180	180	0.790	95	4.90	2.88	288	150
WEE V-L 220	220	0.790	95	4.60	3.18	273	125
WEE V-L 270	270	0.790	100	4.20	3.50	260	120
WEE V-L 330	330	0.790	100	3.55	4.80	222	110
WEE V-L 390	390	0.790	100	3.45	5.44	209	105
WEE V-L 470	470	0.790	100	3.20	5.90	201	100
WEE V-L 560	560	0.790	95	2.90	6.30	194	90
WEE V-L 680	680	0.790	100	2.70	7.20	181	80
WEE V-L 820	820	0.790	90	2.50	8.00	172	70
WEE V-L 1,000	1,000	0.790	100	2.35	12.0	141	65
WEE V-L 1,200	1,200	0.250	95	2.20	13.5	132	60
WEE V-L 1,500	1,500	0.250	90	1.90	16.5	119	55
WEE V-L 1,800	1,800	0.250	100	1.80	18.0	114	47
WEE V-L 2,200	2,200	0.250	100	1.70	20.5	107	43
WEE V-L 2,700	2,700	0.250	95	1.50	22.5	102	39
WEE V-L 3,300	3,300	0.250	90	1.40	42.0	76	36
WEE V-L 3,900	3,900	0.250	85	1.27	47.5	71	35
WEE V-L 4,700	4,700	0.250	85	1.24	53.0	67	34
WEE V-L 5,600	5,600	0.250	85	0.93	62.5	65	31
WEE V-L 6,800	6,800	0.250	75	0.79	69.5	58	27
WEE V-L 8,200	8,200	0.250	80	0.75	75.0	56	26
WEE V-L 10,000	10,000	0.250	70	0.70	100.0	49	24
WEE V-L 12,000	12,000	0.079	70	.50	64	60	40
WEE V-L 15,000	15,000	0.079	70	.38	84	52	34
WEE V-L 18,000	18,000	0.079	70	.36	93	50	30
WEE V-L 22,000	22,000	0.079	70	.32	104	45	28
WEE V-L 27,000	27,000	0.079	70	.30	173	35	26
WEE V-L 33,000	33,000	0.079	70	.27	187	32	24
WEE V-L 39,000	39,000	0.079	70	.26	220	30	22
WEE V-L 47,000	47,000	0.079	70	.25	253	28	20
WEE V L 56,000	56,000	0.079	70	.24	285	26	19
WEE V-L 68,000	68,000	0.079	60	.20	311	24	18
WEE V-L 82,000	82,000	0.079	60	.19	385	22	16
WEE V-L 100,000	100,000	0.079	60	.17	420	20	15

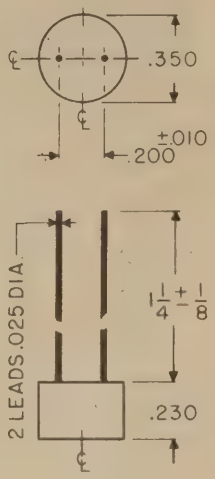
*For Horizontal mounting use Nytronics mounting clip No. ACS-57 or order with prefix H (i.e. H WEE V-L 0.10).

**Tunable range ±5.0% on 0.10uH & 0.12uH

MS* MINIATURE TOROIDAL HIGH Q INDUCTORS

IMMEDIATE DELIVERY ON ALL ITEMS

CONTACT YOUR LOCAL DISTRIBUTOR FOR CURRENT PRICES



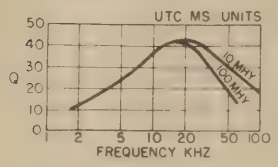


MS UNIT WEIGHT 1.3 GM

Stock Type No.	Ind. Mhy (0 DC)	ma DC Max.*	DCRΩ Max.
MS-1	1	60	1.4
MS-5	5	28	7
MS-10	10	20	11
MS-25	25	13	38
MS-50	50	9	75
MS-100	100	6	132

* The maDC shown is for approximately 5% drop in inductance.

TYPICAL Q CURVE



PHYSICAL CHARACTERISTICS

UTC's new MS series of high Q coils are only .23" high x .35" diameter. The low profile makes them ideal for high-density packaging requirements. All coils are molded in black epoxy.

Base diameter (.35") and lead spacing (.2") fall within TO-5 envelope dimensions.

Leads are .025" diameter gold-plated dumet, type D per MIL-STD-1276A, and are both weldable and solderable.

Q CHARACTERISTICS

Excellent Q in the 10 kHz to 50 kHz range, matching and often excelling the performance of much larger units. Designed for application over the wider range of 1 kHz to 100 kHz. See Q Response Curve.

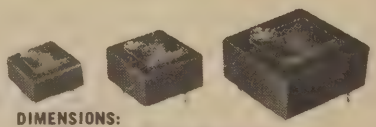
MIL SPECS

All units have been designed, manufactured and successfully tested to complete MIL-27C environmental requirements. MIL Type TF5RX20ZZ.

TOLERANCE AND TEMPERATURE STABILITY

MS units have an inductance tolerance of ±2% at 0.1V RMS, 1 kHz, 0 DC, 25°C. All have excellent inductance stability with temperature: less than ±2% from −55°C to +105°C.

NEW "FE,* FI,* FO"* MINIATURE INDUCTORS



Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications

DIMENSIONS:
FE: 15/16" sq. x 1/2" h., wt. 0.7 oz.
FI: 1 3/16" sq. x 5/8" h., wt. 1.5 oz.
FO: 1 27/32" sq. x 27/32" h., wt. 5 oz.

FE, FI, FO miniature inductors are ideal for transistor and printed circuit applications, having both pin terminals and a molded flat construction. These units are symmetrical toroids providing maximum Q in minimum size. The FE and FI inductors are adjusted at 1 V, 1 kHz. The FO units are adjusted at 1 V, 400 Hz. All units are adjusted to a tolerance of ±1%. The ma DC Max shown is for approximately 5% drop in inductance. The temperature stability is unequalled from −55°C to +100°C. For AC level limitations, a general rule of thumb would be to consider the maximum AC current approximately equal to the maximum DC current rating. However, for specific applications, contact UTC with exact level, frequency, and Q requirements to determine suitability of part in application. All FE, FI, FO inductors are equally well suited for vacuum tube application. All units Mil Type: TF5RX20ZZ.

Type No.	Ind. Hy, (0 DC)	ma DC Max.	DCR Max.
FE-.01	.0100	70	2.5
FE-.02	.0200	50	5.1
FE-.05	.0500	30	12
FE-.1	.100	22	22
FE-.5	.500	10	122
FE-1	1.00	7	250
FE-2	2.00	5	500
FI-.04	.0400	50	4.3
FI-.1	.100	30	11
FI-.25	.250	20	27
FI-.5	.500	14	60
FI-1	1.00	10	110
FI-4	4.00	5	430
FO-.1	.100	60	4.2
FO-.5	.500	25	23
FO-1	1.00	18	43
FO-2	2.00	12	92
FO-5	5.00	8	240
FO-10	10.0	6	440

MILITARY STANDARD INDUCTORS

Two windings for series or parallel connection. Inductance shown for series connection. All but Z-847 are standard MIL case types. Rated 3500 WVDC, unless otherwise noted.

UTC Type	MS No.	MIL Type	Induct. Hy.	ma DC	DCR Ohms	MIL Case Pg. 15
Z-848•	90009-2	04FA001■	16	80	645	FA
Z-849•	90010-2	04GA002■	25	80	670	GA
Z-850•	90011-2	04HA003■	40	80	1020	HA
Z-851†	90013-2	04HA005■	16	125	330	HA
Z-852†	90014-2	04JB006■	25	125	460	JB
Z-853	90037-2	04KA007■	40	125	535	KA
Z-854	75000-2	04LA009•	16	200	180	LA
Z-855	75001-2	04MA010•	25	200	210	MA
Z-856	75002-2	04NA012•	16	315	105	NA
Z-857	75003-2	04YY013•	25	315	150	YY

*1000 WVDC. †2000 WVDC. ■TF1RX-. •TF4RX.

HIGH Q PRECISION INDUCTANCE DECADE

Invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance frequency. The inductance values are laboratory adjusted to better than 1% precision, with calibration noted on base. Not to MIL-T-27C.



DI CASE
Length ..... 4 1/2"
Width ..... 4 3/8"
Height ..... 2 3/8"
Weight ..... 2 lbs.

Type No.	Induct. Henries	Optimum Range	Max. Q	Max. ACma	Ins. Test Volts RMS
DI-1	10 x .01	2-60 KC	200	500	500
DI-2	10 x .1	.25-20 KC	200	150	500
DI-3	10 x 1	.25-10 KC	200	50	500
DI-4	10 x 10	.2-1.5 KC	100	15	500

UNITED® TRANSFORMER CO. **TRW**

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

HIGH Q COILS & INDUCTORS

** Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.**

MINIDUCTORS*

All these ultracompact high Q units are grade 5, hermetically sealed to (MIL-T-27C). Temperature stability rated from ±1% to ±3%, −55°C to +105°C, depending on series.



MM—Ultraminiature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 30 kHz. 3/16 dia. x 1/4"; wt. .07 oz.
MH—Ultraminiature epoxy molded toroidal inductors similar to MM except maximum Q at 100 kHz. Size & wt. as MM.
ML—Ultraminiature hipermalloy cased inductors with epoxy board and pin terminals for printed circuit application. Maximum Q at 800 Hz to 2 kHz, depnding on inductance. 3/16 x 31/64 x 3/16"; wt. .2 oz.
MO—Miniature epoxy molded inductors with pin terminals for printed circuit application. Maximum Q at 600 Hz to 1500 Hz depending on inductance. 3/4 x 1 1/16 x 13/16"; wt. 1 oz.
MW—Miniature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 5 to 10 kHz. 23/32 dia. x 13/32"; wt. .25 oz.

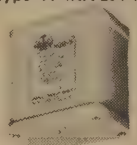
UTC Type	Induct., Hys.	UTC Type	Induct., Hys.	UTC Type	Induct., Hys.
ML-0	.15	MM-6	.03	MO-2	2
ML-1	.25	MM-7	.06	MO-5	5
ML-2	.40	MM-8	.12	MO-7.5	7.5
ML-3	.70	MH-1	.0006	MO-20	20
ML-4	1.4	MH-2	.0015	MO-50	50
ML-5	2.5	MH-3	.0025	MO-100	100
ML-6	4.0	MH-4	.006	MW-.05	.05
ML-7	6.0	MH-5	.01	MW-.10	.10
ML-8	10	MH-6	.015	MW-.25	.25
ML-9	25	MH-7	.025	MW-.5	.5
ML-10	60	MH-8	.04	MW-.75	.75
MM-1	.003	MO-.1	.1	MW-1	1
MM-2	.005	MO-.15	.15	MW-1.2	1.2
MM-3	.008	MO-.3	.3	MW-2	2
MM-4	.0125	MO-.5	.5	MW-3	3
MM-5	.02	MO-1	1	MW-5	5

HIGH Q TOROID INDUCTORS

Favorites for over fifteen years, UTC HQ Toroids are only excelled by the preferred new "M" series. As typical Q curves show, HQ coils are available for application from 100 Hz to 100 kHz. Adjusted to 1%, the inductance is virtually independent of frequency, temperature, and vibration. Voltage stability is excellent, and shielding case assures 80 db coupling attenuation. Hermetically to MIL-T-27C. All units MIL type TF4RX-20YY.



HQA and HQC CASE
Diamter 1 13/16"
Height 1 3/16"
Mounting 1 1/8"
Screws 6-32
Cutout 5/8 x 1 3/16"
Weight 5 oz.



HQB CASE
Length 2 5/8"
Width 1 5/8"
Height 2 5/8"
Mounting 1 11/64 x 2 11/64"
Screws 6-32
Cutout 5/8 x 1 1/8"
Weight 14 oz.



HQE CASE
Length 1 1/16"
Width 1/2"
Height 1 7/32"
Mounting 3/4"
Screws 4-40
Cutout 3/8 x 1/2"
Weight 1.5 oz.

Type No.	Inductance (O DC)	DC ma Max.	Type No.	Inductance (O DC)	DC ma Max.
HQA-1	5 mhy.	400	HQB-1	10 mhy.	410
HQA-2	12.5 mhy.	260	HQB-2	30 mhy.	240
HQA-3	20 mhy.	200	HQB-3	70 mhy.	170
HQA-4	30 mhy.	160	HQB-4	120 mhy.	120
HQA-5	50 mhy.	130	HQB-5	.5 hy.	60
HQA-6	80 mhy.	100	HQB-6	1 hy.	41
HQA-7	125 mhy.	85	HQB-7	2 hy.	30
HQA-8	200 mhy.	65	HQB-8	3.5 hy.	22
HQA-9	300 mhy.	50	HQB-9	7.5 hy.	16
HQA-10	.5 hy.	40	HQB-10	12 hy.	11
HQA-11	.75 hy.	35	HQB-11	18 hy.	9
HQA-12	1.25 hy.	26	HQB-12	25 hy.	8
HQA-13	2 hy.	20	HQC-1	1 mhy.	1350
HQA-14	3 hy.	16	HQC-2	2.5 mhy.	850
HQA-15	5 hy.	13	HQC-3	5 mhy.	600
HQA-16	7.5 hy.	10	HQC-4	10 mhy.	420
HQA-17	10 hy.	9	HQC-5	20 mhy.	300
HQA-18	15 hy.	8	HQE-1	5 mhy.	155
			HQE-2	10 mhy.	110
			HQE-3	50 mhy.	50
			HQE-4	100 mhy.	35
			HQE-5	200 mhy.	25

HERMETIC "M" TYPE TOROIDS

UTC permalloy dust toroids provide highest Q factor with miniaturized dimensions. Lab adjusted to 1% tolerance and sealed to MIL-T-27C specs. Magnetic case plus toroid provide 80 db shielding.

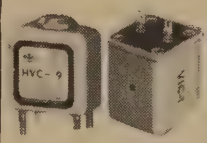


Type
MQA 40 at 500 Hz, 160 at 5 kHz, approx. 40 at 20 kHz. SIZE 1 1/4" x 1 19/32"x 1 23/32" h.; wt. 4 oz.
MQB 40 at 250 Hz, 250 at 3 kHz, approx. 40 at 20 kHz. SIZE 1 3/4" x 2 3/16" x 2 13/64" h.; wt. 14 oz.
MQD 40 at 5 kHz, 185 at 50 kHz, approx. 40 at 300 kHz. SIZE 1 1/4" x 1 9/32" x 1 23/64" h.; wt. 4 oz.
MQE 20 at 600 Hz, 140 at 10 kHz, approx. 40 at 40 kHz. SIZE 1/2" x 1 1/16" x 1 7/32" h.; wt. 1.5 oz.

TQA units are similar to MQA but enter tapped for oscillator application, etc. Net each: TQA-1 thru TQA-15, $1.50 more than MQA's; TQA-16, 14.70; TQA-17, 15.90; TQA-18, 17.40; TQA-19, 21.00; TQA-20, 23.40.

UTC Type	Ind., Hys.	UTC Type	Ind., Hys.	UTC Type	Ind., Hys.
MQA-1	.007	MQB-1	.010	MQD-6	.020
MQA-2	.012	MQB-2	.030	MQD-7	.030
MQA-3	.020	MQB-3	.070	MQE-0	.004
MQA-4	.030	MQB-4	.120	MQE-1	.007
MQA-5	.050	MQB-5	.50	MQE-2	.012
MQA-6	.070	MQB-6	1.0	MQE-3	.020
MQA-7	.120	MQB-7	2.0	MQE-4	.030
MQA-8	.20	MQB-8	3.5	MQE-5	.050
MQA-9	.30	MQB-9	7.5	MQE-6	.070
MQA-10	.50	MQB-10	12	MQE-7	.100
MQA-11	.70	MQB-11	18	MQE-8	.150
MQA-12	1.0	MQB-12	25	MQE-9	.250
MQA-13	1.5	MQB-13	40.0	MQE-10	.40
MQA-14	2.5	MQB-14	60.0	MQE-11	.60
MQA-15	4.0	MQD-0	.001	MQE-12	.90
MQA-16	6.0	MQD-1	.002	MQE-13	1.5
MQA-17	10.0	MQD-2	.003	MQE-14	2.0
MQA-18	15.0	MQD-3	.005	MQE-15	2.8
MQA-19	22.0	MQD-4	.007	MQE-16	4.0
MQA-20	35.0	MQD-5	.012		

VARIDUCTORS



HVC & HVV (*VIC is not a MIL item)

VIC

These variable inductors are ideal for use in tuned circuits, equalizers, oscillators, etc. TYPE HVC:—Gives highest Q and stability; adjustable −70% to +200% of mean value. Hermetically sealed to MIL-T-27C.

HVV Types: For precise matching; vernier inductance variation ±10% of nominal value. Offer high Q over a wide frequency range and high temperature stability.

VIC:—Adjustable −45% to +85% of mean value.

Size: HVC, TVC and HVV types, 1 1/8" lg. x 25/32" w. x 1 1/32" h.; weight 2 oz. VIC type, 1 11/32" lg. x 1 1/4" w. x 1 1/16" h.; weight 5 1/2 oz.

TVC type inductors are identical to HVC units, but provide taps at 30% and 50% of total turns — ideal for oscillator circuits, etc.
HVC & TVC: U. S. Pat. No. 2,879,489.
HVV: U. S. Pat. No. 3,267,400.

UTC Type	Mean Hys.	DC ma	UTC Type	Mean Hys.	DC ma
HVC-1	.006	100	TVC-6	.6	15
HVC-2	.015	60	TVC-7	1.5	10
HVC-3	.040	40	TVC-8	4	7
HVC-4	.1	30	TVC-9	10	5
HVC-5	.25	20	TVC-10	25	3.5
HVC-6	.6	15	TVC-11	60	2
HVC-7	1.5	10	TVC-12	150	1.5
HVC-8	4	7			
HVC-9	10	5			
HVC-10	25	3.5	VIC-1	.0085	75
HVC-11	60	2	VIC-2	.013	60
HVC-12	150	1.5	VIC-3	.021	50
			VIC-4	.034	40
HVV-.006	.006	200	VIC-5	.053	35
HVV-.015	.015	120	VIC-6	.084	30
HVV-.04	.04	80	VIC-7	.13	25
HVV-.1	.10	50	VIC-8	.21	21
HVV-.25	.25	30	VIC-9	.34	18
HVV-.6	.6	20	VIC-10	.54	15
HVV-1.5	1.5	13	VIC-11	.85	12
HVV-4	4	6	VIC-12	1.3	10
HVV-10	10	4.5	VIC-13	2.2	8
HVV-25	25	3	VIC-14	3.4	7
HVV-60	60	2	VIC-15	5.4	6
HVV-150	150	1.3	VIC-16	8.5	5
			VIC-17	13	4
TVC-1	.006	100	VIC-18	21	3.5
TVC-2	.015	60	VIC-19	33	3
TVC-3	.040	40	VIC-20	52	2
TVC-4	.1	30	VIC-21	83	1.5
TVC-5	.25	20	VIC-22	130	1

LOW FREQUENCY HIGH Q COILS

MQL TYPES

All these units of MIL type TF4RX20YY induct value to 2% tolerance at 1v., 60 Hz. Exceptional Q and stability, inductance swing less than 3% from −55°C to +105°C. The case, sealed hermetically to MIL-T-27C is 1 13/16" dia. 2 1/2" h. Transformer, parallel, series or center-tapped connections are permitted due to dual windings to 4 terminals. Mounting 1 1/2" sq. with a 6-32 screw. Cutout 1 1/2" dia wt. 1 lb.

Type No.	Hys. (0 DC) Series	Parallel	Type No.	Hys. (0 DC) Series	Parallel
MQL-0	1	.25	MQL-3	200	50
MQL-1	10	2.5	MQL-4	400	100
MQL-2	20	5	MQL-5	2500	625



MQM TYPES

Designed for high Q at low frequencies. Structure provides exceptional stability, adjusted to 2% at 1V. 60 Hz. Inductance variation less than 2% from −55°C to +130°C. Made to MIL-T-27C, MIL type TF4SX20YY. Size 1 3/4" d x 1 5/8" h., cutout: 1" d., wt. 5 oz.

Type No.	Series Hy (0 DC)	Parallel Hy (0 DC)	Series DCRΩ ±20%
MQM-2	2	.5	21
MQM-16	16	4	143
MQM-40	40	10	368
MQM-300	300	75	3700
MQM-600	600	150	5720

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

OHMITE

power line chokes

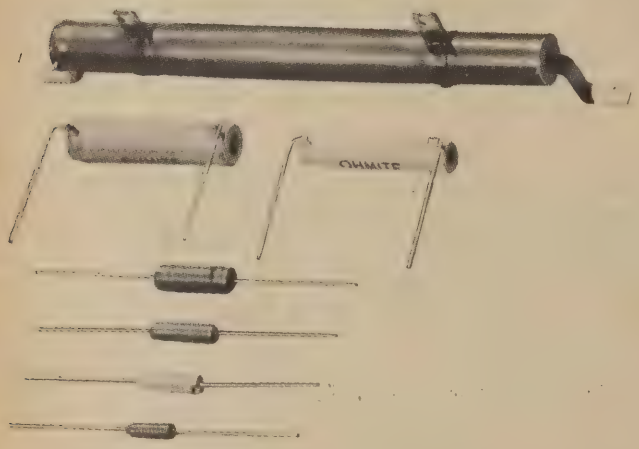


Catalog No.[1]	Inductance Micro-henries	Amps.	Total D.C. Ohms	Core	Weight lbs.
Z-20	14	5	0.15	4" x 3/16"	.11
Z-21	15	10	0.07	6½" x ¾"	.31
Z-22	18	20	0.045	8½" x 1⅛"	.73
(*Z-30)	110	20	0.085	8½" x 1⅛"	1.45

*One section is wound as a second layer over the other.
Non-magnetic brackets furnished with each choke.

Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. They are used as filters in conjunction with two grounding capacitors of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two, single-layer windings on a single ceramic core, insulated and protected by moisture-proof coating.

radio frequency plate chokes



This series of seven, single-layer-wound, solenoid type radio frequency plate chokes, covers the entire frequency range of 3 to 520 megacycles. The stock number corresponds to the approximate frequency at which maximum efficiency will be obtained, but the chokes may be used at any other frequencies within their operating ranges, as listed in the price table.

Chokes of the four highest frequencies are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects and also prevents breakdown from high r.f. potentials. Non-magnetic mounting brackets are furnished with the largest size, Z-7. The Z-14 and Z-28 have wire leads welded to lug type terminals; the Z-50, Z-144, Z-235 and Z-460 have axial-type wire leads.

Catalog No.[1]	Operating Range	Inductance Micro-henries	D.C. Res. Ohms*	Rated Current Amps	Resonant Freq. Mc	Core	Wt. Lbs.
Z-7	3 to 20 Mc.	84.0	4.70	1.00	13	6" x 3/4"	.106
Z-14	7 to 35 Mc.	44.0	2.60	0.68	23	2" x 3/4"	.026
Z-28	20 to 60 Mc.	21.0	2.70	0.60	41	1¾" x 3/16"	.011
Z-50	35 to 110 Mc.	7.0	0.98	1.00	79	1" x 3/32"	.005
Z-144	80 to 200 Mc.	1.8	0.33	1.10	168	¾" x 3/16"	.002
Z-235	160 to 350 Mc.	0.84	0.14	1.70	300	¾" x 3/16"	.002
Z-460	320 to 520 Mc.	0.20	0.034	4.00	500	½" x 3/32"	.001

Non-magnetic Brackets Furnished with Z-7.
* At 100 ma, 25°C ambient.

Any one of these chokes may be selected for a particular frequency within its recommended operating range with the assurance that it will give excellent performance. Selection should be made, however, subject to the following qualification. It is generally advisable to select a choke with a resonant frequency (see chart) slightly higher than the desired operating frequency since any additional capacity to ground will tend to shift the resonant frequency closer to the operating frequency. Also, for this reason, the frequency designated by the catalog number of a choke is lower than its natural resonant frequency.

parasitic suppressor



The P-300 Suppressor is designed to prevent unwanted ultra-high-frequency parasitic oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The P-300 is a non-inductive, 50 ohm, vitreous enameled resistor combined with a choke (in parallel) of .3 microhenries inductance and .003 ohms D.C. resistance. The two form a small integral unit only 1¾" long overall and 21/32" diameter. The unit may be mounted directly in the grid lead without extra support.

Model P-300 Wt. .04 lb.

diode metersaver protects meters



Designed to protect sensitive (high internal resistance) meters against burnout due to overload even where potential is reversed. Introduces negligible error. Consists of 2 silicon diodes in compact case with leads and lugs. Connects across meter terminals without regard for polarity. Shunts excess current around meters — for example, can convert 200 times overload to 3 times overload. Allows use of less expensive meter fuses. Can be used with meters of low internal resistance but use of series resistor is then recommended.

Catalog No. OMC7111

[1] Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

 © United Technical Publications



$525.00

GONSET

GSB 201 MK IV

10-80 METER LINEAR AMPLIFIER

Exceptionally compact—only 8½" high, 12⅝" wide, and 17" deep—the GSB-201 MKIV lends itself readily to table-top mounting.

- Four (not two) type 572B husky carbon anode tubes for a full 2000 watts PEP SSB input.
- 120 or 240 volts primary power input.
- Instant-On, No Warm-Up, No Waiting when switching from barefoot, to full power.
- Universal rear of cabinet circuitry, may be connected for transceiver, or receiver-transmitter use, without internal modification.
- Plus many more exciting features.

GONSET

Model PCBU Base & Mobile CB Transceiver

SOLID STATE

Preamplifier



$59.95

IMPROVES RECEIVER GAIN and SENSITIVITY

■ A field effect transistor provides improved sensitivity of the receiver section of a CB transceiver, either tube type or solid state ■ A unique built-in transfer circuit enables the PCBU to bypass itself while the transceiver is transmitting ■ May be used on AM or SSB equipment ■ No modification to CB equipment required ■ "ON THE AIR" sign automatically lights when transmitting ■ Model PCBU with: Built-in universal power supply, transfer relay, AC & DC connecting cables ■ Wired & tested, domestic manufacture

every one a thoroughbred



$59.95

AMECO

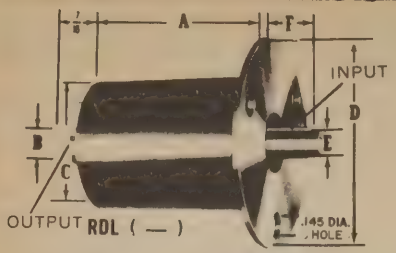
ALL BAND TRANSCEIVER PREAMP

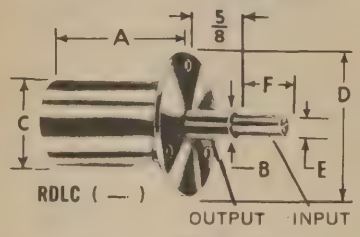
Model PT is Supplied Complete with Built-in Power Supply, Transfer Relay, Connecting Cables. Wired and Tested.

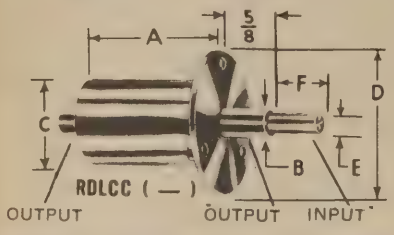
■ Covers 6 thru 160 meters ■ No Modification to Equipment ■ Improves Sensitivity of Receiver Section of Transceiver ■ Also Feeds Second Receiver and Mutes the Second Receiver ■ DX and DXpedition Proven

See your favorite distributor —Write for brochure

GONSET AMECO Divisions of AEROTRON, INCORPORATED







RATIO DRIVES

for FINE INSTRUMENT AND MACHINE CONTROLS

Ball Bearing Type **Compact, durable, exceptionally smooth action**

These unique ratio drives employ precision ball bearings. Used for rotary control of components in instruments, they provide unexcelled smooth motion. Ruggedly built, permanently sealed and lubricated, JAN Ratio Drives accommodate applications where miniaturization is essential.

Input and output shafts of these units operate in the SAME DIRECTION. Type "RDL" provides "in-line" input-output shafts. Type "RDLC" is supplied with **concentric** shafts whereby the output envelopes the input shaft. An added feature of type RDLCC is the output shaft in the rear.

CAT. No.	RATIO	A	B O.D.	B I.D.	C	D	Input Shaft E	F	Bolt-Mtg. Dia.
RDL-1	2.6:1	1	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDL-2	7.0:1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDL-3	17.0:1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDLC-1	2.6:1	1	3/8	1/4	1 1/8	1 13/16	1/4	1 1/2	1 15/32
RDLC-2	7.0:1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 5/64	1 15/32
RDLC-3	17.0:1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	23/32	1 15/32
RDLCC-1	2.6:1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 5/64	1 15/32
RDLCC-3	17.0:1	2 43/64	3/8	1/4	1 13/16	1 55/64	1/4	11/16	1 15/32

ALL RATIOS ARE ±10%

KNOB RATIO DRIVE

9 to 1 ratio (to dial skirt). 1:1 to potentiometer.

Cat. No. KRD-11
(plain gripping surface)

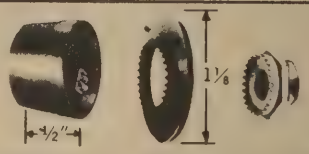
Cat. No. KRD-12
(knurled gripping surface)



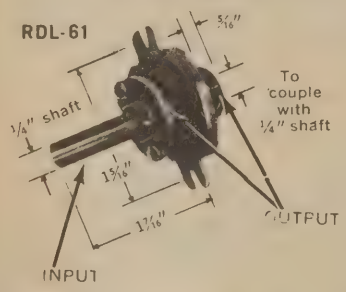
Exploded view shows engineered miniature gear system, to permit precise, fine tuning of controls. As shown, 9 to 1 ratio (to dial skirt). 1:1 to potentiometer. Other ratios designed to specifications.

Brass gears; black anodized aluminum knob and dial. Available with knurled or non-knurled outside knob.

Available for 1/8" shafts. 1/4" on special order.



RDL-61



Now! Corrosion Resistant!

IN-LINE RATIO DRIVE

6.3 : 1

Variations available to customers specifications.

For smooth rotary control of components requiring Vernier adjustments. Suitable for use where panel space is at a premium. Durable, ruggedized ball bearing mechanism.

LIMIT STOP COMPONENTS

Designers can now consider the limit stop as a component to design with, such as potentiometers, capacitors, or other standard units. The simplicity of adjustment and the large number of available turns enables the stop range to be set with extreme precision. Conveniently located dual locking screws maintain settings under all conditions of shock and vibration.

Available for 1/4" and 3/16" shafts.
Specify — (3) for 3/16"
— (4) for 1/4"


LS 552 Washer


LS 554 Collar


LS 556 Stop Plate


Typical End Product

RIGHT ANGLE RATIO DRIVES

Versatile, miniaturized, right angle rotary controls.

Featuring dual output stainless steel shafts at right angles to input, these engineered drives provide an ideal type of instrument control. Available with matched bevel or worm gears covering a wide range of ratios.

JAN'S RIGHT ANGLE DRIVES are especially useful for handling spring or gravity-loaded components since the output shaft automatically locks in any desired position yet remains free for smooth adjustment by the input shaft. Assembled in dust-proof housings, the gears are permanently pinned in place on stainless-steel shafts mounted in oilite bearings and held under constant pressure.

BEVEL GEAR RIGHT ANGLE DRIVES

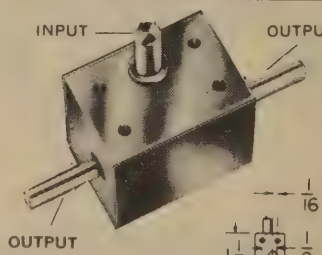


CAT. No.	RATIO	"A"
RABG-1	1:1	1/8
RABG-2	2:1	1/8
RABG-3	3:1	1/8

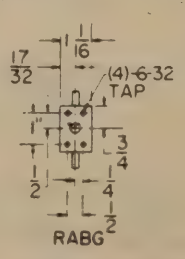
WORM GEAR RIGHT ANGLE DRIVES



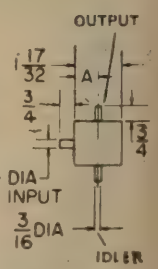
CAT. No.	RATIO	"A"
RAWG-1	5:1	3/4
RAWG-2	10:1	3/4
RAWG-22	12:1	3/4
RAWG-3	20:1	3/4



RAWG (—)
RABG (—)







JAN HARDWARE MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

© United Technical Publications

JAN HARDWARE MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

U.S. PATENT NO. 2,681,378

HI-VOLTAGE INSULATED COUPLINGS

MEETS MIL SPECS: TEMPERATURE - HUMIDITY - SHOCK - VIBRATION - FUNGUS

HI-VOLTAGE INSULATED COUPLINGS

15 KV Breakdown 10 inch pounds torque

Series No. AK-5079 & No. AK-5164

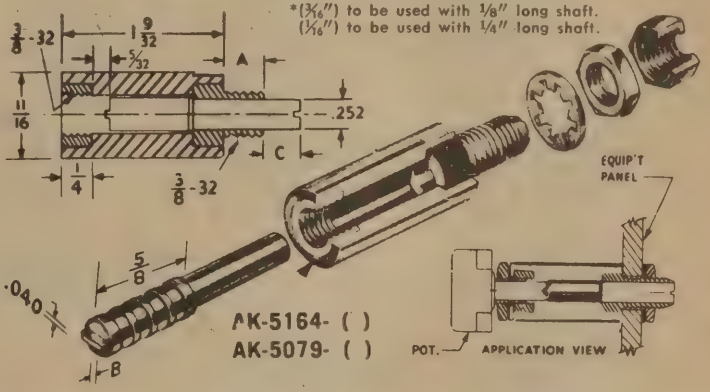
Engineered with stainless steel shaft and precision, screw-driver tip molded-integrally with Diallyl Phthalate Material in accordance with Military Specifications. Completely shock, vibration and fungus proof, they operate with ease over an ambient temperature range of —75 to +175° C. Supplied complete with nickel plated mounting hardware.

Stainless steel screw driver tip fits all standard slotted shafts (potentiometer, etc.) without need for further machining. Ideally suited to adjust high voltage controls thus protecting operating personnel against danger. They are also used to reduce ground capacitance on other types of sensitive instrument controls.

For Commercial Instrument Applications . . .
These couplings are available in general Purpose Black Bakelite.
Cat. No. 6164-(X or B)-( ) For Standard Type
Cat. No. 6079-(X or B)-( ) with Locking Type Bushing.
Dimensions are identical with 5000 series, in chart above.

	CAT No.	"A"	"B" *	SHAFT	"C"
STANDARD TYPE	AK-5164-X-1	3/8"	3/16"	Slotted	5/16"
	AK-5164-B-1	3/8"	1/16"	Slotted	5/16"
	AK-5164-X-2	3/8"	3/16"	Slotted	15/32"
	AK-5164-B-2	3/8"	1/16"	Slotted	15/32"
	AK-5164-X-3	3/8"	3/16"	No Slot	13/16"
	AK-5164-B-3	3/8"	1/16"	No Slot	13/16"
	AK-5164-X-4	3/8"	3/16"	No Slot	1 7/16"
	AK-5164-B-4	3/8"	1/16"	No Slot	1 7/16"
	AK-5164-X-5	1/8"	1/16"	Slotted	Minus 1/16"
	AK-5164-B-5	3/8"	1/16"	Slotted	Minus 1/16"
WITH LOCKING TYPE BUSHING	AK-5079-X-1	5/16"	3/16"	Slotted	1/8"
	AK-5079-B-1	9/16"	1/16"	Slotted	1/8"
	AK-5079-X-2	5/16"	3/16"	Slotted	9/32"
	AK-5079-B-2	9/16"	1/16"	Slotted	9/32"

*(3/16") to be used with 1/8" long shaft.
(1/16") to be used with 1/4" long shaft.

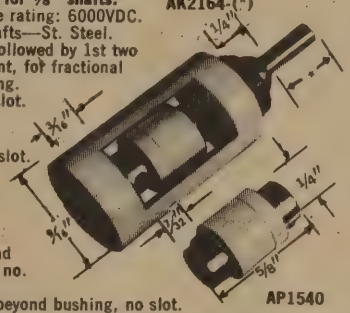


Hi-Voltage Insulated Couplings for 1/8" shafts.
White Cycalac material. Voltage rating: 6000VDC.
Hubs—Brass, Nickel Pltd.; Shafts—St. Steel.
*Insert letter "S" or "N" followed by 1st two numbers of decimal equivalent, for fractional length of shaft beyond bushing.
"S"=with slot. "N"=no slot.

Typical part number:
AK2164-N31=5/16" long shaft beyond bushing (standard), no slot.

If length is 1" use "X"
Typical part numbers:
AK2164-SX=1" long shaft beyond bushing, slotted.

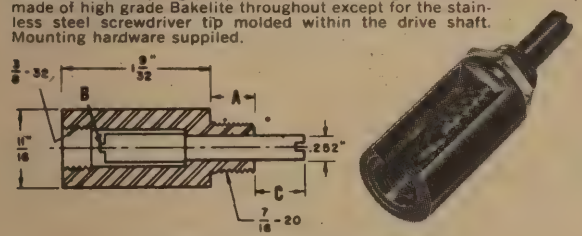
If length exceeds 1", use "X" and decimal equivalent for balance of no.
Typical part numbers:
AK2164-NX31=1 5/16" long shaft beyond bushing, no slot.



COMMERCIAL INSULATED COUPLINGS

30 KV Breakdown **Series No. AK-4160**
10 inch pounds torque **For TV and Industrial Applications**

These handy couplings, capable of withstanding 30 KV, are made of high grade Bakelite throughout except for the stainless steel screwdriver tip molded within the drive shaft. Mounting hardware suppiled.

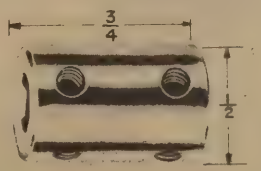


	CAT No.	"A"	"B"	SHAFT	"C"
STANDARD TYPE	AK-4160-X-1	3/8"	3/8"	Slotted	1/8"
	AK-4160-B-1	3/8"	1/16"	Slotted	
	AK-4160-X-2	3/8"	3/8"	No Slot	1/2"
	AK-4160-B-2	3/8"	1/16"	No Slot	

SHAFT COUPLING EXTENDER
Cat. No. AP1010

Nickel plated brass with 2 set screws for firm attachment to shaft.
1/2" O.D.; 1 3/4" overall length.





SHAFT COUPLING
Cat. No. AP-15150

A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with 4 set screws for firm attachment to shafts.

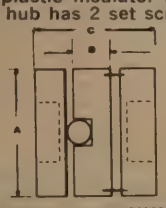
Cat. No. AP-15151
Same as above, 2 set screws.

AUTOLINEAR (INSULATED) SHAFT COUPLINGS

2.5 - 5KV BREAKDOWN
Universal, miniature, self-aligning
Cat. No. AP-1530 & AP-1538



A unique series of shaft couplers that accommodate either similar or disimilar 1/8" 3/16" or 1/4" shafts. Permits offset misalignment to 1/16" and 5° angle. Operates free of backlash. Self-extinguishing low water absorption characteristic plastic insulator between precision cast aluminum hubs. Each hub has 2 set screws for firm attachment. Alodine finish.



PART NO.		DIA. HOLE "A"	"B"	"C"
AP-1530	-2	1/8"	1/2"	15/64" 5/64" ± 1/32"
	-3	3/16"		
	-4	1/4"		
AP-1538	-2	1/8"	1/2"	27/64" 17/64" ±.1/32"
	-3	3/16"		
	-4	1/4"		

TYPICAL PART NUMBERS:
AP-1530-34
AP-1538-22

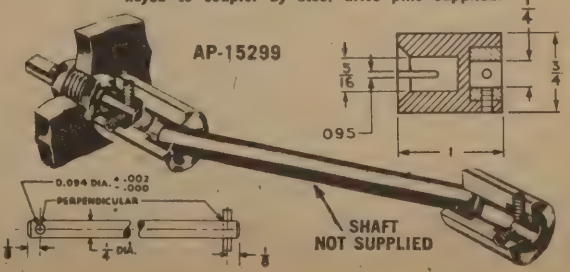
VOLTAGE RATING:
AP-1530 — 2500 VOLTS
AP-1538 — 5000 VOLTS

OFFSET-SHAFT (INSULATED) COUPLINGS

10 KV Breakdown— ±30° Offset
Cat. No. AP-15299

Highly versatile, durable insulated couplings made with single-unit, molded Nylon-to-metal insert construction. Application requires two couplings—permits smooth control for two parallel shafts offset from each other up to 30 degrees at separations greater than 3 inches. Secured to component and control shafts by 2 set screws.

Note: Coupling is accomplished with a 1/4" shaft of any length (not furnished). Coupling shaft keyed to coupler by steel drive pins supplied.



© United Technical Publications

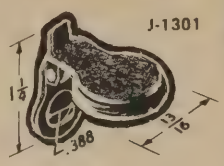
JACK COVERS (TRIMMER COVERS)

These sturdy Jack Covers fit jack or panel bushings and are used to keep out dust and moisture as well as to prevent inadvertent disturbance of control settings. Outer surfaces are finished in standard colors of baked enamel.

To Order Colors: Specify:
(-1) Black Wrinkle; (-2) Smooth Gray; (-3) Smooth Olive; (-4) Smooth Black. Other colors on request.

Example: Jack cover, color black wrinkle, order as J-1301 (-1)

J-1301 ( ) STANDARD JACK COVER

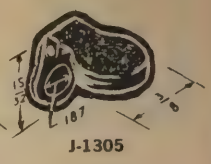




J-1303 ( ) WATERPROOF JACK COVER Gasket & Nut

J-1304 ( ) MINI-JACK COVER





J-1305 ( ) SUB-MINI JACK COVER

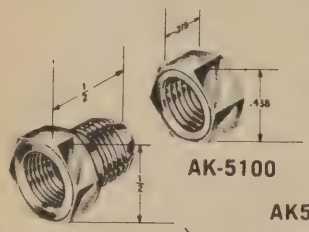
SHAFT LOCKS

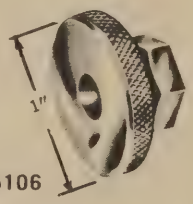
Cat. No. AK-5100 thru No. AK-5107
Split-bushing, collet type locks.

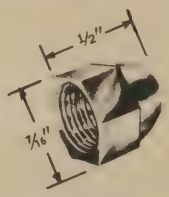
Used to securely hold the shaft of volume controls, capacitors, switches, etc. in position. Body and lock nut are brass—nickel plated. Supplied with nickel plated internal tooth lock washers, upon request.

SPLIT BUSHING TYPE For ¼" shafts

AK-5100 Standard Lock Nut
AK-5101 Panel Mount Type
AK-5106 Knurled Shaft Lock (1" O.D. Knurl)
AK-5107 Lock Nut (Round Head)







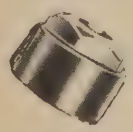


DIAL LOCK
Cat. No. AP1060



Supplied completely assembled. Securely locks dial in position. Nickel plated on brass. Knurled head. 1⅛" overall length.

NYLON SHAFT LOCK Cat. No. AK-1050



One-piece, black nylon; fits standard ⅜"-32 thread of shaft bushing. Friction grip holds ¼" shaft to prevent accidental or vibrational disturbance of control settings. Adjustment for semi-permanent locking, provided.

SHAFT KNOB LOCK



Cat. No. AK 1057-2 (°) (⅛" shaft)
AK 1057-4 (°) (¼" shaft)
(Used with 71 Series Knob)
Cat. No. AK 1059-4 (°) (¼" shaft)
(Used with 91 Series Knob)

Specify "M" or "G" for matte or glossy finish

Prevents movement of controls due to shock . . . vibration . . . or accidental manual contact. Available in matte or glossy finish, for commercial or military applications.

Typical Part Nos.
AK 1057-2MA = For ⅛" Shaft/matte finish/Black
AK 1059-4GA = For ¼" Shaft/glossy finish/Black

CHASSIS & CABINET BUMPERS

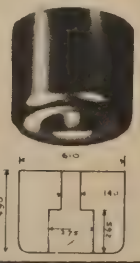
Durable, low-friction polyethylene. Guards against scuffing. Supplied in either black or russet brown, with recessed hole for screw or bolt usage.

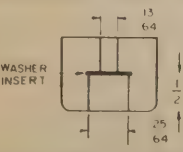
To Order Colors:
Black, specify (4);
Brown specify (7).
Other colors on request.

Cat. No. AK575 ( )



Cat. No. AK574 ( )



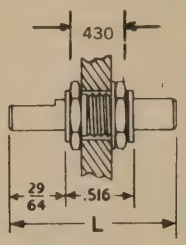


No. AK 576-4 HEAVY DUTY CHASSIS & CABINET BUMPER.
(with steel washer insert).
Molded neoprene. 1" Diameter, 13/16" high.
Configuration similar to AK 574 above.
Color. Black. Other colors on request.

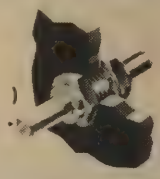
PANEL BEARING & SHAFT ASSEMBLIES

Cat. No. AP-15350 series

Used for rotary control of components. Passivated stainless steel shaft is ¼" dia. with one end flattened for attaching to knob control by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer and nickel plated, brass panel bearing. Fits panels up to 3/16" thick; mounts in 13/32" dia. hole.



AP 15350- ( )
STAINLESS STEEL





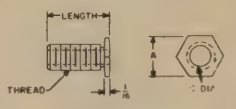
AP 15350



Cat. No. AK 5511 Panel Bearing Assembly.
Shafts available on special order

Cat. No.	Item	"L" Shaft Length
AP 15350	Panel Bearing	—
AP 15350-1	Panel Bearing &	1⅜"
AP 15350-2	Shaft Assembly	3"
AP 15350-3		6"

PANEL BUSHING FOR 1/4 & 3/8 SHAFT
TOL ± .005



LENGTH	A=3/8 1/4-28 THREAD	A=1/2 3/8-32 THREAD
3/8	PB 60614	PB 80638
7/16	PB 60714	PB 80738
1/2	PB 60814	PB 80838
5/8	PB 61014	PB 81038
3/4	PB 61214	PB 81238

THREAD	"C" DIA
1/4-28	.127
3/8-32	.252

EXAMPLE (TO ORDER)
PT NO "PB 60814-B" = 1/4-28 THD., 1/2 LG. PANEL BUSHING BRASS W/.127 HOLE

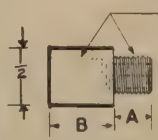
BUSHING SUPPLIED WITH 3/8 NUT & INT TOOTH LOCKWASHER

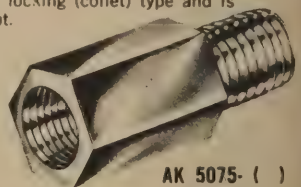
Can be made to order with special nylon bearings.

BUSHING EXTENDERS Cat. No. AK-5075-1 thru No. AK-5075-11

Permit staggered mounting of components having ¼" shafts, behind a panel. Useful in meeting problems of space economy. Supplied in nickel plated brass.

Note: Extender No. AK-5075-9 is a locking (collet) type and is supplied by JAN with lock nut.





AK 5075- ( )

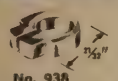
Cat. No.	"B"	"A"
AK5075-1	5/8"	3/8"
AK5075-2	5/8"	1/4"
AK5075-3	5/8"	3/16"
AK5075-4	3/4"	1"
AK5075-5	2 1/4"	1/4"
AK5075-6	1 3/8"	1/4"
AK5075-7	1 1/16"	3/16"
AK5075-8	1 1/16"	1/4"
AK5075-9	1 1/16"	1/2"
AK5075-10	1 21/64"	7/16"
AK5075-11	55/64"	7/16"

JAN HARDWARE
MANUFACTURING COMPANY INC.

© United Technical Publications

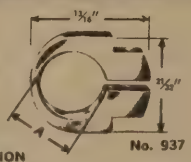
JAN HARDWARE
MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY



"NO-MAR" CLAMPS No. 936

Set screw does not touch shaft.
Ideal for knob and gear applications.
Variety of sizes available.

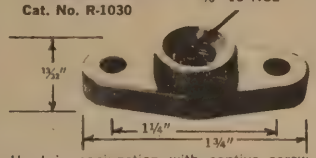


A DIMENSION

No. 937

Cat. No.	–2	–3	–4	–5	–6	–7	–8
937	1/8"	3/16"	1/4"	5/16"	3/8"	13/32"	1/2"
938	1/8"	3/16"	1/4"	5/16"	3/8"	13/32"	

RETAINER NUT 3/8–16 NC2
Cat. No. R-1030



Used in conjunction with captive screw and nut assemblies. Die casting. Can be painted. Other thread sizes available upon special order

LIMITIMER

KEEPS EVERY PROGRAM ON SCHEDULE

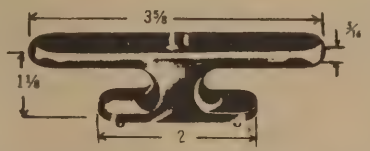
Resembling a miniature traffic light, **LIMITIMER** automatically triggers in sequence a Green "TALK", an Amber "3-MINUTE SUM-UP", and a Red "CLOSE" series of lights. SIZE: 8"x8"x6" WEIGHT: 9¼ lbs.

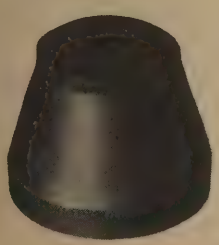


HANDLE, CORD Cat. No. H-692-1

This durable, die-cast aluminum handle is designed for use on small instrument panels. Single integral hole accepts No. 10 screw.

Colors:
(-1) Grey
(-2) Black.
Special colors on request.





Cat. No. H 465
VIEWING HOOD and/or ADAPTER

Can be used as viewing hood, on 2¾" dia. bezels. (#1427; 1428; 1429). Also serves as adapter to permit use of face-fitting neoprene rubber viewing hoods. (see above). All aluminum. Dull black enamel finish



VIEWING HOOD
No. H-689-1 (5⅝" I.D.)

Black neoprene rubber, contour-molded, fits shape of face. Keeps out ambient light when viewing scope.

Used with following Jan Bezels: 19636; 19495; 13584; 1465

No. H-689-2 (4⅞" I.D.)

Used with Jan Bezel #545



3¼" 3¼"

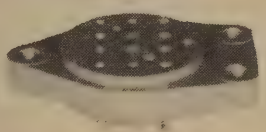
VIEWING HOOD
to fit rectangular bezels
Cat. No. H-1008

Black, contour molded neoprene rubber. Keeps ambient light out, when viewing scope. Fits shape of face. Can be adapted for smaller I.D.'S.

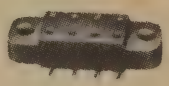
Can be used with JAN Bezel CP1328P. Can be adapted for #1533-P

RELAY SOCKETS
with Fixed or Removable Contacts!

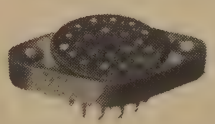
1000 SERIES



2000 SERIES



3000 SERIES





MS No.	JAN Part No.	MS No.	JAN Part No.
MS25322	No. 1010	MS25456	No. 1060
MS25324	No. 1020	MS25458	No. 1070
MS25326	No. 1030	MS25460	No. 1080
MS25328	No. 1040	MS25462	No. 1090
MS25330	No. 1050	MS25464	No. 1100



JOLTA SHOCK TEST MACHINES For reproducible impact-shock test pulses

Four models engineered to reproduce the entire spectrum of all significant impact shock waves.

Designed for laboratory and production testing of light to medium weight components as well as complete instrumentation. Produced to meet practically all requirements of common Mil. Spec. qualification tests. Each JOLTA is electronically calibrated to certify compliance with test specifications.

JOLTA – Bench Model No. 1001 – Produced to meet JAN-S-44 & Mil-Std. 202 (202A). Standard model range 30-120G. Accessory plate springs available for test pulses to 500 G.

JOLTA – Bench Model No. M-500 – Produced to meet Mil-T-12679A (Sig. C) and Mil. T-19500A. Standard model range –200 to 1000 G at 1.0 millisecs. Alternate anvil and pad kits available to order.

JOLTA—Floor Model Nos. F-3003-C1, C2, C-3—Designed for high impact shock testing for small and moderate-sized components. Precision-machined magnesium casting utilized for higher shock amolitudes. Typical tests with these units 50 to 5000 G at .2 to 11.0 millisecs. For high impact testing, accessory springs and twin anvil combinations yield impulses of 0.2 millisecs to 5000 G.

Note: New design allows for quick changeovers of accessories.

SPECIFICATIONS – JOLTA SHOCK TESTERS

Model No.	Carriage Volume	Test Weight	"G" Ranges
1001	4" x 4" x 5"	0-12 lbs.	25-500
M-500	3" cube	0-2.0 lbs.	100-1000
F-3003-C-1	5" cube	0-12 lbs	50-1500
F-3003-C-2	5" cube	0-4.0 lbs.	350-5000

Free engineering services available to customers where adaptation or conversion of standard machines are needed to meet Mil. Spec. changes or other special needs.

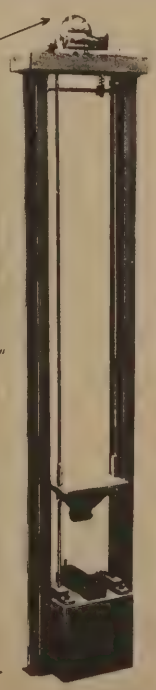


1001



M-500

For Production Testing, can be automated for continuous operation.



F-3003-C

NEW! Plastic impact pad for clean ½ MS-2000 G impact shock.

FEATURES

- Economical
- Simple to operate
- Rugged
- Uniformly accurate

PILOT LIGHT ASSEMBLIES FOR EDGE LIGHTING



Cat. No. 100306



Cat. No. 100232



PACKAGED SHIELD-BEZEL ASSEMBLIES

ELIMINATES { MULTIPLE PURCHASING / COMPLEX ENGINEERING

SAVES { TIME / MONEY

All necessary items for CRT Magnetic Shield and Bezel applications are packaged in one unit.

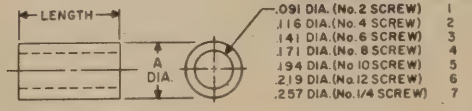
EACH ASSEMBLY CONTAINS { Shield, JAN Bezel, CRT Rubber Cushion, Graticule, Filter, Light Sockets, Pilot Lamps (for edge lit bezel shield assemblies) plus Hardware.

When ordering specify:
"JAN PACKAGED UNIT" giving JAN shield No., JAN bezel No. and CRT tube type with which it is to be used

© United Technical Publications

SPACER-THRU HOLE

TOL. ±.005



CLEARANCE HOLE	CODE
.091 DIA. (No. 2 SCREW)	1
.116 DIA. (No. 4 SCREW)	2
.141 DIA. (No. 6 SCREW)	3
.171 DIA. (No. 8 SCREW)	4
.194 DIA. (No 10 SCREW)	5
.219 DIA. (No. 12 SCREW)	6
.257 DIA. (No. 1/4 SCREW)	7

LENGTH	A=1/8	A=3/16	A=1/4	LENGTH	A=3/16	A=1/4
1/16	SP021	SP031		11/16	SP0311	SP0411
1/8	SP022	SP032	SP042	3/4	SP0312	SP0412
3/16	SP023	SP033	SP043	7/8	SP0314	SP0414
1/4	SP024	SP034	SP044	15/16	SP0315	SP0415
5/16	SP025	SP035	SP045	1	SP0316	SP0416
3/8	SP026	SP036	SP046	1-1/8		SP0418
7/16	SP027	SP037	SP047	1-1/4		SP0420
1/2	SP028	SP038	SP048	1-3/8		SP0422
9/16	SP029	SP039	SP049	1-1/2		SP0424
5/8		SP0310	SP0410			

EXAMPLE (TO ORDER)

PT. NO. SP035-2-B= 3/16 DIA. X 5/16 LG. SPACER-BRASS
W/.116 CLEARANCE HOLE FOR #4 SCREW

LENGTH	A=5/16	A=3/8	A=1/2	LENGTH	A=5/16	A=3/8	A=1/2
1/8	SP052	SP062	SP082	7/8	SP0514	SP0614	SP0814
3/16	SP053	SP063	SP083	15/16	SP0515	SP0615	SP0815
1/4	SP054	SP064	SP084	1	SP0516	SP0616	SP0816
5/16	SP055	SP065	SP085	1-1/8	SP0518	SP0618	SP0818
3/8	SP056	SP066	SP086	1-1/4	SP0520	SP0620	SP0820
7/16	SP057	SP067	SP087	1-3/8	SP0522	SP0622	SP0822
1/2	SP058	SP068	SP088	1-1/2	SP0524	SP0624	SP0824
9/16	SP059	SP069	SP089	1-5/8		SP0626	SP0826
5/8	SP0510	SP0610	SP0810	1-3/4		SP0628	SP0828
11/16	SP0511	SP0611	SP0811	1-7/8		SP0630	SP0830
3/4	SP0512	SP0612	SP0812	2		SP0632	SP0832

EXAMPLE (TO ORDER)

PT. NO. SP064-3-PH= 3/8 DIA. X 1/4 LG. SPACER-PHENOLIC
W/.141 CLEARANCE HOLE FOR # 6 SCREW

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF THREADED ENDS HEX & ROUND

TOL. ±.005



THREAD	DEPTH B
0-80	3/16
4-40	1/4
6-32	3/8
8-32	7/16

LENGTH	A=1/8 DIA 0-80 THREAD		A=1/4 DIA. 4-40 THREAD		A=1/4 DIA. 6-32 THREAD		A=1/4 DIA 8-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1-1/16	DR217	DH217	DR4174	DH4174	DR4176	DH4176	DR4178	DH4178
1-1/8	DR218	DH218	DR4184	DH4184	DR4186	DH4186	DR4188	DH4188
1-3/16	DR219	DH219	DR4194	DH4194	DR4196	DH4196	DR4198	DH4198
1-1/4	DR220	DH220	DR4204	DH4204	DR4206	DH4206	DR4208	DH4208
1-5/16	DR221	DH221	DR4214	DH4214	DR4216	DH4216	DR4218	DH4218
1-3/8	DR222	DH222	DR4224	DH4224	DR4226	DH4226	DR4228	DH4228
1-7/16	DR223	DH223	DR4234	DH4234	DR4236	DH4236	DR4238	DH4238
1-1/2	DR224	DH224	DR4244	DH4244	DR4246	DH4246	DR4248	DH4248
2			DR4324	DH4324	DR4326	DH4326	DR4328	DH4328
2-1/8			DR4344	DH4344	DR4346	DH4346	DR4348	DH4348
2-3/4			DR4444	DH4444	DR4446	DH4446	DR4448	DH4448
3			DR4484	DH4484	DR4486	DH4486	DR4488	DH4488

EXAMPLE (TO ORDER)

PT. NO. DH219-B = 1/8 DIA X 1-3/16 LG. HEX STANDOFF-TAPPED BOTH ENDS
BRASS W/0-80 X 3/16 HOLE.

LENGTH	A=5/16 DIA. 6-32 THREAD		A=3/8 DIA 6-32 THREAD		A=3/8 DIA 8-32 THREAD		A=1/2 DIA 8-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1-1/16	DR5176	DH5176	DR6176	DR6176	DR6178	DH6178	DR8178	DH8178
1-1/8	DR5186	DH5186	DR6186	DH6186	DR6188	DH6188	DR8188	DH8188
1-3/16	DR5196	DH5196	DR6196	DH6196	DR6198	DH6198	DR8198	DH8198
1-1/4	DR5206	DH5206	DR6206	DH6206	DR6208	DH6208	DR8208	DH8208
1-5/16	DR5216	DH5216	DR6216	DH6216	DR6218	DH6218	DR8218	DH8218
1-3/8	DR5226	DH5226	DR6226	DH6226	DR6228	DH6228	DR8228	DH8228
1-7/16	DR5236	DH5236	DR6236	DH6236	DR6238	DH6238	DR8238	DH8238
1-1/2	DR5246	DH5246	DR6246	DH6246	DR6248	DH6248	DR8248	DH8248
1-3/4	DR5286	DH5286	DR6286	DH6286	DR6288	DH6288	DR8288	DH8288
2	DR5326	DH5326	DR6326	DH6326	DR6328	DH6328	DR8328	DH8328
2-1/4	DR5366	DH5366	DR6366	DH6366	DR6368	DH6368	DR8368	DH8368
2-1/2	DR5406	DH5406	DR6406	DH6406	DR6408	DH6408	DR8408	DH8408
3	DR5486	DH5486	DR6486	DH6486	DR6488	DH6488	DR8488	DH8488
3-1/2	DR5566	DH5566	DR6566	DH6566	DR6568	DH6568	DR8568	DH8568
4	DR5646	DH5646	DR6646	DH6646	DR6648	DH6648	DR8648	DH8648

EXAMPLE (TO ORDER)

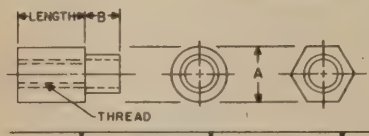
PT. NO. DR6186-A= 3/8 DIA. X 1-1/8 LG. ROUND STANDOFF-ALUMINUM-TAPPED
BOTH ENDS W/6-32 X 3/8 TH'D

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF-RIVET HEX & ROUND

TOL. ±.005



CODE	BOARD THICKNESS	SHANK B
1	1/32	.075
2	1/16	.105
3	3/32	.135
4	1/8	.165
5	3/16	.230
6	1/4	.290

LENGTH	A=1/8 DIA. 0-80 THREAD		A=1/4 DIA. 2-56 THREAD		A=5/16 DIA. 4-40 THREAD		A=3/8 DIA 6-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	RR202	RH202	RR4022	RH4022	RR5024	RH5024	RR6026	RH6026
3/16	RR203	RH203	RR4032	RH4032	RR5034	RH5034	RR6036	RH6036
1/4	RR204	RH204	RR4042	RH4042	RR5044	RH5044	RR6046	RH6046
5/16	RR205	RH205	RR4052	RH4052	RR5054	RH5054	RR6056	RH6056
3/8	RR206	RH206	RR4062	RH4062	RR5064	RH5064	RR6066	RH6066
7/16	RR207	RH207	RR4072	RH4072	RR5074	RH5074	RR6076	RH6076
1/2	RR208	RH208	RR4082	RH4082	RR5084	RH5084	RR6086	RH6086
9/16	RR209	RH209	RR4092	RH4092	RR5094	RH5094	RR6096	RH6096
5/8	RR210	RH210	RR4102	RH4102	RR5104	RH5104	RR6106	RH6106
11/16	RR211	RH211	RR4112	RH4112	RR5114	RH5114	RR6116	RH6116
3/4	RR212	RH212	RR4122	RH4122	RR5124	RH5124	RR6126	RH6126
7/8	RR214	RH214	RR4142	RH4142	RR5144	RH5144	RR6146	RH6146
1	RR216	RH216	RR4162	RH4162	RR5164	RH5164	RR6166	RH6166

EXAMPLE (TO ORDER)

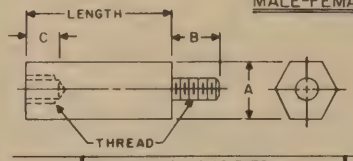
PT NO RR4052-2-B= 1/4 DIA. X 5/16 LG. ROUND, RIVET STANDOFF-BRASS
W/2-56 THREAD SHANK=.105 FOR 1/16 BOARD.

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF MALE-FEMALE

TOL. ±.005



THREAD	B	C
4-40	3/16	1/4
6-32	1/4	3/8
8-32	3/8	7/16
10-32	3/8	1/2

LENGTH	A=1/4 AC. FLTS				A=3/8 AC. FLTS.			
	4-40	6-32	8-32	10-32	4-40	6-32	8-32	10-32
1/4	MF4044	MF4046	MF4048	MF40410	MF6044	MF6046	MF6048	MF60410
3/8	MF4064	MF4066	MF4068	MF40610	MF6064	MF6066	MF6068	MF60610
1/2	MF4084	MF4086	MF4088	MF40810	MF6084	MF6086	MF6088	MF60810
5/8	MF4104	MF4106	MF4108	MF41010	MF6104	MF6106	MF6108	MF61010
3/4	MF4124	MF4126	MF4128	MF41210	MF6124	MF6126	MF6128	MF61210
7/8	MF4144	MF4146	MF4148	MF41410	MF6144	MF6146	MF6148	MF61410
1	MF4164	MF4166	MF4168	MF41610	MF6164	MF6166	MF6168	MF61610
1-1/8	MF4184	MF4186	MF4188	MF41810	MF6184	MF6186	MF6188	MF61810
1-1/4	MF4204	MF4206	MF4208	MF42010	MF6204	MF6206	MF6208	MF62010
1-3/8	MF4224	MF4226	MF4228	MF42210	MF6224	MF6226	MF6228	MF62210
1-1/2	MF4244	MF4246	MF4248	MF42410	MF6244	MF6246	MF6248	MF62410
1-5/8	MF4264	MF4266	MF4268	MF42610	MF6264	MF6266	MF6268	MF62610
1-3/4	MF4284	MF4286	MF4288	MF42810	MF6284	MF6286	MF6288	MF62810
2	MF4324	MF4326	MF4328	MF43210	MF6324	MF6326	MF6328	MF63210
2-1/2	MF4404	MF4406	MF4408	MF44010	MF6404	MF6406	MF6408	MF64010
3	MF4484	MF4486	MF4488	MF44810	MF6484	MF6486	MF6488	MF64810

EXAMPLE (TO ORDER)

PT. NO MF4146-B = 1/4 AC FLTS. STANDOFF-BRASS
6-32 MALE-FEMALE THREADS

MATERIALS

B = BRASS
A = ALUMINUM
SS = STAINLESS STEEL

SPECIAL SIZES AND MATERIALS MANUFACTURED TO ORDER

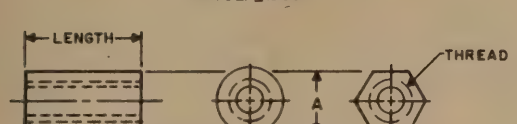
JAN HARDWARE
MANUFACTURING COMPANY INC.
QUALITY
RELIABILITY
ECONOMY

© United Technical Publications

JAN HARDWARE MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

STANDOFF-THREADED
HEX & ROUND
TOL. ±.005



MATERIALS

B = BRASS
A = ALUMINUM
SS = STAINLESS STEEL
PH = PHENOLIC

SPECIAL SIZES AND MATERIALS MANUFACTURED TO ORDER

LENGTH	A=1/8 DIA. 0-80 THREAD		A=3/16 DIA. 2-56 THREAD		A=3/16 DIA. 4-40 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/16	SR201	SH201	SR3012	SH3012	SR3014	SH3014
1/8	SR202	SH202	SR3022	SH3022	SR3024	SH3024
3/16	SR203	SH203	SR3032	SH3032	SR3034	SH3034
1/4	SR204	SH204	SR3042	SH3042	SR3044	SH3044
5/16	SR205	SH205	SR3052	SH3052	SR3054	SH3054
3/8	SR206	SH206	SR3062	SH3062	SR3064	SH3064
7/16	SR207	SH207	SR3072	SH3072	SR3074	SH3074
1/2	SR208	SH208	SR3082	SH3082	SR3084	SH3084
9/16	SR209	SH209	SR3092	SH3092	SR3094	SH3094
5/8	SR210	SH210	SR3102	SH3102	SR3104	SH3104
3/4	SR212	SH212	SR3122	SH3122	SR3124	SH3124
1			SR3162	SH3162	SR3164	SH3164

EXAMPLE (TO ORDER)

PT. NO. SR3032-A = 3/16 DIA. X 3/16 LG. ROUND STANDOFF - ALUMINUM W/2-56 THREADED HOLE

LENGTH	A=5/16 DIA. 4-40 THREAD		6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR5024	SH5024	SR5026	SH5026	SR5028	SH5028	SR50210	SH50210
3/16	SR5034	SH5034	SR5036	SH5036	SR5038	SH5038	SR50310	SH50310
1/4	SR5044	SH5044	SR5046	SH5046	SR5048	SH5048	SR50410	SH50410
5/16	SR5054	SH5054	SR5056	SH5056	SR5058	SH5058	SR50510	SH50510
3/8	SR5064	SH5064	SR5066	SH5066	SR5068	SH5068	SR50610	SH50610
7/16	SR5074	SH5074	SR5076	SH5076	SR5078	SH5078	SR50710	SH50710
1/2	SR5084	SH5084	SR5086	SH5086	SR5088	SH5088	SR50810	SH50810
9/16	SR5094	SH5094	SR5096	SH5096	SR5098	SH5098	SR50910	SH50910
5/8	SR5104	SH5104	SR5106	SH5106	SR5108	SH5108	SR51010	SH51010
3/4	SR5124	SH5124	SR5126	SH5126	SR5128	SH5128	SR51210	SH51210
7/8	SR5144	SH5144	SR5146	SH5146	SR5148	SH5148	SR51410	SH51410
1	SR5164	SH5164	SR5166	SH5166	SR5168	SH5168	SR51610	SH51610

EXAMPLE (TO ORDER)

PT. NO. SR5146-PH=5/16 DIA. X 7/8 LG. ROUND STANDOFF - PHENOLIC W/6-32 THREADED HOLE.

LENGTH	A=1/4 DIA. 4-40 THREAD		6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR4024	SH4024	SR4026	SH4026	SR4028	SH4028	SR40210	SH40210
3/16	SR4034	SH4034	SR4036	SH4036	SR4038	SH4038	SR40310	SH40310
1/4	SR4044	SH4044	SR4046	SH4046	SR4048	SH4048	SR40410	SH40410
5/16	SR4054	SH4054	SR4056	SH4056	SR4058	SH4058	SR40510	SH40510
3/8	SR4064	SH4064	SR4066	SH4066	SR4068	SH4068	SR40610	SH40610
7/16	SR4074	SH4074	SR4076	SH4076	SR4078	SH4078	SR40710	SH40710
1/2	SR4084	SH4084	SR4086	SH4086	SR4088	SH4088	SR40810	SH40810
9/16	SR4094	SH4094	SR4096	SH4096	SR4098	SH4098	SR40910	SH40910
5/8	SR4104	SH4104	SR4106	SH4106	SR4108	SH4108	SR41010	SH41010
3/4	SR4124	SH4124	SR4126	SH4126	SR4128	SH4128	SR41210	SH41210
7/8	SR4144	SH4144	SR4146	SH4146	SR4148	SH4148	SR41410	SH41410
1	SR4164	SH4164	SR4166	SH4166	SR4168	SH4168	SR41610	SH41610

EXAMPLE (TO ORDER)

PT. NO. SH4086-B = 1/4 DIA. X 1/2 LG. HEX STANDOFF-BRASS W/6-32 THREADED HOLE.

LENGTH	3/8 DIA. 6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR6026	SH6026	SR6028	SH6028	SR60210	SH60210
3/16	SR6036	SH6036	SR6038	SH6038	SR60310	SH60310
1/4	SR6046	SH6046	SR6048	SH6048	SR60410	SH60410
5/16	SR6056	SH6056	SR6058	SH6058	SR60510	SH60510
3/8	SR6066	SH6066	SR6068	SH6068	SR60610	SH60610
7/16	SR6076	SH6076	SR6078	SH6078	SR60710	SH60710
1/2	SR6086	SH6086	SR6088	SH6088	SR60810	SH60810
9/16	SR6096	SH6096	SR6098	SH6098	SR60910	SH60910
5/8	SR6106	SH6106	SR6108	SH6108	SR61010	SH61010
3/4	SR6126	SH6126	SR6128	SH6128	SR61210	SH61210
7/8	SR6146	SH6146	SR6148	SH6148	SR61410	SH61410
1	SR6166	SH6166	SR6168	SH6168	SR61610	SH61610

EXAMPLE (TO ORDER)

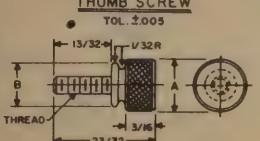
PT. NO. SH6068-B = 3/8 DIA. X 3/8 LG. HEX STANDOFF-BRASS W/8-32 THREADED HOLE.

LENGTH	A=1/2 DIA. 8-32 THREAD		10-32 THREAD		12-24 THREAD		1/4-20 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR8028	SH8028	SR80210	SH80210	SR80212	SH80212	SR80214	SH80214
3/16	SR8038	SH8038	SR80310	SH80310	SR80312	SH80312	SR80314	SH80314
1/4	SR8048	SH8048	SR80410	SH80410	SR80412	SH80412	SR80414	SH80414
5/16	SR8058	SH8058	SR80510	SH80510	SR80512	SH80512	SR80514	SH80514
3/8	SR8068	SH8068	SR80610	SH80610	SR80612	SH80612	SR80614	SH80614
7/16	SR8078	SH8078	SR80710	SH80710	SR80712	SH80712	SR80714	SH80714
1/2	SR8088	SH8088	SR80810	SH80810	SR80812	SH80812	SR80814	SH80814
9/16	SR8098	SH8098	SR80910	SH80910	SR80912	SH80912	SR80914	SH80914
5/8	SR8108	SH8108	SR81010	SH81010	SR81012	SH81012	SR81014	SH81014
3/4	SR8128	SH8128	SR81210	SH81210	SR81212	SH81212	SR81214	SH81214
7/8	SR8148	SH8148	SR81410	SH81410	SR81412	SH81412	SR31414	SH81414
1	SR8168	SH8168	SR81610	SH81610	SR81612	SH81612	SR81614	SH81614

EXAMPLE (TO ORDER)

PT. NO. SR80910-A = 1/2 DIA. X 9/16 LG. ROUND STANDOFF-ALUMINUM W/10-32 THREADED HOLE.

THUMB SCREW
TOL. ±.005



THREAD	A DIA.	B DIA.	PT NO.
6-32	3/8	5/16	TS 6056
	7/16	3/8	TS 7066
	1/2	7/16	TS 8076
8-32	3/8	5/16	TS 6058
	7/16	3/8	TS 7068
	1/2	7/16	TS 8078
10-32	3/8	5/16	TS 60510
	7/16	3/8	TS 70610
	1/2	7/16	TS 80710

EXAMPLE (TO ORDER)

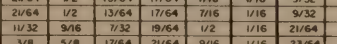
PT NO. TS6058-B = 8-32 X 13/32 LG. THREAD, THUMB SCREW-BRASS

THUMB NUT KNURLED
TOL ±.005



THREAD SIZE	A	B DIA	C DIA	D DIA	E DIA	F	G	R RAD	PART NO
4-36	1/4	3/8	1/8	.147	5/16	3/64	7/32	3/64	KN436
4-40	1/4	3/8	1/8	.147	5/16	3/64	7/32	3/64	KN440
6-32	1/4	3/8	9/64	.169	5/16	3/64	7/32	3/64	KN632
6-32	9/32	13/32	9/64	13/64	11/32	3/64	7/32	1/16	KN6321
8-32	5/16	7/16	11/64	15/64	3/8	1/16	1/4	1/16	KN832
10-24	21/64	1/2	13/64	17/64	7/16	1/16	9/32	070	KN124
10-32	21/64	1/2	13/64	17/64	7/16	1/16	9/32	070	KN132
12-24	11/32	9/16	7/32	19/64	1/2	1/16	21/64	070	KN224
1/4-20	3/8	5/8	17/64	21/64	9/16	1/16	23/64	5/64	KN420

THREADED ROD
1/4-20 THREAD
2" EACH END



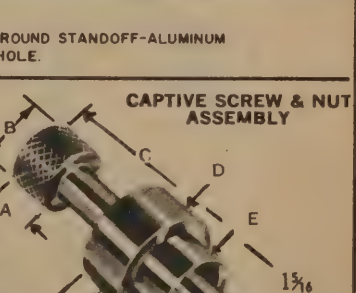
LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
4-1/2	TR 1445	7	TR 1470	9-1/2	TR 1495	12	TR 14120	14-1/2	TR 14145	17-1/2	TR 14175
5	TR 1450	7-1/2	TR 1475	10	TR 14100	12-1/2	TR 14125	15	TR 14150	18	TR 14180
5-1/2	TR 1455	8	TR 1480	10-1/2	TR 14105	13	TR 14130	15-1/2	TR 14155	18-1/2	TR 14185
6	TR 1460	8-1/2	TR 1485	11	TR 14110	13-1/2	TR 14135	16	TR 14160	19	TR 14190
6-1/2	TR 1465	9	TR 1490	11-1/2	TR 14115	14	TR 14140	16-1/2	TR 14165	19-1/2	TR 14195
								17	TR 14170		TR 14200

MATERIALS B = BRASS, A = ALUMINUM, SS = STAINLESS STEEL

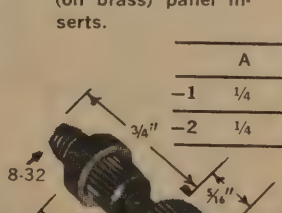
CAPTIVE SCREW & NUT ASSEMBLY

No. AP711-(1) -(2)

Consists of slotted, knurled thumb screws made of corrosion resistant steel bar, and nickle-plated (on brass) panel inserts.



	A	B	C	D	E	F	G
-1	1/4	3/8	1 5/16	5/16	13/32	5/16	3/8
-2	1/4	29/64	1 7/16	5/16	13/32	5/16	3/8



Cat. No. AP1040 Screw, Captive

Cat. No. AP1039 Insert, Captive

Cat. No. AP1197 Screw, captive. 1/4" slotted knurled head (7/16" O.D.) 1 1/4" overall length; 8-32 thread.

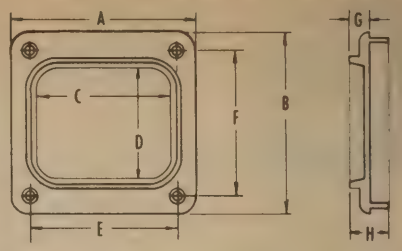
© United Technical Publications

JAN's Bezels enhance the appearance of the instruments on which they are used. These units are functionally designed to provide OPTIMUM UTILIZATION OF THE CRT SCREEN, as well as safety against tube breakage and danger to operating personnel.

JAN Bezel Assemblies are supplied with a **bezel, calibrated graticule, (where applicable) light filter** and **CRT cushion. Bezels are finished in a smooth dull black** non-reflecting surface. **These units fit JAN Mu-Metal Shields.**

Edge-lit Bezels (E.L.B.A.)** These Bezels are designed to provide edge lighting of the engraved scale-calibrated graticule by means of pilot lights.

Camera Mount Bezel These units provide an integral cast mounting flange that fits all standard 3", 5" and 7" CRT cameras.

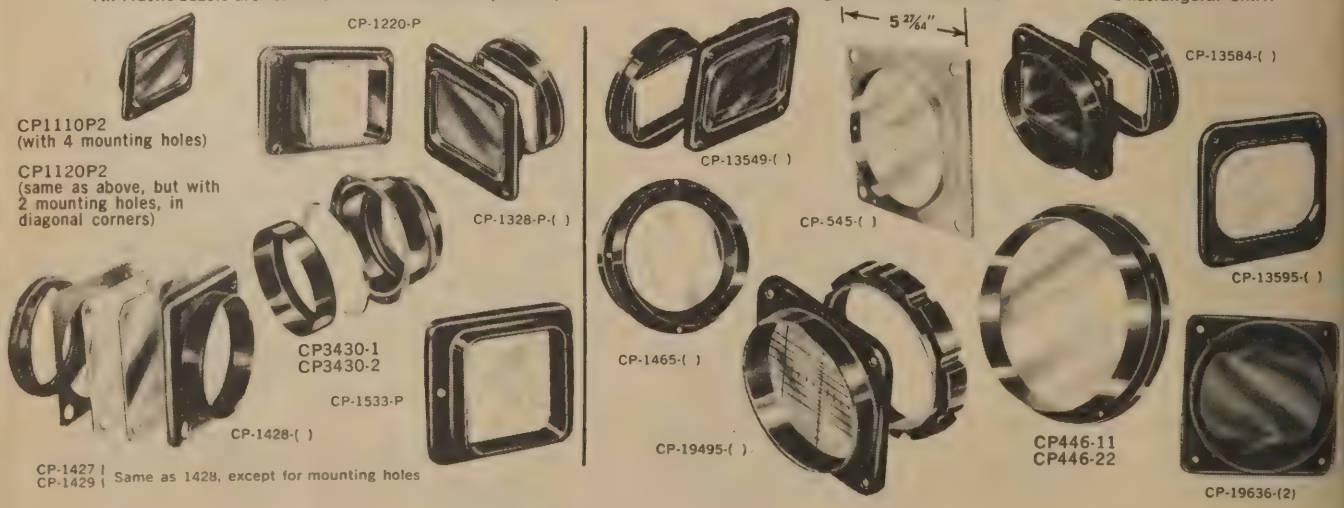


Catalog No.	CRT Face	Material	Type	Panel Opening	A Overall Width	B Overall Height	C D Visible Area (Bezel) Width	Height	E F Mounting Holes Width	Height	G- H- Thickness (Face Only)	(Incl Flange)	Visible Area (Cushion) Height	Width
BEZELS FOR 2" C.R.T.														
CP-1110-P-2	Flat	Plastic*	Standard	2 3/16"	2 5/8"	2 5/8"	1 3/4"	1 3/4"	2"	2"	5/16"	7/16"	1 3/4"	1 3/4"
BEZELS FOR 3" C.R.T.														
CP-1220-P‡	Curved or Flat	Plastic*	Camera Mount	—	4 7/8"	3 1/4"	2 3/4"	2 1/4"	4"	2 1/2"	5/16"	1 1/16"	—	
CP-1328-P-1 CP-1328-P-2	Curved Flat	Plastic*	Standard	3 33/64"	3 3/4"	3 3/4"	2 5/8"	2 3/16"	3"	3"	3/8"	43/64"	2 1/2"	2 1/16"
CP-1427-1 CP-1427-2	Curved Flat	Aluminum	Camera Mount	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	3/4"	37/32"	2 25/32" Dia.	
CP-1428-1** CP-1428-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	3/16"	37/32"	2 25/32" Dia.	
CP-1429-1 CP-1429-2	Curved Flat	Aluminum	Camera Mount	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	3/16"	37/32"	2 25/32" Dia.	
CP-3430-1 CP-3430-2	Curved Flat	Steel	Standard	—	4 1/16" Dia.		3 3/8" Dia.		3 3/4"	3 3/4"	14 1/64"	14 1/64"	2 25/32" Dia.	
BEZELS FOR 4" C.R.T.														
CP-1533-P‡		Plastic*	Camera Mount	3 1/32"	4 29/64"	3 61/64"	3"	3"	4"		1 3/32"	1 3/32"	No Cushion	
BEZELS FOR 5" C.R.T.														
CP-13549-1 CP-13549-2	Curved Flat	Aluminum	Standard	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	17/32"	1 3/32"	4 1/4"	3 3/16"
CP-13584-1 CP-13584-2	Curved Flat	Aluminum	Camera Mount	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	1 3/32"	1 23/32"	4 1/4"	3 3/16"
CP-13595-1** CP-13595-2**	Curved Flat	Aluminum	Standard E.L.B.A.**	5 7/16"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	17/32"	—	4 3/4" Dia.	
CP-1465 CP-1465-2	Curved or Flat Flat	Steel	Camera Mount	5 3/16" 5 13/32"	6 3/8" Dia.		5 35/64" Dia.		6"	6"	7/8"	7/8"	No Cushion 4 1/2" Dia.	
CP-19495-1** CP-19495-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	5 7/16"	6 1/4"	6 1/4"	5 1/4" Dia.		4 15/16"	4 15/16"	1 3/32"	—	4 3/4" Dia.	
CP-19636-2**	Flat	Aluminum	Camera Mount E.L.B.A.**	5 5/8"	5 7/8"	5 7/8"	4 1/2" Dia.	3"	4 7/8"	4 7/8"	1 1/4"	—	4 1/2" Dia.	
CP-446-11 CP-446-22	Flat	Steel	Camera Mount	—	6 9/16" Dia.		5 9/16" Dia.		6 5/32" 6 5/8"	6 5/32" 6 1/8"	1"	1 19/64" 1 3/16"	4 1/2" Dia	
CP-545	Curved or Flat	Aluminum	Camera Mount	5"	5 27/32"	5 27/32"	4 25/32"		5"	5"	25/32"	—	—	

* All Plastic Bezels are furnished in shock resistant plastic, per MIL P-3414

** Edge Lit Bezel Assemblies

‡ Rectangular C.R.T.



JAN HARDWARE
MANUFACTURING COMPANY INC.
QUALITY
RELIABILITY
ECONOMY

© United Technical Publications

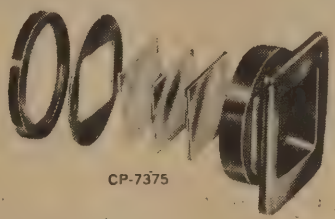
JAN HARDWARE
MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

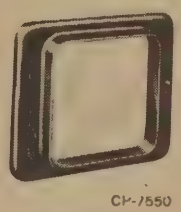
Catalog No.	CRT Face	Material	Type	Panel Opening	A Overall Width	B Overall Height	C D Visible Area (Bezel) Width	Height	E F Mounting Holes Width	Height	G- Thickness (Face Only)	H- (Incl. Flange)	Visible Area (Cushion) Height	Width
BEZELS FOR 7" C.R.T.														
CP-7330 1 CP-7331 -2**	Curved Flat	Aluminum	Standard E.L.B.A.**	7 13/32"	7 13/16"	7 13/16"	6 5/16" Dia.		6 3/16"	6 3/16"	3/4"	3/4"	6 3/8" Dia.	
CP-7375 -1** -2**	Curved Flat	Aluminum	E.L.B.A.**	7 13/32"	8"	8"	4 1/2"	4 1/2"	6 3/16"	6 3/16"	1 17/32"	2 29/32"	4 1/2"	4 1/2"
CP-7420 -1** -2**	Curved Flat	Aluminum	Camera Mount	7 13/32"	7 13/16"	7 13/16"	6 15/16" Dia.		6 3/16"	6 3/16"	3/4"	1 3/8"	6 3/8" Dia.	
CP-7550	Curved or Flat	Aluminum	Camera Mount	4 25/32"	7 3/8"	6 1/4"	4 3/4"	4 3/4"	6 1/4"	5 1/8"	1 1/16"	1 1/16"	No Cushion	
BEZEL FOR 10" C.R.T.														
CP-10860	Curved or Flat	Aluminum	Standard	11 1/32"	12 1/4" Dia.		8 1/16"	6 1/4"	11 1/2" B.C.		1 1/16"	1 3/16"	No Cushion	

** Edge Lit Bezel Assemblies


CP-7330


CP-7375


CP-7420

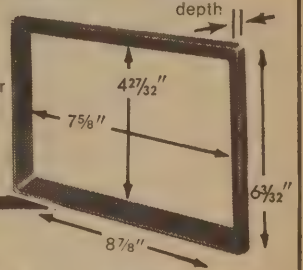

CP-7550


CP-10860

DISTINCTIVE FEATURES

- Engineered for 2", 3", 4", 5", 7", 8" and 10" CRT
- Maximum display area
- Precision engraved, scale-calibrated graticules; standard or to customer's specifications
- Materials and finish to "Mil Spec"
- Heavy buna-S shock cushion
- Models for edge-lighting
- Phosphor-matched light filters
- Non-reflecting matte surfaces
- Rugged camera mounts
- Models for curved and flat-faced CRT

Cat. No. CP5900
Die-Cast Aluminum. Suitable for computer and digital readout applications.
Finishes available to suit your design requirements.



ESCUTCHEON PLATES For Elegant Framing of Panel Openings

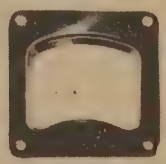

ET-120


ET-150


ET-160


EM-310


EM-320

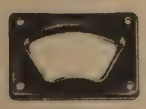

EM-325

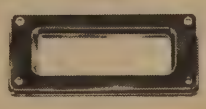

ET-125


ET-165


ET-140

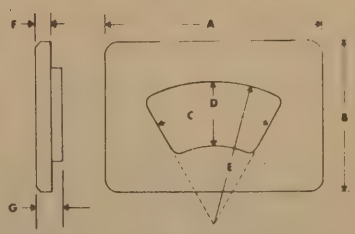

ET-155


ET-135


ET-130


ET-145


EM-315



SPECIFICATIONS — JAN ESCUTCHEONS

Escutcheon Cat. No.	A Overall Width	B Overall Height	C Window Width	D Window Height	E Effective Outer Dial Radius	Thickness F=Face Only	G Incl. Flange	Panel Opening Width	Height	Mounting Holes Width	Height	Type of Dial	Material
ET-120	2 27/32	1 7/8	1 3/4	1"	1 27/32	3/16	3/16	2 11/32	1 3/8	2 5/16 top 2 1/16 bottom	1 5/16		Injection
ET-125	3 1/4	2 15/16	2 1/8	1"	3 1/4	3/16	3/16	3 1/2	1 1/2	3 1/2	1 15/16		Molded
ET-135	2 3/4	1 7/8	1 1/2	7/8	1 7/8	3/16	1/4	1 31/32	1 31/32	2 1/4	1 3/8	Circular	Tenite II,
ET-150	3 1/8	2 5/16	2 7/8	1/4	3 1/8	3/16	3/16	3 1/32	1 7/32	3 1/2	1 15/16		Black Matte
ET-165	2 5/8	1 5/8	1 45/64	1/16	2 5/32	1/8	1/4	2 5/16	1 1/2	2 1/16	1 1/16		Finish
ET-130	4	1 13/16	2 1/4	13/16	—	3/16	1/4	2 13/32	1 13/32	3 1/2	1 5/16	Flexible Tape,	Injection
ET-140	2 1/2	1 1/2	1 1/4	5/8	—	1/8	5/16	1 13/32	1 13/32	2	1	Digital	Molded
ET-145	3 1/4	2 1/16	1 15/16	3/4	—	5/32	5/32	2 13/32	1 5/32	2 3/4	1 5/16	Counter,	Tenite II,
ET-155	2 1/2	1 3/16	1 11/16	1/2	—	5/32		2 13/32	2 5/32	2 1/4	15/16	Cylinder	Black Matte
ET-160	3 1/4	2 1/2	2 15/16	1 3/8	—	1/8	1/8	3	2 1/32	3 3/16	2 1/4	or Drum	Finish
EM-310	3	3	2 1/16	1 15/16	2 5/16	1/32	1/4	3 11/32	2 1/2	2 1/2	2 1/2	Helical	Soft Aluminum
EM-315	3 1/4	3	2 1/4	1 5/8	2 1/16	1/32	1/16	2 15/32	1 3/4	2 3/4	2 5/8	Circular	with Black
EM-320	3 1/4	2 3/4	2 1/4	1 3/8	2 1/16	1/32	1/16	2 25/64	1 3/4	2 3/4	2 1/4	Circular	Matte Enamel
EM-325	3	3	2 1/16	1 1/2	2 5/16	1/32	1/4	2 11/32	1 45/64	2 1/2	2 1/8	Helical	Finish

* To Order specify: (1) frame only, (2) frame with clear window; (3) frame with clear window scribed with a center line

JAN'S molded, black, shock-resistant plastic escutcheons are available in an exceptionally wide variety of different types and sizes. They provide a pleasing window to frame dial plates mounted behind the panel.
Plastic escutcheons are available in the following ways: frame only; frame with clear windows; frame with clear window scribed with a center line.
For especially large working areas, stamped aluminum escutcheons, finished in dull black are available to meet the needs for space economy.
Withstands temperature shock −65° to +85° C.
NON INFLAMMABLE

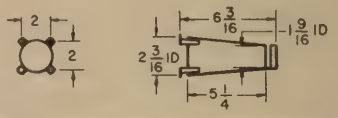
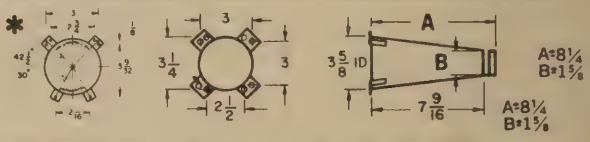
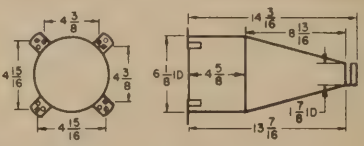
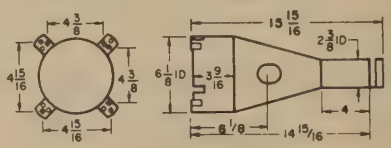
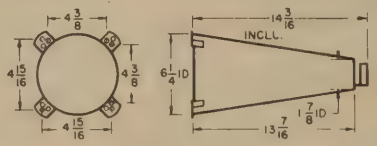
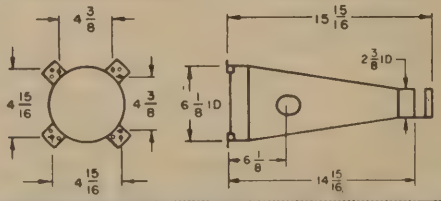
© United Technical Publications

JAN HARDWARE MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

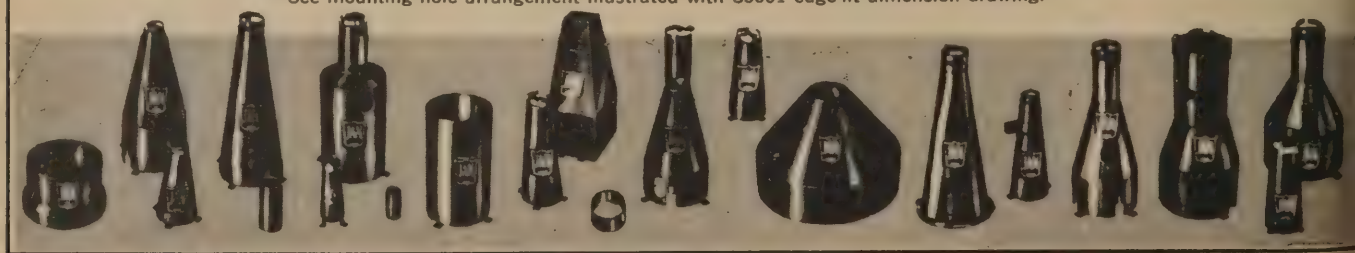
JAN'S MAGNETIC SHIELDS are made of MU-Metal or equal and are hydrogen annealed by a special process to assure optimum orientation of the molecular structure of the alloy for best magnetic shielding. JAN'S MAGNETIC SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields.

In addition, the use of these shields protect personnel against the dangers of accidental tube breakage. Mounting holes are tapped for No. 6-32 screws as shown. These shields are designed to fit JAN'S standard bezels as listed below. See preceding pages for specifications on JAN'S BEZEL ASSEMBLIES.

SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S2001 S2001-1	902 2AP 2BP	CP1110P2 CP1120P2	
S3001 adaptable for edge-lighting graticule using S3010 with Bezel CP1428✱	3RP 3RPA	CP1328-P-1 CP1427-1 CP1429-1 CP1328-P2 CP1427-2 CP1429-2 CP3430-1 CP3430-2	 A=8¼ B=1⅝ A=8¼ B=1⅝
S3003 S3003-1	3KP 908A 3AP	CP1328-P1 CP1427-1 CP1429-1	Same type as S-3001, except A=10⅛ B=2
S3004—12 (less anode hole) —22 (with anode hole) adaptable for edge-lighting graticule using S3012 with Bezel CP1428✱	3BP 3JP 3ACP	Same as S3003 Same as S3005	Same type as S-3001, except A=8⅝ B=2⅜
S3005 adaptable for edge-lighting graticule using S3008 with Bezel CP1428✱	3WP	CP1328-P2 CP1427-2 CP1429-2	Same type as S-3001, except A=10⅜ B=1⅞
S5001	5UP	CP1465 CP13584-1 CP13549-1 CP13595-1 CP19495-1 CP446-11 CP446-22	
S5002 adaptable for edge-lighting	5BP 5CP 5ABP 5ADP	Same as S5001 Same as S5006	
S5003	5UP	CP1465 CP13584-1 CP13549-1 CP13595-1 CP19495-1	
S5005 adaptable for edge-lighting	5AQP 5ABP 5ADP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2 CP446-11 CP446-22	

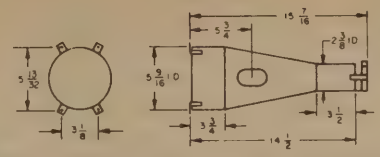
ALL SHIELDS ARE FABRICATED WITH OVERLAPPED AND SPOT WELDED CONSTRUCTION

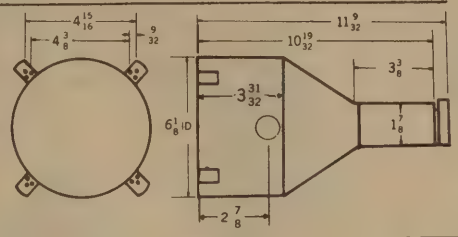
*See mounting hole arrangement illustrated with S3001 edge-lit dimension drawing.

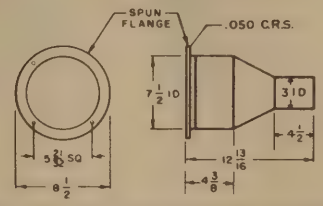


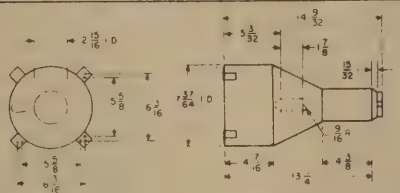
© United Technical Publications

SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL
S5017 adaptable for edge-lighting	5ABP 5ADP	CP1465-2 CP19636-2
S5027	5BTP	CP19495-2
S7001	7GP 7JP 7VP	CP7330 CP7445 CP7331 CP7550 CP7420
S7006	7AEP	CP7330 CP7445 CP7331 CP7550 CP7420







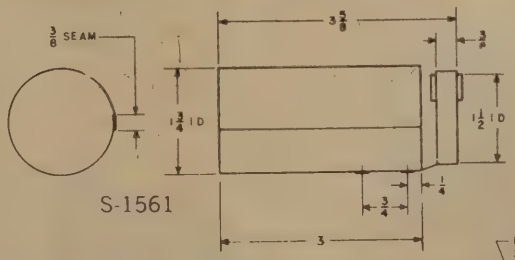


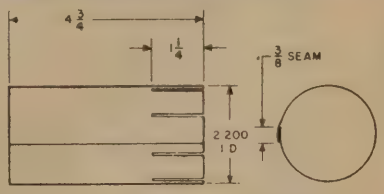
When ordering, be sure to specify CRT type number. Anode openings provided, where required.

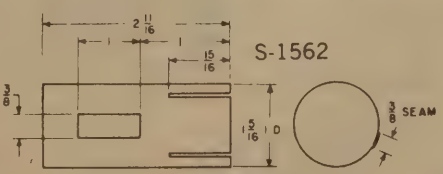
Shielding for EMC, RFI, and EMI now available, as bezels, shields, cushions, gaskets . . . in strip, sheet, formed and molded.

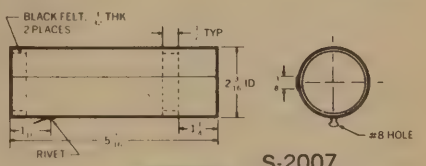
MAGNETIC SHIELDS FOR PHOTO-MULTIPLIER & SPECIAL PURPOSE TUBES

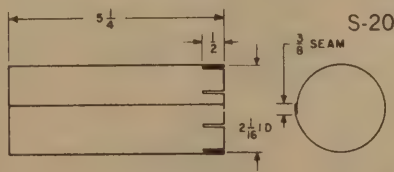
SHIELD	TUBE
S-1091	ICP1
S-1181	929 930 5581 5653 IP39 IP40
S-1500	6291
S-1561	6199 7102
S-1562	931 6323 6328 IP21 IP22 IP28
S-1563	1EP1
S-2002	6810 7264
S-2003	6903
S-2004	5819 6292 6342 6571 6655
S-2005	6372
S-2007	7850
S-2008	6217
S-3015	1197 6363
S-5013	1112
S-5018	1198 6364
S-7009	1238 1287



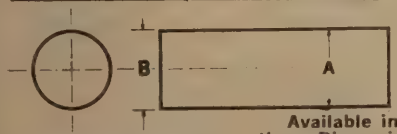












Seamless Tubing.
Can be supplied cut to your length, with holes and/or cut-outs to your specifications.

Available in these Dimensions

A	B
1.010	1.050
.948	.998
.740	.783
.632	.663

JAN HARDWARE
MANUFACTURING COMPANY INC.
QUALITY
RELIABILITY
ECONOMY

JAN HARDWARE
MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

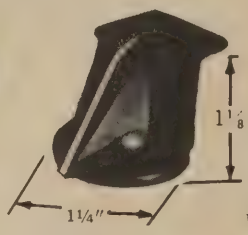
TRANSILLUMINATED POINTER KNOBS



NAS 539-1B
NAS 539-1C



MS25165-1



USAF 61D 404 74
Cat. No. K-977



MS91528



Cat. No. K-1103

Precision molded of JAN's transparent plastic material, to NAS specs, with dull finish. Transilluminated pointers permit easy reading under subdued lighting conditions. For use on instrument panels, switchboards electrical and electronic apparatus.

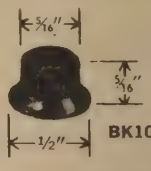
NEW METAL MINIATURE KNOBS

AK 1326
For 1/4" Shaft



AK 1326

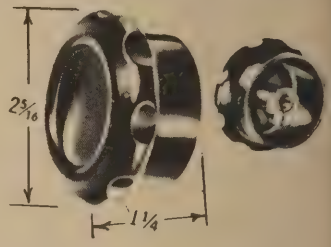
BK 1080
For 1/8" Flatted Shaft



BK1080

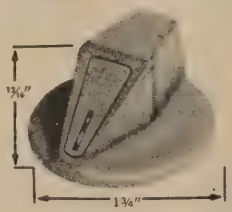
TUNING KNOB
Cat. No. K243

For 5/16" shaft. Die cast aluminum. Made to Fed. Spec. QQ-A-591 and MIL-F-14072. Use no-mar clamp Cat. No. 937-8 for mounting. (Not supplied).



Cat. No. LM USED ON LUNAR MODULES!

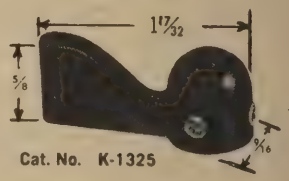
Precision aluminum casting. Adaptable for back lighting. With slip clutch features similar to K1375



BAR-KNOB

Cat. No. K-1325

Precision cast aluminum for 1/4" shafts. Furnished with twin 8-32 set screws for shaft attachment. Provides a 1.0" integrally cast lever arm for heavy-load switching. Finished to specifications.



Cat. No. K-1325

Cat. No. K936-5

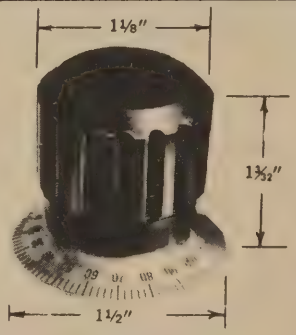
Black phenolic molded knob, with beveled satin aluminum skirt, anodized finish.

Deeply etched and filled contrasting markings.

Accurately centered brass insert, for 5/16" shafts.

Cat. No. K936-4 (1/4" shaft)

Variations on shaft sizes and markings available in production quantities.

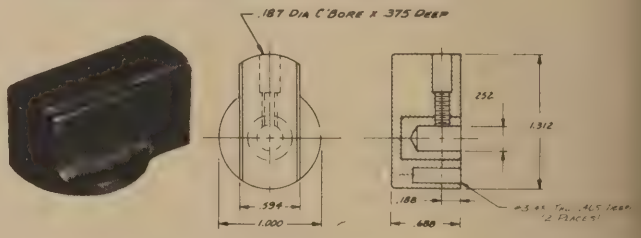


KNOB ONLY

Cat. No. K 929-5 (5/16" shaft)
Same as above, less skirt
Cat. No. K-929-4 (1/4" shaft)

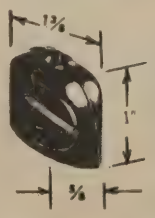
BAR KNOB Cat. No. K783

Phenolic molded knob, with metal insert. Set screw at back, for shaft attachment. Finished to specifications.



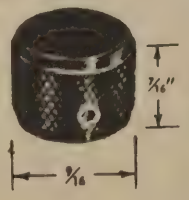
POINTER KNOB Cat. No. K-706

Molded thermosetting phenolic. Type CFG per MIL-P-14. Designed for square shaft, providing positive action.



KNOB Cat. No. K-897

Machined knurled edge for easy turning. Has set screw for firm attachment to 1/4" shafts. Height 7/16" x 5/16" diam.



STANDARD PLASTIC KNOBS



Knobs to satisfy almost any design or demand. Can be produced in any color or finish, either illuminated or non-illuminated.

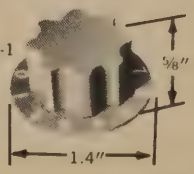


Knobs shown are only part of our stock.

Let us quote on your specifications.

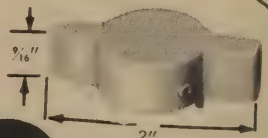








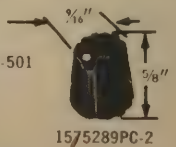
47B47299



51A30C82



1007267-501



1575289PC-2

- **Knobs back lighted on special request, only.**
- **Special marking by engraving or screening, available to your specifications.**

© United Technical Publications

KNOBS TO MILITARY SPECIFICATIONS

One of the largest assortment of Military Knobs in the country.

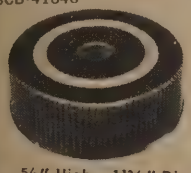


SMD500502



SMD500501
7/8" High x 1 13/16" Dia.

SCB-41848



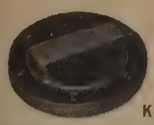
5/8" High x 1 13/16" Dia.
K-1126



K-1127
1/2" High x 3/4" Dia.



K-1047
7/8" x 1 1/8" Dia.



K-1124



No. K-1005
Available with or without skirt

MACHINED KNOBS



K-1006-(2) -(3)
3/4" high; 3/8" dia.



K-1007-(2) -(4)
3/4" high; 3/4" O.D.



No. K-1020
For 1/4" shaft. Other shaft diameters on request.
11/16" high; 9/16" base dia.



No. K-1021
11/16" high; 1" base dia.

CAST ALUMINUM KNOBS

Available in black. Other colors on request. Specify shaft hole size required.



No. K-1022
Full Round Skirt
1/4" hole; 1 1/32" high; 13/16" base dia.



No. K-1023
Flat Back Round Skirt
1/4" hole; 1 1/32" high; 15/16" base dia.; (29/32" to flat back)

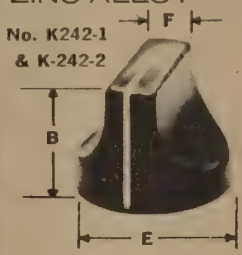




No. K-1024
With Cam Shape Cut-out.
1/4" hole; 1 1/32" high; 15/16" base dia.

SIGNAL CORPS DIE CAST KNOBS

ZINC ALLOY



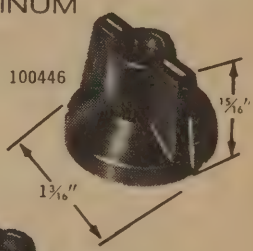


Cat. No.	B	E	F	Marking
K-242-1	3/4"	15/16"	3/16"	White
K-242-2	7/8"	1 1/8"	3/8"	White
K-242-3	3/4"	15/16"	3/16"	None

ALUMINUM



Cat. No. K-984
Dimensions as per 242-3
No markings.
Aluminum.
.257 tear drop shaft hole.





MS SIGNAL CORPS DIE-CAST ALUMINUM & ZINC ALLOY CONTROL KNOBS

Manufactured in accordance with applicable Military Specifications



(Many sizes available. Lengths from 1 3/16" to 2 3/16").

SMC 414680-1 Thru 10

PARTIAL LIST OF GOV'T KNOBS MFG'D BY JAN

SMC 100446	SMB 134957	SMB 182273	SCB 35863	SMD 415223	NAS 539 1B	SMB 601422	SCB 72585
SCB 104717	SMB 143975	SMB 249242-3	SMB 393998	BUORD 416956 PT2	NAS 539 1C	SMC 60158	SCB 72687
SMC 108874	SMB 144318	MS 25165	SCB 40771	SCB 41848	SMB 540595-2	SCB 60744	NAVORD 814528
SMC 108875	SMB 144319	SCD 2593-5	SCB 40859	SMB 422875	SMB 541048	USAF 61D40474	SCB 82716
SMC 108876	SMB 144358	SMB 283419	SCB 40860	SMB 424034	SMC 541119	SCC 614661	SMB 902574-1
SMC 108951	SMB 144517	SMB 314747	SMB 414393	SMC 447052	SMB 541127	SCB 63251	SMC 91018
SMC 108952	SMB 149064	SMB 320816	SMC 414399	SMC 447226	SMB 541150	SMB 633276	MS 91522
SMB 120139	SMB 16505	SMC 328271	SMC 414401	SMC 447307	SMB 552131-1	SCC 65018	MS 91523
SMD 131010	SCB 16532	SMB 336784	SMC 414680-1 thru -10	SMB 456374	SMB 552258	SCC 65018-1	MS 91525-1 thru -4
SMB 134093	SMB 16552	SMC 344847	SMD 415160	SMC 500407	SMC 558544-1	SCB 65411	MC 91528
SMB 134094	SMB 180200A2	SMC 345389	SMC 415161	SMC 500501	SMB 601249	SCC 65673	SMC 97250
SMB 134171	SMB 180288A2	SCB 35862		SMC 502491	SMC 60125	SCB 65884	
SMB 134884	SMB 180465A1						

JAN HARDWARE
MANUFACTURING COMPANY INC.
QUALITY
RELIABILITY
ECONOMY

DELUXE INSTRUMENT KNOBS

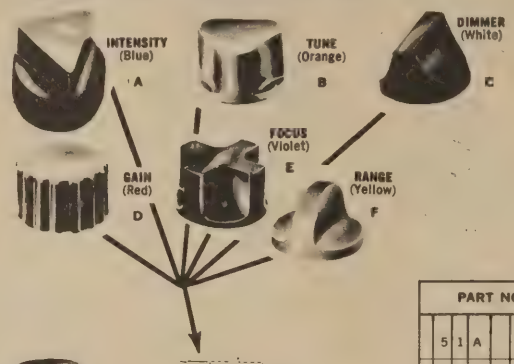
MEETS PERFORMANCE OF MIL-STD-242D (SHIPS) AND MS 91528D

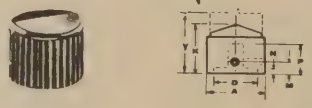
JAN's Standard Instrument Control Knobs for use with electronic equipment. Molded of polycarbonate, these knobs will withstand the extreme environmental conditions of MIL-E-16400. Either knob-cap or entire knob is available in a variety of colors, in MATTE (M) or GLOSSY (G) finish. Complete range of sizes . . . send for catalog.

QPL #3926 — T.R. #J101

TACTILE SHAPE CONTROL KNOBS

Expressly made for both visual and tactile function identification. Each Tactile knob is produced in the standard recognizable color identified with its configuration. Available in other colors on special order.
See column—below, for applicable tactile shape.

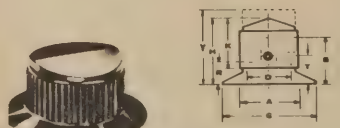




NO SKIRT



PLAIN SKIRT



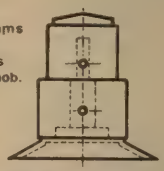
DIAL SKIRT



SUPER DELUXE
Aluminum Anodized Top.
(Numbering as below)



See diagrams below for dimensions of each knob.



DUAL KNOBS FOR CONCENTRIC CONTROLS
APPROVED FOR USE
MIL STD 242D and MS 91528C

Molded of polycarbonate plastic, these "piggy-back" knobs are used with dual concentric potentiometers and in other similar applications. Meet performance of military specs above.

DIMENSIONS

PART NO.	A	D	F	G	H	K	M	N	P	R	S	T	Y
5 1 A	.505	.435				.509	.158	.026	.408				
7 1 A	.708	.486				.626	.187	.026	.406				.915
9 1 A	.911	.645				.798	.255	.114	.521				1.171
12 1 A	1.255	.974				.703	.260	.115	.458				1.220
17 1 A	1.755	1.465				.854	.255	.114	.521				
22 1 A	2.255	1.870				.885	.255	.114	.521				
5 1 B	.505	.435	.450		.660	.509				.181	.563	.324	
7 1 B	.708	.486	.670		.805	.626				.188	.568	.340	1.100
9 1 B	.911	.654	.826		1.027	.798				.323	.730	.484	1.399
12 1 B	1.255	.974	1.155		.870	.703				.262	.605	.427	1.399
17 1 B	1.755	1.465	1.666		1.088	.854				.333	.740	.489	
22 1 B	2.255	1.870	2.153		1.114	.885				.333	.740	.489	
5 1 C	.505	.435		.885	.660	.509				.181	.563	.324	
7 1 C	.708	.486		1.135	.805	.626				.188	.568	.340	1.100
9 1 C	.911	.645		1.510	1.027	.798				.323	.730	.484	1.399
12 1 C	1.255	.974		1.822	.870	.703				.262	.605	.427	1.399
17 1 C	1.755	1.465		2.453	1.088	.854				.333	.740	.489	
22 1 C	2.255	1.870		3.005	1.114	.885				.333	.740	.489	

SPECIFY AS REQUIRED

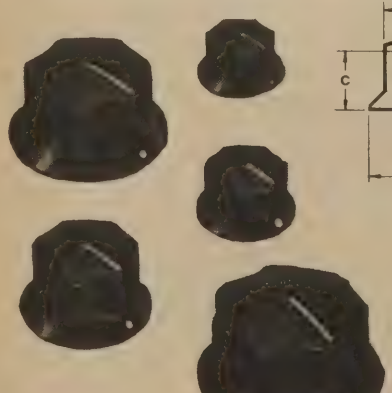
1 TOP (Color or Tactile)	2 BODY DIA.	3 BODY STYLE	4 SKIRT	5 SHAFT HOLE DIA.	6 FINISH	7 COLOR
0=NO TOP—Shaft Hole Drilled Thru.	5= .51	1=ROUND	A=NONE	2=.128	M=MATTE	A=BLACK
A=(INTENSITY—Blue)	7= .71	2=POINTER	B=PLAIN	3=.190	G=GLOSSY	B=RED
B=(TUNE—Orange)	9= .90		C=DIAL W/ POINTER	4=.253		C=GREY
C=(DIMMER-White)	12=1.25	Press-to-Turn	D=DIAL W/O POINTER	5=.312		D=GREEN
D=(GAIN—Red)	17=1.75		H=Slot	6=.375		E=YELLOW
E=(FOCUS—Violet)	22=2.25	Press-to-Turn		7=.266		F=PURPLE
F=(RANGE—Yellow)				"D" FLAT SHAFT HOLES		G=BLUE
M=ALUM ANODIZED TOP				B=.107 (1/8")		M=WHITE
*T=STANDARD Should only be used when color of standard shape top is different than body color Precede T by color code from Column 7 (BT—would mean standard shape RED top)				D=.222 (1/4")		J=ORANGE

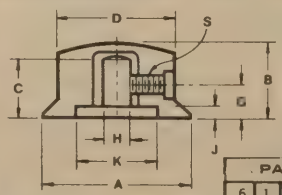
TYPICAL PART NUMBERS

91C4GA = .90 Dia./Round/Dial/1/4"/Glossy/Black
T1C4GA = .90 Dia./Press-to-Turn/Round/Dial/1/4"/Glossy/Black
A71B4MA = Triangle Top Blue/.72/Round/Plain/1/4"/Matte/Black
BA71B4MA = Triangle Top Red/.72/Round/Plain/1/4"/Matte/Black
BT71B4MA = Standard Top Red/.72/Round/Plain/1/4"/Matte/Black
** 071B4MA = No Top, Shaft hole drilled thru/.72/Round/Plain/1/4"/Matte/Black

**—Specify if .187, .190, .250 hole is required for dual mounting
NOTE: "T"—Preceded by color code (BT—would mean Standard RED top)

IF WHITE DOTS ARE REQUIRED—ADD SUFFIX/WD TO CATALOG NO.
IF FLORESCENT DOTS ARE REQUIRED—ADD SUFFIX/FD TO CATALOG NO.
IF PHOSPHORESCENT DOTS ARE REQUIRED—ADD SUFFIX/PD TO CATALOG NO.
IF FLORESCENT ARROW IS REQUIRED—ADD SUFFIX/FA TO CATALOG NO.
IF PHOSPHORESCENT ARROW IS REQUIRED—ADD SUFFIX/PA TO CATALOG NO.
FOR SPECIAL KNOBS—GIVE FULL DESCRIPTION OR SKETCH WITH ORDER.





INSTRUMENT KNOBS

DIMENSIONS, INCHES

PART NO.	A	B	C	D	G	H	J	K	S
6 1 C	3/4	7/16	3/8	5/8	7/32	1/4	1/16	9/16	6-32
8 1 C	1	19/32	1/2	13/16	9/32	1/4	3/32	11/16	8-32
10 1 C	1-1/4	21/32	1/2	1	9/32	1/4	3/32	11/16	8-32
13 1 C	1-1/2	3/4	9/16	1-1/4	11/32	1/4	5/32	31/32	8-32
16 1 C	2	7/8	21/32	1-5/8	13/32	1/4	3/32	13/16	8-32

SPECIFY AS REQUIRED

BODY DIA.	BODY STYLE	SKIRT	SHAFT HOLE DIA.	FINISH	COLOR
6=3/8"	1=ROUND	A=NONE	2=1/8"	G=GLOSSY (Standard)	A=BLACK
8=1 9/16"	2=POINTER	C=SKIRT W/ INDICATOR MARKER	4=1/4" (Standard—with metal insert. "0" preceding number means without metal insert)	M=MATTE	B=RED
10=1"					C=GREY
13=1 1/4"					D=GREEN
16=1 3/8"					E=YELLOW
					F=PURPLE
					G=BLUE
					H=WHITE
					J=ORANGE

(Other shaft holes to order)

TYPICAL PART NUMBERS

81C4GB = 1 3/8" Dia./Round/Skirt w/indicator marker/1/4" Shaft Hole dia /Glossy/Red
101C4MA = 1" Dia./Round/Skirt w/indicator marker/1/4" Shaft Hole dia /Matte/Black
101C04MA = 1" Dia./Round/Skirt w/indicator marker/1/4" Shaft Hole dia without metal insert/Matte/Black

Available with Metal Tops

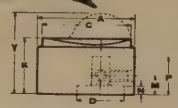
© United Technical Publications

DELUXE INSTRUMENT KNOBS

POINTER KNOBS

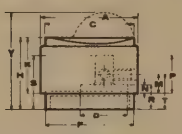






POINTER





POINTER WITH SKIRT

DIMENSIONS

PART NO.	A	D	F	H	K	M	N	P	R	S	T	Y
5 2 A	.750	.406			.505	.158	.026	.402				
7 2 A	1.038	.486			.619	.187	.026	.406				.918
9 2 A	1.344	.645			.796	.255	.114	.555				1.171
5 2 B	.750	.406	.669	.655	.505			.402	.177	.563	.324	
7 2 B	1.038	.486	.940	.791	.619			.406	.193	.573	.364	1.100
9 2 B	1.344	.645	1.251	1.015	.796			.555	.328	.796	.479	1.400

SPECIFY AS REQUIRED

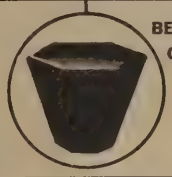
1 TOP (Color or Tactile)	2 BODY DIA.	3 BODY STYLE	4 SKIRT	5 SHAFT HOLE DIA.	6 FINISH	7 COLOR
G=(RANGE—Yellow)	5=.51 7=.72 9=.90	2=POINTER	A=NONE B=PLAIN	2=.128 3=.190 4=.253 5=.312 6=.375 7=.268 "D" FLAT SHAFT HOLES B=.107 (⅛") D=.222 (¼")	M=MATTE G=GLOSSY	A=BLACK B=RED C=GREY D=GREEN E=YELLOW F=PURPLE G=BLUE H=WHITE J=ORANGE

TYPICAL PART NUMBERS
72B4MA=Regular Top
G72A4MA=Tactile Top

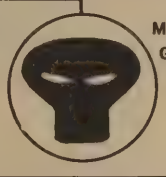
CRANK KNOBS



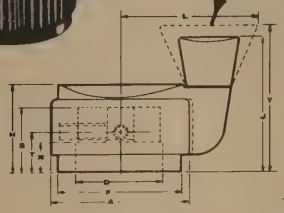
STANDARD HANDLE



BEARING GREY



MARKER GREEN



PART NO.	A	D	F	H	J	L	P	R	S	T	Y
12 4 B	1.250	0.685	1.185	.850	1.350	1.275		.250	.605	.427	1.475
17 4 B	1.750	0.685	1.690	1.070	1.758	1.735		.320	.740	.489	1.940
22 4 B	2.250	0.685	2.185	1.095	1.782	1.970		.320	.740	.489	1.970

SPECIFY AS REQUIRED

1 HANDLE (Color or Tactile)	2 BODY DIA.	3 BODY STYLE	4 SKIRT	5 SHAFT HOLE DIA.	6 FINISH	7 COLOR
H GREEN J=GREY	12=1.25 17=1.75 22=2.25	4=SPINNER *	B=PLAIN	4=.253	M=MATTE G=GLOSSY	A=BLACK B=RED C=GREY D=GREEN E=YELLOW F=PURPLE G=BLUE H=WHITE J=ORANGE

*Add SC for Slip Clutch, and specify torque.

TYPICAL PART NUMBERS
J174B4MA=Grey Tactile Handle
124B4MA=Standard Handle

SAFETY KNOBS





"PRESS-TO-TURN" KNOBS
For Low Torque Applications

Knobs spin freely . . . and **MUST BE PRESSED-IN** while making changes. Developed specifically to prevent inadvertent changing of settings.

For basic dimensions, see our "De-luxe Instrument Knobs" (9, 12, 17 and 22 body diameter series).

When ordering, be sure to substitute prefix "T" for 9 Series and "Q" for 17 Series, as per typical part nos.

11C4GA=.90 Dia./Press-to-Turn/Round/ Dial/¼"/Glossy/Black



SLIP-CLUTCH KNOB With Spinners

Cat. Nos. K-1375 & K-1376 (For ¼" Shafts)

For driving devices such as variable capacitors, inductors, potentiometers, etc., the "slip-clutch"* automatically disengages and slips when the pre-determined torque has been exceeded. Knobs are fluted, and are equipped with either fixed or retractable spinner for fast turning. Backlash-free units safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops.

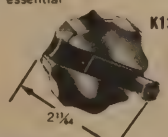
Model No. K-1376 is identical with No. K-1375 but has the additional feature of a retractable spinner. Spring loading provides positive, toggle-type action to lock spinner in either open or closed position. Model No. K-1376 is designed for use where economy of space is essential

Normally set for 3-6" lbs. Can be modified for other requirements.





K1375



K1376

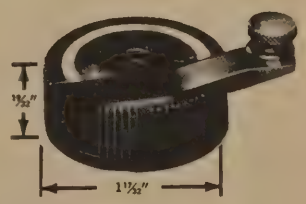
SPINNER KNOBS

With Fixed or Retractable Spinners | Standard: glossy finish. (Matte finish available on special order).

Cat. Nos. K-1275 & K-1276 (For ¼" shafts)

In appearance, these knobs are identical with No. K-1375 and No. K-1376 but without JAN'S Slip-Clutch mechanism. Made with single-unit, molded Bakelite-to-metal-insert construction, with two set screws for firm attachment to shafts.

Cat. No. MS 91522-1
CRANK KNOB
Retractable Spinner.
Aluminum Olive Drab. For ¼" shaft. Other colors and shaft diameters on request. 2⅝" minimum clearance required with handle in open position.



Cat. No. K 1125
SPINNER KNOB
For limited space applications.

For ¼" shaft. Other shaft diameters on request.



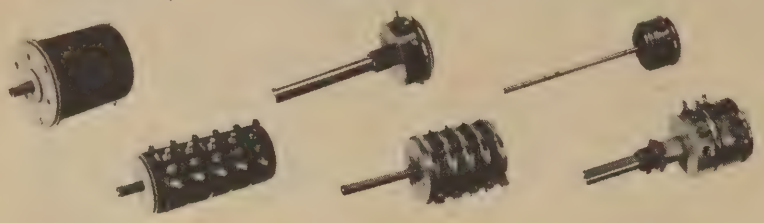
POTENTIOMETERS

PRECISION WIRE WOUND

• Linear and Non-Linear • Single and Multi-Turn • Pendulum Operated • Sectors and Gyro Pickoffs • Switches

Reliable, competitively priced wire-wound potentiometers for commercial, industrial and military electronic equipment manufacturers.

- **EXCELLENT LINEARITY:** 0.03% available in single turn 5" diam. unit.
- **LONG LIFE:** Over two million revolutions with base metal windings.
- **WIDE TEMPERATURE RANGE:** Available for operation from —55°C to +125°C.
- **MAXIMUM STORAGE LIFE:** Platinum alloy winding also insures low noise level.
- **RELIABILITY:** Welded taps for better mechanical and electrical connections.
- **HIGH RESOLUTION:** Wire as fine as 0.0003" diameter can be used.
- **CUSTOM DESIGNS:** Fast prototype delivery on special linear or non-linear units.
- **PRECISION CONSTRUCTION:** Anodized aluminum housings and polished steel shafts.
- **ACCURATE FUNCTIONS:** Welded taps to a single turn of wire eliminates shorted sections of winding at intermediate taps.
- **RUGGEDNESS:** Meets all applicable MIL Specs.
- **LOW NOISE:** Maintained over long life and extreme environments by unique wiper designs compatible with winding configurations.



DIAMETER	1/2"	7/8"	1-1/16"	1-7/16"	1-3/4"	2"	3"
SERIES	05	09	11	15	18	20	30
ELECTRICAL							
STANDARD RESISTANCE RANGE, OHMS	100 To 100K	100 To 100K	200 To 110K	200 To 120K	200 To 155K	200 To 180K	200 To 230K
STANDARD RESISTANCE TOLERANCE %	5% 3%	5% 3%	5% 3%	5% 2%	5% 1%	5% 0.5%	5% 0.5%
STANDARD LINEARITY %	0.5	0.5	0.5	0.5	0.3	0.3	0.3
BEST LINEARITY %	0.2	0.2	0.15	0.12	0.1	0.1	0.05
POWER RATING, WATTS AT 40 DEG.[6]	1.2	1.2	2.0	3.0	3.5	4.0	6.0
NOISE MAX. IN OHMS	100	100	100	100	100	100	100
TEMP. COEFFICIENT OF WIRE PPM/°C	± 20	± 20	± 20	± 20	± 20	± 20	± 20
ELECTRICAL ROTATION (NOMINAL)	332°	356°	356°	356°	356°	356°	358°
MECHANICAL							
MECHANICAL ROTATION	AS REQUIRED						
WEIGHT, OZ., SINGLE SECTION	0.5	0.6	0.8	1.7	2.5	3.5	6.0
EACH ADDITIONAL SECTION	0.2	0.3	0.5	1.0	1.3	1.5	1.8
TORQUE, MAX. STARTING, OZ. IN. B.B., SINGLE SECTION	0.1	0.1	0.3	0.4	0.7	0.8	1.1
EACH ADDITIONAL SECTION	0.1	0.1	0.2	0.4	0.5	0.6	0.6
TORQUE, MAX. RUNNING, OZ. IN., SINGLE SECTION	0.1	0.1	0.15	0.2	0.5	0.6	0.6
EACH ADDITIONAL SECTION	0.1	0.1	0.15	0.2	0.5	0.6	0.6
TAPS, MAXIMUM	4	9	12	17	20	24	27
TAP TOLERANCE	AS REQUIRED ± 1 TURN OF WIRE						
GANGED SECTION, MAXIMUM	3	6	6	8	8	9	9
LIFE EXPECTANCY, SHAFT REVOLUTIONS	2×10^6	2×10^6	2×10^6	2×10^6	2×10^6	2×10^6	2×10^6
SHAFT RUNOUT, MAX. T.I.R., IN.	.001	.001	.001	.001	.001	.001	.001
SHAFT RADIAL PLAY MAX. T.I.R. IN.	.001	.001	.001	.001	.001	.001	.001

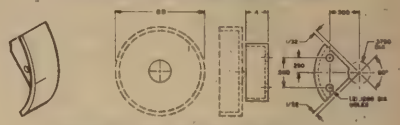
PRECISION DISC DIAL INDEX



MATERIAL: Aluminum 24ST Black Anodized
NOTE: Use with "DA" and "DC" Type Disc Dials

CATALOG NUMBER	A	O.D. OF DIAL
DG-1	1.760	1.500
DG-2	2.010	2.000
DG-3	2.510	3.000
DG-4	3.010	4.000

PRECISION DRUM DIAL INDEX

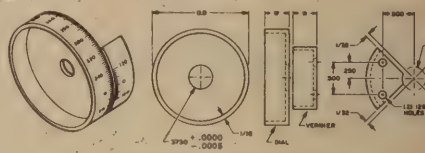


MATERIAL: Aluminum 24ST Black Anodized
NOTE: Use with "DB" and "DD" Type Drum Dials

CATALOG NUMBER	A	O.D. OF DRUM
DF-1	.375	1.490
DF-2	.375	1.990
DF-3	.500	2.490
DF-4	.500	2.999

VERNIER AND DRUM DIAL SETS

PRECISION ENGRAVED



MATERIAL: Aluminum 24ST Black Anodized
NOTE: Special Sets Available on Request

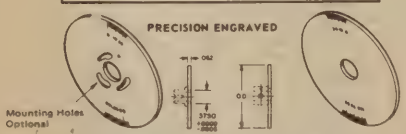
FOR ADDITIONAL INFORMATION SEE TECHNICAL SECTION

Catalog Number	O. +.005 D. —.005	W	Dial Graduations	Dial Range	Vernier Reading
DJ-1	1.490	.375	360° IN 2° STEPS	0°-360°	12'
DJ-2	1.990	.375			12'
DJ-3	2.490	.500	360° IN 1° STEPS		6'
DJ-4	2.990	.500			6'

PRECISION DISC DIALS

CLOCKWISE & COUNTER CLOCKWISE

PRECISION ENGRAVED



Mounting Holes Optional

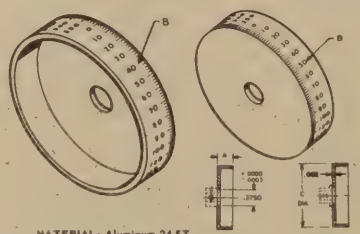
MATERIAL: Aluminum 24ST Black Anodized

Catalog Number	Range	O.+.000 D.—.003	Steps in Degrees	Graduations
DA-1	——	1.500	2°	BLANK
DA-2	0-360		3°-36'	180
DA-3	0-100		6°	100
DA-4	0-60		7°-12'	60
DA-5	0-50		14°-24'	50
DA-6	0-25		36°	25
DA-7	0-10		——	10
DA-8	——	2.000	2°	BLANK
DA-9	0-360		3°	180
DA-10	0-120		3°-36'	120
DA-11	0-100		5°	100
DA-12	0-72		6°	72
DA-13	0-60		7°-12'	60
DA-14	0-50		14°-24'	50
DA-15	0-25		36°	25
DA-16	0-10		——	10
DA-17	——	3.000	1°	BLANK
DA-18 •	0-360		2°	360
DA-19 •	0-360		1°-48'	180
DA-20	0-200		2°	200
DA-21	0-180		3°	180
DA-22	0-120		3°-36'	120
DA-23 •	0-100		5°	100
DA-24	0-72		7°-12'	72
DA-25	0-50		36°	50
DA-26	0-10		——	10
DA-27	——	4.000	1°	BLANK
DA-28 •	0-360		2°	360
DA-29 •	0-360		1°-48'	180
DA-30	0-200		2°	200
DA-31	0-180		3°-36'	180
DA-32	0-100		7°-12'	100
DA-33	0-50		36°	50
DA-34	0-10			10

• Available counter clockwise. To order, use prefix DC in place of DA.

PRECISION DRUM DIALS

CLOCKWISE & COUNTER CLOCKWISE



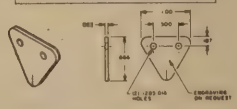
MATERIAL: Aluminum 24 ST Black Anodized

PRECISION ENGRAVED

Catalog Number	A	B	C	Range	Steps in Degrees
DB-1	——	100	.990	BLANK	——
DB-2	3/8	180		0-100	30-36'
DB-3		——		0-360	2°
DB-4	——	60	1.490	BLANK	——
DB-5	3/8	100		0-60	6°
DB-6		180		0-100	3°-36'
DB-7		——		0-360	2°
DB-8	——	50	1.990	BLANK	——
DB-9	3/8	25		0-50	7°-12'
DB-10		10		0-25	14°-24'
DB-11		180		0-10	36°
DB-12		180		0-180	2°
DB-13		——		0-360	2°
DB-14	——	200	2.490	BLANK	——
DB-15	1/2	180		0-200	1°-48'
DB-16		180		0-180	2°
DB-17 •		180		0-360	2°
DB-18 •		360		0-360	1°
DB-19		100		0-100	3°-36'
DB-20	——	180	2.990	BLANK	——
DB-21	1/2	100		0-180	2°
DB-22		10		0-100	3°-36'
DB-23		360		0-10	36°
DB-24 •		180		0-360	1°
DB-25 •				0-360	2°

• Available counter clockwise. To order, use prefix DD in place of DB.

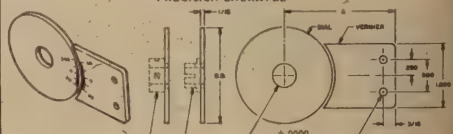
PRECISION INDEX



CATALOG NUMBER	MATERIAL
DE-1	CLEAR PLEXIGLASS
DE-2	ALUM 24ST BLACK ANODIZED

VERNIER AND DISC DIAL SETS

PRECISION ENGRAVED



MATERIAL: Aluminum 24ST Black Anodized
NOTE: Special Sets Available on Request

FOR ADDITIONAL INFORMATION SEE TECHNICAL SECTION

Catalog Number	O. +.000 D. —.005	A	Dial Graduations	Dial Range	Vernier Reading
DH-1	1.500	1.760	360° IN 2° STEPS	0-360°	12'
DH-2	2.000	2.010			12'
DH-3	3.000	2.510	360° IN 1° STEPS		6'
DH-4	4.000	3.010			6'

We invite your inquiries for special dials and drums.

Also available from stock — precision ground shafts.

JAN

JAN HARDWARE
MANUFACTURING COMPANY INC.

QUALITY
RELIABILITY
ECONOMY

© United Technical Publications

(ADC) Bantam jack panels

Bantam Jack Panels are designed to satisfy the increasing demand for more compact patchfields in modern electronic and communication equipment. Bantam Jack Panels, with miniaturized jacks, provide twice the number of jacks in a standard size panel. They require only ½ the rack space previously used by conventional panels. The new panel assemblies weigh 65% less when compared to an assembly using an equivalent number of jacks on a conventional jack panel. ■ Bantam Jack Panels are compact, lightweight, and yet provide the same dependable service as the long established telephone types. This new design offers 96 jacks (48 pairs) in a 1¾ inch x 19 inch standard sized panel. The jacks on this panel are spaced to prevent the cross patching of adjacent circuits when using double plugs.

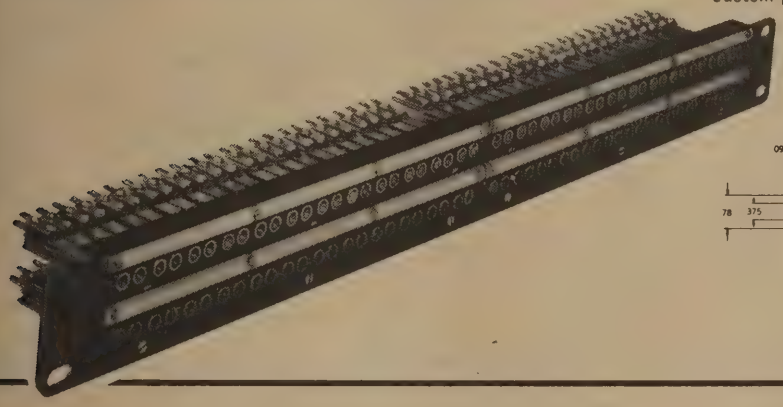
specifications

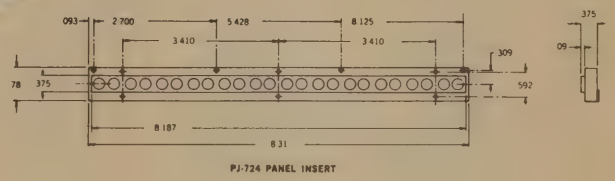
1. **Panel:** Aluminum alloy, extruded. Finished black anodized per Mil-A-8625A. Overall dimensions 1¾"x19"—Standard EIA mounting centers.
2. **Jack Mounting:** Four moulded plastic inserts, each provides for 24 jacks. Pairs of jacks on 5/16 inch centers. Double-row panel provides 96 jacks total. Blank inserts can be furnished where only single row of jacks is required.
3. **Designation Strip:** Extruded clear plastic.
4. Panel assemblies are available with a wide variety of two and three-conductor jacks. See listing of Bantam jacks for complete details.

PJ-731	Double row panel, assembly less jacks, holds 96 jacks.
PJ-737	Double row panel, with 48 pair (96 total) PJ-818 jacks.
PJ-739	Double row panel, with 48 pair (96 total) PJ-839 jacks.
PJ-724	Panel inserts, less jacks, 24 holes.
PJ-700	Panel inserts, blank (same as PJ-724 without holes).
PJ-736*	Double row panel, with 104 PJ-818 jacks.
PJ-738*	Double row panel, with 104 PJ-839 jacks.

*Panels with 104 jacks (26 per insert, jacks all on 5/16 inch centers) are available on special order.

Custom panel assemblies with up to 104 jacks are available on special order.



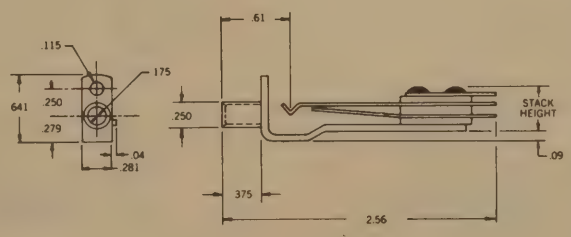


PJ-724 PANEL INSERT

(ADC) Bantam jacks

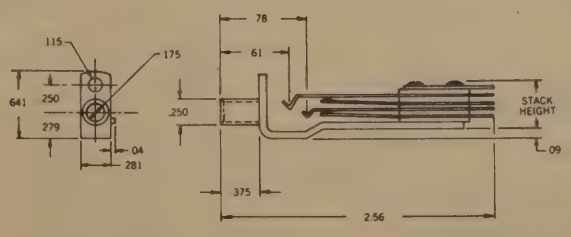
Bantam Jacks will meet the electrical, mechanical and environmental requirements of the military specification for long frame telephone jacks. Although reduced in size these jacks will provide the same reliable service equal to that expected from regular size telephone jacks. These jacks are available in a variety of two and three conductor types, with isolated circuit contacts as well as normalling contacts.

FOR COMPLETE LINE OF BANTAM LITES, SWITCHES, ACCESSORIES, SEE ADC COMMUNICATIONS COMPONENTS CATALOG.



2 CONDUCTOR JACK

3 CONDUCTOR JACK



SCHEMATIC DIAGRAM	PART NO.	STACK HEIGHT (Inches)
	PJ-803	13/32
	PJ-808	43/64
	PJ-815	35/64
	PJ-816	35/64
	PJ-818	13/32
	PJ-823	27/64
	PJ-836	5/8
	PJ-805	43/64
	PJ-824	43/64
	PJ-838	35/64
	PJ-839	17/32
	PJ-841	43/64
	PJ-880	3/4

specifications

Frame: Steel, Cadmium plate with chromate conversion coating to withstand 50 hours of salt spray.
Springs: Nickel silver.
Contacts: W. E. #1 gold alloy, cross-bar contacts are welded to springs.
Insulation: Spacers, Phenolic Type PBE-P per MIL-P-3115B.
Bushing: Brass, silver soldered to frame. Finish same as frame.

All of the above jacks are available on special order with Palladium cross-bar contacts.
If gold plating is required for all surfaces, jacks should be ordered as the PJ number with a "G" suffix. ADC uses .00005 gold per MIL-G-45204, TYPE II. The solder lugs are not tinned for gold plated jacks. Any requirements other than those described require special notation.

© United Technical Publications

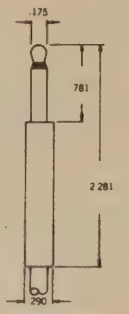
ADC Bantam patch cords

Bantam Patch Cords are plastic jacketed, shielded cords complete with molded-on plugs. The plugs are made with molded insulation between conductors. Bantam Patch Cords are available with single and double two and three conductor plugs. A cord strain relief feature is included in the plug construction. Note: Bantam plugs can be gold plated on special order per MIL-G-45204, Type 11, 0.00005 inch thick.



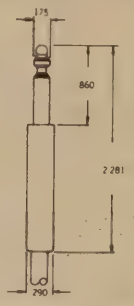
2 CONDUCTOR SINGLE PLUG

Length (see Note 1)	Single (2) Conductor Plug
6 inch	PJ-701
12 inch	PJ-702
18 inch	PJ-703
24 inch	PJ-704
30 inch	PJ-705
36 inch	PJ-706
48 inch	PJ-708
60 inch	PJ-710



3 CONDUCTOR SINGLE PLUG

Length (see Note 1)	Single (3) Conductor Plug
6 inch	PJ-711
12 inch	PJ-712
18 inch	PJ-713
24 inch	PJ-714
30 inch	PJ-715
36 inch	PJ-716
48 inch	PJ-718
60 inch	PJ-720



specifications

Cord: Plastic jacketed, stranded copper conductors, braided shield. Jacket color — gray.

Plugs: Conductor parts are brass, finished to 32 microinch finish maximum.

Plug Insulation: Molded polystyrene.

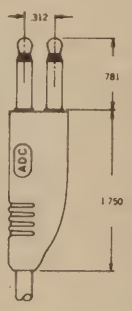
Internal Connections: Soldered.

Plug Shell: Plastic, black, rigid thermoplastic.

NOTE 1: Length is measured from the rear of the plug shell to rear of plug shell on opposite end.

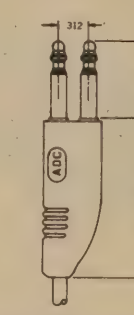
2 CONDUCTOR (DOUBLE)

Length	Double (2) Conductor Plug
6 inch	PJ-751
12 inch	PJ-752
18 inch	PJ-753
24 inch	PJ-754
30 inch	PJ-755
36 inch	PJ-756
48 inch	PJ-758
60 inch	PJ-760



3 CONDUCTOR (DOUBLE)

Length	Double (3) Conductor Plug
6 inch	PJ-761
12 inch	PJ-762
18 inch	PJ-763
24 inch	PJ-764
30 inch	PJ-765
36 inch	PJ-766
48 inch	PJ-768
60 inch	PJ-770



specifications

Cord: Plastic jacketed, stranded copper conductors, braided shield. Jacket color — gray.

Plugs: Conductor parts are brass, finished to 32 microinch finish maximum.

Plug Insulation: Molded polystyrene.

Internal Connections: Soldered.

Plug Shell: Plastic, gray, flexible thermoplastic.

ADC jack panels

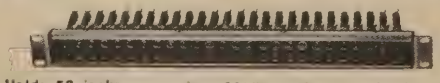
For Lamp Sockets & Caps, See ADC Communication Components Catalog

ADC offers the most complete assortment of jack panels available today. ADC panels are used in television and broadcasting stations, recording studios, industrial paging systems, and communication equipment of all kinds where there is a need to efficiently switch and distribute audio signals. Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with ⅝" spacing. Mounting brackets and designation strips* furnished with each panel. All panels designed to fit standard 19" relay rack. Consult ADC for your standard and special jack panel requirements.

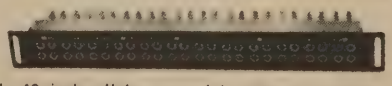
*The jack panels as illustrated are equipped with ADC standard designation strips as shown. PJ-30, PJ-35, PJ-36 and PJ-37 type panels can be supplied with the reinforcement strips drilled and tapped to accommodate the Western Electric equivalent designation strips (PJ-899A, PJ-899B, PJ-903A and PJ-903B). The suffix "A" added to the part number denotes panels which are modified to accommodate these alternate type designation strips. Designation strips are to be ordered separately.

SPECIFICATIONS

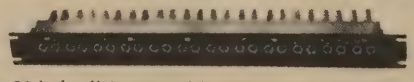
Panel: Molded, thermoset plastic per Mil-M-14F, Type CFG, black.
Mounting Brackets: PJ-31 and PJ-33: Die cast zinc, finished black lacquer. PJ-30, PJ-35, PJ-36, PJ-37: Steel, finished cadmium + chromate per Mil-F-14072 #M262, Type II.
Reinforcing Strips: PJ-31 and PJ-33: Steel, finished nickel plated. PJ-30, PJ-35, PJ-36, PJ-37: Steel, finished cadmium + chromate per Mil-F-14072 #M262, Type II.



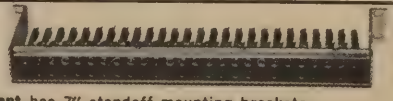
PJ-30
Double Panel. Holds 52 jacks — requires 1¾" panel space. Double designation strip. Brackets for flush rack mounting. All jack mounting holes on ⅝" centers.



PJ-31
Double Panel. Holds 48 jacks. Holes spaced to prevent patching adjacent circuits. Requires 2⅛" panel space.



PJ-33
Single Panel. Holds 24 jacks. Holes spaced to prevent patching adjacent circuits. Requires 1¾" panel space.



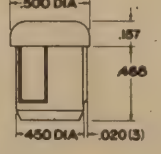
PJ-35
Same as PJ-30, except has 7" standoff mounting brackets.



PJ-36
Single Panel. Holds 26 jacks — requires 1¾" panel space. Brackets for flush rack mounting. All jack mounting holes on ⅝" centers.



PJ-37
Triple-Row Panel. Holds 78 jacks. Requires 2⅝" panel space (1½" standard rack spaces). Provided with brackets for flush rack mounting and PJ-901 designation strips top and bottom.



HOLE PLUG

Molded of black polyethylene plastic. Fits all ADC standard jack panels. Made to plug unused jack mounting holes in jack panels. **PJ-29**

PANELS LESS JACKS	PJ-30	PJ-30A	PJ-31	PJ-33	PJ-35	PJ-35A	PJ-36	PJ-36A	PJ-37	PJ-37A
PANEL WITH PJ-318	PJ-340	PJ-340A	PJ-341	PJ-343	PJ-350	PJ-350A	PJ-360	PJ-360A	PJ-370	PJ-370A
PANEL WITH PJ-339	PJ-390	PJ-390A	PJ-391	PJ-393	PJ-395	PJ-395A	PJ-396	PJ-396A	PJ-397	PJ-397A

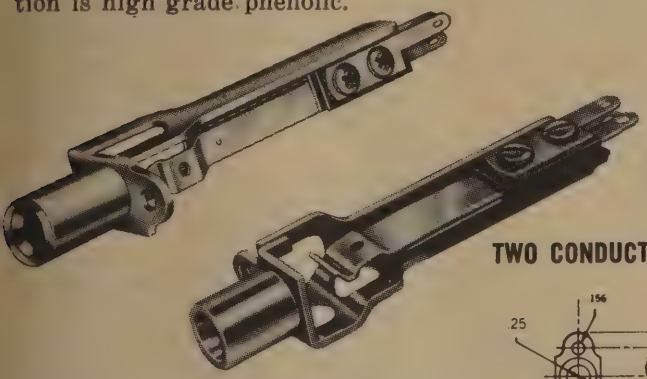
© United Technical Publications

jacks

ADC

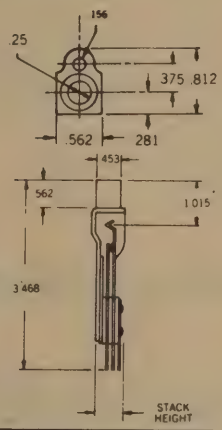
TELEPHONE TYPE

ADC is recognized as a leading supplier of long frame, telephone type jacks. As evidence of their outstanding quality, ADC jacks are used by the country's foremost manufacturers of communication equipment. The unique, ADC one-piece frame is strong, dimensionally stable and readily interchangeable both mechanically and electrically with commonly used jacks. Plating withstands 50-hour salt spray tests. W. E. #1 gold alloy contacts are welded to nickel silver springs. Lugs are hot tin dipped. Insulation is high grade phenolic.

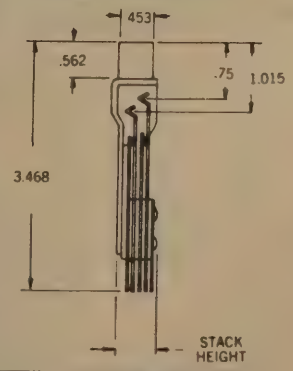


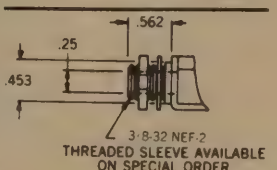
Schematic Diagram Jacks	WE Equiv.	Frame Style	Stack Height (Inches)
PJ-115	215-A	A	5/8
PJ-116	216-A	A	5/8
PJ-117	217-A	A	9/16
PJ-123	223-A	A	7/16
PJ-125	225-A	A	27/32
PJ-202	None	C	3/4
PJ-203	303-A	A	9/16
PJ-204**	None	A	3/4
PJ-205**	240-A	A	3/4
PJ-206**	242-A	A	3/4
PJ-207**	285-A	A	27/32
PJ-208**	284-A	A	53/64
PJ-209**	411-A	A	27/32
PJ-226	226-A	A	5/8
PJ-237	237-A	A	15/32
PJ-238	238-A	A	9/16
PJ-240	240-C	C	3/4
PJ-241**	241-A	A	3/4
PJ-242	242-C	C	3/4
PJ-280	280-C	C	23/32
PJ-318	218-A	A	1/2
PJ-336	236-C	C	19/32
PJ-338	438-C	C	13/16
PJ-339	239-A	A	9/16
PJ-418	218-C	C	1/2
PJ-246*	246-A	A	9/16
PJ-248*	248-A	A	9/16
PJ-249*	249-A	A	9/16

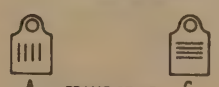
TWO CONDUCTOR



THREE CONDUCTOR







FRAME STYLE

SPECIFICATIONS:

Frame: Steel, plated to withstand 50 hours salt spray per Mil-STD-202, Method.
Sleeve: Brass, nickle plated.
Springs: Nickle silver with tinned lugs.
Insulators: Phenolic, per Mil-P-3115 B type.

MILITARY JACKS

Designed to meet the rugged, exacting requirements of military applications. These ADC jacks are made in accordance with Mil-J-641B specifications. Highest quality materials and closely held tolerances on dimensions conform with military specifications.

Schematic Diagram	MIL Jacks	Frame Style	Stack Height (Inches)	Schematic Diagram	MIL Jacks	Frame Style	Stack Height (Inches)
	JJ-015	C	3/4		JJ-073**	A	3/4
	JJ-016	A	9/16		JJ-074	A	3/4
	JJ-017**	A	3/4		JJ-075**	A	3/4
	JJ-019	C	11/16		JJ-077	A	27/32
	JJ-022	A	9/16		JJ-078**	A	63/64
	JJ-024	A	1/2		JJ-084	A	5/8
	JJ-035	A	5/8		JJ-085	A	9/16
	JJ-042	A	9/16		JJ-086	A	7/16
	JJ-072	A	5/8		JJ-087**	A	27/32

*For use with PJ-309 or other similar type plugs having .207" diameter sleeves.

**Caution — Because of Stack Height these "A" frame jacks cannot be installed on 5/8" centers. "C" Frame version if not listed can be furnished on special order.

TWIN JACKS



ADC Twin Jacks are essentially two jacks with a common mounting frame. Jack sleeves are on 5/8" centers for vertical mounting in standard jack panels. Normal springs are cross-connected or strapped. Jack sleeves are brass, nickel plated. Die formed springs are nickel silver. Frame and hardware are steel, cadmium-chromate plated to withstand 50 hours salt spray.

Part No.	WE Equivalent	No. Conductors	Use With Plug
PJ-410	410A	2	PJ-047, PJ-1 and PJ-327
PJ-482	482A	3	PJ-051, PJ-7

WRAPID JACKS (For Wrapped Solderless Connections)



ADC offers a variety of Wrapid Jacks with .032" by .062" rectangular terminals for wrapped wire connections. These jacks feature cross-bar contacts. Overall length is 3.825" maximum, otherwise, dimensionally the same as telephone jacks.

Schematic Diagram	Wrapid Jack	Frame Style
	PJ-238W	A
	PJ-240W	C
	PJ-241W	A
	PJ-242W	C
	PJ-339W	A

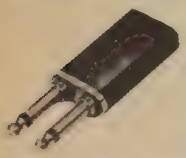
FOR COMPLETE LINE OF COAXIAL PLUGS, SEE ADC COMMUNICATIONS COMPONENTS CATALOG.

© United Technical Publications

(ADC) plugs



TWO CONDUCTOR



PJ-1 — Equivalent WE-241. Heavy duty die cast frame. Black phenolic shell. Has self-aligning plug sleeves on 5/8" centers for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.



PJ-047R — Equivalent WE-347. Designed for use with tip and sleeve jacks. Molded insulation, red plastic handle, design and construction in accordance with MIL-P-642B specifications.

PJ-047B — Same as above except black plastic handle.



PJ-055B — Formerly ADC PJ-5, fits 1/4" phone jacks. Black plastic shell. Screw terminals, designed and manufactured in accordance with MIL-P-642B.

PJ-055M — Same as above except has metal handle, brass, nickel plated.

PJ-055R — Same as above except has red plastic handle.



PJ-327 — Equivalent WE-327. Twin plug provides two electrically independent 2 conductor plugs in a black phenolic shell which is notched to indicate polarity. Self-aligning plug sleeves are on 5/8" centers. Designed and constructed in accordance with specification MIL-P-642B.

THREE CONDUCTOR



PJ-2—Equivalent WE-291A. Designed for use with 1/4" diameter tip, ring and sleeve jacks. Especially designed cone-shaped tip to prevent momentary shorting of tip and ring conductors when used with ADC PJ-339, WE-239A or similar three circuit jacks.



PJ-4 — Looping plug, dual three conductor type. Same conductor configuration as PJ-051 except has conductors wired internally, tip to tip, ring to ring and sleeve to sleeve. Black plastic shell.



PJ-6 — Equivalent WE-213. Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom / monitor headsets. Black shell notched for polarity identification. Self-aligning plug on 1 1/16" centers. (**Note:** Not intended for use with standard jack panels where jacks are mounted on 5/8" centers.)

See ADC Catalog for Coaxial Plugs



PJ-7 — Equivalent WE-425. Twin type plug with tip, ring and sleeve conductors on 5/8" centers for use with all standard jack panels. Designed to mate with three conductor jacks having 1/4" diameter sleeves. Molded insulation. Black phenolic shell is notched to indicate polarity.



PJ-8 — Dual three conductor type with same conductor configuration as PJ-2, designed for non-shorting of tip and ring circuits when used with PJ-339, WE-239A or similar jacks. Black plastic handle notched to indicate polarity.



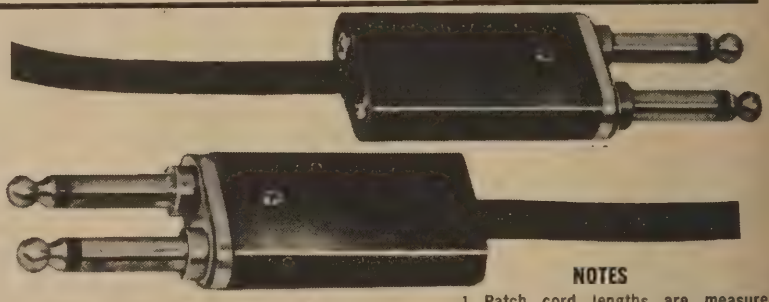
PJ-9 — Equivalent WE-338. Designed for applications requiring two separate 3 conductor circuits. Will mate with three-conductor jacks having 1/4" diameter sleeves. Molded insulation, black plastic handle notched to indicate polarity. Self-aligning plug sleeves on 5/8" centers. Has two separate cord entry holes and requires "Y" type cord or two separate cords.



PJ-051R — Equivalent WE-310. Formerly ADC PJ-3. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell, three conductor. Is in accordance with MIL-P-642B.

PJ-051B — Same as above except black plastic handle.

(ADC) patch cords



ADC Patch Cords have become standards in the communications industry. The heavy Nylon braided jacket excels in abrasion resistance. All cords have been designed to give the ultimate combination of durability, flexibility and reliability. ADC has numerous combinations of special cord assemblies using virtually every plug combination required. You are invited to submit your requests or requirements for quotations.

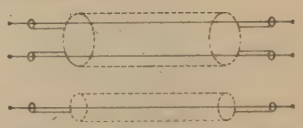
PATCH CORD LENGTH	TOLERANCE
6 inch	+ .375" —.00"
1 foot	+ .75 " —.00"
2 feet	+1.125" —.00"
3 feet	+1.375" —.00"
4 feet	+1.625" —.00"
5 feet	+2.0 " —.00"
6 feet	+2.25 " —.00"
10 feet	+2.625" —.00"

NOTES

1. Patch cord lengths are measured from backs of plug shells.
2. When outer jacket colors other than noted are required add suffix:
   S — For Slate G — For Green
   R — For Red B — For Black
3. All cords and cord assemblies will withstand 500 V, 60 Hz PBT between all conductor. Cordage is designed to have minimum leakage resistance of 50 Megohms with 100 volts applied.

2 CONDUCTOR SHIELDED, CORD ASSEMBLIES

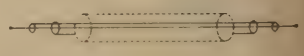
Length	Cord w/ PJ-1 Plugs	Cord w/ PJ-055B Plugs	Replacement Cords Only
6 inch	PJ-10½	PJ-50½	PJ-20½
1 foot	PJ-11	PJ-51	PJ-21
2 feet	PJ-12	PJ-52	PJ-22
3 feet	PJ-13	PJ-53	PJ-23
4 feet	PJ-14	PJ-54	PJ-24
5 feet	PJ-15	PJ-55	PJ-25
6 feet	PJ-16	PJ-56	PJ-26
10 feet	PJ-10	PJ-50	PJ-20



These cords provide two tinsel wire conductors plus a braided shield. The overall jacket is braided nylon. Black nylon is standard, also available in slate, green and red on special order. See Note 2.

3 CONDUCTOR SHIELDED, CORD ASSEMBLIES

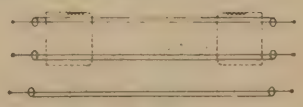
Length	Cord w/ PJ-2 Plugs	Cord w/ PJ-051R Plugs	Replacement Cords Only
1 foot	PJ-71	PJ-81	PJ-61
2 feet	PJ-72	PJ-82	PJ-62
3 feet	PJ-73	PJ-83	PJ-63
4 feet	PJ-74	PJ-84	PJ-64
5 feet	PJ-75	PJ-85	PJ-65
6 feet	PJ-76	PJ-86	PJ-66



These cords provide two tinsel wire conductors plus a braided shield. Overall jacket is braided nylon. Black nylon is standard with slate colored jacket also stocked. Green and red are available on special order. See Note 2.

2 CONDUCTOR UNSHIELDED, CORD ASSEMBLIES

Patch Cords Length	Cord w/ PJ-327 Plugs	Cord w/ PJ-047R Plugs
1 foot	PJ-181	PJ-471
2 feet	PJ-182	PJ-472
3 feet	PJ-183	PJ-473
4 feet	PJ-184	PJ-474
5 feet	PJ-185	PJ-475
6 feet	PJ-186	PJ-476



The PJ-180 and PJ-470 series cords offer tinsel wire conductors, thermo plastic insulated. Standard color for PJ-180 series patch cords is slate. The standard color for the PJ-470 series cords is red. Other colors are available on special order. See Note 2.

3 CONDUCTOR SHIELDED, CORD ASSEMBLIES

Length	Cord w/ PJ-7 Plugs	Cord w/ PJ-8 Plugs
1 foot	PJ-171	PJ-91
2 feet	PJ-172	PJ-92
3 feet	PJ-173	PJ-93
4 feet	PJ-174	PJ-94
5 feet	PJ-175	PJ-95
6 feet	PJ-176	PJ-96

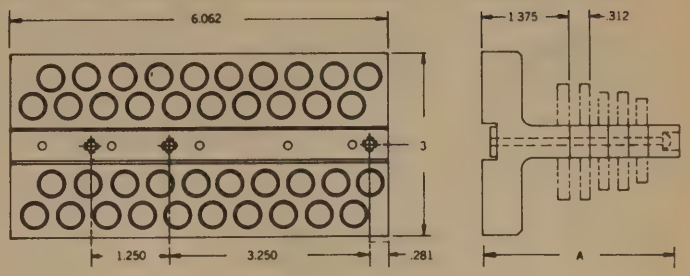


The PJ-90 and PJ-170 series cords provide four tinsel wire conductors, plus a shield common to both sleeves on the plugs. Standard color for these cords is black. They are also available in slate, green or red on special order. See Note 2.

© United Technical Publications

(ADC) molded terminal blocks—20 pin

Known for their ruggedness, ADC "Christmas Tree" Terminal Blocks have become standards in the Broadcast and Telecommunications Industries. The ADC 20-Pin Terminal Blocks are molded of durable, black, thermo-set plastic per Military specifications MIL-M-14F. Terminals are brass with a tin alloy plating for lasting solderability (see specifications below for details on solderability). The PJ-101 series blocks have terminals graduated in length for ease of wiring. The Figure 2 solderless terminals as furnished on the PJ-161 series blocks are designed to accommodate AMP No. 60197-1 Connectors as supplied by American Pamcor, Inc. or may be used as regular solder terminals. All Terminal Blocks are numbered along the top row for easy terminal identification.





For Wrap Terminal Block or 26-Pin Blocks, See Complete ADC Products Catalog

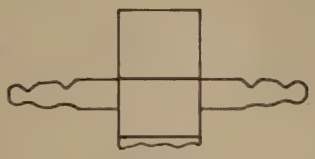


FIG. 1
Solder Type
Mat'l. .040 Thick

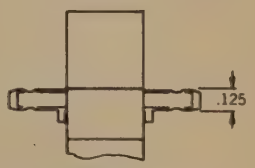


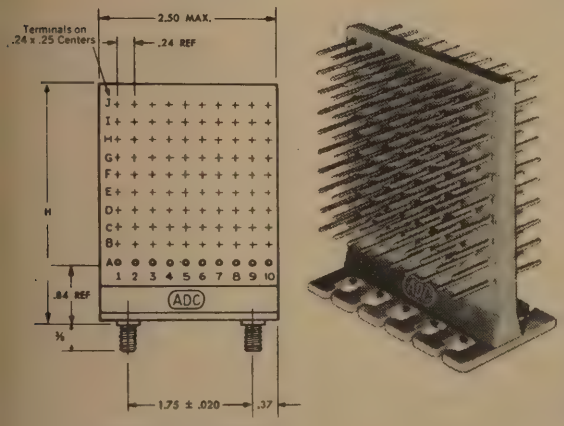
FIG. 2
Solderless or Solder
Mat'l. .032 Thick

specifications

Terminals: Brass, Tin alloy plated.
Insulating Strips and Base: Black Thermoset plastic per MIL-M-14F, Type CFG.
Mounting Strip: Steel, Cadmium-Chromate per MIL-F-14072, #M262, Type II.
Current Carrying Capacity: 5 Amperes.
Insulation Resistance: 1000 Megohms Min.
Dielectric Strength: 2500 V RMS 60 Hz. between terminals.
Solderability: Per MIL-STD-202C, Method 203A
Initial: Excellent (over 95% coverage).
After 49 hour salt spray per MIL-STD-202C. Method 1013: good (90% coverage).
After 240 hours conditioning at +150 F and 95-98%. Relative Humidity: excellent.
After 90 day storage at room temperature: excellent.

Catalog No.				
Fig. 1 Terminal	Fig. 2 Terminal	No. Rows	No. Terminals	Dim. A
PJ-101	PJ-161	1	20	1.906
PJ-102	PJ-162	2	40	2.250
PJ-103	PJ-163	3	60	2.593
PJ-104	PJ-164	4	80	2.937
PJ-105	PJ-165	5	100	3.281
PJ-106	PJ-166	6	120	3.625
PJ-107	PJ-167	7	140	3.968
PJ-108	PJ-168	8	160	4.312
PJ-109		9	180	4.656
PJ-110		10	200	4.968
PJ-111		11	220	5.281
PJ-112		12	240	5.593

(ADC) "wrapid" terminal blocks FOR WRAPPED WIRE CONNECTIONS



ADC's Wrapid Terminal Blocks provide for up to 100 connections in a space of 2½" wide by 3⅜" high. ADC offers a variety of Wrapid Terminal Blocks designed for specific wiring applications. The Wrapid Terminal Blocks can be used for wrapped solderless connections, wrapped and soldered connections, or in applications requiring wrap to solder or solderless connectors. Wrapped wire terminations can be accomplished with any commercially available wrapping tool. Behind the development of these terminal blocks is 30 years of experience in meeting rigid commercial and military specifications on a wide variety of devices. This is your assurance of top performance and long dependable service life.

specifications

Terminals: Brass, Electro-Tin Plated.
Block and Fanning Strip: PJ-600 Series — Asbestos Filled Polypropylene Molded.
PJ-620 and 640 Series — Glass-filled NYLON (high temperature). Color — Natural (White). Heat Distortion — 442°F with 264 P.S.I.
Mounting Studs: (2) 8-32 Steel, Cadmium-Chromate Plating per MIL-F-14072 No. M262 II.

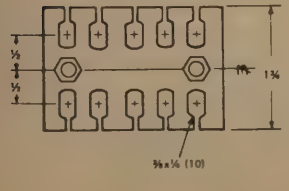
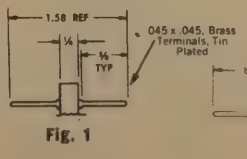


Fig. 1



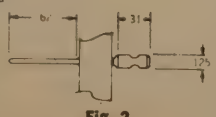


Fig. 2

No. of Terminals	Wrapped Solderless Application Fig. 1 Terminal	Wrapped and Solder Application Fig. 1 Terminal	Wrapped to Solder or Solderless Application Fig. 2 Terminal	H. Dim.
40	PJ-604	PJ-624	PJ-644	1.75
60	PJ-606	PJ-626	PJ-646	2.25
80	PJ-608	PJ-628	PJ-648	2.75
100	PJ-610	PJ-630	PJ-650	3.25

© United Technical Publications

BNC RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL


31-320


31-002

BNC - Bayonet Coupled
Popular and Lightweight

Your choice of six different styles: Regular, Improved with Captivated Contacts and Improved in addition to the three "Crimp" versions described below.

MIL-Crimp BNC's are recommended as the optimum BNC, giving optimum operating performance at low installed cost. Using standard crimping tools, these units can be assembled in a fraction of the time usually required for braid-clamp type connectors by eliminating critical assembly and soldering operations and reducing the parts to handle. Captivated center contacts prevent circuit discontinuity under environmental or mechanical stress. MIL-Crimps are weatherproof; their constant 50-ohm impedance provides excellent performance through X-band frequencies.

Quick-Crimp: gold-plated semi-captivated contacts, classed as weather proof. Heat shrink tubing for severe environmental conditions.

Original-Crimp: gold-plated contacts, classed as weatherproof. Each has a silicone rubber boot. For a complete listing of all BNC Connectors to the latest revision of MIL-C-39012/A, refer to your distributor or Amphenol.

ASTROplate®
Finish Available

Amphenol's exclusive, non-tarnish finish is available from stock on most popular rf connectors. **(See part numbers marked with ‡; others available on special order.)** ASTROplate® is corrosion and abrasion resistant. Mates safely with silver; is equally solderable. **To order: add suffix 1050 to part number.**


31-333


31-005

CHARACTERISTICS

ELECTRICAL: Impedance: unimproved BNC; non-constant; all others: 50 ohms. **Frequency range:** 0-10 GHz. **Voltage rating:** 500 volts peak. **Dielectric Withstanding Voltage:** 1500 volts rms. **SWR:** improved: 1.3; MIL-Crimps: 1.2 (solder), 1.3 per spec. **Other:** contact resistance: 2.1 mv; RF leakage: —55 db; insertion loss: .04 db; insulation resistance: 5000 megohms.

ENVIRONMENTAL: Thermal Limits: Teflon insulators: —67° to 390°F (—55° to 199°C); Rexolite insulators: —67° to 185°F (—55° to 85°C). **Weatherproof:** standards with clamp gaskets; MIL-Crimps with heat-shrink tubing. **Hermetic Seals:** pass helium leak test of 2×10^{-8} cc/sec. **Shock:** MIL-Std-202 method 202. **Vibration:** MIL-Std-202 method 204 (test cond. D). **Moisture Resistance:** MIL-Std-202 method 106. **Corrosion:** MIL-Std-202 method 101 (test cond. B). **Temperature Cycling:** MIL-Std-202 method 102 (test cond. D). **Altitude:** MIL-Std-202 method 105 (test cond. C).

MECHANICAL: Mating: BNC: 2-stud bayonet lock; TNC: 7/16-28 thread coplg. **Cable Affixment (Braid or Jacket):** standards: screw-thread nut and braid clamp; MIL-crimps: hex braid crimp. **Cable Affixment (Center Conductor):** MIL-Crimps: 4 indent crimp or solder; others: solder only. **Captivated Contact:** all MIL-Crimps; others: where specified. **Cable Retention:** standards: 20 to 50 lbs; crimps: 80 to 100 lbs.

MATERIAL: Contacts (Center): male: brass; female: beryllium copper or phosphor bronze (all MIL-Crimps). **Contacts (Outer):** MIL-Crimps: phosphor bronze; others: brass or beryllium copper where specified. **Other Metal Parts:** brass. **Plating:** center contacts, MIL-Crimps: .0001" gold over .0001" copper; all others: .0002" silver. **Insulators:** Teflon (all crimps); Rexolite; glass-Teflon (hermetically sealed). **Clamp Gaskets:** synthetic rubber; silicone rubber. **Heat-Shrink Tubing:** MIL-Crimps: Thermofit plastic. **Crimp Ferrule:** copper.

MILITARY SPECIFICATIONS: MIL-Crimps: MIL-C-23329A: Standard BNC: MIL-C-3608.

STRAIGHT PLUGS

RG/U Cable	Part No.	UG/U No. & M39012/	Insulation	Clamp Gasket	Dimensions, Inches: Length	O.D.	Cable Entry	Notes
6	9350	—	Rexolite	syn. rubber	1¼	5/16	.348	—
8.9	6775	UG-959	Teflon	syn. rubber	1 21/32	1 1/16	.437	—
55, 142, 223	31-4326	16-0014	Teflon	—	1 3/32	5/16	.220	MIL-Crimp ■
55, 58, 141, 142, 223	31-002‡	UG-88	Teflon	syn. rubber	3 1/32	5/16	.212	—
	14525	UG-88A	Teflon	syn. rubber	1	5/16	.212	—
	14625	—	Teflon	syn. rubber	1	5/16	.212	female contact/polarized
	31-018‡	UG-88B	Teflon	—	3 1/32	5/16	.212	non-weatherproof
	31-202▲‡	UG-88C	Teflon	sil. rubber	1 1/16	5/16	.224	improved
	31-301▲	—	Teflon	sil. rubber	1 3/32	5/16	.219	improved/captivated contact
	31-2202▲	UG-88D	Teflon	sil. rubber	1 3/32	5/16	.224	improved/beryl. outer contact
	31-3202▲	UG-88E	Teflon	sil. rubber	1 3/32	5/16	.224	improved/beryl. outer contact
	84800▲	—	Teflon	sil. rubber	1 1/16	5/16	.224	improved/captivated contact
	31-3301	16-0001	Teflon	sil. rubber	1 1/16	5/16	.224	UG-Clamp
58, 141, 303	31-4320	16-0013	Teflon	—	1 3/32	5/16	.206	MIL-Crimp ■
59, 62, 71, 140, 210	31-4321	16-0015	Teflon	—	1 3/32	5/16	.261	MIL-Crimp ■
	31-012‡	UG-260	Rexolite	sil. rubber	3 1/32	5/16	.258	—
	31-021‡	UG-260A	Rexolite	—	1	5/16	.258	non-weatherproof
	31212▲‡	UG-260B	Teflon	sil. rubber	1 1/16	5/16	.255	improved
	31-304▲	—	Teflon	sil. rubber	1 3/32	5/16	.255	improved/captivated contact
59, 62, 71, 140, 210	31-2212▲	UG-260C	Teflon	sil. rubber	1 3/32	5/16	.255	improved/beryl. outer contact
	31-3212▲‡	UG-260D	Teflon	sil. rubber	1 3/32	5/16	.255	improved/beryl. outer contact
	70000	—	Teflon	syn. rubber	1	5/16	.258	female contact/polarized
	86475▲	—	Teflon	sil. rubber	1 1/16	5/16	.257	improved/75 ohm
	31-3302	16-0002	Teflon	sil. rubber	1 1/16	5/16	.255	UG-Clamp
71	31-4322	16-0017	Teflon	—	1 3/32	5/16	.275	MIL-Crimp ■
114A	17400	—	Teflon	syn. rubber	1 21/32	1 1/16	.437	"b" dim. is body od
122	31-4324	16-0016	Teflon	—	1 3/32	5/16	.175	MIL-Crimp ■
122, 180, 195,	31-323	—	Teflon	—	1 3/64	5/16	.175	Crimp ■
	12000	—	Teflon	syn. rubber	1	5/16	.177	
	84975	UG-1033	Teflon	sil. rubber	1 1/16	5/16	.177	improved
	31-3303	16-0003	Teflon	sil. rubber	1 3/32	5/16	.127	UG-Clamp
174, 179, 187, 188	31-242	—	Teflon	—	1 13/64	5/16	.115	MIL-Crimp ■
	31-315	—	Teflon	—	1 13/64	5/16	.115	MIL-Crimp ■
	69475	—	Teflon	sil. rubber	1 1/16	5/16	.116	improved
178, 196	15875	—	Teflon	syn. rubber	1	5/16	.094	—
180	16300	—	Teflon	syn. rubber	1	5/16	.150	—
Essex 21-597	31-325	—	Teflon	—	1 13/64	5/16	.175	MIL-Crimp ■
#18, 20, 22 H.V.	13925	—	Teflon	syn. rubber	1	5/16	.123	—

ANGLE PLUGS

55, 142, 223	31-3365	20-0003	Teflon	sil. rubber	1 3/32	5/16	.220	MIL-Crimp ■
55, 58, 141, 142, 223	31-204	UG-913	Teflon	sil. rubber	1 3/32	5/16	.224	
	31-2204▲	UG-913A	Teflon	sil. rubber	1 3/32	5/16	.224	improved/beryl. outer contact
	31-3361	20-0001	Teflon	sil. rubber	1 3/32	5/16	.224	UG-Clamp
	8525	—	Teflon	syn. rubber	1¼	5/16	.212	
	38250	—	Teflon	syn. rubber	2 3/32	5/16	.214	
58, 141	31-3364	20-0002	Teflon	sil. rubber	1⅛	5/16	.206	MIL-Crimp ■
59, 62, 71, 140, 210	31-336	—	Teflon	—	1 3/16	5/16	.261	MIL-Crimp ■
	31-850	—	Rexolite	syn. rubber	1¼	5/16	.258	
	8575	—	Teflon	syn. rubber	1¼	5/16	.259	
	33750	—	Teflon	syn. rubber	2 3/32	5/16	.259	
	86225▲	—	Teflon	sil. rubber	1 1/16	5/16	.257	improved
71	31-337	—	Teflon	—	1 3/16	5/16	.275	MIL-Crimp ■
122	31-339	—	Teflon	—	1 3/16	5/16	.175	MIL-Crimp ■
122, 180, 195,	31-338	—	Teflon	—	1 3/16	5/16	.175	MIL-Crimp ■
	33775	—	Teflon	syn. rubber	1¼	5/16	.177	—
174, 179, 187, 188	31-243	—	Teflon	—	1 3/16	5/16	.115	MIL-Crimp ■
	31-316	—	Teflon	—	1 3/16	5/16	.115	MIL-Crimp ■
	33275	—	Teflon	sil. rubber	1¼	5/16	.115	—
178, 196	21975	—	Teflon	syn. rubber	1¼	5/16	.096	—
180	16975	—	Teflon	syn. rubber	1¼	5/16	.150	—
Essex 21-597	31-340	—	Teflon	—	1 3/16	5/16	.175	MIL-Crimp ■

STRAIGHT JACKS

55, 142, 223	31-4333	17-0014	Teflon	—	1 11/64	5/16	.220	MIL-Crimp ■
55, 58, 141, 142, 223	31-005‡	UG-89	Teflon	syn. rubber	1⅛	5/16	.212	
	31-019	UG-89A	Teflon	—	1 5/64	5/16	.212	non-weatherproof
	31-205▲	UG-89B	Teflon	sil. rubber	1 1/64	5/16	.224	improved
	31-302▲	—	Teflon	sil. rubber	1 11/64	5/16	.221	improved/captivated contact
	31-2205▲	UG-89C	Teflon	sil. rubber	1 1/64	5/16	.224	improved
	31-3319	17-0001	Teflon	sil. rubber	1 1/64	5/16	.212	UG-Clamp
58, 141, 303	31-4327	17-0013	Teflon	—	1 11/64	5/16	.206	MIL-Crimp ■
59, 62, 71, 140, 210	31-4328	17-0015	Teflon	—	1 11/64	5/16	.261	MIL-Crimp ■
	31-015	UG-261	Rexolite	sil. rubber	1⅛	5/16	.258	70 ohm
	31-022	UG-261A	Rexolite	—	1 5/64	5/16	.258	non-weatherproof/70 ohm
	31-215▲	UG-261B	Teflon	sil. rubber	1 1/64	5/16	.258	improved
	31-305▲	—	Teflon	sil. rubber	1 13/64	5/16	.258	improved/captivated contact
	31-2215▲	UG-261C	Teflon	sil. rubber	1 1/64	5/16	.258	improved
	31-3320	17-0002	Teflon	sil. rubber	1 1/64	5/16	.258	UG-Clamp
71	31-4329	17-0017	Teflon	—	1 11/64	5/16	.275	MIL-Crimp ■
122	31-4331	17-0016	Teflon	—	1 11/64	5/16	.175	MIL-Crimp ■
122, 180, 195	31-3321	17-0003	Teflon	sil. rubber	1 1/64	5/16	.175	UG-Clamp
	84650	UG-1056	Teflon	sil. rubber	1 1/64	5/16	.177	improved
174, 179, 187, 188	31-244	—	Teflon	—	1 25/64	5/16	.115	MIL-Crimp ■
	31-317	—	Teflon	—	1 25/64	5/16	.115	MIL-Crimp ■
180	16925	—	Teflon	syn. rubber	1 1/64	5/16	.150	
Essex 21-597	31-332	—	Teflon	—	1 25/64	5/16	.175	MIL-Crimp ■

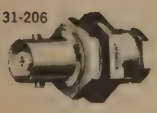
† See note on ASTROplate® Finish

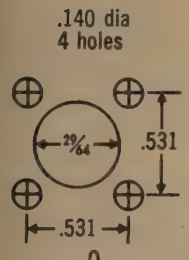
© United Technical Publications

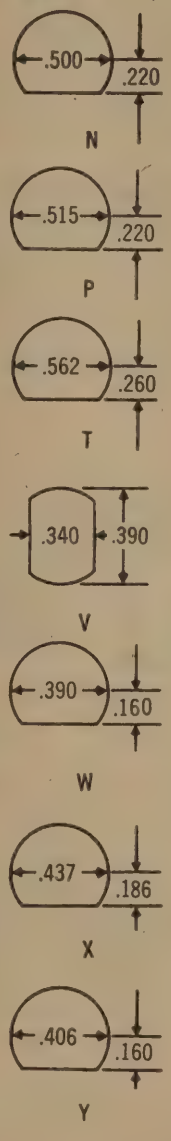
BNC RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL









BULKHEAD JACKS (rear mounting, except where noted)

RG/U Cable	Part No.	UG/U No. & M39012/	Insulation	Clamp Gasket	Dimensions, Inches Length	O.D.	Cable Entry	Notes	Mounting Holes
55, 142, 223	31-4341	19-0014	Teflon	—	1 13⁄32	11⁄16	.220	MIL-Crimp ■	N-hole
55, 58, 141, 142, 223	31-206▲	UG-909	Teflon	sil. rubber	1 1⁄8	11⁄16	.212	improved	P-hole
	2475	—	Teflon	syn. rubber	1 1⁄16	5⁄8	.212	front mounting	T-hole
	2575	—	Teflon	syn. rubber	1 3⁄64	5⁄8	.212	—	T-hole
	31-2206▲	UG-909A	Teflon	sil. rubber	1 3⁄64	11⁄16	.224	improved	P-hole
	31-3206▲	UG-909B	Teflon	sil. rubber	1 3⁄64	3⁄4	.224	improved	P-hole
	17725	—	Teflon	sil. rubber	1 49⁄64	5⁄8	.219	improved hermetic	P-hole
	31-3347	19-0001	Teflon	sil. rubber	1 11⁄64	11⁄16	.224	UG-Clamp	
58. 141	31-4342	19-0013	Teflon	—	1 13⁄32	11⁄16	.206	MIL-Crimp ■	N-hole
59, 62, 71, 140, 210	31-4343	19-0015	Teflon	—	1 13⁄32	11⁄16	.261	MIL-Crimp ■	N-hole
	31-3348	19-0002	Teflon	sil. rubber	1 11⁄64	11⁄16	.258	UG-Clamp	
	31-207▲	UG-910	Teflon	sil. rubber	1 1⁄8	11⁄16	.258	improved	P-hole
	31-2207▲	UG-910A	Teflon	sil. rubber	1 3⁄64	11⁄16	.258	improved	P-hole
	31-3207▲	UG-910B	Teflon	sil. rubber	1 3⁄64	11⁄16	.258	improved	P-hole
	2075	624	Rexolite	syn. rubber	1 1⁄16	5⁄8	.258	front mounting	T-hole
	2675	—	Rexolite	syn. rubber	1 3⁄64	5⁄8	.258	—	T-hole
71	31-4344	19-0017	Teflon	—	1 13⁄32	11⁄16	.275	MIL-Crimp ■	N-hole
122	31-4346	19-0016	Teflon	—	1 13⁄32	11⁄16	.175	Crimp ■	N-hole
122, 180, 195	31-345	—	Teflon	—	1 3⁄8	11⁄16	.175	Crimp ■	N-hole
	84725	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.177	improved	N-hole
174, 179, 187, 188	31-245	—	Teflon	—	1 3⁄8	11⁄16	.115	MIL-Crimp ■	N-hole
	31-318	—	Teflon	—	1 3⁄8	11⁄16	.115	MIL-Crimp ■	N-hole
178, 196	86850	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.098	improved	N-hole
Essex 21-597	31-347	—	Teflon	—	1 3⁄8	11⁄16	.175	MIL-Crimp ■	N-hole

ANGLE BULKHEAD JACKS (rear mounted)

55, 58, 141, 142, 223	14325	—	—	syn. rubber	1 11⁄32	3⁄4	.212	—	P-hole
59, 62, 71, 140, 210	14225	—	—	sil. rubber	1 11⁄32	3⁄4	.258	—	P-hole

PANEL JACKS (#3-56 tapped flange holes & rear mounted, except where noted)

RG/U Cable	Part No.	UG/U No.	Insulation	Clamp Gasket	Dimensions, Inches Length	Flange (Sq.)	Cable Entry	Notes	Mounting Holes
8	6750	—	Teflon	syn. rubber	1 13⁄32	1	.438	.125 dia. flange holes	Q-hole
55, 58, 141, 142 223	31-001	291	Teflon	syn. rubber	1 1⁄8	11⁄16	.214	△	R-hole
	31-020	291A	Teflon	—	1 3⁄64	11⁄16	.214	non-weatherproof/△	R-hole
	31-201▲	291B	Teflon	sil. rubber	1 3⁄64	11⁄16	.214	improved	S-hole
	31-300▲	—	Teflon	sil. rubber	1 13⁄64	11⁄16	.221	improved/captivated contact	S-hole
	31-2201▲	291C	Teflon	sil. rubber	1 3⁄64	11⁄16	.221	improved	S-hole
	1300	90	Teflon	syn. rubber	1 3⁄64	3⁄4	.214	.136 dia. flange holes	O-hole
	31-3333	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.221	MIL-C-39012/18-0002 UG-Clamp/△	R-hole
59, 62, 71, 140, 210	31-011	262	Rexolite	sil. rubber	1 1⁄8	11⁄16	.259	△	R-hole
	31-023	262A	Rexolite	—	1 3⁄64	11⁄16	.259	non-weatherproof/△	R-hole
	31-211▲	262B	Teflon	sil. rubber	1 3⁄64	11⁄16	.258	improved	S-hole
	31-303▲	—	Teflon	sil. rubber	1 13⁄64	11⁄16	.258	improved/captivated contact	S-hole
	31-2211▲	262C	Teflon	sil. rubber	1 3⁄64	11⁄16	.258	improved	S-hole
	71000	—	Teflon	syn. rubber	1 3⁄64	11⁄16	.259	male contact/polarized/△	R-hole
	31-3334	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.258	MIL-C-39012/18-0001/△	R-hole
122, 180, 195	31-3335	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.177	MIL-C-39012/18-0003/△	R-hole
	16475	—	Rexolite	syn. rubber	1 3⁄64	11⁄16	.177	△	R-hole
	86400	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.160	improved	S-hole
174, 179, 187, 188	86425	—	Teflon	sil. rubber	1 3⁄64	11⁄16	.117	improved	S-hole

▲ To adapt connector for use with **RG-141/142-type** CUJAK cable, specify accessory adapter kit 31-885.

△ May be front or rear mounted using "S" mounting hole, "R" hole for rear mounting only.

‡ Non-tarnish Astroplate finish available. To order: add suffix 1050 to part number. Other numbers also available on special order from factory.

■ Gold plated captivated contact.

☐ To ground cable shield, specify Amphenol Accessory Lug 31-759.

BULKHEAD RECEPTACLES (front mounted)

Part No.	UG/U No.	Insulation	Dimensions, Inches Length	O.D.	Max. Panel Thickness	Notes	Mounting Holes
5575‡	625	Rexolite	1 1⁄32	1⁄2	.155	☐	X-hole
31-236‡	625B	Teflon	1 1⁄16	1⁄2	.125	improved/☐	X-hole
31-3375	—	Teflon	1 1⁄16	1⁄2	.125	MIL-C-39012/21-0001	X-hole
31-102‡	657	Rexolite	1 13⁄64	37⁄64	.200	pressurized/☐	V-hole
31-239	657A	Teflon	1 13⁄64	37⁄64	.234	pressurized/☐	V-hole
31-238	912	glass-Teflon	1 13⁄64	19⁄32	.250	improved/herm. sealed/lug term./☐	Y-hole
31-2221‡	1094A	glass-Teflon	1 13⁄64	19⁄32	.250	improved/herm. sealed/lug term./☐	W-hole
31-221‡	1094	Teflon	1 1⁄16	1⁄2	.104	improved/☐	W-hole
31-3376	—	Teflon	1 1⁄16	1⁄2	.250	MIL-C-39012/21-0002	W-hole
11300	—	Teflon	1 1⁄32	1⁄2	.155	☐	X-hole
11325	—	Teflon	1 1⁄32	1⁄2	.155	male contact/ polarized/☐	X-hole
78725	—	glass-Teflon	1 3⁄64	19⁄32	.145	improved/herm. sealed/gold plt.cont.	Y-hole

Part No.	UG/U No.	Insulation	Dimensions, Inches Length	O.D.	Max. Panel Thickness	Notes	Mounting Holes
86250	—	glass-Teflon	1 13⁄32	9⁄16	.148	herm. sealed/ polarized/plug (male) receptacle/☐	W-hole
87225	—	glass-Teflon	1 13⁄32	3⁄4	.323	herm. sealed/ lug terminal/☐	V-hole
31-016	254A	Rexolite	1 13⁄32	13⁄16	.152	pressurized/rear mounted	.516 dia.hole
31-4238	—	glass-Teflon	1 13⁄64	11⁄16	.250	improved/lug term./ herm. sealed M39012/24-0002	P-hole
31-4237	—	Teflon	1 13⁄64	11⁄16	.250	lug term/hermetic/ gold plt. cont./ rear mtd. M39012/24-0001	P-hole

ANGLE RECEPTACLES

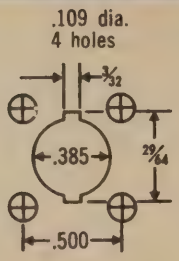
31-222	1098	Teflon	29⁄32	19⁄32	.168	improved/☐	Y-hole
31-2222	1098A	Teflon	29⁄32	19⁄32	.313	improved/☐	Y-hole
5075	—	Teflon	1 1⁄16	11⁄16	.150	#3-56 flange holes	S-hole
5675	535	Teflon	1 3⁄32	3⁄4	.150	.140 dia. flange holes	S-hole

© United Technical Publications

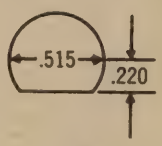
BNC RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

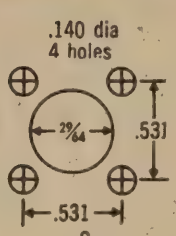

31-009



R



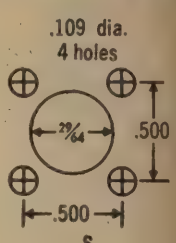
P



C



U



S

PANEL RECEPTACLES (#3-56 tapped flange holes, except as noted)

Part No.	UG/U No.	Insulation	Dimensions Inches Length	Flange (Sq.)	Notes	Mtg. Holes
31-003‡	290	Rexolite	1 1/32	11/16		R or S
31-104	—	Polystyrene	1 3/32	3/4	.140 dia. flange holes	O-hole
31-105	—	Rexolite	1 3/32	11/16	.120 dia. flange holes	R or S
31-203‡	290A	Teflon	1 1/16	11/16	improved	R or S
31-3377	—	Teflon	1 1/16	11/16	MIL-C-39012/22-0001	R or S
31-817	447	Rexolite	1 1/32	11/16	.109 dia. flange holes	R or S
31-842	—	Teflon	1 1/32	11/16		R or S
1100	928	Rexolite	27/32	3/4	spade term.	O-hole
2775	—	Teflon	1 1/16	11/16	turret terminal male recept./	R or S
3150	—	Teflon	1 1/4	3/4	.136 dia flange holes turret term./	O-hole
4500	185	Rexolite	1 5/64	3/4	.136 dia flange holes	O-hole
13550	—	Teflon	1 5/64	3/4	turret term./ .136 dia flange holes	O-hole
14275	—	Rexolite	1 1/32	3/4	.136 dia. flange holes	O-hole
14375	—	Rexolite	1 1/32	11/16	.136 dia. flange holes	O-hole
18225	—	Teflon	25/32	11/16	printed circuit/ .092 dia. flange holes	U-hole


31-220


87175


31-759

STRAIGHT ADAPTERS

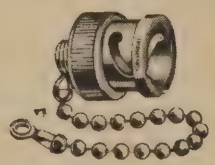
Part No.	UG/U No.	Insulation	Adapter Ends	Dimensions, In. Length	O.D.	Notes
31-218‡	491A	Teflon	plug-plug	1 1/4	5/16	improved
31-219‡	914	Teflon	jack-jack	1 3/32	7/16	improved
31-2218	491B	Teflon	plug-plug	1 1/4	5/16	improved/beryl outer cont.
8425	491	Teflon	plug-plug	1 1/4	5/16	—
21925	—	Teflon	plug-jack	1 1/32	5/16	—
75000	—	Teflon	jack-jack	1 3/32	7/16	—

ANGLE ADAPTERS

31-009‡	306	Teflon	jack-plug	1	5/16	—
31-209	306A	Teflon	jack-plug	1 1/16	5/16	improved/beryl outer cont.
31-2209	306B	Teflon	jack-plug	1 1/16	5/16	improved/beryl outer cont.

BULKHEAD & PANEL ADAPTERS

Part No.	UG/U No.	Insulation	Adapter Ends	Dimensions, Inches Length	O.D.	Max. Panel Thickness	Notes	Mtg. Hole
31-220‡	492A	glass-Teflon	jack-jack	1 13/32	1/16	.181	improved/herm. seal	P-hole
31-2220	492B	glass-Teflon	jack-jack	1 25/64	1/16	.163	improved/herm. seal/O ring	P-hole
31-3220	492D	glass-Teflon	jack-jack	1 13/32	1/16	.275	improved/herm. seal/O ring	P-hole
4525	—	Teflon	jack-jack	1 13/32	1/16	.170	—	P-hole
47000	414	Teflon	jack-jack	1 3/32	1/16	.250	panel mount	R-hole
47025	414A	Teflon	jack-jack	1 3/32	1/16	.260	improved/panel mt.	R-hole
75500	—	glass-Teflon	plug-plug	1 11/16	13/16	.185	hermetically sealed	S-hole


31-006


39575

MALE CAPS

Part No.	CW No.	Dimensions, Inches Length	O.D.	Chain Length	Notes
31-006	123	1 1/16	5/16	2 1/4	—
31-007	155	37/64	5/16	—	—
31-017	159	1 1/16	5/16	2 1/4	shorting male contact
31-026‡	123A	45/64	5/16	2 1/4	improved
31-027	155A	37/64	5/16	—	improved
900	—	23/32	5/16	3 1/2	—
5275	—	19/32	5/16	—	shorting male contact
87300	—	23/32	5/16	2 1/2	solder lug

TEE ADAPTERS

Part No.	UG/U No.	Insulation	Adapter Ends	Dimensions, Inches Length	O.D.	Notes
31-008‡	274	Rexolite	jack-plug-jack	1 3/32	5/16	—
31-208‡	274A	Teflon	jack-plug-jack	1 3/32	5/16	improved/beryl outer cont.
31-2208	274B	Teflon	jack-plug-jack	1 3/32	5/16	improved/beryl outer cont.
4725	—	Teflon	plug-plug-plug	1 13/16	5/16	—
17450	—	Rexolite	jack-jack-jack	1 3/32	11/16	panel mt. mounting hole R
21900	—	Teflon	plug-jack-jack	1 13/32	3/8	—
27750	—	Teflon	plug-jack-plug	1 13/16	7/16	—
33725	—	Teflon	cable-plug-cable	1 3/4	5/16	RG-58/U cable/syn rubber clamps

FEMALE CAPS

31-210	282	1 1/16	1/2	3	improved
1550	—	5/8	7/16	—	shorting female contact
1750	—	25/32	5/16	—	—
2025	—	25/32	5/16	3 1/2	—
15300	—	25/32	5/16	—	shorting female contact

RESISTOR TERMINATED CAPS

Part No.	MX No.	Insulation	Dimensions, Inches Length	O.D.	Chain Length	Notes
4700 □	554 (100 OHM)	Rexolite	1 1/4	5/16	3 1/2	—
39575	554A	Teflon	1 1/4	5/16	3 1/2	100 ohm resistor
35650 □	—	Teflon	1 1/4	5/16	3 1/2	—
35725 □	—	Teflon	1 13/64	5/16	—	—
40750 □	—	Rexolite	1 5/64	5/16	—	—
46650	—	Teflon	1 1/2	5/16	—	51 or 75 ohm 1 watt resistor

□ To order without resistor, add 1 to part number; to order with resistor, add resistor value to part number. ½ watt 5% resistor values (ohms) stocked: 47, 51, 68, 75, 82, 91, 100, 120, 130, 150, 180, 240, 270, 300, 470, 510, 560, 680, 750, 820, 1000, 1500, 3900, 4700, 10000, 100000, 150000.

HOODS & ACCESSORIES

Part No.	MIL No.	Length Inches	Notes
HOODS			
10900	MX-195	7/8	RG-55, 58/U cable, square flange
10925	MX-367	7/8	RG-55, 62/U cable square flange
87175	MX-195A	13/16	RG-55, 58, 59, 62/U cables, plug-in
NUT STRAP			
1600	MT-412	3/4	4 holes with no. 4-40 NC-2B thds
SHIELD GROUNDING LUG			
31-759‡	—	25/32	used on front-mount receptacles

‡ ASTROplate® finish available, add -1050 to part number.

© United Technical Publications

TNC RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Threaded Coupling RF Connectors — TNC

TNC's were developed by Amphenol for aircraft, missile and other applications in which extreme vibration may be encountered. The TNC threaded coupling mechanism eliminates "rock" under vibration — a characteristic of bayonet coupled connectors such as BNC that introduces noise into the system and causes erratic performance. Other than coupling, TNC's are dimentionally and electrically similar to BNC, and have a constant impedance of 50 ohms.

Their rugged mechanical construction makes them an excellent choice for applications requiring a high degree of vibration.

ASTROplate® Finish Available

Amphenol's exclusive, non-tarnish finish is available from stock on most popular rf connectors. **(See part numbers marked with ‡; others available on special order.)** ASTROplate® is corrosion and abrasion resistant. Mates safely with silver; is equally solderable. **To order: add suffix 1050 to part number.**

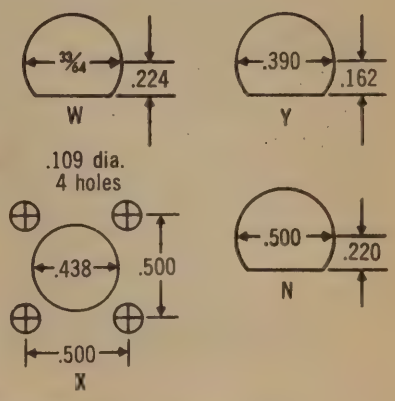
CHARACTERISTICS

MECHANICAL: Mating: 7/16-28 thread coupling.

ALL OTHERS: Similar to BNC

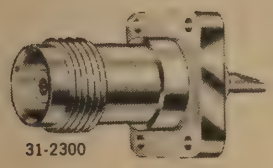
Notes: GC - Gold-plated Contact; PM - Polarized Male Contact; PF - Polarized Female Contact; BOC - Beryllium Outer Contact; SW - Holes for Safety Wiring; H - Hermetically Sealed; FM - Front Mounting; T - Teflon; GT - Glass Teflon; P - Plug; J - Jack.

MOUNTING HOLES





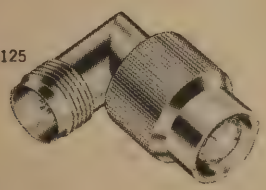
79525



31-2300



79500



79125

50 ohm impedance • male contacts • weatherproof

STRAIGHT PLUGS

For RG-/U Cable	No.*	Ins.	Notes	Lgth.
55, 58, 141, 142, 223	77175‡	T	BOC	1 1/8
	79050	T	PF, BOC	1 1/8
	79875	T		1 1/16
	76175	T	GC, SW, BOC	1 1/8
59, 62, 71, 140, 210	79475	T	PF, BOC	1 1/8
	79525	T		1 1/8
122, 195	79725	T	BOC	1 1/8
180	78625	T		1
	79375	T	BOC	1 1/8
174, 179, 187, 188	73475	T		1 1/16

ANGLE PLUGS

55, 58, 141, 142, 223	79075	T	BOC	1 1/8
	79550	T	BOC	1 3/16
59, 62, 71, 140, 210	79400	T	BOC	1 3/32

*Add—1000 to part number to order connectors with safety wiring holes.

STRAIGHT JACKS

55, 58, 141, 142, 223	79600	T	GC	1 1/4
59, 62, 71, 140, 210	79450	T	PM	1 7/64
180	77050	T		1 7/64

BULKHEAD JACKS (mounting hole W)

55, 58, 141, 142, 223	79425	T	GC	1 7/64
59, 62, 71, 140, 210	77350	GT	H	1 27/32
180	77100	T		1 1/32

‡ See note on ASTROplate® Finish

50 ohm impedance • female contacts non-weatherproof

PANEL RECEPTACLES (mounting hole X)

No.	Ins.	Notes	Lgth.
31-2300‡	T	GC	1 1/16
78200	T	GC, PM	1 1/16
79650	T	GC	1 5/32
79750	GT	GC, H	3/4

BULKHEAD RECEPTACLES (mounting hole Y)

31-2301‡	T	GC, FM	1 1/16
77300	T	GC, *FM	27/32
79775	T	GC, FM	1 7/64
79800	GT	H, FM	1 1/16

*Gold Plated

50 ohm impedance • non-weatherproof

ANGLE ADAPTERS

No.	Ins.	Adapter Ends	Lgth.
79125	T	PJ	1 1/32

BULKHEAD ADAPTERS (Hermetically Sealed)

79100	GT	JJ (Mtg Hole W)	1 13/32

TEE ADAPTERS

79700	T	JPJ	1 1/32

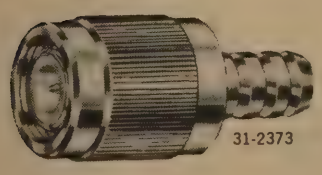
MALE CAPS non-weatherproof

No.	Lgth.
78750	3/8

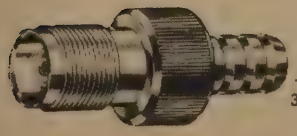
FEMALE CAPS

78400	37/64

MIL-Crimp TNC



31-2373



31-2375

STRAIGHT PLUGS

For RG-/U Cable	No.	MIL. No. M23329/	Ins.	Notes	Length
55, 142, 223	31-2373	4-02-04	T	GC	1 1/32
58, 141	31-2367	4-01-03	T	GC	1 1/32
59, 62, 140, 210	31-2368	4-05	T	GC	1 1/32
71	31-2369	—	T	GC	1 1/32
122	31-2371	—	T	GC	1 1/32
174, 188	31-2315	—	T	GC	1 1/32
179, 187	31-2242	—	T	GC	1 1/32
180, 195	31-2370	4-06	T	GC	1 1/32
Essex 21-597 or equiv.	31-2372	—	T	GC	1 1/32

STRAIGHT JACKS

55, 142, 223	31-2380	4-08	T	GC	1 3/8
58, 141	31-2374	4-07	T	GC	1 3/8
59, 62, 140, 210	31-2375	4-11	T	GC	1 3/8
71	31-2376	—	T	GC	1 3/8
122	31-2378	—	T	GC	1 3/8
179, 187	31-2244	—	T	GC	1 3/8
174, 188	31-2317	—	T	GC	1 3/8
180, 195	31-2377	4-12	T	GC	1 3/8
A 21-597	31-2379	—	T	GC	1 3/8

ANGLE PLUGS

For RG-/U Cable	No.	MIL. No. M23329/	Ins.	Notes	Length
55, 142, 223	31-2381	—	T	GC	1 3/16
58, 141	31-2382	—	T	GC	1 3/16
59, 62, 140, 210	31-2383	—	T	GC	1 3/16
71	31-2384	—	T	GC	1 3/16
122	31-2386	—	T	GC	1 3/16
179, 187	31-2243	—	T	GC	1 3/16
174, 188	31-2316	—	T	GC	1 3/16
180, 195	31-2385	—	T	GC	1 3/16
Essex 21-597 or equiv.	31-2387	—	T	GC	1 3/16

BULKHEAD JACKS (mounting hole N)

55, 142, 223	31-2388	4-14	T	GC	1 5/16
58, 141	31-2389	4-13	T	GC	1 5/16
59, 62, 140, 210	31-2390	4-17	T	GC	1 5/16
71	31-2391	—	T	GC	1 5/16
122	31-2393	—	T	GC	1 5/16
179, 187	31-2245	—	T	GC	1 5/16
174, 188	31-2318	—	T	GC	1 5/16
180, 195	31-2392	4-18	T	GC	1 5/16
Essex 21-597 or equiv.	31-2394	—	T	GC	1 5/16

© United Technical Publications

UHF RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series UHF

Series UHF are low-cost, general purpose connectors for use in a wide variety of lower frequency applications (up to 300 mc) where constant impedance is not necessarily required. Available in small and large body sizes, they have a peak voltage rating of 500 volts.

While most UHF connectors have conventional solder-type cable affixment, Quick-Crimp UHF feature Amphenol's patented hex crimp design which permits faster, easier and more reliable assembly.

The 83-850 and 83-851 plugs eliminate one or both of two common soldering operations in assembly. The 83-850 has completely solderless braid and contact assembly; the 83-851 has solderless braid assembly.

CHARACTERISTICS

ELECTRICAL: Impedance: non-constant. **Frequency range:** 0-300 MHz. **Voltage rating:** 500v. peak.

ENVIRONMENTAL: Thermal limits: Teflon: —67°F to 390°F; Rexolite and polystyrene: —67°F to 185°F; mica-filled Bakelite: —67°F to 300°F. **Non-weatherproof,** except as noted.

MECHANICAL: Mating: 5/8-24 thrd. coupling (small body), 1-20 thrd. coupling (large body). **Cable affixment:** braid solder, Quick Crimp or Solderless.

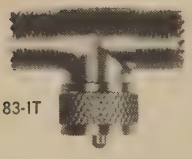
MATERIAL: Contacts: male: brass; female: beryllium copper. **Bodies:** die cast zinc or brass. **Plating:** .0002" silver min. **Insulators:** Teflon, Rexolite, polystyrene or mica-filled Bakelite.

OTHER DATA: small and large body types do not intermate. UHF connectors ordered will be small size body unless large is specified.

ASTROplate® Finish Available

Amphenol's exclusive, new non-tarnish finish is available from Distributor stock on all of our most popular rf connectors. **(See part numbers marked with ‡; other numbers are available on special order).** ASTROplate® is corrosion, heat and abrasion resistant. Mates with silver without danger of galvanic reaction; has equal solderability to silver's. **To order: add suffix 1050 to part numbers indicated below.**


83-ISP


83-IT


83-1J


83-1AP


83-1R


83-877


83-1AC


83-1BC


58000

non-constant impedance • male contacts
non-weatherproof
small body, except as noted

STRAIGHT PLUGS

For RG-/U Cable	MIL No.	No.	Ins.	Notes	Lgth.
8, 9, 11, 13,	PL-259	83-822 ‡	T		1½
63, 87, 149,	PL-259	83-ISP ‡	FB		1½
213, 214, 216,	PL-259A	83-756	T		1 5/16
225	PL-259A	83-ISPN ‡	FB		1 5/16
	—	83-ISP-1002	FB		1½
	—	83-851	FB	SBC	1 43/64
8, 11, 149, 213	—	83-87	B	QC	1 23/32
11, 149	—	83-850	FB	SC, SBC	1 43/64
17, 218	—	83-86	T		2 1/8
	—	10450	R		2 1/8
34	UG-358/U	83-21SP	FB	LB, W	1 13/16
55, 142, 223	—	83-90	B	QC	1 23/32
58, 141	UG-203/U	83-776	FB		1 5/16
	—	83-89	B	QC	1 23/32
59, 62, 71,	UG-111/U	83-750 ‡	FB		1 11/16
140, 210	—	83-88	B	QC	1 23/32

small body

ANGLE PLUGS

For RG-/U Cable	MIL No.	No.	Ins.	Notes	Lgth.
8, 9,11 13, 63	—	83-67	T		1 3/16
87, 149, 213, 214, 216, 225	—	83-59	PST		1 3/8

non-constant impedance
female contact • non-weatherproof
small body, except as noted

PANEL RECEPTACLES

MIL No.	No.	Ins.	Notes	Lgth.
SO-239	83-1R ‡	FB		1 1/16
SO-239A	83-798 ‡	T		1 1/16
UG-357/U	83-21R	FB	LB	1 3/4
—	83-716	C	Pressurized	1 3/16
—	83-876	B	—	1 1/16
—	83-878 ‡	—	Single Hole	—

small body

BULKHEAD RECEPTACLES

UG-266/U	4575	R	Pressurized	1 13/32
—	83-875	R, T	FM	1 3/32
—	74525	GT	H, RM	1 13/32
—	83-875-1002	RT	FM	1 3/32

‡ ASTROplate® finish available, add -1050 to part number.

non-constant impedance • non-weatherproof
small body, except as noted
adapter ends are Jack-Jack

STRAIGHT ADAPTERS

UG-/U No.	No.	Ins.	Notes	Lgth.
224	29500	R		1 3/8
PL-258	83-1J ‡	PST		1 1/8
360	83-21J	PST	LB	1 1/8
363	83-1F ‡	PST		2
—	11850	T		1 1/8
—	13725	T		1 3/8
—	83-877 ‡	—	Plug/Plug	—

small body

ANGLE ADAPTERS

MIL No.	No.	Ins.	Adapter Ends	Lgth.
M-359A	83-58	PST	JP	1 27/32
UG-646/U	83-1AP ‡	PST	PJ	1 9/32

small body

TEE ADAPTERS

M-358	83-1T ‡	PST	JPJ	1 5/8

small body

REDUCING ADAPTERS

For RG-/U Cable	UG-/U No.	No.	Length
55, 58, 141, 142	175	83-185 ‡	1
59, 62, 71, 140, 210	176	83-168 ‡	1

non-weatherproof • small body

HOODS

For RG-/U Cable	MIL No.	No.	Lgth.
8, 9, 10, 11, 12,	MX-543	5475	1
63, 79, 87, 115,	UG-106/U	83-1H ‡	3/4
149, 213, 215	UG-372/U	83-1HP	7/8
58, 141	UG-177/U	83-765 ‡	3/4
55, 59, 140, 142, 223	MX-539	5375	1

weatherproof • small body

MALE CAPS

No.	Length
83-1AC ‡	15/32

FEMALE CAPS

83-1BC	1 1/16

non-weatherproof • male contact

BINDING POST

UG-/U No.	No.	Ins.	Length
332	58000	R	1 7/8

NOTES: B — Bakelite; C — Ceramic; FB — Filled Bakelite; FM — Front Mounted; G — Glass; H — Hermetic Sealed; J — Jack; LB — Large Body; P — Plug; PST —

© United Technical Publications

SERIES "C" RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series C

Constant 50-ohm impedance C series connectors are design-matched to 50-ohm cables. They may be used with 75-ohm cable, at lower frequencies (below 300 MHz) where the connector introduces no serious mismatch. Standard connectors have a peak voltage rating of 1500 volts and provide low SWR up to 10 GHz; 4000-volt units are also available with good performance up to 2 GHz. The improved cable clamp provides excellent cable grip and weatherproof seal with a minimum of cable indentation; it utilizes a "V" groove split silicone rubber gasket and peaked braid clam. Accessory Clamping Adapter Kits are available for metal jacketed cables (AK). For armored cables, see armor clamp (AC).

ASTROplate® finish available, add -1050 to part number.

CHARACTERISTICS

ELECTRICAL: Impedance: 50 ohm constant. **Frequency Range:** 0-10 GHz, 1,500 volt type; 0-2 GHz, 4,000 volt type. **Voltage Rating:** 1,500 volts peak—standard; 4,000 volts peak as noted. **Dielectric Withstanding Voltage:** 3,000 volts RMS, 1,500 volt type; 6,000 volts RMS, 4,000 volt type. **SWR:** 1.25.

ENVIRONMENTAL: Thermal Limits: —67° to 390°F (—55° to 199°C). **Weatherproof:** except as noted, all C Series connectors are Weatherproof. **Hermetic Seals:** pass helium leak test of 2×10^{-8} cc/sec. **Pressurized:** compression seal.

MECHANICAL: Mating: 2-stud bay net lock. **Cable Affixment:** Improved: screw-thread nut and braid clamp.

MATERIAL: Contacts: male: brass; female and outer: beryllium copper. **Other Metal Parts:** brass. **Plating:** .0002" silver min. **Insulators:** Teflon, glass-Teflon (herm. sealed). **Weatherproof Gaskets:** silicone rubber.

MILITARY SPECIFICATIONS: Meet applicable sections of MIL-C-3989.

50 ohm impedance • male contacts
weatherproof

STRAIGHT PLUGS

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lght.
5, 21, 143, 212, 222	626A	80025	T		1 31/64
8, 9, 87, 213, 214, 225	573A	82-530	T	AK	1 31/64
	573B	28650	T	AK	1 31/64
	628A	82-532	T	4000, AK	1 3/4
	—	79150	T	4000*	1 3/4
10, 12, 116, 215, 227	943A	82-538	T	AC, AK	2 1/8
14, 217	707A	82-533	T		1 3/16
17, 218	708A	80075	T		2 5/32
55, 58, 141, 142, 223	709A	82-534	T		1 3/8
59, 62, 71, 140, 210	—	81650	T	4000	1 3/16
	—	80375	T	4000	1 3/16
	627A	82-548	T		1 11/32
63, 114	—	80300	T		1 31/64
117, 118	711A	80200	T		2 5/32

* Polarized Female Contact

ANGLE PLUGS

8, 9, 87, 213, 214, 225	710A	82-531	T		1 3/8
55, 58, 141 142, 223	—	80775	T		1 5/16

female contacts • 50 ohm impedance
weatherproof

PANEL RECEPTACLES

UG-/U No.	No.	Ins.	Notes	Lgth.
568	82-504	T		1 3/32
—	82275	T		1 3/16

BULKHEAD RECEPTACLES (rear mtd.)

569	82-505	T		1 3/32
634	82-515	T	4000	1 3/16
705	82-511	GT	Hermetic	1 7/16
706	82125	T	Front Mt.	1 3/32

male contact • weatherproof

RESISTOR TERMINATED CAP

MX No.	No.	Notes	Length
—	83925	*	1 5/16

* Add resistor value (ohms) to part no. when ordering: 47, 51, 75, 82, 91, 100, 120, 130, 150, 180, 240, 270, 300, 470, 510, 560, 680, 750, 820, 1000, 1500, 3900, 4700, 10000, 150000.

MALE CAPS weatherproof

1142	82-512	—	31/64
—	83675	*	7/8

FEMALE CAPS

1143	82-513	—	27/32
—	83700	**	1 3/16

* Shorting Male Contact
** Shorting Female Contact

STRAIGHT JACKS

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lght.
8, 9, 87, 213, 214, 225	572	82-503	T		1 13/32
55, 58, 141, 142, 223	—	81575	T		1 1/4
59, 62, 71, 140, 210	—	81550	T		1 1/4

BULKHEAD JACKS (Rear Mtd.)

8, 9, 87, 213, 214, 225	570	82-502	T	AK	1 13/32
	570A	82-614	T		1 13/32
	632	82-521	T	4000, AK	1 11/16
10, 12, 116, 215, 227	937	82-522	T		2
55, 58, 141, 142	704	81175	T		1 1/4
	704A	74475	T	Ft. Mt.	1 1/4
	—	81425	gT	Herm.	1 3/8
	—	81400	T		1 1/4
59, 62, 71, 140, 210	—	81600	T	Ft. Mt., 4000	1 13/32

PANEL JACKS (rear mtd.)

8, 9, 87, 213, 214, 225	571	82-501	T	AK	1 13/32
10, 12, 116, 215, 227	938	82-523	T	AC, AK	2
	—	81275	T		2
55, 58, 141, 142	—	74675	T	Ft. Mt.	1 1/4
	—	81150	T		1 1/4
59, 62, 71, 140, 210	—	81100	T	Ft. Mt.	1 1/4

50 ohm impedance • weatherproof

STRAIGHT ADAPTERS

UG-/U No.	No.	Ins.	Adapter Ends	Notes	Lgth.
642A	83150	T	PP		1 29/64
643	82-514	T	JJ	Non-W	1 9/32

ANGLE ADAPTERS (Non-weatherproof)

567A	82-535	T	JP	Non-W	1 1/4

TEE ADAPTERS

566A	82-536	T	JPJ		1 33/64
—	83525	T	CJC	RG-13/U	2 3/4

BULKHEAD ADAPTERS (Hermetic Sealed)

701	83050	GT	JJ		1 5/16
—	82250	GT	JJ	4000	2 1/32

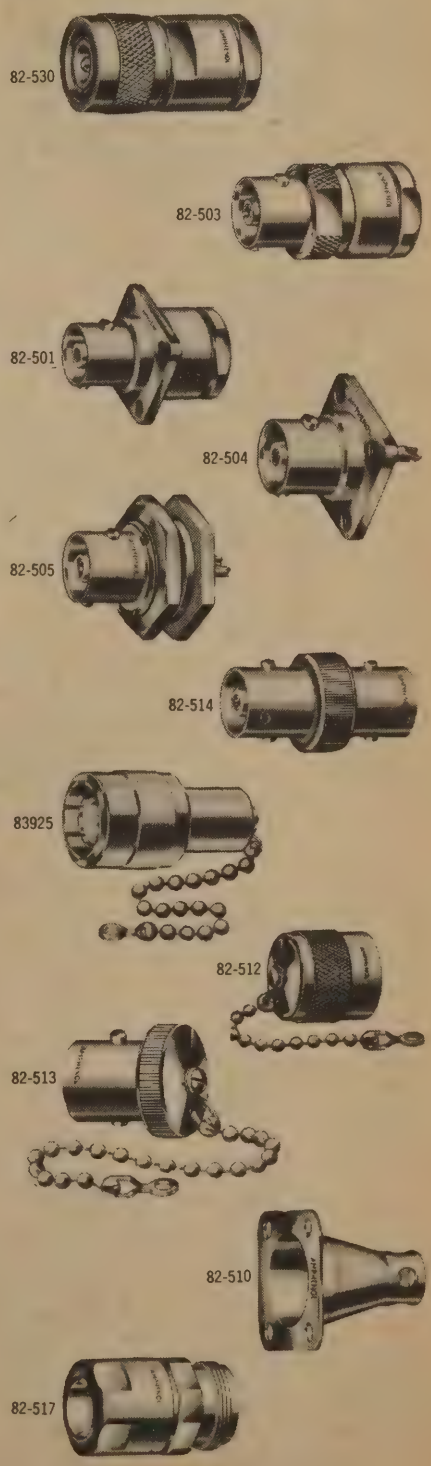
weatherproof • improved N type

ARMOR CLAMPS

For RG-/U Cable	MX No.	No.	Length
10, 12, 79, 116, 215, 227	1286	82-517	1 1/8
18, 219	1441	92100	1 3/8
74, 224	1462	16850	1 3/16

HOODS non-weatherproof

MX No.	No.	Notes	Length
—	82-510	—	3/4



Polystyrene; QC — Quick Crimp; R — Rexolite; RM — Rear Mounted; SBC — Solderless Braid Clamp; SC — Solderless Contact; T — Teflon; W — Weatherproof.

© United Technical Publications

TYPE "N" RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

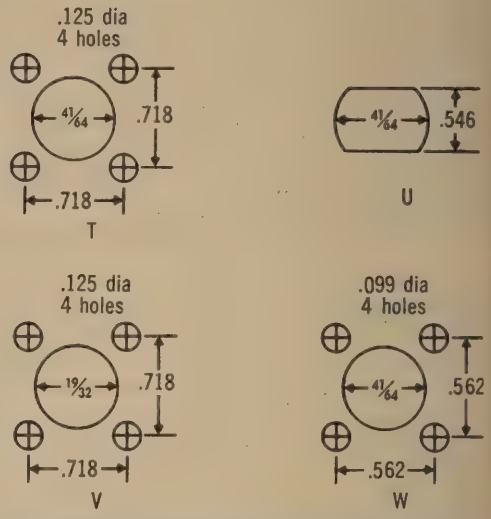
Series N

Medium-size, weatherproof, threaded coupling units that may be used in systems up to microwave. This series was the original microwave connector developed during World War II and SWR is consistently low across this broad frequency spectrum. Available in Regular, Improved and Improved/Captivated Contact constructions and have the MIL-Crimp/MIL-Clamp designs to MIL-C-39012. For further information, request Coaxial Connectors Catalog CC-7, or contact your distributor.

ASTROplate® Finish Available

Amphenol's exclusive, non-tarnish finish is available from stock on most popular rf connectors. **(See part numbers marked with ‡; others available on special order.)** ASTROplate® is corrosion and abrasion and heat resistant. Mates safely with silver; has equal solderability. **To order: add suffix 1050 to part number.**

MOUNTING HOLES



CHARACTERISTICS

ELECTRICAL: Impedance: as noted, 50 or 70 ohms. **Frequency Range:** 0-11 GHz. **Voltage Rating:** 1,500 volts peak. **Dielectric Withstanding Voltage:** 2,500 volts rms. **SWR:** MIL-Crimp/MIL-Clamp: 1-15 (solder) 1.35 per spec; others; 1.25. **Other:** contact resistance 1.0 mv, RF leakage −90db, insertion loss .15 db, insulation resistance 5,000 megohms.

ENVIRONMENTAL: Thermal Limits: Teflon: —67°F to 390°F (—55° to 199°C); Rexolite: —67°F to 185°F (—55° to 85°C). **Weatherproof:** all Series N with gaskets are weatherproof. **Hermetic Seals:** pass helium leak test of 2 x 10^{-8} cc/sec. **Pressurized:** compression seal. **Shock:** MIL-Std. 202 method 202. **Vibration:** MIL-Std. 202 method 204 (test cond. B). **Moisture Resistance:** MIL-Std. 202 method 106. **Corrosion:** MIL-Std. 202 method 101 (test cond. B). **Temperature:** MIL-Std. 202 method 102 (test cond. C). **Altitude:** MIL-Std. 202 method 105 (test cond. C).

MECHANICAL: Mating: 5/8-24 threaded coupling. **Cable Affixment (Braid or Jacket):** MIL-Crimp: hex crimp; all others: screw-thread nut and braid clamp. **Cable Affixment (Center Conductor):** MIL-Crimp/MIL-Clamp: 4 indent crimp, hex crimp or solder. All others: solder. **Captivated Contact:** all MIL-Crimp/MIL-Clamp; others, where specified. **Cable Retention:** MIL-Crimp/MIL-Clamp 90-120 lbs. (70 lb. per MIL-Spec). All others 30-70 lbs.

MATERIAL: Contacts: male: brass; female: MIL-Crimp/MIL-Clamp phosphor bronze; all others: beryllium copper; Outer: MIL-Crimp/MIL-Clamp. Improved phosphor bronze, all others: brass or phosphor bronze. **Other Metal Parts:** brass. **Plating:** center contacts, MIL-Crimp/MIL-Clamp: .0001" gold over .0001" copper, all other: .0002" silver. **Insulators:** Teflon (all MIL-Crimp/MIL-Clamp) Rexolite, glass-Teflon (herm. seal). **Weatherproof Gaskets:** silicone rubber (all MIL-Clamp) synthetic rubber. **Crimp Ferrule:** copper.

MILITARY SPECIFICATIONS: MIL-Crimp: MIL-C-39012A Category C. MIL-Clamp & UG-Clamp: MIL-C-39012A Category A. All others: MIL-C-71B where applicable.

MIL-Crimp N

weatherproof • captivated center contact
50 ohms impedance • male contacts


82-340


82-349


82-343


82-337


82-346

STRAIGHT PLUGS

For RG-/U Cable	Part No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-4341	01-0016	—	T	1 29/64
8, 213	82-4340	01-0017	—	T	1 29/64
9, 214	82-4332	01-0018	—	T	1 29/64
11, 149	82-342	—	1695	T	1 31/64
55, 142, 223	82-5370	—	—	T	1 31/64
58, 141	82-5375	—	—	T	1 31/64
59, 62, 71, 140, 210	82-5380	—	—	T	1 31/64

ANGLE PLUGS

5, 21, 143, 212, 222	82-5350	—	—	T	1 3/16
8, 213	82-4349	05-0004	—	T	1 3/16
9, 214	82-4336	05-0005	—	T	1 3/16
11, 149	82-5351	—	—	T	1 3/16
55, 142, 223	82-5374	—	—	T	1 3/16
58, 141	82-5379	—	—	T	1 3/16

female contacts

STRAIGHT JACKS

5, 21, 143, 212, 222	82-338	—	1687	T	1 3/16
8, 213	82-4337	02-0020	—	T	1 17/32
9, 214	82-4333	02-0021	—	T	1 17/32
11, 149	82-339	—	1694	T	1 3/16
55, 142, 223	82-5371	—	—	T	1 3/16
58, 141	82-5376	—	—	T	1 3/16

PANEL JACKS (mounting hole T)

5, 21, 143, 212, 222	82-344	—	1696	T	1 3/16
8, 213	82-4343	02-0028	—	T	1 17/32
9, 214	82-4334	02-0029	—	T	1 17/32
11, 149	82-5345	—	—	T	1 3/16
55, 142, 223	82-5372	—	—	T	1 3/16
58, 141	82-5377	—	—	T	1 3/16

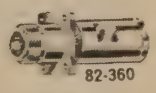
BULKHEAD JACKS (mounting hole U)

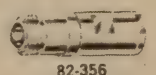
5, 21, 143, 212, 222	82-347	—	1699	T	1 27/32
8, 213	82-4346	03-0014	—	T	1 15/64
9, 214	82-4335	03-0015	—	T	1 15/64
11, 149	82-348	—	1706	T	1 27/32
55, 142, 223	82-5373	—	—	T	1 27/32
58, 141	82-5378	—	—	T	1 27/32

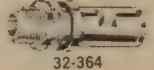
MIL-Clamp N

weatherproof • captivated center contact
50 ohm impedance • male contacts


82-357


82-360


82-356


32-364

STRAIGHT PLUGS

For RG-/U Cable	Part No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-354	—	18F	T	1 25/32
8, 9, 213, 214	82-352	01-0005	—	T	1 25/32
	82-352-1	01-0002	—	T	1 25/32
8, 9, 213, 214, 225	82-4352-1	01-0002	UG-Clamp	T	1 35/64
	82-4352	01-0005	UG-Clamp	T	1 35/64
11, 13, 149, 216	82-5355	—	—	T	1 25/32
55, 58, 141, 142, 223	82-5381	—	—	T	1 25/32
59, 62, 71, 140, 210	82-5386	—	—	T	1 25/32

ANGLE PLUGS

5, 21, 143, 212, 222	82-5361	—	—	T	1 1/2
8, 9, 213, 214	82-357	05-0001	—	T	1 1/2
8, 9, 87, 213, 214, 225	82-4357	05-0001	UG-Clamp	T	1 35/64
11, 13, 149, 216	82-5353	—	—	T	1 1/2
55, 58, 141, 142, 223	82-5385	—	—	T	1 1/2

female contacts

STRAIGHT JACKS

5, 21, 143, 212, 222	82-358	—	20F	T	1 7/8
8, 9, 213, 214	82-356	02-0003	—	T	1 7/8
	82-356-1	02-0002	—	T	1 7/8
8, 9, 87, 213, 214, 225	82-4356-1	02-0002	UG-Clamp	T	1 39/64
	82-4356	02-0003	UG-Clamp	T	1 39/64
11, 13, 149, 216	82-5359	—	—	T	1 7/8
55, 58, 141, 142, 223	82-5382	—	—	T	1 7/8

PANEL JACKS (mounting hole T)

5, 21, 143, 212, 222	82-362	—	19F	T	1 17/32
8, 9, 213, 214	82-360	02-0006	—	T	1 17/32
	82-360-1	02-0005	—	T	1 17/32
8, 9, 87, 213, 214, 225	82-4360-1	02-0005	UG-Clamp	T	1 39/64
	82-4360	02-0006	UG-Clamp	T	1 39/64
11, 13, 149, 216	82-5363	—	—	T	1 17/32
55, 58, 141, 142, 223	82-5383	—	—	T	1 17/32

BULKHEAD JACKS (mounting hole U)

5, 21, 143, 212, 222	82-366	—	159D	T	1 51/64
8, 9, 213, 214	82-364	03-0002	—	T	1 51/64
8, 9, 87, 213, 214, 225	82-4364	03-0002	UG-Clamp	T	1 51/64
11, 13, 149, 216	82-5365	—	—	T	1 51/64
55, 58, 141, 142, 223	82-5384	—	—	T	1 51/64

SERIES N CONTINUED

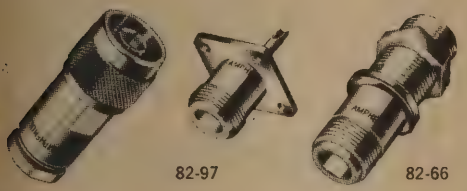
NOTES: AC — Armored Clamp; AK — Adapter Kit; CC — Captivated Contact; FM — Front Mounted; I — Improved Construction; SW — Safety Wire Holes; H — Hermetic

© United Technical Publications

TYPE "N" RF COAXIAL CONNECTORS

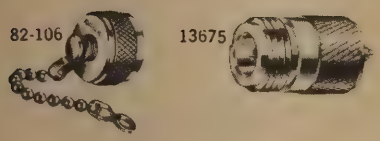
BUNKER RAMO AMPHENOL

Standard Type N



82-97 82-66

82-86



82-106 13675



male contacts • weatherproof

STRAIGHT PLUGS

For RG-/U Cable	UG-/U No.	Part No.	Imp. Ohms.	Ins.	Notes	Lgth.
5, 21, 143 212, 222	18	3400	50	R	Non-W	2
	18B	82-86	50	T		1⅛
	18C	82-203	50	T	I	1½
	18D	82-3203	50	T	I, SW	1½
6	91A	7200	70	T		1¾
8, 9, 213, 214	21	3900	50	R		2
8, 9, 87, 213, 214, 225	21B	82-61‡	50	T	AK	1⅛
	21C	82-96	50	T	AK	1⅛
	21D	82-202‡	50	T	I, SW, AK	1½
	21E	82-3202	50	T	I, SW, AK	1½
	1185	82-312	50	T	I, CC, AK	1½
	1185A	82-3312	50	T	I, CC, AK	1½
10, 12, 116, 215, 227	941A	82-204	50	T	I, AC, AK	2⅛
	941B	82-3204	50	T	I, AC, AK	2⅛
11, 13. 149, 216	94A	82-84	70	T	AK	1⅞
	—	91150	75	T	I	1½
14, 217	204A	82-105	50	R		2
	204C	82-214	50	T	I	1²¹⁄₃₂
17, 218	167A	82-104	50	T		2⅜
	167D	82-215	50	T	I, SW	2⅛
	167F	82-3215	50	T	I, SW	2⅛
18, 219	982	92125	50	T	I	3
55, 58, 141, 142	188	23250	50	R	Non-W	1¾
	536	34000‡	50	R		2⅛
	536B	24025‡	50	T	I	1⅜
35	—	82-113	70	T		2⅜
59, 62, 71, 140, 210	603	34500	50	R		1²⁵⁄₃₂
	603A	34525	50	T	I	1⅜
	—	34750	70	T	I	1⅝
	—	91300	70	T	I	1⅞
63, 114	1003	12400	50	T		1¾

ANGLE PLUGS

5, 21, 143, 212, 222	—	15950	50	T	I	1⅜
8, 9, 87, 213, 214, 225	594A	15425	50	T		1¼
	—	82-326	50	T	I, CC	1¹³⁄₆₄
	—	82-835	50	T		1¾
	—	6875	50	T		1⅝
	—	15975	50	T	I	1³⁄₃₂
11, 13, 149, 216	—	17025	70	T		1⅝

ANGLE PLUGS CONTINUED

For RG-/U Cable	UG-/U No.	Part No.	Imp. Ohms.	Ins.	Notes	Lgth.
55, 58, 141, 142	—	18750	50	T		1⅝
59, 62, 71, 140, 210	—	19250	50	T		1⅝

female contacts • weatherproof

STRAIGHT JACKS

5, 21, 143, 212, 222	20	42000	50	R		2
	20B	82-88	50	T		1¹⁵⁄₁₆
	20C	82-210	50	T	I	1⅞
	20D	82-3210	50	T	I	1⅞
6	92A	7700	70	T		1⅞
	—	91225	75	T	I	1⅞
8, 9, 213, 214	23	48000	50	R	Non-W	2
8, 9, 87, 213, 214, 225	23A	7600	50	R		1⅞
	23B	82-63	50	T		1¹⁵⁄₁₆
	23C	82-94	50	T	I	1¹³⁄₁₆
	23D	82-209	50	T	I	1⅞
	23E	82-3209	50	T	I	1⅞
	1186	82-313	50	T	I, CC	1⅞
10, 12, 116, 215, 227	940A	82-212	50	T	I, AC	2¼
	940B	82-3212	50	T	I, AC	2¼
11, 13, 149, 216	95A	82-89	70	T		1¹⁵⁄₁₆
17	—	14850	50	T		2³⁄₁₆
55, 58, 141 142	—	35000	50	R		1¹³⁄₁₆
	—	35025	50	T	I	1½
59, 62, 71, 140, 210	602	36500	50	R		1⅝

PANEL JACKS (mounting hole T)

5, 21, 143, 212, 222	19	3500	50	R		2
	19B	82-87	50	T		1¹³⁄₁₆
	19C	82-207	50	T		1⅞
	19D	82-3207	50	T	I	1⅞
6	93A	7800	70	T		1⅞
8, 9, 87, 213, 214, 225	22B	82-62	50	T		1¹³⁄₁₆
	22C	82-95	50	T		1¹³⁄₁₆
	22D	82-208	50	T		1⅞
	22E		50	T	I	1⅞
	1187	82-314	50	T	I, CC	1⅞
10, 12, 116, 215, 227	935A	82-211	50	T	I	2¼
	935B	82-3211	50	T	I	2¼
11, 13, 149, 216	96A	82-90	70	T		1¹³⁄₁₆
55, 58, 141, 142	1052	36000	50	R		1¹³⁄₁₆
55, 58, 141, 142, 223	1095A	36250	50	T	I	1½
59, 62, 71, 140, 210	593	35500	50	R		1¹³⁄₁₆
	—	35550	70	T		1¹³⁄₁₆
	—	91250	70	T	I	1½

BULKHEAD JACKS (mounting hole U)

5, 21, 143, 212, 222	159B	15550	50	T	I	1¾
8, 9, 87, 213, 214, 225	160A	82-67	50	T		1¹³⁄₁₆
	160B	82-93	50	T		1¹³⁄₁₆
	160D	91025	50	T	I	1¾
8, 9, 213, 214	—	23025	50	gT	H	2⁵⁄₃₂
55, 58, 141, 142	556	35250	50	T		1¹³⁄₁₆
55, 58, 141, 142, 223	556B	35275	50	T	I	1⁴³⁄₆₄
59, 62, 71, 140, 210	—	18250	50	R		1²⁷⁄₃₂

male • male contact • weatherproof

PANEL RECEPTACLES (mounting hole V)

UG-/U No.	Part No.	Imp. Ohms	Ins.	Notes	Lgth.
—	49000	50	R	FM	1³⁄₃₂

PANEL RECEPTACLES (mounting hole T)

female • female contacts • weatherproof

UG-/U No.	Part No.	Imp. Ohms	Ins.	Notes	Lgth.
58	82-24‡	50	T		1⁷⁄₆₄
58A	82-97‡	50	T		1⁷⁄₆₄
—	82-368	50	T	M39012/ 04-0002	1⁷⁄₆₄
231	2750	50	R	RG-58/U	1¾
—	82-112	70	T		1⁷⁄₆₄
—	9575	50	T	(Mtg Hole W)	1⁷⁄₆₄

BULKHEAD RECEPTACLES (mtg hole U)

680	82-811	50	GT	H, FM	1³⁷⁄₆₄
—	82-369	50	G	M39012/ 04-0001	1³⁷⁄₆₄
—	13275	50	gT	H, FM	1⅜
—	31150	50	T	W, FM	1¹⁵⁄₃₂
—	19550	50	GT	H, FM	1⁷⁄₁₆

ANGLE RECEPTACLES (mounting hole V)

997A	8975	50	T		1⁷⁄₈
—	23775	50	T		1⁷⁄₁₆

weatherproof

STRAIGHT ADAPTERS

UG-/U No.	Part No.	Imp. Ohms.	Ins.	Notes	Adapter Ends	Lgth.
29	15000	50	R		JJ	1¾
29A	82-65	50	T		JJ	1¾
29B	82-101	50	T		JJ	1¾
57A	45250	50	T		PP	1¹³⁄₃₂
57B	82-100‡	50	T		PP	1¹³⁄₃₂
—	17075	70	T		PP	1¹³⁄₃₂
—	21650	70	T		JJ	1¾

ANGLE ADAPTERS

27A	82-64	50	T		JP	1⁷⁄₁₆
27B	82-98	50	T		JP	1¹³⁄₃₂
27C	82-213	50	T		JP	1⁵⁄₁₆

BULKHEAD ADAPTERS (mounting hole U)

30	82-66	50	R	P	JJ	1⅝
30C	82-201	50	G	H	JJ	1¾
30D	91100	50	G	H	JJ	1¹⁷⁄₃₂
—	82-849	50	T	P	JJ	1⅝
—	90950	50	G	H	JJ	1¹⁵⁄₁₆

EXCEPTION: 82-201 mounts in .630 dia. hole.

TEE ADAPTERS

28A	82-99	50	T		JJJ	1¾
107	4800	50	R		JPJ	3
107A	82-36	50	T		JPJ	2
107B	82-102	50	T		JPJ	1¾
—	4850	50	R		PPP	3½

CROSS ADAPTERS

—	17125	50	T		JJJJ	2¼

weatherproof

MALE CAPS

MX No.	Part No.	Notes	Length
913	82-106‡		5⁄16
—	9225		7⁄16
—	13700	SMC	27⁄32
—	18575		5⁄16

FEMALE CAPS

—	6950		31⁄32
—	13675	SFC	1

non-weatherproof

ARMOR CLAMPS

For RG-/U Cable	MX No.	Part No.	Notes	Lgth.
10, 12, 79, 116, 215, 227	564	82-48	N or HN	⅞
	564A	82-109	N or HN	1¹⁄₁₆
	25-0013	82-3517	I	1⅛
18, 219	25-0014	99175	I	1⅜
74, 224	1462	16850	I, W	1³⁄₁₆

‡ See note on ASTROplate® Finish

Sealed; P — Pressurized; SMC — Shorting Male Contact; SFC — Shorting Female Contact.

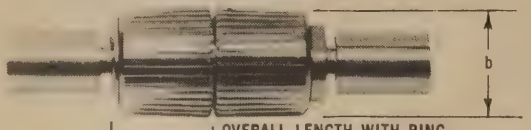
© United Technical Publications

PRECISION RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series 131 Precision 7mm Connectors TWO DISTINCTLY DIFFERENT LINES

— APC-7 with sexless coupling



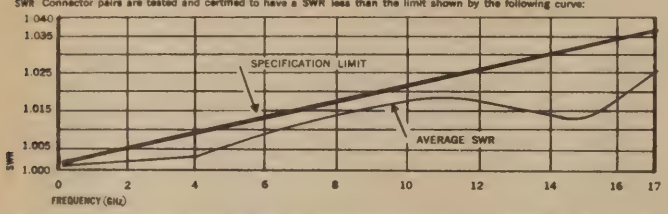
APC-7. Precision 50-ohm connector for use with 7mm (inner diameter of outer conductor) rigid air line and semi-rigid (ALJAK) coaxial cable.

Sexless coupling permits interconnection of any two APC-7's. Identical plane of electrical and mechanical contact permits accurate determination of the electrical length of a mated pair or of an air line assembly with a connector at each end. All components held captive.

Connectors packaged in pairs in protective wooden box; assembly instructions and certified SWR test report included with each pair.

Specially designed for microwave and precision test equipment — Component manufacturers now using APC-7 fittings include: Alford, Alfred, EG&G, Hewlett-Packard, Maury Microwave, Microlab/FXR, Narda, PRD, Rantec, and Weinschel Engineering.

SWR Connector pairs are tested and certified to have a SWR less than the limit shown by the following curve:



CHARACTERISTICS (TYPICAL)

ELECTRICAL (for mated pair): **Impedance:** 50 ohm ±0.1 ohms. **Frequency Range:** 0-18 GHz. **SWR:** 1.039 max. to 18 GHz. **Insertion loss (in db):** $< 7 \times 10^{-3} \sqrt{\text{Freq. GHz}}$ (example: 0.028 db at 16.0 GHz). **RF Leakage:** < signal inside coaxial line by ratio > 120 db▲. **Electrical length:** 0.723 ±0.001 inches (1.836 ±.00254 cm). **Contact Resistance:** inner: < 1.0 milliohm, outer: < 0.1 milliohm.

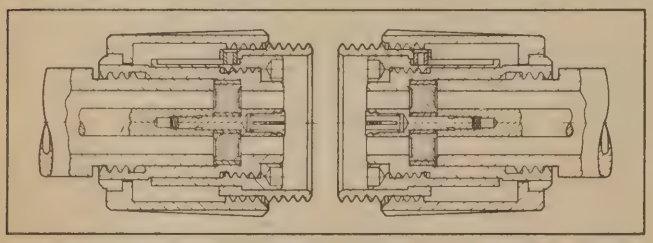
▲ RF leakage: Until satisfactory test methods are developed, the maximum frequency of measurement is limited to 6.0 GHz.

ENVIRONMENTAL: **Thermal Limits:** storage: −67° to 158°F (−55° to 70°C) operating: 55° to 91°F (13° to 33°C). **Humidity:** 20 to 80% RH. **Pressure:** 590 to 780 mm Hg. MECHANICAL: **Mating:** sexless, coplanar by means of threaded ring housed within coupling nut. **Life:** > 5000 connect/disconnect operations. MATERIAL: **Coupling Mechanism:** stainless steel. **Body:** gold plated beryllium copper. **Center Contact:** gold plated beryllium copper. **Bead Assembly:** Rexolite insulation.

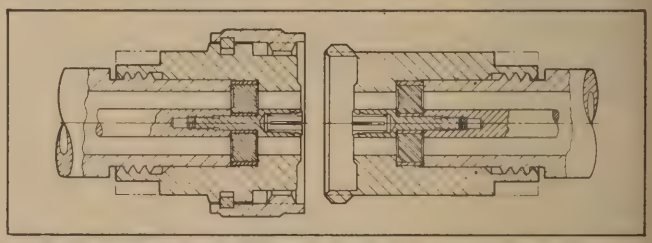
For use with	APC-7 Maximum SWR for a mated pair	(13/16" max. dia.) (b) Part No.	Lgth. (in.) (a)
7mm Air Line	1.039 to 18 GHz	131-1050	5/64
131-182 (.325 dia. semi-rigid Aljak)	1.10 to 12.4 GHz	131-1019	1 3/64
.250 dia. Cujak cable	1.10 to 12.4 GHz 1.13 to 18 GHz	131-10020	1 1/64
RG-214/U	1.15 to 12.4 GHz Crimp	131-1031	2/32
	1.15 to 12.4 GHz Clamp	131-1032	2 1/32

TOOL KIT 131-2025

For disassembly; assembly to air line. Contains collet extractor, spanner wrench, torque wrench & line wrench.



APC-7 components. Both connectors are identical and completely sexless.



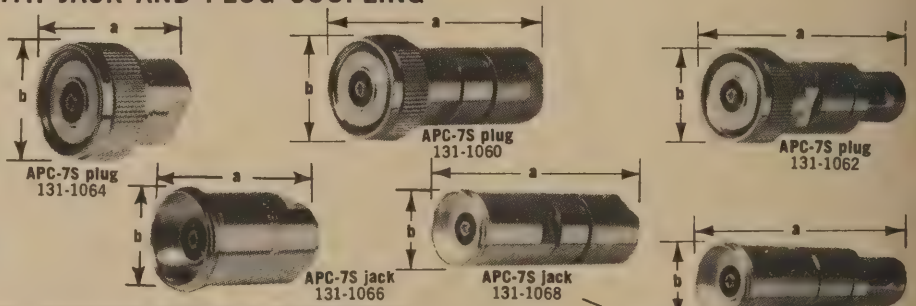
APC-7S components. Center contact, sexless; female threads on Jack; male coupling ring on Plug.

— APC-7S Economy Family WITH JACK AND PLUG COUPLING

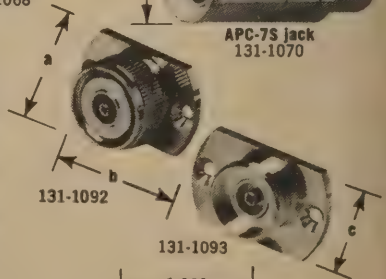
APC-7S, the newest addition to Amphenol's expanding precision connector family was created to meet the need for an economical but equally reliable precision connector. Except for the coupling mechanism all other characteristics are identical to APC-7. Performance is equal, yet APC-7S costs almost two-thirds less than the original precision 7mm connector.

CHARACTERISTICS (Same as APC-7) except:)

MECHANICAL: Mating: 11/16-24 threaded coupling. APC-7S plus and jacks also mate with APC-7 connectors. **MATERIAL:** Same as APC-7 except: Coupling nut: nickel plated brass.

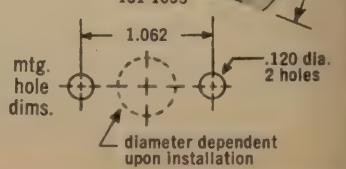


For use with	APC-7S Maximum SWR for a mated pair	Plugs (13/16" max. dia.) (b) Part No.	Plugs Lgth. (in.) (a)	Jacks (11/16" max. dia.) (b) Part No.	Jacks Lgth. (in.) (a)
7mm Air Line	1.039 to 18 GHz	131-1064	13/16	131-1066	15/16
131-182 (.325 dia. semi-rigid Aljak)	1.10 to 12.4 GHz	131-1060	1 53/64	131-1062	1 29/64
.250 dia. Cujak cable	1.10 to 12.4 GHz 1.13 to 18 GHz	131-10024	1 15/16	131-10025	2 1/32
RG-214/U	1.150 to 12.4 GHz Crimp	131-1068	2 7/64	131-1070	2 3/32
	Clamp	131-1072	2 1/32	131-1073	2 1/16



PANEL RECEPTACLES

Configuration	Maximum SWR for a mated pair	Part No.	Dimensions a	b	c
Plug	1.039 to 18 GHz	131-1092	13/16	15/16	13/16
Jack	1.039 to 18 GHz	131-1093	5/16	15/16	13/16

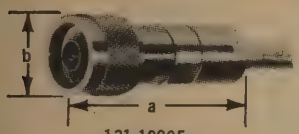


© United Technical Publications

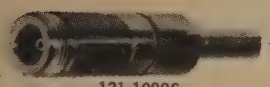
PRECISION N AND SMA RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series 131 Precision N Connectors — APC-N

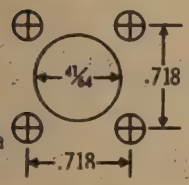


131-10005

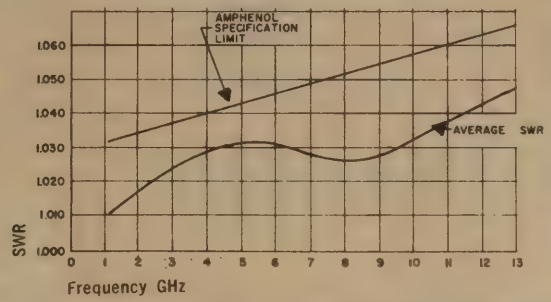

131-10006


131-10003


131-10004



APC-N, 50-ohm connectors. Use interchangeably with APC-7; mate with all other type N's. Their excellent electrical performance will make them an "industry standard" for future equipment. SWR for mated pairs: only 1.06 through 12 GHz; 1.08 through 18 GHz.



CHARACTERISTICS (TYPICAL)

ELECTRICAL (for mated pair APC-N connectors). **Impedance:** 50 ohm ±0.2 ohms. **Frequency Range:** 0-18 GHz. **SWR:** 1.08 max. to 18 GHz. **Insertion Loss (in db):** $< 3 \times 10^{-2} \sqrt{\text{Freq. GHz}}$. **RF Leakage:** < signal inside coaxial line by ratio > 90 db▲. **Contact Resistance:** inner: < 1.0 milliohm; outer: < 1.1 milliohm.

▲**RF Leakage:** Until satisfactory test methods are developed, the maximum frequency of measurement is limited to 6.0 GHz.

ENVIRONMENTAL: **Thermal Limits:** storage: −67 - 158°F (−55 - 70°C); operating: 55 - 91°F (13 - 33°C). **Humidity:** 20 to 80% RH. **Pressure:** 590 to 780 mm Hg.

MECHANICAL: **Mating:** 5/8-24 threaded coupling. Mating dimensions are MIL-C-39012 Class II nominal with tighter tolerances. The APC-N mates with all existing Type N connectors including MIL-C-71.

MATERIAL: **Body and Coupling Nut:** stainless steel. **Center Contacts:** gold plated beryllium copper. **Bead Assembly:** Rexolite Insulation.

For use with	Maximum SWR for a mated pair	APC-N Plugs (13/16" max. dia.) (b) Part No.	Lgth. (in.) (a)	Jacks (3/8" max. dia.) (b) Part No.	Lgth. (in.) (a)	Panel Jacks (1" sq. fl.) Part No.	Lgth. (in.) (a)
7mm Air Line	1.08 to 18 GHz	131-10003	1 3/64	131-10004	1 3/32	—	—
131-182 (.325 dia. semi-rigid Aljak	1.125 to 12.4 GHz	131-10005	2 5/32	131-10006	2 3/16	131-10013	2 1/8
.250 dia. Cujak cable	1.125 to 12.4 GHz / 1.19 to 18 GHz	131-10021	2 3/8	131-10022	2 7/32	131-10023	2 7/32
RG-214/U	Crimp 1.175 to 12.4 GHz	131-10009	2 27/64	131-10010	2 7/8	131-10014	2 7/8
	Clamp	131-10011	2 29/64	131-10012	2 7/8	131-10015	2 7/8

SMA Sub-miniature Semi-precision Coaxial Connectors

500 MATING CYCLES AND STILL REPEATABLE PERFORMANCE

Amphenol's SMA connector is a semi-precision, sub-miniature (3mm), high frequency connector giving repeatable electrical performance from DC to 18 GHz, with exacting mechanical integrity and simplified low-cost assembly.

They are made of high strength, heat treated beryllium copper. Use of this alloy assures rugged mechanical performance, even though the "thin wall" design of the connector results in an interface mating cross-section area of only 0.00452 inch. The yield strength of the beryllium copper is three times that of stainless steel; use of this alloy also allows twice the coupling nut torque of other SMA designs. The "thin wall" design approach assures better compatibility with existing SMA designs, semi-rigid cable and the standard adapter connector specified by MIL-C-39012.

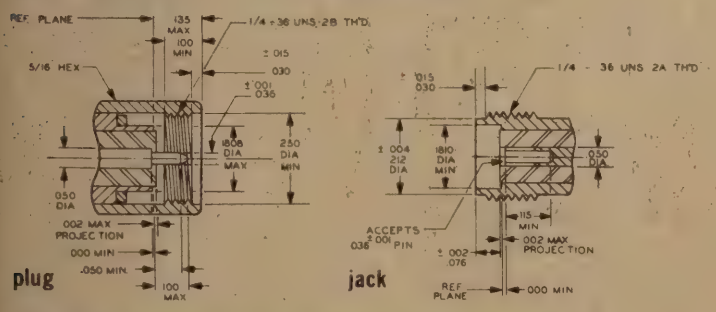
Electrical Performance Improved. Since the new connectors perform well mechanically, excellent electrical performance, even after 500 mating cycles, is assured. For example, the maximum SWR for a mated pair of Amphenol SMA solder type for 0.141 inch semi-rigid cable is 1.09 to 12.4 GHz and 1.13 through 18 GHz. This is below the limit of 1.05 plus 0.005f (GHz) as specified in MIL-C-39012 for SMA connectors.

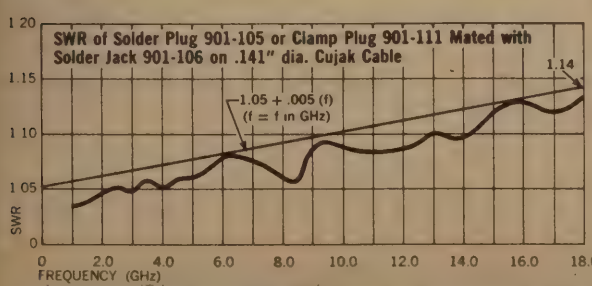
Low Cost Assembly. All Amphenol SMA connectors can be assembled with a $12.50 tool kit. In addition, "factory assembled subassemblies" reduce the number of parts that have to be handled. The 0.141 inch semi-rigid Cujak cable solder connector which uses the cable as a contact and insulator has only one part; the solder and clamp type containing contact and insulator have four parts. The larger diameter flexible cable connectors such as RG-58, 223 — crimp type has three parts; clamp type five parts. Sub-miniature flexible cable such as RG-174, 188 and 195 — clamp connector has a unique patented design allowing for only three parts.

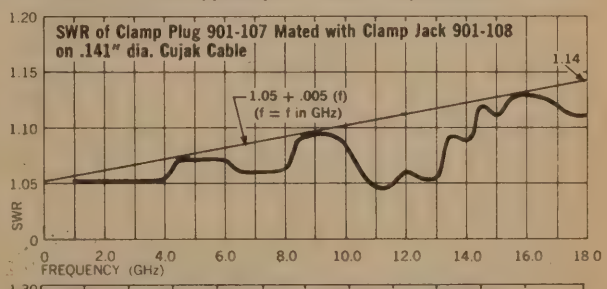
Wide Variety Available. For the popular 0.141 inch semi-rigid Cujak cable, solder and clamp types, straight and right angle plugs and jacks are available. For sub-miniature 0.085 inch semi-rigid Cujak, there is a complete line of solder type connectors. For flexible cables, both standard and sub-miniature, crimp and clamp type plugs and jacks are included plus a complete line of receptacles, including stripline, hermetic seal, P.C. mount, two-hole trim-line flange, and right angle. Between Series Adapters for BNC, TNC, APC-7 and Precision N connectors, along with a complete line of Within Series Adapters.

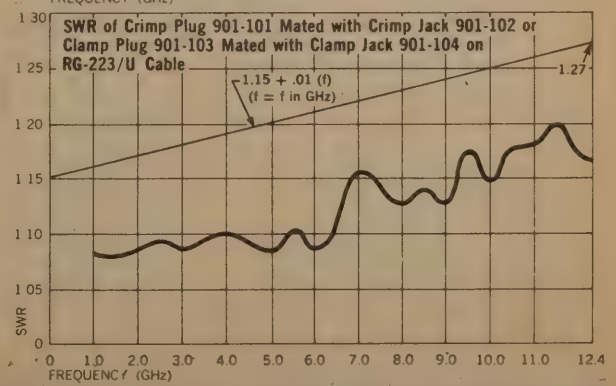
Cable Assemblies. Custom designed cable assemblies for semi-rigid 0.141 and 0.085 Cujak cable and all flexible coax cables fitted with SMA or any other RF connector can be supplied per customer requirements.

SMA MATING FACE DIMENSIONS









SUB-MINIATURE SMA RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

SMA Sub-miniature Semi-precision Coaxial Connectors (cont'd)

GENERAL CHARACTERISTICS

ELECTRICAL

Impedance	50 ohm
Frequency	.141″ and .085″ O.D. Copper jacket semi-rigid cable: 0-18 GHz Flexible cables: 0-12.4 GHz
Voltage Rating	RG-55, 58, 141, 142, 223, 303: 500 V RMS max. @ sea level RG-122, 174, 188, 316: 375 V RMS max. @ sea level
Dielectric Withstanding Voltage	RG-55 group: 1000 V RMS max. @ sea level RG-122 group: 750 V RMS max. @ sea level
SWR	.141″ O.D. Copper jacket cable: 1.05 + .005 f (GHz) RG-55 group: 1.15 + .01 f (GHz) RG-122 group: 1.15 + .02 f (GHz)
Contact Resistance	Center: 2.0 milliohms Body: 2.0 milliohms Braid to body: 0.5 milliohms
Insulation Resistance	5000 megohms
R.F. Leakage	60 dB minimum

ENVIRONMENTAL

Thermal Limits	−67° to 390°F (−55° to 199°C)
Weatherproof	Clamp type: with clamp gaskets Crimp type: with heat shrink tubing Solder type: with gaskets
Hermetic Seals	Pass Helium leak test of 10^{-5} cc/sec.
Shock	MIL-STD-202 method 202; acceleration: 50 G at 7 milliseconds
Vibration	MIL-STD-202 method 204 (test cond. D)
Moisture Resistance	MIL-STD-202 method 106 (high humidity meaturements do not apply)
Corrosion	MIL-STD-202 method 101 (test cond. B); 5% salt solution
Temperature Cycling	MIL-STD-202 method 102 (test cond. C)
Altitude	MIL-STD-202 method 105 (test cond. C); no corona at 70,000 ft. RG-55 group: 250 V RMS RG-122 group: 190 V RMS

MECHANICAL

Mating	¼-36 threaded coupling
Mating Torque	Recommended: 7-10 inch-pounds Non-destructive: 25 inch-pounds max.
Cable Affixment to Braid or Jacket	Clamp type: field serviceable with screw thread nut and braid clamp Crimp type: hex braid crimp Solder type: screw thread solder nut
Cable Affixment to Center Conductor	All types: solder only
Captivated Contact	Crimp type and clamp type for flexible cable
Cable Retention	Clamp type for RG-58, 141 = 40 lbs. min. for RG-55, 142, 223 = 60 lbs. min. for .141 copper jacket cable = 60 lbs. min. Crimp type for RG-58, 141, 303 = 60 lbs. min. for RG-55, 142, 22[illegible] = 80 lbs. min.
Cable Assembly	Instructions are packaged with each tool kit shipped

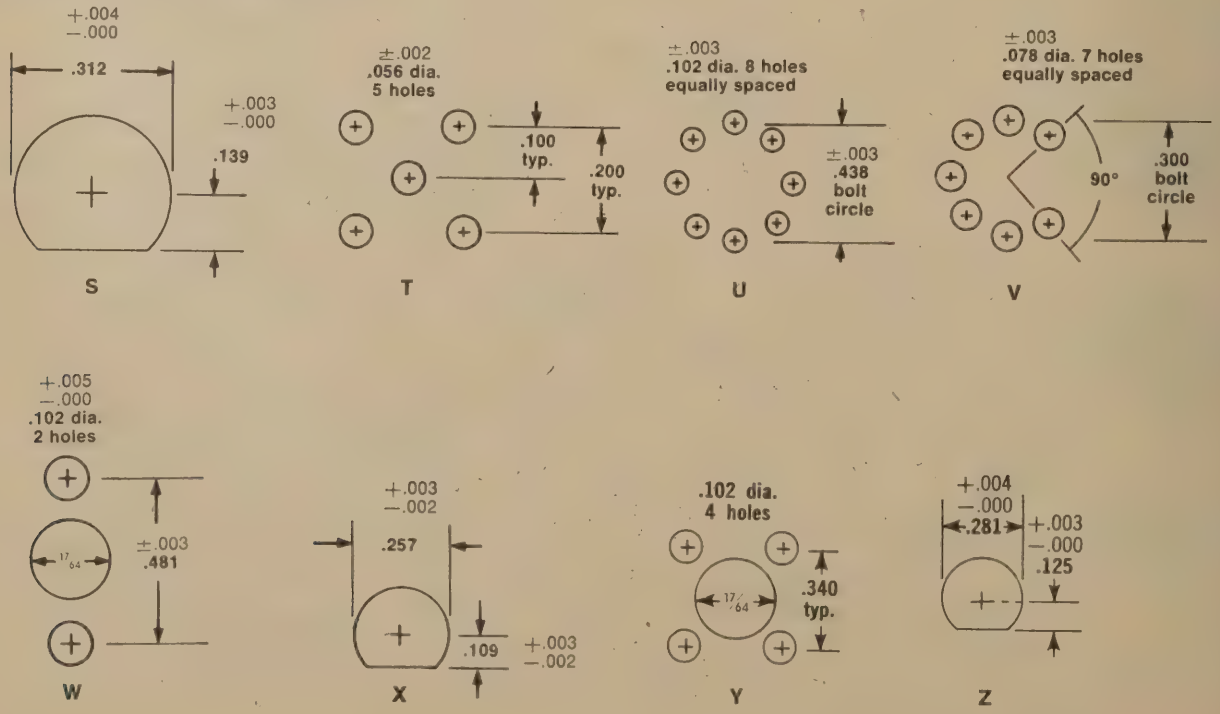
MATERIAL

Contacts, Bodies, Cplg. Nuts	Berryllium copper per QQ-C-530, heat treated per MIL-H-7199
Other Metal Parts	Half hard brass
Plating	Center Contacts, .0001 gold per MIL-C-45204 Type II, Class 2. Other metal parts gold plated and meet corrosion requirements of MIL-C-39012
Insulators	TFE Fluorocarbon per MIL-P-19468
Weatherproof Gaskets	Silicone rubber
Lockwashers	Phosphor bronze, internal tooth supplied with all bulkhead mounted connectors
Crimp Ferrules	Copper

MILITARY SPECIFICATIONS

MIL-C-39012 SMA Specification Sheets

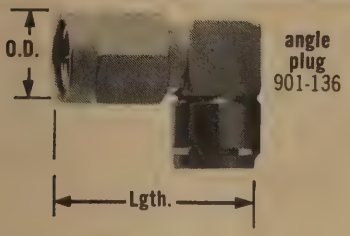
Mounting Hole Dimensions



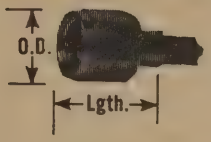
© United Technical Publications

SUB-MINIATURE SMA RF COAXIAL CONNECTORS

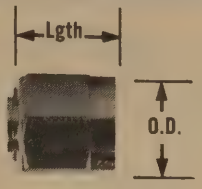
BUNKER RAMO AMPHENOL



angle plug 901-136



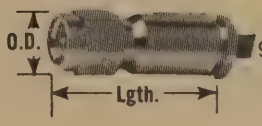
plug 901-113



plug 901-183

plug 901-105





plug 901-107

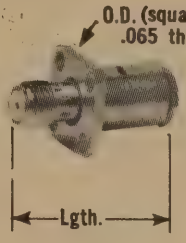
jack 901-106

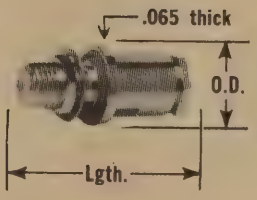




jack 901-108

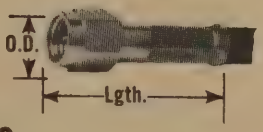
panel jack 901-121

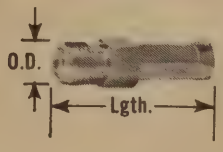




rear mount blkh. jack 901-122

plug 901-101





jack 901-102

Cable Connectors

Configuration	Cable Affixment	Description	Part No.	Dimensions (Inches) Lgth.	Dimensions (Inches) O.D.	Cable Entry	Mtg. Hole
.085 DIA. SEMI-RIGID CUJAK CABLE							
Plug	Solder	With contact & insulator	901-126	43/64	5/16 hex	.088	—
Plug	Solder	Angle	901-136■	11/16	5/16 hex	.088	—
Jack	Solder	Straight	901-127	41/64	1/4 hex	.088	—
Jack	Solder	Panel mounted	901-151	41/64	1/2 sq.	.088	Y
Jack	Solder	Bulkhead mounted, rear	901-158	41/64	7/16 hex	.088	Z
Jack	Solder	Bulkhead mounted, rear	901-193	57/64	3/8 hex	.088	X
.141 DIA. SEMI-RIGID CUJAK CABLE							
Plug	Solder	Less Contact & insulator	901-113■	1/2	5/16 hex	.144	—
Plug	Solder	Less C & I, short skirt	901-183■	21/64	5/16 hex	.144	—
Plug	Solder	With contact & insulator	901-105■	43/64	5/16 hex	.144	—
Plug	Solder	Angle, with C & I	901-142	21/32	5/16 hex	.144	—
Plug	Clamp	Less contact & Insulator	901-111	63/64	11/32 dia.	.144	—
Plug	Clamp	With contact & insulator	901-107■	63/64	11/32 dia.	.144	—
Jack	Solder	Straight	901-106■	41/64	1/4 hex	.144	—
Jack	Solder	Panel mounted	901-141	41/64	1/2 sq.	.144	Y
Jack	Solder	Bulkhead mounted, rear	901-157	41/64	7/16 hex	.144	Z
Jack	Solder	Bulkhead mounted, rear	901-195	57/64	3/8 hex	.144	X
Jack	Clamp	Straight	901-108■	59/64	11/32 dia.	.144	—
Jack	Clamp	Bulkhead mounted, rear	901-159	59/64	7/16 dia.	.144	Z

■ Illustrated.

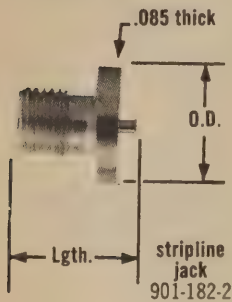
Configuration	Cable Affixment	Description	Part No.	Dimensions (Inches) Lgth.	Dimensions (Inches) O.D.	Cable Entry	Mtg. Hole
RG-55, 58, 141, 142, 223/U CABLE (Clamp Type)							
Plug	Clamp	Straight	901-103	31/32	11/32 dia.	.219	—
Plug	Clamp	Angle	901-130	11/16	5/16 hex	.220	—
Jack	Clamp	Straight	901-104	15/16	11/32 dia.	.219	—
Jack	Clamp	Panel mounted	901-121■	15/16	1/2 sq.	.219	Y
Jack	Clamp	Bulkhead mounted, rear	901-122■	15/16	7/16 dia.	.219	Z
RG-55, 142, 223/U CABLE (Crimp Type)							
Plug	Crimp	Straight	901-101■	1 1/32	5/16 hex	.220	—
Jack	Crimp	Straight	901-102■	1	1/4 hex	.220	—
Jack	Crimp	Panel mounted	901-152	1	1/2 sq.	.220	Y
RG-58, 141, 303/U CABLE(Crimp Type)							
Plug	Crimp	Straight	901-109	29/32	5/16 hex	.206	—
Jack	Crimp	Straight	901-110	7/8	1/4 hex	.206	—
Jack	Crimp	Panel mounted	901-153	1	1/2 sq.	.206	Y
RG-174, 188, 316/U CABLE							
Plug	Clamp	Straight	901-129	13/16	11/32 dia.	.114	—
Plug	Clamp	Straight	901-128	63/64	11/32 dia.	.114	—
Plug	Clamp	Angle	901-140	11/16	5/16 hex	.114	—
RG-180, 195/U CABLE							
Plug	Clamp	Straight	901-139	63/64	11/32 dia.	.158	—
Plug	Crimp	Straight	901-192	3/4	5/16 hex	.175	—
Jack	Clamp	Panel mounted	901-220	15/16	1/2 sq.	.158	Y
DOUBLE BRAIDED RG-188 TYPE (.126 Max. Dia.)							
Plug	Clamp	Straight	901-174	63/64	11/32 dia.	.130	—
Plug	Clamp	Angle	901-172	11/16	5/16 hex	.130	—
Jack	Clamp	Bulkhead mounted, rear	901-173	1 3/32	3/8 hex	.130	X

© United Technical Publications

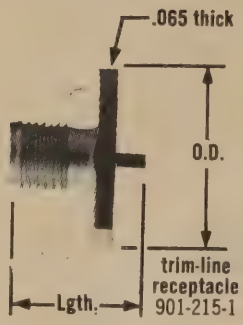
SUB-MINIATURE SMA RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

SMA Receptacles



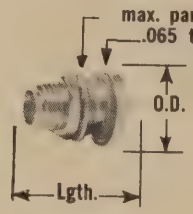
stripline jack
901-182-2



trim-line receptacle
901-215-1



receptacle
901-112



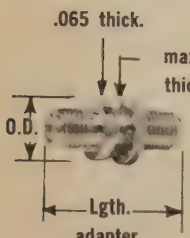
rear mount receptacle
901-116



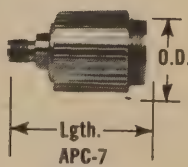
front mount receptacle
901-117

Description	Part No.	Dimensions, Inches Lgth.	O.D.	Max. Panel Thickness	Mtg. Hole
STRIP TRANSMISSION LINE					
Plug for .031 board	901-132-1	.548	5/16 dia.	—	U
Plug for .063 board	901-132-2	.580	5/16 dia.	—	U
Plug for .125 board	901-132-3	.642	5/16 dia.	—	U
Angle jack .031 board	901-133-1	47/64	1/4 dia.	—	U
Angle jack .063 board	901-133-2	47/64	1/4 dia.	—	U
Angle jack .125 board	901-133-3	47/64	1/4 dia.	—	U
Jack for .031 board	901-131-1	.416	5/16 dia.	—	U
Jack for .063 board	901-131-2	.448	5/16 dia.	—	U
Jack for .125 board	901-131-3	.510	5/16 dia.	—	U
Jack for .031 board	901-182-1	.416	13/32 dia.	—	V
Jack for .063 board	901-182-2■	.448	13/32 dia.	—	V
Jack for .125 board	901-182-3	.510	13/32 dia.	—	V
PRINTED CIRCUIT RECEPTACLES					
Straight receptacle	901-144	17/32	1/4 sq.	5/32 pins	T
Angle receptacle	901-143	.585	1/4 sq.	5/32 pins	T
RECEPTACLES/PANEL MTD. (Std. Square Flange)					
.590 insulated blunt terminal	901-176-1	1 3/64	1/2 sq.	—	Y
with captivated contact	901-176-2	1 3/64	1/2 sq.	—	Y
Plug, .330 insulated blunt term.	901-196-1	1	1/2 sq.	—	Y
with captivated contact	901-196-2	1	1/2 sq.	—	Y
Tab terminal	901-197-1	15/32	1/2 sq.	—	Y
with captivated contact	901-197-2	15/32	1/2 sq.	—	Y
Solder cup, capt. contact	901-112■	9/16	1/2 sq.	—	Y
Angle solder cup	901-124	45/64	1/2 sq.	—	Y
RECEPTACLES/PANEL MTD. (Trim-Line Flange)					
Slotted terminal	901-213	5/8	5/8	—	W
Solder cup, captivated contact	901-214	37/64	5/8	—	W
Tab terminal	901-215-1■	15/32	5/8	—	W
with captivated contact	901-215-2	15/32	5/8	—	W
RECEPTACLES/BULKHEAD MOUNTED					
Rear, solder cup, gasket	901-116■	21/32	7/16 dia.	.103	Z
Rear, solder cup	901-134	21/32	7/16 dia.	.103	Z
Rear, solder cup	901-190	43/64	5/16 hex	.125	X
Rear, hermetic, flat & pierced	901-161	21/32	7/16 dia.	.103	Z
Front, hermetic, flat & pierced	901-162	11/16	7/16 dia.	.103	Z
Front, solder cup, gasket, cc	901-117■	11/16	7/16 dia.	.103	Z
Front, blunt term, 1/4-36 th'd, cc	901-206	21/32	5/16 hex	—	1/4-36

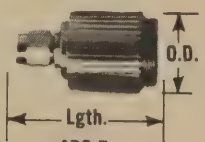
SMA Adapters and Accessories



adapter
901-120



APC-7 adapter
131-1028



APC-7 adapter
131-1038

Description	Part No.	Dimensions, Inches Lgth.	O.D.	Max. Panel Thickness	Mtg. Hole
ADAPTERS WITHIN SERIES					
Straight, plug-plug	901-118	57/64	5/16 hex	—	—
Straight, jack-jack	901-119	15/32	1/4 dia.	—	—
Bulkhead, jack-jack	901-120■	13/16	3/8 dia.	.103	Z
Bulkhead, jack-jack	901-191	7/8	3/8 hex	.250	Z
Bulkhead, hermetic, jack-jack	901-160	7/8	7/16 hex	.187	S
Angle, plug-jack	901-125	5/8	5/16 hex	—	—
ADAPTERS BETWEEN SERIES					
APC-7 — SMA jack	131-1028■	1 11/32	13/16	—	—
APC-7 — SMA plug	131-1038■	1 3/8	13/16	—	—
APC-N plug — SMA plug	131-1074	1 3/4	13/16	—	—
APC-N plug — SMA jack	131-1075	1 5/8	13/16	—	—
APC-N jack — SMA plug	131-1076	1 23/64	5/8	—	—
APC-N jack — SMA jack	131-1077	1 19/32	5/8	—	—
BNC plug — SMA plug	901-164	1 3/32	9/16	—	—
BNC plug — SMA jack	901-165	1 1/16	9/16	—	—
BNC jack — SMA plug	901-166	1 3/32	9/16	—	—
BNC jack — SMA jack	901-167	1 1/8	9/16	—	—
TNC plug — SMA plug	901-168	1 1/8	19/32	—	—
TNC plug — SMA jack	901-169	1 3/32	19/32	—	—
TNC jack — SMA plug	901-170	1 5/32	9/16	—	—
TNC jack — SMA jack	901-171	1 1/8	9/16	—	—
CAP AND CHAIN					
Non-shorting, plug	901-163	29/64	5/16 hex	2" chain, .130 dia. eyelet	

■ Illustrated.

TOOL KIT AND CABLE ASSEMBLIES

TOOL KIT P/N 901-2500. Contains recommended jacket and dielectric trim tools for precise cable preparation required to obtain the electrical performance specified. Accessory Tool P/N 901-2400 available for Cujak center conductor trimming.

CABLE ASSEMBLIES. Custom semi-precision cable assemblies are available with .141" and .085" dia. semi-rigid Cujak cable fitted with SMA connectors. Contact factory with your specifications.

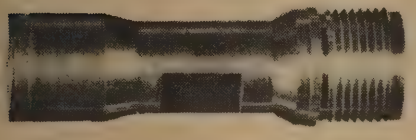
© United Technical Publications

RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series HN





Amphenol HN Series are constant 50 ohm impedance connectors designed for high voltage applications. Connectors are weatherproof and are available in Regular, Improved and Improved/Captivated Contact constructions.

Amphenol's patented Captivated Contact Design prevents possible contact recession under temperature extremes. Contacts are fixed within the connector body by front and rear contact insulators that butt against metal body parts.

CHARACTERISTICS, TYPICAL

ELECTRICAL: Frequency range: 0 — 4GHz. **Voltage rating:** 1,500 volts peak; **dielectric withstanding voltage:** 5,000 volts rms. **SWR:** 1.3.

ENVIRONMENTAL: Thermal limits: Teflon insulation: —67° to 390°F (—55° to 199°C); Rexolite insulation: —67° to 185°F (—55° to 85°C). **Weatherproof:** all HN Series are weatherproof. **Hermetic seals:** pass helium lead test of 2×10^{-8} cc/sec. **Pressurized:** Compression seal.

MECHANICAL: Mating: ¾ —20 threaded coupling. **Cable affixment:** screw-thread nut and braid clamp.

MATERIALS: Contacts: male: brass; female: beryllium copper; outer: brass; **other metal parts:** brass. **Plating:** .0002" silver min. **Insulators:** Teflon, Rexolite, glass-Teflon (hermetic seal). **Weatherproof gaskets:** synthetic rubber; silicone rubber.

MILITARY SPECIFICATIONS: HN Connectors meet applicable sections of MIL-C-3643.

STRAIGHT JACKS

RG/U Cable	Part No.	UG/U No.	Insulation	Clamp Gasket	Dimensions, Inches Length	O.D.	Diam.	Notes
8, 9, 87, 213, 214, 225	82-39	60A△	Rexolite	syn. rubber	2½	1 3/16	.444	—
	82-814	60B△	Teflon	sil. rubber	2½	1 1/16	.444	modified cable clamp
	82-321	1214△	Teflon	sil. rubber	2⅞	1 1/16	.444	improved/captivated contact
10, 12, 116, 215, 227	33250	927	Teflon	sil. rubber	3	¾	—	armor clamp
17, 218	82-107	333A	Rexolite	syn. rubber	2 7/16	1 5/16	.900	modified cable clamp
	44025	333B	Teflon	sil. rubber	2½	1 5/16	.900	improved
18	82-56	333	Rexolite	syn. rubber	2¾	1⅜	.900	armor clamp
	82-175	—	Teflon	nat. rubber	2½	¾	.333	82-887 kit clamping

PANEL JACKS

RG/U Cable	Part No.	UG/U No.	Insulation	Clamp Gasket	Dimensions, Inches Length	O.D.	Diam.	Notes
8, 9, 87, 213, 214, 225	82-40	61A△	Rexolite	syn. rubber	2½	1 3/16	.444	—
	11150	61C△	Teflon	sil. rubber	2 5/16	1 3/16	.444	improved
	82-815	61B△	Teflon	sil. rubber	2½	1 3/16	.444	modified cable clamp
	82-324	1215△	Teflon	sil. rubber	2 15/16	1 3/16	.444	improved/captivated contact
17	82-108	334A	Rexolite	syn. rubber	2 7/16	1 5/16	.960	modified cable clamp
18	82-57	334	Rexolite	syn. rubber	2¾	2	.984	armor clamp/.257 dia. flange holes

△ Amphenol adapter kit 82-887 will adapt connector for use with ALJAK/CUJAK metal jacketed cables.

STRAIGHT PLUGS

RG/U Cable	Part No.	UG/U No.	Insulation	Clamp Gasket	Dimensions, Inches Length	O.D.	Diam.	Notes
8, 9, 87, 213 214, 225	82-38	59A△	Rexolite	syn. rubber	2 3/16	⅞	.444	—
	82-804	59B△	Teflon	sil. rubber	2 3/16	⅞	.444	modified cable clamp
	82-320	1213△	Teflon	sil. rubber	2¼	⅞	.444	improved/captivated contact
	17900	59D△	Teflon	sil. rubber	2 7/32	⅞	.444	improved/beryl. outer contact
10, 12, 116, 215, 227	9375	925	Teflon	sil. rubber	2 49/64	2 7/32	.511	armor clamp
14, 217	8125	494	Rexolite	sil. rubber	2	1	.562	—
17, 218	82-111	495A	Rexolite	syn. rubber	2 11/16	1 5/16	.900	—
	82-325	—	Rexolite	syn. rubber	2 11/16	1 5/16	.900	captivated contact
	30350	495D	Teflon	sil. rubber	2 13/32	1 5/16	.900	improved/beryl. outer contact
54A	82-816	—	Teflon	sil. rubber	1 13/16	⅞	.257	—
55, 58, 141 142	16750	—	Teflon	syn. rubber	1 13/16	2 7/32	.214	—

ANGLE PLUGS

RG/U Cable	Part No.	Insulation	Cable Clamp	Dimensions, Inches Length	O.D.	Cable Diam.	Notes
8, 9, 87, 213, 214, 225	82-833	Rexolite	sil. rubber	1½	⅞	.444	—
	82-856	Teflon	sil. rubber	1½	⅞	.444	—
55, 58, 141 142	19625	Teflon	syn. rubber	1⅜	⅞	.214	1500 VRMS

PANEL RECEPTACLES

Part No.	UG/U No.	Insulation	Dimensions, Inches Length	O.D.	Max. Panel Thickness
82-92	496	Rexolite	1 1/32	1 3/16	—
82-805	560	Teflon	1⅞	1 3/16	—
45750	—	Teflon	1½	1 3/16	—

female contacts • hermetically sealed

BULKHEAD RECEPTACLES

82-836	—	glass-Teflon	1¾	1 3/16	.187
82-843	—	glass-Teflon	1 49/64	1¼	.187

plug ends • weatherproof • 50 ohm impedance

STRAIGHT ADAPTER

16800	—	Teflon	2⅛	⅞	—

ANGLE ADAPTERS

Part No.	UG/U No.	Insulation	Adapter Ends	Dimensions, Inches Length	O.D.	Notes
82-91	212A	Rexolite	jack-plug	1 13/32	⅞	—
82-115	212C	Teflon	jack-plug	1 13/32	⅞	beryl. outer contact
12100	212B	Teflon	jack-plug	1 7/16	⅞	modified const.

BULKHEAD ADAPTER

Part No.	UG/U No.	Insulation	Dimensions, Inches Length	O.D.	Max. Panel Thickness
11050	1019	Teflon	1 31/32	1	.343

TEE ADAPTERS

Part No.	UG/U No.	Insulation	Length In Inches
9950	413	Rexolite	1 15/16
11950	—	Teflon	1 15/16

ARMOR CLAMPS

RG/U Cable	Part No.	MX No.	Dimensions, Inches Length	O.D.	Cable Entry	Notes
10, 12, 79, 116, 215, 227	82-48	564	⅞	1 1/16	.470	use with regular const.
	82-109	564A	1 1/16	1 1/16	.511	use with regular const.
	82-517	1286	1⅛	¾	.511	use with improved connectors
18, 219	92100	1441	1⅜	1 5/16	.963	use with improved connectors
74, 224	16850	1462	1 3/16	⅞	.625	use with improved connectors

male contact • weatherproof • ½ watt ± 5% resistor • 48 ohms impedance

RESISTOR TERMINATED CAP

Part No.	DA No.	Insulation	Dimensions, Inches Length	O.D.	Chain Length
9550	12A	Rexolite	1¼	2 7/32	2¼

MALE CAPS • weatherproof

Part No.	Dimensions, Inches Length	O.D.	Chain Length	Notes
82-130	1 3/32	⅞	2 9/16	—
9900	7/10	⅞	—	cap only
10250	7/16	⅞	2¼	—

FEMALE CAPS

13650	2 9/32	⅞	4	—

© United Technical Publications

27 SERIES SUBMINAX RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series 27 — SUBMINAX with three types of low cost assembly

The original **quality** rf subminiature, designed for more critical electrical applications. These connectors are available in three types of cable affixment: **Radial Crimp,** a unique Amphenol low cost crimp design; **Quick Crimp,** a standard tex type crimp; and **Field Serviceable,** a design which is the easiest in the industry to assemble and contains the fewest parts. All have soldered centered contacts.

Two types of coupling mechanism. Specify push-on (snap-on) for frequent fast mating or screw-on for vibration type applications.

CHARACTERISTICS

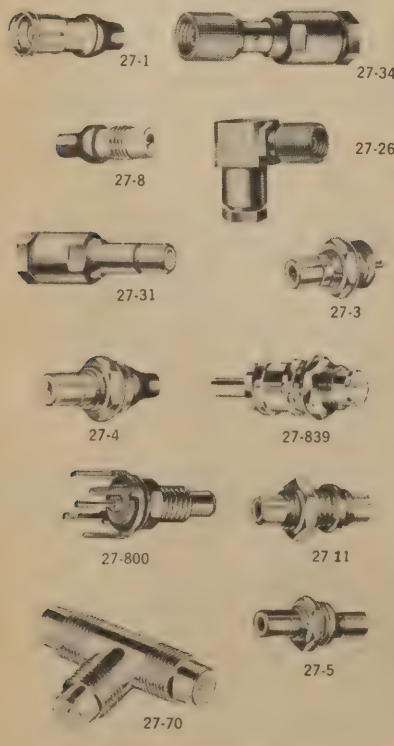
ELECTRICAL: **Impedance:** 50 ohm, 75 ohm. **Frequency Range:** 0-10 GHz. **Voltage Rating:** 500 volts peak. **Dielectric Withstanding Voltage:** 1,500 volts rms. **SWR (50 ohm):** 1.2 (0-4 GHz); 1.5 (4-10 GHz); 1.3 (UG's) (0-6 GHz); 1.5 (UG's) (6-10 GHz). **Other:** multivolt drop 6 MV. insulation resistance 1,000 megohms.

ENVIRONMENTAL: **Thermal Limits:** −67° to 390°F (−55° to 199°C). **Weatherproof:** all 27 series are non-weatherproof, radial crimp have plastic boot or optional heat shrink tubing. **Hermetic Seals:** pass helium leakage test of 2 x 10^{-8} cc/sec. **Thermal Shock.** Mil. Std. 202 method 107. **Shock:** Mil. Std. 202 method 202. **Vibration:** Mil. Std. 202 method 204 (test cond. D). **Moisture Resistance:** Mil. Std. 202 method 106A. **Corrosion:** Mil. Std. 202 method 101 (test cond. B).

MECHANICAL: **Contacts:** radial crimp, not captivated; quick crimp, full captivated; field serviceable, semicaptivated. **Mating:** push-on (snap-on) and screw-on, (50 ohm have 10-32 threaded coupling; 75 ohms, 5/16-32). **Cable Affixment (Braid or Jacket):** radial crimp: Quick-Crimp (hex crimp); field serviceable clamp mechanism. **Cable Affixment (Center Conductor):** solder only. **Coupling Nut:** recommended torque (hex nuts); 50 inch-ounces. Axial pull-off force: Withstand up to 50 lbs.

MATERIAL: **Contacts:** male and outer (push-on): brass female: beryllium copper. **Other Metal Parts:** brass. **Plating (All Metal Parts):** .000050 gold over copper, (UG's .0001" gold over copper). **Insulators:** Teflon, Kel-F-Teflon, glass Teflon (hermetically sealed) as specified.

MILITARY SPECIFICATIONS: UG items fully comply with MIL-C-22557A.



NOTES:

Radial Crimp:

Connector is gently squeezed for a reliable mechanical and electrical connection. See "RC" in notes below.

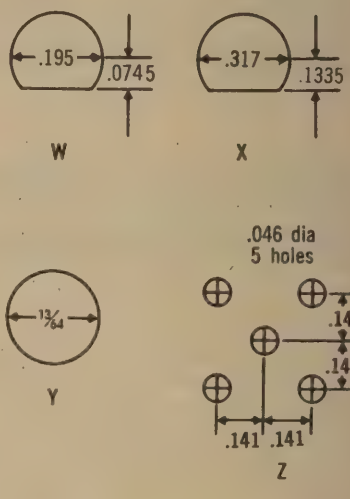
Quick Crimp:

No need to comb braid; assembles faster than any other subminiature. Has captivated contact, termination stronger than cable itself. See "QC" in notes below.

Field Serviceable:

Needs no crimping tool. Has semi-captivated contact. UG connectors comply with MIL-C-22557A. See "FS" below.

CC = Captivated Contacts; HOC = Hooded Outer Contact; RM = Rear Mounted.



PUSH-ON STRAIGHT PLUGS SCREW-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.	Mtg. Hole	For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.	Mtg. Hole
174, 179, 187, 188	27-841	50	QC, CC	1		174, 179, 187, 188	27-844	50	QC, CC	1 1/32	
	27-1	50	RC	19/32			27-7	50	RC	19/32	
180, 195	27-828	75	QC, CC	1 3/64			†27-106	50	FS, CC	27/32	
	27-13	75	RC	5/8		180, 195	27-835	75	QC, CC	1 3/64	
178, 196	37-30	50	FS,CC	25/32			27-19	75	RC	19/32	
				* UG-1460		178, 196	27-34	50	FS, CC	25/32	
				† UG-1465			*27-104	50	FS, CC	27/32	

PUSH-ON ANGLE PLUGS SCREW-ON

174, 179, 187, 188	27-843	50	QC, CC	41/64		174, 179, 187, 188	27-846	50	QC, CC	1 1/32	
	27-3	50	RC	5/16			27-26	50	RC	35/64	
180, 195	27-834	75	QC ,CC	41/64		180, 195	27-836	75	QC ,CC	41/64	
	27-18	75	RC	39/64			27-25	75	RC	5/8	
178, 196	27-33	50	FS, CC	9/16		178, 196	27-37	50	FS, CC	23/64	
	27-823	50	FS,CC,HOC	19/32							

PUSH-ON STRAIGHT JACKS SCREW-ON

174, 179, 187, 188	27-849	50	QC, CC	1		174, 179, 187, 188	27-8	50	RC	19/32
	27-2	50	RC	35/64			*27-105	50	FS, CC	3/4
180, 195	27-837	75	QC, CC	1		178, 196	27-35	50	FS, CC	3/4
	27-14	75	RC	5/16			†27-107	50	FS, CC	3/4
178, 196	27-31	50	FS, CC	47/64		180, 195	27-20	75	RC	19/32
									* UG-1467	† UG-1462

PUSH-ON BULKHEAD JACKS SCREW-ON

174, 179, 187, 188	27-842	50	QC, CC	1 1/16	W	174, 179, 187, 188	27-845	50	QC, CC	1 1/16	W
	27-4	50	RC	41/64	U		27-10	50	RC	21/32	U
180, 195	27-838	75	QC, CC	1 7/64	X		†27-103	50	FS, CC	7/8	W
	27-16	75	RC	41/64	V	180, 195	27-839	75	QG, CC	1 1/8	X
178, 196	27-32	50	FS, CC	13/16	U		27-22	75	RC	21/32	V
				†UG-1468		178, 196	27-36	50	FS, CC	51/64	U

PUSH-ON BULKHEAD RECEPTACLES SCREW-ON

—	27-3	50	T	—	37/64	U	—	27-9	50	I	—	19/32	U
							—	27-12	50	GT	Hermetic	41/64	Y
—	27-15	75	T	—	37/64	V	—	27-21	75	T	—	19/32	V
							—	27-24	75	GT	Hermetic	1 1/16	21/64 dia.
—	27-57	50	GT	Hermetic	45/64	Y	—	27-800	50	T	Prtd. Ckt.	45/64	Z
—	27-45	75	GT	Hermetic	23/32	21/64 dia.	UG1619	27-101	50	T	RM, FS, CC	5/8	W
							UG1464	27-108	50	T	FM, FS, CC	45/64	W

PUSH-ON BULKHEAD ADAPTERS SCREW-ON

Part No.	Impedance Ohms	Adapter Ends	Length (Inches)	Mounting Hole	Part No.	Impedance Ohms	Adapter Ends	Length (inches)	Mounting Hole
27-5	50	Jack/Jack	5/8	V	27-11	50	Jack/Jack	21/32	U
27-17	75	Jack/Jack	5/8	V	27-23	75	Jack/Jack	21/32	V

SCREW-ON TEE ADAPTERS

No.	Impd. Ohms	Adapter Ends	Lgth.
27-70	75	Jack/Jack/Jack	1.050

© United Technical Publications

5116 SERIES SUBMINAX RF COAXIAL CONNECTORS

BUNKER RAMO AMPHENOL

Series 5116 — SUBMINAX with low cost QUICK CRIMP assembly

WITH TWO MATING STYLES — FULLY CAPTIVATED CONTACTS

Series 5116 combines good electrical performance with fast, economical cable assembly. Plugs and jacks, for example, have only four parts, including body assembly. Cable stripping is easier, with less critical dimensions. Ultra-reliable, gold-plated contacts are fully captivated, can be crimped or soldered. Extremely low cost of the crimping tool (Amphenol No. 227-911) makes field use of this connector series feasible.

Two types of coupling mechanism are available. Specify push-on (snap-on) for frequent fast mating, or screw-on for vibration-applications. Push-on will not mate with screw-on types; 50 ohm, 75 ohm and 95 ohm types mate only with like types.

ABBREVIATIONS:

Insulation: T — Teflon, gT — glass-Teflon.
Notes: W — Weatherproof, SMC — Shorting Male Contact, PC — Used on printed-circuit boards, H — Hermetically Sealed, MLC — Male Contact

CHARACTERISTICS

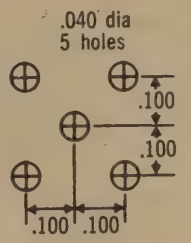
ELECTRICAL
Impedance: 50, 75 or 95 ohm.
Frequency range: 0-4 Gc.
Voltage: 500 v. peak.
High potential: 1500 v. rms. 60 cycles, 1 min.

ENVIRONMENTAL
Thermal limits: —67°F to 390°F.
Weatherproof: screw-on types.
Hermetic seals: pass helium leak test of 2 x 10^{-8} cc/sec.

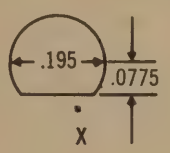
MECHANICAL
Mating: push-on or screw-on.
Cable affixment: Quick-Crimp.

MATERIAL
Contacts: male: brass; female: beryllium copper.
Other metal parts: brass.
Contact plating: .0002" gold-over-silver min.
Other plating: .0002" silver min.
Insulators: Teflon or glass-Teflon.

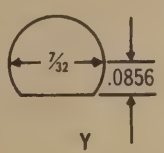
MOUNTING HOLES



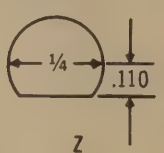
W



X

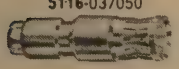


Y

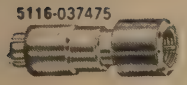


Z

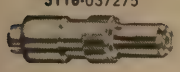
5116-037050



5116-037475



5116-037275



5116-054825



5116-054850



PUSH-ON STRAIGHT PLUGS — SCREW-ON

For RG-/U Cable	No. 5116-	Imp. Ohms	Notes	Lgth.	Mtg. Hole	For RG-/U Cable	No. 5116-	Imp. Ohms	Notes	Lgth.	Mtg. Hole
178A, 178B, 196, 196A	-037050	50		13/32		178A, 178B, 196, 196A	-037475	50	W	1	
179A, 179B, 187, 187A	-037100	75		13/32		179A, 179B, 187, 187A	-037525	75	W	1	
180, 180A. 180B, 195, 195A	-037125	95		13/32		180, 180A. 180B, 195, 195A	-037550	95	W	1	
188, 188A, 316	-037075	50		13/32		188, 188A, 316	-037575	50	W	1	

PUSH-ON ANGLE PLUGS — SCREW-ON

178A, 178B, 196, 196A	-037150	50		49/64		178A, 178B, 196, 196A	-037600	50	W	5/8	
179A, 179B, 187, 187A	-037200	75		25/32		179A, 179B, 187, 187A	-037625	75	W	41/64	
180, 180A. 180B, 195, 195A	-037225	95		25/32		180, 180A, 180B, 195, 195A	-037650	95	W	45/64	
188, 188A, 316	-037175	50		25/32		188, 188A, 316	-037675	50	W	41/64	

PUSH-ON STRAIGHT JACKS — SCREW-ON

178A, 178B, 196, 196A	-037275	50		1		178A, 178B, 196, 196A	-037700	50	W	1	
179A, 179B, 187, 187A	-037325	75		1		179A, 179B, 187, 187A	-037725	75	W	1	
180, 180A, 180B, 195, 195A	-037350	95		1		180, 180A, 180B, 195, 195A,	-037750	95	W	1	
188, 188A, 316	-037300	50		1		188, 188A, 316	-037775	50	W	1	

PUSH-ON BULKHEAD JACKS — SCREW-ON

178A, 178B, 196, 196A	-037375	50		29/32		178A, 178B, 196, 196A	-037800	50	W	25/32	
179A, 179B, 187, 187A	-037425	75		29/32		179A, 179B, 187, 187A	-037825	75	W	25/32	
180, 180A, 180B, 195, 195A	-037450	95		29/32		180, 180A, 180B, 195, 195A	-037850	95	W	25/32	
188, 188A, 316	-037400	50		29/32		188, 188A, 316	-037875	50	W	25/32	

PUSH-ON STRAIGHT RECEPTACLES — SCREW-ON

No. 5116-	Imp. Ohms	Ins.	Notes	Lgth.	Mtg. Hole	No. 5116-	Imp. Ohms	Ins.	Notes	Lgth.	Mtg. Hole
-054825	50	T	PC	15/32	W	-058375	50	T	PC, W	15/32	W
						-054875	95	T	PC, W	15/32	W
						-057350	50	gT	H, W	3/16	.195 dia.
						-057375	95	gT	H, W	3/16	.250 dia.

PUSH-ON ANGLE RECEPTACLES — SCREW-ON

-054850	50	T	PC	3/16	W	-054900	50	T	PC, W	15/32	W
						-054925	95	T	PC, W	15/32	

PUSH-ON BULKHEAD RECEPTACLES — SCREW-ON

-054300	50	T	MLC	45/64	.221 dia.	-058350	50	T		1/4	X
-054325	50	T		23/32		-056825	75	T		9/32	Y
						-057400	95	T		5/16	Z

SCREW-ON BULKHEAD ADAPTERS — SCREW-ON MALE CAPS

No. 5116-	Imp. Ohms	Ins.	Adapter Ends	Lgth.	Mtg. Hole	No. 5116-	Imp. Ohms	Notes	Lgth.	Mtg. Hole
-054475	50	T	Jack/Jack	19/32	3/16 dia.	-054575	50	SMC	3/8	
-054525	75	T	Jack/Jack	19/32		-054650	50		13/64	
-054550	95	T	Jack/Jack	19/32		-054600	75	SMC	3/16	
						-054675	75		13/64	
						-054625	95	SMC	5/16	
						-054700	95		13/64	

© United Technical Publications

RF COAXIAL BETWEEN SERIES ADAPTERS

AMPHENOL
THE BUNKER-RAMO CORPORATION

Adapters Between Series

Amphenol series-to-series adapters are of non-constant impedance, but designed so that inherent electrical discontinuities are minimal. They are built to the same precision tolerances as the rest of our coaxial line. For typical characteristics, see pages describing the connector series.

CHARACTERISTICS

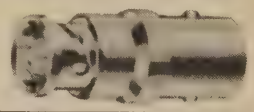
ELECTRICAL: Impedance: non-constant. **Frequency:** per cable used. **Voltage:** per cable used.

ENVIRONMENTAL: Thermal Limits: Teflon: −67°F to 390°F; Rexolite: −67°F to 185°F; Kel-F: −67° to 390°F; mica-filled; Bakelite: −67°F to 300°F; polyethylene: −67°F to 185°F. **Weatherproof:** except as noted. **Hermetic Seals:** pass helium leakage test of 2×10^{-8} cc/sec. P = Pressurized; H = Hermetic Sealed.

MECHANICAL: Mating: per series.

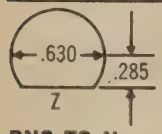
MATERIAL: Contacts: male: brass; female: beryllium copper. **Other Metal Parts:** brass. **Plating:** .0002" silver min. **Insulators:** Teflon, Rexolite, Kel-F, mica-filled Bakelite, polyethylene or glass-Teflon, as specified.

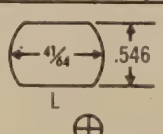
83175



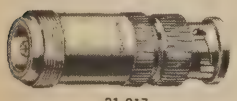
BNC TO C
weatherproof

UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	C	Lgth.
635	83175	T	50	Plug	Jack	1 9/32
636A	83200	T	50	Jack	Plug	1 13/64

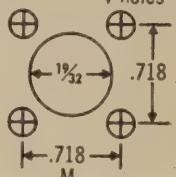




BNC TO N
weatherproof

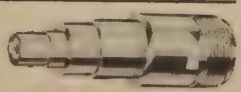


31-217



UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	N	Lgth.
201	31-830	T	—	Jack	Plug	1 15/32
201A	21-216‡	T	Improved	Jack	Plug	1 5/16
335	3025	T-R	50 hole M	Plug	Jack	1 3/4
349	2975	T-R	50	Plug	Jack	1 3/4
349A	31-217‡	T	Improved	Plug	Jack	1 5/16
1034	5225	T	50	Plug	Plug	1 1/2
—	2800	T	50/* hole M	Jack	Jack	1 7/16
—	4250	T	70	Jack	Plug	1 5/16
—	4900	T	50	Plug	Plug	1 1/2
—	5850	T-R	50/P hole Z	Jack	Jack	1 27/32
—	21850	T	50 hole M	Jack	Jack	1 1/2
—	93075	GT	—/H hole L	Jack	Jack	1 11/16

82350



C TO LC
weatherproof

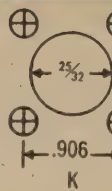
UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	LC	Lgth.
—	82350	T	—	Jack	Jack	3 23/64

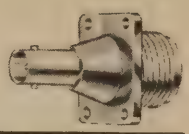


C TO N
weatherproof

82-508

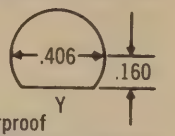
UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	N	Lgth.
564	82-508	T	50	Jack	Plug	1 3/8
565A	82-540	T	50	Plug	Jack	1 17/32
—	83875	T	50/*	Jack	Plug	1 9/32





BNC TO HN
weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	BNC	HN	Lgth.
309	8900	T	50	Jack	Plug	1 1/2
559	17750	R	50/*	Plug	Jack	1 1/2
—	32750	T-R	—	Plug	Jack	1 3/8
—	35050	T	50 hole K	Jack	Jack	1 3/8

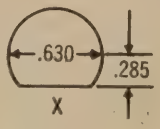


BNC TO SM non-weatherproof

UG-/U No.	Part No.	Ins.	Notes	BNC	SM	Lgth.
691	89250	GT	H hole Y	Jack	Jack	1 1/8

BNC TO UHF non-weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	BNC	UHF	Lgth.
255	2900‡	R	50	Plug	Jack	1 5/16
273	31-028‡	R	—	Jack	Plug	1 5/16
—	2925	T	50	Plug	Jack	1 5/16
—	12025	T	50	Jack	Plug	1 9/32



83950



C TO MB
weatherproof (Mounting hole X)

UG-/U No.	Part No.	Ins.	Notes	C	MB	Lgth.
—	83950	gT	H	Jack	Jack	1 7/32

47400



MB TO UHF
non-weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	MB	UHF	Lgth.
—	47400	T	—	Jack	Plug	1 11/32

MHV TO UHF weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	MHV	UHF	Lgth.
—	28050	T	—	Jack	Plug	1 9/32
—	28075	T	—	Plug	Jack	1 3/8

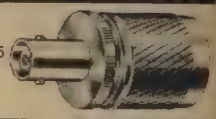
BNC TO SUBMINAX 27
non-weatherproof

27-29



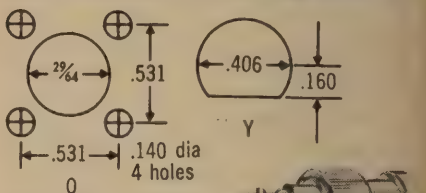
Part No.	Ins.	Imp. Ohms/ Notes	Mates With Sub. 27 Plug	Used In BNC UG-/U	Lgth.
27-28	T	50	50 ohm, Screw-On	88	1 5/16
27-29	T	50	50 ohm, Push-On	88	1 5/16
27-40	T	50/GC	50 ohm, Screw-on	89, 291	1 5/16
27-41	T	75	75 ohm, Push-On	260B	1 1/4
27-42	T	75	75 ohm, Screw-On	261B, 262B	1.355
27-805	T	75	75 ohm, Screw-On	260B	1 7/64

20625

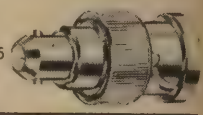


HN TO MHV
weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	HN	MHV	Lgth.
—	20625	T	50	Plug	Jack	1 1/2



47275



BNC TO MB
weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	BNC	MB	Lgth.
—	33200	T-K	50 hole O	Jack	Jack	1 5/32
—	47200	GT	50/H hole Y	Jack	Jack	1 1/8
—	47250	T-K	50	Jack	Plug	1 5/16
—	47275	T-K	50	Plug	Jack	1

BNC TO TNC
non-weatherproof

76400



UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	BNC	TNC	Lgth.
—	76400	T	50	Jack	Jack	1 9/32
—	79025	T	50	Plug	Jack	1 1/4
—	79675‡	T	50	Jack	Plug	1 1/4

83350



C TO HN
non-weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	C	HN	Lgth.
702	83350	T	—	Jack	Plug	1 1/2
703A	83400	T	—	Plug	Jack	1 1/2

83225



C TO UHF
non-weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	C	UHF	Lgth.
637	83225	T	—	Jack	Plug	1 3/8

78800



N TO TNC
non-weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	N	TNC	Lgth.
—	78800	T	50	Plug	Jack	1 5/16
—	78825	T	50	Jack	Jack	1 25/64
—	78875	T	50/W	Plug	Plug	1 5/32
—	79825	T	50	Jack	Plug	1 21/32
—	79850	T	50/W	Plug	Plug	1 5/32

34125



N TO UHF
weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	N	UHF	Lgth.
83	14000	T-R	—	Jack	Plug	1 5/16
83B	34125	T	—	Jack	Plug	1 13/16
146	4400‡	R	Non-W	Plug	Jack	1 13/32
318	26700	R	—	Plug	Plug	1 47/64
—	14650	T	Non-W	Plug	Jack	1 13/32

16050



HN TO N
weatherproof

UG-/U No.	Part No.	Ins.	Imp. Ohms/Notes	HN	N	Lgth.
—	16050	T	50	Plug	Jack	1 5/16
—	16075	T	50	Jack	Plug	1 5/16
—	16100	T-R	50	Jack	Jack	1 49/64

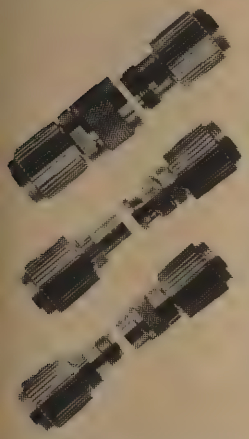
‡Non-tarnish Astroplate finish available. To order: add suffix 1050 to part number. Other numbers also available on special order from factory. * Angle Body.

© United Technical Publications

PRECISION ADAPTERS AND RF CRIMPING TOOLS

BUNKER RAMO AMPHENOL

Precision Adapters For APC-7



APC-7 TO N

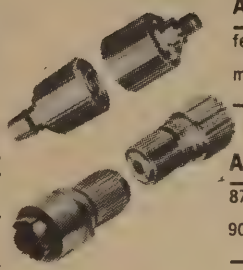
	Part No.	Maximum SWR For a Single Adapter	Dimens., Ins. Length	O.D.
female	131-1025	1.03 @ 4 GHz	1 43/64	13/16
male	131-1035	1.04 @ 9 GHz	1 13/16	13/16
		1.08 @18 GHz		

APC-7 TO BNC

female	131-1027	1.035@ 4 GHz	1 39/64	13/16
male	131-1037	1.045@ 9 GHz	1 29/32	13/16
		1.08 @12 GHz		
		1.12 @18 GHz		

APC-7 TO TNC

female	131-1026	same as BNC	1 39/64	13/16
male	131-1036		1 3/4	13/16



APC-7 TO SMA

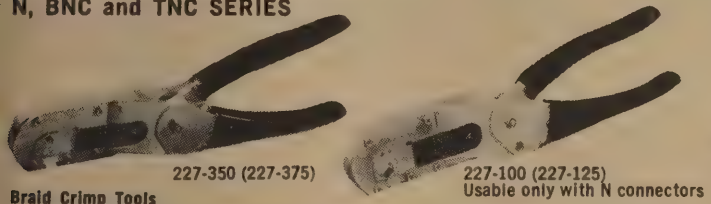
	Part No.	Maximum SWR For a Single Adapter	Dimens., Ins. Length	O.D.
female	131-1028	1.07 @12.4 GHz	1 1/32	13/16
male	131-1038	1.15 @18 GHz	1 3/8	13/16

APC-7 TO GR

874	131-1022 or GR874-QAP7L*	1.04 @ 4 GHz 1.06 @ 9 GHz	2 1/16	1
900	131-1023 or GR900-QAP7*	1.011@ 4 GHz 1.021@ 8.5 GHz	2 3/16	1 1/16

* Available from General Radio and Amphenol.

N, BNC and TNC SERIES



227-350 (227-375)

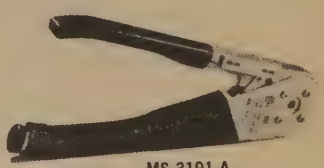
227-100 (227-125)
Usable only with N connectors

Braid Crimp Tools
Meet MIL-T-55619 (proposed) for MIL-C-39012 Crimp Connectors.

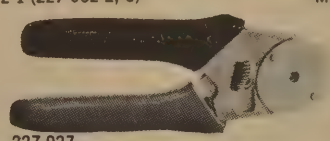
N, BNC and TNC SERIES
Center Contact Tools



227-932-1 (227-932-2, 3)



MS-3191-A
Mil-spec Crimp Tool



227-927
Usable only with BNC/TNC connectors

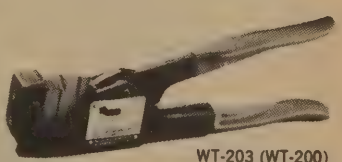
Crimp Tools

The crimp tools selected for use with Amphenol crimp connectors have been designed for superior performance over a considerable period. The most commonly used crimp tools are shown below. The Amphenol Tool Number is given first and in parenthesis, other tools which are very similar in appearance. Refer to the Tool Summary for detailed application for each tool.

SUBMINAX 27 SERIES



227-900 (227-901)
Radial Crimp Tool



WT-203 (WT-200)
Quick-Crimp Tool

SUBMINAX 5116 SERIES



227-926
Center Contact Tool



227-911
Inner Braid Tool

BRAID CRIMP TOOL SUMMARY

Series	type of crimp Description &	Tool No.	Die No.	Die Cavity No.	Die Setting ±.003"	For use with RG-/U Cables
N	MIL-Crimp (Hex)	227-350▲	227-920-1	A	.213	55, 58, 141, 142, 223
		227-375▲	227-920-2	D	.255	59, 62, 140, 210
				C	.268	71
		227-100▲■	227-920-3	E	.415	8, 9, 11, 149, 213, 214
		227-125▲■	227-920-4	G	.324	5, 21, 143, 212, 222
BNC and TNC	MIL-Crimp and Quick-Crimp (Hex)	227-350▲	227-920-1	A	.213	55, 58, 141, 142, 223
				B	.178	122, 174, 179, 180, 187, 188,195
		227-375▲	227-920-2	D	.255	59, 62, 140, 210
				C	.268	71
	Original Crimp*(Hex)	WT-200(T&B)	—	—	.128	174, 179, 187, 188
SUB-Minax 27	Radial Crimp	227-900	May Require Adapter - see p. 27-9, Cable Ass'y Instr.	—	—	174, 179, 187, 188
		227-901		—	—	180, 195
	Quick-Crimp (Hex)	WT-200(T&B)	—	—	.128	174, 177, 187, 188
		WT-203(T&B)	—	—	.178	180, 195, 21-597
SUB-Minax 5116	Quick-Crimp (Inner Braid)	227-911	—	—	Contact Factory	174, 178, 179, 180, 187, 188, 195, 196
MB, SM	Crimp (Inner Braid)	Standard Pliers	—	M	M	174, 178, 179, 180, 187, 188, 195, 196
MHV	Original Crimp (Hex)	Same as BNC/TNC	—	—	—	55, 58, 141, 142, 223
UHF	Quick-Crimp (Hex)	WT-218(T&B)	—	—	.384	8, 11, 149, 213
		227-350▲	227-920-1	A	.213	55, 58, 141, 142, 223
		227-375▲	227-920-2	D	.255	59, 62, 140, 210

Notes: * Original Crimp, same as MIL- and Quick-Crimp except for the cables shown
(T&B) Manufactured and available from Thomas & Betts Co., Elizabeth, New Jersey
▲ Same tool frame no. 227-921 may be used with any intecrhangeable 227-920- type die
■ Tool and appropriate die have capability as well of hex crimping center contacts for all the cables listed here for the N Series
All Tools are supplied with Dies or Bushings unless noted otherwise

CENTER CRIMP TOOL SUMMARY

Series	Description & type of crimp	Tool No.	Bushing No.	Die Cavity No.	Die Setting (+.001)	For use with RG-/U Cables
N	MIL-Crimp (4-Indent)	227-932-3△	—	—	.087	5, 8, 9, 11, 21, 55, 58, 59, 62, 71, 140, 141, 142, 143, 149, 210, 212, 213, 214, 222, 223
	MIL-Crimp (Hex)	227-100□	227-920-3	F	(±.002) .100	
		227-125□	227-920-4	H		
BNC and TNC	MIL-Crimp and Quick-Crimp (4-Indent)	227-932-1△	227-1157	—	.058	55, 58, 59, 62, 71, 122, 140, 141, 142, 174, 179, 180, 187, 188, 195, 210, 223
		227-927°	—	—	.058	
		MS-3191A (Mil. Spec. Tool) (not avail. RF)	order separately 227-918 (MIL-Crimp Male) 227-919 (MIL-Crimp Female) 227-1156 (Quick-Crimp M & F)	—	.058	
5116	Quick-Crimp (4-Indent)	227-926	—	—	.034	174, 178, 179, 180, 187, 188, 195, 196

□ Tool and appropriate die have capability as well of braid crimping certain cable sizes — see Braid Crimp Tool Summary
△ Same tool frame no. 227-1189, may be used with either Bushing no. 227-1194, 227-1157 or 227-1199

© United Technical Publications

TUBE/RELAY SOCKETS

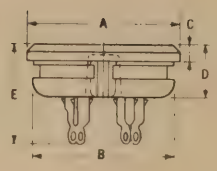
AMPHENOL
THE BUNKER-RAMO CORPORATION

"S" Type Tube Sockets WITH RETAINER RING MOUNTING

These quick-mounting sockets use no screws or rivets; they are securely held by the retainer ring and can be easily mounted with a screwdriver or AMPHENOL hand tool 51-3.

"S" type sockets may also be used with plug caps to make up high quality, low cost cable connections.

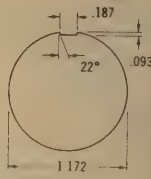
SPECIFY CHASSIS THICKNESS. Unless otherwise specified, "S" type sockets are grooved to fit 22 gauge (.031") to 18 gauge (.050") panels or chassis. This standard grooving also fits plug caps. They can be grooved to fit up to 13 gauge (.093").





78-S8

Black Phenolic Part No.	Steatite Part No.	Contacts	Pin Circle Dia.	Voltage Rating (RMS)	Current Rating	Mating Plug	DIMENSIONS A	B	C	D	E
78-S4	49-SS4	4	.640	2000	5	86-CP4	1¼	1 3/32	.135	.420	27/32
78-S5	49-SS5	5	.750	1250	5	86-CP5	1¼	1 3/32	.135	.420	27/32
78-S6	49-SS6	6	.750	1250	5	86-CP6	1¼	1 3/32	.135	.420	27/32
—	49-SS7L	7 Large	.855	1250	5	—	1⅜	1 11/64	.135	.420	27/32
78-S7S	49-SS7S	7 Std.	.750	1250	5	86-CP7S	1¼	1 5/32	.135	.420	27/32
78-S8	49-SS8	8 Octal	.687	1250	3	86-CP8	1¼	1 5/32	.145	.490	⅞
78-S8L	—	8 Loktal	.750	1250	3	—	1¼	1 3/32	3/32	23/64	9/16
78-S9	—	9	.687	1250	3	86-CP9	1¼	1 3/32	.145	.490	⅞
78-S11	—	11	.750	1250	3	86-CP11	1¼	1 3/32	.145	.490	⅞
78-S16	—	16	†	500	3	86-CP16	1¼	1 3/32	.145	.490	⅞
78-B	—	Blank	—	—	—	—	1¼	1 5/32	.145	.490	⅞



† Outer circle .750"; inner eccentric

"S" Type Replacement Sockets

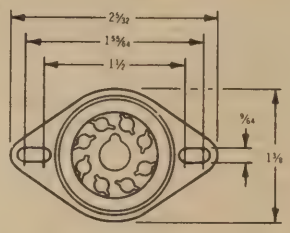
These sockets are regular "S" type sockets, assembled with a retainer ring holding a sturdy nickel-plated steel mounting plate. To order replacement socket, insert "R" before "S" in applicable part number; for example 78-RS4 is replacement socket comparable to 78-S4.

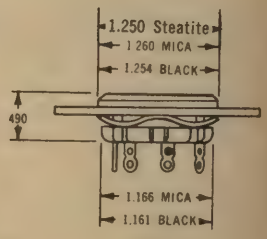


78-RS8



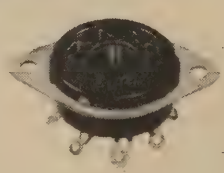
49-RSS8

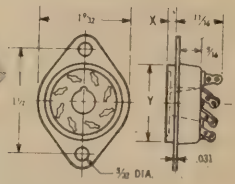




"MIP" Molded-In Plate Tube Sockets

X=3/32 on MIP-4-5-6-7S
X=.145 on MIP 8-9-11-12
X=.145 on 77-MIP-8FK & 59-103
Y=1 1/64 on MIP-4-5-6-7S
Y=1 3/64 on MIP-11-12
Y=1 1/64 on 77-MIP-8FX
Y=1.110 on 59-103





77-MIP-8

Steel mounting plate molded directly into solid phenolic body.

Two holes in each contact provide wiring and anchoring points for resistors, capacitors, chokes, and other components.

All sockets are designed for above-chassis mounting in round holes 1 3/16" diameter except 77-MIP-20 (1 5/16" dia.).

MIP Part No.	Contacts	Pin Circle Diameter	Voltage Rating (RMs)	Current Rating (Amps)	Mating Plug (Page 5)
77-MIP-4	4	.640	2000	5	86-CP4
77-MIP-5	5	.750	1250	5	86-CP5
77-MIP-6	6	.750	1250	5	86-CP6
77-MIP-7S	7 Std.	.750	1250	5	86-CP7S
77-MIP-8	8 Octal	.687	1250	3	86-CP8
77-MIP-9	9	.687	1250	3	86-CP9
77-MIP-11	11	.750	500	3	86-CP11
77-MIP-12	12	.750	500	3	86-CP12
77-MIP-20	20	1.000 Outer .687 Inner	500	3	70-20

DEVIATIONS — When no deviations are specified, mounting plate is steel, contacts are cadmium plated brass, contact tails are not tinned, and dielectric is black phenolic. To specify any of the following deviations add the designation at the end of the part number.

T — Mica-filled phenolic **M** — Phosphor bronze, silver plated contacts and stainless steel mounting plate **1** — Contact tails tinned

Compact "MIP" Sockets

Similar to standard "MIP" types except smaller. They mount in 1⅛" diameter round hole, have two .136" diameter mounting plate holes on 1 5/16" centers.

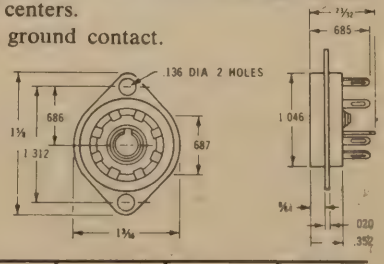
Loktal style has center ground contact.



88-8 Octal

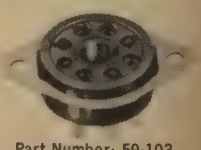


88-8X Loktal



	Part No.	Pin Circle Diameter	Voltage Rating (RMS)	Current Rating (Amps)
88-8X Loktal	88-8	.687	1250	3
	88-8X	.687	1250	3

Octal is like the standard "MIP" octal but has exclusive, patented Clover Leaf contacts. Body is mica-filled phenolic, mounting plate is stainless steel, contacts are silver plated phosphor bronze, contact tails are hot dipped. Rated 1250 V at 5 Amps.



Part Number: 59-103

Saddle Type Octal

Octal socket with 4 ground lugs for below chassis mounting and 2 9/64" holes on 1.312" centers for above chassis mounting. Black phenolic dielectric.

168-001	Wrap around contacts, Brass
*168-015	Tuning fork contacts, Luballoy

* Also available with printed circuit or wire wrap terminals



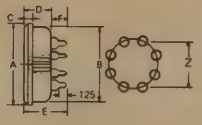
© United Technical Publications

TUBE/RELAY SOCKETS

AMPHENOL
THE BUNKER-RAMO CORPORATION

NEW! Standard 78S and 77MIP Series Sockets FOR PC BOARD INSTALLATION

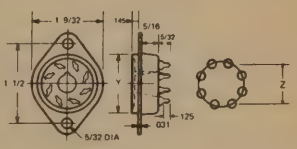




Rugged copper alloy contacts, 5/32" long, have .125" tapered lead-in sections for quick insertion in plated-through holes in circuit boards. Broader shoulder section allows .020" clearance for air circulation.

To order: Add suffix "W0125" to part number. Where strain on terminals is expected use MIP style with screws and standoffs. For extra insulation and dielectric strength add letter "T" to number. EX: 77MIP8*TW-0125*.



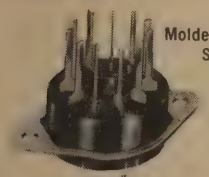


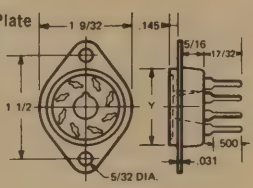
DIMENSIONS

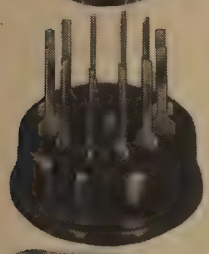
Sockets	A	B	C	D	E	F
78-S8, -S9, -S11, -S12, -S16	1¼	1 5/32	.145	.490	.646	5/32

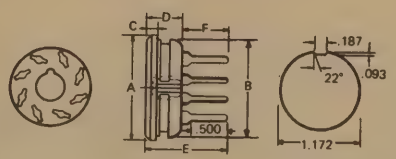
MIP Sockets	"Y" Dimension	"Z" Dimension
77 MIP 8-9	1 7/64	.687
77 MIP 11-12	1 9/64	.750
77 MIP 20	1 15/64	1.000

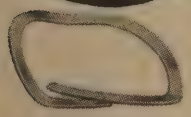
NEW! Standard 78S and 77MIP Series Sockets WITH WIRE WRAP TERMINATIONS











Wire-wrap terminations permit users of hand and semi-automatic wrapping equipment to terminate tube sockets in the same operation as other components without extra soldering. Two mounting styles and two types of dielectric: phenolic/mica-filled phenolic.

CONTACTS: Copper alloy (Lubaloy) with cadmium plated finish; "tuning fork" shaped for low contact resistance. Tails are ½" long; 1/16" wide. Available in two thicknesses: *Standard* .016" rated at 3 amps continuous with 3 oz. min. retention force; *heavy-duty* .025" rated at 7.5 amps continuous with 5 oz. retention.

DIMENSIONS

Sockets	Y	Sockets	A	B	C	D	E	F
77 MIP 8-9	1 7/64						1⅛	
77 MIP 11-12	1 9/64	78-S8, -S9, -S11, -S12	1¼	1 5/32	.145	.490	Approx.	5/16

ORDERING INFORMATION

Number of Contacts	Standard Contacts Molded-In-Plate Style	Standard Contacts Retaining Ring Style	Heavy Duty Contacts Molded-In-Plate Style	Heavy Duty Contacts Retaining Ring Style
8	77-MIP8W-0500	78-S8W-0500	77-MIP8W-0525	78-S8W-0525
9	77-MIP9W-0500	78-S9W-0500	77-MIP9W-0525	78-S9W-0525
11	77-MIP11W-0500	78-S11W-0500	77-MIP11W-0525	78-S11W-0525
12	77-MIP12W-0500	78-S12W-0500	77-MIP12W-0525	78-S12W-0525

For sockets with mica-filled phenolic dielectric, add "T" in part number, for example: 77-MIP8TW-0500

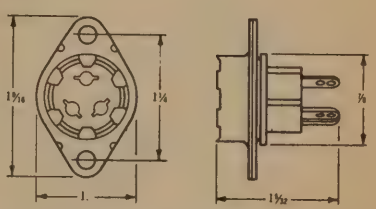
Shielded Chassis Type



Mount on surface or behind chassis or panel in ⅞" diameter hole on 1¼" centers.

For a fully shielded connection, mate with 91 Series Long Shell Shielded Plugs.

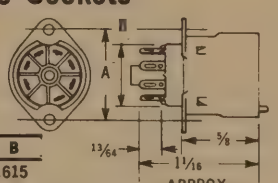
Part No.	Contacts No.	Pin Circle Diameter	Current Rating (Amps)	Mating Plugs Unshielded	Mating Plugs Shielded
78-PCG3	3	.344	3	71-3S	91-MPM3L
78-PCG4	4	.406	3	71-4S	91-MPM4L
78-PCG5	5	.406	3	71-5S	91-MPM5L
78-PCG6	6	.406	3	71-6S	91-MPM6L



7 & 9 Contact Miniature Sockets



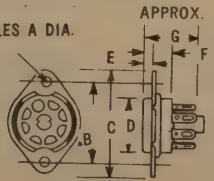
7 Pin
147-905
(Shown)
9 Pin
59-407



Part	A	B
147 Series	.875	.615
59 Series	1.125	47/64



7 Pin
147-500
(Shown)
9 Pin
59-409



Part	A	B	C	D	E	F	G
147 Series	.125	.875	1⅛	.610	.113	.306	5/16
59 Series	.095	1.125	—	47/64	.062	.295	13/32

147 and 59 Series sockets, suitable for any miniature application, may be ordered with or without tube shield base or center shield, for top or below-chassis mounting.

Phosphor bronze contacts with cadmium plating except as noted. Rated 500 V (RMS) at 1 Amp.

Contacts	Dielectric	Center Shield	Standard Bottom Mtd.	Shield Base Top Mtd.
7	Black Phenolic	Large	147-500	147-905
7	Black Phenolic	None	147-504	—
7	Mica Filled	Small	147-505	147-913
7	Mica Filled	Small	—	147-916*
9	Black Phenolic	Large	59-409	59-406
9	Mica	Large	59-410	59-407
9	Mica	None	59-411	59-405
9	Black Phenolic	Large	—	59-461

*Beryllium copper silver-plated contacts.

© United Technical Publications

SOCKETS AND PLUGS

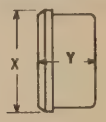
AMPHENOL
THE BUNKER-RAMO CORPORATION

Miniature Tube and Chassis Sockets WITH RETAINER RING MOUNTING





Sockets are easily mounted without screws or rivets in ⅝" round or "D" shaped hole. Correct size retainer ring supplied which assures a tight and secure mounting. Body is black phenolic but is also available in mica-filled phenolic when specified.



Part	X	Y
78-7P 78-S3S 78-S4S	45/64	13/32
78-S5S	¾	½



Part No.	Contacts No.	Pin Circle Diameter	Voltage Rating (RMS)	Current Rating (Amps)	Mating Plugs Unshielded	Mating Plugs Shielded
78-S3S	3	.344	500	3	71-3S	91-MPM31
78-S4S	4	.406	500	3	71-4S	91-MPM4L
78-S5S	5	.406	500	3	71-5S	91-MPM5L
78-S6S	6	.406	500	3	71-6S	91-MPM6L
78-7P	7	.375	500	3	86-896	86-895

78 Series Miniature Sockets WITH PC OR WIRE WRAP TERMINATIONS





Number of Contacts	Wire Wrap Termination Standard Contact	Wire Wrap Termination Heavy Duty Contact	Printed Circuit Board Mounting
3	78-S3SW-0500	78-S3SW-0525	78-S3SW-0125
4	78-S4SW-0500	78-S4SW-0525	78-S4SW-0125
5	Not Available	Not Available	78-S5SW-0125
6	Not Available	Not Available	78-S6SW-0125

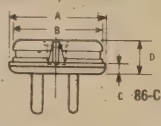
To meet customer requirements for low cost terminations, Amphenol introduces miniature sockets for PC board mounting and Wire Wrap termination. These sockets can be used for vacuum tubes, relays, input or output cable connections and many other circuit requirements where standard size sockets won't fit. Performance is equal to larger sockets; general purpose or mica-filled dielectric available. Wire-wrap termination type mounts in ⅝" diameter round or D shaped panel cut out; friction-type retainer ring included. PC board types mount through 1/16" diameter holes in PC board arranged in proper pin circle diameter as shown above.

Contact shoulders prevent socket from bottoming, allow clearance for air circulation and cleaning.

"CP" Type Plugs with Retainer Ring Mounting

Plugs with 4, 5, 6, and 7 contacts do not have center guide post but are polarized for correct insertion by use of two pins of larger diameter than others.

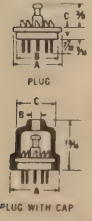
Molded-in contacts are nickel plated brass. Standard dielectric is black phenolic, but all sizes are available also in mica-filled phenolic. To order, just add T to the part number — for example, 86-CP8T.





Part No.	Contacts	Pin Circle Dia.	Volt. Rating (RMS)	Curr. Rating (Amps)	Mating Sockets Ret. Ring Type (Pg. 3)	Mating Sockets "MIP" Type (Pg. 3)	Dimensions A	B	C	D
86-CP4	4	.640	2000	5	78-S4	77-MIP4	1¼	13/32	5/32	7/16
86-CP5	5	.750	1250	5	78-S5	77-MIP5	1¼	13/32	5/32	7/16
86-CP6	6	.750	1250	5	78-S6	77-MIP6	1¼	13/32	5/32	7/16
86-CP7S	7 Std.	.750	1250	5	78-S7S	77-MIP7S	1¼	13/32	5/32	7/16
86-CP8	8 Octal	.687	1250	5	78-S8	77-MIP8	1¼	13/32	.145	7/16
86-CP9	9	.687	1250	5	78-S9	77-MIP9	1¼	13/32	.145	7/16
86-CP11	11	.750	500	5	78-S11	77-MIP11	1¼	13/32	.145	7/16
86-CP12	12	.750	500	3	78-S12	77-MIP12	1¼	13/32	.145	7/16
86-CP16	16	Outer: .750 Inner: Eccentric	500	5	78-S16	—	1¼	13/32	.145	7/16

Miniature "CP" Plugs







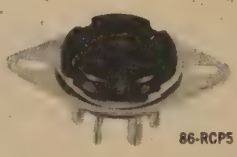
Molded from diallyl phthalate. Feature a molded-in strain relief post. Gold-over-silver plated contacts.

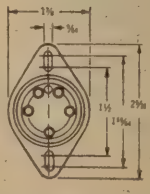
Styles with rubber plug caps in end and cable outlet on side also available.

ELECTRICAL & MECHANICAL CHARACTERISTICS
Voltage Rating: 1500 V RMS Sea Level
Current Rating: 5 Amps.
Insulation Resistance (Min): 10,000 Megohms
Contact Pins: .040 dia. S.A.E #72 Brass

Part No.	Description	A	B	C	Pin Circle Diameter
86-896	7-Pin Plug	.685	.575	.070	.375
86-893	9-Pin Plug	.778	.668	.070	.468
86-895	7-Pin Plug with Cap	.781	171	.625	.375
86-897	9-Pin Plug with Cap	.875	.285	.718	.468
86-894	7-Pin Plug with Side Outlet Cap	.750	.468	.171	.375

"CP" Replacement





To order replacement type plugs add "R" to regular part number, for example, 86-RCP5. Replacement plugs are of black phenolic but are available also in mica-filled phenolic; just add "T" to the part number.

Unshielded Miniatures BELOW CHASSIS





Part No.	Contacts	Pin Circle Dia.	Voltage Rating (RMS)	Current Rating (amps)	Mating Sockets Unshielded	Mating Sockets Shielded
71-3S	3	.343	500	5	78-S3S	78-PCG3
71-4S	4	.406	500	5	78-S4S	78-PCG4
71-5S	5	.406	500	5	78-S5S	78-PCG5
71-6S	6	.406	500	5	78-S6S	78-PCG6
86-CP-3S	3	.343	500	5	78-S3S	91-MPF3S
86-CP-4S	4	.406	500	5	78-S4S	91-MPF4S
86-CP-5S	5	.406	500	5	78-S5S	91-MPF5S
86-CP-6S	6	.406	500	5	78-S6S	91-MPF6S

Molded Speaker Type Plugs



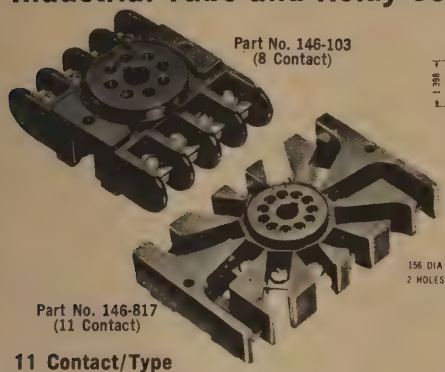
Part No.	Contacts	Mating Sockets "S" Type	Mating Sockets "MIP" Type
71-4	4	78-S4	77-MIP-4
71-5	5	78-S5	77-MIP-5
71-6	6	78-S6	77-MIP-6
71-7	7	78-S7S	77-MIP-7S
70-8	8	78-S8	77-MIP-8
70-9	9	78-S9	77-MIP-9
70-12	12	78-S12	77-MIP-12
70-20	20	—	77-MIP-20

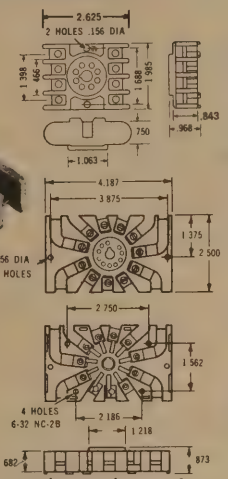
© United Technical Publications

RELAY SOCKETS / HARDWARE

BUNKER RAMO AMPHENOL

Industrial Tube and Relay Sockets





11 Contact/Type

Rated 10 amps., 600 volts. May be gang mounted, either above or below chassis. High, thick insulating barriers provide long creepage paths between contacts.

Socket-type contacts assure firm, smooth mating action and excellent relay retention even after repeated matings.

RETMA-numbered solderless, reversible screw terminals. 4 molded-in threaded-brass insert tie points. Replaceable contacts

Electrical and Mechanical Characteristics

Dielectric: Melamine
Threaded insert: Brass
Contacts: Phosphor bronze Grade A, plated .0002-.0004" nickel per QQN-290
Part Number to Order: 146-817

8 Contact Type

Molded in one piece of melamine. Rugged insulating barriers provide long creepage paths between contacts and to ground. Patented "Clover Leaf" contacts offer minimum contact resistance. Removable contacts. RETMA-numbered reversible screw type terminals simplify wiring and permit use of wiring harness and terminal lug type connections. Above or below chassis mounting. May be gang mounted. Voltage rating is 1250V RMS at 5 amps.

Part No.	Description
146-103	Standard Socket Without Tie Point Inserts — Top Mounted
146-104	Socket With Four Molded-in Threaded Inserts for Tie Points — Top Mounted
146-203	Same As 146-103 Except For Bottom Mounting
146-204	Same As 146-104 Except For Bottom Mounting

14 Contact Type



Part No. 59-106

Cadmium plated steel mounting plate with two .125" dia. holes on 1.125" centers. Mounting hole is .750" minimum diameter. Wrap around type contacts of silver plated phosphor bronze with hot tin dipped tails. Dielectric is mica-filled phenolic. Mates with 14-contact relay plugs.

20 Contact Relay Socket



Part No. 59-470

Molded of diallyl phthalate. Contacts are heat-treated, half-hard beryllium copper, hooded and with turret type terminals. Mounting plate is passivated stainless steel with two .144" dia. holes on 1.406" centers. Mounting hole is 1.000" diameter. Mates with 20-contact relay plugs.

Rectangular Relay Sockets

Economical 14 contact socket for popular 4 pole, double throw general purpose relays. Available in solder eyelet termination with panel mounting clip or dip solder terminations for PC board mounting. Cadmium plated brass contacts in molded phenolic dielectric rated 5 amps at 250 volts.

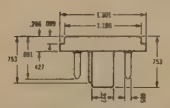


59-133 Solder eyelet contacts
59-134 Printed circuit contacts

Relay & Tube Bases



50-801



Four notches allow quick staking of a relay plate to either 8 or 11-pin plug base.

Part No.	Contacts	Pin Circle Diameter	Voltage Rating (RMS Sea Level)	Current Rating (Amps)	Mating Socket
50-801	8	.687	1250	5	77-MIP-8
50-820	11	.750	1250	5	77-MIP-11

Recessing Shells

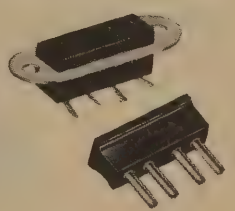
For use with 78S, 86CP, 60, 61 and 160 Series plugs and sockets.

23-1S	Aluminum. Raise or recess 1¾6". 1¾" mounting hole, uses 3 No. 6 screws.
61-61	Cadmium plated steel. Recesses unit 1¾6". Mounts in 1¾6" hole. Two 9/32" mounting holes on 1¾" centers.



Rectangular Connector

70-26	4 contact cable plug
77-26	4 contact receptacle, molded-in-plate, two 9/32" screw holes on 1¾" centers. 5/16" x 1¼" panel cutout



Caps



Thermoplastic | Rubber Grommet | Side Outlet Rubber Grommet | Cable Clamp

Makes inexpensive cable connectors of standard sockets, plugs and receptacles such as 78, 60, 61, 86 and 160 Series. For applications requiring frequent mating and unmating use 3-858 or 3-859 with molded finger grip.

FINISH				
Black Thermoplastic	Black Epoxy	* Clear Cadmium	Cable Outlet	Maximum Cable O.D.
—	3-10	3-10-1000	None	* Dust Cap
—	3-12	—	Metal	5/16"
—	3-13	3-857	Rubber	7/16"
—	3-17	—	Side, Rubber	7/16"
—	3-24	3-856	Cable Clamp	3/8"
3-858	—	—	Finger Grip Style	5/16"
3-859	—	—	Finger Grip Style	5/16"

SCR Sockets

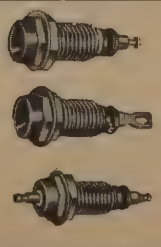
Three contact receptacle designed to accept General Electric Company's C106 SCR (Silicone controlled rectifier). Nickel silver contacts. Black nylon insulator. Voltage rating: 500 volts (RMS). Current rating: 5 Amps. Contact spacing: .100" centers. Mating engagement depth: .160" min. Contact length: Approximately .323" x .020" square. Contact tails designed for wire wrap or printed circuit board mounting.

77-115	Press fit style without flange. To fit rectangular panel or chassis cut dimensions .335 ±.005" x .1625 ±.0015".



Tip Jacks

Nylon body with recessed silver plated contact. For .080" dia. phone tip. Tinned terminal. ¼" mounting hole. Add suffix to catalog number to indicate color.



350-29175-* Turret Terminal	-1 Red	
350-29200-* Spade Terminal	-2 Black	-5 Orange
350-50200-* Feed-thru	-3 Brown	-6 White
*Suffix Color Numbers.	-4 Green	-7 Blue

Grid Cap

63-1	For tube grid caps, ¼" to ½" diameter.



Lamp Socket

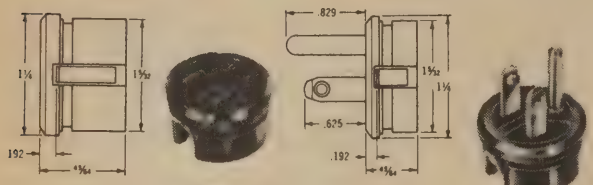
For medium base prefocused lamps. 1000 watts. 110/250 volts, UL approved.

98-8	Phenolic, to 450°F.
98-1	Steatite, to 1800°F.

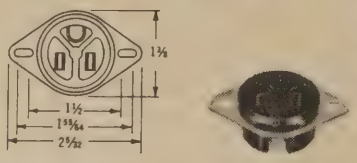


© United Technical Publications

Plugs and Receptacles, 125 Volt Home and Industrial Type U/L APPROVED

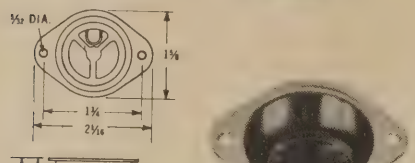


Heavy duty outlet plugs and receptacles that meet Underwriters' Laboratories requirements for grounding home appliances and tools. All have UL approval except the 160-10 and 160-11 which requires grounding after mounting. Rated at 15 amp 125 volt or 10 amp 250 volt.



Inserts

Molded thermoplastic bodies.
Part Number to Order: 160-10N 2-Pole Receptacle Insert — 160-11N 2-Pole Plug Insert



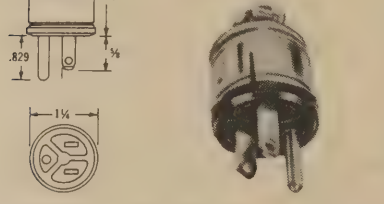
With Mounting Plate

Nickel plated steel mounting plate assembled to molded thermoplastic body.
Part Number to Order: 160-2N 2-Pole Receptacle — 160-3N 2-Pole Plug



Flush Motor Type

Consist of 160-10N and 160-11N inserts assembled in cadmium plated steel shells for below-surface mounting.
Part Number to Order: 160-4N 2-Pole Flush Motor Receptacle — 160-5N 2-Pole Flush Motor Plug

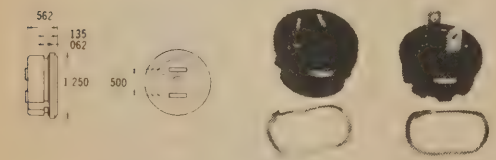


Shielded

Consists of inserts 160-10N and 160-11N assembled in sturdy steel plug caps finished in cadmium plate.

Part Number to Order:
160-6N 2-Pole Shielded Receptacle with Rubber Grommet
160-7N 2-Pole Shielded Plug with Rubber Grommet
160-8N 2-Pole Shielded Receptacle with Cable Clamp
160-9N 2-Pole Shielded Plug with Cable Clamp

110 Volt Home and Industrial Type U/L APPROVED



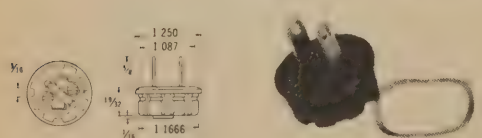
Inserts

Compact black phenolic units built to Underwriters' Laboratories standards. Rated at 15 amp, 110 volt or 10 amp, 250 volt. Available in either retainer ring or mounting plate style.

Assemble retainer ringe style with plug caps for required type. Mounts in $1\frac{11}{64}$" keyed hole on chassis up to .125" thick. Mounting plate style requires $1\frac{9}{32}$" dia. hole. Mounts on $1\frac{1}{2}$" to $1\frac{55}{64}$" centers.

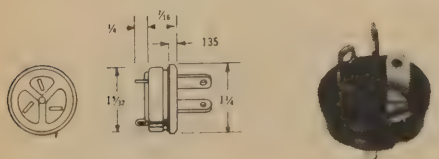
61-M plug has standard ¼" blades spread ½". 61-MP has one $\frac{5}{16}$" blade spread ½". 60-M has three ¼" blades staggered spaced. Binding screws for connecting cables are used on both plugs and receptacles.

Part Number Retainer Ring Type	Part Number Mounting Plate Type	Description
PLUGS		
61-M	61-M1	2-pole, Standard
61-MP	61-MP1	2-pole, Polarized
60-M	60-M1	3-pole, Polarized
RECEPTACLES		
61-F	61-F1	2-pole, Universal
60-F	60-F1	3-pole, Polarized



Molded-In-Plate Receptacle

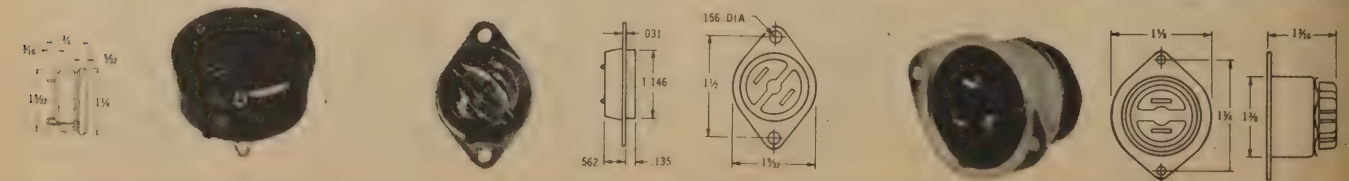
High quality 110-volt receptacle identical to 61-F except for steel mounting plate molded into phenolic body. Mounts in $1\frac{3}{16}$" dia. hole on $1\frac{1}{2}$" centers. Mounting hole, $\frac{5}{32}$" dia.
Part No. 61-MIP-61F



Flush Motor Plug & Receptacle

Compact plug or receptacle assembled in No. 61-61 steel shell for below-surface mounting. Mounts in $1\frac{7}{16}$" hole; two $\frac{5}{32}$" screw holes on $1\frac{3}{4}$" centers.

Part No.	Description
60-F10	3-pole Polarized Receptacle
60-M10	3-pole Polarized Plug
61-F10	2-pole Universal Receptacle
61-M10	2-pole Standard Plug
61-MP10	2-pole Polarized Plug



© United Technical Publications

AUDIO/ELECTRONIC CONNECTORS

AMPHENOL
THE BUNKER-RAMO CORPORATION

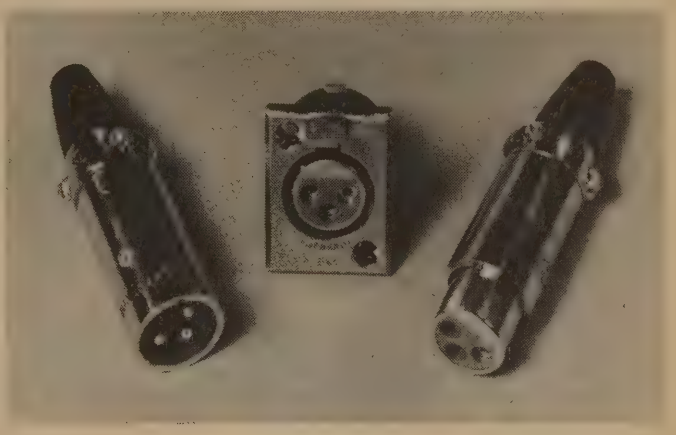
NEW! EXCELLITE Audio Type Plugs and Receptacles

For quality performance and appearance in a lightweight, competitively-priced audio connector

—Exceptionally rugged, molded plastic bodies make these microphone connectors lightweight . . . yet uniquely durable.

—Satin-smooth nickel plating provides effective shielding for high impedance audio circuits PLUS that touch of "deluxe" you want on all your audio accessories.

—Quick-release latch, removable inserts and solder cup contacts enable fast, easy removal and maintenance.



Especially designed and **styled** for use in modern, streamlined audio and other low-level circuits, AMPHENOL/EXCELLITE Connectors are intermateable with industry-standard connectors, yet are lighter weight and more competitively priced than metal-body types.

EXCELLITE Connectors can be used on: test equipment, sound and recording systems, computers and a large variety of other high performance applications with consistently better-than-adequate results.

Taking full advantage of modern technology and materials, their superior design assures you of their dependable service and long life. Just look at these quality features: tough-molded ABS molded plastic bodies; satin-nickel plating inside and out; push-button lock and release; positive-gripping cable clamps (for cable up to 5/16" O.D.); unitized, removable inserts of high impact thermo-plastic; machine screw design silver-plated brass contacts and positive grounding action when contacts engage/disengage (#1 engages first). The cable boot is black rubber.

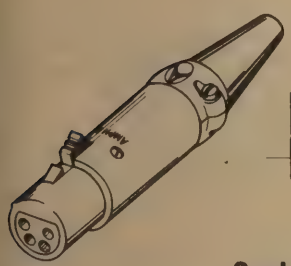
Voltage rating: test: 1400 v. RMS; service: 133 v. RMS. **Current rating** varies with the number of contacts. (See below).

STANDARD CONTACT ARRANGEMENT
(Face view — pin insert)



3—#12 Contacts 15 AMPS	4—#16 Contacts 10 AMPS	5—#18 Contacts 7.5 AMPS

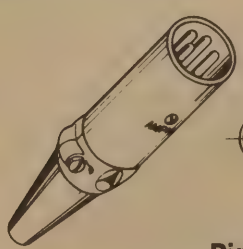
STRAIGHT CORD PLUGS

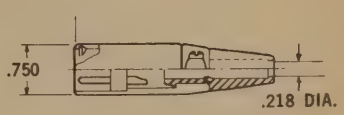




Socket Contacts

Number of Contacts		3	4	5	6
Part Number		91-454	91-458	91-462	91-465
Electrical Equivalent	Cannon	XLR-3-11C	XLR-4-11C	XLR-5-11C	
	Switchcraft	A3F	A4F	None	

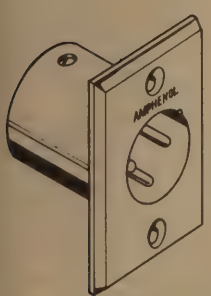


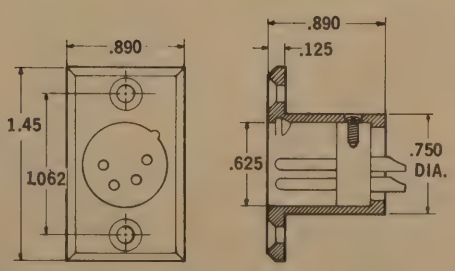


Pin Contacts

Number of Contacts		3	4	5	6
Part Number		91-453	91-457	91-481	91-466
Electrical Equivalent	Cannon	XLR-3-12C	XLR-4-12C	XLR-5-12C	
	Switchcraft	A3M	A4M	None	

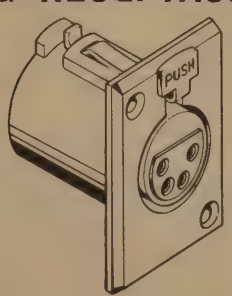
WALL MOUNTING RECEPTACLE

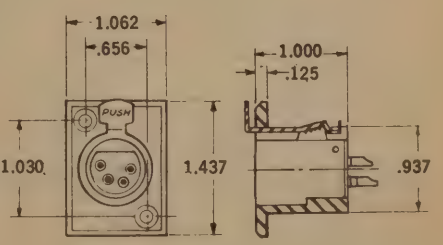




Pin Contacts (mates with above)

Number of Contacts		3	4	5	6
Part Number		91-455	91-459	91-463	91-467
Electrical Equivalent	Cannon	XLR-3-32	XLR-4-32	XLR-5-32	
	Switchcraft	D3M	D4M	None	





Socket Contacts (mates with above)

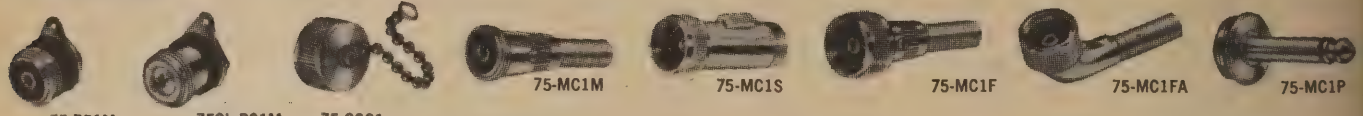
Number of Contacts		3	4	5	6
Part Number		91-456	91-460	91-464	91-469
Electrical Equivalent	Cannon	XLR-3-31	XLR-4-31	XLR-5-31	
	Switchcraft	D3F	D4F	None	

© United Technical Publications

MICROPHONE CONNECTORS

AMPHENOL
THE BUNKER-RAMO CORPORATION

75 Series



Single Contact

Standard with leading manufacturers for many years. Widely used also on amplifiers, transmitters, phono-electric devices, home recorders, PA speakers, headphones, theft alarms and coin operated devices.

Unbreakable shielded cable type connectors of chrome plated, machined brass. The threaded ends engage with the coupling rings to make a positive, noise-free, leak-proof connection by pressing the center contacts firmly together. Spring cord protectors accommodate cables up to ¼" diameter. Receptacles mount in .385" holes when grounding to chassis; mount in .500" holes for ungrounded two-circuit applications. Can be screwed into housing or stand with standard ⅜"-24 tapped hole.

Part No.	Description
75-PC1M	Locknut Receptacle
75CL-PC1M	Locknut Receptacle w/Spring Loaded Contact
75-MC1M	Cable Jack
75-MC1F	Straight Plug
75-MC1FA	Angle Plug
75-CCC1	Cap and Chain
75-MC1P	Phone Plug Adapter
75-MC1S	Microphone Switch

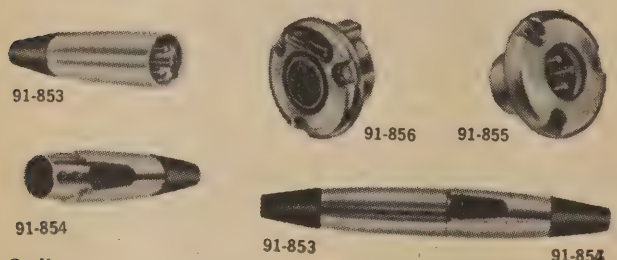
Miniature 75-1, 75-2, 75-3

Designed for transistor audio equipment, they have the same simplicity of connection and reliability of operation as the world-recognized AMPHENOL regular microphone connectors, but only about half their size and weight.

Part No.	Description	Length	Weight
75-1	Plug	1 11/64"	.011 lb.
75-2	Jack	1"	.009 lb.
75-3	Receptacle Locknut	⅝"	.008 lb.



91 Series



Qwiks

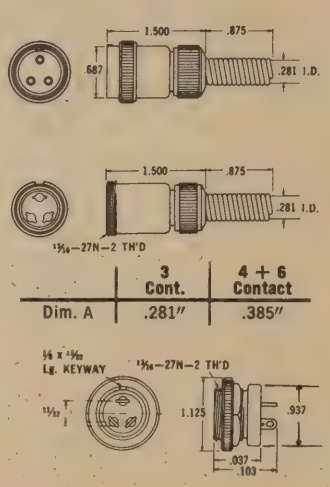
Efficient, easy-to-operate, quick-disconnect microphone connectors. Disconnect by means of a button, slid forward in the jack, depressed in the female receptacle. Connect by simply clicking-in plug or jack. Plug and jack also mate.

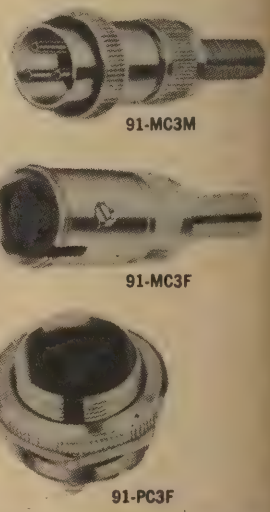
Qwiks are finished in attractive corrosion-resistant satin nickel, with bodies of high grade zinc alloy. Contacts are bronze, gold-plated over silver for high conductivity. Dielectric is diallyl phthalate.

Part Number		
3 Contacts	4 Contacts	Description
91-853	91-857	Male Plug
91-854	91-858	Female jack
91-855	91-859	Male chassis receptacle
91-856	91-860	Female chassis receptacle

Electrical and Mechanical Characteristics

	3-Contact		4-Contact		6-Contact	
	Female	Male	Female	Male	Female	Male
Voltage Rating (RMS) Sea Level	600 V	800 V	600 V	600 V	600 V	600 V
Current Rating	3 Amps	5 Amps	3 Amps	5 Amps	3 Amps	5 Amps
Voltage Breakdown (RMS) Between Terminal and Ground	2000 V	2000 V	2000 V	2000 V	2000 V	2000 V





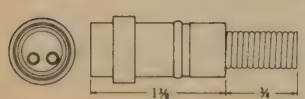
These are 3, 4, and 6-contact connectors designed for audio equipment but used extensively on all types of equipment.

Dielectric is molded from black phenolic. Shell is of brass, with bright nickel plating. Also available in chrome finish. (Part number below is for chrome plating. To get nickel plating, substitute "N" for "C" in part number, for example, 91-MN3M.)

Plugs		Jacks		Receptacles	
Part No.	Contacts	Parts No.	Contacts	Part No.	Contacts
91-MC3M	3 Male	91-MC3F	3 Female	91-PC3F	3 Female
91-MC3F1	3 Female	91-MC3M1	3 Male	91-PC3M	3 Male
91-MC4M	4 Male	91-MC4F	4 Female	91-PC4F	4 Female
91-MC4F1	4 Female	91-MC4M1	4 Male	91-PC4M	4 Male
91-MC6M	6 Male	91-MC6F	6 Female	91-PC6F	6 Female

80 Series





Single and double-contact connectors. Element is black phenolic; shell is machined from solid brass and finished in polished chrome. All mounts in ⅝" holes. Maximum chassis thickness for lock-nut type receptacles is 11/32".

Electrical and Mechanical Characteristics

	Single Contact		Double Contact	
	Male	Female	Male	Female
Voltage Rating (RMS Sea Level)	1250 V	100 V	600 V	600 V
Current Rating	5 Amps	3 Amps	3 Amps	3 Amps
Voltage Breakdown Between Terminals and Ground (RMS)	3000 V	4000 V	2000 V	2000 V

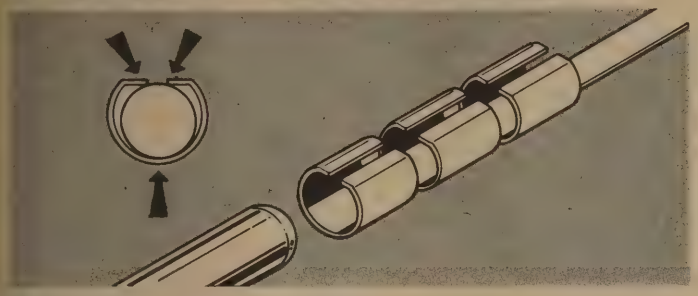
Plugs		Jacks		Receptacles	
Part No.	Contacts	Part No.	Contacts	Part No.	Contacts
80-M	1 Male	80-F	1 Female	80-C	1 Female
80-F1	1 Female	80-M1	1 Male	80-C1	1 Male
80-MC2M	2 Male	80-MC2F	2 Female	80-PC2F	2 Female
80-MC2F1	2 Female	80-MC2M1	2 Male	80-PC2M	2 Male

© United Technical Publications

INDUSTRIAL CONNECTORS

BUNKER RAMO AMPHENOL

91 Series Miniature Connectors



These miniature audio/electronic cable to panel connectors are available with up to 12 contacts in straight or right angle plug styles. Approximately 33% smaller than Amphenol's standard 91 Series coupling ring connectors, these miniatures are intermateable with some types of imported European electronic equipment. They provide high density, low cost, top quality interconnections for many modern equipment requirements.

Screw-Lock Coupling Style

SPECIFICATIONS

Current Rating: 3 amps per contact

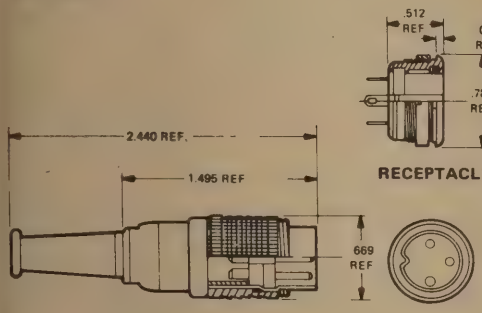
Voltage Rating: 2, 3, 4, 5, 6, & 7 contacts — 120V 12 contact — 60V

Dielectric: Black polycarbonate

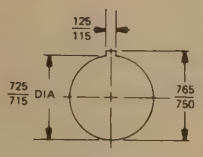
Contacts: Pin — Silver plated brass
Socket — Silver plated phosphor bronze

Wire Size: 20 ga.





RECEPTACLE



PANEL CUTOUT

Friction Lock Coupling Style

SPECIFICATIONS

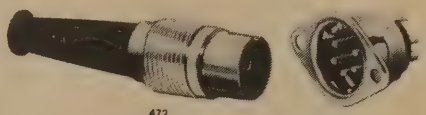
Current Rating: 3 amps per contact

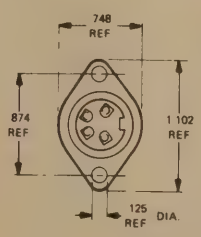
Voltage Rating: 1 contact — 750V; All others — 120V

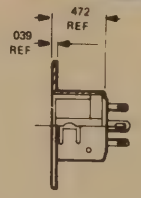
Dielectric: Black molded polycarbonate

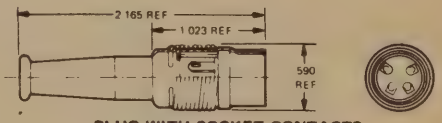
Contacts: Pin — Silver plated brass contacts with solder pot tails
Socket — Silver plated phosphor bronze spring type contact with pre-tinned solder eyelet tails

Wire Size: 20 ga.









PLUG WITH SOCKET CONTACTS

Ordering Information

Number of Contacts	Part Numbers		
	Cable Plugs		
	Straight	Right Angle	Panel Receptacles
2	91-T-3200-1	91-T-3200-6	91-T-3203
3	91-T-3260-1	91-T-3260-6	91-T-3263
4	91-T-3300-1	91-T-3300-6	91-T-3303
5	91-T-3360-1	91-T-3360-6	91-T-3363
6	91-T-3400-1	91-T-3400-6	91-T-3403
7	91-T-3475-1	91-T-3475-6	91-T-3478
12	91-T-3635	91-T-3635-6	91-T-3638

Ordering information

Number of Contacts	Part Numbers			
	Cable Plug With Pin Contacts	Panel Receptacle With Socket Contacts	Cable Plug With Socket Contacts	Panel Receptacle With Pin Contacts
1	91-T-3165	91-T-3168	91-T-3166	91-T-3167
2	91-T-3205	91-T-3208	91-T-3206	91-T-3207
3	91-T-3265	91-T-3268	91-T-3266	91-T-3267
4	91-T-3305	91-T-3308	91-T-3306	91-T-3307
5	91-T-3365	91-T-3368	91-T-3366	91-T-3367
6	91-T-3405	91-T-3408	91-T-3406	91-T-3407

Miniature Cable Connectors

Black phenolic dielectric in cadmium plated brass shell. Polarized contact spacing. Plugs and receptacles take cables up to ¼" diameter. Panel receptacle mounts in ⅞" hole with two 6-32 screw holes on 1¼" centers.

Rated 3 Amp., 500 Volts.

PLUGS





Contacts	Long	Short
3	91-MPM-3L	91-MPM-3S
4	91-MPM-4L	91-MPM-4S
5	91-MPM-5L	91-MPM-5S
6	91-MPM-6L	91-MPM-6S

CABLE RECEPTACLES





SHIELDED PANEL RECEPTACLES



Contacts	Long	Short	Mates With Long Plugs
3	91-MPF-3L	91-MPF-3S	78-PCG3
4	91-MPF-4L	91-MPF-4S	78-PCG4
5	91-MPF-5L	91-MPF-5S	78-PCG5
6	91-MPF-6L	91-MPF-6S	78-PCG6

Light Duty Connectors**

Rubber Grommet





Cable Clamp

Contacts	Pin Contacts	Socket Contacts	Pin Contacts	Socket Contacts
4	86-PM4	78-PF4	86-PM4-11	78-PF4-11
5	86-PM5	78-PF5	86-PM5-11	78-PF5-11
6	86-PM6	78-PF6	86-PM6-11	78-PF6-11
7	86-PM7S	78-PF7S	86-PM7S-11	78-PF7S-11
—	—	—	—	—
8	86-PM8	78-PF8	86-PM8-11	78-PF8-11
9	86-PM9	78-PF9	86-PM9-11	78-PF9-11
11	86-PM11	78-PF11	86-PM11-11	78-PF11-11
12	86-PM12	—	86-PM12-11	—
—	—	—	—	—
20	86-PM20	—	—	—

** *For cable to cable application, mate with each other. For cable to panel applications, mate with type S, RS, and MIP tube sockets. Do not use where frequent mating and unmating is required. Use 3-858 molded cap with finger grip.*

© United Technical Publications



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

AVA Electronics & Machine Corp.

No. AC-52



No. AC-52 — "C" type cable connector for RG/59/U cable. **Net $.36 ea.**

No. AF-56



No. AF-56 — "F" male cable connector for RG6/U foam cable **Net $.45 ea.**

No. AF-59



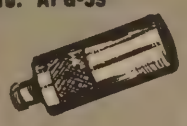
No. AF-59 — "F" male RG-59/U cable connector. **Net $.30 ea.**

No. AF-59A



No. AF-59A — "F" male RG-59/U cable connector, ferrule built on. **Net $.30 ea.**

No. APG-59



No. APG-59 — "F" male pushon connector with pin for RG-59/U cable. **Net $1.25 ea.**

No. AG-59



No. AG-59 — "F" male pushon connector for RG-59/U cable. **Net $.50 ea.**

No. AF-59-TS



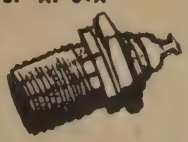
No. AF-59-TS — "F" terminating male connector. **Net .75 ea.**

No. AC-52-TS



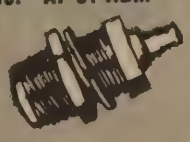
No. AC-52-TS — "C" terminating male connector. **Nt $.75 ea.**

No. AF-61A



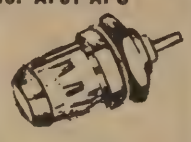
No. AF-61A — "F" Female spring contact chassis connector. **Net $.50 ea.**

No. AF-61-ABM



No. AF-61-ABM — "F" female back mount chassis connector spring contact. **Net $.50 ea.**

No. AF61-APO



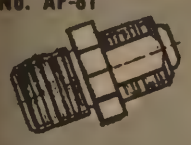
No. AF61-APO — "F" female spring contact push-on chassis connector. **Net $.75 ea.**

No. AF61-AP



No. AF61-AP — "F" female pressurized spring contact chassis connector. **Net $.90 ea.**

No. AF-81



No. AF-81 — "F" female adaptor, mates with F-59 and F-59A male connector. **Net $.50 ea.**

No. AF81-A



No. AF81-A — "F" female adaptor, with spring contact, fits all "F" male connectors. **Net $.95 ea.**

No. AF81-AB



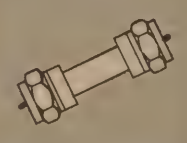
No. AF81-AB — "F" bulk head spring contact connector 1¾" long **Net $1.25 ea.**

No. P091-APM



No. P091-APM — "F" pushon panel mount connector, spring contacts front and rear. **Net $2.95 ea.**

No. AF-71



No. AF-71 — "F" male adaptor. **Net $1.25 ea.**

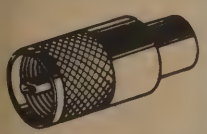
Crimping Ring for RG-59 cable, ACR-59-10 (10 per bag). **Net $.30 bag;** ACR-59-100 (100 bag) **Net $2.50 bag.**



Crimping Ring for RG-6 foam cable, ACR-6-10 (10 per bag). **Net $.50 bag;** ACR-6-100 (100 per bag). **Net $3.50 bag.**



No. PL-259



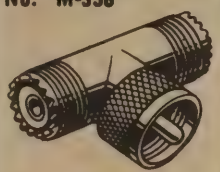
No. PL-259 — Male UHF cable connector. **Net $.50 ea.**

No. M-359



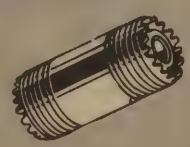
No. M-359 — Right angle UHF adaptor. **Net $1.25 ea.**

No. M-358



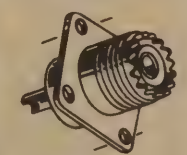
No. M-358 — "T" UHF adaptor. **Net $1.95 ea.**

No. PL-258



No. PL-258 — Female UHF adaptor. **Net $1.15 ea.**

No. SO-239



No. SO-239 — Female chassis UHF connector. **Net $.45 ea.**

No. UG-175/U — Adaptor for RG-58/U cable. **Net $.15 ea.**



No. UG-176/U — Adaptor for RG-59/U cable. **Net $.15 ea.**

No. 5804



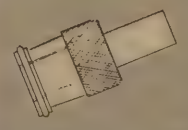
No. 5804 — Female UHF chassis connector, ½" demounting. **Net $1.15 ea.**

No. A56-5804



No. A56-5804 — UHF male to "F" female adaptor. **Net $3.50 ea.**

No. B-259-PO

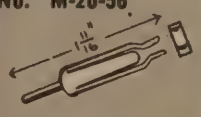


No. B-259-PO — UHF pushon male connector for RG-59/U cable. **Net $1.95 ea.**



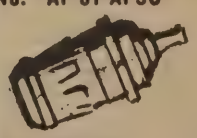
WALL PLATES
all types
TV - CATV - MATV

No. M-20-59
No. M-20-56



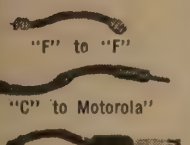
No. M-20-59 for RG-59/U, No. M-20-56 for RG-6/U — RF and shielded connectors. **Net $.20 ea.**

No. AF-61-APSO



No. AF-61-APSO — "F" female pushon chassis connector, staked or soldered body to chassis. **Net $.75 ea.**

CABLE ASSEMBLIES
all types

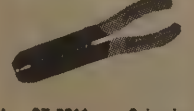


"F" to "F"

"C" to Motorola"

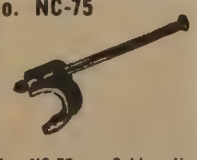
"C" to transformers.

No. CT-5911

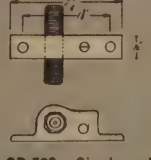


No. CT-5911 — Crimping tool — crimps ferrules on RG-6, RG-59 and RG-11/U cables. **Net $2.95 ea.**

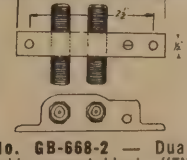
No. NC-75



No. NC-75 — Cable clip — for installing RG-59/U and other cables, up to .0250 OD, to wood or brick. **Net $2.00 C**



No. GB-568—Single cable ground block "F" female spring contact on each end of connector SS hardware. **Net $2.50 ea.**



No. GB-668-2 — Dual cable ground block, "F" female spring contacts on each end of connector, SS hardware. **Net $3.95 ea.**



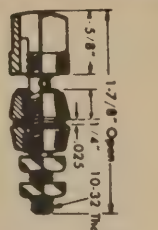
No. FK-36 — Kits — assorted "F" connectors — Contents: 6 ea. — AC-52, AF-56, AF-59, AF-59A, AF-61A, AF-81. **Net $12.95 per kit**

AVA FOR ALL YOUR CONNECTOR NEEDS

BIRNBACH COMPANY INC.

BINDING POSTS

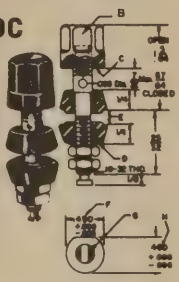
BINDING POST — "Standard" Type



DESCRIPTION: Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels 1/16" to 1/4" thick; Drill 1/2" hole for mounting washers; Wire Hole is at right angle to Flat on insulated Washers; Production Punch for keyed Slot for mounting Washers.

Cat. No. 274 Standard Brass Red or Black

BINDING POST — 30 Amp., 2000 VDC



Molded Nylon Body Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels 1/16" to 1/4" thick; Drill 1/2" hole for mounting washers; Wire Hole is at right angle to Flat on Insulated Washers; Production Punch for keyed Slot for mounting Washers.

WRAP AROUND TYPE **COLORS**

Cat. No. 275 Brass, Nickel Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

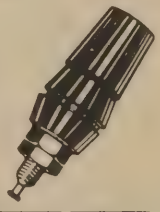
Cat. No. 275A Brass Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

TIP JACK TYPE

Similar to 275A, Plated, Brass, except with Tip Jack receptacle.

Cat. No. 277 Red, Black

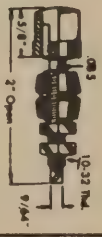
BINDING POST — Fluted Head



New fluted nut design is attractive and functional molded nylon body per MIL-P-20693A completely insulates panel from binding post. Makes ideal connection for electrical and electronic equipment. Brass nickel plated "Wrap Around Type" solder connection to stud rated 30 amp. 2000 VAC test capacitance 5.0 mmfd. Similar construction as our No. 275.

Cat. No. 273 Nickel plated Red, Black

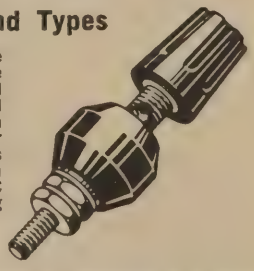
NEW! Multi-Use, Safe - Positive - Heavy Duty



Rugged, versatile "Multi-Use" binding post made of molded nylon with molded-in brass inserts in head and washer for complete insulation from panel. For use on panels 1/16" to 1/4" thick. Mounting hole 1/2". Current Capacity: 30 Amps. Voltage: 2000 VAC. RMS Test. **No. 276 can be soldered directly to stud. Will permit six different methods of connection above panel and three below panel.**

Cat. No. 276 Nickel Plated; Red, Black, Yellow, Green, White, Blue, Brown, Grey.

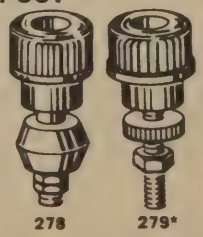
BINDING POST — Wrap Around Types



Designed to accept phone tip plug, spade lug, banana plug, alligator clip and wire strand. Direct solder connection. Molded nylon head (non-removable from stud) and washer completely insulates post from panel. Mounts in 1/2" or keyed hole for panels 1/16-1/4" thick. Nickel-plated brass metal parts. Molded-in brass bushings in head and washers. Rated 2,000 volts AC RMS test. 30 amp safe current-carrying capacity.

Cat. No. 271 Red, Black

STANDARD DUTY 5-WAY BINDING POST



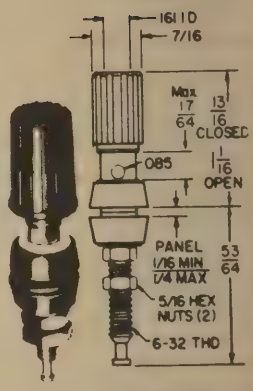
Molded-in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black. Specify color. Body is brass nickel plated.

6 AMPS

Cat. No. 278 Red, Black
Cat. No. 279* Red, Black

* Same as above, but normally grounded. (Without bottom insulating section.)

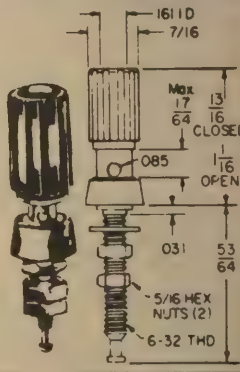
NYLON BINDING POST



Head: MOLDED NYLON, with brass plated insert. **Body:** Brass Plated. **Washers:** MOLDED NYLON, brass plated inserts. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd., Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in 3/4" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection.

Cat. No. 280 Red, Black, Yellow, Green.

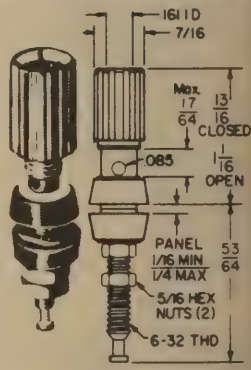
METAL BINDING POST



Head: Fluted Brass, Plated. **Body:** Brass, Plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty, Fluted-head metal post to match our No. 280. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding.

Cat. No. 281

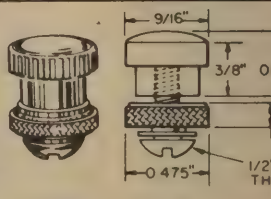
METAL BINDING POST Insulated



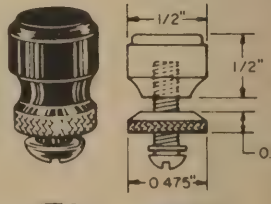
Head: Fluted Brass, plated. **Body:** Brass plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty. 1 K Volts, 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd, Fluted-head metal post to match our No. 280. Molded washers insulate post from panel for use where internal ground circuit is isolated from chassis or panel.

Cat. No. 282

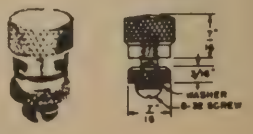
INSULATED BINDING POST



Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x 1/2" screw, lock washer. Has brass insert molded-in. Supplied with washer. Available in black.
Cat. No. 184



Binding Post Molded bakelite head with brass insert molded-in Supplied complete with 8/32 x 1/2" screw, lock washer. Has brass nickel-plated retaining washer. Red, Black.
Cat. No. 185



Binding Post Brass heavily nickel-plated overall. Complete with screw and lock washer. Designed for high amperage, low resistance connections.
Cat. No. 186—Metal Binding Post

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

BINDING POSTS CONTINUED

COMBINATION POST-PLUG



Head: CAPTIVE, Molded Butyrate. **Body:** Brass, nickel plated. **Spring:** Four-leaved phosphor bronze, nickel plated. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. Converts any panel-mounted banana jack into a five-way binding post termination. Accepts phone tip, spade lug, banana plug, alligator clip, or solid or stranded wire.

Cat. No. 283 Red, Black

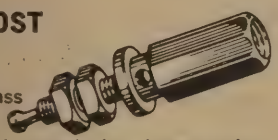
Head: Molded Nylon. SPECIFY COLOR. **Body:** **Brass,** nickel plated. **Spring:** Four-leaved phosphor bronze, nickel plated. **Rating:** 15 Amps AC for -0°C Temp. rise, continuous duty.

Converts any panel-mounted banana jack into a nylon five-way binding post termination. Accepts phone tips, spade lugs, banana plug, alligator clips, or solid or stranded wires.



Cat. No. 284
Red, Black, Yellow, Green, Blue, White

BINDING POST

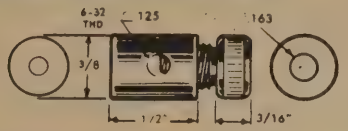


Head: CAPTIVE, Hex brass nickel plated. **Body:** Brass nickel plated.

Accepts: Phone tip, spade lug, banana plug, alligator clip or wire strand.

Cat. No. 285 Wrap-around

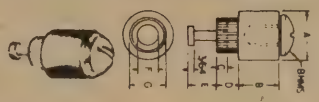
METAL BINDING POST



Head: BRASS nickel plated.
Body: Brass nickel plated.
Accepts standard phone tips or banana plugs.

Cat. No. 286

COMBINATION TERMINALS



Material: BRASS, nickel plated. Combination Screw and Turret Terminal. Knurled shank prevents turning.

Cat. No.	A	B	C	D	E	F	G	Ohms	Panel Thk.
187	5/16	1/4	1/16	3/64	11/64	1/8	.220	6-32	3/32
188	3/8	3/8	3/32	15/64	13/64	5/32	.257	10-32	3/16

BLACK STYRENE INSULATOR

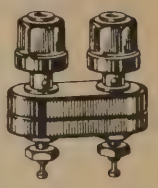


Insul: STYRENE. **Rating:** 2 K Volts 60 cycle AC continuous working voltage.

Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick.

Cat. No. 190

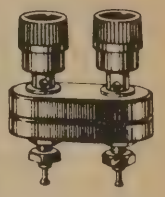
DUAL ASSEMBLY — Nylon



MOLDED black STYRENE, cross soltted (+) to accept standard phone tips in post either forward or sideways. **Body:** Brass, nickel plated. **Head:** Captive MOLDED NYLON, with molded in brass insert. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Cat. No. 188BB Two Black Heads
Cat. No. 188RR Two Red Heads
Cat. No. 188RB One Red, One Black Head

DUAL BINDING POST



MOLDED black STYRENE, cross soltted (+) to accept standard phone tips in post either forward or sideways. **Body:** Brass, nickel plated. **Head:** Captive: MOLDED BUTYRATE, Red, Black. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmf. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied wi th 4 hex nuts, 2 flat washers.

Cat. No. 189BB Two Black Heads
Cat. No. 189RR Two Red Heads
Cat. No. 189RB One Red, One Black Head

ALL-NYLON FASTENINGS — Screws and Nuts

Washers - Standoffs

Zytel 101 per MIL P 20693 Spec., MIL S 7742 Spec. Birnbach All-Nylon Fastenings are made of Zytel 101*, a Polyimide plastic of the Nylon 6.6 Type. They offer outstanding insulating properties plus resistance to heat, shock, vibration and chemical solvents plus lightness elasticity and superior torque strength. In most cases, because of their high dielectric strength, they eliminate the need of bushings, washers or other insulation. They are corrosion resistant, non-magnetic and good torque strength thru a wide temperature range. Continuous service temperature to 300°F (150°C). Stock colors: Natural. Additional colors and types available to order. Zytel 101 per MIL-D-7019B. — All parts are manufactured to American Thread Standards to a class 2A or 2B. fit. B 18.2 (hex nuts), B 18.6 (machine screws), B 1.1 (threaded specs.).
*Reg. T.M. of DuPont

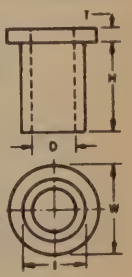
ALL NYLON MACHINE SCREWS STANDARD PACKAGE: 100, 1000

Binding Head — Round Head — Fillister Head — Flat Head

Cat. No.	Size	Type
6640	2-56 x 1/4"	Round Head
6640A	2-56 x 1/4"	Fillister Head
6640B	2-56 x 1/4"	Binding Head
6641	2-56 x 3/8"	Round Head
6641A	2-56 x 3/8"	Fillister Head
6641B	2-56 x 3/8"	Binding Head
6550	2-56 x 1/2"	Round Head
6551	2-56 x 1/2"	Fillister Head
6551A	2-56 x 1/2"	Binding Head
6643	4-40 x 1/4"	Round Head
6643A	4-40 x 1/4"	Fillister Head
6643B	4-40 x 1/4"	Binding Head
6644	4-40 x 3/8"	Round Head
6644A	4-40 x 3/8"	Fillister Head
6644B	4-40 x 3/8"	Binding Head
6552	4-40 x 1/2"	Round Head
6652A	4-40 x 1/2"	Fillister Head
6552B	4-40 x 1/2"	Binding Head
6646	6-32 x 1/4"	Round Head
6646A	6-32 x 1/4"	Fillister Head
6646B	6-32 x 1/4"	Binding Head
6653	6-32 x 3/8"	Round Head
6554	6-32 x 3/8"	Binding Head
6555	6-32 x 3/8"	Fillister Head
6556	6-32 x 3/8"	Flat Head
6557	6-32 x 1/2"	Round Head
6558	6-32 x 1/2"	Binding Head

Cat. No.	Size	Type
6559	6-32 x 1/2"	Fillister Head
6560	6-32 x 1/2"	Flat Head
6648	6-32 x 3/4"	Round Table
6648A	6-32 x 3/4"	Fillister Head
6648B	6-32 x 3/4"	Binding Head
6561	6-32 x 1"	Round Head
6561C	6-32 x 1"	Flat Head
6650	8-32 x 1/4"	Round Head
6550A	8-32 x 1/4"	Fillister Head
6650B	8-32 x 1/4"	Binding Head
6562	8-32 x 3/8"	Round Table
6563	8-32 x 3/8"	Binding Head
6564	8-32 x 3/8"	Flat Head
6565	8-32 x 3/8"	Fillister Head
6566	8-32 x 1/2"	Round Head
6567	8-32 x 1/2"	Binding Head
6568	8-32 x 1/2"	Flat Head
6569	8-32 x 1/2"	Fillister Head
6570	8-32 x 5/8"	Round Head
6571	8-32 x 5/8"	Fillister Head
6572	8-32 x 3/4"	Round Head
6572A	8-32 x 3/4"	Fillister Head
6572B	8-32 x 3/4"	Binding Head
6573	8-32 x 1"	Flat Head
6573A	8-32 x 1"	Fillister Head
6574	10-32 x 3/8"	Round Head
6575	10-32 x 1/2"	Round Head
6576	10-32 x 1/2"	Flat Head
6577	10-32 x 5/8"	Round Head
6578	10-32 x 1"	Round Head
6579	10-32 x 1"	Flat Head

NYLON BUSHINGS & SPACERS



Designed with wide flnages to completely isolate screw from mounting surface, useful where hi tensile and torque requirements require high strength non-insulating screws. Natuarl color.

Cat. No.	Used with Screw Size	Dimensions I	W	T	H	D
6549A	#6	.140"	.290"	3/64"	1/4"	.170"
6549B	#8	.173"	.344"	1/16"	3/8"	.205"
6549C	#10.200"	.399"	1/16"	3/8"	.260"	
65490	1/4"	.260"	.513"	1/16"	3/8"	.312"
6549	#4	.115"	.235"	3/64"	1/4"	.146"

ALL-NYLON HEX NUTS

STANDARD PKG.: 100, 1000



Cat. No.	Size	Cat. No.	Size
6585	2-56	6588	8-32
6586	4-40	6589	10-32
6587	6-32	6590	1/4-20

ALL-NYLON WASHERS

STANDARD PKG.: 100, 1000



Cat No.	Screw No.	O.D.	I.D.	Thickness
6592	2	1/4"	3/32"	.016"
6593	4	1/4"	1/8"	.016"
6594	6	5/16"	5/32"	.031"
6595	8	3/8"	.170"	.031"
6596	10	3/8"	.195"	.031"
6597	1/4"	3/8"	9/32"	.063"

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

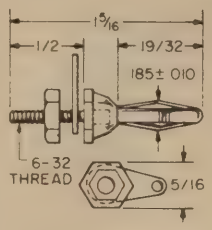
NON-INSULATED BANANA PLUGS

Variations of Standard Plugs Available to Order. Plated to Gov't. Specs.

BANANA PLUG — No. 400

Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps.

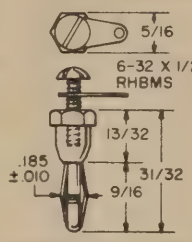
Cat. No.	Spring	Dim. "A"
400	Phos. Bronze	1/2"
400A	Phos. Bronze	3/8"
400B	Beryl. Copper	1/2"



BANANA PLUG — No. 401

Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.pl. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

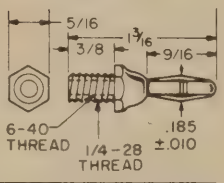
Cat. No.	Spring
401	Phos. Bronze
401B	Beryl. Copper



BANANA PLUG — No. 404A

Hexed brass and four-leaved phosphor bronze spring all nickel plated. Rated at 5 amps. Fits all standard banana jacks.

Cat. No.	Spring
404A	Banana Plug

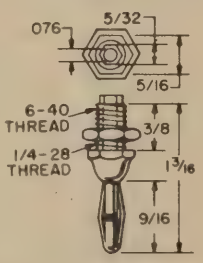


BANANA PLUG — No. 404S

Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scrulok connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

Cat. No.	Spring
404S	Phos. Bronze
404SB	Beryl. Copper

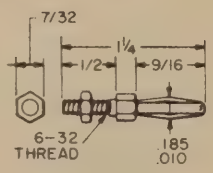
Scrulok Banana Plug



BANANA PLUG — No.414

Hexed brass, nickel plated. One-piece construction. Four - leaved phosphor bronze spring. Complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

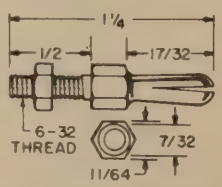
Cat. No.	Spring
414	Phos. Bronze



BANANA PLUG — No. 416

Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.pl. nut.

Cat. No.	
416	Banana Plug

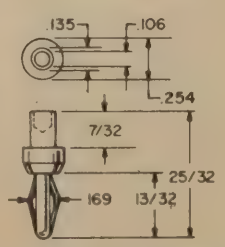


MIDGET BANANA PLUG Rivet Type — No. 426

Brass silver plated body. One-piece four-leaved phosphor bronze spring silver plated. Also made to Rigid Jan specs.

Cat. No.	"A"
426	7/32"
426A	5/32"

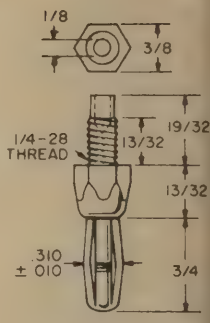
Midget Banana Plug Rivet Type



GIANT PLUG — No. 392A

Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

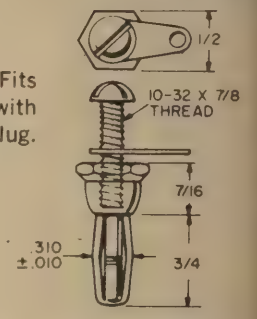
Cat. No.	Spring
392A	Phos. Bronze



GIANT PLUG — No. 396

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

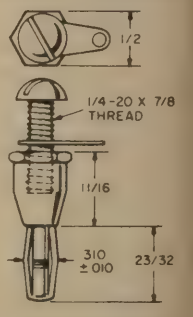
Cat. No.	Spring
396	Phos. Bronze
396B	Beryl. Copper



GIANT PLUG — No. 397

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

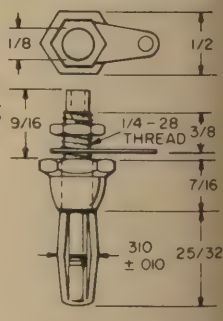
Cat. No.	Spring
397	Phos. Bronze
397B	Beryl. Copper



GIANT PLUG — No. 398

Body is hexed brass, n.pl. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

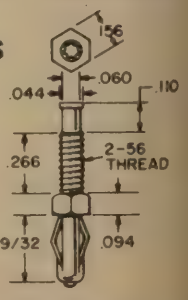
Cat. No.	Spring
398	Phos. Bronze
398B	Beryl. Copper



SUB MINIATURE BANANA PLUGS

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

Cat. No.	Description
590	Rivet Type Plug
591	Screw Type Plug



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

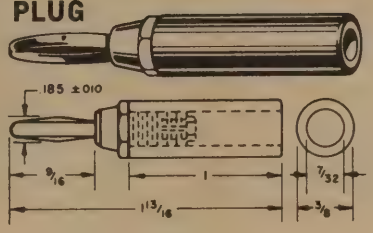
INSULATED BANANA PLUGS

INSULATED BANANA PLUG

Hexed brass n.pl. spring type. Fits standard banana jacks. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
404	Phos. Brz.	Nickel
404CB	Beryl. Cop.	Nickel
404SP	Phos. Brz.	Silver
404CB-SP	Beryl. Cop.	Silver

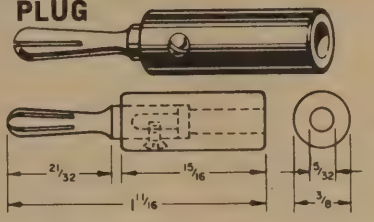


INSULATED BANANA PLUG

Split type plug brass n.pl. fits standard banana jacks. Set screw. Solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	
604	Banana Plug

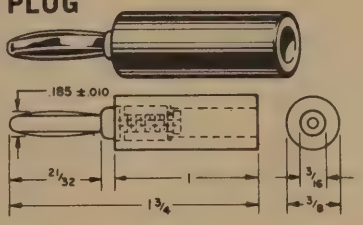


INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
465	Phos. Brz.	Nickel
465B	Beryl. Cop.	Nickel
465SP	Phos. Brz.	Silver
465B-SP	Beryl. Cop.	Silver

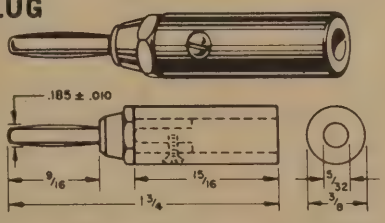


SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection 404BC Beryllium springs, highly resilient. Molded handle.

Colors: Red, Black Yellow, Blue, Green, White.

Cat. No.	Spring
404B	Phos. Brz.
404BC	Beryl. Cop.

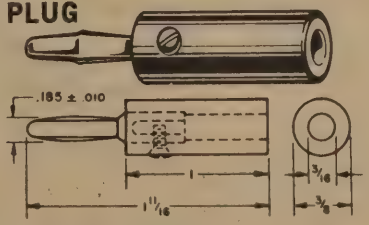


INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Hdl.	Spring
466	1"	Ph. Brz.
466A	1½"	Ph. Brz.

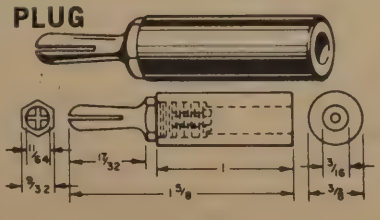


INSULATED BANANA PLUG

Split type, brass n.pl. Scrulok solderless connection. Fits standard jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	
606	Banana Plug

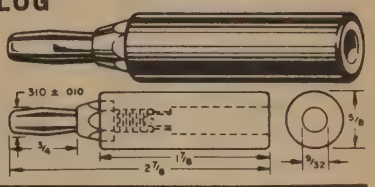


INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.

Colors: Red, Black.

Cat. No.	Spring
392	Phos. Brz.
392B	Beryl. Cop.

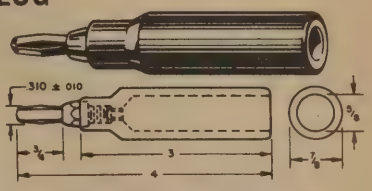


INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.

Colors: Red, Black.

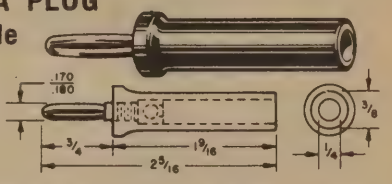
Cat. No.	Spring
342	Phos. Brz.
342B	Beryl. Cop.



INSULATED BANANA PLUG
Long Shoulder Handle

Long shoulder handle insulated banana plug. Handle made of bakelite. Available in various colors. Red, Black, Yellow, Blue, Green, White.

Cat. No.	424

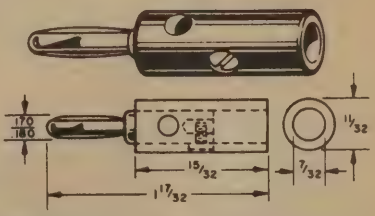


STACK BANANA PLUG — Solderless

Brass, nickel plated, solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits.

Colors: Red, Black, Yellow, Green.

Cat. No.	Spring
425	Phos. Brz.
425A	Bery. Cop.

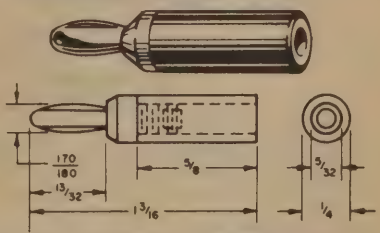


INSULATED MIDGET BANANA PLUG

Spring type. Fits all standard Banana jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into plug.

Colors: Red, Black.

Cat. No.	Spring	Plating
455	Phos. Brz.	Nickel
455BC	Beryl. Cop.	Silver
455A	Phos. Brz.	Silver
455A-BC	Beryl. Cop.	Nickel

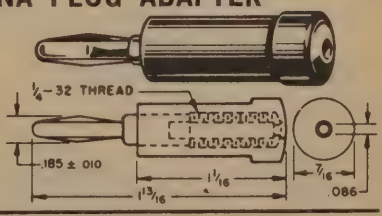


TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

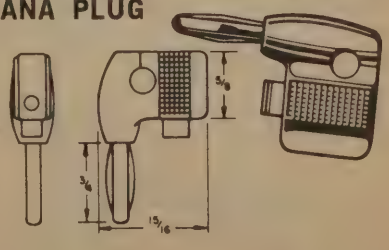
Cat. No.	Spring
467	Phos. Brz.
467B	Beryl. Cop.



PUSH BUTTON BANANA PLUG

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Cat. No. 122 Push Button Banana Plug, Red, Black, Yellow, Green, White.
No. 122 Banana Plug will fit all Standard Banana Jacks.



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

INSULATED PHONE TIPS

SOLDERLESS PHONE TIPS

Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

Cat. No.
23 Junior Solderless Phone Tip
24 Senior Solderless Phone Tip

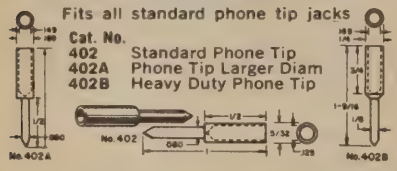
No. 23 No. 24



BRASS NICKEL PLATED TIPS

Fits all standard phone tip jacks

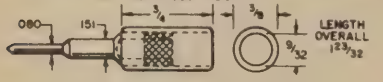
Cat. No.
402 Standard Phone Tip
402A Phone Tip Larger Diam
402B Heavy Duty Phone Tip



PHONE TIP

Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.
Colors: Red, Black, Yellow, Blue, Green, White.

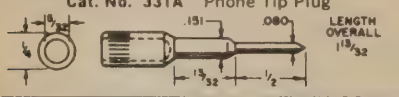
Cat. No. 331



PHONE TIP PLUG — No. 331A

Plugs into all standard phone tip jacks. Barrel of plug accommodates all standard banana jacks. Brass, nickel plated.

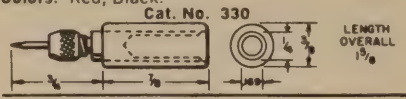
Cat. No. 331A Phone Tip Plug



NEEDLE POINT PLUG

Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.
Colors: Red, Black.

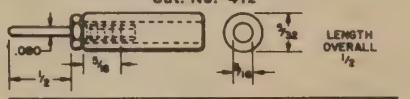
Cat. No. 330



SCRULOK PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.
Colors: Red, Black, Yellow, Blue, Green, White.

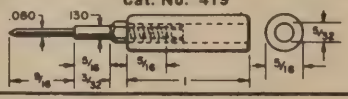
Cat. No. 412



SCRULOK PHONE TIP

Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.
Colors: Red, Black, Yellow, Blue, Green, White.

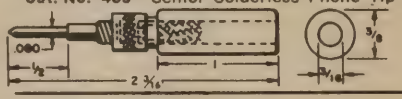
Cat. No. 419



INSULATED SOLDERLESS PHONE TIPS — No. 409

Insulated handles, fitted to solderless phone tips. Made of Brass, Nickel Plated. Wire easily attached by threading through hole in handle and tightening knurled nut.
Colors: Red, Black, Yellow, Blue, Green, White

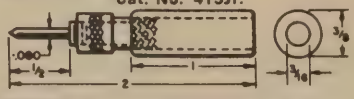
Cat. No. 409 Senior Solderless Phone Tip



JUNIOR SOLDERLESS PHONE TIP

Same as above except 2" overall length. Specify colors.

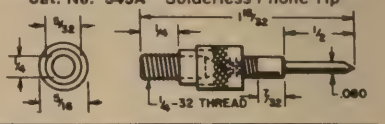
Cat. No. 415Jr.



SOLDERLESS PHONE TIP No. 343A

Brass, nickel plated. Wire easily attached by threading thru hole provided, and tightening knurled nut. Threaded to take plastic handle.

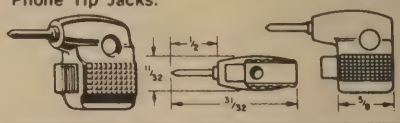
Cat. No. 343A Solderless Phone Tip



PUSH BUTTON PHONE TIP PLUGS

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.
Colors: Red, Black.

Cat. No. 121 Push Button Phone Tip Plug No. 121 Phone Tip Plug will fit all Standard Phone Tip Jacks.



HEAVY DUTY TIP PLUG

Threaded

BODY: Brass, nickel plated.

DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle. **No. 349A**



HEAVY DUTY INSULATED TIP PLUG

HANDLE: plastic. Red Yellow, Green, Blue, White and Black SPECIFY COLOR

PLUG: Brass, nickel plated.

DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks

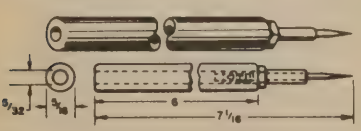
No. 349

TEST PRODS

BAKELITE PENCIL TEST PROD

Body is brass nickel plated with steel n.pl. needle. Has Scrulok solderless connection Bakelite handle.
Colors: Red, Black.

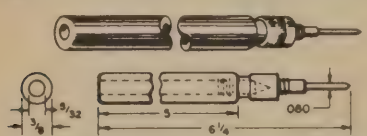
Cat. No. 411 Bakelite Pencil Test Prod



SOLDERLESS TEST PRODS

Body is brass nickel plated with solderless knurled nut connection. Heavy duty needle-point, nickel plated.
Colors: Red, Black.

Cat. No.	(A) Overall	(B) Handle Length
410	5⅛"	4"
343	6¼"	5"



NEEDLEPOINT TEST PRODS

Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.

Cat. No.	(A) Overall	(B) Handle Length
344	4 13/16"	4"
345	5 13/16"	5"

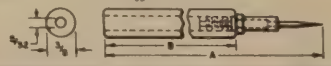
Colors: Red, Black.



SCRULOK NEEDLEPOINT TEST PRODS

Phenolic insulated prod, has Scrulok solderless connection. Body is brass nickel plated with steel n.pl. needle.
Colors: Red, Black.

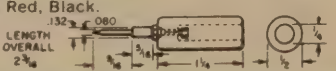
Cat. No.	(A) Overall	(B) Handle Length
417	5 3/32"	4"
418	6 3/32"	5"



HEAVY DUTY HIGH VOLTAGE Test PROD HANDLES — No. 558

These bakelite prods are the same as used on the meter end of high voltage test leads Cat. No. 562. Tips are heavy brass with nickel plating.
Colors: Red, Black.

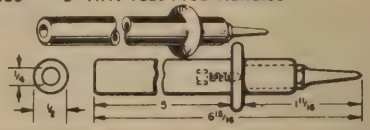
Cat. No. 558



HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE

Tip is heavy brass nickel plated. Bakelite finger guard. Accommodates IN-34 diode and condenser for use as RF Probe.
Colors: Red, Black.

Cat. No.
559 6" H.V. Test Prod Handles

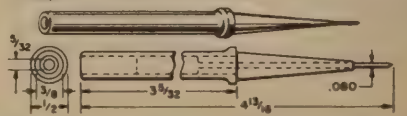


TEST PROD — No. 423A

Shouldered insulated handle made of bake lite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in Red and Black. Indicate color.

TEST PROD — No. 424B with Banana Plug Adapter

Same as No. 424A except with a banana plug adapter in back of handle.



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

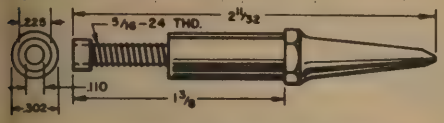
© United Technical Publications

BIRNBACH COMPANY INC.

TEST PRODS CONTINUED

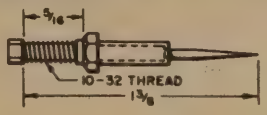
HIGH VOLTAGE TEST PROD TIP No. 559A

Heavy brass, nickel plated. Large solder well accommodates heavy wires. As used on Birnbach High Voltage Test prod Handle. No. 559 and 562 Test Leads.



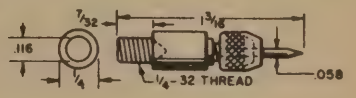
NEEDLE POINT PROD TIP No. 439

Extra heavy needle point for piercing insulations or plating. Solderless Scrulok wire connection. Brass, nickel plated body; needle point, steel, nickel plated. Replacement tip for No. 408 Leads.



NEEDLE POINT PLUG No. 345A

Has a brass, nickel plated body, steel nickel plated needle. Sharp point will pierce insulation or plating. Has removable chuck for replacing needle. Threaded to take handle.



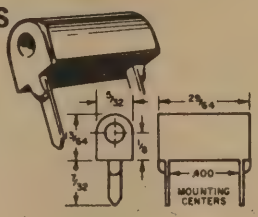
NYLON TIP JACKS AND PLUGS

PRINTED CIRCUIT TEST JACKS

Designed for permanent, soldered assembly to printed circuit boards. Nylon bodies. Has gold over silver plated Beryllium copper contacts which provide low resistance contact. Takes standard .080" diameter test probes.

Colors: Red, Black, Green, Brown, Yellow, Blue, Purple, Grey, Orange, White.

Cat. No. 1177 Printed Circuit Jack
PER MIL-F-14072, M301



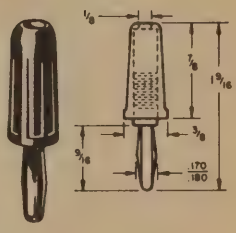
NYLON BANANA PLUG

Molded Nylon handle, Brass N.Pl. plug. Springs Phosphor Bronze or Berylium Copper. Nickel or Silver plated. Wire can be soldered into plug or brass stud.

NYLON PER MIL-P-20693A

Cat. No.	Spring	Plating
1160	Phos. Brz.	Nickel
1161	Phos. Brz.	Silver
1162	Beryl. Cop.	Nickel
1163	Beryl. Cop.	Silver

Specify color as indicated in color code below.

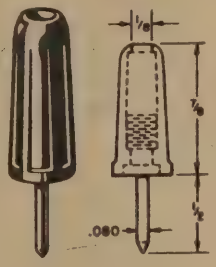


NYLON INSULATED PLUG

Molded of tough low-loss Nylon — provides high voltage insulation. Withstands extreme temperature changes without chipping or cracking. This series fits all standard Banana Jacks and standard Phone Tip Jacks.

Nylon Solderless Short Tip Plug. Molded nylon handle, recessed metal head provides flush contact without metal exposure in any standard tip jack brass nickel plated plug. Solderless wire fits thru handle.

NYLON PER MIL-P-20693A
Cat. No. 1169
Specify color as indicated below.

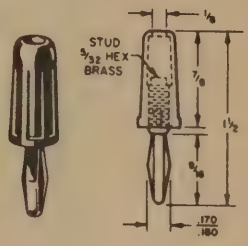


Same as above with Solderless Scrulock Connection

MIL-P-20693A

Cat. No.	Spring	Plating
1164	Phos. Brz.	Nickel
1165	Phos. Brz.	Silver
1166	Beryl. Cop.	Nickel
1167	Beryl. Cop.	Silver

Specify color as indicated in color code below.

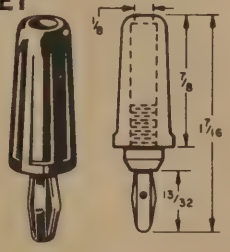


NYLON BANANA PLUG — MIDGET Nylon Per MIL-P-20693A

Molded Nylon Handle Brass N.Pl. Wire can be soldered directly into stud. Fits all Standard Banana Jacks.

Cat. No.	Spring Material	Plating
1172	Phospor Nickel Bronze	
1173	Phospor Silver Bronze	
1174	Berylium Nickel Copper	
1175	Berylium Silver	

Specify color as indicated in Color Code below.

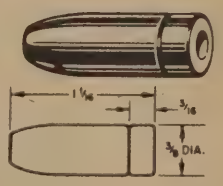


NYLON HANDLE JACK

Made with our Nylon Tip Jack #1180 without mounting nut inside of threaded molded nylon insulated sleeve.

Cat. No.
1179 Nylon Handle Jack

Specify color as indicated below.
NYLON PER MIL-P-20693A

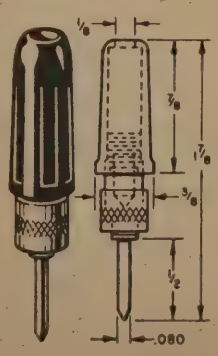


NYLON SOLDERLESS TIP PLUG

Molded Nylon handle, Brass N.Pl. Solderless plug. Wire fits thru body of tip and is wrapped around screw portion and then tightened. Fits all standard tip jacks.

Cat. No. 1170

Specify color as indicated above.

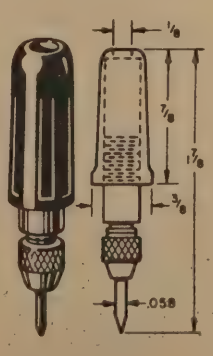


PHONE NEEDLE TIP PLUG

Molded Nylon Handle, Brass N.Pl. Plug. Has removable chuck for easy replacement of needles. Needle makes positive contact thru insulation or corrosion.

Cat. No. 1171
NYLON PER MIL-P-20693A

Specify color as indicated above.



NYLON BANANA PLUG



NYLON PER MIL-P-20693A

Molded Nylon handle, brass N.P. plug, split type with solderless scrulock connection.

Cat. No. 1168
Specify color as indicated above.

Color Code For NYLON HANDLE PLUGS
Add to Catalog Numbers

—01 White
—02 Red
—03 Black
—04 Dk. Green
—05 Lt. Blue
—06 Orange
—07 Yellow
—08 Brown
—09 Lt. Green
—10 Dk. Blue
—11 Ivory
—12 Violet (Purple)
—13 Grey

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

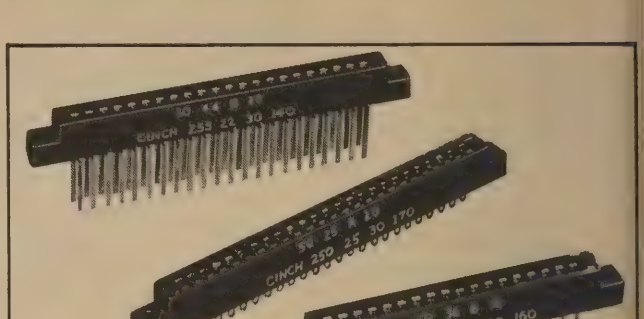
CINCH

PRINTED CIRCUIT EDGE CONNECTORS

PRECISION MILITARY AND COMMERCIAL PRINTED CIRCUIT BOARD EDGE CONNECTORS

0.156" LEAD SPACING, 1/16" BOARDS

These Cinch printed circuit connectors are designed for minimum printed circuit card wear, low insertion force and positive contact with the printed circuit board. **Insulation is glass-filled diallyl phthalate,** type SDG-F per MIL-M-14. **Contacts are of phosphor bronze** with a minimum of 30 micro-inches thickness gold plate. Units with solder tab or dip solder terminations utilize bifurcated contacts permitting two flexing surfaces instead of one for positive contact. Bifurcated contacts are especially recommended for added conact reliability where vibration or printed circuit board irragularities would otherwise cause trouble. Types meeting Military Specification MIL-C-21097B are also available as indicated. These connectors have beryllium copper contacts with 50 micro-inches gold finish.



Card Guide 50-GP-1 on page 4 can be used with all connectors on this page except floating bushing types.

COMMERCIAL TYPES Without Bushings

SINGLE READOUT			DOUBLE READOUT		
CONTACT POSITIONS	CINCH PART NO.	FACTORY NO.	CONTACT POSITIONS	CINCH PART NO.	FACTORY NO.
CONVENTIONAL SOLDER TERMINALS			**CONVENTIONAL SOLDER TERMINALS**		
6	50-6A-20	250-06-30-170	6	50-12A-30	251-06-30-160
10	50-10A-20	250-10-30-170	10	50-20A-30	251-10-30-160
12	50-12A-20	250-12-30-170	12	50-24A-30	251-12-30-160
15	50-15A-20	250-15-30-170	15	50-30A-30	251-15-30-160
18	50-18A-20	250-18-30-170	18	50-36A-30	251-18-30-160
22	50-22A-20	250-22-30-170	22	50-44A-30	251-22-30-160
25	50-25A-20	250-25-30-170	25	50-50A-30	251-25-30-160
DIP SOLDER TERMINALS (STANDARD LENGTH)			**DIP SOLDER TERMINALS**		
6	50-6B-10	252-06-30-240	6	50-12B-10	252-06-30-160
10	50-10B-10	252-10-30-240	10	50-20B-10	252-10-30-160
15	50-15B-10	252-15-30-240	12	50-24B-10	252-12-30-160
18	50-18B-10	252-18-30-240	15	50-30B-10	252-15-30-160
22	50-22B-10	252-22-30-240	18	50-36B-10	252-18-30-160
25	50-25B-10	252-25-30-240	22	50-44B-10	252-22-30-160
DIP SOLDER TERMINALS (EXTENDED LENGTH)			**DIP SOLDER TERMINALS (EXTENDED LENGTH)**		
6	50- 6S-10	252-06-30-230	6	50-12S-20	252-06-30-260
10	50-10S-10	252-10-30-230	10	50-20S-20	252-10-30-260
12	50-12S-10	252-12-30-230	12	50-24S-20	252-12-30-260
15	50-15S-10	252-15-30-230	15	50-30S-20	252-15-30-260
18	50-18S-10	252-18-30-230	18	50-36S-20	252-18-30-260
22	50-22S-10	252-22-30-230	22	50-44S-20	252-22-30-260
25	50-25S-10	252-25-30-230	25	50-50S-20	252-25-30-260

CONTACT POSITIONS	CINCH PART NO.	FACTORY NO.
CARD EXTENDER TYPE (.050" TERMINAL SPACING) (Gold plated beryllium copper contacts)		
6	50-12S-30	251-06-30-390
10	50-20S-30	251-10-30-390
12	50-24S-30	251-12-30-390
15	50-30S-30	251-15-30-390
18	50-36S-30	251-18-30-390
22	50-44S-30	251-22-30-390
25	50-50S-30	251-25-30-390
WIRE WRAP TERMINALS		
6	50-12B-20	253-06-30-140
10	50-20B-20	253-10-30-140
12	50-24B-20	253-12-30-140
15	50-30B-20	253-15-30-140
18	50-36B-20	253-18-30-140
22	50-44B-20	253-22-30-140

POLARIZING KEYS

PART NO.	DESCRIPTION	FACTORY NO.
50-PK-2	Between-Contact Type	456-07-35-003
50-PK-1	In-Contact Type	474-11-54-200

NOTE: Polarizing keys are not furnished with connectors and must be ordered as a separate item.

MILITARY PC CONNECTORS (Per MIL-C-21097B) With Conventional Solder Terminals

SINGLE READOUT				DOUBLE READOUT			
CONTACT POSITIONS	CINCH PART NO.	MIL PART NO.	FACTORY NO.	CONTACT POSITIONS	CINCH PART NO.	MIL PART NO.	FACTORY NO.
NO BUSHINGS				**NO BUSHINGS**			
6	50-6A-20M	M21097/1-001	250-06-30-220	6	50-12A-30M	M21097/1-019	251-06-30-270
10	50-10A-20M	M21097/1-037	250-10-30-220	10	50-20A-30M	M21097/1-055	251-10-30-270
15	50-15A-20M	M21097/1-073	250-15-30-220	15	50-30A-30M	M21097/1-091	251-15-30-270
18	50-18A-20M	M21097/1-109	250-18-30-220	18	50-36A-30M	M21097/1-127	251-18-30-270
22	50-22A-20M	M21097/1-145	250-22-30-220	22	50-44A-30M	M21097/1-163	251-22-30-270
MOLDED-IN BUSHINGS				**MOLDED-IN BUSHINGS**			
6	50-6A-20-MB	M21097/1-004	250-06-30-230	6	50-12A-30MB	M21097/1-022	251-06-30-280
10	50-10A-20MB	M21097/1-040	250-10-30-230	10	50-20A-30MB	M21097/1-058	251-10-30-280
15	50-15A-20MB	M21097/1-076	250-15-30-230	15	50-30A-30MB	M21097/1-094	251-15-30-280
18	50-18A-20MB	M21097/1-112	250-18-30-230	18	50-36A-30MB	M21097/1-130	251-18-30-280
22	50-22A-20MB	M21097/1-148	250-22-30-230	22	50-44A-30MB	M21097/1-166	251-22-30-280
FLOATING BUSHINGS				**FLOATING BUSHINGS**			
6	50-6A-20MFB	M21097/1-007	250-06-30-240	6	50-12A-30MFB	M21097/1-025	251-06-30-290
10	50-10A-20MFB	M21097/1-043	250-10-30-240	10	50-20A-30MFB	M21097/1-061	251-10-30-290
15	50-15A-20MFB	M21097/1-079	250-15-30-240	15	50-30A-30MFB	M21097/1-097	251-15-30-290
18	50-18A-20MFB	M21097/1-115	250-18-30-240	18	50-36A-30MFB	M21097/1-133	251-18-30-290
22	50-22A-20MFB	M21097/1-151	250-22-30-240	22	50-44A-30MFB	M21097/1-169	251-22-30-290

DOUBLE READOUT WITH DIP SOLDER TERMINALS — No Bushings

CONTACT POSITIONS	CINCH PART NO.	MIL PART NO.	FACTORY NO.
6	50-12B-10M	M21097/1-028	252-06-30-220
10	50-20B-10M	M21097/1-064	252-10-30-220
15	50-30B-10M	M21097/1-100	252-15-30-220
18	50-36B-10M	M21097/1-136	252-18-30-220
22	50-44B-10M	M21097/1-172	252-22-30-220

ELECTRICAL SPECIFICATIONS
VOLTAGE RATING (AC RMS, adj. terminals): 830 (Sea Level); 300 (3.4 Hg. 50,000 Feet); 200 (1.3 Hg, 70,000 Feet); CURRENT: 5.0 Amps; CONTACT RESISTANCE: .005 Ohms at Rated Current; INSULATION RESISTANCE: 5000 Megohms.

ENVIRONMENTAL SPECIFICATIONS (Per MIL-C-21097 and MIL-STD-202, latest versions.) SHOCK: 3 blows of 50G, Method 202B; TEMPERATURE CYCLING: 5 continuous cycles per Method 107B, Test Condition B; Beryllium copper, −65°C to 125°C; Phosphor bronze, −65°C to 105°C; SALT SPRAY: 48 hrs. per Method 101B, Condition B; VIBRATION: Per Method 204A, Condition B for bifurcated contacts; Method 201A for non-bifurcated contacts; HUMIDITY: Per Method 103B, Condition B.

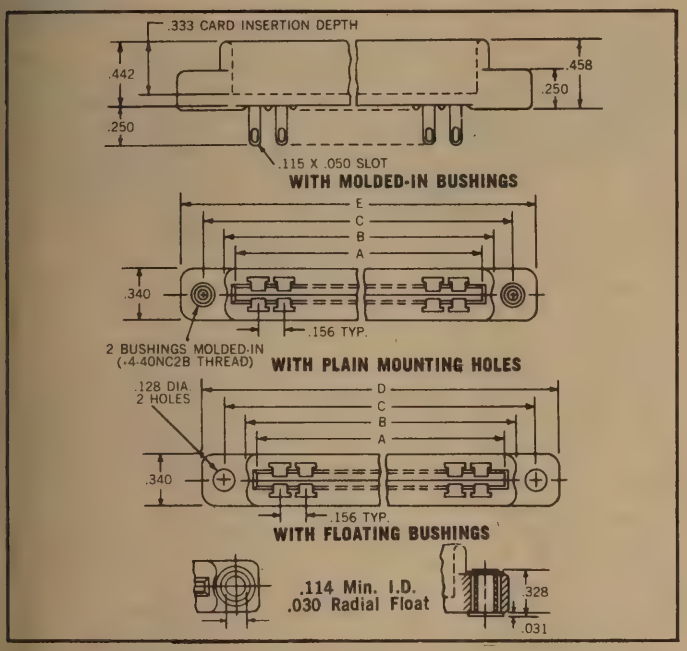
© United Technical Publications

CINCH

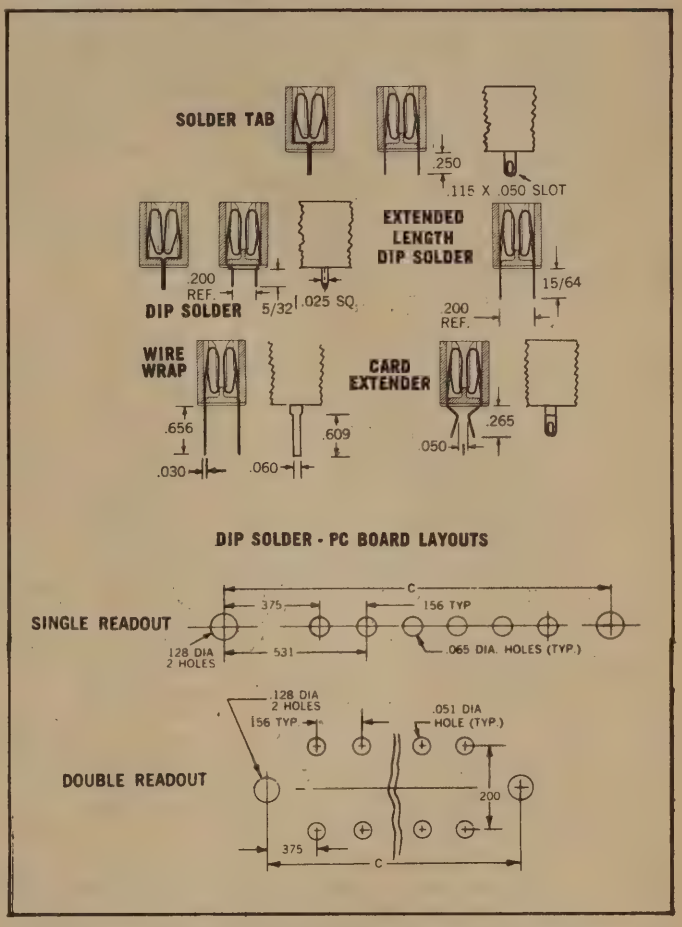
PRINTED CIRCUIT EDGE CONNECTORS (Cont'd.)

DIMENSIONS:

Insulators



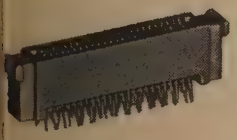
Terminations



NO. OF CONTACT POSITIONS	DIMENSIONS A	B	C	D	E
6	1.100	1.239	1.531	1.785	1.937
10	1.724	1.864	2.156	2.410	2.562
12	2.036	2.177	2.469	2.723	2.875
15	2.504	2.645	2.937	3.191	3.343
18	2.972	3.114	3.406	3.660	3.812
22	3.596	3.739	4.031	4.285	4.437
25	4.067	4.208	4.500	4.754	4.906

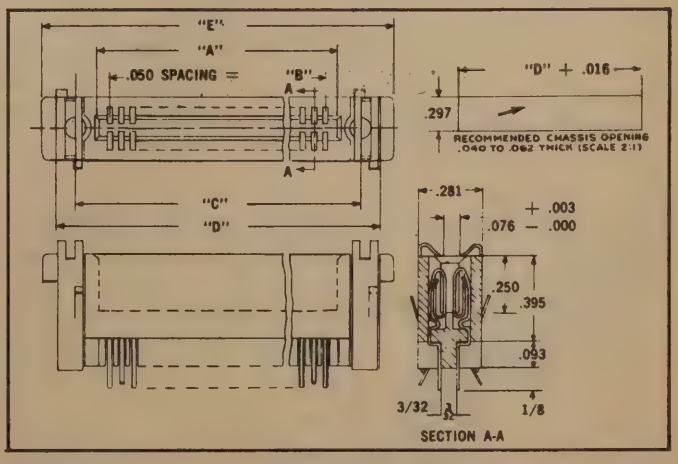
For additional information see catalog C-24

TYKON® HIGH DENSITY EDGE CONNECTORS* 0.050" CENTERS, 1/16" BOARDS



High density edge connectors with .050" centers for use with double sided .062" pc boards. Furnished with conventional wiring tails suitable for welding or soldering. Insulator is glass filled diallyl phthalate per MIL-M-14F, Type SDG-F. Contacts are beryllium copper with finish of copper flash plus .00003 gold plate per MIL-G-45204 Type II. Available in 6, 10, 15, 20 or 25-position sizes.

*Patent Pending



ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS: a.) At sea level (adj. terminals) 500 Volts AC RMS, 730 Volts DC, b.) At sea level (to ground) 1160 Volts AC RMS, 1660 Volts DC, c.) At an altitude of 60,000 ft. (adj. terminals) 165 Volts AC RMS, 230 Volts DC, d.) At an altitude of 60,000 ft. (to ground) 300 Volts AC RMS, 400 Volts DC; CURRENT RATING: .050 amps; CONTACT RESISTANCE at 20 Millivolts: .040 ohms maximum, .020 ohms average; MILLIVOLT DROP at 0.50 amps: 20 millivolts maximum; INSULATION RESISTANCE (As received): 5000 megohms minimum.

TYKON MOUNTING CLIP

For use in semi-flush pc board mounting. Separate item. Made of carbon steel with cadmium-plate plus yellow chromate finish. Part No. 50-MC.

TYKON POLARIZING KEY

"T" shaped cellulose acetate. Part No. 50-PK.

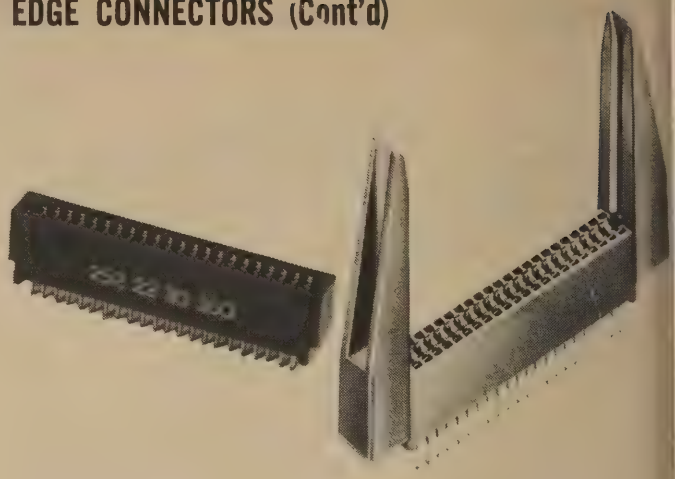
PART NUMBERS

ITEM	FACTORY NO.	PART NO.	DIMENSIONS A	B	C	D	E
6-position connector	255-06-30-190	50-12A-40	.350	.250	.550	.725	.850
10-position connector	255-10-30-190	50-20A-40	.550	.450	.750	.925	1.050
15-position connector	255-15-30-190	50-30A-40	.800	.700	1.000	1.175	1.300
20-position connector	255-20-30-190	50-40A-40	1.050	.950	1.250	1.425	1.550
25-position connector	255-25-30-190	50-50A-40	1.300	1.200	1.500	1.675	1.800
Mounting Clip	422-24-23-011-113	50-MC					
Polarizing Key	456-99-99-190	50-PK					

CINCH

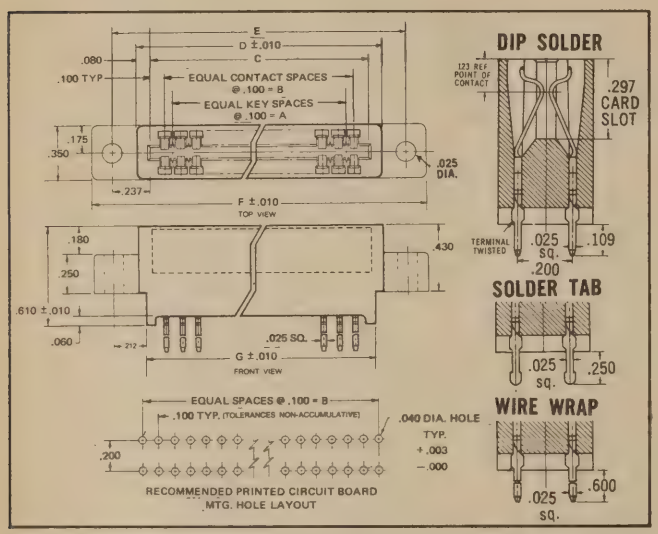
PRINTED CIRCUIT EDGE CONNECTORS (Cont'd)

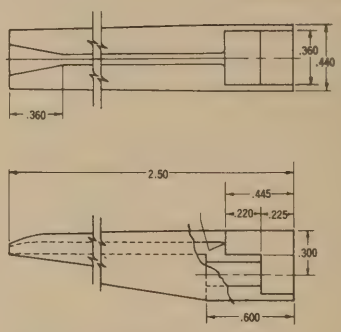
PRECISION DOUBLE READ-OUT PRINTED CIRCUIT BOARD EDGE CONNECTORS WITH 0.100 INCH CENTERS, 1/16" BOARDS



This new connector series features a unique bifurcated cantilever contact construction that provides a simple, dependable design capable of handling 1/16" thick printed circuit boards. These contacts are pre-loaded against an insulator stop to provide gap uniformity and assure rapid build-up of force to the PC board. This design combines minimum insertion force with maximum contact pressure.

Contacts are fabricated from grade A phosphor bronze, selectively gold plated with 30 micro-inches of gold over 50 micro-inches of nickel in the contacting area and 10 micro-inches minimum gold on the remainder of the contact, per MIL-G-45204, Type II. Insulation is glass-filled diallyl phthalate, type SDG-F per MIL-M-14.





Card Guide 50-GP-1 Factory No. 474-11-90-259 can be used with 0.156" spacing connectors on page 2.

No. of Contact Positions	DIMENSIONS				
	A	B	C	D	E
15	1.300	1.400	1.600	1.760	2.075
22	3.000	2.100	2.300	2.460	2.775
36	3.400	3.500	3.100	3.860	4.175
40	3.800	3.900	4.100	4.260	4.515
43	4.100	4.200	4.400	4.560	4.875

NOTE: Polarizing keys are not furnished with connectors and must be ordered separately.

POLARIZING KEY	Part No.	Factory No.
	50-PK-3	474-11-76-229

0.100 INCH CENTERS DOUBLE READ-OUT EDGE CONNECTORS

Contact Positions	CINCH Part No.	Factory No.	CINCH Part No.	Factory No.	CINCH Part No.	Factory No.
	CONVENTIONAL SOLDER TAILS		DIP SOLDER TAILS		WIRE WRAP TAILS	
15	50-30C-10	251-15-30-410	50-30C-20	252-15-30-360	50-30C-30	253-15-30-260
22	50-44C-10	251-22-30-410	50-44C-20	252-22-30-360	50-44C-30	253-22-30-260
36	50-72C-10	251-36-30-410	50-72C-20	252-36-30-360	50-72C-30	253-36-30-260
40	50-80C-10	251-40-30-410	50-80C-20	252-40-30-360	50-80C-30	253-40-30-260
43	50-86C-10	251-43-30-410	50-86C-20	252-43-30-360	50-86C-30	253-43-30-260

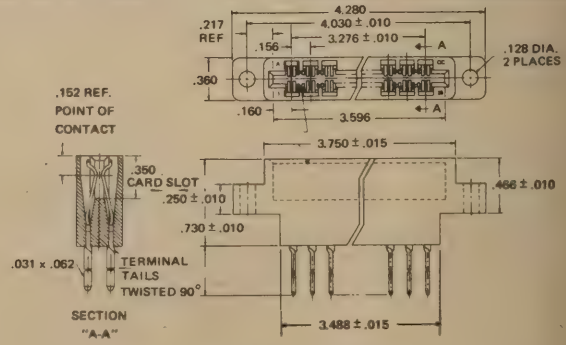


ECONOMY 22-POSITION DOUBLE READ-OUT PRINTED CIRCUIT BOARD EDGE CONNECTORS WITH 0.156" CENTER WIRE WRAP* TERMINALS

Similar to the precision edge connectors described above, these feature cantilever contact construction, selectively gold plated with 30 micro-inches of gold over 50 micro-inches of nickel in the contacting area and 10 micro-inches minimum of gold on the balance at the contact. The insulator is precision fabricated from black colored general purpose impact phenolic.

The selective plating technique used on the contact provides the performance of a 30 micro-inch plating at a substantially reduced cost. These connectors have .031" x .062" terminals and are available in three terminal lengths to accommodate one, two, or three levels of wire wrap.

Trademark — Gardner Denver



NOTE: 1. POLARIZING KEY SLOTS, LOCATED SYMMETRICALLY BETWEEN ADJACENT CONTACT POSITIONS

Type	Terminal Length	CINCH Part No.	Factory No.
E	0.550	50-44E-10	253-22-00-250
F	0.750	50-44F-10	253-22-00-251
G	1.051	50-44G-10	253-22-00-252

© United Technical Publications

CINCH

D-SUBMINIATURE CONNECTORS†

The Cinch D Subminiature Connectors are designed for applications where space and weight are prime considerations. These high contact density connectors are especially well-suited for aircraft, missile and ground support installations. Although designed essentially for rack-and-panel installations, D series connectors may be adapted for cable attachment by means of accessory junction shells with integral clamps.

In addition to the original D series with two-piece insulators, Cinch offers Golden D and MARK III ROYAL D connectors utilizing monobloc insulators. The Golden D connector is available with either crimp-type, snap-in, removable contacts or standard solder pot contacts. MARK III ROYAL D connectors have the "Little Caesar" rear release contact assembly. Contacts are inserted by hand and extracted at the rear of the connector with a simple plastic tool. The "Little Caesar" contact assembly was selected by the National Aerospace Standards Committee for vital programs demanding great operational reliability.

All D Subminiature connectors will inter-mate if insert arrangements correspond. These connectors are designed to meet or exceed most of the requirements of MIL-C-8384 Rev. B.

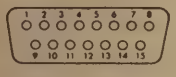
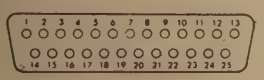
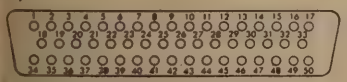
Combination layouts are supplied with unfilled coaxial and/or HV contact cavities. Coaxial and HV contacts must be ordered separately, and may be used interchangeably in any of the layouts listed. HV contacts accommodate wire sizes up to #20. Coaxial contacts (with crimp or solder type terminations) and HV contacts are snap-in and removable. Solder type coaxial and HV contacts have captivated center contacts.

Royal D, Mark III and Golden D, Mark II contacts use crimp tool MS-3191-1. Extraction tool 599-11-11-150 is used with each Royal D, Mark III commercial connectors; insertion-extraction tool 599-11-11-165 is used with each military connector.

For detailed test data and technical information see Cinch Catalog C-46.

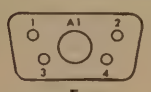
TYPE	DESCRIPTION	COMMON NAME	INSULATOR TYPE	CONTACT TERMINATION
D*MA	D connectors for the most critical applications. Monobloc insulators and "Little Caesar" contact assemblies Military version meets MIL-C-24308.	Mark III ROYAL D	Monobloc diallyl, thalate, GD-1-30F	Crimp insert by hand, remove with small tool.
D*M	D connectors with monobloc insulator for more critical application requirements.	Golden D, Mark I	Monobloc, diallyl phthalate, SDG	Solder pot
		Golden D, Mark I Combination	Monobloc, diallyl phthalate, SDG	Solder pot with coaxial and/or HV
D*SM	D connectors with crimp, snap-in contacts in monobloc insulators for quick assembly in more critical applications.	Golden D, Mark II	Monobloc, diallyl phthalate, MDG	Crimp, snap-in removable
D*	Original D connectors with two-piece insulators.	Original D	Two-piece, zytel	Solder pot
		Original D	Two-piece, nylon	0.025" Sq., 0.382" long wire wrap
DATA-PHONE	Same as D*	—	Diallyl phthalate, GDI-30	Solder pot

†Manufactured under license agreement with ITT Cannon Electric, Inc.

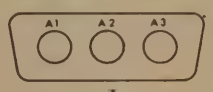
BASIC LAYOUT CONNECTORS (#20 contacts only)	LAYOUT	SHELL SIZE	PART NUMBER D* Solder Pot	D* Wire Wrap	D*M	D*SM	D*MA Commercial	D*MA Military	DATAPHONE**
	9 Contact Plug	E	DE-9P	DE-9P-F179	DEM-9P	DESM-9P	DEMA-9P	M24308/4-1	—
	Socket	E	DE-9S	DE-9S-F179	DEM-9S	DESM-9S	DEMA-9S	M24308/2-1	—
	15 Contact Plug	A	DA-15P	DA-15P-F179	DAM-15P	DASM-15P	DAMA-15P	M24308/4-2	DA-19603-403
	Socket	A	DA-15S	DA-15S-F179	DAM-15S	DASM-15S	DAMA-15S	M24308/2-2	DA-19603-404
	25 Contact Plug	B	DB-25P	DB-25P-F179	DBM-25P	DBSM-25P	DBMA-25P	M24308/4-3	DB-19604-432
	Socket	B	DB-25S	DB-25S-F179	DBM-25S	DBSM-25S	DBMA-25S	M24308/2-3	DB-19604-433
	37 Contact Plug	C	DC-37P	DC-37P-F179	DCM-37P	DCSM-37P	DCMA-37P	M24308/4-4	—
	Socket	C	DC-37S	DC-37S-F179	DCM-37S	DCSM-37S	DCMA-37S	M24308/2-4	—
	50 Contact Plug	D	DD-50P	DD-50P-F179	DDM-50P	DDSM-50P	DDMA-50P	M24308/4-5	—
	Socket	D	DD-50S	DD-50S-F179	DDM-50S	DDSM-50S	DDMA-50S	M24308/2-5	—

Add suffix "F" for shell with float mounts, as DEF, DEMF, etc. ** Require Dataphone Hoods.

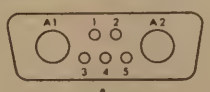
COMBINATION LAYOUTS (#20 contacts with coaxial and/or HV cavities*)



SHELL SIZE E
PLUG PART NO. DEM-5W1P
SOCKET PART NO. DEM-5W1S



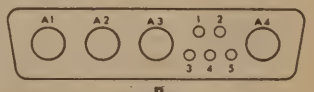
A
DAM-3W3P
DAM-3W3S



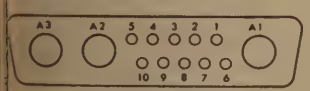
A
DAM-7W2P
DAM-7W2S



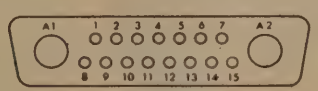
A
DAM-11W1P
DAM-11W1S



B
DBM-9W4P
DBM-9W4S



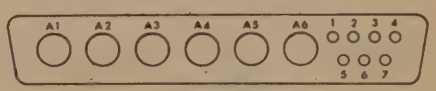
B
DBM-13W3P
DBM-13W3S



B
DBM-17W2P
DBM-17W2S



B
DBM-21W1P
DBM-21W1S



C
DCM-13W6P
DCM-13W6S

PERFORMANCE DATA

VOLTAGE RATING: 1250 VAC test, 1700 flashover; CURRENT RATING: 5 Amperes; INSULATION RESISTANCE: Greater than 5,000 megohms, determined in accordance with MIL-STD-202A, Method 302; CONTACT VOLTAGE DROP: (#20 contacts) 2.67 millivolts maximum per amp when tested in accordance with MIL-C-8384B, Paragraph 4.6.4; INDIVIDUAL CONTACT SEPARATION FORCE: 1 to 8 ounces; CONTACT RETENTION FORCE: 10 lbs. min. after 10 insertions; 5 lbs. min. after 100 insertions; MOISTURE RESISTANCE: Exceeds test requirements of MIL-STD-202A, Method 106†; VIBRATION: Exceeds test requirements of MIL-STD-202A, Method 204†; SHOCK: Exceeds test requirements of MIL-STD-202A, Method 202A†; CORROSION RESISTANCE: Exceeds requirements of 50 hour exposure to salt spray in accordance with MIL-STD-202A, Method 101A, Condition B†; HIGH POTENTIAL: MIL-STD-202A, Method 301†; TEMPERATURE CYCLING: MIL-STD-202A, Method 102A, Condition D.†

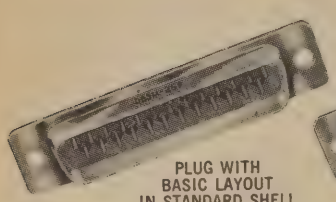
MATERIALS

SHELLS: Steel cadmium plated with yellow chromate coating, except Dataphone connectors have clear chromate coating; INSULATORS: D*-Zytel; D*M and Dataphone-Diallyl phthalate, glass filled per MIL-M-14F, Type SDG; D*SM-Diallyl phthalate asbestos filled per MIL-M-14F, Type MDG; D*MA-Diallyl phthalate, glass fibre filled per MIL-P-19833; PIN CONTACTS: D* and D*M-Brass, gold plated (.00003) over silver; D*SM and D*MA-Leaded copper, gold plated (.00003) over silver; Dataphone-Brass, gold plated (.00005) over copper; SOCKET CONTACTS: D*-Phosphor bronze, gold plated (.00003) over silver; D*M-Brass, gold plated (.00003) over silver; D*SM-Leaded copper, gold plated (.00003) over silver; Copper alloy, gold plate over silver plate with stainless steel sleeves. Dataphone-Phosphor bronze, gold plated (.00005) over copper.

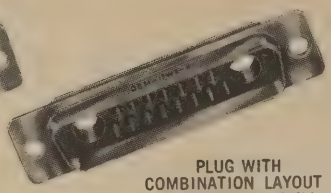
† As referenced in MIL-C-24308.

CINCH

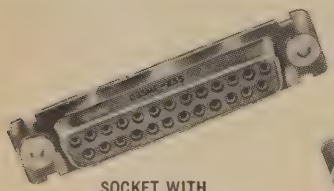
D-SUBMINIATURE CONNECTORS (Cont'd.)



PLUG WITH BASIC LAYOUT IN STANDARD SHELL



PLUG WITH COMBINATION LAYOUT IN STANDARD SHELL

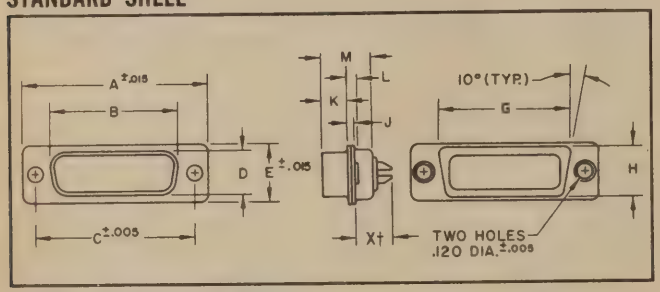


SOCKET WITH BASIC LAYOUT IN SHELL WITH FLOAT MOUNTS

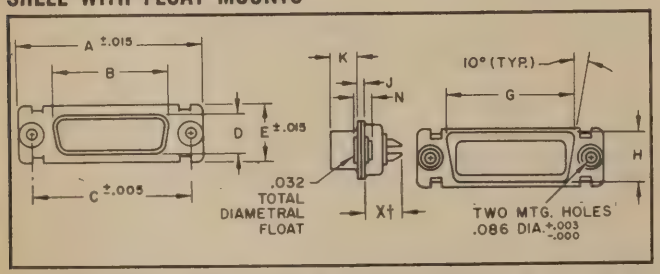


SOCKET WITH COMBINATION LAYOUT IN SHELL WITH FLOAT MOUNTSt

STANDARD SHELL



SHELL WITH FLOAT MOUNTS

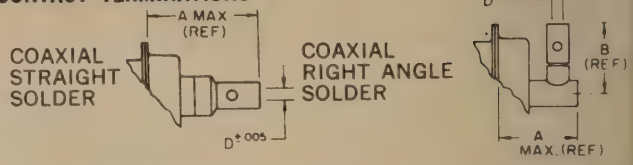


SHELL SIZE	A	B	C	D	E	G
E—Plug	1.213	.697	.984	.360	.494	.759
E—Socket	1.213	.640	.984	.308	.494	.759
A—Plug	1.541	1.025	1.312	.360	.494	1.083
A—Socket	1.541	.968	1.312	.308	.494	1.083
B—Plug	2.088	1.583	1.852	.378	.494	1.625
B—Socket	2.088	1.508	1.852	.308	.494	1.625
C—Plug	2.729	2.231	2.500	.378	.494	2.272
C—Socket	2.729	2.156	2.500	.308	.494	2.272
D—Plug	2.635	2.127	2.406	.484	.605	2.178
D—Socket	2.635	2.026	2.406	.420	.605	2.178

SHELL SIZE	H	J	K	L	M	N	X†
E—Plug	.422	.030	.236	.045	.422	.120	.422
E—Socket	.422	.030	.243	.045	.429	.120	.390
A—Plug	.422	.030	.236	.045	.422	.120	.422
A—Socket	.422	.030	.243	.045	.429	.120	.390
B—Plug	.422	.039	.231	.060	.426	.129	.422
B—Socket	.422	.030	.243	.045	.429	.120	.390
C—Plug	.422	.039	.231	.060	.426	.129	.422
C—Socket	.422	.030	.243	.045	.429	.120	.390
D—Plug	.534	.039	.231	.060	.426	.129	.422
D—Socket	.534	.030	.243	.045	.429	.120	.390

All tolerances are ± .010 unless noted otherwise.
Dimensions B and D are measured as outside dimensions at the bottom of the draw.
†D*SM only; D* dimension is .312, D*M dimension is .390 for all plugs and sockets.

CONTACT TERMINATIONS



STANDARD CRIMP CONTACTS (Style 1)

	Mark II D*SM	Mark III D*MA Commercial	Mark III D*MA Military
Pin	031-0932-004	330-5291-000	M24308/11-1
Socket	031-0931-006	031-1007-000	M24308/10-1

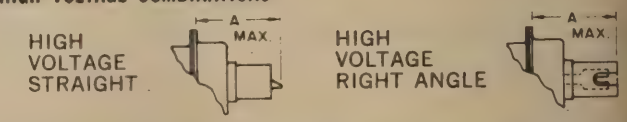
COAXIAL STRAIGHT SOLDER

	Order Number	Contact Ext. from Rear of Flange A	Dielectric Entry D	Overall Length	RG Cables
Plug	DM-53740-5008	.739	.040	.929	196/U
Plug	DM-53740-5001	.739	.067	.929	187/U 188/U
Plug	DM-53740-5002	.847	.110	1.037	195/U
Plug (Short Type)	DM-53740-5000	.670	.040	.860	196/U
Receptacle	DM-53742-5001	.739	.067	.929	187/U 188/U
Receptacle	DM-53742-5002	.847	.110	1.037	195/U
Receptacle	DM-53742-5004	.847	.125	1.037	58/U
Receptacle (Short Type)	DM-53742-5000	.670	.040	.860	196/U

COAXIAL RIGHT ANGLE SOLDER

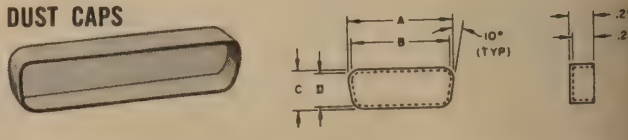
	Order Number	Contact Ext. from Rear of Flange A	B	Dielectric Entry D	Overall Length	RG Cables
Plug	DM-53741-5000	.530	.492	.040	.734	196/U
Plug	DM-53741-5001	.530	.492	.067	.734	187/U 188/U
Receptacle	DM-53743-5000	.530	.492	.040	.734	196/U
Receptacle	DM-53743-5001	.530	.492	.067	.734	187/U 188/U

HIGH VOLTAGE COMBINATIONS



	Order Number	Contact Ext. from Rear of Flange A	Wire Size	Overall Length
Plug	DM-53745-0000	.539	#20	.734
Receptacle	DM-53744-0000	.539	#20	.734
Plug	DM-53745-5000	.491	#20	.697
Receptacle	DM-53744-5000	.491	#20	.697

DUST CAPS



Order Number by Shell Size	For Use with	A	B	C	D
DE-59-20	DE-9S	.694	.627	.362	.295
DE-60-20	DE-9P	.749	.682	.412	.345
DA-59-20	DA-15S	1.022	.955	.362	.295
DA-60-20	DA-15P	1.077	1.010	.412	.345
DB-59-20	DB-25S	1.562	1.495	.362	.295
DB-60-20	DB-25P	1.635	1.568	.430	.363
DC-59-20	DC-37S	2.210	2.143	.362	.295
DC-60-20	DC-37P	2.283	2.216	.430	.363
DD-59-20	DD-50S	2.116	2.049	.474	.407
DD-60-20	DD-50P	2.179	2.112	.536	.469

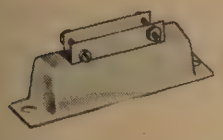
MATERIAL: Polypropylene (clear)

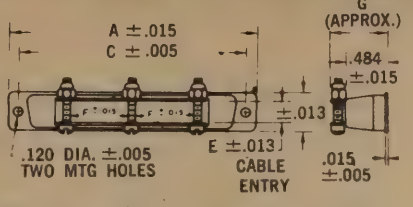
© United Technical Publications

CINCH

D-SUBMINIATURE CONNECTORS (Cont'd.)

JUNCTION SHELLS



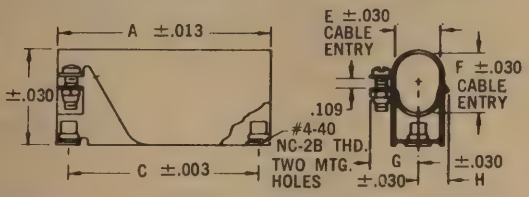


STRAIGHT CLAMP

Order Number by Shell Size	No. of Cable Locking Screws Required	A	B	C	E	F	G
DA-19678-1	2	1.531	.500	1.312	.296	.312	.640
DB-19678-2	2	2.078	.500	1.852	.296	.796	.640
DC-19678-3	3	2.718	.500	2.500	.296	.687	.640
DD-19678-4	3	2.625	.609	2.406	.390	.687	.703



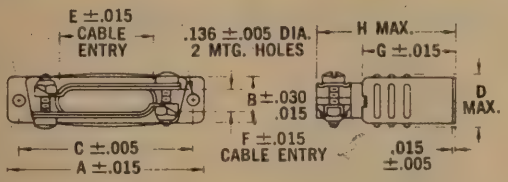
RIGHT ANGLE



Order Number by Shell Size	A	B	C	E	F	G	H
DE-19977-5	1.203	.718	.984	.437	.437	.468	.281
DA-19977-1	1.531	.718	1.312	.437	.437	.468	.281
DB-19977-2	2.078	.968	1.852	.437	.625	.468	.281
DC-19977-3	2.718	1.187	2.500	.437	.812	.468	.281
DD-19977-4	2.625	1.250	2.406	.562	.906	.531	.343



DEEP, STRAIGHT CLAMP

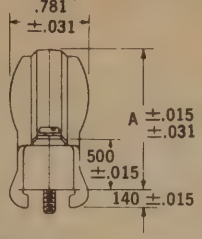


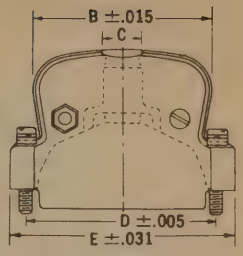
Order Number by Shell Size	A	B	C	D	E	F	G	H
DE-24657	1.203	.484	.984	.578	.375	.375	.750	1.219
DA-24658	1.531	.484	1.312	.578	.713	.312	.750	1.250
DB-24659	2.078	.484	1.852	.578	1.000	.312	1.000	1.531
DC-24660	2.718	.484	2.500	.578	1.375	.312	1.000	1.531
DD-24661	2.625	.593	2.406	.687	1.406	.406	1.125	1.656

DATAPHONE HOODS



MATERIAL: Gray Melamine



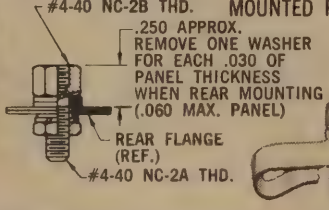


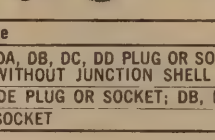
Part No.	Contacts	A	B	C	D	E
DA-51225-1	15	1.297	1.219	.266	1.312	1.641
DB-51226-1	25	1.406	1.797	.328	1.852	2.203

SCREW LOCK ASSEMBLIES



FEMALE



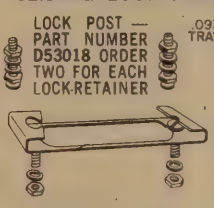


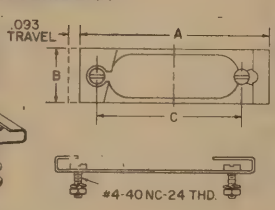
MALE

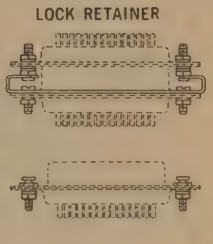


Order Number	Type	Usage
D-20418-2	Female	DE, DA, DB, DC, DD PLUG OR SOCKET WITH OR WITHOUT JUNCTION SHELL
D20419	Male	DA, DE PLUG OR SOCKET; DB, DC SOCKET
D20420	Male	DD SOCKET

SLIDING LOCK ASSEMBLIES







Part Number by Shell Size

Steel	A	B	C
DE-51224-1	1.392	.500	.984
DA 51220-1	1.720	.500	1.312
DB 51221-1	2.260	.500	1.852
DC 51222-1	2.908	.500	2.500
DD 51223-1	2.814	.609	2.406

HINGE TYPE RACK & PANEL CONNECTORS

Cinch hinge connectors eliminate contact damage caused by high insertion and extraction forces.

Caps are available, furnished with liners and cable clamps. For more secure locking, an alternate lock with a hook fits into a cutout in the cap.

If the alternate lock is required, order Part No. 37AL.

The castings are black phenolic, type CFG. Contacts are phosphor bronze, cadmium-plated (.0001). Caps are finished in black wrinkle and the cable clamps are nickel-plated. Liners are formed fibre.

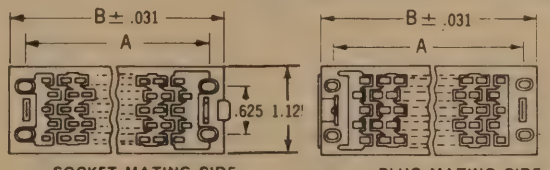


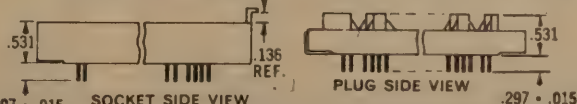


STANDARD LOCK



ALTERNATE LOCK





ELECTRICAL SPECIFICATIONS VOLTAGE: Adjacent Terminals — 930 Volts R.M.S., 1300 Volts DC; VOLTAGE: to Ground — 1400 Volts R.M.S., 2000 Volts DC; CURRENT RATING: 4.5 Amperes; CONTACT RESISTANCE: at Rated Current — .020 ohm; INSULATION RESISTANCE: 100 megohms; CAPACITANCE: Adjacent Contacts — .75 MMF.

No. Contacts	Plug W.O. Lock	Skt. W.O. Lock	Plug W. Lock	Skt. W. Lock	Mtg. Dim. A	Mtg. Dim. B	Plug Cap Part No.	Cap Wire Hole Size
20	37M20	37F20	37M20L	37F20L	1.375	1.750	37C20	¾"
30	37M30	37F30	37M30L	37F30L	1.812	2.187	37C30	13/16"x1"
40	37M40	37F40	37M40L	37F40L	2.250	2.625	37C40	13/16"x1"
50	37M50	37F50	37M50L	37F50L	2.687	3.062	37C50	13/16"x1"
60	37M60	37F60	37M60L	37F60L	3.125	3.500	37C60	13/16"x1½"
70	37M70	37F70	37M70L	37F70L	3.562	3.937	37C70	13/16"x1½"
80	37M80	37F80	37M80L	37F80L	4.000	4.375	37C80	13/16"x1½"
90	37M90	37F90	37M90L	37F90L	4.438	4.812	37C90	13/16"x1½"
100	37M100	37F100	37M100L	37F100L	4.875	5.250	37C100	13/16"x1½"

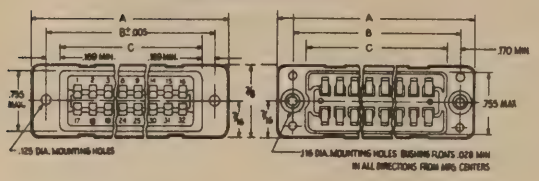
© United Technical Publications

BLUE RIBBON* and MICRO RIBBON* RACK and PANEL CONNECTORS

BLUE RIBBON



DIMENSIONAL DATA





ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS: (a) At Sea Level 800 VDC, (b) At 70,000 Feet 300 VDC; CONTACT CURRENT RATING: 5 Amperes; CONTACT RESISTANCE: .003 Ohms Maximum; INSULATION RESISTANCE (As Received): 100,000 Megohms Minimum.

MECHANICAL SPECIFICATIONS

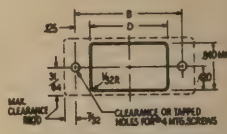
CONTACTS: Plug, Copper, ASTM-B-152, Type ETP, Socket, Phosphor bronze, ASTM-B-103, MIL-B-892, Grade A; FINISH: .00002 Gold per MIL-G-45204, Type II over copper flash; MOUNTING PLATE: Passivated stainless steel. TEMPERATURE RANGE: −67°C to 130°C.

No. of Contacts	Part Numbers Plug	Part Numbers Socket	A	Dimensions B	Dimensions C	D (Min.)
8	26-4100-8P	26-4200-8S	1 23/32	1.375	1 1/32	1.120
16	26-4100-16P	26-4200-16S	2 15/32	2.125	1 25/32	1.868
24	26-4100-24P	26-4200-24S	3 7/32	2.875	2 17/32	2.620
32	26-4100-32P	26-4200-32S	3 31/32	3.625	3 5/32	3.370

*Tolerances: Fractions ± 1/64
Decimals ± .005



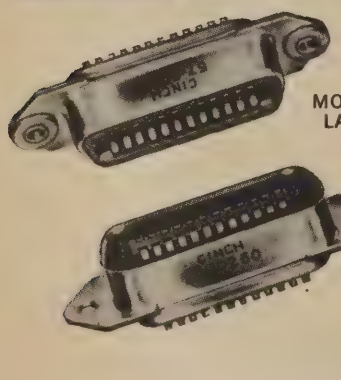
MATING PLUG & RECEPTACLE

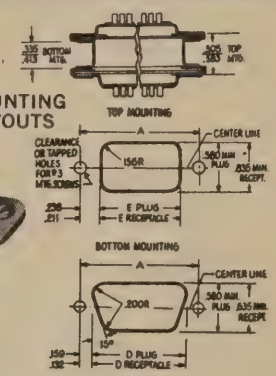


MOUNTING LAYOUT

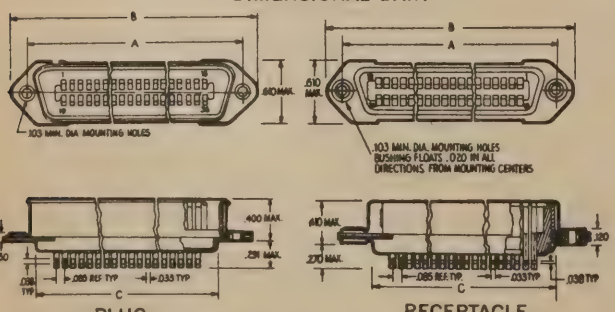
MICRO-RIBBON

MATING PLUG & RECEPTACLE

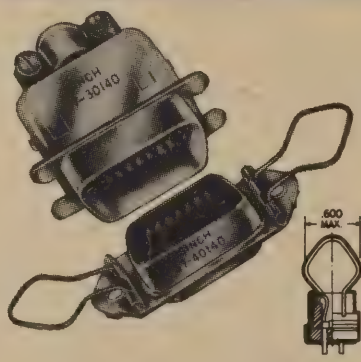


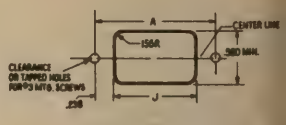


DIMENSIONAL DATA

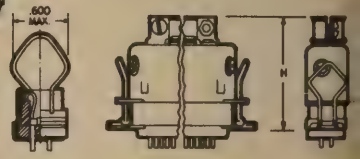


MICRO-RIBBON CABLE-TO-CHASSIS



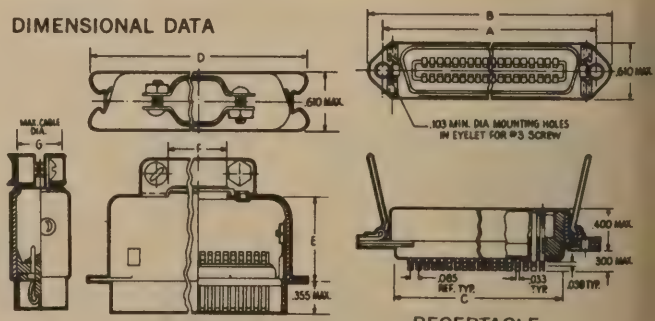


MOUNTING LAYOUT



MATING PLUG AND RECEPTACLE

DIMENSIONAL DATA



No. of Contacts	Socket No.	Plug No.	Socket No.	Plug No.	A	B	C	D	D min.	E	E min.	F	G	H	J min.
14	57-20140	57-10140	57-40140	57-30140	1.417	1.750	.910	1.495	1.098	.843	.940	.306	.422	1.668	.940
24	57-20240	57-10240	57-40240	57-30240	1.842	2.175	1.335	1.920	1.523	.825	1.365	.473	.473	1.668	1.365
36	57-20360	57-10360	57-40360	57-30360	2.352	2.685	1.845	2.431	2.033	.905	1.875	.640	.473	1.730	1.875
50	57-20500	57-10500	57-40500	57-30500	2.947	3.270	2.440	3.025	2.628	.995	2.472	.766	.473	1.825	2.472

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS: (a) At Sea Level 500 VRMS, 700 VDC, (b) At 70,000 Feet 125 VRMS, 200 VDC; CONTACT CURRENT RATING: 5 Amperes; CONTACT RESISTANCE: .003 Ohms Average; INSULATION RESISTANCE (As Received): 5000 Megohms Minimum.

MECHANICAL SPECIFICATIONS

CONTACTS: Cadmium bronze, ASTM-B-105; FINISH: .00002 Gold per MIL-G-45204, Type II, over copper flash; HOUSINGS: Brass alloy with .0002 to .0004 zinc. Plus clear chromate. TEMPERATURE RANGE: −55°C to 105°C.
*Manufactured under license from Bunker-Ramo, Inc.

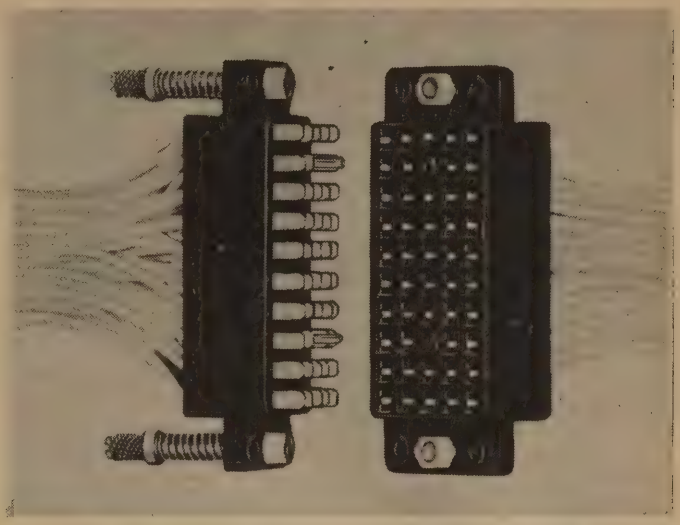
© United Technical Publications

CINCH

MINI-JONES CRIMP-ON, SNAP-IN CONNECTORS

The "MINI-JONES" contact density of 25 contacts per square inch results in a space saving of 40% compared to conventional connectors. No tools are required for inserting contacts. Pin and contact terminations will accommodate either one AWG 18, 20, 22 or 24; or two AWG 22 or 24. Supplied unassembled with loose contacts and insulators.





ELECTRICAL SPECIFICATIONS

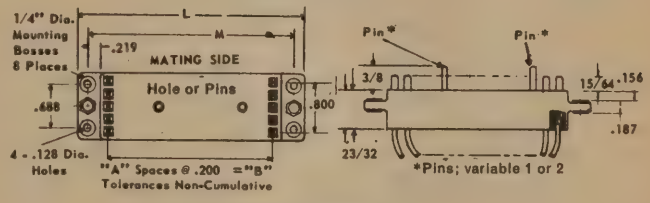
VOLTAGE RATING: 830 VRMS, 1230 VDC; CURRENT RATING: 4.0 amperes; CONTACT RESISTANCE: .0065 ohms maximum; LOW LEVEL CONTACT RESISTANCE: current flow at 0.1 micro volts, no variation of contact resistance at 6.5 ma and 16.25 ma; INSULATION RESISTANCE: 1000 megohms.

MATERIALS and FINISHES

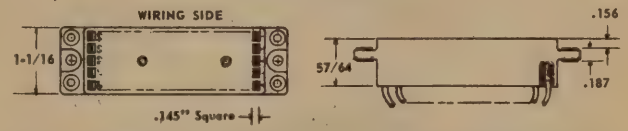
Component	Material	Finish
Male contacts	Phosphor Bronze	Tinned in strip
Female contacts	Phosphor Bronze	Tinned in strip
Insulators	General purpose black phenolic	
Polarizing pins	Brass	.0003 cadmium + yellow chromate
Lock nuts	Brass	.0003 cadmium + yellow chromate
Locking screw	Steel	.0003 cadmium + yellow chromate
Locking spring	Music Wire	.0003 cadmium + yellow chromate

DIMENSIONS

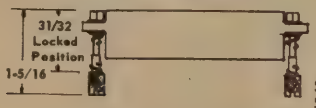
TYPE 1 PLUG



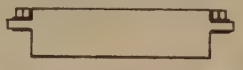
TYPE 2 SOCKET



TYPE 3 SOCKET TO BE USED WITH A TYPE 2 PLUG



TYPE 2 PLUG TO BE USED WITH A TYPE 3 SOCKET

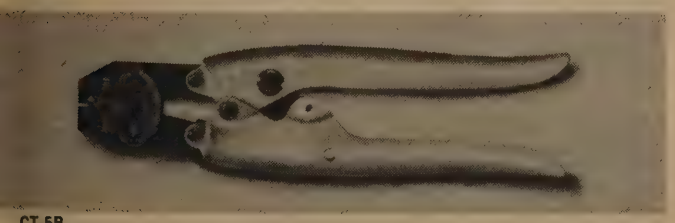


Shown with Lock Screw in Place. Lock Screw Fits Plug & Socket Interchangeably.

PART NUMBERS

NO OF CONTACTS	STANDARD CONNECTORS (TYPE 1) PLUG	SOCKET	CONNECTORS WITH PROVISION FOR LOCKS (TYPE 2) PLUG	SOCKET	NO. OF "A" SPACES	"B"	DIMENSIONS "M"	"L"
19	MJP-19	MJS-19	MJP-2-19	MJS-2-19	3	.600	1.288	1.600
29	MJP-29	MJS-29	MJP-2-29	MJS-2-29	5	1.000	1.688	2.000
39	MJP-39	MJS-39	MJP-2-39	MJS-2-39	7	1.400	2.088	2.400
48	MJP-48	MJS-48	MJP-2-48	MJS-2-48	9	1.800	2.488	2.800
58	MJP-58	MJS-58	MJP-2-58	MJS-2-58	11	2.200	2.888	3.200
68	MJP-68	MJS-68	MJP-2-68	MJS-2-68	13	2.600	3.288	3.600

CRIMPING TOOL



CT-5B

PIN-REMOVAL TOOL



Screw lock and spring to complete lock for Type 2 .....MJ-SL
Plug pin .....MJP-P
Socket pin .....MJS-C

Crimping tool CT-5B
Pin removal tool CT-5A

© United Technical Publications

CINCH

"JONES" PLUGS and SOCKETS — 300 SERIES

Jones 300 series plugs and sockets feature MONOBLOCK construction. S-302-AB socket (two-contact plugs and sockets are round, and all others are rectangular). Which eliminates internal moisture traps. MONOBLOCK's new patented* snap-in socket contacts permit external pre-wiring, plus removal and replacement of individual contacts if necessary. Contacts are "locked-in" to withstand wiring stress. MONOBLOCK plugs and sockets are compatible with the old two-piece types.

* U.S. patent nos. 2688123 and 2980881.

P-302-CCT





S-302-AB

ELECTRICAL SPECIFICATIONS

All connector ratings are based on a continuously mated condition. "Rated Voltage" is ⅓ of Voltage Breakdown.

Rated Voltage ..... 730 Volts rms. Contact Resistance .... .016 Ohms max.

Under most normal operating conditions where not all contacts are carrying substantially full rated current, maximum current per contact is rated at 10 amperes. The Jones 300 series plugs and sockets are recognized under the Component Program of Underwriters' Laboratories, Inc. in accordance with UL Standard #498, the Underwriters' Laboratories ratings are derived from the condition whereby all contacts are carrying "rated" current simultaneously. The resultant ratings are as follows:

Rated Current	Rated Wattage
(2-12 contacts) ..... 7.5 amperes	(2-12 contacts) .....1875 watts
(15-33 contacts) ..... 4.5 amperes	(15-33 contacts) .....1125 watts

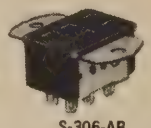
MECHANICAL SPECIFICATIONS

INSULATOR: Molded phenolic;; CONTACTS: Phosphor bronze, cadmium plated; HOUSING: Formed metal, black wrinkle finish.

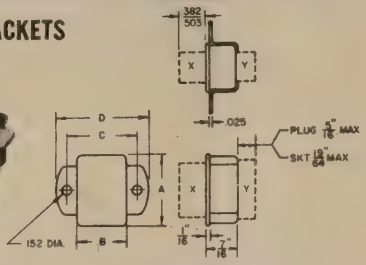
TYPE AB WITH ANGLE BRACKETS



P-306-AB



S-306-AB



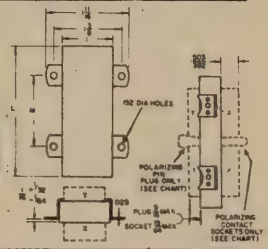
No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches A	B	C	D
2	P-302-AB	S-302-AB	21/32 Dia.	—	31/32	1 1/32
3	P-303-AB	S-303-AB	1	7/16	3/4	1 1/16
4	P-304-AB	S-304-AB	3/4	11/16	1	1 5/16
6	P-306-AB	S-306-AB	1	11/16	1	1 5/16
8	P-308-AB	S-308-AB	1 1/4	11/16	1	1 5/16
10	P-310-AB	S-310-AB	1 5/16	11/16	1	1 5/16
12	P-312-AB	S-312-AB	1 1/4	15/16	1 1/8	1 5/16



P-315-AB



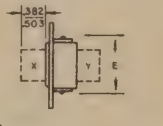
S-315-AB



No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches L	M	Polarizing Pin†
15	P-315-AB	S-315-AB	1 3/8	See Note	NO
18	P-318-AB	S-318-AB	1 13/16	1 1/4	NO
21	P-321-AB	S-321-AB	2 1/4	1 5/16	NO
24	P-324-AB	S-324-AB	2 3/16	1 1/4	14
27	P-327-AB	S-327-AB	2 7/8	1 5/16	14
30	P-330-AB	S-330-AB	3 5/16	1 7/8	14
33	P-333-AB	S-333-AB	3 1/2	2 3/16	17

Note: P-315-AB and S-315-AB require only two mounting brackets, mounted on center of connector.

TYPE FP WITH FLUSH PLATE

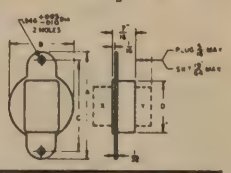




P-306-FP



S-306-FP



No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches A	B	C	D	E (Max.)
2	P-302-FP	S-302-FP	2 1/16	1 1/4	1 3/4	—	23/32
3	P-303-FP	S-303-FP	2 1/16	1 1/4	1 3/4	15/16	1/2
4	P-304-FP	S-304-FP	2 1/16	1 1/4	1 3/4	1 1/16	3/4
6	P-306-FP	S-306-FP	2 1/16	1 1/4	1 3/4	1 5/16	3/4
8	P-308-FP	S-308-FP	2 5/16	1 3/4	2 1/4	1 3/16	3/4
10	P-310-FP	S-310-FP	2 5/16	1 3/4	2 1/4	1 31/64	3/4
12	P-312-FP	S-312-FP	2 5/16	1 3/4	2 1/4	1 3/16	1

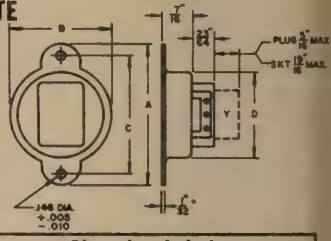
TYPE RP WITH RECESSED PLATE



P-306-RP



S-306-RP



No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches A	B	C	D (Max.)
2	P-302-RP	S-302-RP	2 1/16	1 1/2	1 3/4	1.350
3	P-303-RP	S-303-RP	2 1/16	1 1/2	1 3/4	1.350
4	P-304-RP	S-304-RP	2 1/16	1 1/2	1 3/4	1.350
6	P-306-RP	S-306-RP	2 1/16	1 1/2	1 3/4	1.350
8	P-308-RP	S-308-RP	2 5/16	2	2 1/4	1.850
10	P-310-RP	S-310-RP	2 5/16	2	2 1/4	1.850
12	P-312-RP	S-312-RP	2 5/16	2	2 1/4	1.850

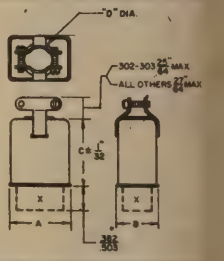
TYPE CCT WITH CABLE CLAMP IN TOP



P-306-CCT



S-306-CCT



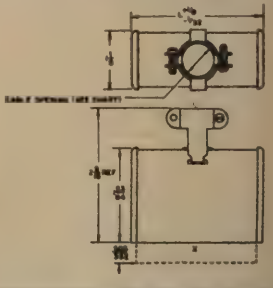
No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches A	B	C	D
2	P-302-CCT	S-302-CCT	21/32 Dia.	—	61/64	3/8
3	P-303-CCT	S-303-CCT	1	7/16	61/64	5/16
4	P-304-CCT	S-304-CCT	3/4	11/16	61/64	3/8
6	P-306-CCT	S-306-CCT	1	11/16	1 5/64	7/16
8	P-308-CCT	S-308-CCT	1 1/4	11/16	1 5/64	1/2
10	P-310-CCT	S-310-CCT	1 5/16	11/16	1 13/64	1/2
12	P-312-CCT	S-312-CCT	1 1/4	15/16	1 13/64	5/16



P-315-CCT



S-315-CCT



No. of Contacts	Plug Part Nos.	Socket Part Nos.	L +1/8 —1/32	Cable Opening Standard	Max.	Polarizing Pin
15	P-315-CCT	S-315-CCT	1 11/16	5/8	7/8	NO
18	P-318-CCT	S-318-CCT	2	5/8	7/8	NO
21	P-321-CCT	S-321-CCT	2 3/16	5/8	7/8	NO
24	P-324-CCT	S-324-CCT	2 5/8	5/8	7/8	14
27	P-327-CCT	S-327-CCT	2 15/16	5/8	7/8	14
30	P-330-CCT	S-330-CCT	3 1/4	3/4	7/8	14
33	P-333-CCT	S-333-CCT	3 5/16	3/4	7/8	17

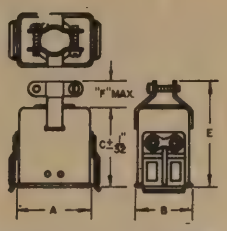
© United Technical Publications

CINCH

"JONES" PLUGS AND SOCKETS — 300 SERIES (Cont'd.)

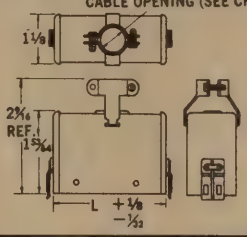
TYPE CCT-K WITH CABLE CLAMP IN TOP OF CAP AND WITH KEEPERS


S-306-CCT-K



No. of Contacts	Socket Part Nos.	Dimensions in Inches A	B	C	E	F	Cable Opening
2	S-302-CCT-K	21/32 Dia.	—	61/64	1 3/8	25/64	3/8
3	S-303-CCT-K	1	7/16	61/64	1 3/8	25/64	5/16
4	S-304-CCT-K	3/4	11/16	61/64	1 13/32	27/64	3/8
6	S-306-CCT-K	1	11/16	1 5/64	1 1/2	27/64	7/16
8	S-308-CCT-K	1 1/4	11/16	1 5/64	1 5/8	27/64	1/2
10	S-310-CCT-K	1 5/16	11/16	1 13/64	1 21/32	27/64	1/2
12	S-312-CCT-K	1 1/4	15/16	1 13/64	1 5/8	27/64	9/16


S-315-CCT-K

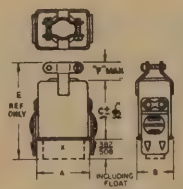


No. of Contacts	Socket Part Nos.	L +1/8 −1/32	Cable Opening	Polarizing Pin
15	S-315-CCT-K	1 11/16	7/16	NO
18	S-318-CCT-K	2	7/16	NO
21	S-321-CCT-K	2 5/16	5/8	NO
24	S-324-CCT-K	2 5/8	5/8	14
27	S-327-CCT-K‡	2 15/16	5/8	14
30	S-330-CCT-K‡	3 1/4	3/4	14
33	S-333-CCT-K‡	3 9/16	3/4	17

‡Keepers are centered on each side, not on each end as shown.

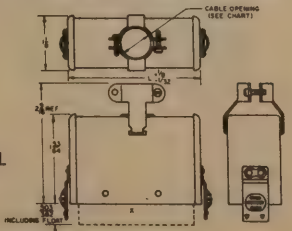
TYPE CCT-L WITH CABLE CLAMP IN TOP OF CAP AND WITH LOCKS


P-306-CCT-L



No. of Contacts	Plug Part Nos.	Dimensions in Inches A	B	C	E	F	Cable Opening
2	P-302-CCT-L	21/32 Dia.	—	61/64	1 13/16	25/64	3/8
3	P-303-CCT-L	1	7/16	61/64	1 13/16	25/64	5/16
4	P-304-CCT-L	3/4	11/16	61/64	1 27/32	27/64	3/8
6	P-306-CCT-L	1	11/16	1 5/64	1 13/16	27/64	7/16
8	P-308-CCT-L	1 1/4	11/16	1 5/64	2 1/16	27/64	1/2
10	P-310-CCT-L	1 5/16	11/16	1 13/64	2 3/32	27/64	1/2
12	P-312-CCT-L	1 1/4	15/16	1 13/64	2 1/16	27/64	9/16


P-315-CCT-L

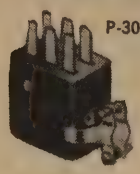


No. of Contacts	Plug Part Nos.	L +1/8 −1/32	Cable Opening Standard	Max.	Polarizing Pin
15	P-315-CCT-L	1 11/16	7/16	7/8	NO
18	P-318-CCT-L	2	7/16	7/8	NO
21	P-321-CCT-L	2 5/16	5/8	7/8	NO
24	P-324-CCT-L	2 5/8	5/8	7/8	14
27	P-327-CCT-L‡	2 15/16	5/8	7/8	14
30	P-330-CCT-L‡	3 1/4	3/4	7/8	14
33	P-333-CCT-L‡	3 9/16	3/4	7/8	17

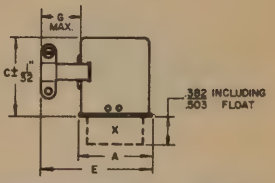
‡Locks are centered on each side, not on each end as shown.

TYPE CCE WITH CABLE CLAMP IN END

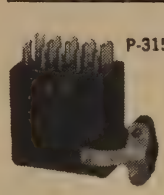



P-306-CCE

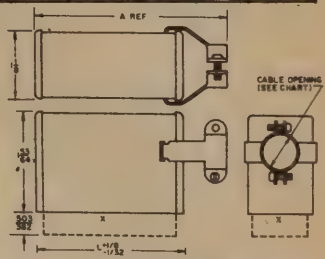

S-306-CCE



No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches A	B	C	E	G	Cable Opening
6	P-306-CCE	S-306-CCE	1	11/16	1 1/16	1 5/16	27/64	7/16
8	P-308-CCE	S-308-CCE	1 1/4	1 1/16	1 1/16	1 13/16	27/64	1/2
10	P-310-CCE	S-310-CCE	1 5/16	1 1/16	1 1/16	2 3/32	27/64	1/2
12	P-312-CCE	S-312-CCE	1 1/4	1 5/16	1 1/16	1 3/4	27/64	9/16


P-315-CCE

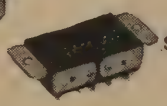

S-315-CCE

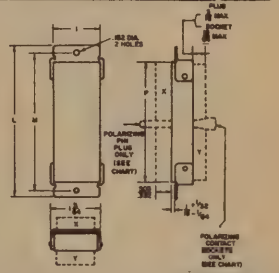


No. of Contacts	Plug Part Nos.	Socket Part Nos.	A (Ref.)	L +1/8 −1/32	Cable Opening Standard	Max.	Polarizing Pin
15	P-315-CCE	S-315-CCE	2 3/16	1 11/16	7/16	13/16	NO
18	P-318-CCE	S-318-CCE	2 3/4	2	7/16	13/16	NO
21	P-321-CCE	S-321-CCE	3 1/16	2 5/16	5/8	13/16	NO
24	P-324-CCE	S-324-CCE	3 3/8	2 5/8	5/8	13/16	14
27	P-327-CCE	S-327-CCE	3 11/16	2 15/16	5/8	13/16	14
30	P-330-CCE	S-330-CCE	4	3 1/4	3/4	13/16	14
33	P-333-CCE	S-333-CCE	4 5/16	3 9/16	3/4	13/16	17

TYPE EB WITH END BRACKETS


P-315-EB

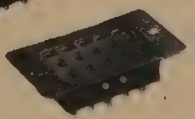

S-315-EB

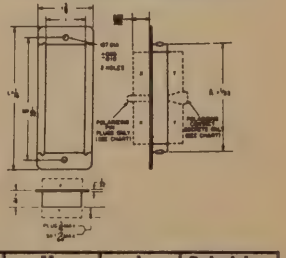


No. of Contacts	Plug Part Nos.	Socket Part Nos.	L ± 1/32"	M ± 1/32"	P ± 1/16"	Polarizing Pin
15	P-315-EB	S-315-EB	2 5/16	2	1 5/8	NO
18	P-318-EB	S-318-EB	2 5/8	2 5/16	1 13/16	NO
21	P-321-EB	S-321-EB	2 13/16	2 5/8	2 1/4	NO
24	P-324-EB	S-324-EB	3 1/4	2 13/16	2 5/16	14
27	P-327-EB	S-327-EB	3 5/16	3 1/4	2 7/8	14
30	P-330-EB	S-330-EB	3 7/8	3 5/16	3 5/16	14
33	P-333-EB	S-333-EB	4 5/16	3 7/8	3 1/2	17

TYPE SB WITH SHALLOW BRACKETS FOR FLUSH MOUNTING


P-315-SB


S-315-SB



No. of Contacts	Plug Part Nos.	Socket Part Nos.	A ± 1/32"	M ± 1/32"	L ± 1/16"	Polarizing Pin
15	P-315-SB	S-315-SB	1 11/16	2 1/8	2 3/4	NO
18	P-318-SB	S-318-SB	2	2 7/16	2 3/4	NO
21	P-321-SB	S-321-SB	2 5/16	2 3/4	3 1/4	NO
24	P-324-SB	S-324-SB	2 5/8	3 1/16	3 3/4	14
27	P-327-SB	S-327-SB	2 15/16	3 3/8	3 3/4	14
30	P-330-SB	S-330-SB	3 1/4	3 11/16	4 3/4	14
33	P-333-SB	S-333-SB	3 9/16	4	4 3/4	17

© United Technical Publications

CINCH

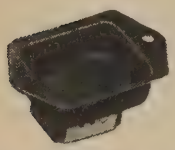
"JONES" PLUGS and SOCKETS — 300 SERIES (Cont'd.)

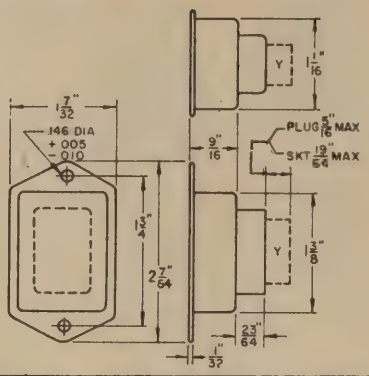
TYPE DB WITH DEEP BRACKET FOR RECESSED MOUNTING

P-306-DB



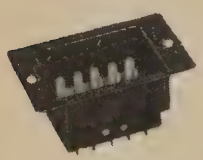
S-306-DB



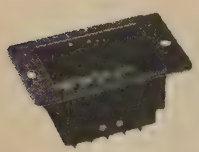


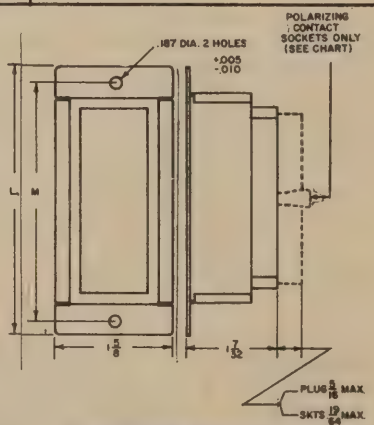
No. of Contacts	Plug Part Nos.	Socket Part Nos.	TYPE DB With Deep Bracket for Recessed Mounting
2	P-302-DB	S-302-DB	See Dimensions On Diagram
3	P-303-DB	S-303-DB	
4	P-304-DB	S-304-DB	
6	P-306-DB	S-306-DB	
8	P-308-DB	S-308-DB	
12	P-312-DB	S-312-DB	

P-315-DB



S-315-DB





No. of Contacts	Plug Part Nos.	Socket Part Nos.	Dimensions in Inches L ±1/16"	Dimensions in Inches M ±1/32"	Polarizing Contact Pins†
15	P-315-DB	S-315-DB	2 1/16	2 3/8	NO
18	P-318-DB	S-318-DB	3 1/16	2 11/16	NO
21	P-321-DB	S-321-DB	3 1/16	3	NO
24	P-324-DB	S-324-DB	3 3/4	3 5/16	14
27	P-327-DB	S-327-DB	4 1/16	3 5/8	14
30	P-330-DB	S-330-DB	4 3/8	3 15/16	14
33	P-333-DB	S-333-DB	4 11/16	4 1/4	17

†See Polarizing Chart on page 16.
Y is the dimension for contact tail extension.

REPLACEMENT DRIVE PINS FOR 300 SERIES CAP-TYPE PLUGS AND SOCKETS

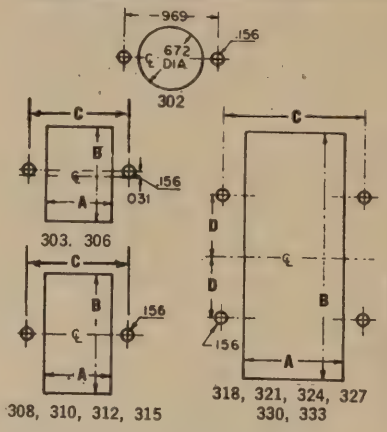


*10-contact size and 15 thru 33-contact sizes require 2 pins per unit; all other sizes require only 1

NO. OF CONTACTS	PART NOS.	DIM. L ± .005
2	302-R	.687
3	303-R	.468
4, 6, 8, 10*	304-R	.718
12	312-R	.953
15-33*	333-R	1.125

TYPE AB (Angle Bracket) MOUNTING DIMENSIONS

ALL MOUNTING HOLES .156" DIA. MAXIMUM CHASSIS THICKNESS 1/4" FOR BOTTOM MOUNTING
Mounting holes to be located on center line unless otherwise shown.

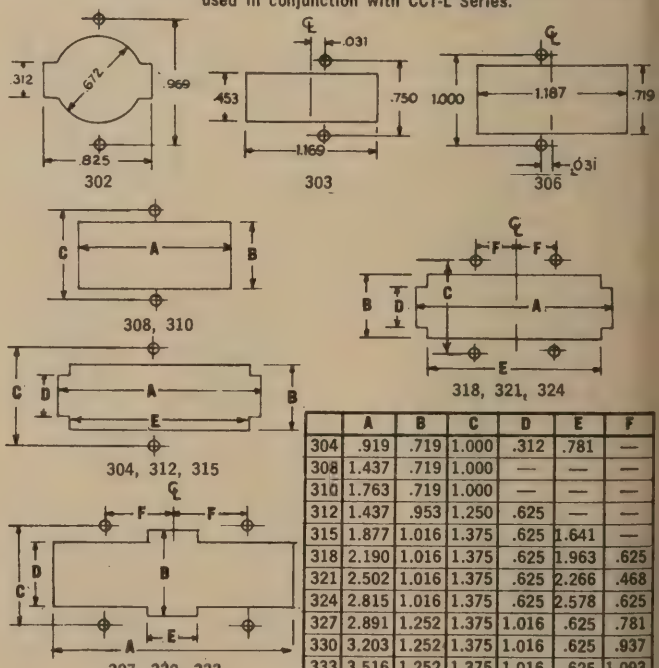


For 300 Series 2-33 contact Angle Bracket Connectors (type AB).

	A	B	C	D
303	.719	1.016	.750	—
304	.719	.781	1.000	—
306	.719	1.031	1.000	—
308	.719	1.281	1.000	—
310	.719	1.578	1.000	—
312	.953	1.266	1.250	—
315	1.016	1.641	1.375	—
318	1.016	1.953	1.375	.625
321	1.016	2.266	1.375	.469
324	1.016	2.578	1.375	.625
327	1.016	2.891	1.375	.781
330	1.016	3.203	1.375	.938
333	1.016	3.516	1.375	1.094

TYPE AB PANEL CUT-OUTS

For 300 Series 2-33 contact Angle Bracket Connectors (type AB) when used in conjunction with CCT-L Series.



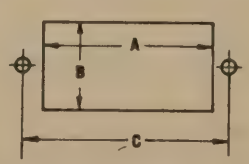
	A	B	C	D	E	F
304	.919	.719	1.000	.312	.781	—
308	1.437	.719	1.000	—	—	—
310	1.763	.719	1.000	—	—	—
312	1.437	.953	1.250	.625	—	—
315	1.877	1.016	1.375	.625	1.641	—
318	2.190	1.016	1.375	.625	1.963	.625
321	2.502	1.016	1.375	.625	2.266	.468
324	2.815	1.016	1.375	.625	2.578	.625
327	2.891	1.252	1.375	1.016	.625	.781
330	3.203	1.252	1.375	1.016	.625	.937
333	3.516	1.252	1.375	1.016	.625	1.093

TYPE RP RECESSED PLATE MOUNTING

For 300 Series 2-12 contact Recessed Plate Connectors (type RP)



TYPE DB (Deep Bracket) MOUNTING DIMENSIONS



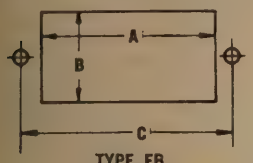
	A	B	C
302-312 DB	1.453	1.125	1.750
315 DB	2.000	1.438	2.376
318 DB	2.313	1.438	2.688
321 DB	2.625	1.438	3.000
324 DB	2.938	1.438	3.312
327 DB	3.250	1.438	3.626
330 DB	3.562	1.438	3.938
333 DB	3.875	1.438	4.250

© United Technical Publications

CINCH

"JONES" PLUGS AND SOCKETS — 300 SERIES (Cont'd.)

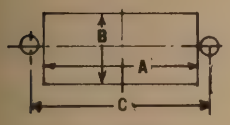
TYPE EB (End Bracket) MOUNTING DIMENSIONS



TYPE EB

	A	B	C
315 EB	1.641	1.016	2.000
318 EB	1.953	1.016	2.313
321 EB	2.266	1.016	2.625
324 EB	2.578	1.016	2.938
327 EB	2.891	1.016	3.250
330 EB	3.203	1.016	3.563
333 EB	3.516	1.016	3.875

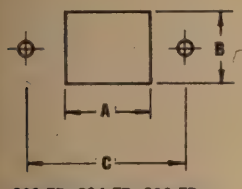
TYPE SB (Shallow Bracket) MOUNTING DIMENSIONS



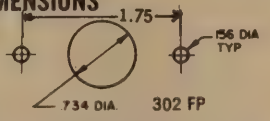
TYPE SB

	A	B	C
315 SB	1.750	1.156	2.126
318 SB	2.063	1.156	2.438
321 SB	2.375	1.156	2.750
324 SB	2.688	1.156	3.062
327 SB	3.000	1.156	3.376
330 SB	3.313	1.156	3.688
333 SB	3.625	1.156	4.000

TYPE FP (Flush Plate) MOUNTING DIMENSIONS



303 FP, 304 FP, 306 FP, 308 FP, 310 FP, 312 FP

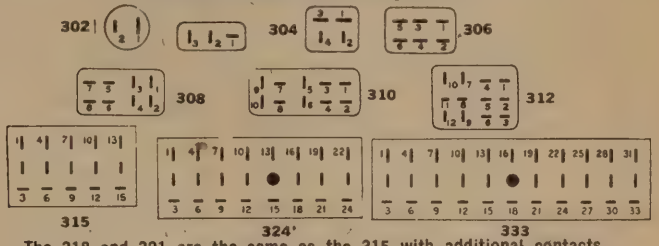


302 FP

	A	B	C
303 FP	.953	.516	1.750
304 FP	.703	.766	1.750
306 FP	.953	.766	1.750
308 FP	1.203	.766	2.250
310 FP	1.516	.766	2.250
312 FP	1.203	1.016	2.250

POLARIZING POSITION DATA

Polarization and Numbering of Contacts on Socket Units When Viewed From Wiring Side.



The 318 and 321 are the same as the 315 with additional contacts. The 324, 327 and 330 plugs have a round locating pin in position No. 14. This pin is in position No. 17 on the 333 plug. All of the series contacts start with number 1.

AUXILIARY LOCKS



For securing 300, 400 and 2400 Series Plugs and Sockets.

Spring Lock for Use With 400 Series Panel Mounted Connectors: Can be used with type AB or SB. Proper operation requires that the mounted plug or socket body be flush with the top of the panel. The standard screws must be replaced by filister head screws. **Part No. 63**

Spring Lock For Use With 300 Series 15-33 Contact Panel-Mount Connectors as follows: For Type EB or SB, mating connector with cap must be type CT (or CCE-63A-SB). For type DB, mating connector with cap must be CCT-63A-DB. **Part No. 63A**

Extension-Cable Lock For Use With 400 Series: Can be used with any 400 Series unmounted (cap-type) connector. The binder head screws in the socket cap must be replaced with filister head screws. **Part No. 93**

"JONES" PLUGS and SOCKETS — 400 and 2400 SERIES

[1]Type LAB
Less Angle Brackets
Drilled and Tapped
Except in 2-contact Size


P-2406-LAB S-2406-LAB

[2]Type AB
With Angle Brackets


P-406-AB S-406-AB

[3]Type SB
With Shallow Bracket
for Flush Mounting


P-2406-SB S-2406-SB

[4]Type DB
With Deep Bracket
for Recessed Mounting


P-2406-DB S-2406-DB

[5]Type CCT
With Cable Clamp in Top


P-406-CCT S-406-CCT

[6]Type CCE
With Cable Clamp in End


P-406-CCE S-406-CCE

400 series and 2400 series plugs and sockets are suitable for cap or panel mounting. Plug prongs are cadmium plated brass. Caps are finished in black wrinkle and equipped with a fibre lining. 400 series and 2400 series plugs and sockets are intermatable.
A special bracket, Type 46, is supplied for mounting the 2-contact angle bracket (AB) type socket to a panel or chassis.



Series 2400 plugs and sockets have recessed pockets with barriers around the contacts, both on the mating side and the solder connecting side. A shoulder extends around the face (mating) side of both plug and socket presenting a finished appearance when mounted in bracket or cap. Angle brackets can be ordered as specials for the 2400 Series.

ELECTRICAL SPECIFICATIONS

All connector ratings are based on a continuously mated condition. "Rated Voltage" is 1/3 of voltage breakdown.

SERIES 400 — RATED VOLTAGE: 1200; CONTACT RESISTANCE (Average): .001 ohm; RATED CURRENT: 15 amps; RATED WATTAGE PER CONTACT: 3750.

SERIES 2400 — RATED VOLTAGE 1700; CONTACT RESISTANCE (Average): .001 ohm; RATED CURRENT: *15 amps, **10 amps; RATED WATTAGE PER CONTACT: 3750, 2500.

*Standard Commercial Service. **As rated by U.L. to U.L. Standard No. 498.

400 SERIES PART NUMBERS

No. of Contacts	Type LAB[1] Part Nos.*	Type AB[2] Part Nos.*	Type SB[3] Part Nos.*	Type DB[4] Part Nos.*	Type CCT[5] Part Nos.*	Type CCE[6] Part Nos.*
2	P-402-LAB S-402-LAB	P-402-AB S-402-AB	P-402-SB S-402-SB	P-402-DB S-402-DB	P-402-CCT S-402-CCT	P-402-CCE S-402-CCE
4	P-404-LAB S-404-LAB	P-404-AB S-404-AB	P-404-SB S-404-SB	P-404-DB S-404-DB	P-404-CCT S-404-CCT	P-404-CCE S-404-CCE
6	P-406-LAB S-406-LAB	P-406-AB S-406-AB	P-406-SZ S-406-SB	P-406-DB S-406-DB	P-406-CCT S-406-CCT	P-406-CCE S-406-CCE
8	P-408-LAB S-408-LAB	P-408-AB S-408-AB	P-408-SB S-408-SB	P-408-DB S-408-DB	P-408-CCT S-408-CCT	P-408-CCE S-408-CCE
10	P-410-LAB S-410-LAB	P-410-AB S-410-AB	P-410-SB S-410-SB	P-410-DB S-410-DB	P-410-CCT S-410-CCT	P-410-CCE S-410-CCE
12	P-412-LAB S-412-LAB	P-412-AB S-412-AB	P-412-SB S-412-SB	P-412-DB S-412-DB	P-412-CCT S-412-CCT	P-412-CCE S-412-CCE

2400 SERIES PART NUMBERS

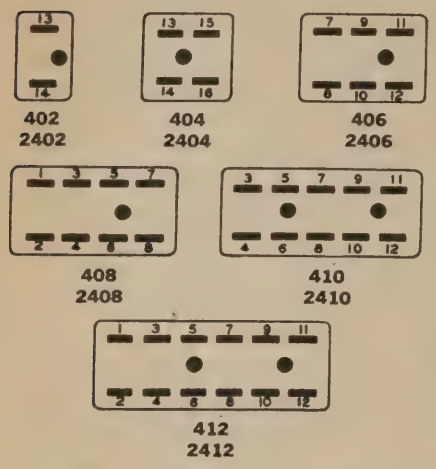
No. of Contacts	Type LAB[1] Part Nos.*	Type SB[2] Part Nos.*	Type DB[3] Part Nos.*	Type CCT[5] Part Nos.*	Type CCE[6] Part Nos.*
2	P-2402-LAB S-2402-LAB	P-2402-SB S-2402-SB	P-2402-DB S-2402-DB	P-2402-CCT S-2402-CCT	P-2402-CCE S-2402-CCE
4	P-2404-LAB S-2404-LAB	P-2404-SB S-2404-SB	P-2404-DB S-2404-DB	P-2404-CCT S-2404-CCT	P-2404-CCE S-2404-CCE
6	P-2406-LAB S-2406-LAB	P-2406-SB S-2406-SB	P-2406-DB S-2406-DB	P-2406-CCT S-2496-CCT	P-2406-CCE S-2406-CCE
8	P-2408-LAB S-2408-LAB	P-2408-SB S-2408-SB	P-2408-DB S-2408-DB	P-2408-CCT S-2408-CCT	P-2408-CCE S-2408-CCE
10	P-2410-LAB S-2410-LAB	P-2410-SB S-2410-SB	P-2410-DB S-2410-DB	P-2410-CCT S-2410-CCT	P-2410-CCE S-2410-CCE
12	P-2412-LAB S-2412-LAB	P-2412-SB S-2412-SB	P-2412-DB S-2412-DB	P-2412-CCT S-2412-CCT	P-2412-CCE S-2412-CCE

© United Technical Publications

CINCH

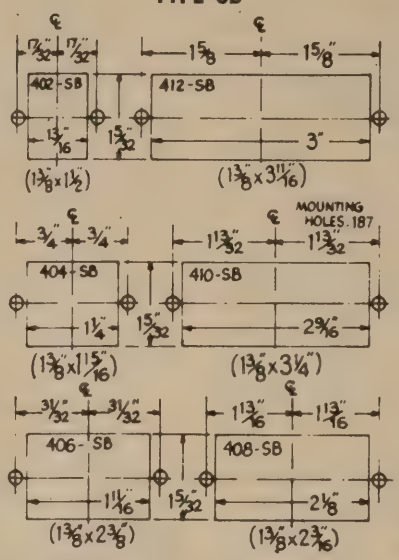
"JONES" PLUGS AND SOCKETS—400 AND 2400 SERIES (Cont'd.)

POLARIZING POSITION DATA

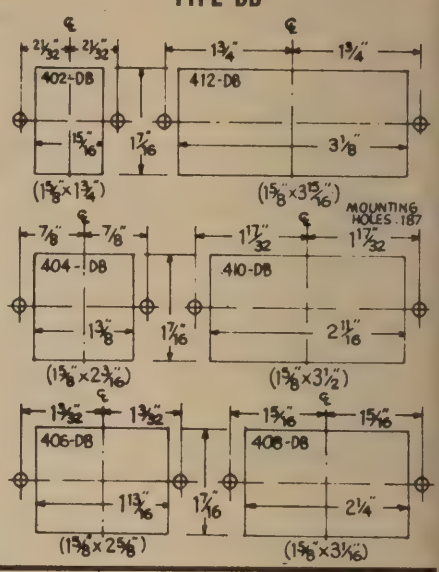


MOUNTING SPECIFICATIONS

TYPE SB



TYPE DB



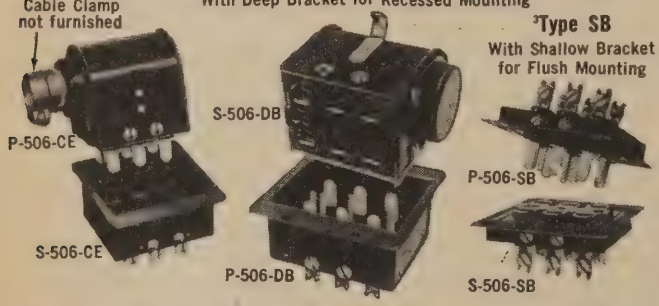
"JONES" PLUGS and SOCKETS — 500 SERIES

[2]Type CE
for Cable Clamp in End

Cable Clamp not furnished

[1]Type DB
With Deep Bracket for Recessed Mounting

[3]Type SB
With Shallow Bracket for Flush Mounting



ELECTRICAL SPECIFICATIONS

RATED VOLTAGE: 3 KV max; RATED CURRENT: 25 amperes per contact; POWER CAPACITY: 5 KW max.

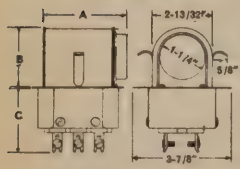
MECHANICAL SPECIFICATIONS

CONTACTS: MALE — Cadmium plated brass; FEMALE — Cadmium plated phosphor; CAPS AND BRACKETS: Parkerized steel.

LOCKS FOR 500 SERIES PLUGS AND SOCKETS



No. 500-L LOCKS fit any deep bracket and cap combination. They hold securely, but can be released instantly. The locks are fastened by the same screws or rivets that hold the deep brackets to the panel. Locks are sold in pairs only and cannot be used on shallow brackets.

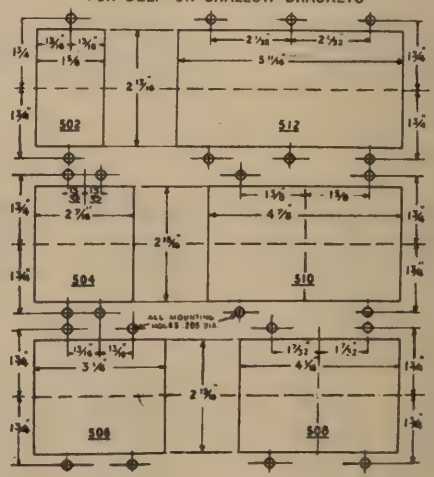


DIMENSIONS

For type DB connectors, dimension B is 2¼" and dimension C is 2⅝" reference on the socket and 2⁷⁄₁₆" reference on the plug. For type SB connectors, dimension C is 1¾", cap height is 2⁵⁷⁄₆₄".

500 SERIES MOUNTING SPECIFICATIONS

FOR DEEP OR SHALLOW BRACKETS

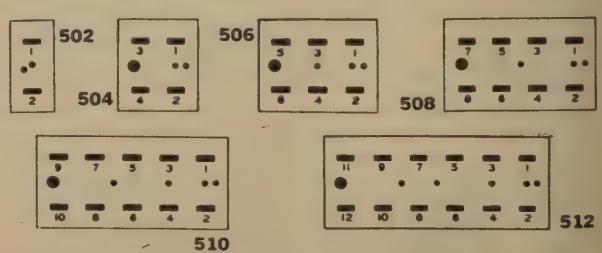


PART NUMBERS

No. of Contacts	Type DB[1] Part Nos.*	Type CE[2] Part Nos.*	Type SB[3] Part Nos.*	Dimension "A"
2	P-502-DB S-502-DB	P-502-CE S-502-CE	P-502-SB S-502-SB	1¹³⁄₁₆"
4	P-504-DB S-504-DB	P-504-CE S-504-CE	P-504-SB S-504-SB	2½"
6	P-506-DB S-506-DB	P-506-CE S-506-CE	P-506-SB S-506-SB	3³⁄₁₆"
8	P-508-DB S-508-DB	P-508-CE S-508-CE	P-508-SB S-508-SB	4⅛"
10	P-510-DB S-510-DB	P-510-CE S-510-CE	P-510-SB S-510-SB	4¾"
12	P-512-DB S-512-DB	P-512-CE S-512-CE	P-512-SB S-512-SB	5¾"

*P — Indicates Plug S — Indicates Socket

POLARIZING POSITION DATA



© United Technical Publications

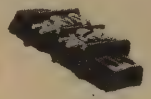
CINCH

TERMINAL BLOCKS and ACCESSORIES

The Jones barrier terminal blocks are made of molded phenolic. Eyelets and screws are nickel-plated brass and terminals are hot solder dipped brass. Fibre or phenolic marker strips are available for all barrier blocks. Barrier blocks are available in standard terminal configurations as shown. Optional terminals are available as indicated by the Y, W, or ¾ W suffix on the part numbers in the charts.


2-140


2-172-W

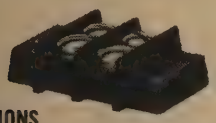

2-164¾-W

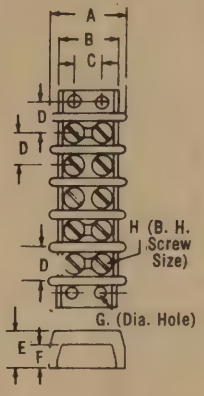

2-164-Y

The standard terminal block with binder head screws can be used for wire or special terminal attachment.
¾ W terminals are available for solder attachment of wires on one side of the terminal block. W terminals are available for solder connection of wires to both sides of the terminal block. (Available as standard on 172 series; special order on others.) Y terminals are available for solder connection of wires underneath the terminal block.

BARRIER TERMINAL BLOCKS

SERIES 140/141/142/164





DIMENSIONS

	140	141	142	164
A	⅜"	1⅛"	1 5/16"	⅞"
B	1 1/16"	⅞"	1 1/16"	1 1/16"
C	5/16"	27/64"	½"	5/16"
D	⅜"	7/16"	9/16"	⅜"
E	13/32"	½"	5/8"	13/32"
F	¼"	5/16"	⅜"	¼"
G	.160"	.175/ .185"	.209"	.171/ .175"
H	5/40 x 3/16	6/32 x ¼	8/32 x 5/16	6/32 x ¼

140 SERIES

No. of Terminals	Std.*	¾W	Y
1	1-140	1-140-¾W	1-140-Y
2	2-140	2-140-¾W	2-140-Y
3	3-140	3-140-¾W	3-140-Y
4	4-140	4-140-¾W	4-140-Y
5	5-140	5-140-¾W	5-140-Y
6	6-140	6-140-¾W	6-140-Y
7	7-140	7-140-¾W	7-140-Y
8	8-140	8-140-¾W	8-140-Y
9	9-140	9-140-¾W	9-140-Y
10	10-140	10-140-¾W	10-140-Y
11	11-140	11-140-¾W	11-140-Y
12	12-140	12-140-¾W	12-140-Y
13	13-140	13-140-¾W	13-140-Y
14	14-140	14-140-¾W	14-140-Y
15	15-140	15-140-¾W	15-140-Y
16	16-140	16-140-¾W	16-140-Y
17	17-140	17-140-¾W	17-140-Y
18	18-140	18-140-¾W	18-140-Y
19	19-140	19-140-¾W	19-140-Y
20	20-140	20-140-¾W	20-140-Y
21	21-140	21-140-¾W	21-140-Y
22	22-140	22-140-¾W	22-140-Y
23	23-140	23-140-¾W	23-140-Y
24	24-140	24-140-¾W	24-140-Y
25	25-140	25-140-¾W	25-140-Y

141 SERIES

No. of Terminals	Std.	¾W	Y
1	1-141	1-141-¾W	1-141-Y
2	2-141	2-141-¾W	2-141-Y
3	3-141	3-141-¾W	3-141-Y
4	4-141	4-141-¾W	4-141-Y
5	5-141	5-141-¾W	5-141-Y
6	6-141	6-141-¾W	6-141-Y
7	7-141	7-141-¾W	7-141-Y
8	8-141	8-141-¾W	8-141-Y
9	9-141	9-141-¾W	9-141-Y
10	10-141	10-141-¾W	10-141-Y
11	11-141	11-141-¾W	11-141-Y
12	12-141	12-141-¾W	12-141-Y
13	13-141	13-141-¾W	13-141-Y
14	14-141	14-141-¾W	14-141-Y
15	15-141	15-141-¾W	15-141-Y
16	16-141	16-141-¾W	16-141-Y
17	17-141	17-141-¾W	17-141-Y
18	18-141	18-141-¾W	18-141-Y
19	19-141	19-141-¾W	19-141-Y
20	20-141	20-141-¾W	20-141-Y

ELECTRICAL SPECIFICATIONS

Series	Max. Volts r.m.s. Without Marker Strip	Max. Volts r.m.s. With Marker Strip	Max. Current In Amps.	Max. Watts per Terminal
140	1100	1200	15	3,750
141	1100	1600	20	5,000
142	1600	2500	30	7,500
150	1700	2600	50	12,500
151	1800	3400	70	17,500
152	2100	3800	90	54,000
164	1100	1200	15	3,750
171	1000	—*	5	625
172	1000	2000	5	625
173	1000	2000	5	625
174	1000	2000	5	625

*No marker strip available.

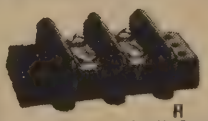
142 SERIES

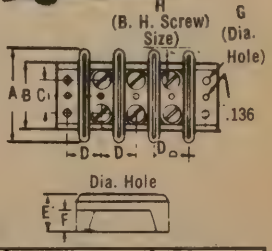
No. of Terminals	Std.	¾W	Y
1	1-142	1-142-¾W	1-142-Y
2	2-142	2-142-¾W	2-142-Y
3	3-142	3-142-¾W	3-142-Y
4	4-142	4-142-¾W	4-142-Y
5	5-142	5-142-¾W	5-142-Y
6	6-142	6-142-¾W	6-142-Y
7	7-142	7-142-¾W	7-142-Y
8	8-142	8-142-¾W	8-142-Y
9	9-142	9-142-¾W	9-142-Y
10	10-142	10-142-¾W	10-142-Y
11	11-142	11-142-¾W	11-142-Y
12	12-142	12-142-¾W	12-142-Y
13	13-142	13-142-¾W	13-142-Y
14	14-142	14-142-¾W	14-142-Y
15	15-142	15-142-¾W	15-142-Y
16	16-142	16-142-¾W	16-142-Y
17	17-142	17-142-¾W	17-142-Y

164 SERIES

No. of Terminals	Std.	¾W	Y
1	1-164	1-164-¾W	1-164-Y
2	2-164	2-164-¾W	2-164-Y
3	3-164	3-164-¾W	3-164-Y
4	4-164	4-164-¾W	4-164-Y
5	5-164	5-164-¾W	5-164-Y
6	6-164	6-164-¾W	6-164-Y
7	7-164	7-164-¾W	7-164-Y
8	8-164	8-164-¾W	8-164-Y
9	9-164	9-164-¾W	9-164-Y
10	10-164	10-164-¾W	10-164-Y
11	11-164	11-164-¾W	11-164-Y
12	12-164	12-164-¾W	12-164-Y
13	13-164	13-164-¾W	13-164-Y
14	14-164	14-164-¾W	14-164-Y
15	15-164	15-164-¾W	15-164-Y
16	16-164	16-164-¾W	16-164-Y
17	17-164	17-164-¾W	17-164-Y
18	18-164	18-164-¾W	18-164-Y
19	19-164	19-164-¾W	19-164-Y
20	20-164	20-164-¾W	20-164-Y
21	21-164	21-164-¾W	21-164-Y

SERIES 150/151/152





DIMENSIONS

	150	151	152
A	1 13/16"	2"	2½"
B	1 5/16"	1½"	1 13/16"
C	⅜"	¾"	⅞"
D	1 1/16"	⅞"	1⅛"
E	¾"	15/16"	1⅛"
F	7/16"	½"	5/8"
G	.160"	.180"	.209"
H	10/32 x 5/16	12/32 x ⅜	¼/28 x ½

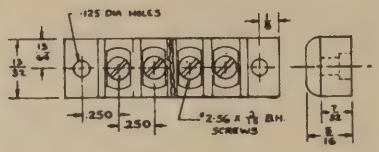
No. of Terminals	150 SERIES Std.	150 SERIES Y	151 SERIES Std.	152 SERIES Std.
1	1-150	1-150-Y	1-151	1-152
2	2-150	2-150-Y	2-151	2-152
3	3-150	3-150-Y	3-151	3-152
4	4-150	4-150-Y	4-151	4-152
5	5-150	5-150-Y	5-151	5-152
6	6-150	6-150-Y	6-151	6-152
7	7-150	7-150-Y	7-151	
8	8-150	8-150-Y	8-151	
9	9-150	9-150-Y		
10	10-150	10-150-Y		

CINCH

BARRIER TERMINAL BLOCKS (Cont'd.)

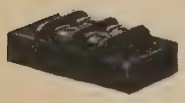
SERIES 171

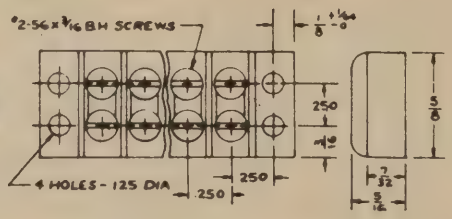




No. of Terminals	Std.
2	2-171
3	3-171
4	4-171
5	5-171
6	6-171
7	7-171
8	8-171

SERIES 172

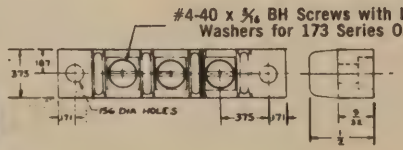




No. of Terminals	Std.	W	¾W	Y
2	2-172	2-172-W	2-172-¾W	2-172-Y
3	3-172	3-172-W	3-172-¾W	3-172-Y
4	4-172	4-172-W	4-172-¾W	4-172-Y
5	5-172	5-172-W	5-172-¾W	5-172-Y
6	6-172	6-172-W	6-172-¾W	6-172-Y
7	7-172	7-172-W	7-172-¾W	7-172-Y
8	8-172	8-172-W	8-172-¾W	8-172-Y
9	9-172	9-172-W	9-172-¾W	9-172-Y
10	10-172	10-172-W	10-172-¾W	10-172-Y
11	11-172	11-172-W	11-172-¾W	11-172-Y
12	12-172	12-172-W	12-172-¾W	12-172-Y
13	13-172	13-172-W	13-172-¾W	13-172-Y
14	14-172	14-172-W	14-172-¾W	14-172-Y

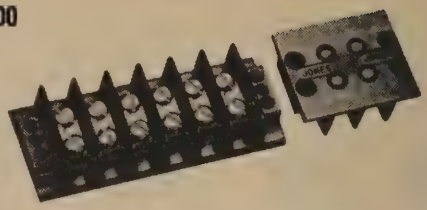
SERIES 173-174





No. of Terminals	173 SERIES w. Lock Washer	174 SERIES w.o. Lock Washer
2	2-173	2-174
3	3-173	3-174
4	4-173	4-174
5	5-173	5-174
6	6-173	6-174
7	7-173	7-174
8	8-173	8-174
9	9-173	9-174
10	10-173	10-174

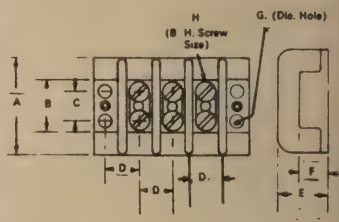
SERIES 500



The new 500 series Jones Barrier Terminal Blocks are designed for applications where electrical and mechanical performance requirements are especially critical. Bottoms are closed so that insulating strips are not required. Knockouts are molded into the base so that Y terminals can be accommodated if desired. A top-mounted marker strip can be furnished as described on page 17.

SERIES DIMENSIONS

	540	541	542
A	1¼"	1⅜"	1⅝"
B	19/32"	¾"	⅞"
C	5/16"	27/64"	½"
D	⅜"	7/16"	9/16"
E	35/64"	11/16"	⅞"
F	3/16"	3/8"	½"
G	.160"	.175/ .185"	.209"
H	5/40 x 3/16	6/32 x ¼	8/32 x 5/16



SERIES 540

Creepage Distance: ½ inch. **Max. Voltage:** 2300 volts r.m.s. **Max. Current:** 15 amps.

No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	2-540	12	12-540	22	22-540
3	3-540	13	13-540	23	23-540
4	4-540	14	14-540	24	24-540
5	5-540	15	15-540	25	25-540
6	6-540	16	16-540	26	26-540
7	7-540	17	17-540	27	27-540
8	8-540	18	18-540	28	28-540
9	9-540	19	19-540	29	29-540
10	10-540	20	20-540	30	30-540
11	11-540	21	21-540	31	31-540

SERIES 541

Creepage Distance: ⅝ inch. **Max. Voltage:** 2800 volts r.m.s. **Max. Current:** 20 amps.

No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	2-541	12	12-541	22	22-541
3	3-541	13	13-541	23	23-541
4	4-541	14	14-541	24	24-541
5	5-541	15	15-541	25	25-541
6	6-541	16	16-541	26	26-541
7	7-541	17	17-541	27	27-541
8	8-541	18	18-541	28	28-541
9	9-541	19	19-541	29	29-541
10	10-541	20	20-541	30	30-541
11	11-541	21	21-541		

SERIES 542

Creepage Distance: ¾ inch. **Max. Voltage:** 4000 volts r.m.s. **Max. Current:** 30 amps.

No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	2-542	11	11-542	20	20-542
3	3-542	12	12-542	21	21-542
4	4-542	13	13-542	22	22-542
5	5-542	14	14-542	23	23-542
6	6-542	15	15-542	24	24-542
7	7-542	16	16-542	25	25-542
8	8-542	17	17-542	26	26-542
9	9-542	18	18-542		
10	10-542	19	19-542		

© United Technical Publications

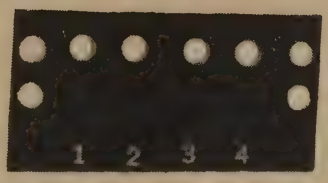
CINCH

BARRIER BLOCK ACCESSORIES

MARKER STRIPS



FOR STANDARD "W" OR "¾W" TERMINAL BLOCKS



FOR "Y" TERMINAL BLOCKS

Marker strips identify terminal positions on barrier terminal blocks and insulate exposed portions of terminals from a conductive mounting surface. Marker strips for Series 140 thru 152 are 1/32 inch thick vulcanized fibre and mount under the terminal strip.

One-eighth inch white numerals standard. Also available unmarked for insulating purposes only.

NO. 140 / NO. 140-Y

No. of Terminals	No. 140	No. of Terminals	No. 140-Y
2	MS- 2-140	2	MS- 2-140-Y
3	MS- 3-140	3	MS- 3-140-Y
4	MS- 4-140	4	MS- 4-140-Y
5	MS- 5-140	5	MS- 5-140-Y
6	MS- 6-140	6	MS- 6-140-Y
7	MS- 7-140	7	MS- 7-140-Y
8	MS- 8-140	8	MS- 8-140-Y
9	MS- 9-140	9	MS- 9-140-Y
10	MS-10-140	10	MS-10-140-Y
11	MS-11-140	11	MS-11-140-Y
12	MS-12-140	12	MS-12-140-Y
13	MS-13-140	13	MS-13-140-Y
14	MS-14-140	14	MS-14-140-Y
15	MS-15-140	15	MS-15-140-Y
16	MS-16-140	16	MS-16-140-Y
17	MS-17-140	17	MS-17-140-Y
18	MS-18-140	18	MS-18-140-Y
19	MS-19-140	19	MS-19-140-Y
20	MS-20-140	20	MS-20-140-Y
21	MS-21-140	21	MS-21-140-Y
22	MS-22-140	22	MS-22-140-Y
23	MS-23-140	23	MS-23-140-Y
24	MS-24-140	24	MS-24-140-Y
25	MS-25-140	25	MS-25-140-Y

NO. 141 / NO. 141-Y

No. of Terminals	No. 141	No. of Terminals	No. 141-Y
2	MS- 2-141	2	MS- 2-141-Y
3	MS- 3-141	3	MS- 3-141-Y
4	MS- 4-141	4	MS- 4-141-Y
5	MS- 5-141	5	MS- 5-141-Y
6	MS- 6-141	6	MS- 6-141-Y
7	MS- 7-141	7	MS- 7-141-Y
8	MS- 8-141	8	MS- 8-141-Y
9	MS- 9-141	9	MS- 9-141-Y
10	MS-10-141	10	MS-10-141-Y
11	MS-11-141	11	MS-11-141-Y
12	MS-12-141	12	MS-12-141-Y
13	MS-13-141	13	MS-13-141-Y
14	MS-14-141	14	MS-14-141-Y
15	MS-15-141	15	MS-15-141-Y
16	MS-16-141	16	MS-16-141-Y
17	MS-17-141	17	MS-17-141-Y
18	MS-18-141	18	MS-18-141-Y
19	MS-19-141	19	MS-19-141-Y
20	MS-20-141	20	MS-20-141-Y

NO. 142 / NO. 142-Y

No. of Terminals	No. 142	No. of Terminals	No. 142-Y
2	MS- 2-142	2	MS- 2-142-Y
3	MS- 3-142	3	MS- 3-142-Y
4	MS- 4-142	4	MS- 4-142-Y
5	MS- 5-142	5	MS- 5-142-Y
6	MS- 6-142	6	MS -6-142-Y
7	MS- 7-142	7	MS- 7-142-Y
8	MS- 8-142	8	MS- 8-142-Y
9	MS- 9-142	9	MS- 9-142-Y
10	MS-10-142	10	MS-10-142-Y
11	MS-11-142	11	MS-11-142-Y
12	MS-12-142	12	MS-12-142-Y
13	MS-13-142	13	MS-13-142-Y
14	MS-14-142	14	MS-14-142-Y
15	MS-15-142	15	MS-15-142-Y
16	MS-16-142	16	MS-16-142-Y
17	MS-17-142	17	MS-17-142-Y

NO. 150 / NO. 150-Y

No. of Terminals	No. 150	No. of Terminals	No. 150-Y
2	MS- 2-150	2	MS- 2-150-Y
3	MS- 3-150	3	MS- 3-150-Y
4	MS- 4-150	4	MS- 4-150-Y
5	MS- 5-150	5	MS- 5-150-Y
6	MS- 6-150	6	MS- 6-150-Y
7	MS- 7-150	7	MS- 7-150-Y
8	MS- 8-150	8	MS- 8-150-Y
9	MS- 9-150	9	MS- 9-150-Y
10	MS-10-150	10	MS-10-150-Y

NO. 151 / NO. 152

No. of Terminals	No. 151	No. of Terminals	No. 152
2	MS-2-151	2	MS-2-152
3	MS-3-151	3	MS-3-152
4	MS-4-151	4	MS-4-152
5	MS-5-151	5	MS-5-152
6	MS-6-151	6	MS-6-152
7	MS-7-151		
8	MS-8-151		

500 SERIES MARKER STRIPS

Marker strips for 500 Series blocks are made of Bakelite 1/16 inch thick and mount on top with drive screws that are provided.



NO. 540

No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	MSX- 2-540	12	MSX-12-540	22	MSX-22-540
3	MSX- 3-540	13	MSX-13-540	23	MSX-23-540
4	MSX- 4-540	14	MSX-14-540	24	MSX-24-540
5	MSX- 5-540	15	MSX-15-540	25	MSX-25-540
6	MSX- 6-540	16	MSX-16-540	26	MSX-26-540
7	MSX- 7-540	17	MSX-17-540	27	MSX-27-540
8	MSX- 8-540	18	MSX-18-540	28	MSX-28-540
9	MSX- 9-540	19	MSX-19-540	29	MSX-29-540
10	MSX-10-540	20	MSX-20-540	30	MSX-30-540
11	MSX-11-540	21	MSX-21-540	31	MSX-31-540

NO. 541

No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	MSX- 2-541	12	MSX-12-541	22	MSX-22-541
3	MSX- 3-541	13	MSX-13-541	23	MSX-23-541
4	MSX- 4-541	14	MSX-14-541	24	MSX-24-541
5	MSX- 5-541	15	MSX-15-541	25	MSX-25-541
6	MSX- 6-541	16	MSX-16-541	26	MSX-26-541
7	MSX- 7-541	17	MSX-17-541	27	MSX-27-541
8	MSX- 8-541	18	MSX-18-541	28	MSX-28-541
9	MSX- 9-541	19	MSX-19-541	29	MSX-29-541
10	MSX-10-541	20	MSX-20-541	30	MSX-30-541
11	MSX-11-541	21	MSX-21-541		

NO. 542

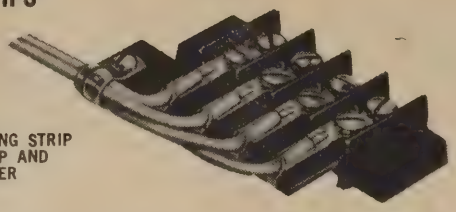
No. of Terminals	Part No.	No. of Terminals	Part No.	No. of Terminals	Part No.
2	MSX- 2-542	11	MSX-11-542	19	MSX-19-542
3	MSX- 3-542	12	MSX-12-542	20	MSX-20-542
4	MSX- 4-542	13	MSX-13-542	21	MSX-21-542
5	MSX- 5-542	14	MSX-14-542	22	MSX-22-542
6	MSX- 6-542	15	MSX-15-542	23	MSX-23-542
7	MSX- 7-542	16	MSX-16-542	24	MSX-24-542
8	MSX- 8-542	17	MSX-17-542	25	MSX-25-542
9	MSX- 9-542	18	MSX-18-542	26	MSX-26-542
10	MSX-10-542				

© United Technical Publications

CINCH

BARRIER BLOCK ACCESSORIES (Cont'd.)

FANNING STRIPS



161 SERIES FANNING STRIP WITH CABLE CLAMP AND 141 SERIES BARRIER TERMINAL BLOCK

Fanning strips facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Both straight and angle type fanning strips are available. Terminals are made of .032" brass, cadmium-plated. XP black phenolic mounts are 3/32" thick, 1/2" wide furnished with a hole, in either the right or left side, for securing the cable with lacing twine. A cable clamp as shown on page 19 is recommended for larger sizes.

STRAIGHT TYPE 160 SERIES



2-160-L
Fits 140 Series
Barrier Blocks
3/8" Terminal Centers

No. of Terminals	C.C. Hole on Left	C.C. Hole on Right
2	2-160-L	2-160-R
3	3-160-L	3-160-R
4	4-160-L	4-160-R
5	5-160-L	5-160-R
6	6-160-L	6-160-R
7	7-160-L	7-160-R
8	8-160-L	8-160-R
9	9-160-L	9-160-R
10	10-160-L	10-160-R
11	11-160-L	11-160-R
12	12-160-L	12-160-R
13	13-160-L	13-160-R
14	14-160-L	14-160-R
15	15-160-L	15-160-R
16	16-160-L	16-160-R
17	17-160-L	17-160-R
18	18-160-L	18-160-R
19	19-160-L	19-160-R
20	20-160-L	20-160-R
21	21-160-L	21-160-R

160B SERIES



2-160B-R
Fits 140 Series
Barrier Blocks
3/8" Terminal Centers

2	2-160B-L	2-160B-R
3	3-160B-L	3-160B-R
4	4-160B-L	4-160B-R
5	5-160B-L	5-160B-R
6	6-160B-L	6-160B-R
7	7-160B-L	7-160B-R
8	8-160B-L	8-160B-R
9	9-160B-L	9-160B-R
10	10-160B-L	10-160B-R
11	11-160B-L	11-160B-R
12	12-160B-L	12-160B-R
13	13-160B-L	13-160B-R
14	14-160B-L	14-160B-R
15	15-160B-L	15-160B-R
16	16-160B-L	16-160B-R
17	17-160B-L	17-160B-R
18	18-160B-L	18-160B-R
19	19-160B-L	19-160B-R
20	20-160B-L	20-160B-R
21	21-160B-L	21-160B-R

161 SERIES



2-161-L
Fits 141 Series
Barrier Blocks
3/16" Terminal Centers

2	2-161-L	2-161-R
3	3-161-L	3-161-R
4	4-161-L	4-161-R
5	5-161-L	5-161-R
6	6-161-L	6-161-R
7	7-161-L	7-161-R
8	8-161-L	8-161-R
9	9-161-L	9-161-R
10	10-161-L	10-161-R
11	11-161-L	11-161-R
12	12-161-L	12-161-R
13	13-161-L	13-161-R
14	14-161-L	14-161-R
15	15-161-L	15-161-R
16	16-161-L	16-161-R
17	17-161-L	17-161-R
18	18-161-L	18-161-R
19	19-161-L	19-161-R
20	20-161-L	20-161-R

162 SERIES



2-162-R
Fits 142 Series
Barrier Blocks
3/16" Terminal Centers

2	2-162-L	2-162-R
3	3-162-L	3-162-R
4	4-162-L	4-162-R
5	5-162-L	5-162-R
6	6-162-L	6-162-R
7	7-162-L	7-162-R
8	8-162-L	8-162-R
9	9-162-L	9-162-R
10	10-162-L	10-162-R
11	11-162-L	11-162-R
12	12-162-L	12-162-R
13	13-162-L	13-162-R
14	14-162-L	14-162-R
15	15-162-L	15-162-R
16	16-162-L	16-162-R
17	17-162-L	17-162-R

ANGLE TYPE 160A SERIES



2-160-AR
Fits 140 Series
Barrier Blocks
3/8" Terminal Centers

No. of Terminals	C.C. Hole on Left	C.C. Hole on Right
2	2-160-AL	2-160-AR
3	3-160-AL	3-160-AR
4	4-160-AL	4-160-AR
5	5-160-AL	5-160-AR
6	6-160-AL	6-160-AR
7	7-160-AL	7-160-AR
8	8-160-AL	8-160-AR
9	9-160-AL	9-160-AR
10	10-160-AL	10-160-AR
11	11-160-AL	11-160-AR
12	12-160-AL	12-160-AR
13	13-160-AL	13-160-AR
14	14-160-AL	14-160-AR
15	15-160-AL	15-160-AR
16	16-160-AL	16-160-AR
17	17-160-AL	17-160-AR
18	18-160-AL	18-160-AR
19	19-160-AL	19-160-AR
20	20-160-AL	20-160-AR
21	21-160-AL	21-160-AR

160BA SERIES



2-160B-AL
Fits 140 Series
Barrier Blocks
3/8" Terminal Centers

2	2-160B-AL	2-160B-AR
3	3-160B-AL	3-160B-AR
4	4-160B-AL	4-160B-AR
5	5-160B-AL	5-160B-AR
6	6-160B-AL	6-160B-AR
7	7-160B-AL	7-160B-AR
8	8-160B-AL	8-160B-AR
9	9-160B-AL	9-160B-AR
10	10-160B-AL	10-160B-AR
11	11-160B-AL	11-160B-AR
12	12-160B-AL	12-160B-AR
13	13-160B-AL	13-160B-AR
14	14-160B-AL	14-160B-AR
15	15-160B-AL	15-160B-AR
16	16-160B-AL	16-160B-AR
17	17-160B-AL	17-160B-AR
18	18-160B-AL	18-160B-AR
19	19-160B-AL	19-160B-AR
20	20-160B-AL	20-160B-AR
21	21-160B-AL	21-160B-AR

161A SERIES



2-161A-R
Fits 141 Series
Barrier Blocks
3/16" Terminal Centers

2	2-161-AL	2-161-AR
3	3-161-AL	3-161-AR
4	4-161-AL	4-161-AR
5	5-161-AL	5-161-AR
6	6-161-AL	6-161-AR
7	7-161-AL	7-161-AR
8	8-161-AL	8-161-AR
9	9-161-AL	9-161-AR
10	10-161-AL	10-161-AR
11	11-161-AL	11-161-AR
12	12-161-AL	12-161-AR
13	13-161-AL	13-161-AR
14	14-161-AL	14-161-AR
15	15-161-AL	15-161-AR
16	16-161-AL	16-161-AR
17	17-161-AL	17-161-AR
18	18-161-AL	18-161-AR
19	19-161-AL	19-161-AR
20	20-161-AL	20-161-AR

162A SERIES



2-162A-L
Fits 142 Series
Barrier Blocks
3/16" Terminal Centers

2	2-162-AL	2-162-AR
3	3-162-AL	3-162-AR
4	4-162-AL	4-162-AR
5	5-162-AL	5-162-AR
6	6-162-AL	6-162-AR
7	7-162-AL	7-162-AR
8	8-162-AL	8-162-AR
9	9-162-AL	9-162-AR
10	10-162-AL	10-162-AR
11	11-162-AL	11-162-AR
12	12-162-AL	12-162-AR
13	13-162-AL	13-162AR
14	14-162-AL	14-162-AR
15	15-162-AL	15-162-AR
16	16-162-AL	16-162-AR
17	17-162-AL	17-162-AR

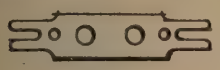
© United Technical Publications

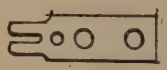
CINCH

MISCELLANEOUS TERMINAL STRIPS and HARDWARE

TERMINALS, JUMPERS, CABLE CLAMPS

SOLDER TERMINALS: "W," "¾W" AND "Y"


W


¾ W


Y

Optional terminals for use with 140, 141 and 142 series barrier blocks as indicated in the chart below. "W" terminals are also available for use with 150, 151 and 152 series barrier blocks. Part numbers for ordering separate terminals are listed in the chart.

	W-Type	¾W-Type	Y-Type
For 140 series	W-140	¾W-140	Y-140
For 141 series	W-141	¾W-141	Y-141
For 142 series	W-142	¾W-142	Y-142
For 150 series	W-150	—	—
For 151 series	W-151	—	—
For 152 series	W-152	—	—

CABLE CLAMPS



Inner Diameter	Part No.
¼"	CC-161-4
⅜"	CC-161-6
½"	CC-161-8
⅝"	CC-161-10
¾"	CC-161-12
⅞"	CC-161-14

MISCELLANEOUS TERMINAL STRIPS

SCREW-TYPE

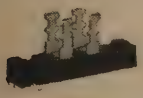


Terminals are cadmium plated brass on 7/16" centers. Mounting holes are 0.136" dia. Screws are cadmium plated brass, captivated.

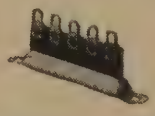
Part No.	No. of Terminals	Mounting Centers
17-1	1	⅞"
17-2	2	1 5/16"
17-3	3	1¾"
17-4	4	2 3/16"
17-5	5	2⅝"

Part No.	No. of Terminals	Mounting Centers
17-6	6	3 1/16"
17-7	7	3½"
17-8	8	3 15/16"
17-9	9	4⅜"
17-10	10	4 13/16"

NO. 170 (SOLDER TYPE)



NO. 2000



Terminals are 0.019" brass, pre-tinned, mounted on a phenolic insulator. 3/16" spacing. Mounting holes are 0.140" dia.

Part No.	No. of Terminals	Mounting Centers
1-170	1	¾"
2-170	2	1 1/16"
3-170	3	1 5/16"
4-170	4	1⅝"
5-170	5	1 15/16"
6-170	6	2⅜"
7-170	7	2 11/16"
8-170	8	3"
9-170	9	3⅜"
10-170	10	3 11/16"

Part No.	No. of Terminals	Mounting Centers
2002	2	1"
2003	3	1 5/16"
2004	4	1 5/8"
2005	5	1 15/16"
2006	6	2 1/4"
2007	7	2 9/16"
2008	8	2 7/8"
2009	9	3 3/16"
2010	10	3 1/2"
2011	11	3 13/16"
2012	12	4 1/8"
2013	13	4 7/16"

QUICK-CLAMP* TERMINALS



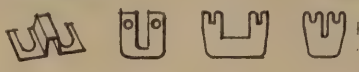
Simplifies engaging of wires to barrier blocks. Set includes two mating clamps and one screw.

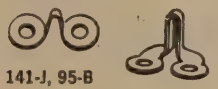
Barrier Block Series	Part No.	Wire Gauge Accommodated	Screw Size
141, 541	QC-1	14 thru 22	6-32x 5/16"
142, 542	QC-2	8 thru 16	8-32x 3/8"

*Patent pending.

JUMPERS

For permanent connections. 142J-1 connects two alternate terminals.


140J-1 141J-1 142J-1 142J-2


141-J, 95-B

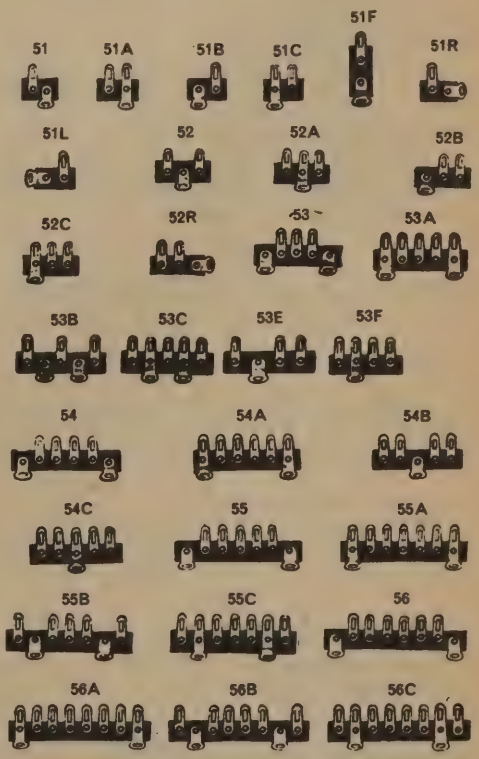
540-J
541-J
542-J

Barrier Block Series	Part No.
141	141-J
142	95-B
140	140J-1
141	141J-1
142, 542	142J-1
142, 542	142J-2
540	540-J
541	541-J
542	542-J

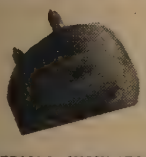
LUG TYPE

Part No.	Mtg. Centers
51	
51A	
51B	
51C	
51F	
51L	
51R	
52	
52A	
52B	
52C	
52R	
53	1½"
53A	1½"
53B	¾"
53C	"¾
53E	
53F	
54	1 7/8"
54A	1 7/8"
54B	
54C	
55	2¼"
55A	2¼"
55B	1½"
55C	1½"
56	2⅝"
56A	2⅝"
56B	1⅞"
56C	1⅞"

Cadmium-plated steel lugs are spaced on ⅜" centers with .140 diameter mounting holes. Dark brown strips are 1/16" thick and ⅜" wide.



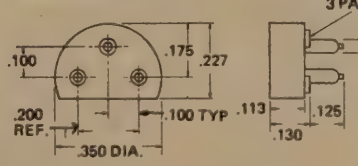
TO-5. or TO-18*, LOW PROFILE TRANSISTOR SOCKETS



Mount directly to the PC board with a snug fit to prevent bleeding of solder and flux to the opposite board surface. Chamfered socket holes minimize lead bending during insertion. Contact ends are formed and watertight, so that solder and fluxes cannot enter the barrelled contact to obstruct lead entry.

*Directly accept TO-5; accept TO-18 with full length or formed heads.

Dimensional data



RECOMMENDED LAYOUT PC BOARD



MATERIALS INSULATOR: 20% glass filled nylon in black, natural, or green; **CONTACTS:** beryllium copper with gold plating over copper base.

MECHANICAL SPECIFICATIONS MAXIMUM PIN DIAMETER: 0.019"; MAXIMUM PIN DEPTH: 0.200 ± 0.010", MAXIMUM INSERTION FORCE: 5 ounces; WITHDRAWAL FORCE: ¼ ounce at 3 and 100 cycles.

ELECTRICAL SPECIFICATIONS VOLTAGE RATINGS: at sea level (adj. terminals)—1500 AC RMS, 2000 VDG; at 50,000 ft. (adj. terminals)—500 AC RMS, 700 VDC; CURRENT RATING: 2.5 amperes; CONTACT RESISTANCE: 0.005 ohms; INSULATION RESISTANCE: 100,000 megohms.

COLOR	CINCH PART NO.	FACTORY NO.
Black	3-LPS-B	133-23-92-041
Natural	3-LPS-N	133-23-92-039
Green	3-LPS-G	133-23-92-040

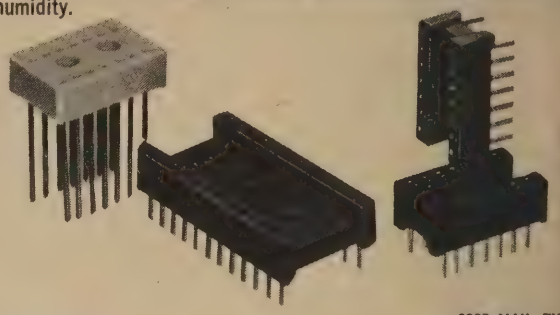
© United Technical Publications

CINCH

INTEGRATED CIRCUIT SOCKETS

Cinch IC sockets are ideal for testing and prototype purposes as well as production applications. Convenient and dependable, these sockets reduce the possibility of damage to leads and hermetic seals. Cinch IC sockets provide positive electrical contact and low contact resistance. They offer excellent resistance to corrosive atmosphere and to extremes in temperature and humidity.

PRECISION DIP SOCKETS — DIP SOLDER TAILS



These sockets combine high contact retention with low contact resistance and high environmental stability. They accept standard 14, 16 and 24-pin dual-inline packages having round or flat leads. (Standard spacing is .300" between lead rows and .100" between lead centers.) Socket leads are on the same centers as the D.I.P. itself. This feature allows easy installation of the socket in PC boards designed for direct insertion of the D.I.P. Choose between diallyl phthalate insulators with gold plated beryllium copper contacts or GP black phenolic insulators with electro-tin plated beryllium copper contacts.

MATERIALS

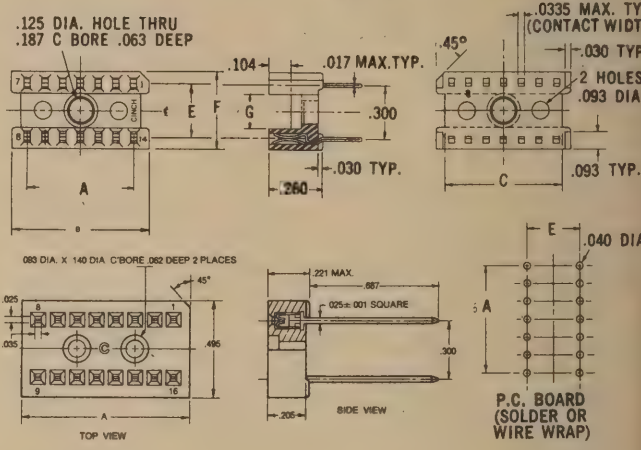
INSULATORS: GP Black Phenolic per MIL-M-14, type CFG Diallyl Phthalate per MIL-M-14, type SDG; CONTACTS: Beryllium copper with gold or electro-tin plating. **RECOMMENDED MOUNTING METHODS:** CHASSIS: 4-40 x ¼" Fillister head screw; P. C. BOARD: Solder in.

ELECTRICAL SPECIFICATIONS

CURRENT RATING: 1.0 ampere; CONTACT RESISTANCE: 6 milliohms (at 1 ampere); CAPACITANCE PER MIL-STD-202: Method 305 at 100 KHz between adjacent contacts: 0.33 pfd average (phenolic), 0.28 pfd average (diallyl phthalate), between opposing contacts: 0.12 pfd average (phenolic), 0.10 pfd average (diallyl phthalate); WITHSTANDING VOLTAGE BETWEEN ADJACENT CONTACTS: 1800 VRMS; INSULATION RESISTANCE: 1.0 x 10^5 megohms minimum (phenolic); 2.0 x 10^4 megohms minimum (diallyl phthalate).

MECHANICAL SPECIFICATIONS

VIBRATION: Per MIL-STD-202C, Condition D, Method 204A, 10-2000 C.P.S. at 20 G's or .060" double amplitude. No continuity interruptions of 1 microsecond or longer. No damage to contact or insulator. No disengagement of DIP module from the socket; SHOCK: Per MIL-STD-202C, Method 202B/3 blows in each of 3 mutually perpendicular planes. Shock level of 150 G's. No continuity interruptions of 1 microsecond or longer. No damage to contact or insulator. No disengagement of DIP module from the socket; TEMPERATURE RANGE: Phenolic: −65° to 150°C.



DIMENSIONS

Contacts	A	B	C	E, H	F	G	J	K	L
14	.600	.770	.690	.300	.424	.187	.043	.210	.446
16	.700	.870	.790	.300	.424	.187	.093	.210	.770
24	1.100	1.270	1.190	.600	.724	.486	.125	.510	.870

Note: Shallow Throat Socket Tails are .017" x .017" x .110" long
Standard Throat Socket Tails are .017" x .033" x .170" long

PRECISION DIP SOCKETS — WIRE WRAP TAILS

MATERIALS

INSULATORS: Glass Nylon −65° to 125°C; CONTACTS: Solid .025 phosphor bronze wire wrap post with sharp (.003 max. radius) corners. (Gold or electro-tin plated).

ELECTRICAL SPECIFICATIONS

CURRENT RATING: 1 ampere; CONTACT RESISTANCE: 6 milliohms; INSULATION RESISTANCE: 1 x 10^5 Megohms; WITHSTANDING VOLTAGE: 1000 volts A.C. rms; INTERLEAD CAPACITANCE: 0.40 pf at 1 mhz.

MECHANICAL SPECIFICATIONS

CONTACT SEPARATION FORCE: Min. 4 oz., Max. 1 oz.; MIN. CONTACT SEPARATION FORCE AFTER 100 CYCLES: 1 oz.

SOLDER TYPE

Distributor Part No.	Factory Part No.	Contacts	*Insulation & Lead Plating
Standard Throat,			
14-DIP	133-51-02-003	14	(1), (5)
14-DIP-1	133-51-92-005	14	(2), (6)
16-DIP	133-51-02-006	16	(1), (5)
16-DIP-1	133-51-92-008	16	(2), (6)
24-DIP	133-59-02-011	24	(1), (5)
24-DIP-1	133-59-92-010	24	(2), (6)
Shallow Throat,			
14-N-DIP	133-59-02-059	14	(1), (5)
14-N-DIP-1	133-59-92-060	14	(2), (6)
16-N-DIP	133-59-02-062	16	(1), (5)
16-N-DIP-1	133-59-92-061	16	(2), (6)
24-N-DIP	133-59-02-063	24	(1), (5)
24-N-DIP-1	133-59-92-064	24	(2), (6)

WIRE WRAP TYPE

14-W-DIP	133-59-91-055	14	(3), (5)
14-W-DIP-1	133-59-91-056	14	(3), (5)
14-W-DIP-2	133-59-91-051	14	(3), (6)
14-W-DIP-3	133-59-91-052	14	(4), (6)
16-W-DIP	133-59-91-058	16	(3), (5)
16-W-DIP-1	133-59-91-057	16	(4), (5)
16-W-DIP-2	133-59-91-054	16	(3), (6)
16-W-DIP-3	133-59-91-053	16	(4), (6)

***INSULATIONS**

(1) G.P. Black Phenolic; (2) Diallyl Phthalate; (3) Black Glass Nylon; (4) White Glass Nylon.

LEAD PLATING:

(5) Electro-tin; (6) Gold.

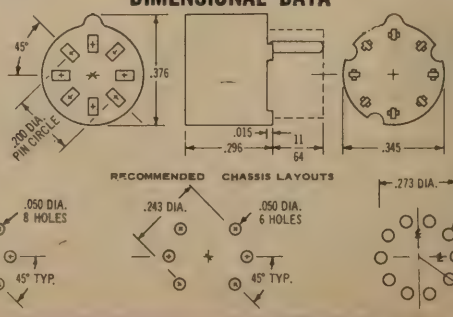
TO-5 CASE SOCKETS



Part No.	Factory Part No.	No. of Leads
6-ICS	133-96-92-060	6
8-ICS	133-98-92-061	8
10-ICS	133-99-92-054	10

These miniature sockets mount directly to the printed circuit board and are especially convenient for in-circuit testing and maintenance. Models are available for 6, 8 and 10-lead ICs which can be inserted without lead bending or other undue strain.

DIMENSIONAL DATA



MATERIALS

INSULATOR: Diallyl Phthalate type SDG per MIL-M-18794; CONTACTS: Beryllium copper, copper flash plus .00003 gold plate.

MECHANICAL SPECIFICATIONS

INSERTION FORCE: 16 lbs. maximum; WITHDRAWAL FORCE: 3 lbs. minimum.

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS: (a) At sea level (adj. terminals), (b) At an altitude of 50,000 ft. (adj. terminals): VOLTS: AC RMS 1020, 350, DC 1560, 465; CURRENT RATING: 1 ampere; CONTACT RESISTANCE: .050 ohms maximum; INSULATION RESISTANCE (as received): 50,000 megohms minimum.

© United Technical Publications

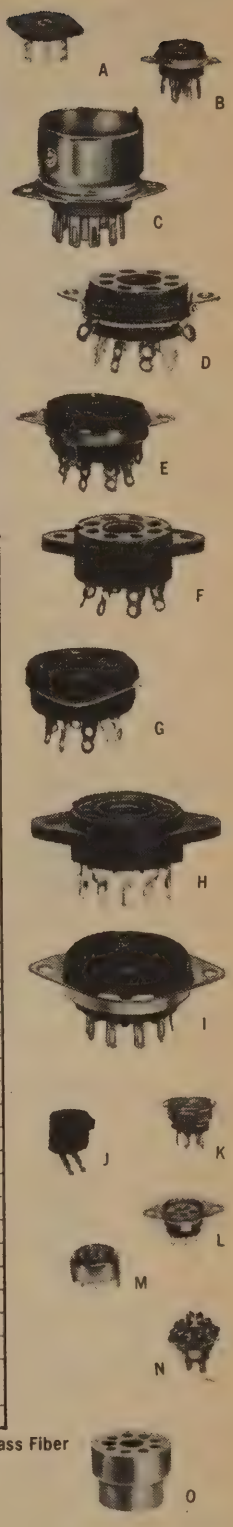
TUBE SOCKETS

STANDARD TYPE

Part Nos.	Fig.	Number of Contacts and Tube Group	Type	Insulator Material[1]	Contact Material[2]	Top or Bottom Mount	Mounting Centers	Chassis Hole Diameter	MIL-S-12883A Number
7W2A	A	7 miniature	wafer	A	A	B	7/8"	5/8"	—
7WL2	A	7 miniature	wafer	A	A	B	1 "	5/8"	—
7WL4	A	7 miniature	wafer	A	A	T, B	1 3/16"	5/8"	—
7EB	B	7 miniature	saddle	B	A	B	7/8"	5/8"	—
7EC	B	7 miniature	saddle	D	A	B	7/8"	5/8"	—
7EM	B	7 miniature	saddle	C	A	B	7/8"	5/8"	—
7AB1	B	7 miniature	saddle	B	A	T	7/8"	5/8"	—
7AM1	B	7 miniature	saddle	C	A	T	7/8"	5/8"	—
7JM-3	B	7 miniature	saddle	C	B	B	7/8"	5/8"	TS102P03
7C-3	B	7 miniature	saddle	D	B	B	7/8"	5/8"	TS102C03
7JMN-1	B	7 miniature	saddle	C	B	T	7/8"	5/8"	TS102P02
7JMN-2	B	7 miniature	saddle	C	B	T	7/8"	5/8"	TS102P02
7JCN-1	B	7 miniature	saddle	D	B	T	7/8"	5/8"	TS102C02
7JCN-2	B	7 miniature	saddle	D	B	T	7/8"	5/8"	TS102C02
7JM-2	C	7 miniature	shield base	C	B	T	7/8"	5/8"	TS102P01
7XB1	C	7 miniature	shield base	B	A	T	7/8"	5/8"	—
7XM1	C	7 miniature	shield base	C	A	T	7/8"	5/8"	—
7XC	C	7 miniature	shield base	D	A	T	7/8"	5/8"	—
7JC-2	C	7 miniature	shield base	D	B	T	7/8"	5/8"	TS102C01
8AB	D	8 octal	saddle	B	A	B	1 3/16"	1 "	—
8AM	D	8 octal	saddle	C	A	B	1 3/16"	1 "	—
8EB	E	8 octal	saddle	E	A	B	1 1/2"	1 1/8"	—
8EM	E	8 octal	saddle	C	A	B	1 1/2"	1 1/8"	—
8XM	F	8 octal	all-molded	C	A	T, B	1 3/16"	1 1/8"	—
8XB	F	8 octal	all-molded	B	A	T, B	1 3/16"	1 1/8"	—
8R1	G	8 octal	ring mount*	E	A	T	1/16"	1 11/64"	—
8R2	G	8 octal	ring mount*	E	A	T	1/8"	1 11/64"	—
8R3	G	8 octal	ring mount*	C	A	T	1/16"	1 11/64"	—
8R4	G	8 octal	ring mount*	E	A	T	3/32"	1 11/64"	—
8R5	G	8 octal	ring mount*	C	A	T	3/32"	1 11/64"	—
8R6	G	8 octal	ring mount*	C	A	T	1/8"	1 11/64"	—
8CS-B	H	8 compactron	all-molded	E	A	T, B	1 3/16"	1 1/8"	—
8CS-M	H	8 compactron	all-molded	C	A	T, B	1 3/16"	1 1/8"	—
9NS-B	I	9 novar	saddle	E	A	B	1 1/2"	1 1/8"	—
9NS-B1	I	9 novar	saddle	E	A	T	1 1/2"	1 1/8"	—
9NS-M	I	9 novar	saddle	C	A	B	1 1/2"	1 1/8"	—
9NS-M1	I	9 novar	saddle	C	A	T	1 1/2"	1 1/8"	—
9W1	A	9 noval	wafer	A	A	B	1 1/8"	3/4"	—
9W2	A	9 noval	wafer	A	A	T, B	1 3/16"	3/4"	—
9AB	B	9 noval	saddle	B	A	T	1 1/8"	3/4"	—
9AM	B	9 noval	saddle	C	A	T	1 1/8"	3/4"	—
9EB	B	9 noval	saddle	B	A	B	1 1/8"	3/4"	—
9EM	B	9 noval	saddle	C	A	B	1 1/8"	3/4"	—
9JM-3	B	9 noval	saddle	C	B	B	1 1/8"	3/4"	TS103P03
9JM-4	B	9 noval	saddle	C	B	B	1 1/8"	3/4"	TS103P03
9JC-3	B	9 noval	saddle	D	B	B	1 1/8"	3/4"	TS103C03
9JCN-1	B	9 noval	saddle	D	B	T	1 1/8"	3/4"	TS103C02
9JMN-1	B	9 noval	saddle	C	B	T	1 1/8"	3/4"	TS103P02
9JMN-2	B	9 noval	saddle	C	B	T	1 1/8"	3/4"	TS103P02
9XB	C	9 noval	shield base	B	A	T	1 1/8"	3/4"	—
9XM	C	9 noval	shield base	C	A	T	1 1/8"	3/4"	—
9XC	C	9 noval	shield base	D	A	T	1 1/8"	3/4"	—
9JM-2	C	9 noval	shield base	C	B	T	1 1/8"	3/4"	TS103P01
9JC-2	C	9 noval	shield base	D	B	T	1 1/8"	3/4"	TS103C01
12CS-B	H	12 compactron	all-molded	E	A	T, B	1 3/16"	1 1/8"	—
12CS-M	H	12 compactron	all-molded	C	A	T, B	1 3/16"	1 1/8"	—

1. A—Chocolate phenolic B—Black phenolic C—MFE plastic D—Ceramic E—High Dielectric black phenolic (CFG) F—MAI-60 Alkyd Glass Fiber
2. A—Cadmium plated brass B—Silver plated phosphor bronze C—Silver plated beryllium copper

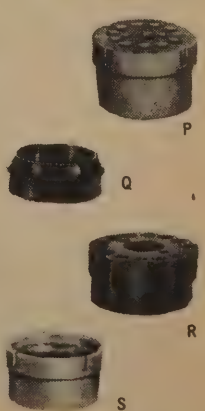
*Crimped retainer ring furnished; mounting centers dimensions column lists chassis thickness accommodated.



SPECIAL PURPOSE TYPE

Part Nos.	Fig.	Number of Contacts and Tube Group	Type	Insulator Material[1]	Contact Material[2]
2B2**	J	2 cetron	for CE701, CE702	B	A
5NS	K	5 nuvistor	crimp tab mount	C	A
5NS-1	L	5 nuvistor	saddle	C	A
5NS-2	M	5 nuvistor	P.C. standoff	C	A
5NS-3	N	5 nuvistor	heat dissipating	C	A
7 VT	O	7 vidicon	for RCA vidicon	C	B
8-VT	O	8 vidicon	for RCA vidicon	C	B
3M11**	P	11 magnal	for 5BP1, etc.	C	C
3B12	Q	12 duodecal	for 10BP4, etc.	B	C
3M12	Q	12 duodecal	same as 3B12	C	C
3B14**	R	14 diheptal	CRT	B	C
3M14**	R	14 diheptal	CRT	C	B
20-PM	S	20 photomult	for RCA 6810, etc.	F	A

**Mounting ring required.



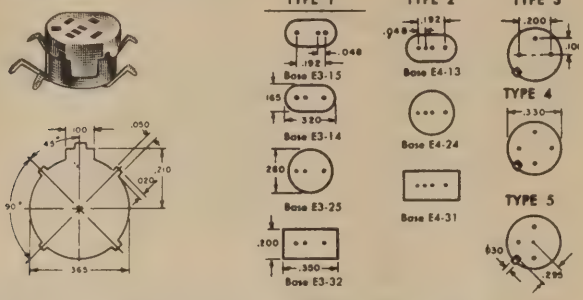
CINCH

RELAY, TRANSISTOR SOCKETS and ACCESSORIES

FOR ADDITIONAL TRANSISTOR SOCKETS SEE PAGE 19-20

UNIVERSAL TRANSISTOR SOCKETS

Universal transistor sockets for all transistor base types described. Use with either one or two-sided 1/16" printed circuit boards.



Part No.	Base Types	Tabs Used (See Diag.)	Cont. Pos. Used
7UTS	All	A, B, C. D, E	1, 3, 4, 7
7UTS-1	1 & 3	C, D, E	1, 3, 4, 7
7UTS-3	3	C, D, E	1, 4, 7
7UTS-4	4	A, B, C, D, E	1, 4, 5, 6, 7
7UTS-5	5	B, D, E	1, 6, 7
7UTS-6	1 & 3	C, D, E	1, 3, 4, 7

POWER TRANSITOR SOCKETS

To Fit TO-3 Outline Transistors



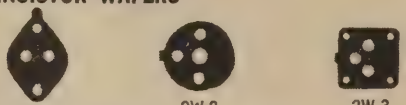
2TS-1 2TS-2 2TS3

Laminated Type. Plates of natural XP phenolic, vacuum wax impregnated. Formed thread for 6-20 screw provides easy attachment to a heat sink. Mounting holes. .136 diameter. **Part No. 2TS-1**

Identical to 2TS-1 except equipped with integral eyelets for assembly to chassis. **Part No. 2TS-2**

Molded Type. GP phenolic. Contacts are phosphor bronze, cadmium-plated. Mounting holes .098" dia.; mounting centers .425/.435". **Part No. 2TS-3**

POWER TRANSISTOR WAFERS



2W-1 2W-2 2W-3

These hard anodized aluminum insulator wafers have high thermal conductivity, high dielectric resistance, high abrasion resistance and high corrosion resistance.

Part No.	Description
2W-1	For Motorola transistor 2N-179, 2N-176 and 2N-554
2W-2	For Delco Transistor 2N-174
2W-3	For Texas Instrument transistor 2N-389

GENERAL PURPOSE TRANSISTOR SOCKET

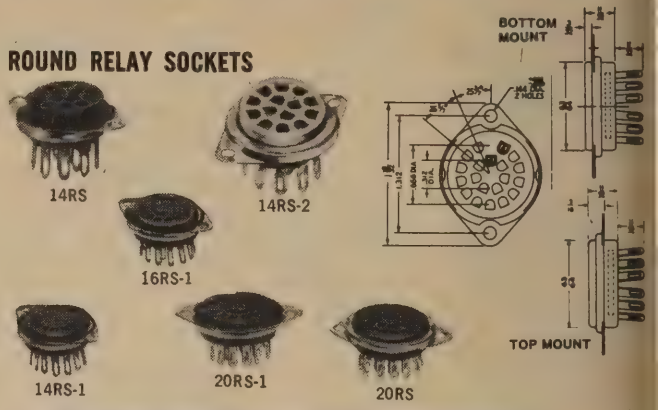


2TS-4

For triangular base layout .2"x.1" (JETEC-30) contact centers, and three-contact in-line (.048"x.192" contact centers). For television, industrial, communications, test equipment, bread-board circuits, etc. GP phenolic; contacts are phosphor bronze, cadmium-plated. Used with EIA base designations: E3-14, E3-15, E3-25, E3-32, E3-38, E3-39, E3-42, E3-43, E3-44, E3-51, E3-53, E4-13, E4-24, E4-31, E4-43, E4-52, ET 103-D.

Part No. 2TS-4

ROUND RELAY SOCKETS



14-Pin Bottom-Mounted Socket: Steel saddle, cadmium-plated. **Part No. 14RS**

14-Pin Top-Mounted Socket: Same as above except top mount. **Part No. 14RS-2**

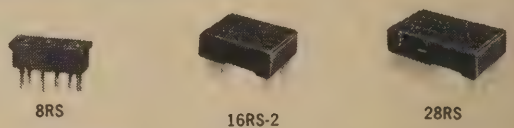
20-Pin Bottom-Mounted Socket: Casting is mica-filled low loss phenolic. Contacts are of beryllium copper, silver-plated with hot tinned tails. **Part No. 20RS-1**

20-Pin Top-Mounted Socket: 20-contact socket. Same as above except top mount. **Part No. 20RS**

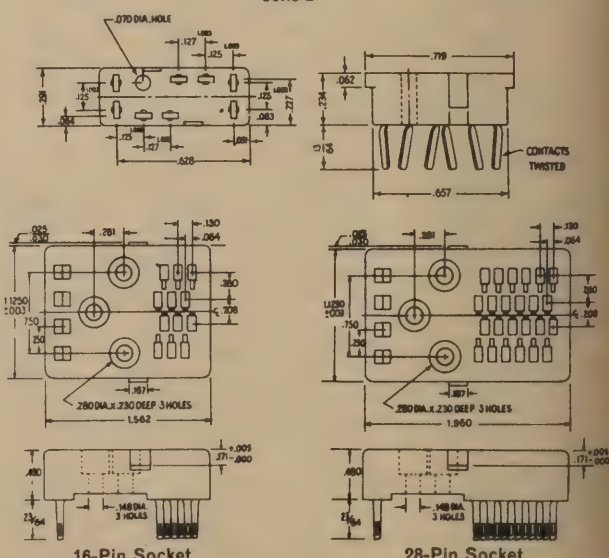
14-Pin Bottom-Mounted Socket: Same as above except only contacts 15 to 20 omitted. **Part No. 14RS-1**

16-Pin Bottom-Mounted Socket: Same as above, except contacts 15, 17, 18 and 20 are omitted. **Part No. 16RS-1**

RECTANGULAR RELAY SOCKETS



8RS 16RS-2 28RS



8-Pin Socket: Contacts are beryllium copper, silver-plated. Mounting clip furnished with each socket. This socket fits Advance MV-2C, AEMCO 95-3274, Brubaker K110A, Filtors P.26.A1.P. 6A, G.E. D200A & G-203A, Potter & Brumfield SL and Ace Relay No. 50-6A (single contact type). **Part No. 8RS**

16 and 28 Pin Sockets: Molded of high dielectric black phenolic. Mate with Automatic Electric EIN type relays and C.P. Clare J type relays.

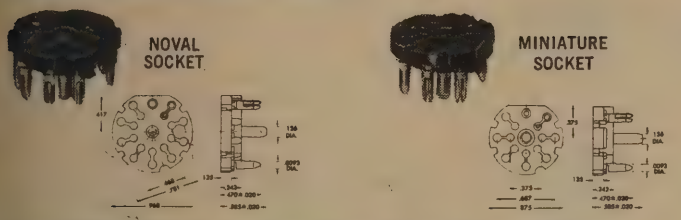
No. of Contacts	Contact Plating	Part No.
16	Cadmium	16RS-2
16	Gold	16RS-3
28	Cadmium	28RS
28	Gold	28RS-1

© United Technical Publications

CINCH

MISCELLANEOUS SOCKETS and ACCESSORIES

PRINTED CIRCUIT TUBE SOCKETS



Stand-Off Type Printed Circuit Sockets with Press-In Contact Tails
Provides mechanical retention prior to dip soldering in 1/16" printed circuit board. Available with or without center shield. Center shield and contacts are brass, hot tin dipped.

Miniature Part No.	Noval Part No.	Insulator Material*	Center Shield
7PC-B4	9PC-B4	Black	No
7PC-M4	9PC-M4	Mica-Filled	No
7PC-B5	9PC-B5	Black	Yes
7PC-M5	9PC-M5	Mica-Filled	Yes

*Phenolic

CONVENTIONAL STAND-OFF TYPE PRINTED CIRCUIT SOCKETS



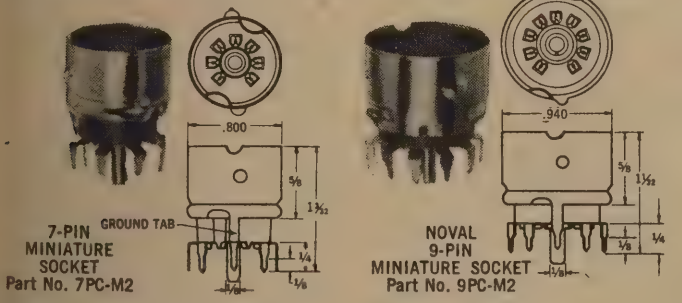
Part No. 7PC-B1. Part No. 9PC-B1.

Sockets rest on the shoulder of the contact tail, providing an air gap for cooling and eliminating the possibility of a moisture trap. For 1/16" printed circuit boards with bottom circuitry.

7-Pin Socket ..... **Part No. 7 PC-B**
7-Pin Socket similar to 7PC-B without center shield and tab. (Not shown) **Part No. 7PC-B1**
Noval Socket ..... **Part No. 9PC-B**
Noval Socket similar to 9PC-B without center shield and tab (not shown). **Part No. 9PC-B1**

PRINTED CIRCUIT SOCKETS WITH SHIELD BASES

Stand-off sockets with attached bayonet-type shield base with ground tab. For use with 1/16" P.C. boards.



SUB-MINIATURE TUBE SOCKETS



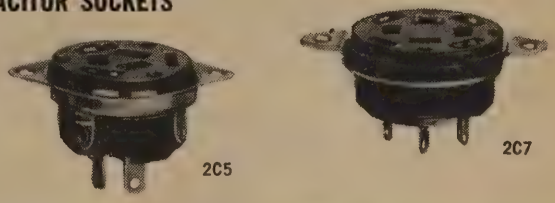
2H3 2H5 8SM 8SM-P

For test equipment, instruments, radios and other electronic apparatus. Molded mica-filled low loss Phenolic; silver-plated beryllium copper contacts. No. 2H5 can be used as a transistor socket or for 4-prong tubes.

Part No.	No. of Prongs	Mtg. Ring No.
*2H3	3	18516
*2H5	5	12446
*2H6	6	12447
*2H7	7	12448
*8SM	8	2MR
8SM-P	8	—

*Mtg. Ring Included.

CAPACITOR SOCKETS



2C5 2C7

For Mallory and Magnavox 1" FP type capacitors. Molded from high dielectric black phenolic. Steel saddle, with 4 ground lugs, hot-solder-coated. 1½" mounting centers. Has 3 recessed center contacts for extended prongs of capacitor and two outer contacts flush with surface for short prongs of capacitor. All contacts are cadmium-plated. **Part No. 2C5**

Same as above, but for Mallory and Magnavox 1⅜" FP type capacitors. 1 27/32" mounting centers. **Part No. 2C7**

CRYSTAL SOCKETS



2KB 2K4 2K2C

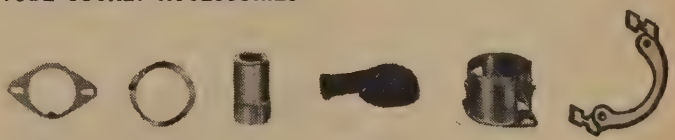
2-Prong 31/64" Centers: Molded from high dielectric black bakelite or mica-filled low loss phenolic. Silver-plated beryllium copper contacts on 31/64" centers. .120" diameter recessed mounting hole. Socket body is 25/32" long, 5/16" thick, and 35/64" high. For use with FT243 type crystal.

PART NO.	MATERIAL
2KB	Black
2KM	Mica-Filled

4-Prong: Same as above, but for two No. FT243 type crystals. **Part No. 2K4**

2-Prong .486" Centers: Ceramic material. Silver-plated beryllium copper contacts with hot tinned tails, mounted on .486" center. ⅛" mounting hole, ⅞" long, ⅜" wide and ⅝" high overall. For No. CR-7 and BH-6 crystals. **Part No. 2K2C**

TUBE SOCKET ACCESSORIES



8AP 8RO 7S2 3A1 7SB1 7SN

Retainer Ring—A crimped retaining ring to anchor octal sockets. Standard finish is cadmium. **Part No. 8RO**

Adaptor Plate—Used when the chassis hole is too large to use the 8RO retainer ring alone. **Part No. 8AP**

J-Slot Tube Shields—For 7X and 9X series sockets and 7SB and 9SB-1 type shield bases.

Part No.	Description	Part No.	Description
7S2	1⅜" Length	9S1	1 ⅛" Length
7S3	1¾" Length	9S2	1 15/16" Length
7S4	2¼" Length	9S3	2 ⅜" Length

Shield Bases—For J-Slot type shields.

Part No.	Mtg. Ctrs.	Material
7SB1	⅞"	Steel
7SB2	⅞"	Brass
9SB1	1½"	Steel

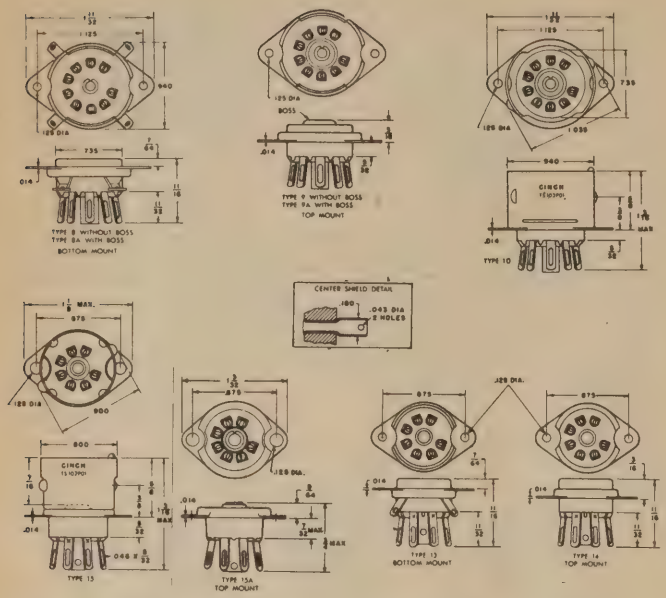
Strap Nuts—For mounting sockets with saddles or shield bases in place of two conventional type nuts.
For 7-contact sockets—**Part No. 7SN** For 9-contact sockets—**Part No. 9SN**
Second Anode Connector **Part No. 3A1**

Tube Socket Mounting Rings—(Not illustrated). Fit Cinch sockets:

Socket Part No.	Ring Part No.
2B2, 2M2, 3M11, 3B14, 3M14	2MR, 3R11, 3R14

CINCH

MILITARY-TYPE TUBE SOCKETS



Part No.	Type, Per MIL-S-12883A	Casting Material	Type (See Diag.)
	7-PIN		
TS102P01	7JM-2	MFE	15
TS102C01	7JC-2	Ceramic	15
TS102P02	7JMN-1	MFE	14
TS102P02	7JMN-2	MFE	15A
TS102C02	7JCN-2	Ceramic	14
TS102C02	7JCN-1	Ceramic	15A
TS102P03	7JM-3	MFE	13
TS102C03	7JC-3	Ceramic	13
	9-PIN		
TS103P01	9JM-2	MFE	10
TS103C01	9JC-2	Ceramic	10
TS103P02	9JMN-2	MFE	9
TS103P02	9JMN-1	MFE	9A
TS103C02	9JCN-1	Ceramic	9A
TS103P03	9JM-4	MFE	8
TS103P03	9JM-3	MFE	8A
TS103C03	9JC-3	Ceramic	8A

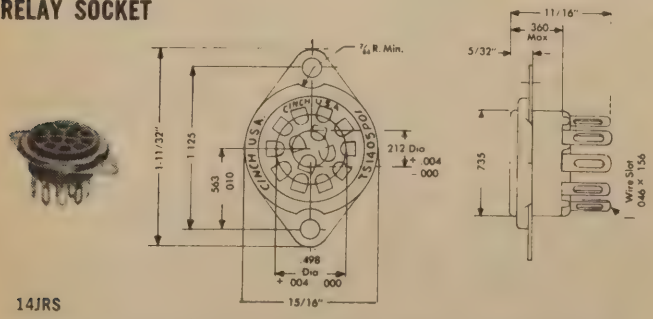
ELECTRICAL SPECIFICATIONS

VOLTAGE RATING (absolute maximum): Sea Level and 50,000 ft. 500 V. AC r.m.s.; CURRENT: 1 ampere; OPERATING TEMPERATURE: 100°C; CHASSIS OPENING: 5/8" dia., 7-pin, 3/4" 9-pin; INSULATION RESISTANCE: 1,000 megohms, minimum; WITHSTANDING VOLTAGE: 2,000 V. AC minimum without breakdown of insulation or flashover; INDIVIDUAL CONTACT RETENTION: 3 ounces minimum; AVERAGE INITIAL INSERTION FORCE: 12 lbs. max. 7-pin, 15 lbs. max. 9-pin; INDIVIDUAL INITIAL INSERTION FORCE: 15 lbs. max. 7-pin, 20 lbs. 9-pin; INDIVIDUAL INITIAL WITHDRAWAL FORCE: 4 lbs. to 12 lbs. 7-pin, 4 lbs. to 15 lbs. 9-pin.

MECHANICAL SPECIFICATIONS

INSULATORS: Mica filled Phenolic—MIL-M-14F, Type MFE; Steatite Ceramic—MIL-I-10, Grade 14; CONTACTS: Phosphor bronze—QQP-330, Beryllium copper—QQ-G-523; SADDLES, BASES, STRAP NUTS, CENTER SHIELDS, TUBE SHIELDS Brass—QQ-B-626 or QQ-B-613; TUBE SHIELD SPRINGS: Stainless steel—QQ-W-423; FINISHES: Cadmium—QQ-P-416a, Silver—QQ-S-365, Nickel—QQ-N-290, Passivation—MIL-STD-171.

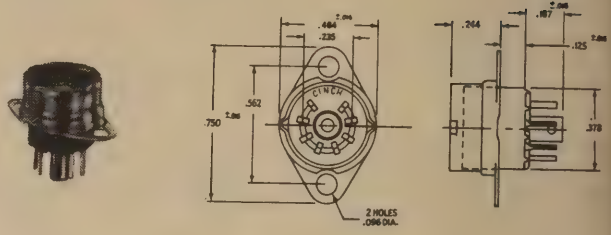
RELAY SOCKET



14JRS

The casting material used is type MFE. The saddle of this relay socket is made of brass, hot-solder-coated. Phosphor bronze contacts are silver-plated and tails are hot tin dipped. Type TS1405P01 per MIL-S-12883A.
Part No. 14JRS

SUB-MINIATURE SOCKETS

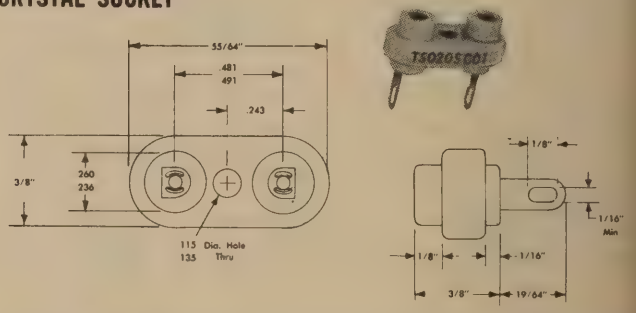


For use in equipment subject to high temperature, humidity or vibration conditions. Shield bases are brass, nickel plated. Contacts are heat-treated beryllium copper and silver-plated; tails are hot tin dipped.

Mil No.	Part No.	Casting Material	Type
MS-35407-2	8SM-1*	MFE	1

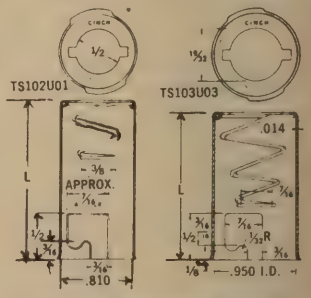
*A U.S. Government contract number is required when ordering.

CRYSTAL SOCKET



The casting material used is Steatite ceramic, grade L5 or better. Phosphor bronze contacts are silver-plated and tails are hot tin dipped. Type TS0205C01 per MIL-S-12833A.
Part No. 2JKC

SHIELDS



Cinch MIL shields are made of brass, nickel-plated. Springs are non-magnetic stainless steel.

FOR MINIATURE SOCKETS			FOR NOVAL SOCKETS		
Type, Per JAN-S-28A	Part No.	Dimension L In Inches	Type, Per JAN-S-28A	Part No.	Dimension L In Inches
TS102U01	7SJ2-1	1¾	TS103U01	9SJ1-1	1½
TS102U02	7SJ3-1	1¾	TS103U02	9SJ2-1	1 15/16
TS102U03	7SJ4-1	2¼	TS103U03	9SJ3-1	2⅜

STRAP NUTS



Cinch strap nuts are brass, cadmium-plated with a chromate treatment. Mounting holes have a No. 4-40 NC-2B tap after plating. Ground lugs are hot-solder-dipped.

Type, Per MIL-S-12883A	Part No.	Dimensions In Inches			
		A	B	C	D
TS102N01	7JSN	1 3/32	.875	7/16	23/64
TS103N01	9JSN	1 11/32	1.125	17/32	13/32
TS102N02	7JSN-1	1 1/4	.875	15/32	11/32

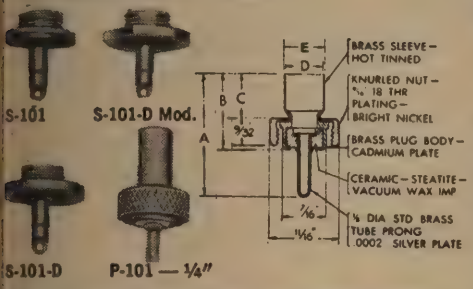
© United Technical Publications

CINCH

AUDIO, RADIO, TV and MISCELLANEOUS HARDWARE

AUDIO AMPLIFIERS

101 SERIES PLUGS & SOCKETS



Provide low-loss connections, even at high frequencies. Units are identical except for diameter of cable ferrule. One-piece cadmium plated body and ferrule. All metal parts are brass.

Part No.	Dimensions In Inches				
	A	B	C	D	E
P-101-¼"	1¼	¾	7/16	¼	9/32
P-101-.290	1¼	¾	7/16	.290	.319

The No. 101 series sockets are furnished in three types as shown below. Base is of brass, bright nickel finish. Brass contact is silver-plated. Insulation is of low-loss natural color XXX phenolic. The S-101-D has recessed base. S-101-D Mod. is milled as shown.

Part No.	Mounting Centers	Drill Size For Mounting Holes
S-101	11/16	41
S-101-D	13/16	30
S-101-D Mod.	13/16	30

202 SERIES PLUGS & SOCKETS

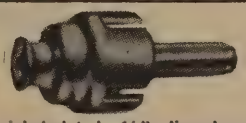


P-202-CCT S-202-B S-202-CCT-THR

Metal parts are brass with bright nickel finish. Insulation is molded phenolic. Phosphor bronze "knife switch" type socket contacts engage both sides of flat brass plug contacts. Formed fibre linings in caps. Knurled nut has ¾"-27 thread. S-202-CCT-THR and P-202-CCT make ideal microphone cable connectors.

Part No.	Type
P-202-CCT (as shown above)	Plug with Cable Clamps.
S-202-CCT	Socket with Cable Clamps.
S-202-B (as shown above)	Socket with Mounting Base.
P-202-B	Plug with Mounting Base.
S-202-CCT-THR (as shown above)	Socket with Cable Clamps and threaded body, for attaching to a P-202-CCT.

PHONO PLUGS



Standard Type nickel-plated. ⅛" diameter brass tube pin.

Part No.	Pin Length	For Jack Type
13A	5/16"	81A, 81B
13E	11/16"	81E

PHONO JACKS



SINGLE

Mounted on 1/16" dark brown phenolic disc with 11/16" mounting centers. Contacts are cadmium-plated brass. Ceramic bushing. Shield is cadmium-plated steel. Mounting holes are .136" diameter. Use Cinch No. 13A phono plug. **Part No. 81A**

Similar to No. 81A, but center conductor is grounded to shield except when a plug is inserted. **Part No. 81G**

DOUBLE

Two positive grip phono jacks mounted on 1/16" phenolic panel with 13/16" mounting centers. Mounting holes are .140" diameter. Jacks are spaced on 7/16" centers. Panel is 1½"x1". Contacts are cadmium-plated brass. Ceramic bushings. Use Cinch No. 13A phono plug. **Part No. 81B**

RADIO & TELEVISION CONNECTORS

FLAT MOUNTING CONNECTOR PLUG



Two cadmium-plated brass pins mounted on a piece of phenolic. Mounting plate is of 1/16" natural XP phenolic 1⅜"x¾". The .135/.140 mounting holes are 1¼" centers. **Part No. 2FP**

RECESSED PLUG



Nominal rating is for 125 volts, 7 amperes. Designed as input voltage connector for television sets. 1¼" mounting centers. Overall length 1⅝". Width ⅝. Body depth ⅜". Mounting holes are .140/.145. Recognized under the Component Program of Underwriters' Laboratories, Inc., reference No. 202-4102-179 **Part No. 2RP**

Same as above with one-piece contact. **Part No. 2RP-1**

ANTENNA PLUG



Standard Type. Nickel-plated brass ⅛" tube pin extends 7/32" from cadmium-plated split brass shell. Use with Cinch No. 81C or 81F connector. **Part No. 13B**

110-250 VOLT 2 PRONG SOCKET



Rated at 15 Amp., 110 V. Molded from high dielectric black phenolic. Cadmium-plated brass contacts on ½" centers accept any 2 prong standard electric plug. Mounts in 25/64"x25/32" hole. Has .144 diameter mounting holes on 1⅛" centers. Ideal for chassis connections and many other applications. Recognized under the Component Program of Underwriters' Laboratories, Inc., reference 203-4102-013. **Part No. 2R2**

ANTENNA CONNECTORS

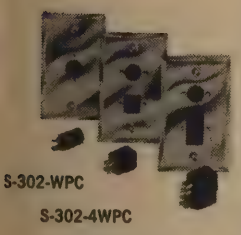


Flanged. Motorola-type shielded jack. Steel flange with 13/16" mtg. centers with .136 dia. mtg. holes. Mounts with screws or rivets. Use Cinch No. 13B antenna plug. **Part No. 81F**

Shell Type: Same as above except without flange. Solder into position. Accepts No. 13B plug. **Part No. 81C**

MISCELLANEOUS PLUGS, SOCKETS, CAPS, SHELLS & HARDWARE

TELEVISION WALL PLATES



S-302-WPC

S-302-4WPC

S-302-8WPC

302 SERIES wall plates are made of steel with heavy chrome plate and provide a convenient junction between the antenna lead-in and the television set. They all fit a standard outlet box. Mounting screws are furnished.
The S-302-2-8WPC has two antenna sockets side by side.

Part Number	Application	Antenna Socket*	Rotor Socket*
S-302-WPC	Antenna lead-in	P-302-CCT	—
S-302-4WPC	Antenna lead-in plus 4 contact rotar	P-302-CCT	P-304-CCT
S-302-8WPC	Antenna lead-in plus 8 contact rotor	P-302-CCT	P-308-CCT
S-302-2-8WPC	2-antenna lead-in plus 8 contact rotor	P-302-CCT(2)	P-308-CCT

*Sockets not included, must be ordered separately.

8-CONTACT PLUG — High dielectric black Phenolic. Pins are nickel-plated. Mounts on 1/16" chassis using No. 8RO retaining ring, or can be used with No. 16F cap. Will fit any standard octal socket. **Part No. 8PB**



11-CONTACT PLUG — Molded from high dielectric black Phenolic. Pins are nickel-plated. Mounts on 1/16" chassis using No. 8RO retaining ring or can be used with No. 16F cap. Will fit No. 11RB socket shown below. **Part No. 11PB**



11-CONTACT SOCKET — Molded from high dielectric black Phenolic Solder coated brass contacts. Mounts 1/16" chassis using No. 8RO retaining ring. Can be used with No. 16F cap. Used with No. 11PB plug **Part No. 11RB**



CAP — Made of cadmium-plated steel to snap on 8 and 11 prong sockets which are grooved for a 1/16" chassis. Also fits 8PB, 11PB and 11RB plugs. Rubber grommet has a 25/64" dia. hole. **Part No. 16F**

BATTERY PLUGS

Part No.; 5M. Voltage; 67½ "B." For Burgess No.; P6, D5, P6M, M6, XX30, XX45, XX50. For Eveready No.; 455, 467. For R.C.A. No.; VS016, VS300A, VS322, VS315. For Ray-O-Vac No.; P4367.

Part No.; 5F. Voltage; 67½ "B." For Burgess No.; K45, P45, D6, 4D4, P45M, P60, N60X, C62. For Eveready No.; 455, 467. For R.C.A. No.; VS306, VS316, VS055, VSH7, VS082, VS218, VS215, VS219. For Ray-O-Vac No.; P4367.



Tin-plated brass battery snaps.

PLUG BUTTONS



A E

Nickel plated steel. Spring tension prongs.

For Hole Diameter	Part No.	Cup Diameter
¼"	41A	13/32"
⅜"	41B	½"
½"	41C	21/32"
⅝"	41D	51/64"
¾"	41E	15/16"
⅞"	41F	1 1/16"
1"	41G	1 5/32"
1¼"	41H	1 7/16"

SCREEN-TYPE PLUG BUTTON

Provides ventilation wherever required; snaps in 1" diam. hole. Bright zinc plated steel button. **Part No. 41V**

CABLE CLAMPS

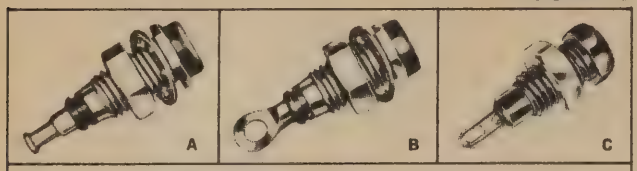


Cadmium-plated sturdy steel cable clamps for cables 1/16" to ⅝" in dia.

Part No.	Dia. of Arc	Hole Dia.	Over-all Width	Over-all Length	Hole Str. To Arc Center
85A	⅛"	.149	11/32"	13/32"	¼"
85B	5/16"	.140	5/16"	23/32"	⅜"
85C	5/16"	.144	⅜"	21/32"	⅜"
85D	5/16"	.136	5/16"	27/32"	½"
85E	½"	.147	½"	15/16"	7/16"
85F	⅝"	.171	⅜"	1"	½"

CINCH

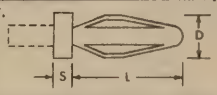
UCINITE TEST JACKS



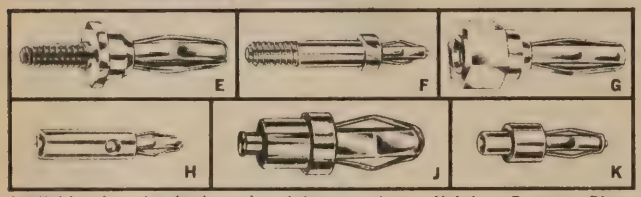
THREADED PANEL TEST JACKS. For 0.080" diam. probes. Metal or nylon mounting shells with beryllium copper contacts. All units are 15/16" long and require 17/64" diam. mounting hole. Will fit panels up to 1/4" thick. Brass shells are nickel plated and have 1/4-32 threads; nylon shells have 1/4-28 threads. Nickel plated mounting hardware included. *Meets Military spec MS16108 (Rev F). †Extended life construction.

Part No.	Fig. No.	Maximum Flashover	Current Rating	Mounting Shell	Terminal Style	Terminal Plating	Colors** (See Chart)
118930	A	2500 volts	5 amps.	Brass	Turret	Silver	A - L
119052	B	2500 volts	5 amps.	Brass	Spade	Silver	A - L
119165	A	2500 volts	5 amps.	Brass	Turret	Gold	A,B,C,G
*119588	A	3000 volts	15 amps.	Brass	Turret	Gold	A - L
*119589	B	3000 volts	15 amps.	Brass	Spade	Gold	A - L
119466	A	2500 volts	5 amps.	Brass	Turret	Silver	A - H,K
119513	B	2500 volts	5 amps.	Brass	Spade	Silver	A,B,C,E,H
119193	A	9000 volts	5 amps.	Nylon	Turret	Silver	B,C,G,L
†119605	C	10,000 volts	5 amps.	Nylon	Spade	Silver	A-E-G

** Add color code as suffix to desired part number.



UCINITE BANANA PLUGS



Available in standard and miniature sizes, Ucinite Banana Plugs consist of a one piece beryllium copper spring securely fastened to a nickel plated brass pin for optimum mechanical and electrical characteristics. Rated for 18 amp loads, the plugs are available in a variety of platings and mounting styles to meet specific requirements.

BANANA PLUGS WITH SCREW TYPE MOUNTINGS

Type	Fig.	D (Max.)	L (Max.)	Max. Panel Th'kness	Thread Size (UNC)	Part Number	Finish† Code	Hardware Number*
Std.	E	0.190	0.562	0.237	6-32	152016	UF47	155422UF47
Min.	F	0.120	0.275	0.487	6-32	155296	UF4	155422UF47
Min.	F	0.120	0.275	0.487	6-32	155296	UF419	155422UF47
Spec.	G	0.190	0.547	—	6-32 Fem.	152239	UF47	None
Spec.	H	0.120	0.297	—	0.109 hole	154850	UF4	None
Spec.	H	0.120	0.297	—	0.109 hole	154850	UF47	None

* Mounting hardware consists of nut and solder lug.

BANANA PLUGS WITH RIVET TYPE MOUNTINGS

Type	Fig.	D (Max.)	L (Max.)	S	Rivet Diam.	Max. Panel Th'kness	Solder Terminal	Part Number	Finish† Code
Std.	J	0.190	0.375	0.219	0.187	0.067	Turret	152006	UF6
Min.	J	0.120	0.275	0.094	0.156	0.068	Turret	152008	UF4
Min.	J	0.120	0.275	0.094	0.156	0.068	Turret	152008	UF6
Min.	J	0.120	0.275	0.094	0.156	0.068	Turret	152008	UF362
Min.	J	0.120	0.275	0.187	0.156	0.068	Turret	152109	UF47
Min.	J	0.120	0.275	0.094	0.156	0.099	Turret	154570	UF6
Min.	J	0.120	0.275	0.094	0.156	0.130	Turret	154569	UF6
Min.	J	0.120	0.275	0.125	0.156	0.130	Turret	153264	UF47
Min.	K	0.120	0.275	0.094	0.156	0.010	Cup	155060	UF6
Min.	K	0.120	0.275	0.094	0.094	0.053	Cup	152005	UF4
Min.	K	0.120	0.275	0.140	0.094	0.068	Cup	152004	UF4
Min.	K	0.120	0.275	0.140	0.094	0.068	Cup	152004	UF6

† Add finish code as suffix to desired part number.

FINISH SPECIFICATIONS

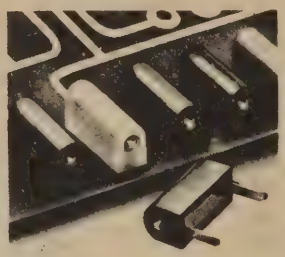
Code	Type	Code	Type
UF4	0.0001 minimum thick Silver	UF47	0.0002 minimum thick Nickel
UF6	0.0005 minimum thick Silver	UF419	0.00002 Gold over Silver
UF362	0.0005 minimum thick Silver plus water dip lacquer		



Part Number	Terminal Plating	Colors* (See Chart)
119620S	Silver	C
119620G	Gold	A, B, C, E
119620T	Electro Tin	A-C, E-G

* Add color code as suffix to desired part number.

PRESS-IN TEST JACKS. For 0.080" diam. probes. Fast installation, no mounting hardware required! Needs only 0.176" diam. countersunk hole. Nylon body withstands flashover test to 9000 volts. Plated beryllium copper contacts are rated for 5 amps and have spade type terminals. Overall dimensions: 0.280" diam. by 7/8" long.



PRINTED CIRCUIT TEST JACKS

For 0.080" diam. probes. Terminals solder assemble to standard PC holes 0.055" diam. on 0.400" centers. All nylon body tested to 3000 volts flashover. Beryllium copper contacts are plated gold over silver and are rated for 5 amps. Cat. No. 119437. Specify colors suffix A thru L from table below.

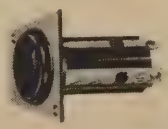
TEST JACK COLOR CODE CHART

Code	Color	Code	Color	Code	Color
A	White	E	Green	J	Grey
B	Red	F	Orange	K	Purple
C	Black	G	Blue	L	Natural
D	Brown	H	Yellow		

TELERITE JACKS AND PLUGS



PART NO. 119160 PHONE JACK. U-92A/U per MIL-T-9919. Standard size 4-conductor unit with one piece molded nylon outer shell and nickel plated beryllium copper contacts. 2½" long by ¾" diam. Accepts plugs U-93A/U, listed below, or U-174/U.



PART NO. 119392 PHONE JACK. Panel mounted version of 119160 above, with nickel plated brass mounting plate. 1" sq by 1¼" long.



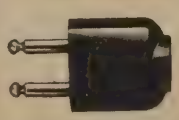
PART NO. 119346 PHONE PLUG. U-93A/U per MIL-T-9177. Standard size 4-conductor unit with molded nylon outer shell, nylon insulators and nickel plated brass conacts. Mates with 119160 and 119392, listed above.



PART NO. 119552 JACK AND SWITCH ASSEMBLY. U-94A/U per MIL-P-9222B. 4-conductor unit with molded nylon shell and nickel plated beryllium copper contacts. Switch has momentary contact snap action, double break construction and meets spec MIL-S-6743 and drawing MS-24318-1. Contacts are heavy duty coin silver. Equipped with broad jawed stainless steel alligator clip.



PART NO. 119547 2-CONDUCTOR ASSEMBLY JACK. U-172/U, meets MIL-J-641B for JJ-055 which it replaces. Has molded nylon shell and nickel plated beryllium copper contacts. Accepts plug U-173/U, listed below.



PART NO. 119563 2-CONDUCTOR ASSEMBLY PLUG. U-173/U, meets MIL-P-642 for PJ-292 which it replaces. Has molded nylon shell and nickel plated brass contacts. Mates with jack U-172/U, listed above.

© United Technical Publications

CURTIS

TERMINAL BLOCKS

FEED-THRU BLOCKS

"GFT" SERIES
300 VOLTS
20 AMPS



The GFT Series offer fully insulated feed through. Black thermosetting phenolic moldings. Terminals: Bright tin plated external #6-32 or #8-32 screws or ¼ and 3/16 tab terminals. Internal choice of screw, solder turret, taper pin receptacle, or PC pin. One to 26 poles per block. Terminal spacing 7/16" C. to C.

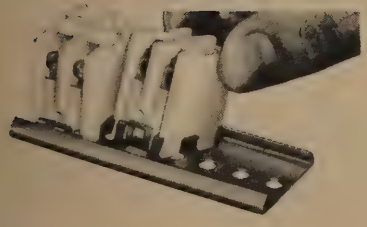
TRACK-MOUNTED BLOCKS

"W" SERIES
600 VOLTS



Prepunched steel track accepts vertical snap-in 2 or 3 pole modules. Terminals are screw bar 25 amps and tubular connectors, with or without traveling pressure pads, 50 amps, and high current 75 amps single pole tubular. Also single pole 13/32 x 1½ ferrule-type cartridge fuse holders and 15 amps pivoting disconnect switch. Six foot lengths available. Terminal spacing 7/16" C. to C.

"SW" SERIES
600 VOLTS



Fit same track as "W" Series. Two or three pole units of white molded polypropylene. Terminals are screw bar 25 amps and tubular connectors, with or without traveling pressure pads, 50 amps. Six foot lengths available. Terminal spacing 3/8" C. to C.

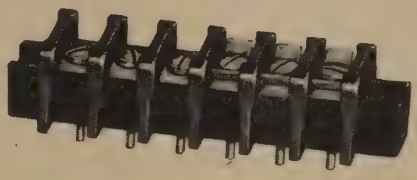
PRINTED CIRCUIT BLOCKS

TYPE GBP
300 VOLTS
20 AMPS



Identical to GFT with internal .062 dia. printed circuit pins and without feed-thru insulation sleeve.

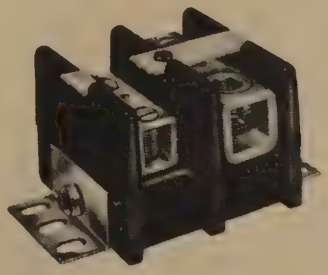
TYPE SEP
300 VOLTS
5 AMPS



The SE printed circuit block has black thermosetting phenolic moldings. Terminals: External surface screws, with or without surface clamps, or combination 2, 4 or 6 .110" quick-disconnect tabs. Internal PC pins are .047" dia. One to 26 poles per block. Terminal spacing ¼" C. to C.

HIGH CURRENT BLOCKS

TYPES "T" & "U"
600 VOLTS



Sectional design with aluminum mounting brackets. Terminals are high pressure tubular of electrolytically pure copper. Black thermosetting phenolic moldings.

"T" rated 125 amps — takes AWG No. 6 to No. 1/0 wire. One to six poles per block.

"U" rated 250 amps — takes No. 6 to 250 MCM wire AWG. One to four poles per block.

Terminal spacing 1 3/32" C. to C.

FREE Send today for your 24-page Terminal Block Catalog and Relay Socket Assemblies literature.

CDM NEMA MEMBER CURTIS DEVELOPMENT & MFG. CO.

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

SPIRAL WRAP • HOT AIR GUN • ALL-WAVE ANTENNA KIT SPAGHETTI PACKS • TEFLON TERMINALS • FIBERGLASS GUY WIRE

SPIRAL WRAP — PLASTIC TUBING FOR HARNESSES

Available in four formulations: Polyethylene, Rulan (flame retardant) Polyethylene, Nylon and Teflon. Easily applied. Twists on easily. Can be flexed repeatedly without cracking or breaking. Reusable, bends around sharp corners. Expandable.
Per MIL-P-22692, MIL-I-631D, MIL-P-3803



POLYETHYLENE (Clear) — TEMP. RANGE −105° to +200°F

DABURN Cat. No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
605-⅛″	1/16″ to ½″	⅛″	.031″	100′, 500′, 1000′
605-3/16″	⅛″ to 1″	3/16″	.031″	100′, 500′, 1000′
605-¼″	3/16″ to 2″	¼″	.045″	100′, 500′, 1000′
605-⅜″	5/16″ to 3″	⅜″	.058″	100′, 500′, 1000′
605-½″	¾″ to 4″	½″	.058″	100′, 500′, 1000′

RULAN (White) (Carbon Impregnated Polyethylene) — TEMP. RANGE −10°F to +200°F

DABURN Cat. No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
606-⅛″	1/16″ to ½″	⅛″	.030″	100′, 500′, 1000′
606-¼″	3/16″ to 1½″	¼″	.058″	100′, 500′, 1000′
606-⅜″	5/16″ to 2″	⅜″	.058″	100′, 500′, 1000′
606-½″	¾″ to 4″	½″	.060″	100′, 500′, 1000′

NYLON
Per MIL-P-17091B, MIL-P-20693 & MIL-M-22096 −212° to +300°F

DABURN Cat. No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
607-⅛″	1/16″ to ½″	⅛″	.031″	100′, 500′
607-¼″	3/16″ to 2″	¼″	.058″	100′, 500′
607-⅜″	5/16″ to 3″	⅜″	.058″	100′, 500′
607-½″	¾″ to 4″	½″	.058″	100′, 500′

TEFLON
Per MIL-I-22129 −450°F to +500°F

DABURN Cat. No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
608-⅛″	1/16″ to ½″	⅛″	.031″	100′, 500′
608-¼″	3/16″ to 2″	¼″	.030″	100′, 500′
608-⅜″	5/16″ to 2½″	⅜″	.030″	100′, 500′
608-½″	¾″ to 3″	½″	.030″	100′, 500′

COLOR: Natural (White).

HOT AIR GUN AND ACCESSORIES FOR DAFLEX SHRINKABLE TUBING



Daburn No.
HG1—For SH265, SH275, SH290 & SH160 Series
HG2—For SH400 & SH621 Series

A flameless heat source; light in weight; portable and/or permanent mounting.

ADAPTOR HGA-02



Concentrates heat and allows use of baffle.

BAFFLE PLATE HGB-01

For tubing up to 1¼″ O.D. Made to concentrate hot air.



DABURN ALL-WAVE ASSEMBLED ANTENNA KIT

Designed for reception of overseas radio signals & programs. Utilizes the Hertz principle — balanced line consists of:

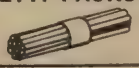
2—30′ coils 7/24 copper wire (2366/16)
1—40′ coil transmission cable (2779)
1—Center insulator (10-68)
2—Porcelain insulators (10-06)
2—Lead-in strips (9-09L)
1—Ground clamp (9-09C)
2—Nail-on knobs (10-09)



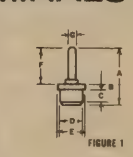
DABURN Cat. No.		Standard Package
9-09	All Wave Kit	12
10-09	Nail-on Knob, Glazed	100
9-09L	Lead-in Strip	50
9-09C	Ground Clamp	50

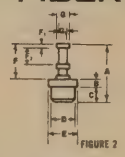
DABURN ASSORTED SPAGHETTI PACKS

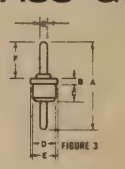
25-9″ lengths per pack consists of varnished sleeving of assorted sizes and colors.

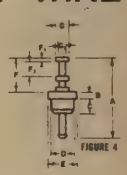


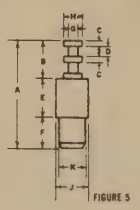
DABURN Cat. No.		Standard Package
9-07	Pack	25
9-08	25 Packs in Display Carton	1

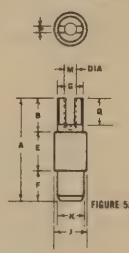

FIGURE 1

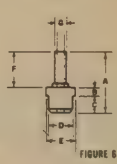

FIGURE 2

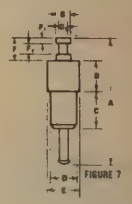

FIGURE 3

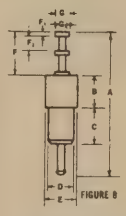

FIGURE 4

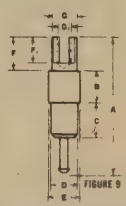

FIGURE 5

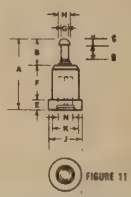

FIGURE 5A

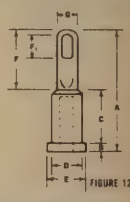

FIGURE 6


FIGURE 7


FIGURE 8


FIGURE 9


FIGURE 11


FIGURE 12

Material, pure virgin Teflon, conforms to MIL-P-19468 and AMS 3651B spec. This terminals series provides instant mounting without any extra fastening hardware. Easily inserted into punched or drilled holes, self locking, unaffected by soldering. Resistant to thermal-mechanical shock, vibration, corrosion moisture. Speeds up assembly — cuts production costs. Suitable for crowded assemblies. Brass meets QQ-B-626 comp. ½ H.

JACK MATERIAL: Beryllium copper with .000030 min. gold flash over .0003 min. silver plate.

PLATING: Solder finish electro solder plate. Available in all other platings.

COLOR: Natural (White). Std. Pkg.: 100, 1000.

DABURN No.	Fig.	Cap. MMF.	A	B	C	D	E	F	G
11-06	1	.41	.35	.04	.10	.148	.172	.210	.040
11-07	1	.39	.41	.04	.16	.148	.172	.210	.040
11-08	1	.32	.50	.04	.25	.148	.172	.210	.040
11-10	2	.41	.35	.04	.10	.148	.172	.210	.040
11-11	2	.36	.375	.04	.125	.148	.172	.210	.040
11-12	2	.36	.35	.04	.100	.179	.200	.210	.040
11-10-01	2	.45	.428	.093	.125	.148	.172	.210	.040
11-10-02	2	.37	.50	.040	.250	.148	.172	.210	.040
11-11-01	5	.58	.522	.250	.020	.095	.125	.150	.040
11-12-01	5A	.50	.478	.203	—	—	.125	.150	.148
11-15	3	.55	.443	.04	.100	.148	.172	.210	.040
11-14	3	.73	.515	.04	.100	.148	.172	.210	.040
11-16	3	.71	.725	.04	.100	.148	.172	.210	.040
11-18	4	.62	.500	.04	.100	.148	.172	.210	.040
11-19	4	.69	.500	.04	.165	.148	.172	.210	.040
11-17	6	—	.193	.025	.063	.125	.150	.105	.040
11-20	7	.80	.540	.063	.171	.171	.187	.133	.046
11-21	8	.72	.836	.187	.165	.148	.172	.250	.040
11-22	9	.81	.821	.187	.212	.171	.187	.203	.148
11-25-01	11	.70	.637	.187	.037	.104	.050	.400	.054
11-25-02	11	.80	.437	.120	.037	.053	. 46	.271	.054
11-25-03	11	.60	.345	.120	.023	.077	.046	.179	.046
11-23	12	.50	.687	.046	.287	.185	.218	.354	.105



DABURN FIBERGLASS GUY WIRE

Gives complete isolation for any antenna system. Non-radiating, non-absorbing, no rot, no shrink, no sag. This non metallic guy wire has an overall (PVC) polyvinylchloride jacket.

DABURN No.	Put-Up	Tensile Strength	Color	Nom. O.D.
10-01	100′, 500′, 1000′	500 lbs.	Green	.125″
10-02	100′, 500′, 1000′	1000 lbs.	Gray	.218″
10-03	100′, 500′, 1000′	2500 lbs.	White	.313″

Doubling the cable will double the strength.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

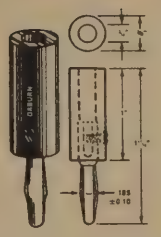
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

BANANA, PHONE PLUGS & TIPS

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Side set screw holds wire without soldering. Molded plastic handle.

COLORS
Red, Black, Yellow, Green, Blue (Specify)

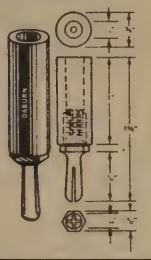


DABURN No.	SPRING	Std. Pkg.
19-46	Phosphor Bronze N.P.	50
19-46A	Beryllium Copper N.P.	50

INSULATED BANANA PLUG
SOLDERLESS

This split plug, brass N. PL., has internal brass N. PL., stud for solderless connection. Fits standard banana jacks. Molded plastic handle.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)

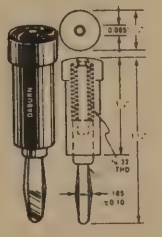


DABURN No.	Std. Pkg.
19-47 BANANA PLUG	50

ADAPTER
TIP PLUG TO BANANA PLUG

Fits standard banana jacks, accepts standard phone tips. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Phone tip jack is phosphor bronze molded plastic handle and cap.

COLORS
Red, Black (Specify)

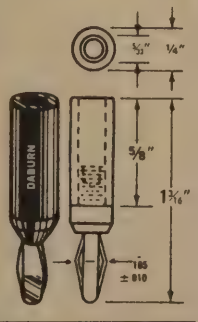


DABURN No.	Std. Pkg.
19-67 ADAPTER	50

INSULATED MIDGET BANANA PLUG
SOLDERLESS

Spring is four leaf phosphor bronze, or beryllium copper, nickel plated. Wire can be soldered directly into plug. Molded plastic handle. Fits standard banana jacks.

COLORS
Red, Black. (Specify)

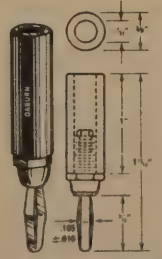


SPRING DABURN No.	Std. Pkg.
19-55 Phosphor Bronze N.P.	50
19-55B Beryllium Copper S.P.	50

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is hex brass, Nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.
For solderless connection: wire can be passed thru hex brass N.P. stud and spread, which locks wire to plug. Wire can also be soldered directly to plug.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)

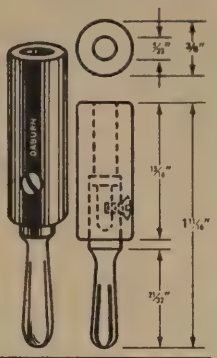


DABURN No.	SPRING	Std. Pkg.
19-04	Phosphor Bronze N.P.	50
19-04B	Beryllium Copper S.P.	50

INSULATED BANANA PLUG
SOLDERLESS

Split plug, brass N. PL., with side screw fits standard banana jacks. Plug is slotted, set screw holds wire without soldering. Molded plastic handles.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)



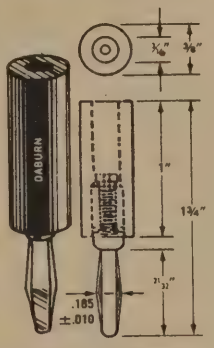
DABURN No.	Std. Pkg.
19-44 BANANA PLUG	50

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.

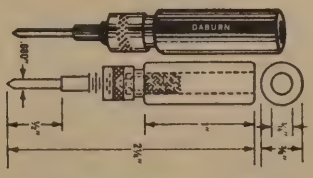
COLORS
Red, Black, Yellow, Green, Blue. (Specify)

For solderless connection same as our No. 19-04.



SPRING DABURN No.	Std. Pkg.
19-65 Phos. Bronze N.P.	50
19-65B Beryllium Copper S.P.	50

INSULATED PHONE TIP
SOLDERLESS — SENIOR

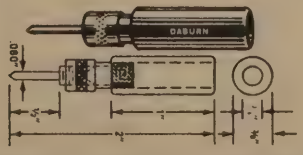


Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.		Std. Pkg.
19-09	Senior	50

INSULATED PHONE TIP
SOLDERLESS — JUNIOR



Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.		Std. Pkg.
19-15	Junior	50

BANANA PLUG
No. 17-40

Fits all standard banana jacks. Hex brass, nickel plated. Comes thru with hex N. PL. nut and tinned copper lug. Spring is four leaf phosphor bronze, nickel plated.

RATED: 15 Amps. AC.

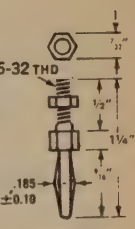


DABURN No.	Spring	Dim. A	Std. Pkg.
17-40	Phosphor Bronze	½"	100
17-40A	Phosphor Bronze	⅜"	100
17-40B	Beryllium Copper	½"	100

BANANA PLUG
No. 17-14

Nickel plated hex brass; spring is four leaf phosphor bronze, nickel plated Comes thru with hex nut, nickel plated. Fits all standard banana jacks.

RATED: 15 Amps. AC.

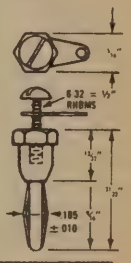


DABURN No.	Spring	Std. Pkg.
17-14	Phosphor Bronze	100

BANANA PLUG — No. 17-41

Body is hex brass, nickel plated, comes thru complete with N. PL. screw and tinned copper lug; spring is four leaf phosphor bronze or beryllium copper, nickel plated. Fits all standard banana jacks.

RATED: 15 Amps. AC.

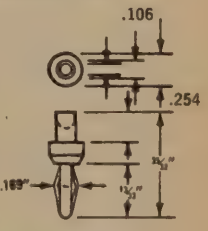


DABURN No.	Spring	Std. Pkg.
17-41	Phosphor Bronze	100
17-41B	Beryllium Copper	100

MIDGET BANANA PLUG
RIVET TYPE

Brass silver plated body. Spring is four leaf phosphor bronze, silver plated.

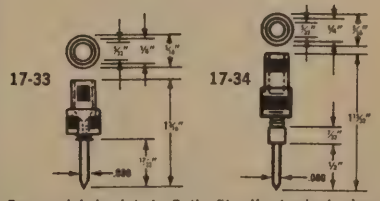
RATED: 10 Amps. AC.



DABURN No.	Std. Pkg.
17-26 Rivet Type Midget Plug	100

Additional Midget Plugs & Jacks Available.
Also Sub-Miniature Plugs & Jacks.

SOLDERLESS PHONE TIP PLUG



Brass nickel plated. Both fit all standard phone tip jacks. Slipping the wire thru body of tip, then wrapping same around screw, is tightened by knurled collar.

DABURN No.	Description Type	Std. Pkg.
17-33	Junior	100
17-34	Senior	100

PATCH CORD SETS USING ABOVE HARDWARE AVAILABLE TO ORDER.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

POSTS • PRODS • PLUGS • SPADE LUG • PHONE TIPS

COMBINATION POST — BANANA PLUG



Molded fluted nylon captive head rated at 15 amps AC. Body is brass nickel plated: spring — N.P.L. phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No.		Std. Pkg.
18-40	Combination plug	100

COLORS: Red, Black.

COMBINATION POST — BANANA PLUG



Molded hex head nylon captive head. Rated at 15 amps AC. Body is brass nickel plated; spring — N.P.L. Phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No.		Std. Pkg.
18-42	Combination plug	100

COLORS: Red, Black.

COMBINATION TERMINAL METAL BINDING POST



Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. For 3/16" thick panel. 10-32 x 1/4" long BHM screw.

Cat. No.		Std. Pkg.
18-30	Combination terminal	100

COMBINATION TERMINAL METAL BINDING POST



Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. 8-32 x 1/4" long BHM screw. For 1/8" thick panel.

Cat. No.		Std. Pkg.
18-32	Combination terminal	100

METAL BINDING POST — 5 WAY

Hex brass, nickel plated. Wrap around terminal. Captive head.

Cat. No.		Std. Pkg.
18-34	Binding post	100



BINDING POST — 5 WAY

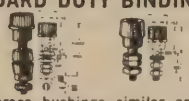
Hex head molded nylon with spade lug. Brass nickel plated.

COLORS: Red, Black.

Cat. No.		Std. Pkg.
18-77	Binding post	100



STANDARD DUTY BINDING POST



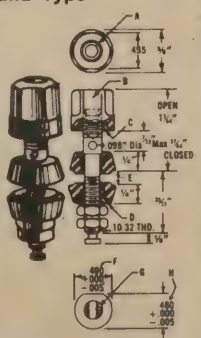
Colors: Red, black.

Molded-in brass bushings similar as above. Rated at 15 Amps. AC, capacitance 3.0 MMFD. Body is brass nickel plated. Mounts in 3/4" hole for locking. Has milled slot complete with two hex nuts.

DABURN No.	Description	Std. Pkg.
18-78	All Insulated Type	100
18-79	Grounding Type	100

BINDING POSTS — MULTI-PURPOSE Wrap Around Type

Molded nylon body. Accepts tip plug, spade lug, banana plug, wire alligator clip and direct solder connection. Has molded-in brass insetrs in head and washer. Rated at 30 amps. AC. capacitance 5.0 MMFD. Banana plug receptacle .161" I.D. head non-removable from stud and washer completely insulates post from panel. For panels 1/4" to 1/4" thick; drill 1/2" hole for mounting washers. Wire hole is at right angle to flat on insulated washer.



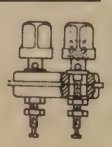
COLORS: Red Black, (Specify)

DABURN No.	Description	Std. Pkg.
18-72	Nylon Fluted Head Post	100
18-75	Nylon Binding Post	100

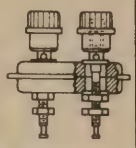
DUAL BINDING POSTS NYLON — 5 WAYS

Hex nylon captive head. Brass nickel plated. Turret terminals wrap around 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify.

Cat. No.		Std. Pkg.
18-50	Dual Binding Post	100



DUAL BINDING POSTS NYLON — 5 WAYS



Fluted nylon captive head. Brass nickel plated. Turret terminals — wrap around. 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify

Cat. No.		Std. Pkg.
18-52	Dual Binding Post	100

INSULATED BANANA JACK TURRET TERMINAL



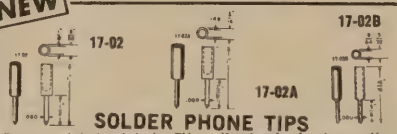
Body is brass nickel plated. Mounts in 3/16" hole in panels up to 3/8" thick. Molded plastic head. Takes standard banana plugs.

COLORS: Red, Black, Yellow, Green, Blue, White.

Cat. No.		Std. Pkg.
19-26	Banana jack	100

NEW

SOLDER PHONE TIPS



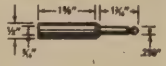
Brass, nickel plated. Fits all standard phone tip jacks. Rating 12 amps AC for 10°C temp. rise, continuous duty.

DABURN Cat. No.		Std. Pkg.
17-02	Standard Phone Tip	100
17-02A	Phone Tip Larger I.D.	100
17-02B	Drawn	100

TELEPHONE TYPE PLUGS

Fits all standard phone jacks. Body, tip, sleeve is brass, nickel plated. 5 amp. AC rating, continuous duty. 750V. 60 cycle AC.

DABURN Cat. No.	Circuit	Terminals	Std. Pkg.
19-81	2	Solder	100
19-81A	2	Screw	100
19-83	3	Solder	100
19-83A	3	Screw	100



Additional types available.

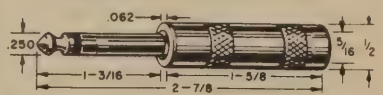
MINIATURE PHONE PLUGS

Insulated, molded plastic handle; brass nickel plated body; solder terminals; 5 amp. rating continuous duty.

DABURN Cat. No.		Standard Package
19-130	Solder Term.	50
19-131	Shielded	50



SHIELDED PHONE PLUG

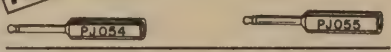


Shielded phone plug. Barrel-brass, nickel plated with tubular insulator.

DABURN Cat. No.	Circuit	Terminals	Standard Package
19-82	2	Solder	100
19-82A	2	Screw	100
19-84	3	Solder	100
19-84A	3	Screw	100

TELEPHONE TYPE PLUGS Military

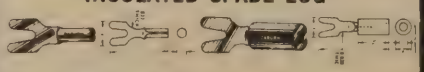
NEW



DABURN Cat. No.	MIL Type	Circuit	Terminals	Standard Package
19-170	PJ054	2	Screw	50
19-171	PJ055	2	Screw	50

Specify barrel color: Red, Black.

INSULATED SPADE LUG



Molded plastic handle lug is steel hot tinned. Rated at 25 amps. AC. Rear barrel accommodates all standard banana plugs.

COLORS — Insulated Spade: Red, Black.

DABURN No.		Std. Pkg.
19-32	Insulated Spade Lug	50
19-32A	Spade Lug Only	50

Patch cord sets using above hardware available to order.

METER TYPE PLUGS



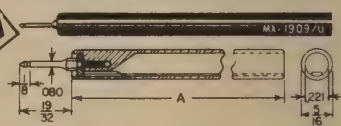
Molded bakelite handles. Nickel plated brass bodies. Banana plug has phosphor bronze slotted spring, nickel plated, fits standard banana jacks. Phone tip fits standard phone tip jacks. Push button allows wire connection without soldering.

COLORS: Red, Black.

Cat. No.		Std. Pkg.
19-42	Push button banana plug	100
19-41	Push button phone tip plug	100

NYLON HANDLE PRODS AND TIPS

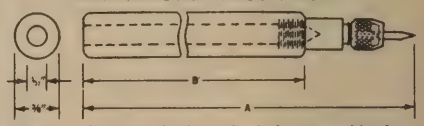
NEW



Handle is molded nylon per MIL-P-20693A with brass, silver plated tip. Solderless prods made to meet Signal Corps Drawing SC-C-82761.
Rated at 10 amps AC for 10° temperature rise, continuous duty.

DABURN Cat. No.	Sig. Corps. Drawing & Part No.	Size "A"	Color	Std. Pkg.
19-57	MX-1906/U	1"	Red	25
19-58	MX-1907/U	1"	Black	25
19-59	MX-1909/U	4"	Red	25
19-60	MX-1910/U	4"	Black	25

NEEDLEPOINT TEST PROD

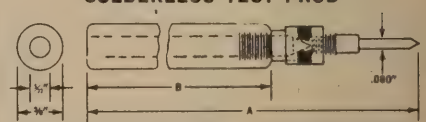


Brass nicket plated plug, chuck is removable for replacement of broken needles. Sharp needle pierces insulation or corrosion for testing purposes. Molded plastic handle.

COLORS: Red, Black. (Specify)

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-20	4"	4 7/8"	50
19-21	5"	6 3/8"	50

SOLDERLESS TEST PROD

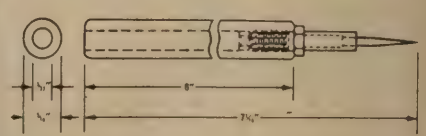


Body is brass nickel plated with molded plastic handle. Solderless connection, for wire fits thru handle and plug body and wraps under knurled nut.

COLORS: Red, Black. (Specify)

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-10	4"	5 3/4"	50
19-43	5"	6 1/2"	50

BAKELITE PENCILTYPE TEST PROD



Body is brass nickel plated with heavy steel phono needle in tip. Handle is XX bakelite per MIL-P-79 Spec. Wire threaded thru stud and tightened allows for solderless connection.

COLOR: Red, Black. (Specify)

DABURN No.		Std. Pkg.
19-11	Bakelite Pencil Type Prod	25

Patch cord sets using above hardware available to order.

© United Technical Publications

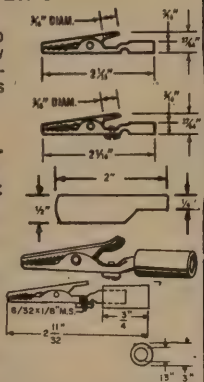
DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

ALLIGATOR CLIPS • PLUGS • JACKS • PRINTED CIRCUIT JACK

ALLIGATOR CLIPS



Steel, cadmium plated. 5 amp continuous duty. ½" jaw opening. Jaws match accurately, grips securely. Accepts standard banana plugs.

DABURN Cat. No.		Std. Pkg.
20-3	Clip, no screw	50
20-3S	Clip, with screw	50
20-1	Insulator boot for above, red or black	50
20-10	Insulated, no screw, red or black	50
20-10S	Insulated, with screw, red or black	50

ALLIGATOR CLIP ALL INSULATED



Fully insulated. Cadmium plated sharp steel jaw. Accepts banana plug in rear.
COLORS: Red, Black.

Cat. No.		Std. Pkg.
20-25	Insulated Clip	100

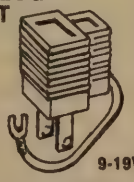
RUBBER MALE PLUG



DABURN Cat. No.		Standard Package
9-30	2 Prong Male Plug — Brass	100

Rated: 15 Amps, 125V.

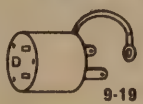
ADAPTER FOR 3 PRONG PLUG FOR STANDARD OUTLET



DABURN Cat. No.		Standard Package
9-19	Bakelite	50
9-19V	Vinyl	50

9-19V

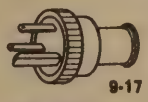
3 PRONG MALE PLUG



DABURN Cat. No.		Standard Package
9-17	3 Parallel Blades and Ground Pin	50

9-19

FEMALE CONNECTOR



DABURN Cat. No.		Standard Package
9-31	Mate to 9-17	50

9-17

PHONO PLUGS

STANDARD PHONO PLUGS



RCA Type — useful with record players, recording equipment. Extra large hole in cap .175" for coaxial cable.

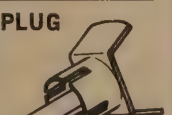
DABURN Cat. No.		Standard Package
9-148	Long Pin 1" Overall	100
9-148S	Short Pin 13/16" Overall	100

9-31



9-148

NEW RCA TYPE PHONO PLUG



DABURN Cat. No.		Standard Package
9-147	Long Pin 1" Overall	100
9-147S	Short Pin 13/16" Overall	100

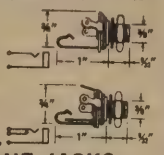
MOTOROLA TYPE PLUGS



Nickel plated ⅛" tube pin extends from split brass shell cadmium plated.

DABURN Cat. No.		Standard Package
9-146		100
9-146S	For Smaller Cable	100

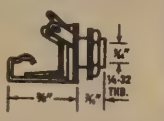
TELEPHONE TYPE JACK



Body is brass nickel plated. Designed for long life. Nickel Silver alloy spring. Rated 10 amp. AC continuous duty. Mounts in ⅜" hole in panels up to 5/32" thick.

DABURN Cat. No.	Standard Package
19-157 2 Cond., Open	50
19-158 2 Cond., Closed	50
19-159 3 Cond., Open	50
19-160 3 Cond., Closed	50

MINIATURE TELEPHONE JACKS



Brass, nickel plated, mounts in ¼" hole in panels up to ⅛" thick.

DABURN Cat. No.	Standard Package
19-132 2 Cond., Open	50
19-133 2 Cond., Closed	50

PHONO JACKS



9-149

Female for our Nos. 9-148, 9-147. Positive grip, single prong 1/16" bakelite, 13/16" mounting center.

DABURN Cat. No.		Standard Package
9-149		100
9-149-1	Insulating Washer	100



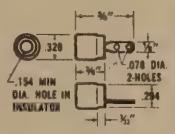
9-149A

Miniature Phono Jack

Small, compact 1¼6" mounting centers.

DABURN Cat. No.	Standard Package
9-149A	100

Phono Input Jack

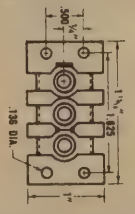


Where space is at a premium. Mounts in 13/64" hole. Rivets and grounds to chassis.

DABURN Cat. No.	Standard Package
9-149B	100

9-149B

PHONO JACKS

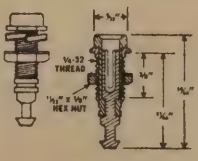


Used on recording equipment, phonographs, etc.

DABURN Cat. No.		Standard Package
9-150	Double Phono Jack	50
9-150A	Triple Phono Jack	50
9-150B	Quadruple Phono Jack	50
9-150-1	Insulating Washer for 9-150	50

NYLON TIP JACK WITH METAL SHELL

MADE TO MEET MS-16108 Spec — WRAP AROUND



Molded nylon tip jack with metal shell eliminates possibility of threads stripping during assembly. Made to meet the requirements of MS-16108 specification. Contact recessed in head for safety. Nylon, grade FM 10001, brass N.P. Shell and nut per Spec. 72-53. Tough and rugged. Fits all standard phone tip plugs.

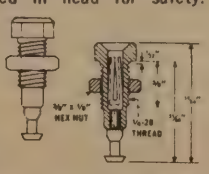
CENTER CONTACT: Heat treated beryllium copper, silver plated.

COLORS: Red, Black, Yellow, Green, Blue, White. (Specify Color)

Daburn No.		Std. Pkg.
19-90	Wrap Around	25

ALL NYLON TIP JACK

WRAP AROUND

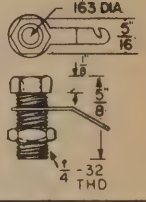


All nylon molded tip jack. Takes all standard phone tip plugs. Contact recessed in head for safety. Hex head for ease in tightening. Mounts in ¼" hole in panels up to ¼". Body is nylon, grade FM 10001. Tough and rugged. Complete with brass nickel plated hex nut. Center contact. Heat treated beryllium copper, silver plated.

COLORS: Red, Black, Yellow, Green, Blue, White. (Specify Color)

Daburn No.		Std. Pkg.
19-80	Wrap Around	25

BANANA JACK

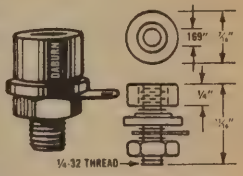


Hexed brass nickel plated hex nut and tinned copper lug. Has recessed head. Mounts in ¼" hole in panels up to ⅜" thick. Fits all standard banana plugs.

Rated: 15 amps AC.

Daburn No.		Std. Pkg.
17-03	Banana Jack	100

INSULATED BANANA JACK



Body is brass nickel plated, mounts in 5/16" hole in panels up to ⅜" thick. Comes thru with hex nut, tinned copper lug and fibre washer. Takes all standard banana plugs. Molded plastic head.

COLORS
Red, Black, Yellow, Green, Blue, (Specify)

DABURN No.	Description	Std. Pkg.
19-06	Insulated Jack	50

INSULATED BANANA JACK

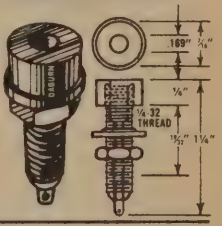


Body is brass nickel plated. Mounts in 5/16" hole in panels up to ⅜" thick. Comes thru with hex nut, tinned copper lug, lockwasher, fibre washer. Takes all standard banana plugs. Jack body is recessed for tight contact. Molded plastic head.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Description	Std. Pkg.
19-91	Insulated Jack	50

INSULATED JACK COMBINATION

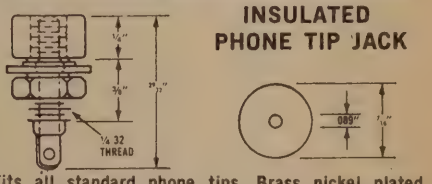


Will take senior phone tips or standard banana plugs Body is brass, nickel plated. Mounts in 5/16" hole in panels up to ½" thick. Springs are phosphor bronze. Comes thru with hex nut and fibre washer.

COLORS:
Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Description	Std. Pkg.
19-33	Insulated Combination Jack	50

INSULATED PHONE TIP JACK

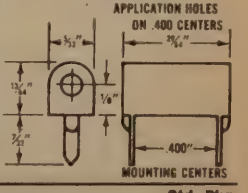


Fits all standard phone tips. Brass nickel plated body. Phosphor bronze spring provides positive contact. Comes thru complete with hex nut and fibre washer. Molded plastic head.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.		Std. Pkg.
19-07	Insulated Phone Tip Jack	50

PRINTED CIRCUIT TEST JACKS



Nylon bodies, designed for permanent, soldered connection to printed circuit boards. Beryllium copper contacts have gold over silver plate. Accepts .080" diameter per MIL F-14072, M301 test probes. For .052 application holes on .400 centers.

COLORS: Red, Black, Green, Yellow, Blue. Additional colors available.

DABURN No.		Std. Pkg.
19-77	Printed Circuit Jacket	25

© United Technical Publications

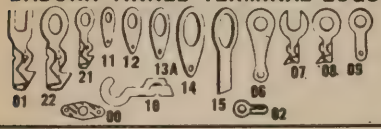
DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

LUGS — TERMINAL BOARDS, STRIPS BEARINGS • BUSHINGS • SPACERS

DABURN TINNED TERMINAL LUGS



Daburn No.	Hole Size	Material	L'gth	Thick-ness
101-11	6	Tinned Copper	17/32"	.015"
101-12	10	Tinned Copper	5/8"	.016"
101-13	.252	Tinned Copper	17/32"	.015"
101-13A	1/4	Tinned Copper	13/16"	.015"
101-14	3/8	Tinned Copper	7/8"	.016"
101-15	1/2	Hot Tin. Copper	1 3/16"	.024"
101-21	10	Hot Tin. Copper	3/4"	.020"
101-22	1/4	Hot Tin. Copper	1 1/16"	.025"
101-00	8	Brass Hot Tin.	"7/8	.015"
101-01	10	Brass Hot Tin.	23/32"	.020"
101-02	6	Brass Hot Tin.	5/8"	.020"
101-06	4-6-8-10	Brass Hot Tin.	7/8"	.020"
101-07	8	Tinned Copper	5/8"	.016"
101-08	4-6-8-10	Brass Hot Tin.	11/16"	.020"
101-09	4-6-8-10	Brass Hot Tin.	11/16"	.020"
101-10	10	Brass Hot Tin.	7/8"	.020"

Std. Pkg. 1000

TERMINAL LUGS



LOCKWASHER - BRASS - HOT TINNED

Daburn No.	Hole	Thickness	Length
101-40-4	4	.018"	7/8"
101-40-6	6	.018"	7/8"
101-40-8	8	.018"	7/8"
101-40-10	10	.018"	57/64"
101-40-14	1/4"	.018"	13/16"
101-41-4	4	.018"	47/64"
101-41-6	6	.018"	47/64"
101-41-8	8	.018"	47/64"
101-42-4	4	.018"	5/8"
101-42-6	6	.018"	5/8"
101-42-8	8	.018"	5/8"
101-43-4	4	.018"	23/32"
101-43-6	6	.018"	23/32"
101-43-8	8	.018"	23/32"
101-44-4	4	.018"	13/16"
101-44-6	6	.018"	13/16"
101-44-8	8	.018"	13/16"
101-44-10	10	.018"	53/64"
101-45-4	4	.018"	23/32"
101-45-6	6	.018"	23/32"
101-45-8	8	.018"	23/32"
101-46-4	4	.018"	41/64"
101-46-6	6	.018"	41/64"
101-46-8	8	.018"	41/64"

Std. Pkg. 1000

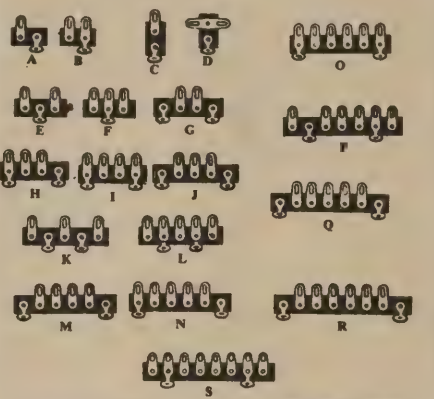
PANEL BEARINGS



Brass nickel plated. Same as used on the above bearing assemblies.

Daburn No.	Description	Std. Pkg.
14-370	3/16" Threaded Length	50
14-370A	13/32" Threaded Length	50
14-370B	3/8-32 Thread, 7/16" Threaded Length, 21/32" O.L.	50
14-370C	Miniature — 1/4-32 Thd., Threaded L'gth. 5/16", 3/8" O.L., .125" 11/32" Hex.	50

LUG TERMINAL STRIPS



STANDARD TYPE

Lugs are 3/8" centers with .140 diam. mounting holes. Lugs are 1/4" (.062") thick XP bakelite by 3/8" wide lugs. Special combinations available. Mount: .140 I.D. for no.6 screw.

MINIATURE TYPE

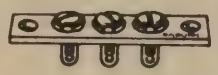
Lugs are 1/4" centers. Lugs are .062" thick XP bakelite x 5/16" wide. Steel cadmium plated. Mount: .096 I.D. for 3/32" rivet or No. 3 screw.

Std. Pkg. 100

Daburn No.	Illus-tration	Daburn No.
15-82	A	15-52
15-82A	B	15-52A
15-82B	C	15-52B
15-82C	D	15-52C
15-83	E	15-53
15-83A	F	15-53A
15-84	G	15-54
15-84A	H	15-54A
15-84B	I	15-54B
15-85	J	15-55
15-85A	K	15-55A
15-85B	L	15-55B
15-86	M	15-56
15-86A	N	15-56A
15-86B	O	15-56B
15-87	P	15-57
15-88	Q	15-58
15-89	R	15-59
15-90	S	15-60

BAKELITE TERMINAL BOARD
Screw Type

Terminals made of brass hot tinnned, mounted on X.P. Bakelite 5/8" wide x 1/16" thick, spaced 7/16" centers. Screws are 6-32 x 3/8" steel, cadmium plated.



Daburn No.	Termi-nals	Mtg. Center	Std. Pkg.
15-72	2	1 7/16"	50
15-73	3	1 3/4"	50
15-74	4	2 3/16"	50
15-75	5	2 5/8"	50
15-76	6	3 1/16"	50
15-77	7	3 1/2"	50
15-81	SHORTING LINK		100

DABURN TERMINAL BOARD
Heavy Duty

Terminals made of brass, cadmium plated .042" thick, spaced 1/2" centers. Mounted on XP bakelite 7/8" wide x 3/32" thick. Screws are 8-32 x 3/16" brass, nickel plated.

Daburn No.	Termi-nals	Mtg. Center	Std. Pkg.
15-61A	2	1 1/2"	25
15-61	3	2"	25
15-62	4	2 1/2"	25
15-63	5	3"	25
15-64	6	3 1/2"	25
15-65	7	4"	25
15-66	8	4 1/2"	25
15-67	9	5"	25
15-68	10	5 1/2"	25
15-69	11	6"	25
15-70	12	6 1/2"	25

DABURN BRASS BUSHINGS AND SPACERS



Suitable for raising sub panels, condensers, transformers, chassis, etc. Bushing hole accommodates a No. 4, No. 6 or No. 8 screw.

1/4" O.D.

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-320	14-315	14-310
3/8"	14-321	14-316	14-311
1/2"	14-322	14-317	14-312
3/4"	14-323	14-318	14-313
1"	14-324	14-319	14-314

Std. Pkg. 100

3/8" O.D.

1/4"	14-330	14-325	14-305
3/8"	14-331	14-326	14-306
1/2"	14-332	14-327	14-307
3/4"	14-333	14-328	14-308
1"	14-334	14-329	14-309

Std. Pkg. 100

THREADED BRASS SPACERS

Threaded spacers for 4-40, 6-32 and 8-32 application.

1/4" O.D.

Length	For 8-32 Cat. No.	For 6-32 Cat. No.	For 4-40 Cat. No.
1/4"	14-340	14-335	14-300
3/8"	14-341	14-336	14-301
1/2"	14-342	14-337	14-302
3/4"	14-343	14-338	14-303
1"	14-344	14-339	14-304

Std. Pkg. 100

DABURN FIBRE SPACERS

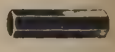
Fibre material per MIL-F-1148A, Grade CH.

1/4" O.D.

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-365	14-360	14-355
3/8"	14-366	14-361	14-356
1/2"	14-367	14-362	14-357
3/4"	14-368	14-363	14-358
1"	14-369	14-364	14-359

Std. Pkg. 100

DABURN HEX SPACERS
Brass Cadmium Plated



1/4" Hex

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-410	14-405	14-400
3/8"	14-411	14-406	14-401
1/2"	14-412	14-407	14-402
3/4"	14-413	14-408	14-403
1"	14-414	14-409	14-404

Std. Pkg. 100

3/8" Hex

1/4"	14-430	14-425	14-420
3/8"	14-431	14-426	14-421
1/2"	14-432	14-427	14-422
3/4"	14-433	14-428	14-423
1"	14-434	14-429	14-424

Std. Pkg. 100

THREADED BRASS HEX SPACERS

1/4" Hex

Length	Thread For 8-32 Cat. No.	Thread For 6-32 Cat. No.	Thread For 4-40 Cat. No.
1/4"	14-450	14-445	14-440
3/8"	14-451	14-446	14-441
1/2"	14-452	14-447	14-442
3/4"	14-453	14-448	14-443
1"	14-454	14-449	14-444

Std. Pkg. 100

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DABURN SOLDERLESS TERMINALS

Material is pure electrolytic copper with heavy cadmium plating, chromate finish resists corrosion and assures long shelf life — one piece design for maximum conductivity and strength. Beveled edges to facilitate wire insertion, barrels are full ¼" length, "V" grooves for wire protection.

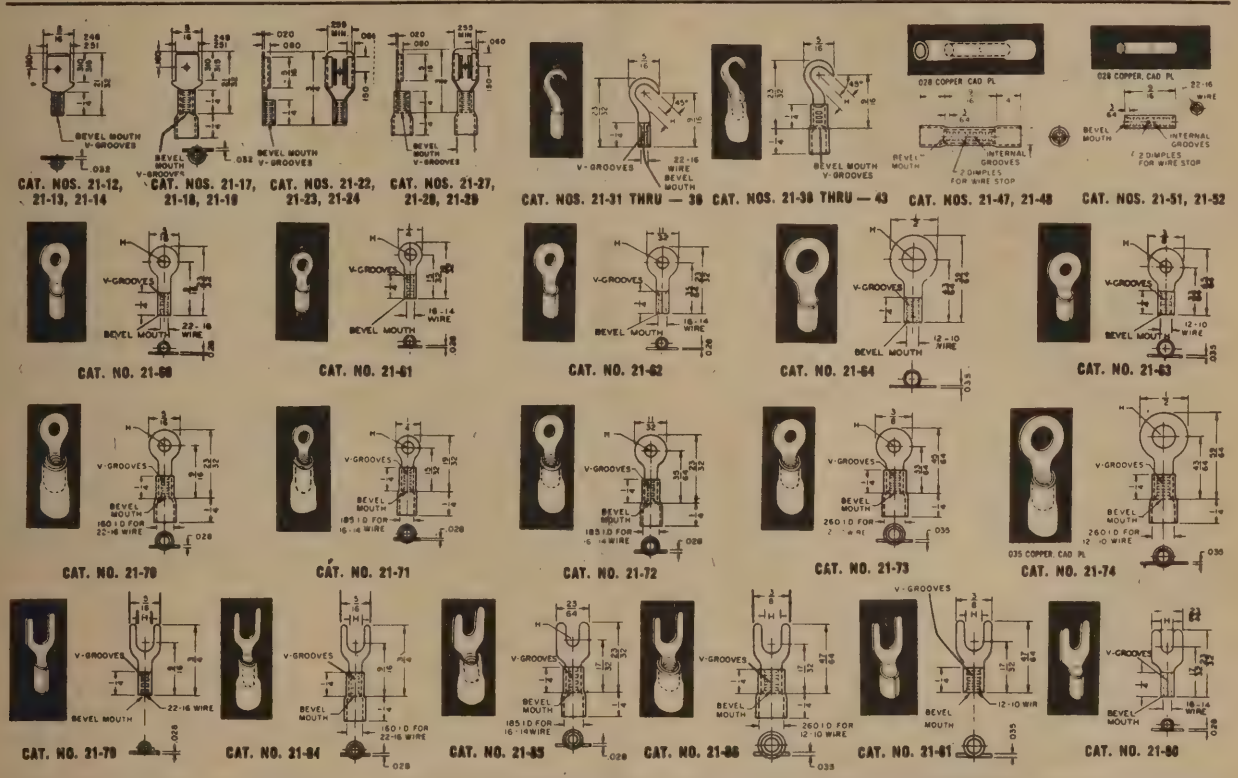
NON INSULATED • QUICK DISCONNECT TERMINALS

COLOR CODE: For matching to wire sizes.
RED: For 22-16 wire, .160" I.D. **BLUE:** For 16-14 wire, .185" I.D.
YELLOW: For 12-10 wire, .260" I.D.

Female disconnect terminals are .020" brass, cadmium plated. Male disconnect terminals are .032" copper, cadmium plated. Beveled mouth and "V" grooves plus full ¼" length barrels for all.

INSULATED TERMINALS • QUICK DISCONNECT TERMINALS

The insulated terminals have strong, permanently attached rigid vinyl insulating sleeves for increased vibration resistance.



QUICK DISCONNECT TERMINALS

NON-INSULATED

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-12	21-22	100
16-14	21-13	21-23	100
12-10	21-14	21-24	100

INSULATED

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-17	21-27	100
16-14	21-18	21-28	100
12-10	21-19	21-29	100

HOOK TONGUE

NON-INSULATED

Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-31	100
	8	21-32	100
16-14	6	21-34	100
	8	21-35	100
	10	21-36	100

INSULATED

Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-38	100
	8	21-39	100
16-14	6	21-41	100
	8	21-42	100
	10	21-43	100

RING TONGUE

NON-INSULATED

Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-60	100
16-14	4, 6	21-61	100
16-14	6, 8, 10	21-62	100
12-10	6, 8, 10	21-63	100
12-10	¼	21-64	100

INSULATED

Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-70	100
16-14	4, 6	21-71	100
16-14	6, 8, 10	21-72	100
12-10	6, 8, 10	21-73	100
12-10	¼	21-74	100

SPADE TONGUE

NON-INSULATED

Wire Size Range	"H" Stud Sizes Specify	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-79	100
16-14	4, 6, 8, 10	21-80	100
12-10	6, 8, 10	21-81	100

INSULATED

Wire Size Range	"H" Stud Sizes Specify	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-84	100
16-14	4, 6, 8, 10	21-85	100
12-10	6, 8, 10	21-86	100

BUTT CONNECTORS

NON-INSULATED

Wire Size Range	Catalog No.	I.D.	Stub Clearance	Standard Package
22-16	21-47	.140"	37/64	100
16-14	21-48	.170"	37/64	100

INSULATED

Wire Size Range	Catalog No.	I.D.	Stub Clearance	Standard Package
22-16	21-51	.140"	37/64	100
16-14	21-52	.170"	37/64	100

© United Technical Publications

DALE for Optimum Value in Connectors

SERIES EBT 156



PHYSICAL and ELECTRICAL

Number of Contacts: 8, 10, 12, 15, 18 or 22
Contact Spacing: .156"
Board Thickness: .054" to .070"
Board Slot Depth: .330"
Current Rating: 5 amps
Test Voltage between Contacts: At Sea Level: 1800 VRMS
At 70,000 feet: 450 VRMS
Insulation Resistance: 5000 meg. min.
Contact Resistance: 30 millivolts max. at rated current

COMPONENT MATERIAL

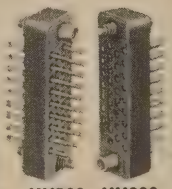
Body: Glass-filled phenolic per MIL-M-14, Type MFH, black
Contacts: Nickel silver per QQ-C-585, alloy 770, spring temper. Gold flash optional.
Polarizing Key: Glass-filled nylon
Optional Threaded Mounting Insert: Nickel plated brass. (Type Y)
Optional Floating Mounting Bushing: Cadmium plated brass. (Type Z)

APPLICATION For use with 1/16" printed circuit boards requiring an edgeboard type connector on .156" centers.

SERIES MM22 and MM24

PHYSICAL and ELECTRICAL

Number of Contacts: 5, 7, 9, 11, 14, 20, 26, 29, 34 and 44
Contact Spacing: 3/32"
Contact Gauge: MM22 Series = 22 gauge. • MM24 = 24 gauge
Minimum Creepage Path between contacts: 5/64"
Minimum Air Space between contacts: 3/64"
Current Rating: MM22 Series = 5 amps
MM24 Series = 3 amps
Breakdown Voltage: At Sea Level: 2000 VRMS
At 70,000 feet: 500 VRMS



MMP22 -34SL MMS22 -34SL

COMPONENT MATERIAL

Contact Pin: Phosphor Bronze
Contact Socket: Phosphor Bronze
Contact Plating: Gold over silver
Screwlocks: Stainless steel, passivated
Guides: Brass, gold plated



MMP22-5 MMS22-5

Standard Body: Glass-filled diallyl phthalate per MIL-P-19833, Type GDI-30, green. Other body material supplied upon request.

APPLICATIONS Especially suited for use in airborne, instrumentation and portable equipment applications or wherever the following requirements must be met: Minimum space and weight without sacrifice of performance, high quality materials, long service life, high vibration and shock resistance, and positive locking.

SERIES EBTL 050

PHYSICAL and ELECTRICAL

Number of Contacts: 8, 16, 20, 25, 32, 50 or 64 per side
Contact Spacing: .050"
Board Thickness: Size 1 = .027"-.035"
Size 2 = .056"-.068"



Board Slot Depth: .200"
Current Rating: 0.5 amp
Test Voltage between Contacts: At Sea Level: 1200 VRMS
At 50,000 feet: 675 VRMS
Insulation Resistance: 5000 meg. min.
Contact Resistance: 10 millivolts max. at rated current

COMPONENT MATERIAL

Body: Glass-filled phenolic per MIL-M-14, Type MFH, black
Contact Backer Strips: Epoxy glass laminate per MIL-P-18177, Type GEE, black
Contacts: Beryllium copper per QQ-C-533, alloy 172. Gold plate per MIL-G-45204.
Polarizing Key: Polycarbonate

APPLICATION For use with 1/32" and 1/16" printed circuit boards in integrated thin film, and semiconductor circuitry with .050" contact spacing.

SERIES EB 7

PHYSICAL and ELECTRICAL (Featuring Bifurcated Bellow Contacts)

Number of Contacts:
Single Row (Single Readout)—6, 10, 15, 18 and 22
Double Row (Double Readout)—12, 20, 30, 36 and 44
Contact Spacing: .156" **Board Thickness:** .054" to .070"
Board Insertion Depth:
Single Readout Contact—.300"
Double Readout Contact—.260"



Current Rating: 5 amps
Test Voltage between Contacts: At Sea Level: 1800 VRMS
At 70,000 feet: 450 VRMS
Insulation Resistance: 5000 meg. min.
Contact Resistance: 30 millivolts max. at rated current

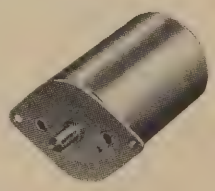
COMPONENT MATERIAL

Body: Glass-filled diallyl phthalate per MIL-P-19833, Type GDI-30F, green
Contacts: Phosphor Bronze per QQ-B-750 with .000030 min. gold plated
Polarizing Key: Nylon
Optional Threaded Mounting Insert: Brass, nickel plated
Optional Floating Mounting Bushing: Brass, cadmium plated

APPLICATION For use with 1/16" printed circuit boards requiring an edgeboard type connector on .156" centers.

DALE for Optimum Value in Electromechanical Products

REVERSIBLE AC HYSTERESIS SYNCHRONOUS MOTORS



SPECIFICATIONS

Operating Voltage: 6, 12, 24, 117 VAC
Power Input: 5.5 volt amps. Capacitor size dependent on input voltage (not supplied)
Output: Approximately 1800 RPM
Torque: 0.1 in./oz. min.
Shaft: .187 diameter
Motor Size: 1.25 diameter, 1.87 L
Bearings: Self-lubricating
Applications: For use in timers, fans, scanning devices, stirrers and other low power drives

REVERSIBLE AC GEARHEAD MOTORS

Driven by motor shown above—same inputs apply

OUTPUT RPM	OUTPUT TORQUE in./oz.	
	Magnetic Clutch	Direct Drive
2	30	65
5.3	17	28
7.5	14	23
10	11	18
19	5	12



Magnetic clutch eliminates coasting.

Applications: Ideal for light industrial and consumer product controls and drives

AC & DC STEPPING RELAYS UNI-DIRECTIONAL OR BI-DIRECTIONAL

SPECIFICATIONS SP SERIES



H = 2.25, W = 2.75, D = 2.0

Operating Voltage: 6, 12, 24, 117 (AC or DC)
Stepping Rate: 10 steps per second. 50 millisecond pulse
Contact Resistance: .025Ω maximum dry circuit
Contact Rating: 1 amp at 24 VAC, .1 amp at 117 VAC
Duty: Continuous
Power Requirements: AC models 2.2 VA—.6 watts
DC models 2.5 watts
Steps: 4, 5, 6, 10, 12, 13 continuous rotation or selectable stops
Available with SPST snap-action power switch, rated 5 amp at 117 VAC

SPECIFICATIONS SW SERIES

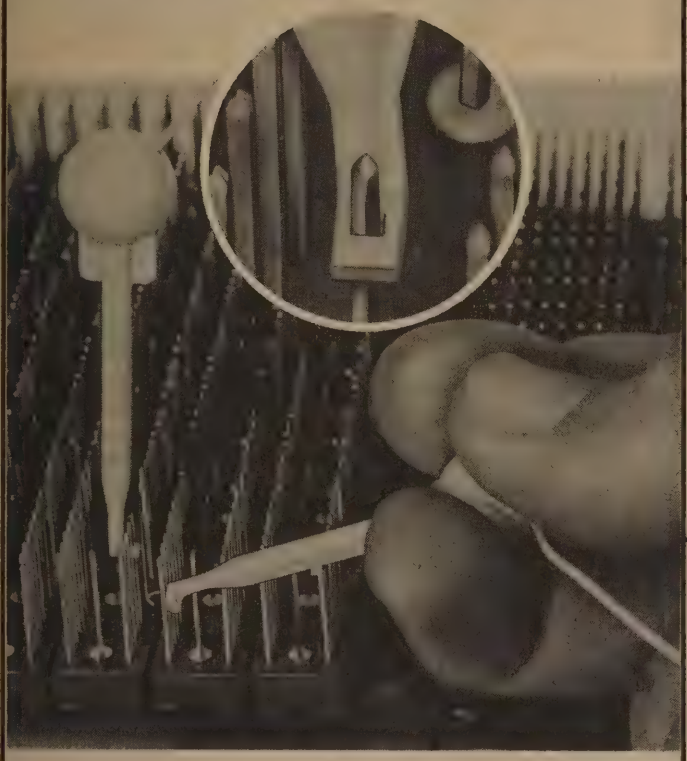


H = 2.25, W = 1.9, D = 2.0

Operating Voltage: 6, 12, 24, 117 (AC or DC)
Stepping Rate: 10 steps per second. 50 millisecond pulse
Contact Resistance: .010Ω maximum dry circuit
Contact Rating: 1 amp at 24 VAC, .5 amp at 117 VAC
Duty: Continuous
Power Requirements: AC models 6.5 VA—1.8 watts
DC models 5 watts
Steps: 2, 3, 4, 6 and 12 (Single Pole) Up to 6 Double Pole
Application: Excellent for control circuits
Available with one or two "A" form switches or one "C" form switch with 5 amp rating at 117 VAC

© United Technical Publications

E-Z-HOOK® THE IMPOSSIBLE HOOKER

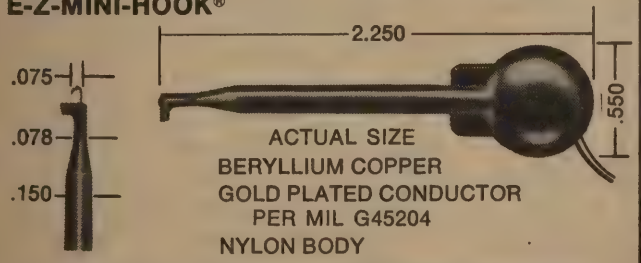


Now, jumper or test your Wire-Wrap* circuits easily and instantly with E-Z-HOOK connectors. Miniature reliable clip with spring action insures secure connection, making miniature hook-ups short-free and efficient. Saves time, cuts cost.

E-Z-HOOK "Hypo-Action" slides vertically onto Wire-Wrap* pins or hooks on laterally. Features beryllium copper, gold plated conductor with insulated durable Nylon body to point of contact.

*Reg. T.M. Gardner Denver

E-Z-MINI-HOOK®



COLORS: RED, BLACK, BLUE, GREEN, ORANGE, YELLOW, WHITE, BROWN, VIOLET, GRAY & TAN.

E-Z-MINI-HOOK®



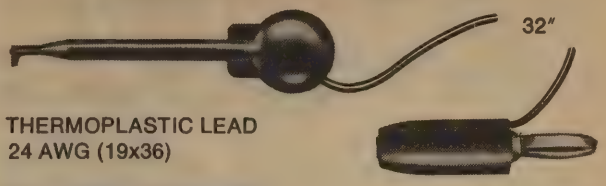
WITHOUT LEAD

COLORS: All (Specify)

No. X-100W (illustrated) **$ .64** ea **No. X-100 $ .59** ea

Finger-ease washers available separately.
Part No. 200 Packed 100 per bag $5.00 ea. bag

E-Z-MINI HOOK® TO STACKING BANANA PLUG

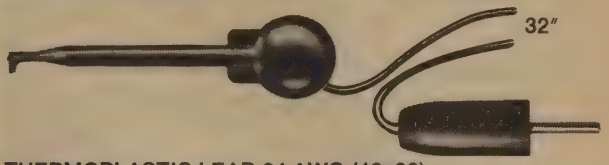


THERMOPLASTIC LEAD
24 AWG (19x36)

COLORS: All (Specify)

No. 201W (with washer) **$1.14** ea **No. 201 $1.09** ea

E-Z-MINI-HOOK® TO TIP PLUG (.081)

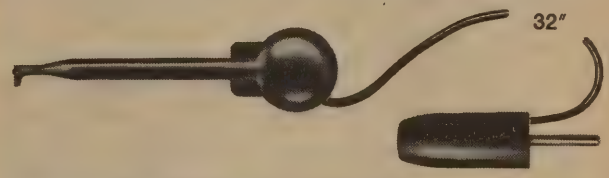


THERMOPLASTIC LEAD 24 AWG (19x36)

COLORS: All (Specify)

No. AX-1W (with washer) **$1.04** ea **No. AX-1 $ .99** ea

E-Z-MINI HOOK® TO STACKING TIP PLUG (.081)

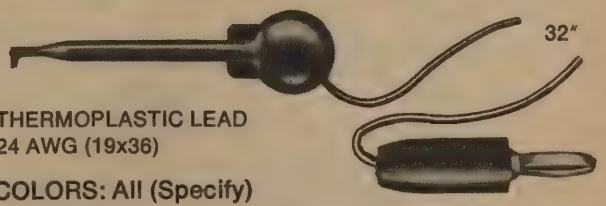


THERMOPLASTIC LEAD 24 AWG (19x36)

COLORS: All (Specify)

No. 202W (with washer) **$1.14** ea **No. 202 $1.09** ea

E-Z-MINI-HOOK® TO BANANA PLUG

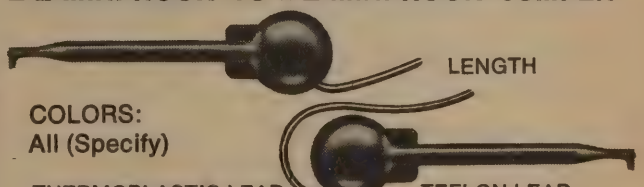


THERMOPLASTIC LEAD
24 AWG (19x36)

COLORS: All (Specify)

No. BX-1W (with washer) **$1.04** ea **No. BX-1 $ .99** ea

E-Z-MINI-HOOK® TO E-Z-MINI-HOOK® JUMPER



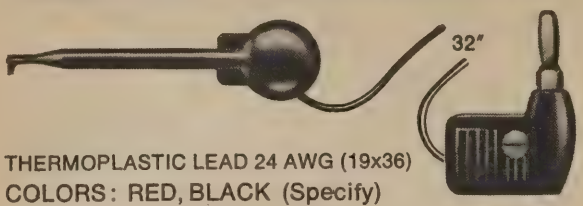
COLORS:
All (Specify)

THERMOPLASTIC LEAD		TEFLON LEAD	
No. / Length	Net ea.	No. / Length	Net ea.
204 — 6	**$1.35**	**304 — 6**	**$1.45**
204 — 12	**1.35**	**304 — 12**	**1.45**
204 — 18	**1.35**	**304 — 18**	**1.45**
204 — 24	**1.35**	**304 — 24**	**1.45**
204 — 36	**1.35**	**304 — 36**	**1.55**
204 — 48	**1.35**	**304 — 48**	**1.65**
204 — 60	**1.35**	**304 — 60**	**1.75**

No. 204 and No. 304 series available with finger-ease washers @ .10 extra. Add W after length (204-6W) when ordering.

E-Z-HOOK TEST PRODUCTS

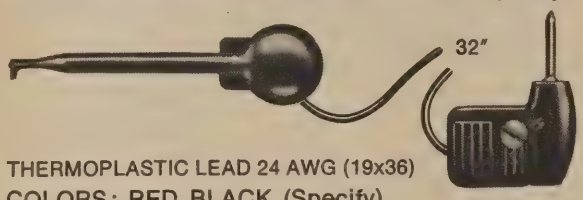
E-Z-MINI-HOOK® TO METER BANANA PLUG



THERMOPLASTIC LEAD 24 AWG (19x36)
COLORS: RED, BLACK (Specify)

No. 205W (with washer) **$1.24** ea **No. 205** **$1.19** ea

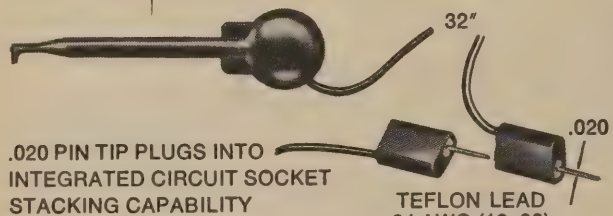
E-Z-MINI-HOOK® TO METER PIN PLUG (.080)



THERMOPLASTIC LEAD 24 AWG (19x36)
COLORS: RED, BLACK (Specify)

No. 206W (with washer) **$1.24** ea **No. 206** **$1.19** ea

E-Z-MINI-HOOK® TO .020 STACKING PIN



.020 PIN TIP PLUGS INTO INTEGRATED CIRCUIT SOCKET
STACKING CAPABILITY
TEFLON LEAD 24 AWG (19x36)
COLORS: All (Specify)

No. 307W (with washer) **$1.70** ea **No. 307** **$1.65** ea

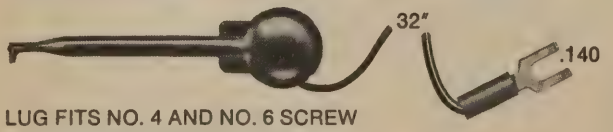
E-Z-MINI-HOOK® TO INSULATED SPADE LUG



LUG FITS STANDARD BINDING POST
COLORS: RED, BLACK (Specify)

No. 208W (with washer) **$ .94** ea **No. 208** **$ .89** ea

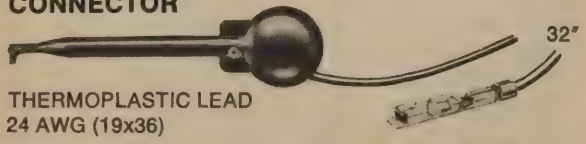
E-Z-MINI-HOOK® TO INSULATED SPADE LUG



LUG FITS NO. 4 AND NO. 6 SCREW
COLORS: RED, BLACK (Specify)

No. 209W (with washer) **$ .94** ea **No. 209** **$ .89** ea

E-Z-MINI-HOOK® TO SQUARE WIRE-WRAP® CONNECTOR



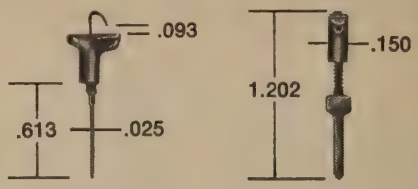
THERMOPLASTIC LEAD 24 AWG (19x36)

CONNECTOR SLIPS OVER .025 SQUARE WIRE-WRAP®* TERMINATION
*Registered Trademark of Gardner-Denver

COLORS: All (Specify)

No. 203W (with washer) **$1.04** ea **No. 203** **$ .99** ea

HARNESS BOARD CLIPS



Save up to 30% in board construction time E-Z-HOOK® "NAIL" CLIP® drives into wood like a nail and pulls out as easily. Smooth, tough stainless E-Z-HOOK® holds firmly against durable nylon—Won't cut, nick or damage wire ends. Easy finger tip operation speeds wire placing.

COLOR: RED

No. 81-1	**E-Z-HOOK® "NAIL" CLIP®**	**$ .25** ea.
No. 81-4	**For #14 Wire**	**.25** ea.
No. K8150T	**(50 Clips, Tool & Instr.)**	**9.95** ea.
No. T-20	**Nail Driving Tool**	**.35** ea.

BNC MALE TO SINGLE E-Z-MINI-HOOK®



Connector: BNC Plug, Bright Finish
Cable: RG58C/U or MIC
Clip: E-Z-MINI-HOOK®, Gold Plated, Beryllium Copper Conductor, Nylon Body, All Colors (Specify)

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1023 — 18	**1023 — 30**	**1023 — 48**	
1023 — 24	**1023 — 36**	**1023 — 60**	**$5.75** ea.*

Note: For MIC Cable, use prefix 2023.

UHF MALE TO SINGLE E-Z-MINI-HOOK®



Connector: UHF Plug, Bright Finish
Cable: RG58C/U
Clip: E-Z-MINI-HOOK®, Gold Plated, Beryllium Copper Conductor, Nylon Body, All Colors (Specify)

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1033 — 18	**1033 — 30**	**1033 — 48**	
1033 — 24	**1033 — 36**	**1033 — 60**	**$5.75** ea.*

STACKING DOUBLE BANANA PLUG TO SINGLE E-Z-MINI-HOOK®



Connector: Double STACKING Banana Plug
Cable: RG58C/U, MIC or Twisted Pair
Clip: E-Z-MINI-HOOK®, Gold Plated, Beryllium Copper Conductor, Nylon Body, All Colors (Specify)

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1053 — 18	**1053 — 30**	**1053 — 48**	
1053 — 24	**1053 — 36**	**1053 — 60**	**$5.75** ea.*

Note: For MIC Cable, use prefix 2053.
For Twisted Pair, use prefix 3053.

Net

© United Technical Publications

BNC FEMALE TO E-Z-MINI-HOOKS®



Connector: BNC Female, Bright Finish
Wire: 20 AWG (105 x 40) Thermoplastic—Flexible
Clips: E-Z-MINI-HOOK®, Gold plated, Beryllium Copper Conductor, Nylon Body
Overall Length: 7″

No. 1001 **$3.95** ea.*

BNC MALE TO E-Z-MINI-HOOKS®



Connector: BNC Plug, Bright Finish
Wire: 20 AWG (105 x 40) Thermoplastic—Flexible
Clips: E-Z-MINI-HOOK®, Gold plated, Beryllium Copper Conductor, Nylon Body
Overall Length: 7″

No. 1010 **$4.95** ea.*

BNC MALE TO E-Z-MINI-HOOK®



Connector: BNC Plug, Bright Finish
Cable: RG58C/U or MIC
Clips: E-Z-MINI-HOOKS®, Gold plated, Beryllium Copper Conductor, Nylon Body

NO. / LENGTH	NO. / LENGTH	NO. / LENGTH	
1020 — 18	**1020 — 30**	**1020 — 48**	
1020 — 24	**1020 — 36**	**1020 — 60**	**$6.25** ea.*

Note: For MIC Cable, use prefix 2020

UHF MALE TO E-Z-MINI-HOOK®



Connector: UHF Plug, Bright Finish
Cable: RG58C/U
Clips: E-Z-MINI-HOOKS®, Gold plated, Beryllium Copper Conductor, Nylon Body

NO. / LENGTH	NO. / LENGTH	NO. / LENGTH	
1030 — 18	**1030 — 30**	**1030 — 48**	
1030 — 24	**1030 — 36**	**1030 — 60**	**$6.25** ea *

E-Z-MINI-HOOK® BOTH ENDS



Clips: E-Z-MINI-HOOKS® both ends, Gold plated, Beryllium Copper Conductors, Nylon Bodies.
Cable: RG58C/U, MIC or Twisted Pair

NO. / LENGTH	NO. / LENGTH	NO. / LENGTH	
1040 — 24	**1040 — 36**	**1040 — 60**	
1040 — 30	**1040 — 48**		**$6.25** ea *

Note: For MIC Cable, use prefix 2040, for Twisted Pair, use prefix 3040

DOUBLE BANANA TO E-Z-MINI-HOOKS®

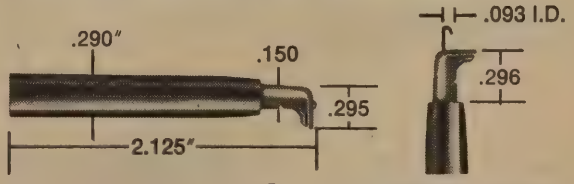


Connector: Double Banana Plug
Cable: RG58C/U, MIC or Twisted Pair
Clips: E-Z-MINI-HOOKS®, Gold plated, Beryllium Copper Conductor, Nylon Body

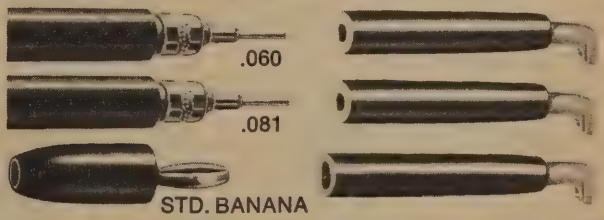
NO. / LENGTH	NO. / LENGTH	NO. / LENGTH	
1050 — 18	**1050 — 30**	**1050 — 48**	
1050 — 24	**1050 — 36**	**1050 — 60**	**$6.25** ea *

Note: For MIC Cable, use prefix 2050, for Twisted Pair, use prefix 3050

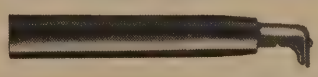
DIMENSIONS FOR E-Z-HOOK® CLIP AND TEST PROD ADAPTORS



COLORS: RED, BLACK, BLUE, GREEN, ORANGE, YELLOW, WHITE, BROWN, VIOLET, & GRAY.



E-Z-HOOK® TEST PROD ADAPTORS



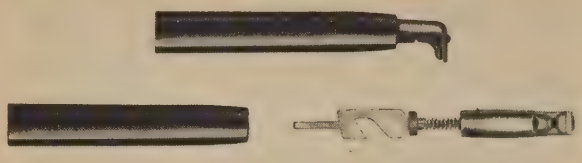
GOLD PLATED CONDUCTOR, DURABLE NYLON INSULATION

Wobble free fit on prod doubles test prod utility
Remote connections made easily—safe from shock
COLORS: Red, Black, Blue, Green, Orange, Yellow, White, Brown, Violet, and Gray.

No. 55-0 E-Z-HOOK® TIP (NEEDLE .060) $ .79 ea.
No. 56-1 E-Z-HOOK® TIP (STANDARD .081) .79 ea.
No. 59-4 E-Z-HOOK® TIP (BANANA-STANDARD) .79 ea.

*Prices include the finger-ease washers.

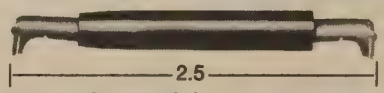
E-Z-HOOK® CLIPS



Easy slip-on design saves in assembly—safe solder connection with strain relief assures trouble free lead life.
Durable Nylon in colors for identification
Conductor, Gold Plated
COLORS: Red, Black, Blue, Green, Orange, Yellow, White, Brown, Violet, and Gray.

No. 61 **$.49** ea.
Note: Replaces 61-1 and 61-2

E-Z-HOOK® PART SUBSTITUTION CLIPS

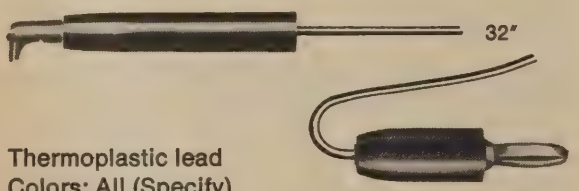


Eliminate guessing—quick, easy temporary connections in seconds—No lead twisting or solder tacking to damage parts or wiring.

SPEEDS TROUBLE SHOOTING—
SAVES TIME AND MONEY
COLORS: Red, Black, Blue, Green, Orange, Yellow, White, Brown, Violet, and Gray.

No. 71-1 **$ .69** ea.

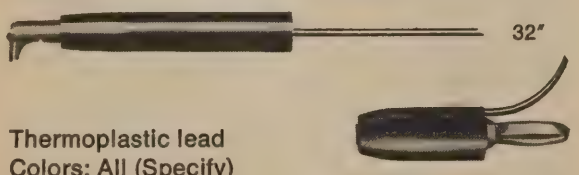
E-Z-HOOK® CLIP TO BANANA PLUG



Thermoplastic lead
Colors: All (Specify)

No. 260 **$.90** ea.

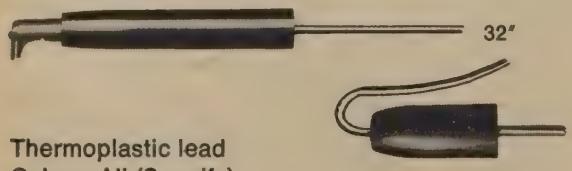
E-Z-HOOK® CLIP TO STACKING BANANA PLUG



Thermoplastic lead
Colors: All (Specify)

No. 261 **$1.05** ea.

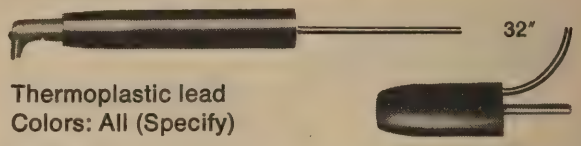
E-Z-HOOK® CLIP TO TIP PLUG (.081)



Thermoplastic lead
Colors: All (Specify)

No. 262 **$.90** ea.

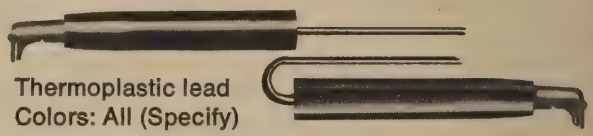
E-Z-HOOK® CLIP TO STACKING TIP PLUG (.081)



Thermoplastic lead
Colors: All (Specify)

No. 263 **$1.05** ea.

E-Z-HOOK® CLIP TO E-Z-HOOK CLIP JUMPER

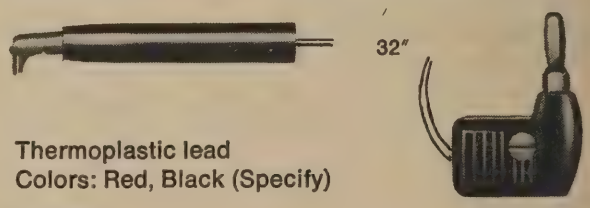


Thermoplastic lead
Colors: All (Specify)

NO./LENGTH	NO./LENGTH	NO./LENGTH
264 — 6	**264 — 24**	**264 — 48**
264 — 12	**264 — 36**	**264 — 60**
264 — 18		

$1.20 ea.

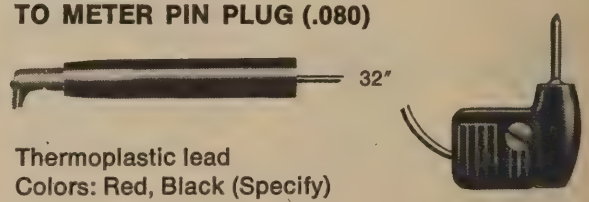
E-Z-HOOK® CLIP TO METER BANANA PLUG



Thermoplastic lead
Colors: Red, Black (Specify)

No. 265 **$1.15** ea.

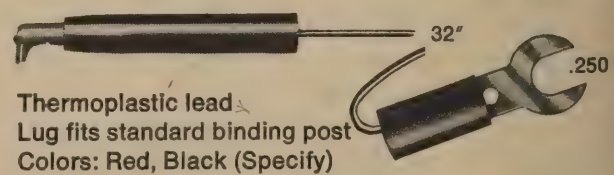
E-Z-HOOK® CLIP TO METER PIN PLUG (.080)



Thermoplastic lead
Colors: Red, Black (Specify)

No. 266 **$1.15** ea.

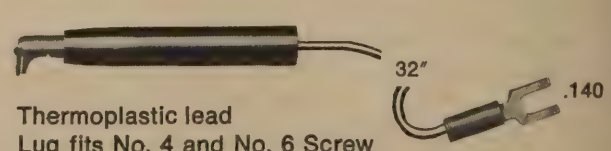
E-Z-HOOK® CLIP TO INSULATED SPADE LUG



Thermoplastic lead
Lug fits standard binding post
Colors: Red, Black (Specify)

No. 268 **$.85** ea.

E-Z-HOOK® CLIP TO INSULATED SPADE LUG



Thermoplastic lead
Lug fits No. 4 and No. 6 Screw
Colors: Red, Black (Specify)

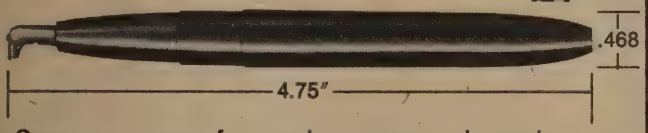
No. 269 **$.85** ea.

Net

© United Technical Publications

E-Z-HOOK® SCOPE METER PROBE

CUSTOM Probes assembled in minutes
Featherweight construction ⅓ oz.



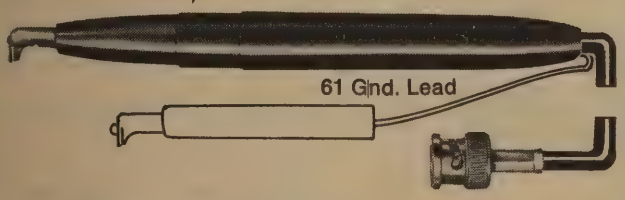
Screw on cover for ready access and repair
Special terminals speed assembly



RED, BLACK, BLUE, GREEN, ORANGE AND SILVER

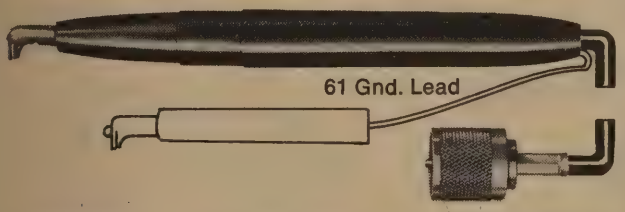
No. 54 E-Z-HOOK® CUSTOM PROBE $ .99 ea.
Note: Replaces 54-1 and 54-2

SCOPE METER PROBE TO BNC MALE



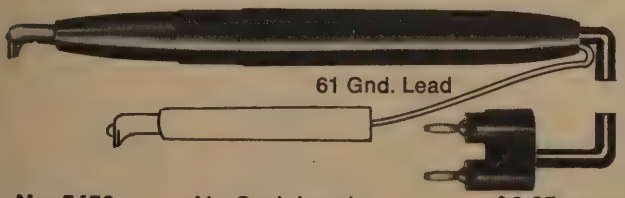
No. 5420	No Gnd. Lead	**$6.25 ea.**
No. 5421	With 61 Gnd. Lead	**6.75 ea.**

SCOPE METER PROBE TO UHF MALE



No. 5430	No Gnd. Lead	**$6.25 ea.**
No. 5431	With 61 Gnd. Lead	**6.75 ea.**

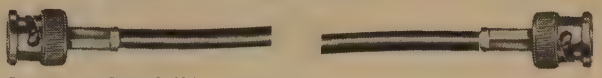
SCOPE METER PROBE TO DOUBLE STACKING BANANA



No. 5450	No Gnd. Lead	**$6.25 ea.**
No. 5451	With 61 Gnd. Lead	**6.75 ea.**

Note: 5400 Series available in 18, 24, 30, 36, 48 and 60 inch lengths. Add desired length after part number (5421-24).

BNC MALE TO BNC MALE



Cable: RG58C/U or MIC

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1026 — 6	**1026 — 24**	**1026 — 48**	
1026 — 12	**1026 — 30**	**1026 — 60**	
1026 — 18	**1026 — 36**		**$5.95 ea.**

Note: For MIC Cable, use prefix 2026.

BNC MALE TO UHF MALE



Cable: RG58C/U

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1027 — 6	**1027 — 24**	**1027 — 48**	
1027 — 12	**1027 — 30**	**1027 — 60**	
1027 — 18	**1027 — 36**		**$5.95 ea.**

BNC MALE TO STACKING DOUBLE BANANA



Cable: RG58C/U

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1028 — 6	**1028 — 24**	**1028 — 48**	
1028 — 12	**1028 — 30**	**1028 — 60**	
1028 — 18	**1028 — 36**		**$5.95 ea.**

UHF MALE TO UHF MALE



Cable: RG58C/U

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1036 — 6	**1036 — 24**	**1036 — 48**	
1036 — 12	**1036 — 30**	**1036 — 60**	
1036 — 18	**1036 — 36**		**$5.95 ea.**

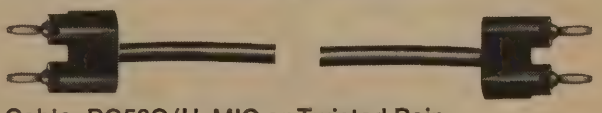
UHF MALE TO STACKING DOUBLE BANANA



Cable: RG58C/U

NO./LENGTH	NO./LENGTH	NO./LENGTH	
1037 — 6	**1037 — 24**	**1037 — 48**	
1037 — 12	**1037 — 30**	**1037 — 60**	
1037 — 18	**1037 — 36**		**$5.95 ea.**

STACKING DOUBLE BANANA TO STACKING DOUBLE BANANA



Cable: RG58C/U, MIC or Twisted Pair

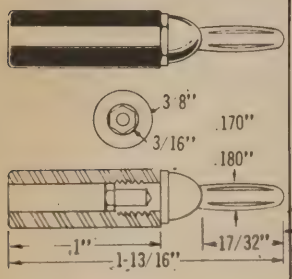
NO./LENGTH	NO./LENGTH	NO./LENGTH	
1056 — 6	**1056 — 24**	**1056 — 48**	
1056 — 12	**1056 — 30**	**1056 — 60**	
1056 — 18	**1056 — 36**		**$5.95 ea.**

Note: For MIC Cable, use prefix 2056
For Twisted Pair use prefix 3056.

ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA PLUGS

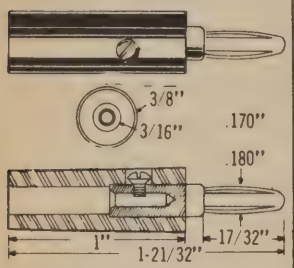
BANANA PLUG



DESC: Hex brass body, separate internal brass stud for solderless or soldered connection.
RATING: 15 amps AC for 10 degrees C Temp. rise continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze nickel plated spring.

Net per C 30.00		Net per C 25.00	
No.	Color	No.	Color
33-000	Red	33-002	Blk

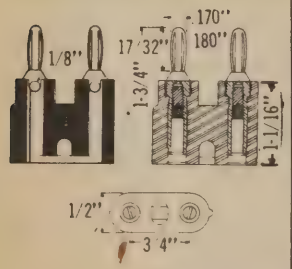
BANANA PLUG



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze nickel plated spring.

		Net per C 25.00	
No.	Color	No.	Color
33-006	Red	33-008	Blk

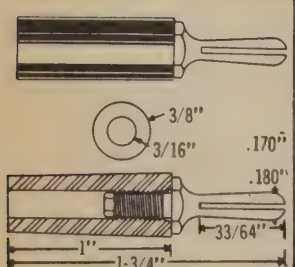
DUAL BANANA PLUG



DESC: Brass, nickel plated plug. Mates with standard dual binding posts.
RATING: 15 amps AC for 10 degrees C Temp. rise, continuous duty.
BODY: Molded cycoloc plastic, per MIL-M-22544, type 4.
TIPS: Four leaved, phosphor bronze nickel plated springs.

		Net per C 72.00	
No.			
33-010			

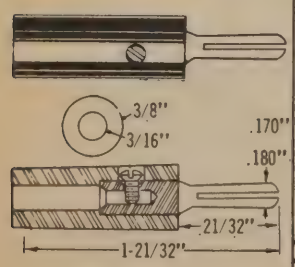
BANANA PLUG



DESC: Separate internal brass stud for solderless or soldered connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Cross slotted, nickel plated brass.

		Net per C 22.00	
No.	Color	No.	Color
33-012	Red	33-014	Blk

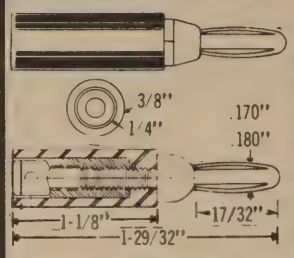
BANANA PLUG



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Cross slotted, nickel plated brass..

		Net per C 20.00	
No.	Color	No.	Color
33-018	Red	33-020-BU	Blk

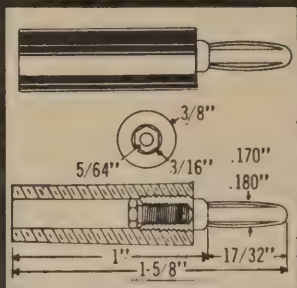
BANANA PLUG



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, nickel plated phosphor bronze spring.

		Net per C 45.00	
No.	Color	No.	Color
33-028-1	Red	33-028-2	Blk

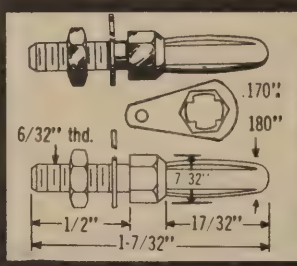
BANANA PLUG



DESC: Wire solders to stud; or brass stud locks wire in place for solderless connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, nickel plated, phosphor bronze spring.

		Net per C 25.00	
No.	Color	No.	Color
33-032-1	Red	33-032-2	Blk

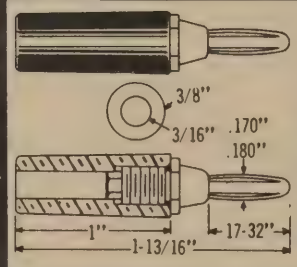
BANANA PLUG



DESC: Threaded shank type, supplied with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze nickel plated spring.

		Net per C 25.00	
No.			
33-034-			

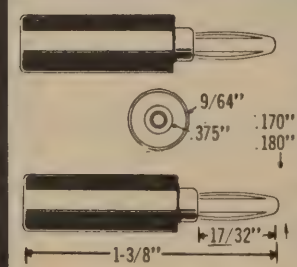
INSULATED BANANA PLUG



DESC: Nickel plated brass plug, fits standard Banana Jack.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved beryllium copper, nickel plated spring.

		Net per C 35.00	
No.	Color	No.	Color
33-036-1	Red	33-036-2	Blk

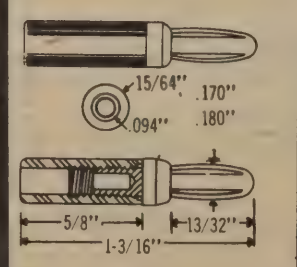
INSULATED BANANA PLUG



DESC: Solderless connection, nickel plated brass plug. Fits standard Banana Jack.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Nylon, per MIL-P-20693A.
TIP: Four leaved beryllium copper nickel plated spring.

		Net per C 2.90	
No.	Color	No.	Color
33-037-1	Red	33-037-2	Blk

BANANA PLUG



DESC: Midget type; lead wire connection solders to drilled body.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze, nickel plated spring.

		Net per C 25.00	
No.	Color	No.	Color
33-024	Red	33-026	Blk

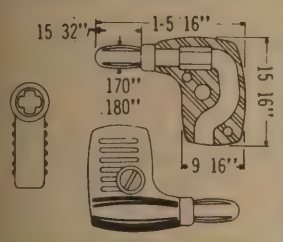
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net © United Technical Publications

GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA PLUGS

ILLUSTRATIONS	DESCRIPTION

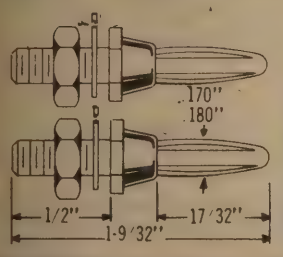


BANANA PLUG

DESC: Right angle "Gun" Tip (meter plug), lead wire solders to body.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded plastic, per MIL-P-14 CFG.
TIP: Four leaved, phosphor bronze, nickel plated springs.

Net per C 40.00

No.	Color	No.	Color
33-046	Red	33-048	Blk

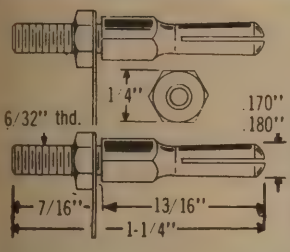


BANANA PLUG

DESC: All metal, threaded shank type, with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, nickel plated phosphor bronze spring.

Net per C 25.00

No.		
33-058		

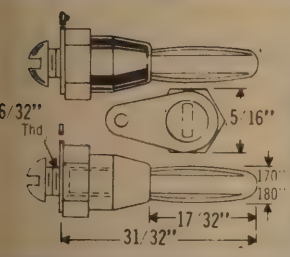


BANANA PLUG

DESC: Threaded shank type, supplied with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Cross slotted, brass nickel plated.

Net per C 17.00

No.		
33-060		

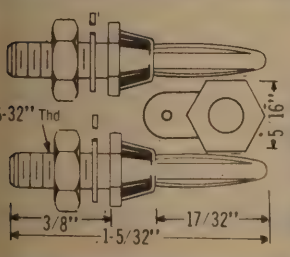


BANANA PLUG

DESC: Panel mounting type, number 6-32 tapped body; with screw and terminal lug.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze, nickel plated spring.

Net per C 25.00

No.		
33-062		

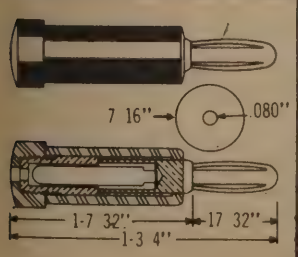


BANANA PLUG

DESC: Threaded shank type, with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze, nickel plated spring.

Net per C 25.00

No.		
33-064		



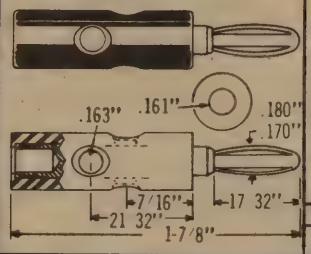
BANANA PLUG ADAPTOR

DESC: Adapts tip plug to banana plug. ends are standard tip jack and banana plug.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Standard tip jack one end; other end four leaved banana plug.

Net per C 50.00

No.	Color	No.	Color
33-072	Red	33-074	Blk

ILLUSTRATIONS	DESCRIPTION

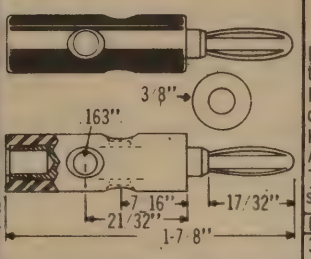


STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved phosphor bronze, nickel plated spring.

Net per C 35.00

No.	Color	No.	Color
33-084-1	Red	33-084-2	Blk



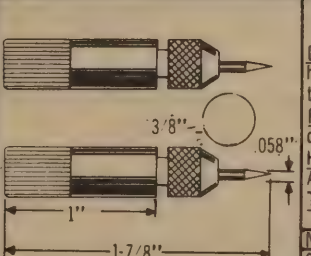
STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved beryllium copper, nickel plated spring.

Net per C 44.00

No.	Color	No.	Color
33-086-1	Red	33-086-2	Blk

TIP PLUGS

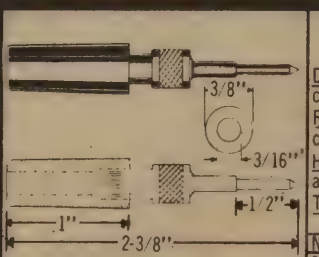


PHONO NEEDLE TIP PLUG

DESC: Nickel plated brass body, chuck design to hold .058 replaceable phono needle. Wire solders to body.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Phono needle, brass alloy.

Net per C 25.83

No.	Color
33-100	Red

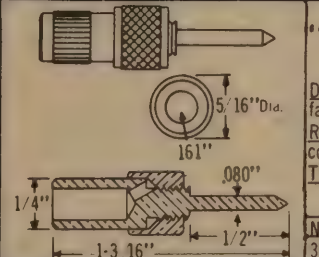


INSULATED TIP PLUG

DESC: Solderless type, wire tightens under knurled collar; machined brass body, nickel plated.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Phono needle, brass alloy.

Net per C 17.00

No.	Color	No.	Color
33-106	Red	33-108	Blk

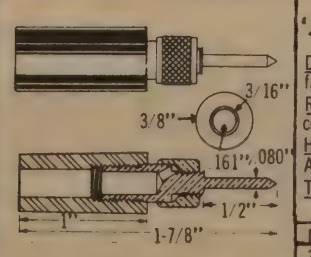


"JR." SOLDERLESS PHONE TIP

DESC: Press fit, nickel plated brass body; wire fastens under knurled collar.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
TIP: Brass, nickel plated..

Net per C 15.00

No.		
33-142		



'JR." SOLDERLESS PHONE TIP

DESC: Threaded nickel plated brass body. Wire fastens under knurled collar.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated.

Net per C 17.00

No.	Color	No.	Color
33-144-1	Red	33-144-2	Blk

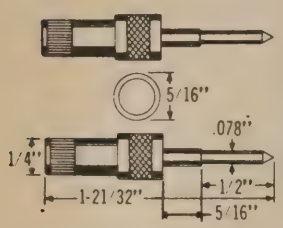
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

TIP PLUGS

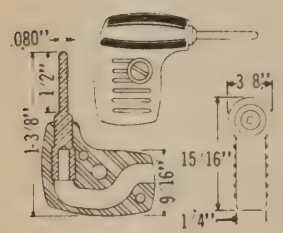
SOLDERLESS TIP PLUG



DESC: All metal; wire fastens under knurled collar.
BODY: Precision machined brass, nickel plated.
TIP: Brass, nickel plated.

No.	Net per C 15.00
33-146	

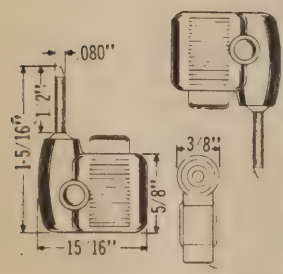
RIGHT ANGLE TIP PLUG



DESC: Right angle "gun" tip (meter plug). Lead wire solders to body.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Plastic, per MIL-P-14 CFG.
TIP: Brass, nickel plated.

		Net per C 30.00	
No.	Color	No.	Color
33-128	Red	33-130	Blk

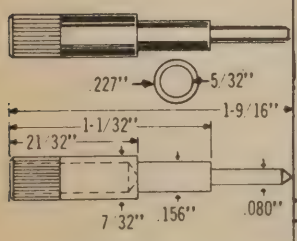
"TRIGGER-QUIK" TIP PLUG



DESC: Right angle plug, spring loaded solderless wire connection.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Plastic, per MIL-P-14 CFG.
TIP: Brass, nickel plated

		Net per C 39.00	
No.	Color	No.	Color
33-132	Red	33-134	Blk

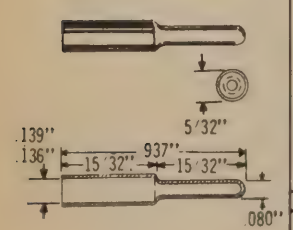
HEAVY DUTY PHONE TIP PLUG



DESC: Knurled shank for press fit into Test Prod handles, drilled with 7/32" hole; extra large well for lead wires up to No. 10 gauge; solder connection.
BODY: Brass, nickel plated.
TIP: Brass, nickel plated phone tip.

No.	Net per C 13.00
33-152	

STANDARD HOLLOW PHONE TIP

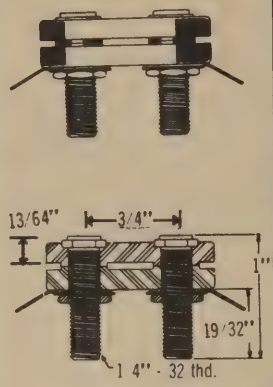


DESC: Solder type, hollow design.
BODY: Drawn brass, nickel plated.
TIP: Hollow, brass, nickel plated.

No.	Net per C 1.70
33-154	

BANANA & TIP PLUG JACKS

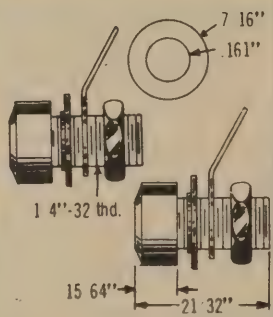
DUAL BANANA JACK



DESC: Mounts in 2 - 3/8" holes on 3/4" centers in panel up 1 4" thick. Accepts standard and dual banana plugs. Solder connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. Capacitance 2.0 mmfd. between conductors, 4.0 mmfd. to panel.
HEAD: Insulated, molded black styrene, per MIL-L-P416, type 1.
BODY: Brass, nickel plated.

No.	Net per C 50.00
33-179	

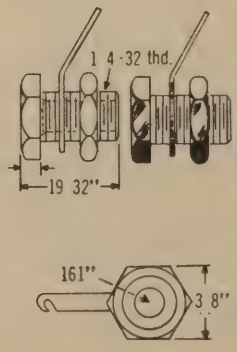
BANANA JACK



DESC: Mounts in 5/16" hole. Fits panel up to 3/8" thick. Accepts Standard Banana Plug.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Melamine MIL-14F, type CMC.
BODY: Brass, nickel plated; with tinned solder lug.

		Net per C 15.00	
No.	Color	No.	Color
33-180	Red	33-182	Blk

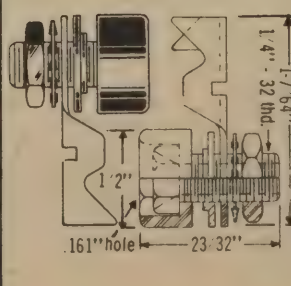
BANANA JACK



DESC: Mounts in 1/4" hole and fits panel up to 3/8" thick. Accepts standard banana plugs.
BODY: Brass, nickel plated; with tinned solder lug.

No.	Net per C 15.00
33-184	

HEAVY DUTY BANANA JACK



DESC: Exclusive hex design prevents turning in assembly; with fibre insulating washer.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic per MIL-P-14 CFG.
BODY: Brass, nickel plated; with heavy duty solder lug.

		Net per C 18.00	
No.	Color	No.	Color
33-186	Red	33-188 BU	Blk

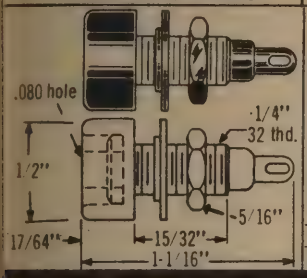
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net
© United Technical Publications

ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA & TIP PLUG JACKS

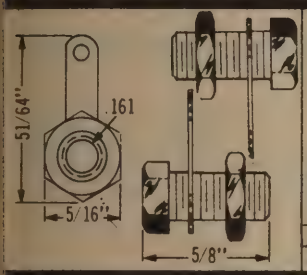
ILLUSTRATIONS	DESCRIPTION



TIP JACK

DESC: Positive-hold hex lock between molded head and jack body. Exclusive hex design prevents turning in assembly. Insulated.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic, per MIL-P-14 CFG.
BODY: Brass, nickel plated.

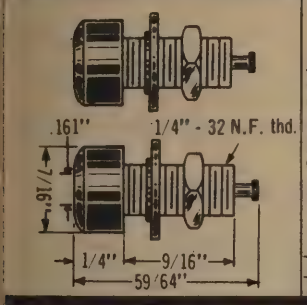
		Net per C 23.00	
No.	Color	No.	Color
33-190-1	Red	33-190-2	Blk



BANANA JACK

DESC: All metal body, with hex mounting nut. Mounts in 1/4" hole; fits panel up to 3/8".
BODY: Brass, nickel plated with tinned solder lug.

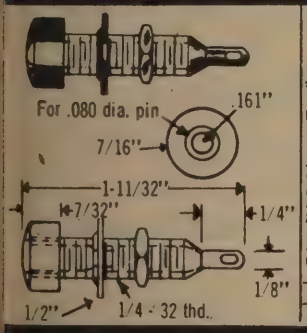
No.	Net per C 15.00
33-192	



INSULATED BANANA JACK

DESC: Mounts in 5/16" hole in panels up to 3/8" thick, solder direct to turret terminal. Supplied with hex nut and fibre washer. Accepts standard banana plugs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.
BODY: Brass, nickel plated.

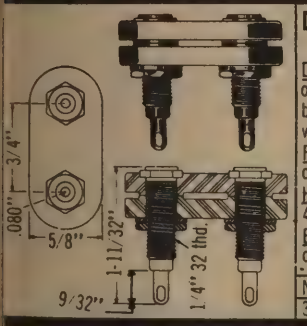
		Net per C 17.00	
No.	Color	No.	Color
33-193-1	Red	33-193-2	Blk



BANANA-TIP JACK COMBINATION

DESC: Accepts both Banana Plug and Standard Tip Plug; with extruded fibre washer and mounting nut. Mounts in 5/16" hole; fits panel up to 5/8" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.
BODY: Brass, nickel plated; phosphor bronze contact..

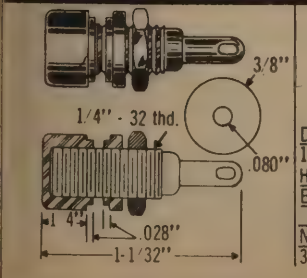
		Net per C 20.00	
No.	Color	No.	Color
33-194-	Red	33-196	Blk



DUAL BANANA AND STANDARD TIP PLUG

DESC: Mounts in two 3/8" holes on 3-4" centers on panels up to 5/16" thick. Mates with dual banana plug No. 33-010 and dual tip plug 33-174; with two hex nuts and washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded black styrene body, per MIL-L-P 416, type 1.
BODY: Brass, nickel plated; phosphor bronze contacts.

No.	Net per C 73.00
33-197	

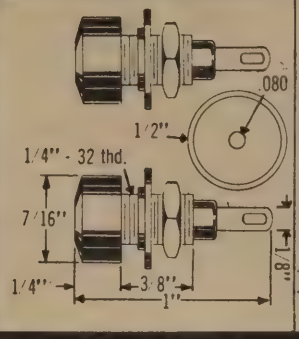


INSULATED TIP JACK

DESC: Requires 5/16" hole; fits panels up to 1/4" thick; with hex nut.
HEAD: Dupont Nylon, per MIL-M-20693A.
BODY: Brass, nickel plated.

		Net per C 27.00	
No.	Color	No.	Color
33-208-1	Red	33-208-2	Blk

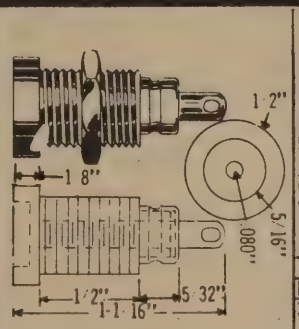
ILLUSTRATIONS	DESCRIPTION



STANDARD TIP JACK

DESC: Requires 5/16" mounting hole; fits panels up to 1/4" thick with insulating washer & hex nut.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic, red and black per MIL-M-14F type CMG. Yellow, green and blue per LU-671 type 1.
BODY: Brass, nickel plated; phosphor bronze contact.

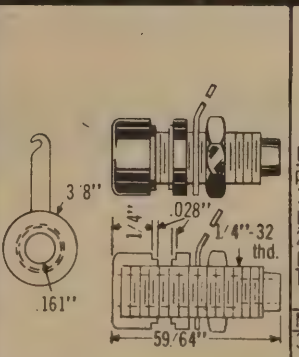
		Net per C 15.00	
No.	Color	No.	Color
33-210	Red	33-212	Blk



TIP JACK, ALL-INSULATED

DESC: Mounts in 3/8" hole; fits panel up to 5 16" thick: with mounting nut.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. Capacitance 3.0 mmfd.
BODY: Molded of nylon per MIL-M-20693A.
CONTACT: Phosphor bronze.

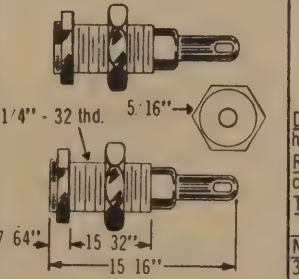
		Net per C 20.00	
No.	Color	No.	Color
33-216	Red	33-218	Blk



MINIATURE BANANA JACK

DESC: Insulating washer provides isolation from panel. Fits 5/16" mounting hole; for panels up to 1/4" thick.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.
BODY: Brass, nickel plated body; tinned solder lug.

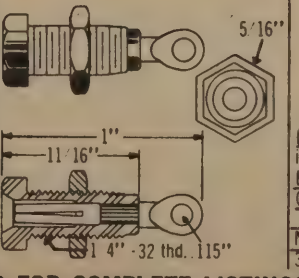
		Net per C 25.00	
No.	Color	No.	Color
33-220-1	Red	33-220-2	Blk



TIP JACK, ALL-METAL

DESC: Brass nickel plated body; mounts in 1/4" hole; fits panels up to 3/8" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
TIP : Phosphor bronze contact.

No.	Net per C 15.00
33-226	



NYLON TIP JACK WITH SPADE TERMINAL

DESC: Fits phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.
BODY: Insulated molded nylon per MIL-M-20693A.
CONTACT: Spade terminal..

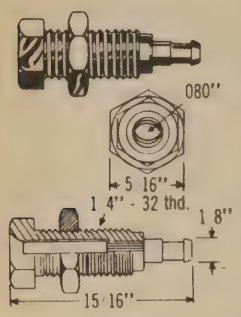
		Net per C 30.00	
No.	Color	No.	Color
33-245-1	Red	33-245-2	Blk

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA & TIP PLUG JACKS

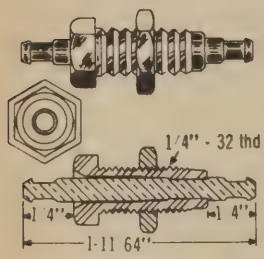
ILLUSTRATIONS	DESCRIPTION



NYLON TIP JACK (WRAP AROUND TYPE)

DESC: Hex head for sure grip tightening. Mounts in 1/4" hole in panels up to 1/4" thickness.
SALT SPRAY TEST: 100 hours.
INSULATION RESISTANCE: 5000 Meg. Resistance Ohms.
RATED VOLTAGE & CURRENT: 1000 volts peak at 5 amp max.
OPERATING TEMPERATURE: -55 degree to + 150C
NOMINAL CAPACITY: -2.0 mmf
TEST VOLTAGE: 9000 volts DC peak.
BODY: Nylon per MIL-M-20693A.

		Net per C 21.00	
No.	Color	No.	Color
33-240	Red	33-242	Blk

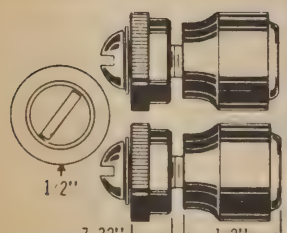


NYLON FEED-THRU JACK

DESC: Feed-thru type. Fits all standard phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.
BODY: Insulated nylon per MIL-M-20693A.
CONTACT: Brass, silver plated.

		Net per C 28.20	
No.	Color	No.	Color
33-247-1	Red	33-247-2	Blk

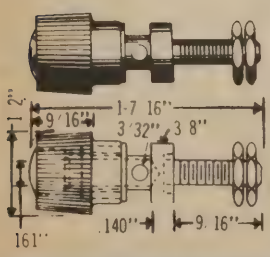
BINDING POSTS



BINDING POST

DESC: Brass nickel plated body, supplied with 8-32 mounting screw and lock washer.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic.

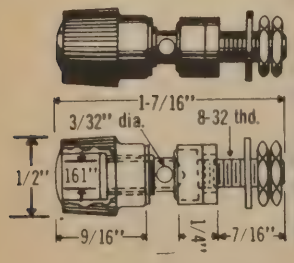
		Net per C 25.00	
No.	Color	No.	Color
33-250	Red	33-252	Blk



BINDING POST COMBINATION TYPE

DESC: Brass nickel plated body. Accepts banana plug, tip plug, bare wire, or spade lug. Threaded No. 8-32 mounting stud 1/2" long; supplied with 2 hex nuts.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

		Net per C 22.00	
No.	Color	No.	Color
33-256	Red	33-258	Blk

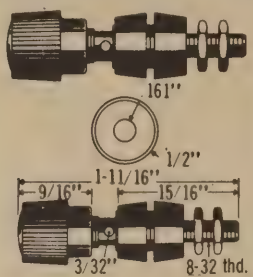


BINDING POST COMBINATION TYPE

DESC: Similar in design and construction as 33-256/8, except, supplied with molded shoulder-type plastic washers to insulate post from chassis.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

		Net per C 27.00	
No.	Color	No.	Color
33-260	Red	33-262	Blk

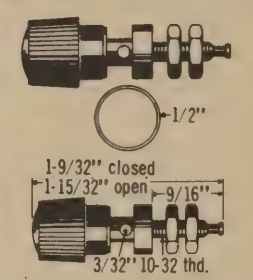
ILLUSTRATIONS	DESCRIPTION



BINDING POST INSULATED UNIVERSAL TYPE

DESC: Brass, nickel-plated body with threaded No. 8-32 mounting stud; accepts banana plug, tip plug, needle tip, spade lug, alligator clip or bare wire. Heavy duty spacers insulate post from chassis. Mounts in 5/16" hole.
RATING: 15 amps AC for 10 degree C Temp. rise continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

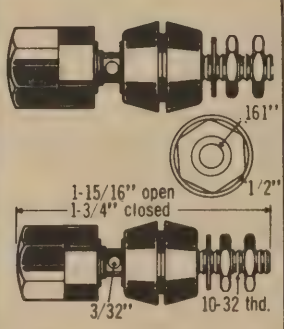
		Net per C 45.00	
No.	Color	No.	Color
33-264	Red	33-266	Blk



BINDING POST

DESC: Brass, nickel plated body with insulating washer and two hex nuts. 8-32 threaded stud. Accepts phone tip plug, spade lug, alligator clip, banana plug or stranded wire.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

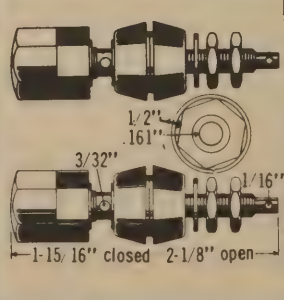
	Net per C 30.00
No.	Color
33-267	Blk



HEAVY DUTY BINDING POST

DESC: Brass, nickel plated body; accepts standard banana or tip plug, spade lug alligator clip or bare wire; supplied with a thick molded insulating spacer; punched, keyed slot for mounting washers; spacer has "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; supplied with two hex nuts.
RATING: (Maximum) 30 amps...2000 RMS Volt.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

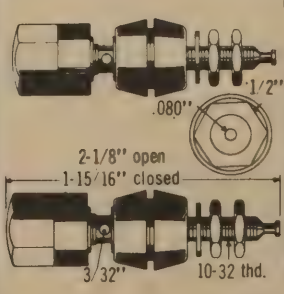
		Net per C 42.00	
No.	Color	No.	Color
33-268	Red	33-270	Blk



HEAVY DUTY BINDING POST

DESC: Identical in design to binding post No. 33-268/270, except, that end of stud is milled flat and drilled for solder connection.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

		Net per C 42.00	
No.	Color	No.	Color
33-272	Red	33-274	Blk



NYLON BINDING POST

DESC: Tip plug receptacle .080" I.D. Wire hole at right angle to flat on insulated washers. Punched keyed slot for mounting washers. Mounts in 3/8" hole in panels up to 1/4" thick. Solder connection to stud. Body and inserts are brass, bright nickel plated.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

		Net per C 50.00	
No.	Color	No.	Color
33-275-1	Red	33-275-2	Blk

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

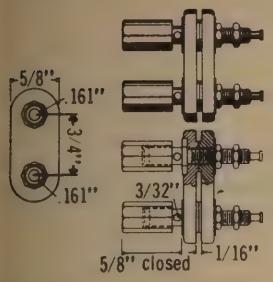
Net

© United Technical Publications

GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BINDING POSTS

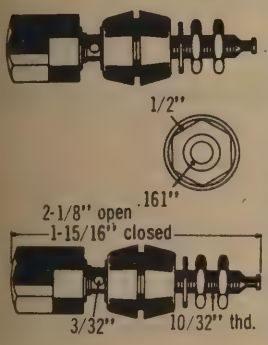
DUAL BINDING POST



DESC: Accepts standard dual banana plug and wire, etc. Mounts in two 3/8" holes on 3/4" centers in 1/16" to 1/4" panels. With wrap-around solder studs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
BODY: Black plastic.

No.	Net per C 85.00
33-276	

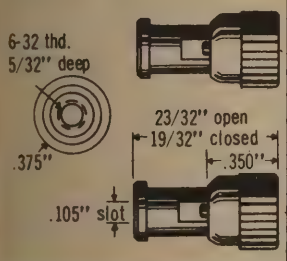
HEAVY DUTY BINDING POST



DESC: Brass nickel plated body; accepts banana or tip plug, spade lug, alligator clip or bare wire; supplied with a thick molded insulating spacer with "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; maximum rating 30 amps...2000 RMS volts; with 2 hex nuts.
RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

			Net per C 45.00
No.	Color	No.	Color
33-278	Red	33-280	Blk

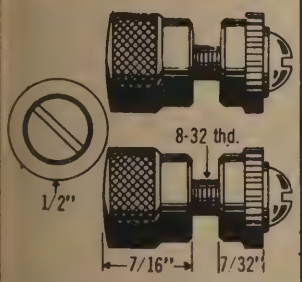
BINDING POST



DESC: Compression type, captive brass, nickel plated knurled head. Screw head down to tighten wire between body and sliding contact. Threaded internally for No.6-32 mounting screw.
BODY: Brass, nickel plated.

No.	Net per C 23.00
33-283	

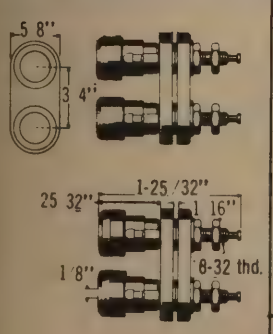
BINDING POST, ALL METAL



DESC: Knurled cap; designed for connection of bare wires or spade lugs; No.8-32 x 1/2" mounting screw and lock washer supplied.
BODY: Heavy brass, nickel plated.

No.	Net per C 70.00
33-284	

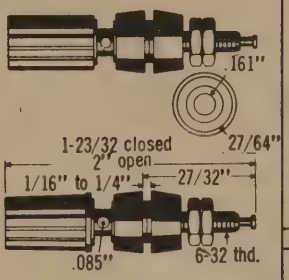
DUAL SPRING LOADED BINDING POST



DESC: Cross-slotted to accept standard phone tips or wire either forward or sideways. Molded black styrene cap; nickel plated brass body. Requires 2-3/8" holes on 3/4" centers for mounting on panels up to 1/4" thick. Accommodates phone tips or wires in side holes and secures them when pressure on cap is released. With hex nuts and flat washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.

No.	Net per C 120.00
33-298	

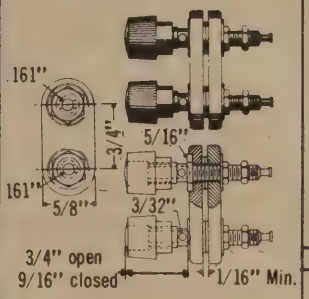
METAL BINDING POST



DESC: Gold plated, fluted brass, captive head, molded black nylon washer with gold plated brass insert. Use where internal ground circuit is isolated from chassis or panel. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand.

No.	Net per C 55.00
33-287	

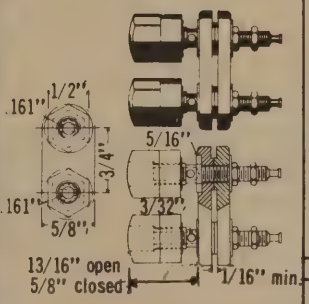
DUAL BINDING POST INSULATED



DESC: 5-way binding post with fluted heads. Accepts Dual Banana Plug. Mounts in two 3/8" holes, on 3/4" centers in panels from 1/16" to 1/4". Has soldered studs. With four hex nuts, black styrene washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

No.	Net per C 70.00
33-288	

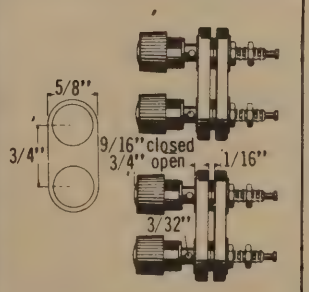
DUAL BINDING POST



DESC: Accepts standard phone tips, forward or sideways. Brass, nickel plated body. Mounts in two 3/8" holes on 3/4" centers in panels up to 1/4" thick. Accommodates single or dual banana plugs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

			Net per C 75.00
No.	Color	No.	Color
33-290	Blk	33-299	Red

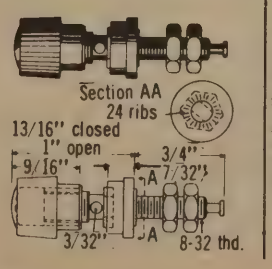
DUAL BINDING POST



DESC: Brass, nickel plated body. Molded styrene washer; cross slot accommodates phone tip forward, back or sideways. With hex nuts and washers. Mounts in two 3/8" holes on 3/4" centers on panels up to 1/4" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Nylon heads per MIL-M-20693A.

	Net per C 70.00
No.	Color
33-293	Red

NYLON BINDING POST



DESC: Grounding type, with molded nylon, non-removable head takes direct dolder connection to stud.
RATING: 15 amps AC for 10 desgree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

	Net per C 35.00
No.	Color
33-294-2	Blk

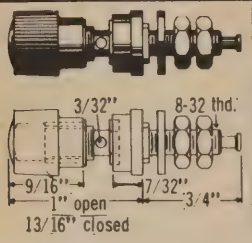
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BINDING POSTS

NYLON BINDING POST

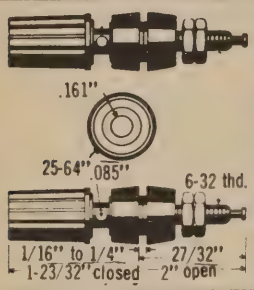


DESC: Brass, nickel plated body. Takes direct solder connection to stud.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

Net per C 35.00

No.	Color	No.	Color
33-296-1	Red	33-296-2	Blk

NYLON BINDING POST

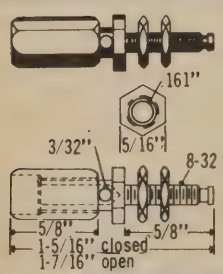


DESC: Gold plated body. Miniature washers and narrow head require minimum mounting space.. Requires 5/16" round or "D" hole in panel. Wrap around solder terminal. Accepts phone tip plug, banana plug, spade lug, alligator clip or stranded wire.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

Net per C 45.00

No.	Color	No.	Color
33-297-1	Red	33-297-2	Blk

BINDING POST

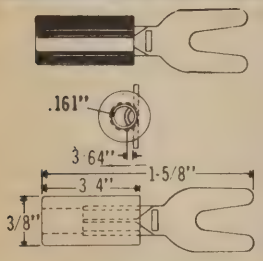


DESC: 5-way metal binding post. Can accept banana plug. Mounts in .171" hole in 1/16" to 3/8" panels. Has wrap-around solder stud 8-32 thread.

No.	Net per C 33.00
33-286	

SPADE LUGS, ALLIGATOR & BATTERY CLIPS

SPADE LUG, INSULATED

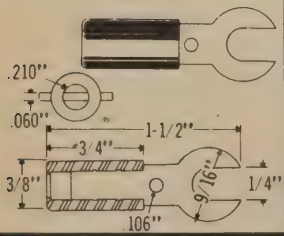


DESC: Tapered "fork" fits binding posts and terminal screws up to No. 10 size. Accepts soldered wire or banana plug.
RATING: 25 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
LUG: Brass, nickel plated.

Net per C 14.00

No.	Color	No.	Color
33-300	Red	33-302	Blk

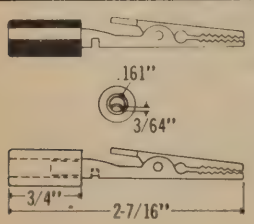
INSULATED SPADE LUG



DESC: Fits all standard multi-purpose binding posts. Wire up to No. 10 solders in front hole.
RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
LUG: Brass, nickel plated.

Net per C 13.00

No.	Color	No.	Color
33-304-1	Red	33-304-2	Blk



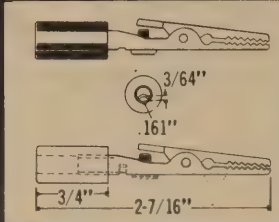
DESC: 3/8" jaw opening; made of cadmium plated steel, accepts banana plug or wires. May be soldered to clip.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 10.50

No.	Color	No.	Color
33-310	Red	33-312	Blk

ILLUSTRATIONS / DESCRIPTION

INSULATED SPADE LUG

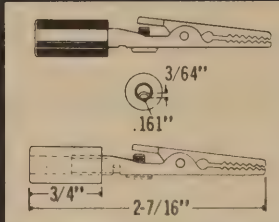


DESC: Molded plastic handle; cadmium plated steel jaws with 3/8" opening. Wire fastens with screw or soldered to clip.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 11.67

No.	Color	No.	Color
33-314	Red	33-316	Blk

ALLIGATOR CLIP SOLID COPPER

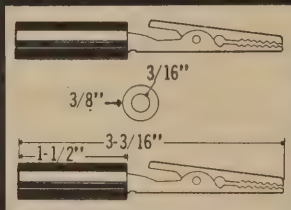


DESC: Identical to No. 33-314/16, except, made of solid copper for higher current carrying capacity.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 16.67

No.	Color	No.	Color
33-318	Red	33-320	Blk

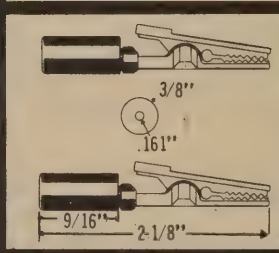
ALLIGATOR CLIP



DESC: With extra long insulated handle; cadmium plated steel jaws; 3/8" opening, wire solders to clip.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 12.50

No.	Color	No.	Color
33-322	Red	33-324	Blk



DESC: Completely insulated with black molded plastic to insure against shock or grounding. Accepts banana plug in receptacle end.

Net per C 24.00

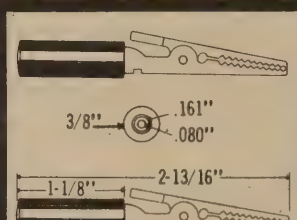
No.	Color	No.	Color
33-326-1	Red	33-326	Blk

Accepts tip plug in receptacle end.

Net per C 53.33

No.	Color	No.	Color
33-328-1	Red	33-328	Blk

ALLIGATOR CLIP ADAPTOR

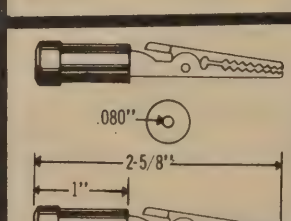


DESC: Accommodates standard tip plug, or banana plug; steel cadmium plated jaws.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty..
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 50.05

No.	Color	No.	Color
33-330	Red	33-332	Blk

ALLIGATOR CLIP ADAPTOR

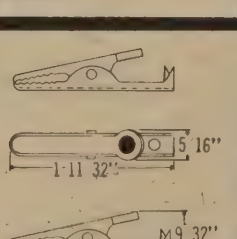


DESC: Adapts standard tip plug to alligator clips; steel cadmium plated jaws.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.

Net per C 42.35

No.	Color	No.	Color
33-334	Red	33-336	Blk

MINI-GATOR CLIP (MUELLER)



DESC: Miniature alligator clip. For use where space is a factor; wires solder to clip.

No.		Net per C 6.18
33-342	Steel	

No.		Net per C 8.33
33-344	Copper	

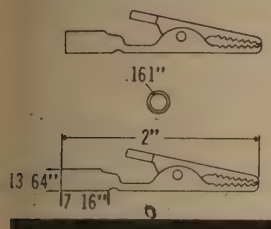
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net
© United Technical Publications

GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

SPADE LUGS, ALLIGATOR & BATTERY CLIPS

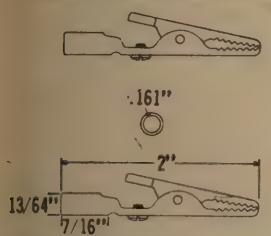
ALLIGATOR CLIP ALL METAL



DESC: Cadmium plated jaws with 3/8" opening accepts standard banana plug or wires may be soldered directly onto clip.

No.	Net per C 7.12
33-346	

ALLIGATOR CLIP-ALL METAL

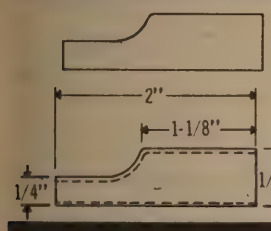


DESC: For solderless connection of wire by means of a No. 6-32 binding head screw; also accepts banana plug.

No.		Net per C 9.17
33-348	Steel	

No.		Net per C 13.33
33-350	Copper	

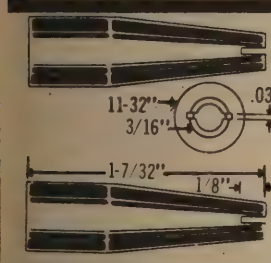
ALLIGATOR CLIP INSULATOR



DESC: Flexible molded vinyl insulator which fits over most standard alligator clips. It completely insulates. Permits maximum jaw opening.

			Net per C 4.80
No.	Color	No.	Color
33-360	Red	33-362	Blk

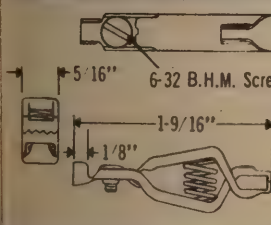
MINIATURE ALLIGATOR CLIP BOOTS



DESC: Molded vinyl plastic; allow maximum jaw opening of clip while still insulating clip. Miniature size.

			Net per C 4.00
No.	Color	No.	Color
33-363-1	Red	33-363-2	Blk.

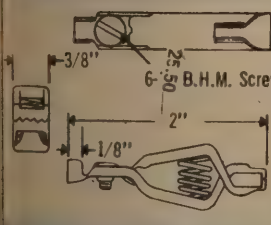
BATTERY CONNECTING & TESTING CLIP



DESC: Steel cadmium plated jaws with 1/2" spread.
RATING: 5 amps

No.	Net per C 9.17
33-370	

BATTERY CONNECTING & TESTING CLIP

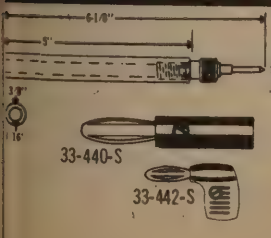


DESC: Steel cadmium plated jaws with 9/16" spread.
RATING: 10 amps

No.	Net per C 11.67
33-372	

TEST PRODS, LEADS & ADAPTORS

HEAVY DUTY TEST LEAD SETS



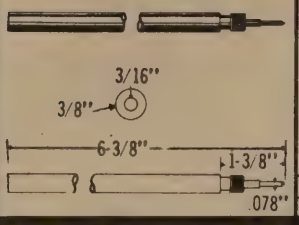
DESC: 2 New heavy duty Test Lead sets. Both sets have 5" long solderless Phone Tip Test Prods - other ends have right angle or straight Banana Plugs.

	Net per pair 1.74
No. 33-440-S Straight Banana Plugs	

	Net per pair 2.27
No. 33-442-S Right Angle Banana Plugs	

ILLUSTRATIONS	DESCRIPTION

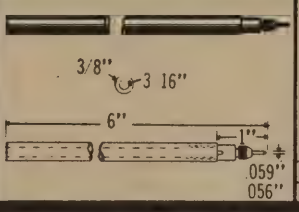
DELUXE TEST PROD



DESC: Solderless design; wire fits through handle and is fastened to tip with knurled collar. 6-3/8" long.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated. Net per C 33.00

No.	Color	No.	Color
33-380	Red	33-382	Blk

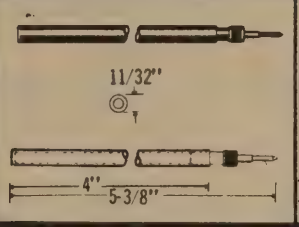
NEEDLE POINT TEST PROD



DESC: Extra safe, long handle; wire solders to nickel plated brass chuck.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 2.
TIP: Replaceable Phono Needle. Net per C 38.00

No.	Color	No.	Color
33-384	Red	33-386	Blk

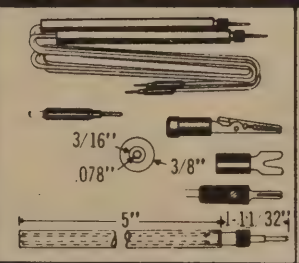
THIN HANDLE TEST PROD



DESC: Solderless wire connection; slim type for hard-to-reach places. Ideal for portable testers.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated. Net per C 30.00

No.	Color	No.	Color
33-392	Red	33-394	Blk

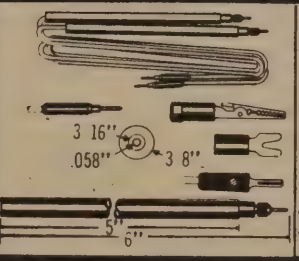
UNIVERSAL TEST LEADS



DESC: Interchangeable tips; one end solderless tip plug; other end banana plug; includes alligator clips, spade lugs and phono tip plugs, which fit on banana plug end.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
CABLE: 50" flexible

No.	Net per pair 1.88
33-450-S	One pair, red and black

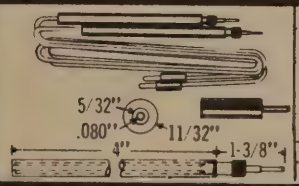
UNIVERSAL "NEEDLEPOINT" TEST LEADS



DESC: Interchangeable tips, one end interchangeable Phono needle type test prod,other end banana plug; includes spade lugs, alligator clips and phono tip plugs, which fit on banana plug end.
HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
CABLE: 50" flexible

No.	Net per pair 1.88
33-452-S	One pair, red and black

"THRIFTY" TEST LEADS

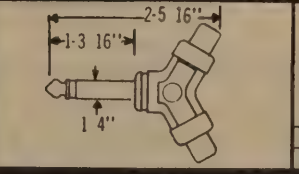


DESC: One end 4" test prods, other end terminated in standard phone tip.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
CABLE: 50" flexible

No.	Net per pair .85
33-454-S	One pair, red and black

SPECIAL CONNECTORS & ADAPTORS

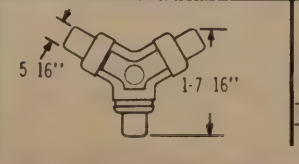
"Y" ADAPTOR



DESC: Input - 2 phono jacks (in parallel); output phone plug.

No.	Net per C 133.16
33-880	

"Y" ADAPTOR



DESC: Input - 2 phono jacks (in parallel); output - single phono jack.

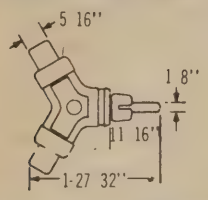
No.	Net per C 104.00
33-882	

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

SPADE LUGS, ALLIGATOR & BATTERY CLIPS

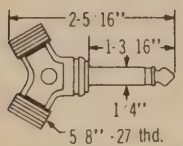
ILLUSTRATIONS | DESCRIPTION



"Y" ADAPTOR

DESC: Input - 2 phono jacks (in parallel); output - standard phono pin plug.

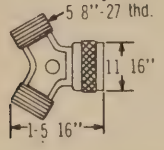
No.	Net per C
33-884	116.16



"Y" ADAPTOR

DESC: Input - 2 male microphone connectors (in parallel); output standard phone plug.

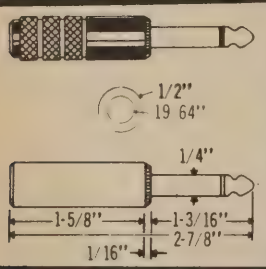
No.	Net per C
33-886	133.33



"Y" ADAPTOR

DESC: Input - 2 male microphone connectors (in parallel); output - female microphone connector.

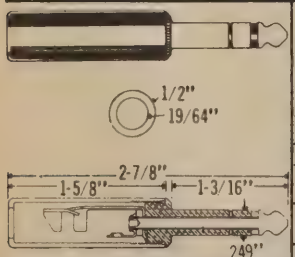
No.	Net per C
33-888	130.33



2-COND., SCREW TERMINALS

RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 750 volts 60 cycle AC continuous working voltage.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

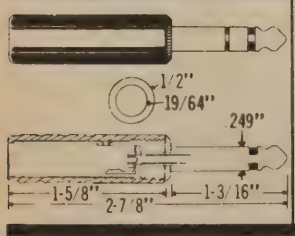
No.		Net per C
33-600	with black plastic handle.	50.98
33-602	with red plastic handle.	50.98
33-604	with metal (shielded) handle.	70.81



2-COND., CLAMP OR SOLDER

DESC: Standard size plug, with large "grounding" terminals which clamps around cable insulation or shield, and acts as strain relief.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

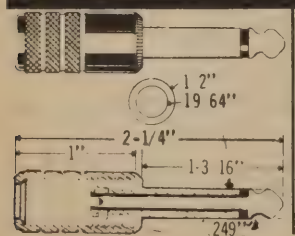
No.		Net per C
33-606	With black plastic handle.	48.15
33-608	with red plastic handle.	67.96
33-610	with metal (shielded) handle.	



TWO-CONDUCTOR PHONE PLUG, PLAIN SOLDER LUGS

DESC: Standard size plug.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

No.	Color	No.	Color	Net per C
33-612-1	Red	33-612-2	Black	42.48

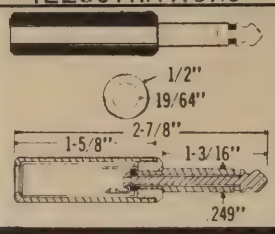


"STUBBY" SHIELDED TWO-CONDUCTOR PHONE PLUG

DESC: Standard phone plug with special, short metal handle; plain solder lugs.

No.	Net per C
33-614	53.81

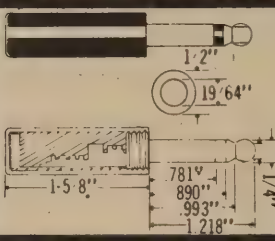
ILLUSTRATIONS | DESCRIPTION



STANDARD SHIELD TWO-CONDUCTOR PHONE PLUG

DESC: Regular plug with metal (shielded) handle plain solder lugs.

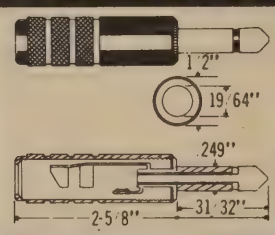
No.	Net per C
33-616	84.96



TWO-CONDUCTOR PHONE PLUG TYPE PJ-055B

DESC: Solder terminal and screw connection supplied with black, break-resistant molded shell.

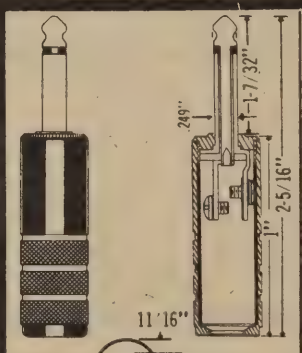
No.	Net per C
33-618	84.96



SHORT FINGER, 2-COND. PHONE PLUG

DESC: Special short finger (barrel) type plug to connect microphone or telephone pickup to Revere Wollensack tape recorders. Combination clamp and solder lug connection; metal shielded handle.

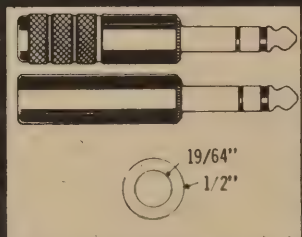
No.	Net per C
33-620	87.83



LARGE HANDLE 2-COND. PHONE PLUG

DESC: Standard size plugs with sturdy large handles where space is no factor; all supplied with screw type terminals.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 750 volts 60 cycles AC working voltage.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

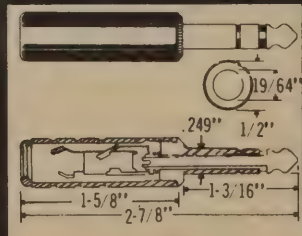
No.		Net per C
33-622	with black plastic handle,1-1/2" long	53.81
33-624	with red plastic handle,1-1/2" long.	67.96
33-626	with metal (shielded) handle,1" long	84.96
33-628	with metal (shielded) handle,2-1/16"	



"THIN-FINGER" 2-COND. PHONE PLUGS

DESC: Special plugs, with undersize barrel diameter of .206", for applications where polarized input is desired to distinguish between different connections. Plugs have combination clamp and solder lug connection and mate with jacks No. 33-700-2.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

No.	Color	No.	Color	Net per C
33-630-1	Red	33-630-2BU	Blk	50.98
33-632	with metal (shielded) handle.			67.96



3-CONDUCTOR PHONE PLUG: COMB. CLAMP AND SOLDER LUG TERMINALS

HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

No.	Color	No.	Color	Net per C
33-640-1	Red	33-640-2BU	Blk	70.81
33-642	Metal			87.80

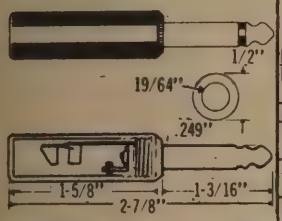
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net
© United Technical Publications

GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

PHONE PLUGS

ILLUSTRATIONS | DESCRIPTION

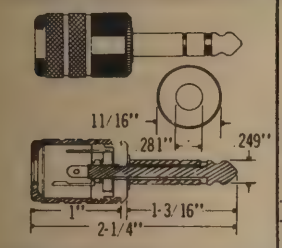


SCREW TERMINALS 3-CONDUCTOR PHONE PLUG

HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 79.30

No.	
33-644	with black plastic handle
	Net per C 79.30
33-646	with red plastic handle
	Net per C 93.46
33-648	with metal (shielded) handle

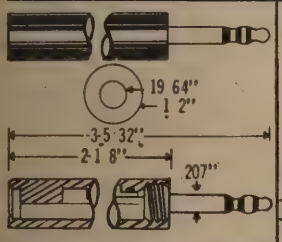


LARGE HANDLE 3-CONDUCTOR PHONE PLUG

DESC: For heavy duty applicator; can accommodate large diameter cables, with room in handle for wired-in resistors or capacitors; with 1" long metal (shielded) handle.

Net per C 90.63

No.	
33-650	

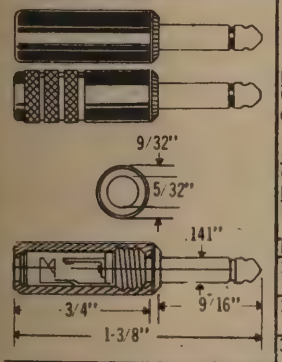


3-CONDUCTOR PHONE PLUG, TYPE PJ-068B

DESC: With solder terminal and screw connection; made in accordance with military specifications.

Net per C 203.24

No.	
33-654	



MIN. PHONE PLUGS COMB. CLAMP & SOLDER TER.

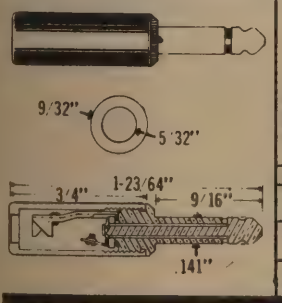
DESC: These small plugs are designed for use with hearing aids, pocket radios, portable recorders, etc. Two-conductor style; tested for 500 V breakdown.

RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.

HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 65.13

No.	
33-660	with metal (shielded) handle
	Net per C 48.15
33-662	with black plastic handle
	Net per C 48.15
33-664	with red plastic handle



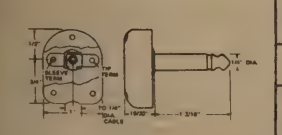
MIN. PHONE PLUGS COMB. CLAMP & SOLDER TER.

DESC: Same plug as 33-660 except for different style terminals.

HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 67.96

No.	
33-666	with metal (shielded) handle.
	Net per C 50.98
33-668	with black plastic handle.
	Net per C 50.98
33-670	with red plastic handle.

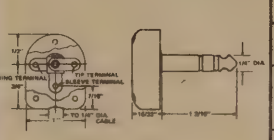


TWO CONDUCTOR LOW PROFILE PHONE PLUG

Standard phone plug available with either screw terminals or solder lug terminals.

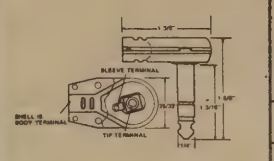
Cat. No.	Color	Std. Pkg.	Net per C
With solder lug terminals:			
33-686	Black	10	56.66
33-684	Red	10	56.66
With screw terminals:			
33-698	Black	10	70.83
33-696	Red	10	70.83

ILLUSTRATIONS | DESCRIPTION



THREE CONDUCTOR LOW PROFILE PHONE PLUG

Cat. No.	Color	Std. Pkg.	Net per C
With solder lug terminals:			
33-674	Red	10	85.00
33-676	Black	10	85.00
With screw terminals:			
33-678	Red	10	87.83
33-680	Black	10	87.83

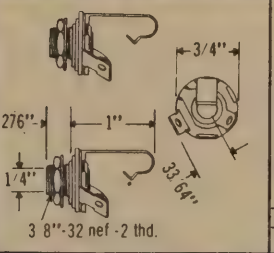


TWO OR THREE CONDUCTOR PHONE PLUGS WITH SHIELDED HANDLE

Shielded FLAT PLUGS, feature a nickel plated steel handle, with built-in cable clamp. Accommodates cables from .210" o.d. to .250" o.d. Ideal for use in music equipment.

Cat. No.	Type	Std. Pkg.	Net per C
3-conductor type, solder lug terminals:			
33-672	Nickel, shielded handle	10	93.50
2-conductor type, solder lug terminals:			
33-682	Nickel, shielded handle	10	62.33

PHONE JACKS



PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS

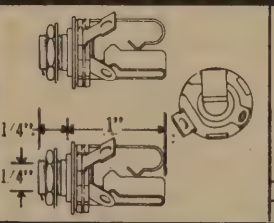
DESC: Open circuit, 2-conductor.

RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.

WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 28.32

No.	
33-690	

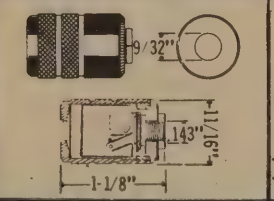


PANEL MOUNTING TWO- CONDUCTOR PHONE JACKS

DESC: Panel mounting - two conductor Phone Jack. Use with Revere Wollensach type. Will accommodate 33-620 phone plug.

Net per C 31.15

No.	
33-691	



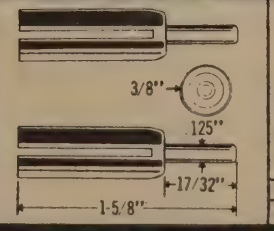
MINIATURE CORD MOUNTED JACKS

DESC: Miniature type, mates with plugs No. 33-660 through 33-670, with solder lugs and metal (shielded) handle.

Net per C 79.30

No.	
33-746	

PHONO PIN PLUGS & JACKS

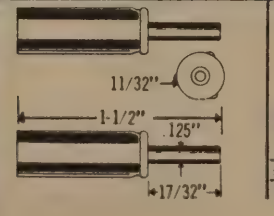


SHIELDED CONNECTOR PLUG

DESC: Motorola type, tube pin nickel plated-1/8". Pin extends from split brass, cadmium plated shell. Provides positive ground connection when inserted into connector.

Net per C 10.35

No.	
33-765	



SHIELDED CONNECTOR PLUG

DESC: Motorola type 1'8" tube pin extends from solid brase, cadmium plated shell, small ribbed.

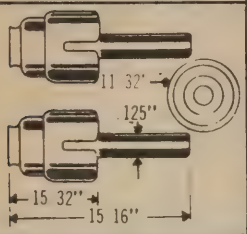
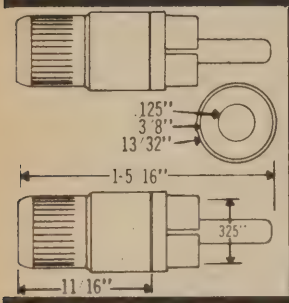
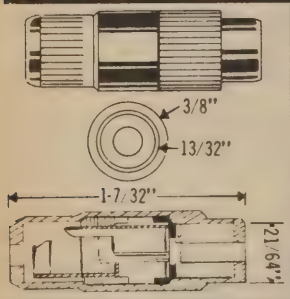
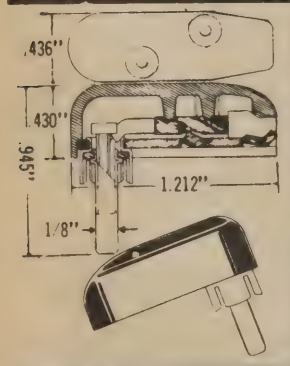
Net per C 10.35

No.	
33-767	

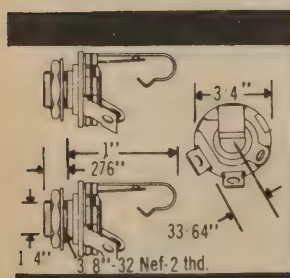
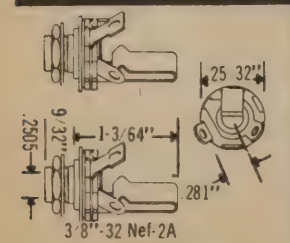
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

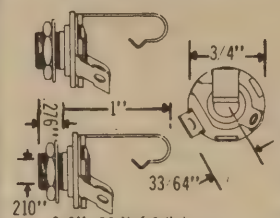
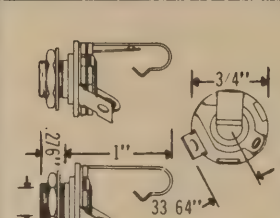
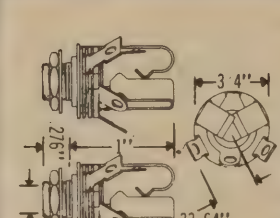
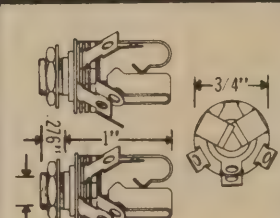
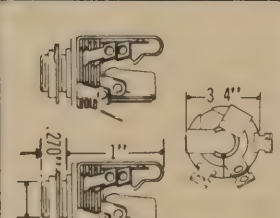
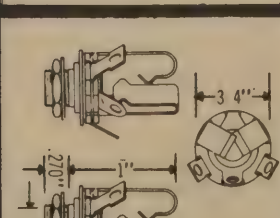
GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

PHONO PIN PLUGS & JACKS

ILLUSTRATIONS	DESCRIPTION
	**PHONO PLUG** DESC: Solder type. Net per C 5.83 No. 33-768 15 16" overall Net per C 5.67 No. 33-770 13 16" overall
	**PHONO PLUG** DESC: Combination clamp, solder type, with removable metal (shielded) handle. Much easier to attach than the standard phono plug, and provides "finished" appearance. Mates with 33-774. Net per C 28.32 No. 33-772
	**PHONO JACK, CORD MOUNTED** DESC: Also known as "extension" or "inline" jacks. Combination clamp and solder terminal; removable metal (shielded) handle. Mates with 33-772. Net per C 36.82 No. 33-774
	**SOLDERLESS PHONO PLUGS** DESC: Completely new design, requires only stripping of cable, inserting in plastic shell, and tightening of assembly with 2 screws. Positive, noise-free pressure connection without soldering. Right angle style, designed for regular shielded cable with approximately 3/16" OD. Net per C 23.32 33-776 grey plastic shell 33-778 black plastic shell 33-780 red plastic shell 33-782 yellow plastic shell 33-784 blue plastic shell

PHONE JACKS

	**PANEL MOUNTING 2-CONDUCTOR PHONE JACKS** DESC: Closed circuit, 2-conductor. RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. No. 33-692 Net per C 31.15
	**PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS** DESC: Open circuit, 2-conductor. WASHER: Per MIL type, JJ-034. No. 33-694 Net per C 42.48

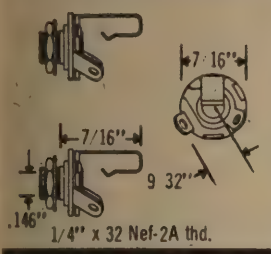
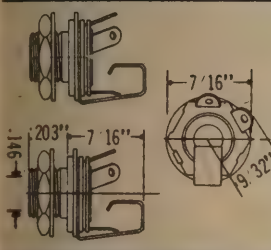
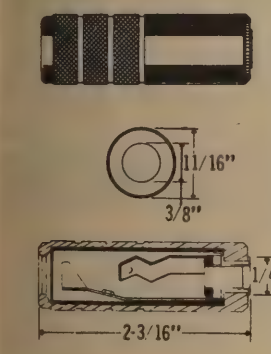
ILLUSTRATIONS	DESCRIPTION
	**PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS** DESC: Open circuit, 2-conductor .210" I.D. sleeve fit plugs No. 33-630/2. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709, Washers type 1. Net per C 31.15 No. 33-700
	**PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS** DESC: Closed circuit, 2-conductor .210" I.D. sleeve...fits plugs No. 33-630/2. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 36.82 No. 33-702
	**PANEL MOUNTING 3-COND. PHONE JACKS** DESC: Open circuit, 3-conductor.. RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 36.82 No. 33-708
	**PANEL MOUNTING 3-COND. PHONE JACKS** DESC: Single closed circuit, 3-conductor. RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 55.00 No. 33-710
	**STEREO TELEPHONE JACK** DESC: New Jack designed for switching out speakers when connecting stereo headphones and for switching three stereo input circuits. Normally closed dual switch contacts open both stereo circuits separately when three circuit plug is inserted. WASHER: Phenolic per MIL-LL-31 and ASTMD-709 type 1. Net per C 54.00 No. 33-711
	**STEREO TELEPHONE JACK** DESC: New jack designed for switching out speakers when connecting stereo headphones and for switching three wire stereo input circuits. Open circuit, 3-conductor, MIL-type JJ-033. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 59.13 No. 33-712

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

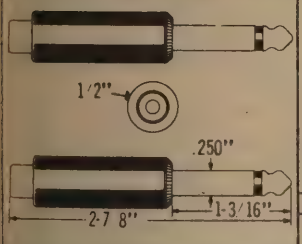
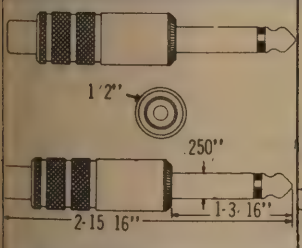
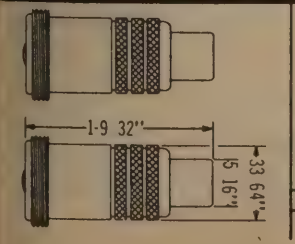
ELECTROCRAFT ELECTRONIC COMPONENTS

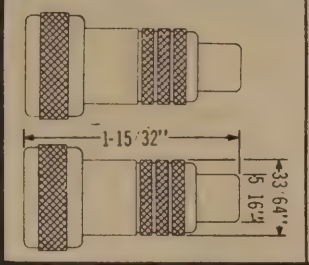
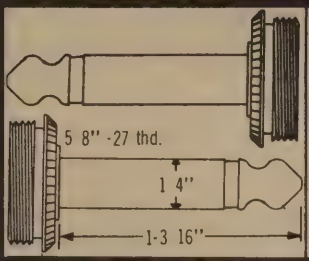
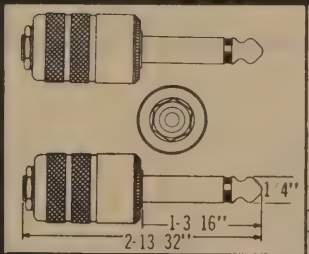
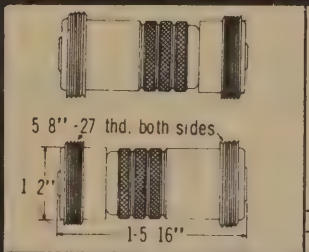
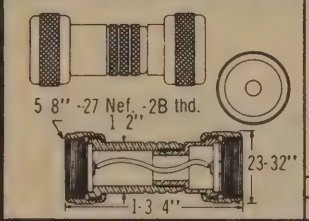
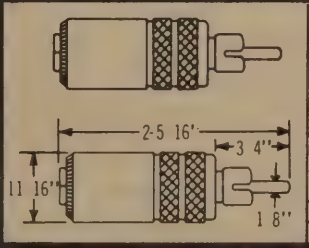
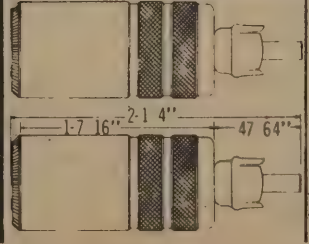
PHONE JACKS

ILLUSTRATIONS	DESCRIPTION
	**MINIATURE PANEL MOUNTING JACKS** DESC: These jacks mate with plugs No. 33-660 through 33-670. Open circuit, 2-conductor. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 28.32 No. 33-720
	**MINIATURE PANEL MOUNTING JACKS** DESC: These jacks mate with plugs No. 33-660 through 33-670- Closed circuit, 2-conductor. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 31.15 No. 33-722
	**CORD MOUNTED JACKS** DESC: Often referred to as "extension jacks" or "inline jacks"; available in 2 or 3 conductor types.

No.		Net per C
2-conductor, open circuit style, with solder lug terminals.		
33-730	metal	93.46
33-732	plastic	67.96
2-conductor, open circuit style, with screw type terminals.		
33-734	metal	101.96
33-736	plastic	76.46
3-conductor, open circuit style, with screw or solder type terminals, and metal (shielded) handle.		
33-740	solder	118.95
33-742	screw	130.28

SPECIAL CONNECTORS & ADAPTORS

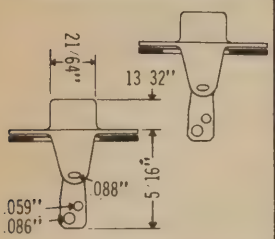
ILLUSTRATIONS	DESCRIPTION
	**ADAPTOR** DESC: Phono jack input, standard phone plug output. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. Net per C 82.13 No. 33-850
	**ADAPTOR** DESC: Phono jack input, standard phone plug output, heavy duty metal shielded type. Net per C 89.13 No. 33-852
	**MALE ADAPTOR** DESC: Phone jack input, microphone connector output. Net per C 85.00 No. 33-854

ILLUSTRATIONS	DESCRIPTION
	**FEMALE ADAPTOR** DESC: Phono jack input, microphone connector output. Net per C 93.46 No. 33-856
	**MALE ADAPTOR** DESC: Microphone connector input, standard phone plug output. Net per C 33.98 No. 33-858
	**ADAPTOR** DESC: Miniature phone jack input, standard phone plug output. Net per C 99.13 No. 33-860
	**MALE CONNECTOR** DESC: Connects 2 female microphone connectors. Net per C 85.00 No. 33-862
	**FEMALE CONNECTOR** DESC: Connects 2 male microphone connectors. Net per C 85.00 No. 33-864
	**ADAPTOR** DESC: Miniature phone jack input, standard phono plug output. Net per C 78.30 No. 33-865
	**ADAPTOR** DESC: Standard phone jack input, phono plug output. Net per C 113.33 No. 33-866

ELECTROCRAFT ELECTRONIC COMPONENTS

PHONO PIN PLUGS & JACKS

PHONO JACKS



DESC: Fastens to chassis with 2 rivets or 2 screws. Net per C 7.33

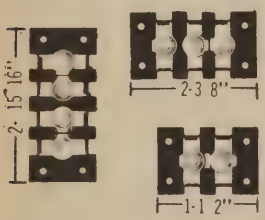
No.
33-792

W oval, space saving metal mounting plate. Net per C 8.50

No.
33-796

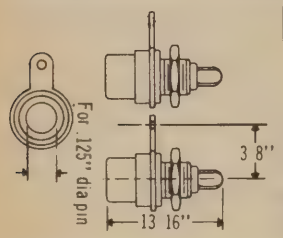
W regular, round mounting plate.

PHONO PIN JACKS



No.		Net per C
33-800	double phono pin jack	12.00
33-802	triple phono pin jack	15.00
33-803	quadruple phono pin jack	24.00

SINGLE HOLE PANEL PHONO JACK

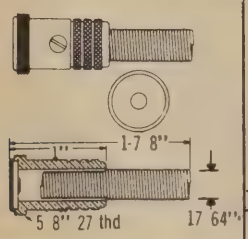


DESC: Mounts in 9 32" hole, requires only one hole drilled. Comes equipped with nut, washer and solder lug for ground. Net per C 19.83

No.
33-804

STANDARD MICROPHONE CONNECTORS

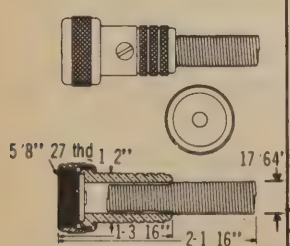
CORD MOUNTED MALE MICROPHONF CONNECTOR



DESC: With flexible spring to protect cable; center conductor solders to contact; braid is clamped securely by set screw. Net per C 33.98

No.
33-810

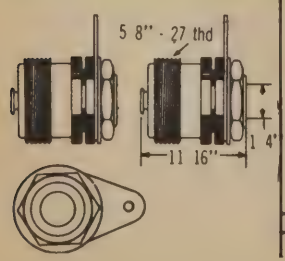
CORD MOUNTED FEMALE MICROPHONE CONNECTOR



DESC: With flexible spring to protect cable; center conductor solders to contact; braid is clamped securely by set screw. Net per C 42.48

No.
33-812

PANEL MOUNTED MICROPHONE CONNECTOR

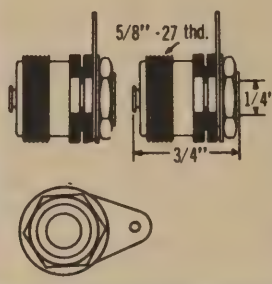


DESC: Requires 3 8" hole when grounded to chassis; or 7 16" hole if insulated with fibre washers; mates with No. 33-812 connector. Single contact connector. Net per C 31.15

No
33-814

ILLUSTRATIONS / DESCRIPTION

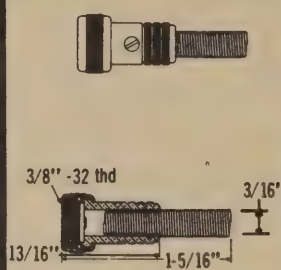
MICROPHONE AND CHASSIS CONNECTOR



DESC: Closed circuit type which grounds cent contact when cable connector removed, thu eliminating noise. Net per C 39.8

No.
33-816

MINIATURE FEMALE MICROPHONE CONNECTOR

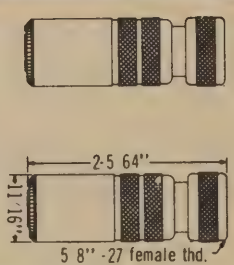


DESC: These connectors are only about one-half the size of the standard microphone connectors. Particularly useful for portable equipment, lapel microphone, musical instruments, recorders, etc. Made to the same specifications and of same materials as standard size connectors. Net per C 42.48

No.
33-828

SPECIAL CONNECTORS & ADAPTORS

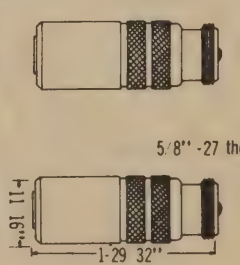
FEMALE ADAPTOR



DESC: Standard phone jack input, microphone connector output. Net per C 113.33

No.
33-868

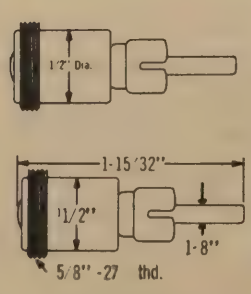
MALE ADAPTOR



DESC: Standard phone jack input, microphone connector output. Net per C 98.00

No.
33-870

MALE ADAPTOR



DESC: Microphone connector input, phono plug output. Net per C 70.83

No.
33-872

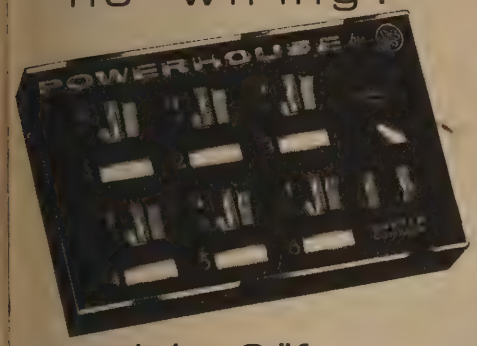
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

INSTAMATIC™ by FEDTRO®

"INSTANT" MULTIPLE ELECTRIC OUTLETS

new safety! new convenience!
no wiring! just plug them in!



FEDTRO MODEL POWER-110
POWERHOUSE™ DELUXE 6-STATION ELECTRIC OUTLET CONTROL CENTER

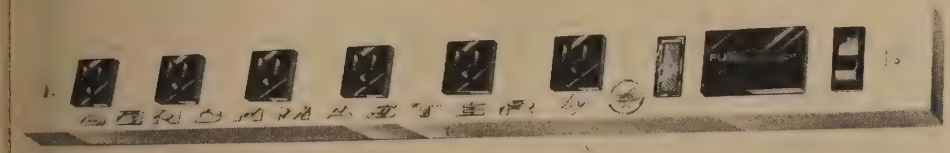
■ 7 individual finger-touch rocker power switches
■ 7 individual signal-glo "on-off" indicator lights

provides six isolated fused three prong "u" type grounded outlets. convenient for home, workshop, office, industry, etc. mounts on wall, bench or remains portable. each outlet has its own switch and indicator light, in addition to a master control switch and light. built-in fuse compartment gives complete equipment protection. entire fuse panel pulls out for easy, safe fuse changing. has six individual snap-in panel tabs for easy identification of equipment.

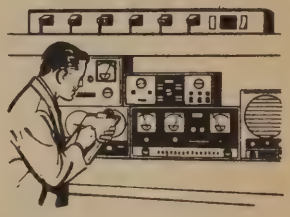


rating: 15 amperes at 100 to 120 volts a.c. (1800 watts) 6 ft. ul listed 3 conductor heavy duty extension cable. size: 10 l x 6 w x 1¼ d.

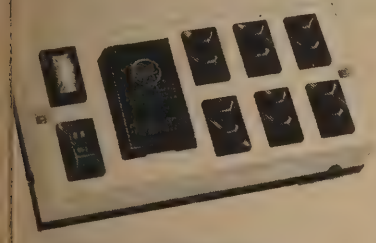
nstantly! 6 "fuse-controlled" grounded electrical outlets from 1!



FEDTRO MODEL BENCH-6
BENCHMASTER™ ELECTRIC OUTLET CONTROL CENTER



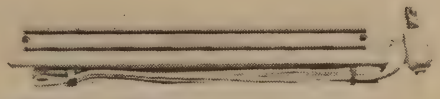
ew safety! new convenience for workshops, industry, service area, office, etc. provides six industrial quality rugged eavy duty "u" type grounded outlets. built-in fuse compartment gives complete protection against short circuits and urrent surges. entire fuse panel pulls out for easy, safe, fuse changing. mounts on wall, bench, baseboard or remains ortable. eliminates tangled extension cords. equipment is always plugged in ready for instant use. with finger touch ontrol "on-off" rocker power switch and signal-glo "on-off" indicator light. rating: 100/120 volts a.c. 15 amperes (1800 atts). 6 ft. ul listed heavy duty 3 conductor extension cable. size: 2 feet long!



rating: 110/120 volts a.c.
15 amperes (1500 watts)

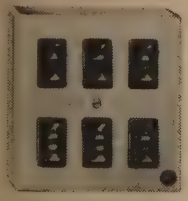
FEDTRO MODEL CON-6N
CONROL-O-MATIC™ ELECTRICAL OUTLET CONTROL CENTER

has six individual outlets with its own built-in fuse box. entire fuse panel pulls out for easy, safe fuse changing. finger touch control on-off rocker switch with jewelled indicator panel light. heavy duty line cord for use in the home, workshop, office and industry. complete with ground terminal connection and mounting screws for permanent installation on wall or bench, or as a portable control center.



FEDTRO MODEL OL-8 OCT-O-LET™
8 ELECTRICAL OUTLETS FROM 1!

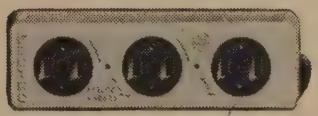
oct-o-let is a rugged, patented device, constructed of the finest most durable safe materials. this precision instrument permits you to plug in any linecord, at any point along the entire length of the outlet bar. outer housing is made of virtually indestructible polypropylene. the unique parallel dual track buss-bars are formed of tough phosphor bronze assuring proper electrical contact at all times. mounts to any surface (wall, bench, etc.) or remains portable. complete with mounting screws. convenient for kitchen, workshop, office, den, garage.
rating: 110/120 volts ac/dc 15 amperes, 1500 watts



rating: 120v ac/dc
15 amps 1500 watts

FEDTRO MODEL AC-6
INSTAMATIC™ ELECTRICAL OUTLET APPLIANCE CENTER

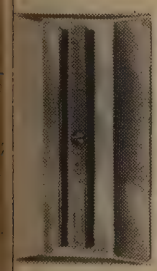
now . . . 6 individual outlets in 1 instantly! wonderful new convenience! plugs into and mounts permanently on any wall outlet . . . in seconds! for home, kitchen or workshop, keeps all those often-used appliances plugged in at all times . . . ready for instant use. safe! convenient! neat! eliminates tangled wires!



FEDTRO MODEL SWT-3
SWITCH-O-LET™
3 EXTENTION OUTLETS WITH BUILT-IN SWITCHING

each outlet has its own individual "on-off" rotary action switch!

3 appliances remain plugged in ready for instant use! to turn any appliance "on" or "off" . . . you simply grip the appliance plug and give it a quarter of a turn either way! turn plug clockwise . . . it's "on". turn plug counter-clockwise . . . and it's "off". for home, kitchen or shop . . . mounts on wall or bench . . . or can be used portable. ul inc. listed cord & plug.
rating: 120v ac/dc 7 amps 800 watts complete with linecord



FEDTRO MODEL HL-6
HEX-O-LET®
6 ELECTRICAL OUTLETS FROM 1

plugs into and mounts permanently on any wall outlet . . . in seconds! parallel buss-bar track construction lets you keep up to 6 often-used appliances plugged in at all times . . . ready for instant use! ideal for bedroom, living room, kitchen, workshop...wherever extra outlets are needed.
rating 120v ac/dc 15 amps 1500 watts



FEDTRO MODEL EXT-5
EXTEND-O-LET™
5 EXTENSION OUTLETS IN 1

a convenient, dual-track outlet bar complete with handy extension cord which permits you to keep up to 5 appliances plugged in . . . always ready for instant use! easy to use anywhere in the home or shop! neat! portable or mounts to any surface.
rating: 120v ac/dc 7 amps 800 watts ul inc. listed cord & plug



FEDTRO MODEL DB-8 DOUBLE-O-LET™
SIAMESE-TWIN EXTENSION OUTLETS

8 electrical outlets from one. 2 separate extension line cords from one common plug, that reach in different directions . . . simultaneously. each extension outlet takes up to 4 appliances. ul inc. listed cord.
rating: 110/120 volts ac/dc. each extension: 7 amperes, 800 watts.

wherever extra outlets are needed! see other fedtro products: pages 35, 73, 532

It's easy

to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

Thank you!



E. F. JOHNSON COMPANY

JCM Miniature Coaxial Connectors

COAXIAL CONNECTORS

The JCM connector is a semi-precision, miniature (3mm) connector giving repeatable electrical performance from DC to 3 GHz. At a fraction of the price of MIL-C-39012B SMA connectors, the JCM offers full mating compatibility with SMA types.

The bright gold finish is more dense and twice as hard as ordinary gold. The non-galling finish is 40% more resistant to wear and abrasion. Plating is 98.5 to 99.5% pure gold with a Knoop hardness of 120-140.

Cable clamp JCM plugs and jacks consist of 5 or fewer parts which are easily assembled. Only one set of stripping dimensions is required for all cables from 0.070 to 0.220" overall diameter.

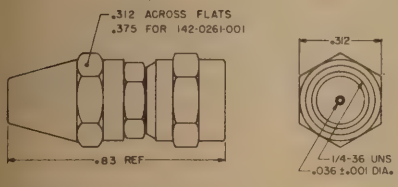
Beryllium-copper contacts assure superior spring qualities and lowest contact resistance.

ELECTRICAL, TYPICAL

Impedance	50 ohms
Frequency	DC—3 GHz
Voltage Rating	500 V RMS at sea level
Dielectric Withstanding Voltage	1000 V RMS at sea level
VSWR	1.15:1 to 3 GHz
Contact Resistance	Center: 2.5 milliohms Body: 1.0 milliohms Braid to body: 0.5 milliohms
Insulation Resistance	5000 megohms

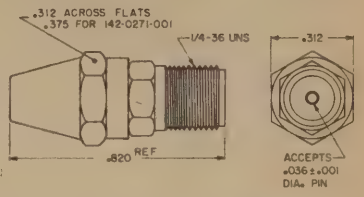
PLUG-CLAMP TYPE

Cat. No.	Net Price
142-0201-001	$1.55
142-0221-001	1.55
142-0261-001	1.60



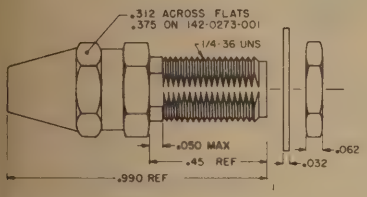
JACK-CLAMP TYPE

Net Price	Cat. No.
$1.35	142-0211-001
1.35	142-0231-001
1.45	142-0271-001



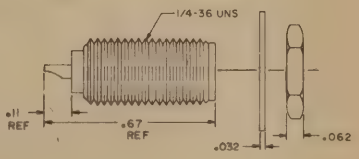
BULKHEAD JACK-CLAMP TYPE

Cat. No.	Net Price
142-0213-001	$1.60
142-0233-001	1.60
142-0273-001	1.65



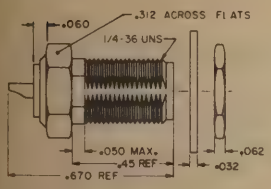
BULKHEAD FEEDTHROUGH RECEPTACLE

Cat. No.	Net Price
142-0293-001	$1.20



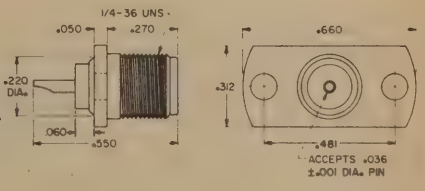
BULKHEAD RECEPTACLE REAR MOUNT

Cat. No.	Net Price
142-0294-001	$1.20



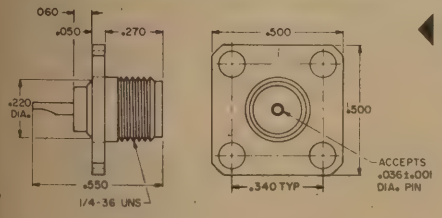
2-HOLE PANEL RECEPTACLE, FRONT MOUNT

Cat. No.	Net Price
142-0296-001	$1.70



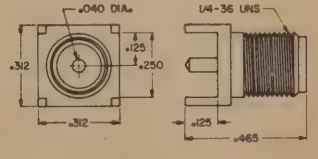
4-HOLE PANEL RECEPTACLE, FRONT MOUNT

Cat. No.	Net Price
142-0297-001	$1.55



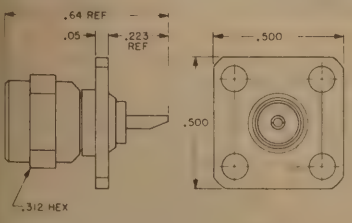
PC RECEPTACLE

Cat. No.	Net Price
142-0298-001	$0.95



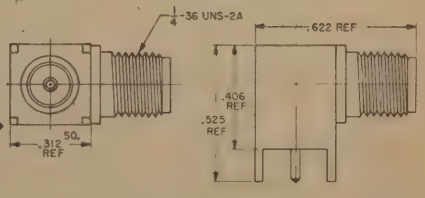
4-HOLE PANEL PLUG, FRONT MOUNT

Cat. No.	Net Price
142-0287-001	$1.70



RIGHT-ANGLE PC RECEPTACLE

Cat. No.	Net Price
142-0299-001	$1.75

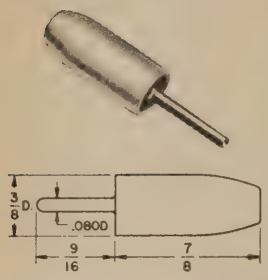


NOTE: Six new JCM connector designs are available for use with .141" and .085" semi-rigid cable. For information, contact: E. F. Johnson Company

E. F. JOHNSON COMPANY

Tip plugs and Printed circuit connectors

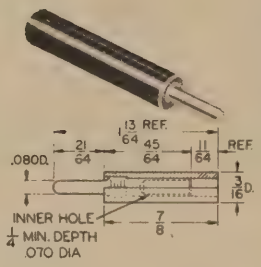
Tip plugs



Solderless Tip Plug

Completely insulated, molded sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. Current rating: 10 amps.

Cat. No. 105-0300-001. Net $0.20
(See color chart under Tip Jacks)



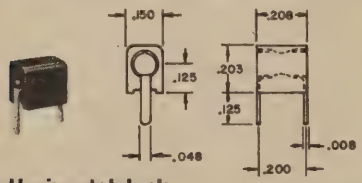
Sub-miniature Tip Plug

For use with miniature jack, .080" dia. tip. Nickel-plated machined brass body, solder type lead connection.

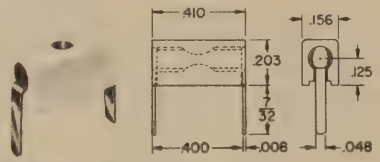
Cat. No. 105-0770-001. Net $0.22
(See color chart under Tip Jacks)

Printed circuit connectors

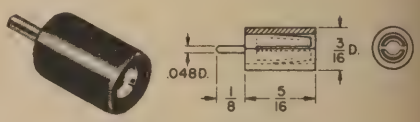
The sub-miniature Tip Jacks and Tip Plugs described below are rated at 5 amperes maximum current capacity. Operating voltage is 1500 volts RMS at sea level and 350 volts RMS at 50,000 feet. Contact resistance is less than 2 milliohms; capacitance between two adjacent jacks less than one pF. at 1 MHz. Body material is made of tough, low-loss polyamide per MIL-M-20693A; able to stand extremely hard usage. Tip Plugs have a one-piece machined contact. Jacks equipped with beryllium copper contacts. Jack contacts and terminals are silver-plated.



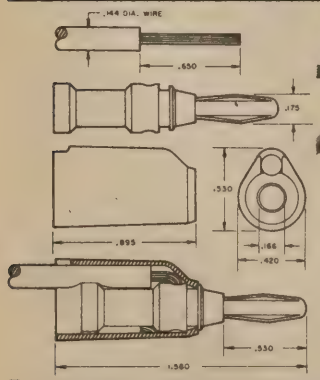
New Horizontal Jack
New design accepts 0.080" diameter tip plug in either end. Silver-plated and Irridited beryllium-copper formed contact. Two terminals. Approximately one-half size of standard Tip Jack.
Cat. No. 105-1100-001.....Net $0.09
(See color chart under Tip Jacks)

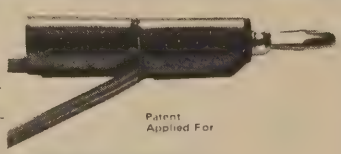


Horizontal Jack
(U.S. Patent No. 3,208,027)
Unique design accepts .080" diameter tip plug in either end, or from top or bottom! Silver-plated beryllium copper formed contact. Two terminals.
Note: Available as a special in production quantities without cross hole.
Cat. No. 105-0750-001.....Net $0.09
(See color chart under Tip Jacks)

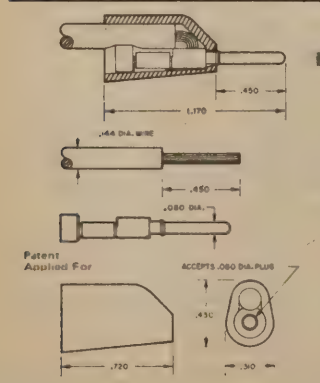


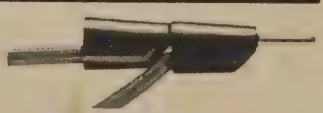
Vertical Jack
Mounts through single .052" hole, requires minimum mounting area. Silver-plated, machined beryllium copper contact.
Cat. No. 105-0850-001.....Net $0.14
(See color chart under Tip Jacks)





Stacking Standard Banana Plugs
Current rating: 15 amps. Assembly with special tool and fixture is recommended. 6 colors.
Cat. No. 108-1080-001
Net $0.37
(See color chart under Tip Jacks)



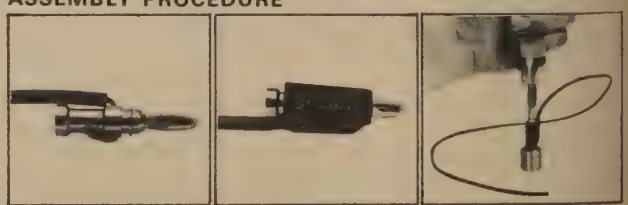


Stacking .080 Standard Tip Plugs
Current rating: 10 amps.
Cat. No. 105-1200-001
Net $0.43
(See color chart under Tip Jacks)

Patchcord Stacking Plugs

Developed for custom patchcord assembly and replacement of damaged molded patchcord plugs. Allows assembly of patchcords with any length and color. Used with standard 0.144" diameter rubber or extra-flexible polyvinyl insulated wire. Plug body precision machined brass with 0.0002" nickel plating. Polyamide housing available in 6 colors. Operating temperature range −55°C to +105°C.

ASSEMBLY PROCEDURE



1. Feed stripped wire through cross-hole of metal contact.
2. Insert contact and wire into housing.
3. Place into fixture. Place tip of tool into rear of contact. Snap contact into place.

Engineering Kits available containing material to assemble 30 patchcords in six colors from E. F. Johnson Company.

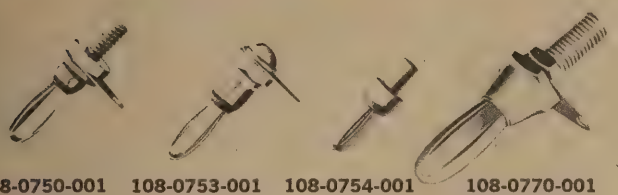
Standard Banana Patchcord Stacking Plug Engineering Kit
Cat. No. 108-1299-001
Net $21.95

Standard .080 Tip Patchcord Stacking Plug Engineering Kit
Cat. No. 105-1299-001
Net $24.95

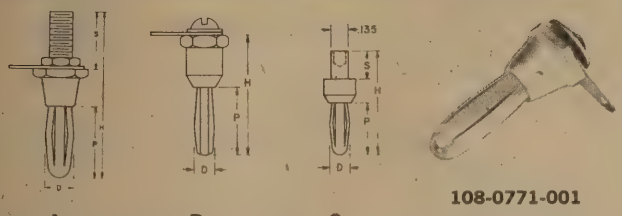
Net
© United Technical Publications

E. F. JOHNSON COMPANY

Banana jacks and plugs



108-0750-001 108-0753-001 108-0754-001 108-0770-001



A B C 108-0771-001

STANDARD BANANA PLUGS

This group of standard banana plugs has accurately machined brass studs which extend the full length of the plugs, providing extra strength. Springs are nickel-silver—highly resistant to corrosion. Bodies and hardware .0001 nickel-plated. All banana plugs listed below are available with beryllium copper springs and nickel, cadmium, or silver plating, when desired. A wide selection of miniature solder-type plugs is also available on special order—however, quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

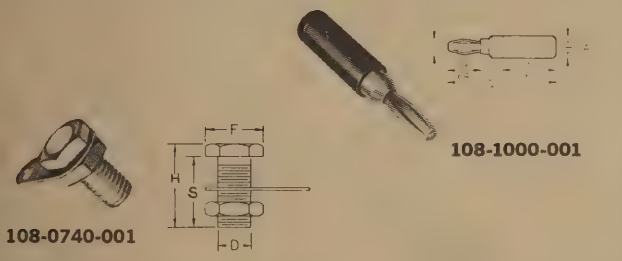
Cat. No.	Dwg.	S	P	D	H	Thread	Net Price
108-0750-001	A	3/8"	17/32"	.175"	1 1/8"	6-32	$0.23
108-0750-002	A	3/4"	17/32"	.175"	1 1/2"	6-32	.24
108-0753-001	B	—	17/32"	.175"	15/16"	6-32	.24

This banana plug is similar to the standard types listed above, except that it is designed for riveting. Springs are beryllium copper, cadmium-plated.

108-0754-001	C	7/32"	13/32"	.155"	13/16"	—	$0.17

Jumbo type banana plugs with accurately machined brass studs extending full length of the pins. Nickel-silver springs. Bodies and hardware .0001 nickel-plated. With solder lug and nut or screw.

108-0770-001	A	5/8"	3/4"	.300"	1 25/32"	1/4"-28	$0.47
108-0771-001	B	—	3/4"	.300"	1 1/8"	10-32	.70



108-1000-001 108-0740-001

MINIATURE BANANA PLUGS

Extremely small insulated banana plugs with precision machined phosphor bronze body, nickel-plated. One-piece springs are beryllium copper, nickel-plated, .120" dia. Polyamide sleeve. Current rating: 5 amps.

Cat. No. 108-1000-001 ..... **Net Price $0.36**

(6 colors—see chart)

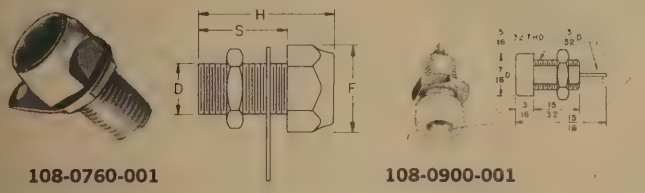
STANDARD BANANA JACKS

High quality, machined brass banana jack. Nickel-plated. Furnished complete with solder terminal and nut.

Cat. No.	F	D	S	H	Hole Dia.	Thread	Net Price
108-0740-001	3/8"	1/4"	17/32"	5/8"	.166"	1/4"-28	$0.18

This jumbo banana jack will accommodate plugs such as the 108-0770-001 and the 108-0771-001 listed above. Machined brass, nickel-plated. Furnished complete with solder terminal and nut.

108-0760-001	9/16"	3/8"	21/32"	1"	.277"	3/8"-32	$0.56



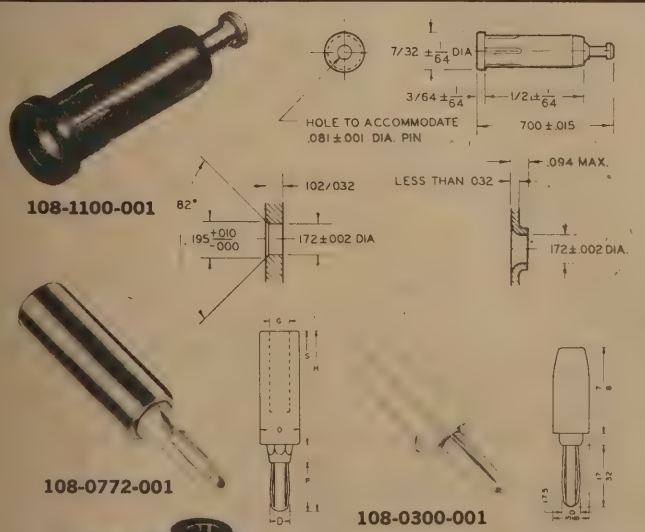
108-0760-001 108-0900-001

BANANA JACK

Completely insulated molded body with cadmium-plated insert. Accommodates banana plugs of nominal .175" diameter. Voltage breakdown: 10,000 volts DC. Capacity to 1/16" panel: 2.4 mmf. nominal. Mounts in 21/64" diameter circular, "D", or double flat hole (1/4" across flats). Single nut furnished for mounting—no other mounting hardware needed.

Cat. No. 108-0900-001 ..... **Net Price $0.13**

(See Color Chart under tip jacks)



108-1100-001 108-0772-001 108-0300-001

RIB-LOC® PRESS-IN BANANA JACKS

Johnson RIB-LOC design permits substantial production line savings—no mounting hardware to handle and assemble. RIB-LOC banana jacks install by pressing into proper size chassis hole. Accept .120" tip plug in recessed contact. Silver-plated brass contact. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. Current rating: 10 amps. Peak withstanding voltage: 5,000 volts. Capacity to 1/8" panel: 1.4 pF nominal.

Cat. No. 108-1100-001 ..... **Net Price $0.11**

(6 colors—see chart)

JUMBO INSULATED BANANA PLUGS

These jumbo size insulated banana plugs are similar in design to the standard types listed above, but are somewhat larger in size. With brass nickel-plated bodies, and nickel-silver springs. The 108-0772-001 has a black plastic handle—the 108-0772-002 has a red plastic handle.

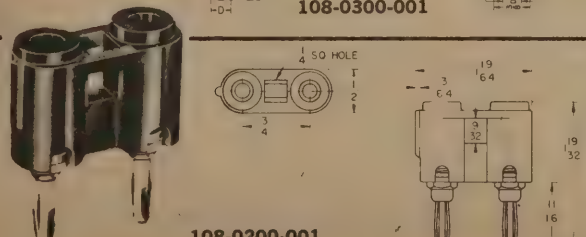
Cat. No.	S	P	D	H	G	O	Net Price
108-0772-001	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	$0.89
108-0772-002	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	.89

SOLDERLESS BANANA PLUGS

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge stranded wire. Body and pin are constructed of one-piece, nickel-plated brass with high grade nickel-silver springs. Sleeve is molded. Current rating: 15 amps.

Cat. No. 108-0300-001 ..... **Net Price $0.25**

(See Color Chart under tip jacks)



108-0200-001

DUAL BANANA PLUGS

Extremely versatile dual banana plug available for either solderless or set screw connection. Molded body incorporates polarity indication and strain relief hole for wire leads. Springs are high quality nickel-silver—bodies are nickel plated. Accurately machined brass studs extend full length of pins for extra strength. Voltage breakdown: 10,000 VDC. Capacity plug to plug: 1.3 pf. Current rating: 15 amps.

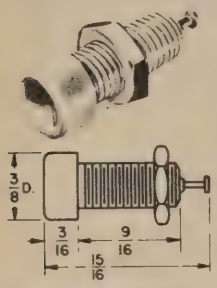
Cat. No. 108-0200-001 (solderless) ..... **Net Price $0.75**

Cat. No. 108-0250-001 (with set screws) ..... **Net Price .85**

(See Color Chart under tip jacks)

E. F. JOHNSON COMPANY

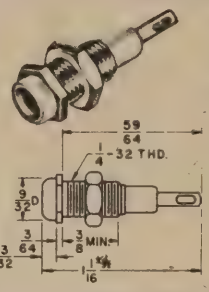
Tip jacks



DELUXE TIP JACK
(U.S. Patent No. 2,704,357)

Molded body with recessed closed entry design contact. Silver-plated beryllium copper contact spring. Brass solder terminal is hot tin dipped. Current rating: 10 amps. Voltage breakdown: 11,000 VDC. Capacity to ⅛" panel: 2.0 pf. ¼-32 nut furnished.

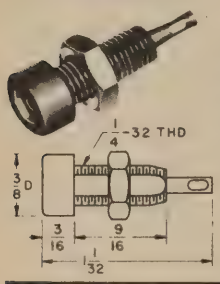
Cat. No. 105-0600-001. Net Price $0.22
(See color chart below)



METAL-CLAD TIP JACKS—STANDARD

Molded body, nickel-plated machined brass jacket. Formed, silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 7,000 volts DC. Capacity to ⅛" panel: 3.8 pf. ¼"-32 nut furnished.

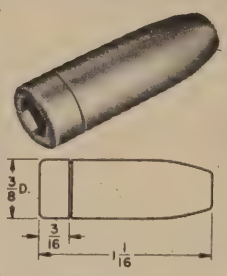
Cat. No. 105-0250-001. Net Price $0.22
(See color chart below)



STANDARD TIP JACK

Molded body with recessed, cadmium-plated formed phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9,000 volts DC. Capacity to ⅛" panels: 2.0 mmf. ¼"-32 nut furnished.

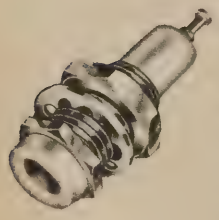
Cat. No. 105-0800-001. Net Price $0.14
(See color chart below)



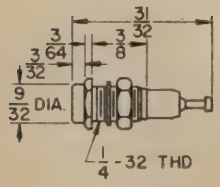
JACK AND SLEEVE ASSEMBLY
(U.S. Pat. No. 2,704,357)

Includes Deluxe Tip Jack (105-0601-001 to 105-0613-001), less mounting nut, with inside threaded molded sleeve. Ideal for patch cords, or insulated rear connection of panel mounted tip jack.

Cat. No. 105-0700-001. Net Price $0.29
(See color chart below)







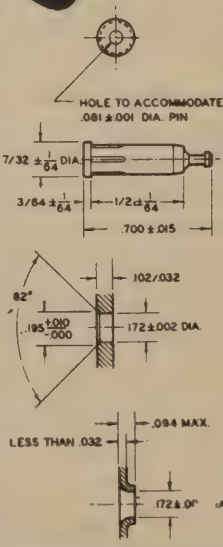
METAL-CLAD TIP JACKS—MILITARY

High reliability tip jack for military use or demanding industrial applications. Highest quality materials — withstand severe environmental temperature, vibration and salt spray conditions. Complies with MS-16108, Rev. F of MIL-STD-242A. Closed entry contact design prohibits entry of tip plug .085" or larger—prevents accidental contact damage by careless probe insertion. Heavy nickel-plated brass jacket. Gold-plated beryllium copper contact spring greatly exceeds minimum insertion/withdrawal cycle requirements of MS-16108. Current rating: 5 amps. Voltage breakdown: 8,000 volts DC. Capacity to ⅛" panel: 3.8 pf. ¼"-32 nut and lock washer furnished. Terminal Style: "A". (Terminal Style "C" per MS-16108 available on special order in production quantities.) Brass solder terminal is gold-plated.

Cat. No. 105-0200-200. Net Price $0.36

Mil. Std. Number	Color	E. F. Johnson Number
MS16108-1A	White	105-0201-200
MS16108-2A	Red	105-0202-200
MS16108-3A	Black	105-0203-200
MS16108-4A	Brown	105-0208-200
MS16108-5A	Green	105-0204-200
MS16108-6A	Orange	105-0206-200
MS16108-7A	Blue	105-0210-200
MS16108-8A	Yellow	105-0207-200
MS16108-9A	Gray	105-0213-200
MS16108-10A	Violet	105-0212-200





RIB-LOC™ PRESS-IN TIP JACKS

Johnson Rib-Loc design permits substantial production line savings—no mounting hardware to handle and assemble. Rib-Loc tip jacks install by pressing into proper size chassis hole. Accept .080" tip plug in recessed, closed-entry type contact that rejects plugs .085" or larger to prevent accidental contact damage. Silver-plated beryllium copper contact spring. Brass solder terminal silver-plated and Iridited for good solderability. Insulating body molded of low-loss polyamide. Current rating: 10 amps. Voltage breakdown: 5,000 VDC. Capacity to ⅛" panel: 1.4 pf nominal.

Cat. No. 105-1040-001. Net Price $0.18
(See color chart below)

COLOR CHART

NOTE: Connectors, unless otherwise specified, are available in 6 molded colors to Federal Standard 595. Other colors listed are available as specials. Catalog number for color desired is determined by adding color numbers on chart below to 6th and 7th digits of catalog number listed for series. EXAMPLE: 105-0800-001 in Violet, add color number for Violet (12) to 6th and 7th digits of series number, and order 105-0812-001. To order 105-1040-001 in Violet, add 12 to 6th and 7th digits of series number and order 105-1052-001.

Color	No.	Color	No.	Color	No.
White*	01	Orange	06	Violet	12
Red*	02	Yellow*	07	Grey	13
Black*	03	Brown	08		
Green*	04	Blue*	10		

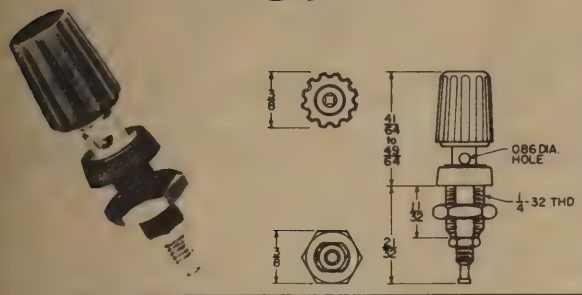
*Indicates colors available from stock. Other colors listed are, for some items, available as specials.

Net
© United Technical Publications

E. F. JOHNSON COMPANY®

Binding posts

Compact, insulated, pre-assembled binding posts with molded body and silver-plated shank. Fluted thumb nut self-captivated. Connection made at solder stud, or lug may be slipped over threaded portion and secured with a nut. Single tip plug fits hole in top of miniature binding post; banana plug accepted by two larger binding posts. Insulation resistance greater than 200 meg. after MIL-T-5422B humidity test. (U.S. Pat. No. 2,806,999.)

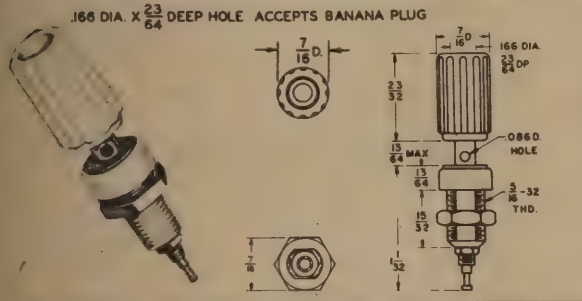


New miniature binding post designed for compact test equipment applications. Rated at 15 amps. thumb nut to terminal, 5 amps. tip jack to terminal. Voltage breakdown: 5,000 volts DC. Capacitance to ⅛" panel; 3 pf. Mounts in 17/64" diameter circular hole; "D" or double flat hole—.219" across flats. Equipped with single ¼"-32 nut for fast mounting—no time-consuming spacers or mounting hardware required. No. 111-0200 accepts .080" dia. pin probe. No. 111-0400 accepts .120" dia. banana plug.

Available in 6 colors: white, red, black, green, yellow, and blue.

Cat. No. 111-0200-001 ..... **Net Price $0.55**

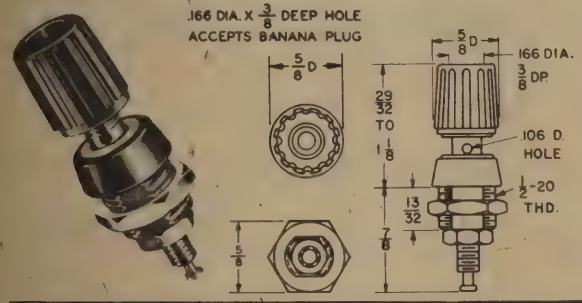
Cat. No. 111-0400-001 ..... **Net Price .43**



Rated at 15 amps. Current carrying capacity. Voltage breakdown: 8,000 volts DC. Capacitance to ⅛ panel: 3.3 pf. Mounts in 21/64" diameter circular hole; "D" or double flat hole—¼" across flats. Single 5/16-32 mounting nut furnished—no other hardware required.

Cat. No. 111-0100-001 ..... **Net Price $0.37**

(10 colors available—see color chart)

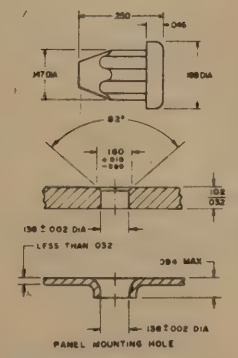


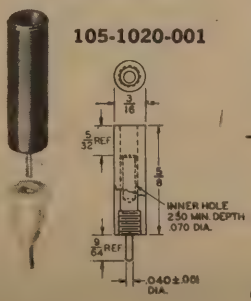
Rated at 40 amps. current carrying capacity. Voltage breakdown: 7,000 volts DC. Capacitance to ⅛" panel: 3.5 pf. Mounts in ½" diameter circular hole; "D" or double flat hole—.422 across flats. Single ½-20 mounting nut furnished—no other hardware needed. Available in six colors: white, red, black, green, yellow, and blue.

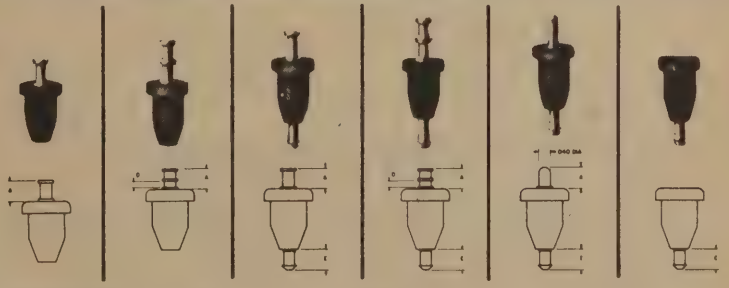
Cat. No. 111-0300-001 ..... **Net Price $0.56**

Rib-Loc™ terminals and jacks

With Johnson Rib-Loc insulated components, commercial equipment designs can reflect size reductions formerly limited to military equipment applications because of high cost. "Rib-Loc" design offers excellent retention — considerably better than the most widely used TFE insulated types. Terminals are brass, silver-plated and iridited for good solderability.







Specifications, all "Rib-Loc" components:

Pullout force 21 lbs.; turning torque 18 oz. in.; capacitance, .050" thick panel at 1 mc., 1.00 pf.; flashover voltage (DC) 5300; max. service temperature 250° F.; leakage current at 3500 VDC, .01 ua. These are typical test measurements, not necessarily limit values.

Series Number	Description	A	D	E	Net Price
260-0000-001	Single turret stand-off	0.125			$0.07
260-0100-001	Double turret stand-off	0.187	0.068		.07
260-0200-001	Single turret feed-thru	0.125		0.140	.09
260-0300-001	Double turret feed-thru	0.187	0.068	0.140	.09
260-0400-001	Tip plug, 0.040" dia.	0.140		0.140	.09
264-0000-001	Tip jack for 0.040" dia. plug			0.140	.10

Color	No.	Color	No.
White	01	Green	04
Red	02	Yellow	07
Black	03	Blue	10

Note: Part number for color desired is determined by adding color number to 6th and 7th digits of part number listed for each item above.

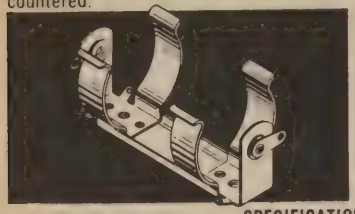
TIP PLUG FOR .040" RIB-LOC TIP JACK

Cat. No. 105-1020-001 ..... **Net Price $0.21**

KEYSTONE ALL STEEL BATTERY HOLDERS

STANDARDIZED ALL STEEL BATTERY HOLDERS

An important advance in design that has gained wide acceptance for military and commercial usage. Battery when installed is held under spring tension at a constant pressure assuring low resistance contact will hold up to 4 cells in series in sturdy insulating tube. Retainer clips available to lock battery securely. This prevents shifting or loosening of battery in holder. Recommended for use where shock or severe vibration is encountered.



- CORROSION RESISTANT NICKEL PLATED
- STAINLESS STEEL CONTACTS
- MOISTURE PROOF INSULATING WASHERS
- IDEAL FOR NI-CAD AND ALKALINE CELLS

SPECIFICATIONS

Made of SAE 1065 Carbon Steel to MIL Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Contact assembly consists of a stainless steel eyelet, moisture proof vulcoid washers and a coated copper solder lug. Ribbed carbon steel base for added support is nickel plated and has 2 mounting holes for ease in mounting.

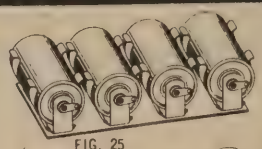

FIG. 25


FIG. 24

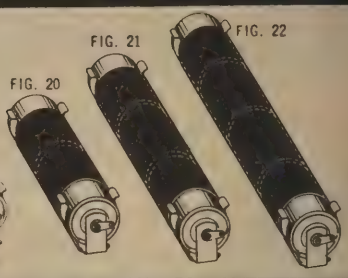
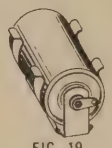
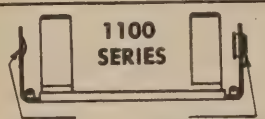
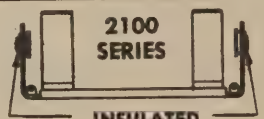

FIG. 20 FIG. 21 FIG. 22

FIG. 23


FIG. 19





One Insulated Contact	All Contacts Insulated	Fig. No.	Holds No. of Cells	All Batteries in the Group are of Similar Size and Fit Holders Listed Burgess	Eveready	RCA
PENCELL HOLDERS						
Cat. No.	Cat. No.					
1139	2139	19	1	Z, HG9	E9, E12	VS034A
	2140*	23	2	CD6, 9R	E91, E133	VS144
	2171*	24	3	HG12R	E502, N46	VS149
	2162*	25	4	H133	515, 915	VS313A
1189	2189	20	2	HG502R	1015	VS334
1191	2191	21	3	920		
1194	2194	22	4	930		
"C" CELL HOLDERS						
1173	2173	19	1	1		VS035A
	2174*	23	2	P6	E233	VS300
	2187*	24	3	120	635	VS335
	2188*	25	4	130	935	VS400
1185	2185	20	2	H233		
1195	2195	21	3	302599		
1198	2198	22	4			
"D" CELL HOLDERS						
1175	2175	19	1	2	E42	VS036
	2176*	23	2	2R	N56	VS036A
	2190*	24	3	CD7	E95	VS336
	2192*	25	4	210	D99	
1186	2186	20	2	230	A100	
1199	2199	21	3		950	
1162	2162	22	4		1050	
1179	2179	19	1		E94	

*Clips mounted on phenolic 1/16" thick Mil Spec 3115B

SPACE SAVER BATTERY CLIPS

Available with insulated contact or dimple. Positive contact grips battery securely. They will accommodate the "AA" — "C" — "D" — Mercury and NI-CAD batteries.

- CORROSION RESISTANT NICKEL PLATED
- STAINLESS STEEL CONTACTS

Clips — Carbon Steel, SAE 1065 per Mil-S-17919-#4, Heated Treated to Spring Temper, Nickel Plate Finish.
Contact Eyelets — Stainless Steel per Mil-S-18170 Comp 304.
Insulating Washers — Resin Impregnated Fibre.
Terminal Lugs — Copper Per QQ-C-576A, Cad. Plated per QQ-P-416.

Fig. 1



DIMPLE CONTACT

Fig. 2



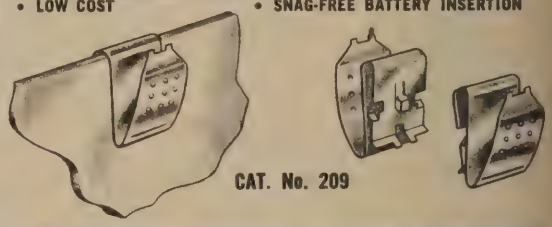
INSULATED CONTACT

Cat. No.	Fig.	A Dia. Min. - Max.	Steel Thickness	For Cells
86	1	.875 to 1.125	.020	C
87	2	.875 to 1.125	.020	C
88	2	1.187 to 1.350	.020	D
89	1	1.187 to 1.350	.020	D
99	1	.531 to .650	.015	AA
100	2	.531 to .650	.015	AA

PENCELL SNAP-ON BATTERY HOLDER CLIPS

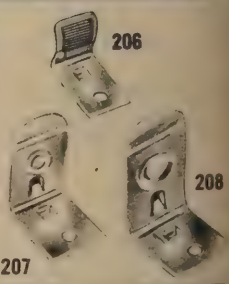
Clips over panels from .060 to .070 thick and is anchored by sharp barbs. Made of spring tempered steel, nickel plated.

- IDEAL FOR MOLDED CASES
- SELF ANCHORING
- LOW COST
- SNAG-FREE BATTERY INSERTION


CAT. No. 209

ECONOMY CLIPS for "AA" Pencells — "C" and "D" Cells

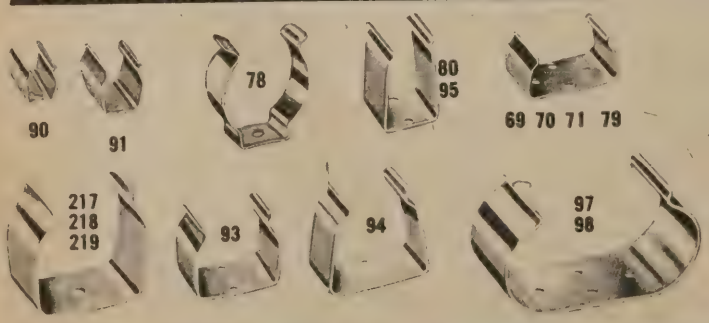
A low cost clip used with non-metallic bases. **Features:** Single eyelet mount — non-rotating tab. **Material:** Spring Temper Steel and Nickel Plated.



Cat. No.	B	C	H	M Mtg. Hole	For Cells
206	.609	.468	.500	.128	AA
207	.687	.547	.875	.128	C
208	.765	.562	1.290	.128	D
67	.765	.562	1.290	.156	D

67 does not have Non-Rotation Tab

BATTERY AND COMPONENT HOLDERS



A complete line of clips suitable for secure mounting of round or square battery cells or electronic components.

Cat. No.	A Min.-Max. Dia. or Size	Material	For Cells*
69	.562 (2)	.015 Steel	(2) AA
70	.656 (2)	.025 Alum.	(2) RM12
71	.593 x 1.031	.015 Steel	2U6
78	1.187 to 1.350	.020 Steel	D
79	.650 x 1.280	.015 Steel	T 146 X
80	.650 x 1.280	.020 Steel	146 X
90	.375 to .468	.016 Alum.	AAA
91	.531 to .656	.020 Alum.	AA
93	.875 to 1.1250	.025 Alum.	C
94	1.187 to 1.375	.032 Alum.	D
95	.625 x 1.000	.025 Alum.	U-15
97	1.031 (2)	.025 Alum.	(2) C
98	1.312 (2)	.032 Alum.	(2) D
217	1.375 to 1.500	.025 Steel	NI-CAD
218	1.437 to 1.687	.025 Steel	NI-CAD
219	2.000 to 2.500	.025 Steel	NI-CAD

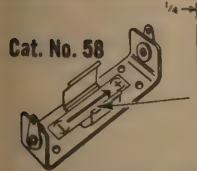
KEYSTONE ELECTRONICS CORP.

© United Technical Publications

KEYSTONE BATTERY HOLDERS

Cat. No.	Holds No. of Cells	Fig. No.	ALL BATTERIES LISTED WITHIN BOXES ARE IN THE SAME SIZE GROUP BATTERY CROSS REFERENCE Burgess	Eveready	RCA
MINIATURE CELL HOLDERS					
137	1	1	7	912	VS074
138	2	2			
169	3	3			
170	4	4			
PENCELL HOLDERS					
139	1	1	CD6	E9, E12	VS034A
140	2	2	9R, Z	E91	VS144
171	3	3	HC9	E133	VS149
182	4	4	HG12R	333	VS313A
189	2	5	H133	E502	VS334
191	3	6	HG502R	515	
192	4	7	920	915, 1015	
193	6	8	930	N46	
"C" CELL HOLDERS					
173	1	1	1	226	VS035A
174	2	2	P6	E233	VS300
187	3	3	120	635	VS335
185	2	5	130	935	VS400
195	3	6	H233		
196	4	7	302599		
197	6	8			
"D" CELL HOLDERS					
175	1	1	2	E42	VS036A
176	2	2	2R	N56	VS036
190	3	3	CD7	E95	VS336
186	2	5	210	D99	
199	3	6	230	A100	
200	4	7		950	
201	6	8		1050	
205	6	12			
1½ VOLT CELL HOLDERS					
154	1	1	N	E340	VS073
155	2	2		E400	
156	3	3		E401	
160	1	1	21R	964	VS236
179	1	1		E94	
4½ VOLT CELL HOLDERS					
139	1	1		333	VS1149
9 VOLT CELL HOLDERS					
139-B	1	1		206	VS327
203P	1	14	2U6	216	VS323
173P	1	1	P6M	226	VS300A
15 VOLT CELL HOLDERS					
163	1	11	K10	417	
161	1	11	U10	411	VS083
166	1	9			
167	2	10			
225	1	1	Y10	504	
226	2	2			
22½ VOLT CELL HOLDERS					
164	1	11	K15		
168	1	11		420	
177	1	9	U15	412	VS084
178	2	10			
139A	1	1	Y15	505	
140A	2	2			
171A	3	3			
182A	4	4			
30 VOLT CELL HOLDERS					
157	1	14	Y20	506	
165	1	11	K20	430	
183	1	9	U20	413	VS085
184	2	10			
134	1	1	Y20S	507	

POLARITY LABELS



- PRESSURE SENSITIVE
- WILL ADHERE TO ANY SURFACE
- NO GLUE OR DAMPING REQUIRED
- ECONOMICAL

Wherever circuit polarity is to be shown labels colored Blue and Red.

A standard line of battery holders available for immediate shipment from stock. Low cost, lightweight and sturdily constructed of quality materials. Good electrical contact, low leakage current and snap-fit clips are the outstanding features.

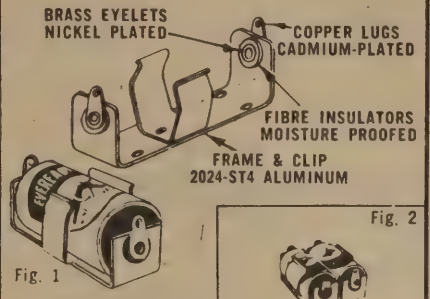


Fig. 1

Fig. 2


Fig. 3


Fig. 4


Fig. 5

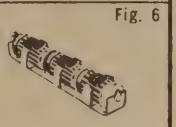

Fig. 6


Fig. 7


Fig. 8


Fig. 9


Fig. 10


Fig. 11


Fig. 12


Fig. 14

MERCURY BATTERY HOLDERS


FIG. 13


FIG. 15


FIG. 16


FIG 17


FIG 18


FIG. 19



Mallory Mercury Battery Listing	Aluminum and Phenolic Base Holders Cat. No.	Fig. No.	All Steel Holders One Insulated Contact Cat. No.	Fig. No.	All Steel Holders All Contacts Insulated Cat. No.	Fig. No.
RM1R	101*	13	1101	15	2101	16
RM3R	103*	13	1103	15	2103	16
RM4R	104*	13	1104	15	2104	16
ZM9	139	1	1139	19	2139	19
RM12R	139	1	1139	19	2139	19
RM42	175	1	1175	19	2175	19
TR113			1113	15	2113	16
TR114			1114	15	2114	16
TR115	132	1	1132	15	2132	16
TR132	132	1	1132	15	2132	16
TR133	139	1	1139	19	2139	19
TR134	134	1	1134	19	2134	19
TR135	135	5	1135	19	2135	19
TR136	189	5	1189	19	2189	19
TR137			1125	19	2125	19
TR145			1145	15	2145	16
TR152	124**	1				
TR153	106**	1				
TR162			1113	15	2113	16
TR163	132	1	1132	15	2132	16
TR164	109	1	1109	19	2109	19
TR165	110	1	1110	19	2110	19
TR169	189	5	1189	19	2189	19
TR175	124**	1				
TR177			1142	19	2142	19
TR233	173	1	1173	19	2173	19
TR234			1144	19	2144	19
RM400	111*	18				
RM401	124**	1				
RM411	166**	9				
RM412	177**	9				
RM413	183**	9				
RM450	112*	17				
RM502	139	1	1139	19	2139	19
RM601			1116	15	2116	16
RM625	117*	17				
RM630	126*	18				
RM640	118*	13				
RM675	127*	18				
302351	119	1	1119	19	2119	19
302478	120	5	1120	19	2120	19
302642	121	1	1121	19	2121	19
302435	122**	1				
302437	139	1	1139	19	2139	19
302599	173	1	1173	19	2173	19

BATTERY STRAPS

Made for batteries requiring a snap-on connection. Contacts are mounted securely to fibre and wire leads attached.

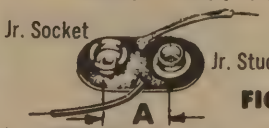


FIG. 1

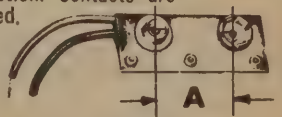


FIG. 2 Sr. Stud and Sr. Socket

Cat. No.	Fig. No.	A	EVEREADY	BURGESS	R.C.A.
72	1	½"	216 246 416	2U6 2N6 UX-5	VS-312 305 318
73	2	¾"	266	M-6	
74	2	15/16"	495 479 437 477	N60X P60 XX50 P45	VS-316 216 217 218
75	2	1⅜"	276	D6	VS-306
76	2	1½"	455 457 467	XX-30 K45 XX-45	VS-055 082 016
77	2	2½"	490	N-60	VS-090

KEYSTONE ELECTRONICS CORP.

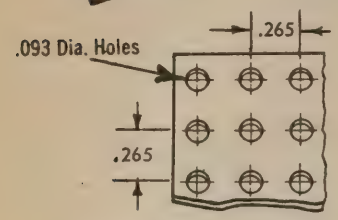
© United Technical Publications

KEYSTONE ELECTRONICS CORP.

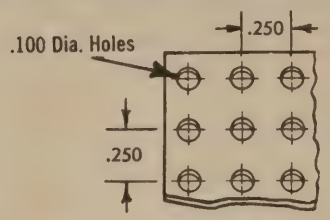
PRE-PUNCHED TERMINAL BOARDS

KEYBOARDS

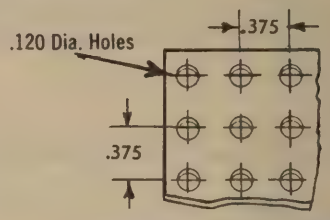
- COMPLETE RANGE OF SIZES AND SUITABLE HARDWARE
- "DO IT YOURSELF" STAKING TOOLS
- COPPER CLAD FOR PRINTED CIRCUITS
- UNCLAD TYPE FOR WIRED CIRCUITS
- STANDARD AND CUSTOM-MADE



"A" PATTERN .093 DIA. HOLES



"E" PATTERN .100 DIA. HOLES



"H" PATTERN .120 DIA. HOLES

"A" PATTERN .093 DIA. HOLES .265 x .265 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy
		1/16" THICK		
		Cat. No.	Cat. No.	Cat. No.
.82 x 8.50	3 x 32	1731	1790	1796EP
1.88 x 8.50	7 x 32	1737	1791	1797EP
2.44 x 8.50	9 x 32	1738	1788	1798EP
3.25 x 8.50	13 x 32	1785	1789	1801EP
3.25 x 17.00	13 x 64	1786	1787	1802EP
4.88 x 4.88	18 x 18	1806	1807	1803EP
4.88 x 8.50	18 x 32	1784	1792	1804EP
4.88 x 17.00	18 x 64	1739	1793	1805EP
8.50 x 8.50	32 x 32	1732	1794	1808EP
8.50 x 17.00	32 x 64	1733	1795	1809EP
		3/32" THICK		
1.38 x 1.88	5 x 7	1758	—	1758EP
1.38 x 4.00	5 x 15	1760	—	1760EP
1.38 x 8.50	5 x 32	1749	—	1749EP
1.88 x 2.94	7 x 11	1759	—	1759EP
1.88 x 8.50	7 x 32	1740	—	1740EP
2.44 x 8.50	9 x 32	1741	—	1741EP
3.25 x 8.50	13 x 32	1814	—	1814EP
3.25 x 17.00	13 x 64	1816	—	1816EP
4.88 x 8.50	18 x 32	1756	—	1756EP
4.88 x 17.00	18 x 64	1742	—	1742EP
8.50 x 8.50	32 x 32	1817	—	1817EP
8.50 x 17.00	32 x 64	1757	—	1757EP

"E" PATTERN .100 DIA. HOLES .250 x .250 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural
	1/16" THICK	
		Cat. No.
2.13 x 4.00	8 x 16	1750
2.13 x 8.50	8 x 34	1765
3.63 x 8.50	14 x 34	1766
8.50 x 8.50	34 x 34	1767
8.50 x 17.00	34 x 68	1768
	3/32" THICK	
2.13 x 8.50	8 x 34	1770
8.50 x 8.50	34 x 34	1771
8.50 x 17.00	34 x 68	1772

"H" PATTERN .120 DIA. HOLES .375 x .375 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Paper Base Epoxy
	1/16" THICK		
		Cat. No.	Cat. No.
1.88 x 8.25	5 x 22	1743	—
2.25 x 8.25	6 x 22	1744	—
4.13 x 8.25	11 x 22	1782	—
4.13 x 16.50	11 x 44	1745	—
	3/32" THICK		
1.88 x 8.25	5 x 22	1746	1746EP
2.25 x 8.25	6 x 22	1747	1747EP
4.13 x 8.25	11 x 22	1783	1783EP
4.13 x 16.50	11 x 44	1748	1748EP
6.00 x 8.25	16 x 22	1941	1941EP
6.00 x 16.50	16 x 44	1942	1942EP
8.25 x 8.25	22 x 22	1943	1943EP
8.25 x 16.50	22 x 44	1939	1939EP

TERMINALS AND EYELETS For Boards with .093-.100 dia. Holes

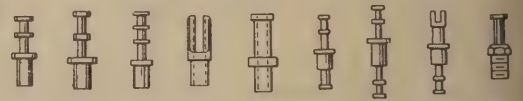
TERMINALS

Brass (Mil Spec QQ626) and Silver Plated.

NOTE: When ordering Turret Terminals **BE SURE TO SPECIFY Cat. No. of Terminal** and add **—2 for 1/16" thick Board** and **—3 for 3/32" thick Board**

I.E. **1598-2** for 1/16" thick Board and **1598-3** for 3/32" thick Board

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



1502 1514 1598 1511 1540 1530 1512 1834 1595

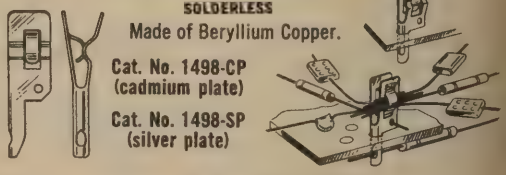
PUSH-IN TERMINAL

SOLDERLESS

Made of Beryllium Copper.

Cat. No. 1498-CP (cadmium plate)

Cat. No. 1498-SP (silver plate)



PRECISION MADE EYELETS

Made of Brass and Hot Tinned for easy solderability

Specify **Cat. No. 33** for 1/16" thick Board
Cat. No. 34 for 3/32" thick Board

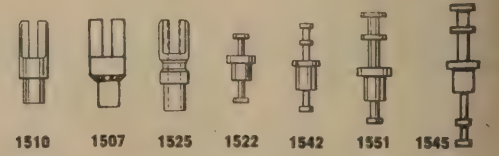
TERMINALS AND EYELETS For Boards with .120 dia. Holes

TERMINALS

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



1532 1504 1505 1503 1553 1509 1541



1510 1507 1525 1522 1542 1551 1545

PRECISION MADE EYELETS

Specify **Cat. No. 43** eyelet for 1/16" thick Board
Cat. No. 44 eyelet for 3/32" thick Board

KEYSTONE ELECTRONICS CORP.

© United Technical Publications

KEYBOARDS

PRE-PUNCHED TERMINAL BOARDS

KEYSTONE ELECTRONICS CORP. DESIGNERS MANUFACTURERS

THE PRACTICAL APPROACH TO SIMPLE OR COMPLEX CIRCUITRY

LOW COST — IMMEDIATE DELIVERY — CHOICE OF SIX POPULAR PATTERNS AND MATERIALS

STANDARDIZED KEYBOARDS: Permits time saving, low cost, assembly of components. Used extensively in development of prototype breadboarding, test design or production runs. A large selection of sizes and materials offers the designer the flexibility and convenience needed to create special circuitry on short notice.

ELECTRONIC HARDWARE: A large selection of turret, push-in and stamped terminals, brackets, eyelets, etc. available from stock.

STAKING TOOLS: Inexpensive tooling supplied for staking eyelets, bushings, turret terminals, etc. You can do an entire assembly at your bench with ease, using our impact tool. Other tools for arbor, kickpress, drill press. See Staking Tool page

SPECIAL SERVICES: We will install eyelets or terminals to suit your application. We invite inquiries for special sizes or additional holes drilled. Prompt quotations rendered at no cost to you.

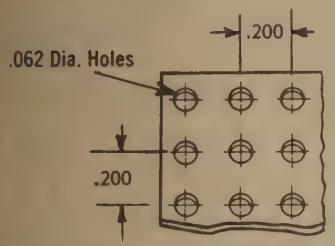
MATERIAL SPECIFICATIONS & TOLERANCES

XXXP Type PBE (Paper Base Elect.) Mil-P-3115C Temp. 250° F Max.
XXXPC Type PP Copper Clad Mil-P-13949 Temp. 250° F Max.
PAPER BASE EPOXY Mil-P-22324 (Type PEE) Temp. 250° F Max.
GLASS EPOXY UNCLAD Mil-P-18177 G-10 (GEE) Temp. 300° F. Max.
GLASS EPOXY Copper Clad Mil-P-13949B (GE) Temp. 300° F Max.

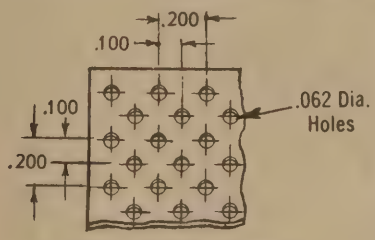
TOLERANCE: Length and width overall dimension after fabrication Plus or Minus .015.

HOLE SIZE: Plus or Minus .003.

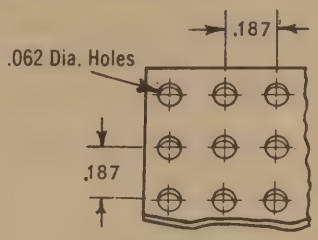
Thickness of standard sheet varies Plus or Minus .008 for 1/16 or .010 for 3/32" thick.



"F" PATTERN .062 DIA. HOLES



"G" PATTERN .062 DIA. HOLES



"B" PATTERN .062 DIA. HOLES

"F" PATTERN .062 DIA. HOLES .200 x .200 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Cop. Clad (1 Side)	Glass Epoxy Cop. Clad (2 Sides)	XXXP Cop. Clad (1 Side)	XXXP Cop. Clad (2 Sides)
		1/16" THICK						
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1.25 x 8.50	8 x 42	1730	1844	1730EP	1846	1847	1848	1853
3.00 x 4.50	14 x 20	1835	1845	1835EP	1836	1837	1838	1839
3.63 x 8.50	18 x 42	1773	1854	1773EP	1855	1856	1857	1858
3.63 x 17.00	18 x 85	1775	1859	1775EP	1864	1865	1866	1867
4.50 x 6.50	22 x 30	1868	1870	1868EP	1876	1877	1878	1879
4.50 x 8.50	22 x 42	1869	1871	1869EP	1881	1886	1887	1888
4.88 x 8.50	24 x 42	1774	1872	1774EP	1882	1889	1894	1899
4 88 x 17.00	24 x 85	1776	1873	1776EP	1883	1891	1895	1902
8.50 x 8.50	42 x 42	1777	1874	1777EP	1884	1892	1896	1903
8.50 x 17.00	42 x 85	1778	1875	1778EP	1885	1893	1897	1904

"G" PATTERN .062 DIA. HOLES .100 GRID ALTERNATES

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Copper Clad (1 Side)	Glass Epoxy Copper Clad (2 Sides)
		1/16" THICK				
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1.75 x 4.00	(8 x 19) x 2	1752	1909	1752EP	1919	1920
2.25 x 8.50	(11 x 42) x 2	1754	1910	1754EP	1921	1922
3.50 x 4.00	(17 x 19) x 2	1753	1911	1753EP	1923	1924
3.50 x 8.50	(17 x 42) x 2	1905	1912	1905EP	1925	1926
3.50 x 17.00	(17 x 85) x 2	1906	1913	1906EP	1927	1928
3.88 x 8.50	(19 x 42) x 2	1907	1914	1907EP	1929	1930
4.88 x 8.50	(24 x 42) x 2	1908	1915	1908EP	1931	1932
4.88 x 17.00	(24 x 85) x 2	1779	1916	1779EP	1933	1934
8.50 x 8.50	(42 x 42) x 2	1780	1917	1780EP	1935	1936
8.50 x 17.00	(42 x 85) x 2	1781	1918	1781EP	1937	1938

"B" PATTERN .062 DIA. HOLES .187 x .187 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	XXXP Copper Clad (1 Side)
		1/16" THICK	
		Cat. No.	Cat. No.
1.38 x 8.50	6 x 45	1761	1818
1.88 x 8.50	8 x 45	1734	1819
2.44 x 3.38	12 x 17	1812	1813
2.84 x 8.50	15 x 45	1735	1820
3.66 x 6.75	19 x 35	1824	1825
5.69 x 8.50	30 x 45	1762	1834
5.69 x 17.00	30 x 90	1736	1831
6.75 x 7.31	19 x 35	1826	1827
7.31 x 10.50	38 x 56	1828	1829
7.31 x 18.00	38 x 95	1832	1830
8.50 x 17.00	45 x 90	1763	1833

TERMINALS AND EYELETS
For Boards with .062 dia. Holes

TERMINALS

Brass, (Mil Spec QQ626) and Silver Plated.

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



1508-2 1593-2 1584-2 1562-2 1633-2



1613-2 1592-2 1526-2 1631-2 1632-2

PUSH-IN TERMINALS

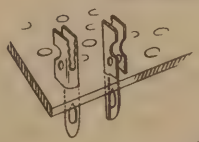
Made of Beryllium Copper.

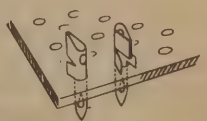


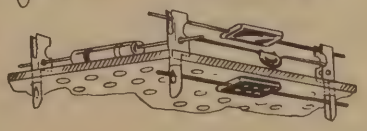
Cat. No. 1499-FT (fused tin plate)
Cat. No. 1499-SP (silver plate)



Cat. No. 1500 (silver plate)







PRECISION MADE EYELETS

Made of Brass and Hot Tinned for easy solderability.



Cat. No. 23 For 1/16" thick Board

We welcome your inquiries for special boards and assemblies.

KEYSTONE ELECTRONICS CORP.

© United Technical Publications

mueller clips

a complete line of

ALLIGATOR TEST & BATTERY CLIPS

Mueller Electric Co.

"60 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 3,321,736

No. 60—CONVENTIONAL TYPE

New slim design with full-meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.



EACH NET.....$0.10 LOTS OF 10.....$0.07

No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.



EACH NET....$0.12 LOTS OF 10....$0.082

No. 60-NS—ALLIGATOR NEEDLE CLIP

Like No. 60-S, but with insulation piercing needle in one jaw. Screw connection. 2" long. 10 per box.

EACH NET.....$0.23 LOTS OF 10.....$0.158

No. 60-CS—COPPER ALLIGATOR CLIP

Solid copper version of No. 60-S. Screw connection. 2" long. 10 per box.

EACH NET.....$0.18 LOTS OF 10.....$0.126

No. 60PR-2—SPECIAL BARREL FOR TEST PROD OR PHONE TIP



Barrel crimped to provide friction fit on standard test prod or phone tip. Holds prod on test, frees hand for other work.

EACH NET.....$0.15 LOTS OF 10.....$0.102

No. 62 FLEXIBLE VINYL INSULATOR

Red and black insulators for Alligator Clips 60, 60-S, 60-CS, 60PR-2, 60-NS.



EACH NET.....$0.06 LOTS OF 10.....$0.041

No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 11/32" long. Shipped half red, half black.



EACH NET.....$0.16 LOTS OF 10.....$0.115

No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE

Solid copper version of No. 60-HS. Screw connection. Shipped with half red, half black insulating sleeves. 10 per box.

EACH NET.....$0.22 LOTS OF 10.....$0.156

"70 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 2,762,028

Features simplified design, fast connection of wire with cord strain relief ears, patented hinge construction and lower cost.

No. 70—FOR SOLDERED CONNECTION

Steel, cadmium plated. 1 1/4" long.



EACH NET.....$0.08 LOTS OF 10.....$0.057

No. 70-S—SCREW CONNECTION

Otherwise same as No. 70.



EACH NET.....$0.10 LOTS OF 10.....$0.067

No. 70-CS—COPPER SCREW CONNECTION

Solid copper version of No. 70-S.

EACH NET.....$0.16 LOTS OF 10.....$0.10

No. 72— SKIN-TIGHT INSULATOR FOR 70 SERIES ALLIGATOR CLIPS!



For the first time complete, skin-tight, one-piece insulation for a standard size Alligator Clip! Covers entire clip right down to nose. Special tip slot permits full jaw opening without exposing teeth.

EACH NET.....$0.06 LOTS OF 10.....$0.041

MICRO-GATOR CLIP

(Smallest Insulated Clip Ever Made)

U.S. Patent No. 2,762,028 Trademark Reg.



Micro-Gator



Micro-Gator with Insulator

The alligator clip with the microscopic tip! This is the alligator clip you now can use where no other clip will do . . . on printed circuits, in tight spots and on tiny terminals too crowded for anything but its microscopic tip. Including separate skin-tight insulator the tip is no bigger than the head of a pin! Yet the Micro-gator has ample thumb grip, and plenty of bite to stand up straight on the smallest terminals. Ample 1/32" jaw spread. 1 3/32" long. Solder connection. Skin-tight flexible vinyl insulator (sold separately) has "lip-action" tip slot so that jaws stay covered whether open or closed.

No. 34 (Steel, cadmium plated)

EACH NET.....$0.07 LOTS OF 10.....$0.047

No. 34-C (Solid Copper)

EACH NET.....$0.09 LOTS OF 10.....$0.062

No. 36 (Insulator for Nos. 34 and 34-C)

EACH NET.....$0.05 LOTS OF 10.....$0.033

MINI-GATOR CLIP

U.S. Patent No. 3,321,736

Trademark Reg.



Mini-gator



Mini-gator with Insulator

Indispensable for testing or incorporation into miniaturized equipment. New design features rivet hinge for greater strength, full-meshing teeth to grip finest wires. Skin-tight flexible Vinyl insulator (sold separately) covers completely — has slotted "lip action" tip. Clip weighs 1/20th oz., has tiny 1/16" O.D. nose, but ample 3/16" jaw spread 1 3/32" long. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.

No. 30 (Steel, cadmium plated)

EACH NET.....$0.09 LOTS OF 10.....$0.062

No. 30-C (Solid Copper)

EACH NET.....$0.11 LOTS OF 10.....$0.076

No. 32 (Insulator for Nos. 30 and 30-C)

EACH NET.....$0.05 LOTS OF 10.....$0.033

COMPLETELY INSULATED ALLIGATOR CLIPS

Patent Pending



No. 63 or 63-C Clip

Sold only as a unit, with factory-applied insulators.

Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted tip that permits opening of clip without exposing metal. Insulator nose is only 13/64" O.D. The tight fitting sheath preserves all the slimness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. Screw connection easily made by slipping insulator forward. 2 1/8" long.

No. 63—INSULATED ALLIGATOR CLIP (STEEL)

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black. 10 per box.

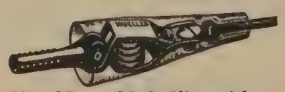
EACH NET.....$0.23 LOTS OF 10.....$0.158

No. 63-C—INSULATED ALLIGATOR CLIP (COPPER)

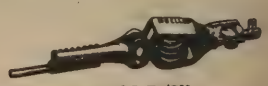
Composed of Mueller No. 60-CS Alligator Clip, solid copper, screw connection. Shipped half with red insulators, half black. 10 per box.

EACH NET.....$0.27 LOTS OF 10.....$0.19

CROCODILE CLIPS



No. 85 or 85-C Clip with No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 1/16" long.

EACH NET.....$0.12 LOTS OF 10.....$0.084

No. 85-C—Same as No. 85,, except solid copper with phosphor bronze spring, brass screw. A radio frequency, entirely non-ferrous test clip. 10 per box.

EACH NET.....$0.24 LOTS OF 10.....$0.165

No. 85-T—Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removale heads. 2 5/16" long. 10 per box.

EACH NET.....$0.31 LOTS OF 10.....$0.215

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.

Net

© United Technical Publications

mueller clips

a complete line of

ALLIGATOR TEST & BATTERY CLIPS

Mueller Electric Co.

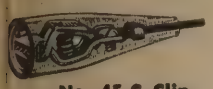
TEST CLIPS



No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½" long. Jaw spread 1/16". Steel, cadmium plated.

EACH NET.....$0.10 LOTS OF 10.....$0.068



No. 45-C Clip
No. 47 Insulator

No. 45-C
Solid Copper R.F. Test Clip

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1½" long. 10 per box.

EACH NET.....$0.17 LOTS OF 10.....$0.12

Use No. 47 Insulator for clips 45 and 45-C.



No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread ½". Steel, cadmium plated. 10 per box.

EACH NET.....$0.15 LOTS OF 10.....$0.103

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....$0.22 LOTS OF 10.....$0.15



No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2¼" long. 10 per box.

EACH NET....$0.36 LOTS OF 10....$0.25

No. 51-C—Large crocodile clip. Same as 50-C but without needle. 10 per box.

EACH NET....$0.25 LOTS OF 10....$0.177

Use No. 49 Insulator for Clips 48-B, 48-C, 50-C and 51-C.



No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 1/16" long. Jaw spread 5/8". Steel, cadmium plated. 10 per box.

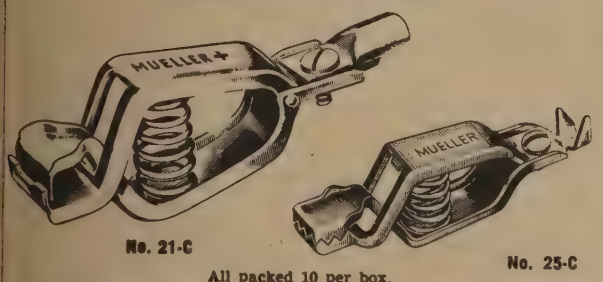
EACH NET.....$0.18 LOTS OF 10.....$0.12

No. 27-C—Solid copper. Same size as No. 27. 10 per box.

EACH NET.....$0.31 LOTS OF 10.....$0.218

Use No. 29 Insulator for clips 27 and 27-C.

LARGER SIZES OF CLIPS



No. 21-C

No. 25-C

All packed 10 per box.

		Each Net	Lots of 10
No. 24-A	— 25 Amp. Steel, lead plated, 2⅜" long	$0.29	$0.20
No. 25	— 40 Amp. Steel, cadmium plated, 3" long	.24	.165
No. 25-C	— 75 Amp. Solid Copper, 3" long	.51	.36
No. 21-A	— 50 Amp. Steel, lead plated, 4" long	.52	.36
No. 21-C*	—100 Amp. Solid Copper, 4½" long	1.34	.94
No. 11-A*	—100 Amp. Steel, lead plated, 6" long	1.44	1.01
No. 11-C*	—200 Amp. Solid Copper, 6" long	2.65	1.85
No. 33-C*	—300 Amp. Solid Copper, 7¾" long	4.80	3.36

(*Furnished with detachable lug connection for easy securing to large cables.)

GROUND CLAMP



CLAMPIPE
No. 58

The ClamPipe will not spread, bend or lop over when applied. Point of large screw bites through corrosion into clean metal to insure good contact. Applicable to pipe ⅜" to 1¾" O.D. The best ground clamp on the market!

EACH NET.....$0.28 LOTS OF 10.....$0.194

FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Colors help to distinguish leads. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly. NOW AVAILABLE also in blue, white, yellow and green at 10% above regular price are insulators marked * below.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13*	11-A, 11-C	$0.86	$0.60
23*	21-A, 21-C	.47	.33
26*	24-A, 25, 25-C	.29	.20
29*	27, 27-C	.19	.134
32*	30, 30-C	.05	.033
35	33-C	3.48	2.43
36*	34, 34-C	.05	.033
47*	45, 45-C	.08	.052
49*	48-B, 48-C, 50-C, 51-C	.12	.065
62*	60, 60-S, 60-CS, 60PR-2, 60-NS (also 70 Series)	.06	.041
72*	70, 70-S, 70-CS	.06	.041
87*	85, 85-C, 85-T	.08	.052

*Also available in blue, white, yellow and green.

MUELLER *QUALITY* BATTERY BOOSTER CABLES

Highest quality cables, equipped with famous Hippo-Clips, for boosting "dead" 6 or 12-volt vehicle batteries with an external battery. Cables are pure copper, finely stranded for high flexibility and covered with rubber insulation which stays flexible in the coldest weather and resists oil, grease and acid. 413 strands of No. 30 wire in the 4-gauge cable and 259 strands of No. 30 wire in the 6-gauge cable. The many fine features of the Hippo-Clips alone are listed elsewhere on this page. The clips are both soldered to the cable and clinched around the cable insulation by means of clinching ears.

Packaged: pair of cables with clips in a bright, attractive display carton. Standard shipping container 10 cartons.

No. 8A6—8 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)
NET PRICE PER PAIR.....$7.80

No. 12A6—12 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)
NET PRICE PER PAIR.....$9.90



No. 12C4—12 ft., 4-gauge, with No. 41C Hippo-Clips (Solid Copper)
NET PRICE PER PAIR.....$15.60



HIPPO-CLIP

HIPPO-CLIP—For battery booster cables and fast chargers. Proved higher quality and superior design. Built-in solder strap and clinching ears for fast, sure cable connection. Supplied with vinyl handle insulators in red or black. Full 1-9/16" jaw spread. 6" long.

	Net price ea.
No. 41-A Steel, bright copper plated, 100 amp.	$ .60
No. 41-C Solid Copper, 200 amp.	1.68

PIGMY HIPPO-CLIP

PIGMY HIPPO-CLIP—A new small plier clip for battery operated equipment and automotive test. Flat, wide handle allows positive grip. Won't "squirt away". Built-in solder strap and wire clinching ears. Supplied with vinyl handle insulators in red or black. Ample 1⅛" jaw spread. 3" long.

	Net price ea.
No. 46-A Steel, bright copper plated, 50 amp.	.18
No. 46-C Solid Copper, 75 amp.	.32

© United Technical Publications

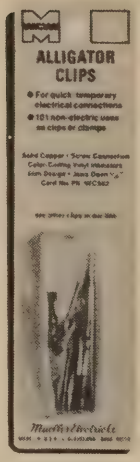
mueller clips

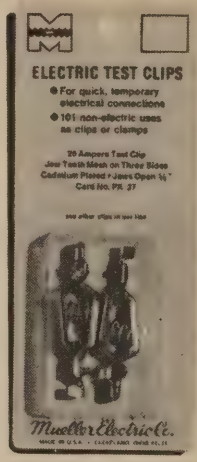
a complete line of
ALLIGATOR TEST & BATTERY CLIPS
Mueller Electric Co.

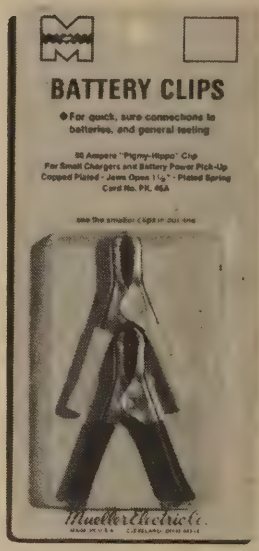
BUBBLE PACKED CLIPS AND INSULATORS

The most popular Mueller clips and insulators attractively packaged on display cards. Clean design and concise copy invite attention. Bright pumpkin colored background makes these cards an eye-catching standout on pegboard or similar display panels.

Only three card sizes. Most items packaged on smallest card (2″ x 7″). Where included, insulators are half red, half black. Standard package ten cards.







Card No.	Description and Quantity of Merchandise on Each Card (See Preceding Pages for Additional Information)	Length of Clip	Clip Jaws Open	Amp. Capacity	Clips Made Of	CARD PRICE Suggested USA List
	ALLIGATOR CLIPS					
PK60S	4 No. 60-S Clips, Screw Connection	2″	5/16″	5	Steel	$ .79
PK60S62	2 No. 60-S Clips and 2 No. 62 Insulators	2″	5/16″	5	Steel	.65
PK60CS	4 No. 60-CS Clips, Screw Connection	2″	5/16″	5	Copper	.99
PK60CS62	2 No. 60-CS Clips and 2 No. 62 Insulators	2″	5/16″	5	Copper	.75
PK60HS	4 No. 60-HS Clips with Insulated Handles 2 Red, 2 Black. Screw Connection	2-11/32″	5/16″	5	Steel	.99
PK60CHS	4 No. 60-CHS Clips with Insulated Handles 2 Red, 2 Black. Screw Connection	2-11/32″	5/16″	5	Copper	1.19
PK63	2 No. 63 Completely Insulated Clips, 1 Red, 1 Black. Screw Connection	2-1/8″	5/16″	5	Steel	.69
	MINI-GATOR CLIPS (Very Small Alligators)					
PK30	4 No. 30 Clips	-3/32″	3/16″	5	Steel	.68
PK3032	2 No. 30 Clips and 2 No. 32 Insulators	1-3/32″	3/16″	5	Steel	.58
PK30C	4 No. 30-C Clips	1-3/32″	3/16″	5	Copper	.75
PK30C32	2 No. 30-C Clips and 2 No. 32 Insulators	1-3/32″	3/16″	5	Copper	.61
	MICRO-GATOR CLIPS (Very Small Alligators with Tiny, Flat Jaws)					
PK34	4 No. 34 Clips	1-3/32″	7/32″	5	Steel	.59
PK3436	2 No. 34 Clips and 2 No. 36 Insulators	1-3/32″	7/32″	5	Steel	.53
PK34C	4 No. 34-C Clips	1-3/32″	7/32″	5	Copper	.68
PK34C36	2 No. 34-C Clips and 2 No. 36 Insulators	1-3/32″	7/32″	5	Copper	.58
	CROCODILE CLIPS (Long Jaws With Nesting Teeth)					
PK85	4 No. 85 Clips	2-1/8″	5/16″	5	Steel	.81
PK8587	2 No. 85 Clips and 2 No. 87 Insulators	2-1/8″	5/16″	5	Steel	.70
	GENERAL PURPOSE TEST CLIPS					
PK45	4 No. 45 Clips	1-1/2″	5/16″	5	Steel	.71
PK4547	2 No. 45 Clips and 2 No. 47 Insulators	1-1/2″	5/16″	5	Steel	.65
PK48B	4 No. 48-B Clips	2″	1/2″	10	Steel	.89
PK27	2 No. 27 Clips	2-7/16″	5/8″	20	Steel	.63
	NEEDLE CLIP (Piercing Contact Thru Wire Insulation)					
PK50C49	2 No. 50-C Clips and 2 No. 49 Insulators	2-1/4″	1/2″	20	Copper	1.28
	BATTERY CLIPS					
PK24A	2 No. 24-A Clips, Lead Plated	2-7/8″	3/4″	25	Steel	.88
PK21A	2 No. 21-A Clips, Lead Plated	4″	1-1/16″	50	Steel	1.49
PK46A	2 No. 46-A Plier-Type Clips, Bright Copper Plated, 1 Red, 1 Black.	3″	1-1/8″	50	Steel	.92
	BATTERY BOOSTER CLIPS (In Poly Bags)					
PK41A	2 No. 41-A Plier-Type Clips, Bright Copper Plated, 1 Red, 1 Black.	6″	1-9/16″	100	Steel	2.30
PK41C	2 No. 41-C Plier-Type Clips, Solid Copper, 1 Red, 1 Black.	6″	1-9/16″	200	Copper	5.90

SEE FULL LINE ON PRECEDING PAGES.

Trade Discount Applies To List Prices Only
© United Technical Publications

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

MOLDED CABLES AND ADAPTORS

National Tel-Tronics molded cables and adapters adhere to the same high standards of quality that have been followed by the company throughout its' more than 20 years of manufacturing all types of connectors and terminations. All the plugs, jacks, and other connectors used in these cables are manufactured by NT.T and are premium grade. Dimensions are exceptionally accurate. Assemblies are precise. The highest dielectric plastics are used as insulators.

Modern handle shapes provide a clean, functional appearance and non-slip gripping areas.

The molding compounds are the finest quality, dense, virgin PVC., or vinyl. The cables are made from heavily insulated, thin strand wires that are extremely flexible and durable. Exceptional freedom from noise results from the use of fully shielded cables having a nominal capacitance of 30mmf/ft. Only NT.T cables offer all these features PLUS a TWO YEAR GUARANTEE against defects and the most unique packaging in the industry.

DESCRIPTION	CAT. NO.	LENGTH	SUGGESTED USA LIST
2 COND. RT. ANGLE PHONE PLUG /each end	CR72CR CR120CR	72" 120"	3.35 4.50
3 CONDUCTOR PHONE PLUG /each end	D72D D120D	72" 120"	6.15 7.65
3 COND. RT. ANGLE PHONE PLUG /each end	DR72DR DR120DR	72" 120"	6.15 7.65
MIN. PHONE PLUG/2 COND. PHONE PLUG	B36C B72C B120C	36" 72" 120"	3.00 3.50 3.85
MIN. PHONE PLUG/STRIP & TIN	B36G B72G B120G	36" 72" 120"	2.30 2.55 3.20
MIN. PHONE PLUG/PHONO PIN PLUG	B36A B72A B120A	36" 72" 120"	2.70 3.20 3.65
STEREO PHONO PIN PLUG/STRIP & TIN	A36G-S A72G-S A120G-S	36" 72" 120"	3.70 4.15 4.80
STEREO PHONO PIN PLUG/each end	A36A-S A72A-S A120A-S	36" 72" 120"	4.15 4.80 5.75
STEREO PHONO PIN PLUG/STEREO PHONO JACK	A36H-S A72H-S A120H-S	36" 72" 120"	3.80 4.40 5.20

CONNECTORS AND ADAPTORS

PHONE PLUG/PHONO JACK	C-AD-H		1.70
PHONO JACK each end	H-AD-H		1.45
Y CONNECTOR/PHONO PIN PLUG/2 PHONO JACKS	A-AD-HH		2.65
Y CONNECTOR/PHONO PIN PLUG/2 PHONO PIN PLUGS	A-AD-AA		2.65
Y CONNECTOR PHONO JACK/ 2 PHONO PLUGS	H-AD-AA		2.65
MIN. PHONE PLUG/PHONO JACK	B-AD-H		1.60
MIN. PHONE PLUG/STD. PHONE JACK	B-AD-J		2.25

DESCRIPTION	CAT NO	LENGTH	SUGGESTED USA LIST
PHONO PIN PLUG/PHONO PIN PLUG	A18A A36A A72A	18" 36" 72"	$1.40 1.85 1.90
PHONO PIN PLUG/PHONO JACK	A18H A36H A72H	18" 36" 72"	1.85 1.75 2.30
PHONO PIN PLUG/STRIP & TIN	A36G A72G A120G	36" 72" 120"	1.25 1.60 2.10
2 CONDUCTOR PHONE PLUG/PHONO PIN PLUG	C72A C120A	72" 120"	2.55 3.50
2 CONDUCTOR PHONE PLUG/STRIP & TIN	C72G C120G	72" 120"	2.30 2.90
2 COND. RT. ANGLE PHONE PLUG/STRIP & TIN	CR72G CR120G	72" 120"	2.30 2.90
2 COND. RT. ANGLE PHONE PLUG/PHONO PIN PLUG	CR72A CR120A	72" 120"	2.55 3.50
3 COND. PHONE PLUG/3 COND. PHONE JACK	D72K D120K	72" 120"	6.15 7.65
2 COND. PHONE PLUG/2 COND. PHONE JACK	C72J C120J	72" 120"	3.35 4.50
MIN. PHONE PLUG/PHONO JACK	B36H B72H B120H	36" 72" 120"	2.25 3.30 3.70
PHONO PIN PLUG/MICROPHONE CONNECTOR	A72F	72"	3.15
2 COND. PHONE PLUG/2 COND. PHONE PLUG	C72C C120C	72" 120"	3.35 4.50

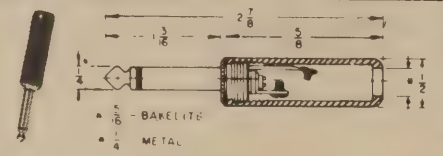
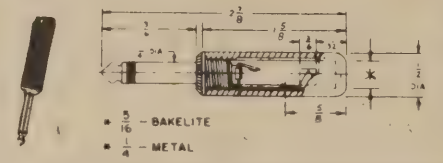
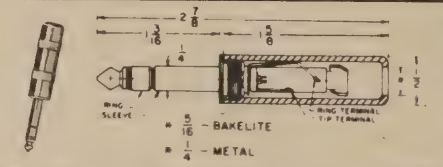
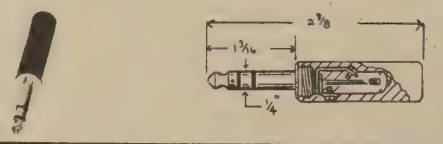
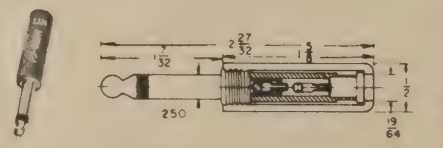
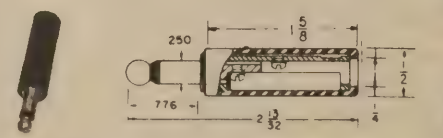
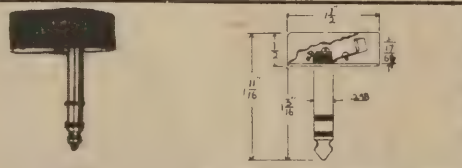
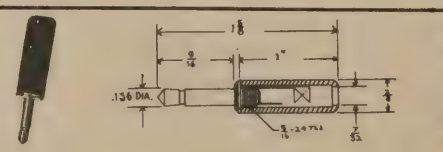
PARALLEL CABLE

DESCRIPTION	CAT. NO.	LENGTH	SUGGESTED USA LIST
2 COND. PHONE PLUG/ALLIGATOR CLIP	C72E-P C120E-P	72" 120"	2.45 3.05
PHONO PIN PLUG/ALLIGATOR CLIP	A72E-P A120E-P	72" 120"	2.30 2.90

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

PHONE PLUGS

Widely used in hi-fi equipment, tape recorders, dictaphone machines, etc. Made to standard dimensions. Designed to highest standards and tolerances. Metal parts are brass, nickel plated. Solder type terminals are tinned for easy solderability. Exclusive NT·T Delrin insulator provides long trouble free performance. Molded plastic shells in red or black are supplied for numbers 300, 301, 302, 303, 304, 305, 306, 307, 308 and 309. Metal shells available for numbers 300, 301, 302, 303, 306, 307, and 309.

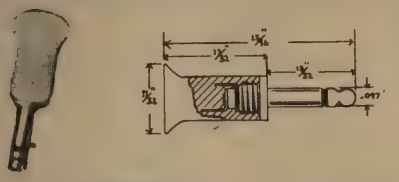
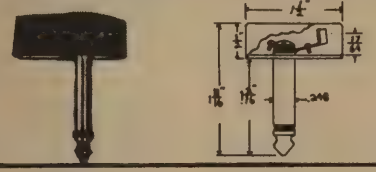
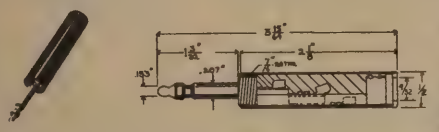
ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**TWO CONDUCTOR** Screw Type Two conductor screw type, accommodates two conductor jacks #336 and #337.	300B 300R 300M	Black Red Metal	.57 .57 .81
	**TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates two conductor jacks #336 and #337.	301B 301R 301M	Black Red Metal	.54 .54 .78
	**THREE CONDUCTOR** Solder Type Three conductor solder type, accommodates three conductor jacks #338 and #339.	302B 302R 302M	Black Red Metal	.81 .81 .99
	**THREE CONDUCTOR** Screw Type Three conductor screw terminal phone plug. Accommodates jacks #338 and #339.	303-B 303-R 303-M	Black Red Metal	.90 .90 1.05
	**TWO CONDUCTOR** Type PJ055 Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	304B 304R	Black Red	1.00 1.00
	**TWO CONDUCTOR** Type PJ054 Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	305B 305R	Black Red	1.00 1.00
	**RIGHT ANGLE — THREE CONDUCTOR** Solderless Right angle phone plug prevents protrusion, accommodates three conductor jacks 338 and 339.	306B 306R 306M	Black Red Metal	1.02 1.02 1.08
	**MINIATURE TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates sub-miniature jacks #311 and #313.	307B 307R 307M	Black Red Metal	.54 .54 .75

Over the years original equipment manufacturers have looked to NT•T for the finest in all types of phone plugs. Now distributors, industrials, and consumers will be able to obtain the same high quality phone plugs as supplied to the equipment manufacturers.

Net
© United Technical Publications

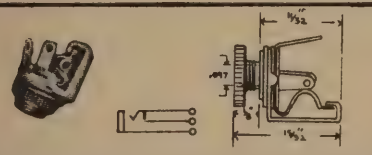
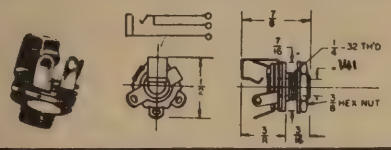
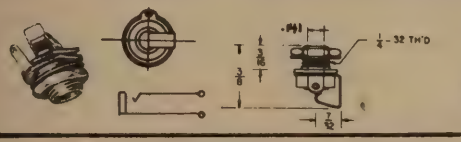
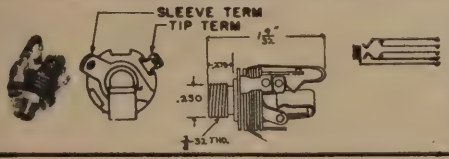
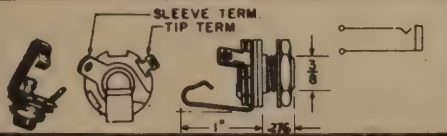
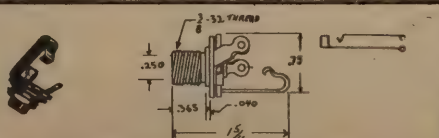
ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

PHONE PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**ULTRA-MINIATURE, TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates ultra-miniature jack #310. Utilized on many tape recorders and transistor radios.	308B 308R 308T	Black Red Beige	.51 .51 .51
		**RIGHT ANGLE — TWO CONDUCTOR** Solderless Right angle phone plug prevents protrusion, accommodates two conductor jacks 336 and 337.	309B 309R 309M	Black Red Metal	.84 .84 .99
		**THREE CONDUCTOR** Type PJ068 Three conductor with screw connections and solder terminals, made to military specifications. Solder terminals are silver plated to facilitate soldering.	320B	Black	2.16

PHONE JACKS

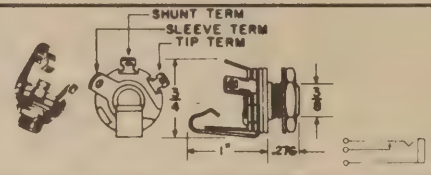
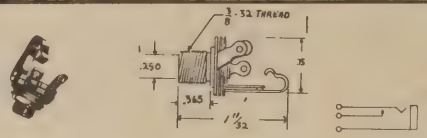
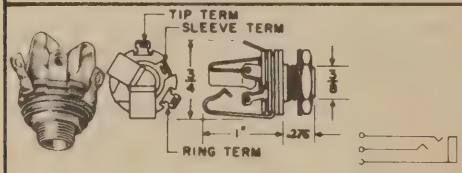
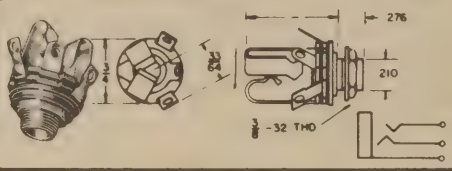
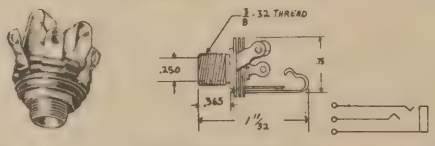
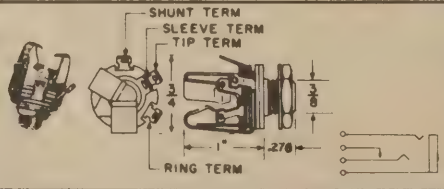
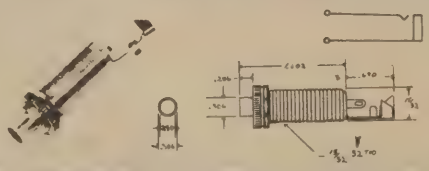
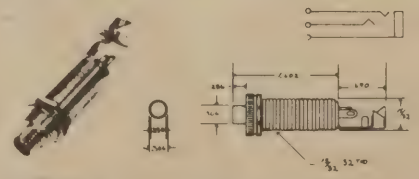
Telephone jacks are of two basic types, open circuit and closed circuit and are available as two conductor and three conductor jacks. The special nickel plated, spring brass springs are designed to retain their tension throughout unlimited use. Standard jacks mount in 3/8" holes.

		**ULTRA-MINIATURE JACK** Two conductor closed circuit jack for miniaturized applications. Used on many transistor radios. Accommodates plug #308.	310	Metal	.39
		**SUB-MINIATURE JACKS** Subminiature phone jack, two conductor closed circuit will accommodate plug #307.	311	Metal	.36
		**SUB-MINIATURE JACKS** Subminiature jacks, two conductor open circuit will accommodate plug #307.	313	Metal	.33
		**STEREO PHONE JACK** Ideal for use with stereo headphones. Automatically switches speakers out and headphones in. Use with plugs 302, 303, and 306.	335	Metal	.78
		**TWO CONDUCTOR** Open Circuit Two conductor, open circuit; will accommodate plugs #300, 301, 304, and 309.	336	Metal	.33
		**TWO CONDUCTOR** Open Circuit Similar to 336 except with greater bushing length. Will accommodate plugs #300, 301, 304 and 309.	336L	Metal	.42

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

PHONE JACKS

Telephone jacks are of two basic types, open circuit and closed circuit and are available as two conductor and three conductor jacks. The special nickel plated, spring brass springs are designed to retain their tension throughout unlimited use. Standard jacks mount in 3/8" holes.

ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**TWO CONDUCTOR** Closed Circuit Two conductor, closed circuit; will accommodate plugs #300, 301, 304, and 309.	337	Metal	.36
	**TWO CONDUCTOR** Closed Circuit Similar to 337 except with greater bushing length. Will accommodate plugs #300, 301, 304 and 309.	337L	Metal	.42
	**THREE CONDUCTOR** Open Circuit Three conductor, open circuit; will accommodate plug #302, 303, and 306.	338	Metal	.42
	**THREE CONDUCTOR** Open Circuit Three conductor, open circuit with .210 I.D. Will accommodate plug #PJ068.	338-A	Metal	.54
	**THREE CONDUCTOR** Open Circuit Similar to 338 except with greater bushing length. Will accommodate plugs # 302 303, and 306.	338L	Metal	.54
	**THREE CONDUCTOR** Closed Circuit Three conductor closed circuit; will accommodate plug #302, 303, and 306.	339	Metal	.60
	**THICK PANEL JACK – TWO CONDUCTOR** Open Circuit For use on thick panels, walls, stage platforms, etc. Will accommodate plugs #300, 301, and 309.	345	Metal	.99
	**THICK PANEL JACK** **THREE CONDUCTOR** Open Circuit For thick mounting surfaces like 345. Can accommodate stereo plugs. Will accommodate plugs #302, #303, and #306.	346	Metal	1.08
	**SHOULDER AND FLAT WASHERS** Precisely formed of N.E.M.A. standard grade natural fiber.	SW-3838 FW-3838	Natural Fiber	— —

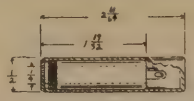
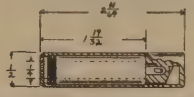
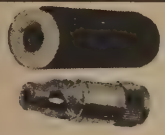
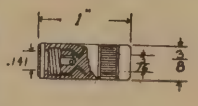
Net

© United Technical Publications

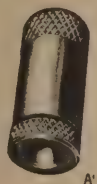
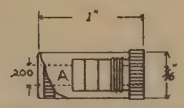
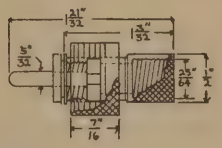
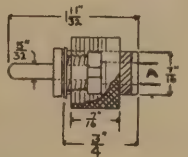
ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

EXTENSION JACKS

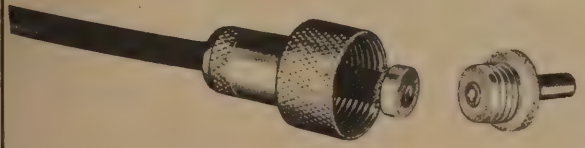
Extension jacks or in-line jacks are designed to accept all standard or miniature phone plugs. Available in two and three conductor types which can be ordered with plastic or shielded metal handles.

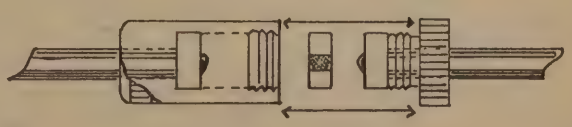
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**TWO CONDUCTOR JACK** Accommodates plug types 300, 301, and 309. Has numerous audio applications.	6-100 6-101	Black Metal	.78 1.05
		**THREE CONDUCTOR JACK** Accommodates plug type 302. Utilized in many audio and stereo applications.	6-102 6-103	Black Metal	1.05 1.44
		**TWO CONDUCTOR JACK** Miniature Accommodates plug type 307. For use with radios, tape recorders, and numerous audio equipment.	6-104 6-105	Black Metal	.81 .90

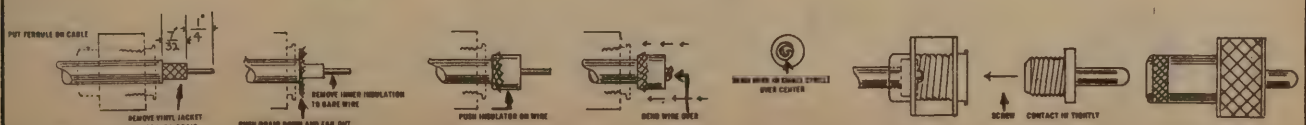
SOLDERLESS COAXIAL CONNECTORS

  A" DIMENSION: 6-80-2 = .205; 6-80-29 = 405	**SOLDERLESS INLINE SPLICER** Completely solderless PL-258 coaxial connector which requires no special tools for installation. Provides positive contact and maintains wire impedance. Bright nickel plated steel. Delrin insulator. Replaces the PL-258. Far superior: faster, cheaper and easier to use. 6-80-2 splices RG-58 cable. 6-80-29 splices RG-59 cable.	6-80-2 6-80-29	Metal Metal	1.20 1.20
 	**SOLDERLESS COAXIAL CONNECTOR** Completely solderless PL-259 coaxial connector which requires no special tools for installation. Provides positive contact and maintains wire impedance. Bright nickel plated steel. Delrin insulator. Accommodates RG-8 coaxial cable.	6-80-8	Metal	.72
  A" DIMENSION: 6-80-58 = .205; 6-80-59 = .242	**SOLDERLESS COAXIAL CONNECTOR** Completely solderless PL-259 coaxial connector which requires no special tools for installation. Provides positive contact and maintains wire impedance. Bright nickel plated steel. Delrin insulator. 6-80-58 Accommodates RG-58 cable. 6-80-59 Accommodates RG-59 cable.	6-80-58 6-80-59	Metal Metal	.72 .72

HERE'S HOW EASY IT IS TO ATTACH THESE COAXIAL CONNECTORS. Just a razor blade or wire stripper is all you need to attach these amazing new connectors. Just follow these few simple steps and you'll have a secure reliable connection.

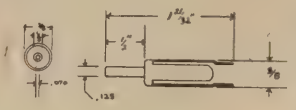
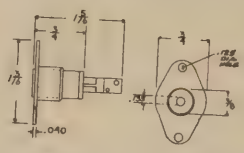




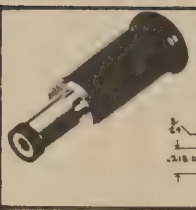
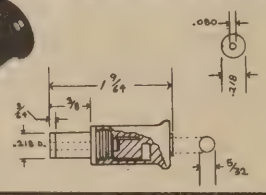
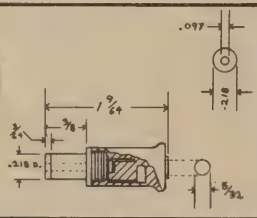
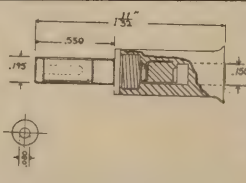
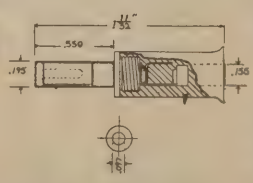
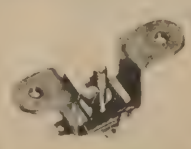
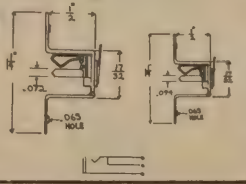


ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

COAXIAL ANTENNA PLUG & JACK

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**COAXIAL ANTENNA PLUG** Used extensively in automobile radios, and for CATV and MATV applications. Tinned brass with ceramic insulator.	6-70	Metal	.115
		**COAXIAL ANTENNA JACK** Receptacle for 6-70 plug. Tinned to facilitate soldering.	6-71	Metal	.18

COAXIAL PLUGS & JACK

		**COAXIAL JACK** .080 I.D. .218 O.D. Used extensively on AC adaptors, and battery chargers for transistorized tape recorders, television receivers, and radios.	6-200	Green	.39
		**COAXIAL JACK** .097 I.D. .218 O.D. Used extensively on AC adaptors, and battery chargers for transistorized tape recorders, television receivers, and radios.	6-201	Red	.39
		**COAXIAL JACK** .080 I.D. .195 O.D. Used extensively on AC adaptors, and battery chargers for transistorized equipment such as tape recorders, and radios.	6-202	Blue	.45
		**COAXIAL JACK** .097 I.D. .195 O.D. Used extensively on AC adaptors, and battery chargers for transistorized equipment such as tape recorders, and radios.	6-203	Tan	.45
		**COAXIAL SWITCHING PLUGS** Switching plugs used with 6-200, and 6-201 coaxial jacks. Used extensively on transistorized radios, tape recorders, television sets, etc. using external AC power source.	6-200P 6-201P	— —	.39 .39

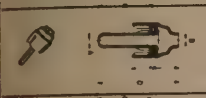
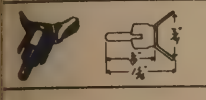
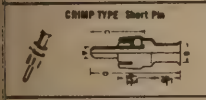
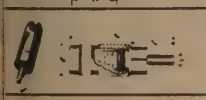
Net

© United Technical Publications

ntt / distributor sales division of NATIONAL TEL-TRONICS CORP.

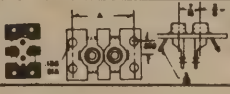
PHONO PLUGS

Shells are .016 Brass or Steel, Cadmium Plated, designed to have a wiping action with mating part for good ground. Pins are drawn brass, bright nickel plated. Insulating washer is .062 thick fibre.

	A	B	C	D	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	1/8	.175	11/16	15/16	36A	Metal	.08
	1/8	.175	3/8	5/8	36B	Metal	.06
	1/8	.145	11/16	1- 3/32	42A	Metal	.21
	1/8	.145	9/16	1-1/16	46C	Metal	.10
	1/8	.145	11/16	1- 7/16	44A	Metal	.19
	1/8	.145	3/8	1- 1/8	44B	Metal	.18
CRIMP TYPE Standard 	1/8	.175	11/16	1- 7/32	46A	Metal	.108
CRIMP TYPE Short Pin 	1/8	.175	3/8	29/32	46B	Metal	.108
PLASTIC HANDLE Standard 	1/8	.175	11/16	1-5/8	60A-R	Red	.25
	1/8	.175	11/16	1-5/8	60A-B	Black	.25
	1/8	.175	11/16	1-5/8	60A-G	Gray	.25
	1/8	.175	11/16	1-5/8	60A-W	White	.25
PLASTIC HANDLE Short Pin 	1/8	.175	3/8	1-5/16	60B-R	Red	.25
	1/8	.175	3/8	1-5/16	60B-B	Black	.25
	1/8	.175	3/8	1-5/16	60B-G	Gray	.25
	1/8	.175	3/8	1-5/16	60B-W	White	.25
	SHIELDED HANDLE PLUG Extremely easy to solder. Has smart appearance and provides finger grip for easy removal.				5-005	Metal	.33

PHONO JACKS

Insulator discs are XP laminated phenolic with ceramic insulator bushings except for 5-008 which is XP. Shells are steel cadmium plated, and the contacts are spring brass, cadmium plated, solder lugs: brass, cadmium plated.

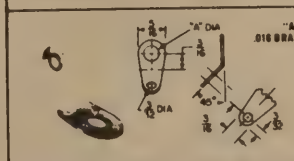
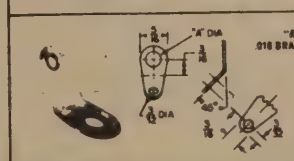
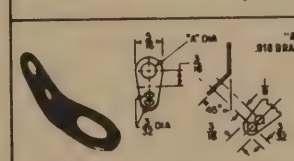
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		ROUND TYPE JACK Single contact jack providing sure grip on all phono pin plugs.	318	–	.08
		RECTANGULAR JACK Single contact jack for replacement applications and use on new equipment.	319	–	.08
		OVAL TYPE JACK For smaller areas use this compact phono jack. .687 mounting centers.	326	–	.08
		SINGLE HOLE JACK Front Mount Mounts in 3/8" hole. Supplied with nut, washer, and solder lug. Mounts through front of panel.	340	Metal	.24
		SINGLE HOLE JACK Rear Mount Mounts in 3/8" hole. Supplied with nut, washer, and solder lug. Mounts through rear of panel.	342	Metal	.30
		DUAL PHONO JACK Ideal for stereo applications; replacement and new products.	352	–	.12

PILOT LIGHT SHIELDS

	LIGHT SHIELD Brass, cadmium plated shield intended for use in television, on radio receivers, meters, and all electronics equipment. Prevents glare and directs the light to the desired position.	3110	Metal	.07
	LIGHT SHIELD Bright brass dip shield intended for use in television, on radio receivers, meters, and all electronic equipment. Prevents glare and directs the light to the desired position	3111	Metal	.065

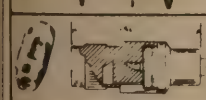
SOLDERING LUGS

Brass soldering lugs are utilized extensively for grounding or combining wires at one spot. All are tinned-brass for more efficient soldering. Available in bulk only.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	"A" DIA	"A" .016 BRASS .135	4501	Metal	Bulk Only
	"A" DIA	"A" .016 BRASS .152	4502	Metal	Bulk Only
	"A" DIA	"A" .016 BRASS .152	4504	Metal	Bulk Only

PHONO JACKS

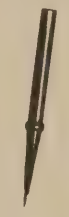
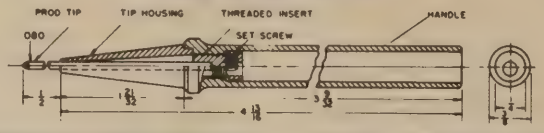
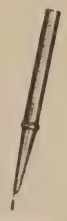
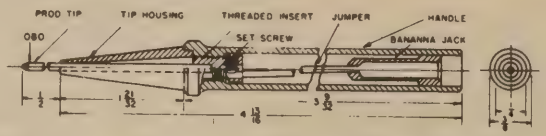
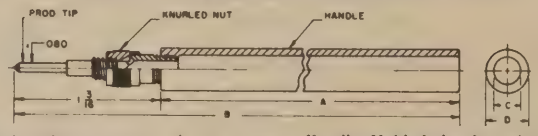
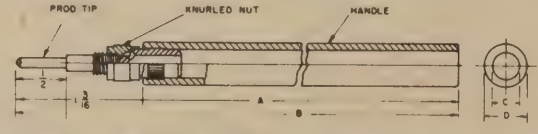
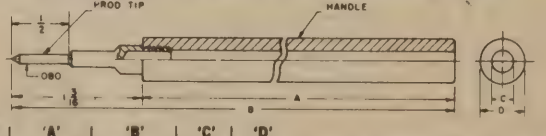
Insulator discs are XP laminated phenolic with ceramic insulator bushings. Shells are steel cadmium plated and the contacts are spring brass cadmium plated. Excellent for replacement and new equipment.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		TRIPLE PHONO JACK Versatile jack for all audio applications such as tuner, amplifier, and multiplex inputs.	353	–	.18
		QUADRUPLE PHONO JACK Versatile jack for all audio applications such as tuner, amplifier, and multiplex inputs.	354	–	.21
		SWITCHING JACKS 317 is two conductor closed and 316 is a three conductor closed jack. Used as stereo, phonograph or amplifier input	316 317	– –	.33 .27
		INLINE PHONO JACK Combination clamp and solder type shielded handle jack. Mates with all phono pin plugs.	5-006	Metal	.42

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

NT•T Prods have been engineered and manufactured to provide the most comprehensive and complete line, and which at the same time embodies design features which afford ease of handling and give years of service.

TEST PRODS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**TEST PROD No. 891** Shouldered insulated handle made of Bakelite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in red and black. Indicate color.	891-B 891-R	Black Red	.60 .60
		**TEST PROD** ***With Banana Plug Adaptor*** Same as No. 891 except with a banana plug adaptor in back of handle.	892-B 892-R	Black Red	.66 .66
		**TEST PROD; SOLDERLESS THREADED TYPE** Handle: Molded plastic, red or black #805 solderless tip; nickel plated brass solderless tip plug. Wire fits through body and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly into handle.	894-B 894-R 895-B 895-R 991-B 991-R 992-B 992-R	Black Red Black Red Black Red Black Red	.30 .30 .30 .30 .33 .33 .33 .33
		**SOLDERLESS TEST PROD — *Force Fit Type*** Handle: Molded plastic, red or black #806 solderless tip; force fit nickel plated brass tip plug. Fits standard phone tip jacks. Solderless wire fits through tip body and then wraps around screw portion. Knurled collar for tightening.	896-B 896-R 904-B 904-R 993-B 993-R 994-B 994-R	Black Red Black Red Black Red Black Red	.30 .30 .30 .30 .33 .33 .33 .33
		**TEST PROD — HEAVY DUTY SOLDER TYPE** Handle: Molded plastic, red or black #802 solder tip; heavy duty nickel plated brass with exceptionally large well for soldering, threaded for easy assembly in handle. Fits standard phone tip jack.	897-B 897-R 898-B 898-R 995-B 995-R 996-B 996-R	Black Red Black Red Black Red Black Red	.30 .30 .30 .30 .33 .33 .33 .33

PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
894	4	5¼	3/16	3/8
895	4	5¼	¼	3/8
991	5½	6⅞	3/16	3/8
992	5½	6⅞	¼	3/8

PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
896	4	5¼	3/16	3/8
904	4	5¼	¼	3/8
993	5½	6⅞	3/16	3/8
994	5½	6⅞	¼	3/8

PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
897	4	5 3/16	3/16	3/8
898	4	5 3/16	¼	3/8
995	5½	6 11/16	3/16	3/8
996	5½	6 11/16	¼	3/8

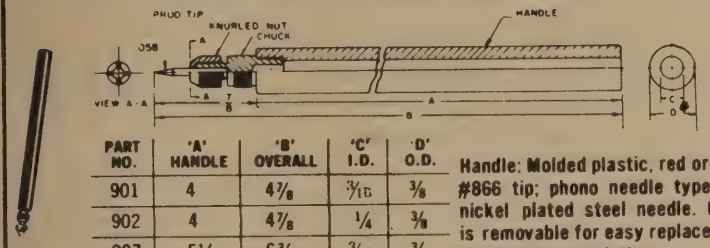
Net

© United Technical Publications

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

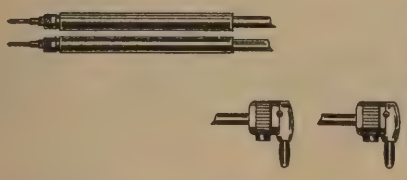
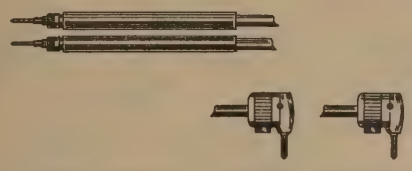
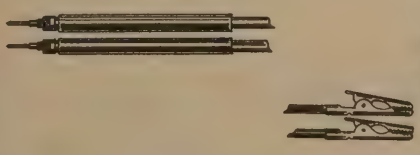
TEST PRODS

NT-T Test Prods have been engineered and manufactured to provide the most comprehensive and complete line. A line which offers designs which afford ease of handling and at the same time give years of service.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
TEST PROD — PHONO NEEDLE TYPE					
					
		Handle: Molded plastic, red or black #866 tip; phono needle type with nickel plated steel needle. Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.	901-B	Black	.33
			901-R	Red	.33
			902-B	Black	.33
			902-R	Red	.33
			997-B	Black	.38
			997-R	Red	.38
			998-B	Black	.38
			998-R	Red	.38

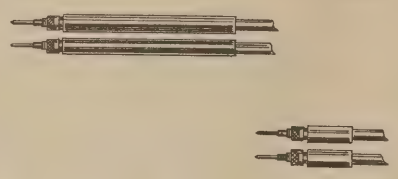
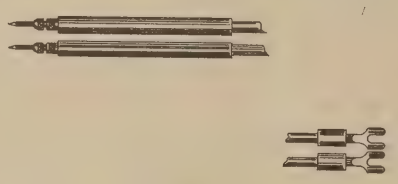
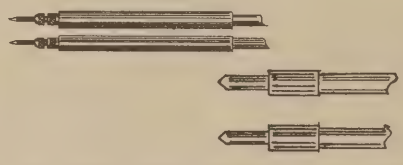
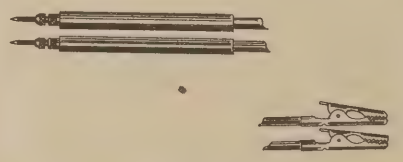
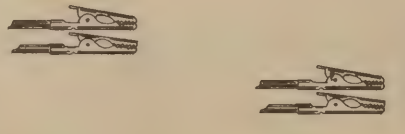
PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
901	4	4 7/8	3/16	3/8
902	4	4 7/8	1/4	3/8
997	5 1/2	6 3/8	3/16	3/8
998	5 1/2	6 3/8	1/4	3/8

TEST LEAD SETS

	**TIP PLUG TYPE** Solderless test prod #894 with #801 tip plug. 50" rubber covered, 5000 volt, kinkless wire. Tip plug, and prod body are brass, nickel plated.	8401	Red/ Black	1.05
	**SOLDERLESS RIGHT ANGLE BANANA PLUG TYPE** Solderless test prod #894 with #836 solderless right angle banana plug. 50" rubber covered, 5000 volt, kinkless wire. Test prod body is nickel plated brass. Banana plug is nickel plated brass with four leaved phosphor bronze slotted spring.	8436	Red/ Black	1.70
	**SOLDERLESS RIGHT ANGLE TIP PLUG TYPE** Solderless test prod #894 with #837 solderless right angle banana plug. 50" rubber covered, 5000 volt, kinkless wire. Prod body and tip are nickel plated brass.	8437	Red/ Black	1.50
	**ALLIGATOR CLIP TYPE** Solderlese test prod #894 with #740 alligator clip. 50" rubber covered, 5000 volt kinkless wire. Alligator clip is cadmium plated steel. Prod body and tip are brass, nickel-plated.	8440	Red/ Black	1.10
	**BANANA PLUG TYPE** Solderless test prod #894 with #851 banana plug. 50" rubber covered, 5000 volt, kinkless wire. Spring is four-leaved phosphor bronze. Prod body and tip are brass, nickel-plated.	8451	Red/ Black	1.50

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

TEST LEAD SETS

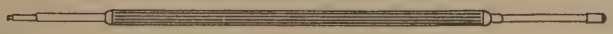
ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**TIP PLUG TYPE** Solderless test prod #894 with #855 tip plug. 50" rubber covered, 5000 volt, kinkless wire. Nickel plated brass body.	8455	Red/ Black	1.35
	**SPADE LUG TYPE** Solderless test prod #894 with #870 spade lug. 50" rubber covered, 5000 volt kinkless wire. Spade lug is hot tinned steel. Prod body and tip are brass, nickel-plated.	8470	Red/ Black	1.05
	**TIP PLUG TYPE** Phono needle test prod #901 with #801 tip plug. 50" rubber covered, 5000 volt, kinkless wire. Tip plug, and prod body are brass, nickel plated.	9101	Red/ Black	1.05
	**ALLIGATOR CLIP TYPE** Phono needle test prod #901 with #740 alligator clip. 50" rubber covered, 5000 volt kinkless wire. Alligator clip is cadmium plated steel.	9140	Red/ Black	1.10
	**SPADE TYPE LUG** Phono needle test prod #901 with #870 spade lug. 50" rubber covered, 5000 volt kinkless wire. Spade lug is hot tinned steel. Prod body and tip are brass, nickel plated.	9170	Red/ Black	1.05
	**ALLIGATOR CLIP TYPE** One #740 Alligator clip on each end. Alligator clip is cadmium plated steel. 50" rubber covered, 5000 volt, kinkless wire.	7474	Red/ Black	.91

Net

© United Technical Publications

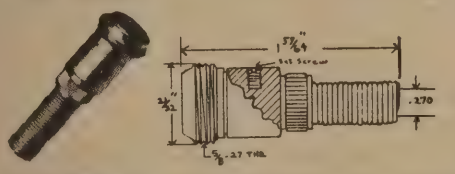
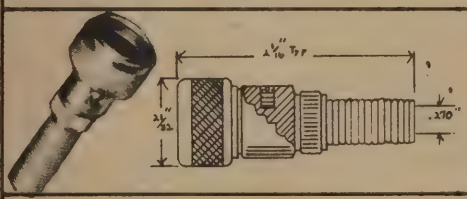
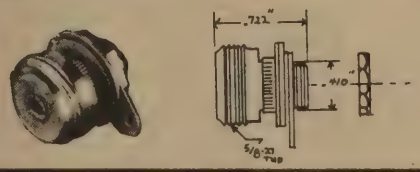
ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

ALIGNMENT TOOLS

ILLUSTRATION DIMENSIONS DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
 Double ended alignment tool for use in adjusting coil slugs. .075" hex on both ends 5" long. Molded of Deldrin. One end undercut so that hex head can pass through and not disturb a top slug in order to adjust a second, lower slug.	AL7572-5		.45
Double ended alignment tool for use in adjusting coil slugs. .075" hex on both ends 5" long. Molded of Deldrin. Not undercut.	AL7575-5		.45
 Double ended alignment tool for use in adjusting hex and slot type controls. .099 hex on one end. Screwdriver tip on other end. 7" long. Molded of Deldrin.	AL9908-7		.70
 Double ended alignment tool for use in adjusting Admiral, Zenith, and other television sets. .099 hex on both ends. 5" long. Molded of Deldrin. One end undercut so that hex head can pass through and not disturb a top slug in order to adjust a second, lower slug.	AL9999-5		.45
 Double ended alignment tool for use in adjusting Admiral, Zenith, and other television sets. .099 hex on both ends. 11" long. Molded of Deldrin. One end undercut so that hex head can pass through and not disturb a top slug in order to adjust a second, lower slug.	AL9999-11		.60

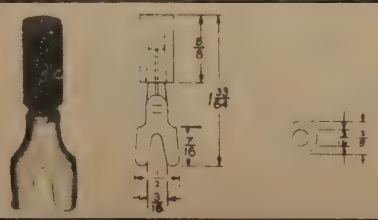
MICROPHONE CONNECTORS

Use with single conductor, shielded microphone cable. Bodies are brass, nickel plated with phenolic insulators.

 CORD MOUNTED Male Flexible spring gives strain relief to cable. Shield is held securely by set screw. Used extensively for microphone, apmplifier applications.	101	Metal	.39
 CORD MOUNTED Female Flexible spring gives strain relief to cable. Collar secures connector firmly to jack. Used extensively for microphone, amplifier applications.	102	Metal	.48
 PANEL MOUNT Single Conductor Mates with #102 connector. Mounts in 3/8" hole and may be isolated from chassis by insulation washer.	103	Metal	.36

SPADE LUGS

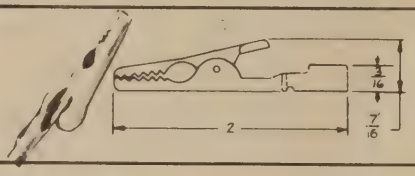
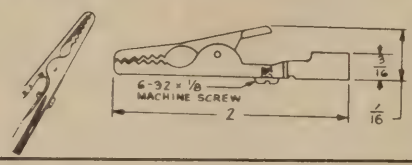
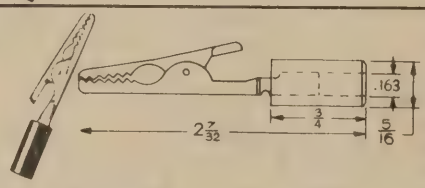
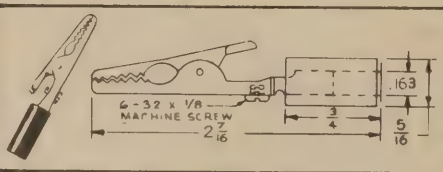
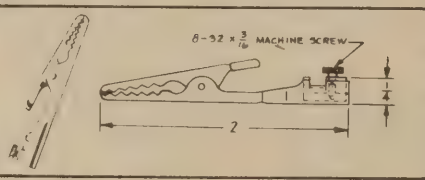
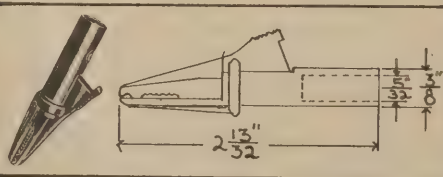
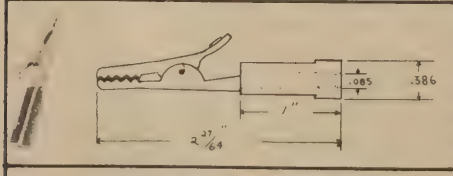
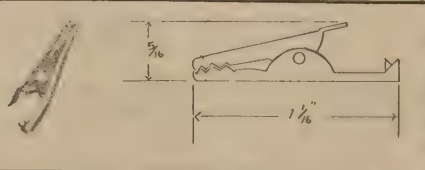
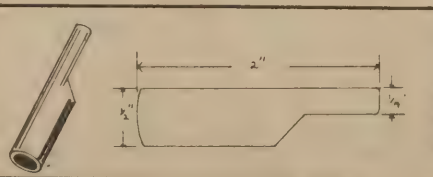
Because of the Spade Lug's wide and constant usage, NT•T has engineered it to provide reliability and versatility and to meet the requirements of the industry, repair shops, consumers, and hobbyists.

 INSULATED SPADE LUG Red or Black case in handle. Indicate color desired. Hot-tinned steel lug is .030 thick. Banana plug can be inserted in spade lug through back of handle	870-B 870-R	Black Red	.14 .14

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

ALLIGATOR CLIPS

The extensive use of alligator clips in the electronic industry requires that they must withstand constant use without a breakdown in their spring action and at the same time must provide positive jaw clamping action. All NT•T clips are manufactured of high grade cadmium plated steel or copper.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**ALLIGATOR CLIP** Solder Type Cadmium-plated steel with 3/8" jaw opening. Accurately matched jaws grip securely. Cadmium-plated steel or copper.	740 740C	Steel Copper	.08 .16
		**ALLIGATOR CLIP** Screw Type Screw supplied for solderless connection. Accurately matched, cadmium-plated steel jaws with 3/8" opening provide secure grip. Cadmium plated steel or copper.	741 741C	Steel Copper	.09 .18
		**INSULATED ALLIGATOR CLIP** Solder Type Accurately matched, cadmium-plated steel jaws, with 3/8" opening provide secure grip. Red and black molded plastic handles. Accepts standard banana plug in back.	742B 742R	Black Red	.12 .12
		**INSULATED ALLIGATOR CLIP** Screw Type Supplied with screw for solderless connection. All other features the same as clip #742.	743B 743R	Black Red	.15 .15
		**ALLIGATOR CLIP** Special Screw Type Jaws of cadmium-plated steel open to 3/8" and grip securely. Supplied with screw for solderless connection.	744	Steel	.144
		**ALLIGATOR CLIP** Fully Insulated Type Cadmium-plated steel jaws open to 3/8" and grips securely. Accepts standard banana plug in back. Can be supplied in red or black.	745B 745B	Black Red	.48 .48
		**TIP PLUG ADAPTOR.** Rear of handle accepts tip plug. Can be had in steel cadmium plated or copper. Suffix "C" indicates copper.	746B 746R 746B-C 746R-C	Black Red Black Red	.363 .363 .396 .396
		**MINIATURE CLIP** Solder type clip where space is a factor. Excellent for all labs, shops, and hobbyists. Suffix "C" indicates copper.	748 748C	Steel Copper	.06 .08
		**STANDARD INSULATORS** Insulators for clips #740 and #741. Made of flexible polyvinyl and allows for full jaw opening. Completely insulates clips.	749B 749R	Black Red	.05 .05

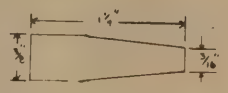
Net

© United Technical Publications

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

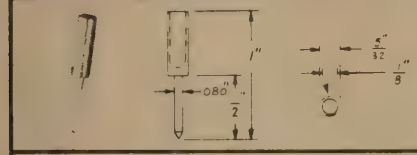
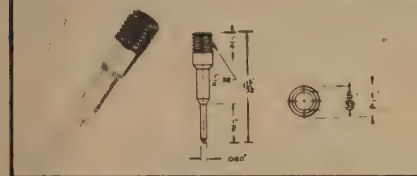
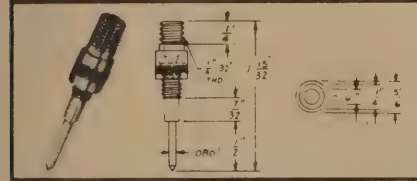
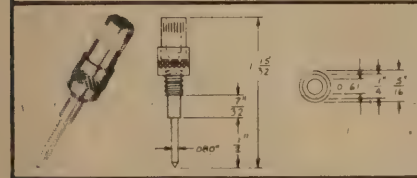
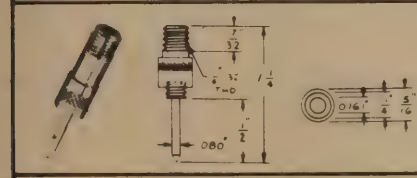
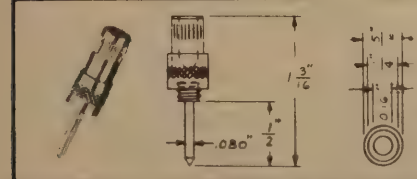
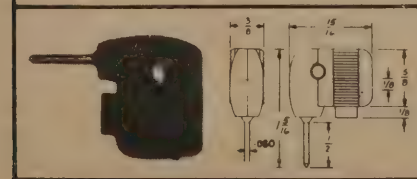
ALLIGATOR CLIPS

The extensive use of alligator clips in the electronic industry requires that they must withstand constant use without a breakdown in their spring action and at the same time must provide positive jaw clamping action. All NT•T clips are manufactured of high grade cadmium plated steel or copper.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**MINATURE INSULATORS** Insulators for clips #748. Made of flexible polyvinyl which allow for full jaw opening. Completely insulates clips.	750B 750R	Black Red	.05 .05

TIP PLUGS

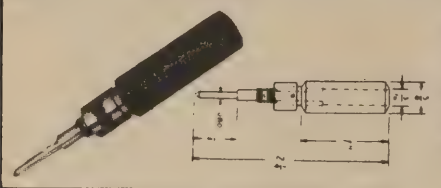
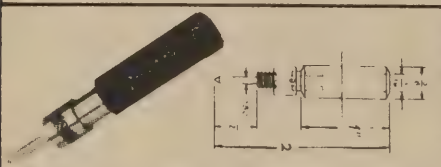
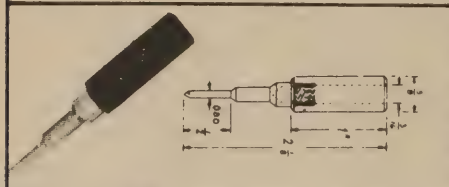
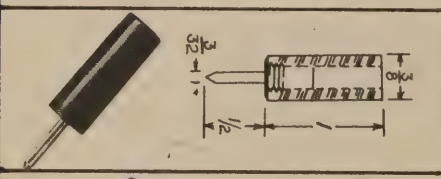
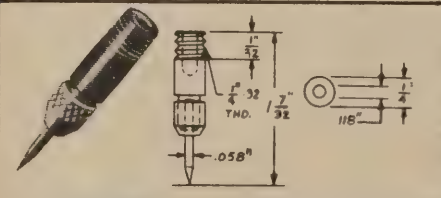
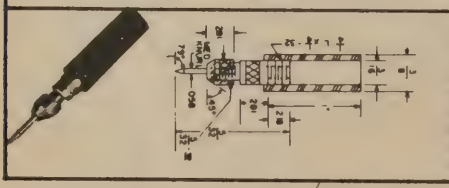
The engineering and manufacturing of all NT•T tip plugs are based upon the highest standards and specifications of the industry. Close adherence is maintained on all tolerances and only the finest quality materials are used to provide years of service.

		Catalog Number	Color	USA Net Each
	**PHONE TIPS** **Solder Type** A nickel-plated brass solder type phone tip 1" long.	801	Metal	.03
	**TIP PLUG** **Threaded, Heavy Duty** Nickel-plated brass with exceptionally large well for soldering. Threaded for easy assembly in plastic handle. Accepts standard phone tip jacks. Rear of plug accepts standard banana plugs.	802	Metal	.15
	**SOLDERLESS TIP PLUG** **Large, Threaded** A nickel-plated brass solderless tip plug. Wire fits through body of tip and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly in plastic handle.	805	Metal	.15
	**SOLDERLESS TIP PLUG** **Large, Knurled** A force-fit type nickel-plated brass tip plug. Fits standard phone tip jacks. Solderless, wire fits through tip body and then wrapped around screw portion. Knurled collar for tightening.	806	Metal	.15
	**SOLDERLESS TIP PLUG** **Small, Threaded** Manufactured exactly like No. 805 Solderless Tip Plug except shorter, nickel-plated brass with wire going through tip, then wrapped around screw portion and held firmly by tightening knurled collar.	807	Metal	.15
	**SOLDERLESS TIP PLUG** **Small, Knurled** A solderless, nickel-plated brass Tip Plug which fits standard phone tip jacks. Made exactly like No. 806 except shorter length. Wire fits through body tip, raps around screw portion and then tightened with knurled collar.	808	Metal	.15
	**INSULATED TIP PLUG** **Meter Type, Push Button** **Solderless** Tip is brass, nickel-plated, with Molded Bakelite in Red or Black. (Indicate color desired.) Push button, then feed conductor through hole. Release button, conductor is held firmly in position. Fits standard phone tip jacks.	837B 837R	Black Red	.30 .30

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

The engineering and manufacturing of all NT•T Tip Plugs are based upon standards and specifications of the industry. Close adherence is maintained on all tolerances and only the finest quality materials are used to provide years of service.

TIP PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**SOLDERLESS TIP PLUG** **Large Type** Handles of Molded Bakelite in choice of Red, Black, Yellow, White, Green, Blue indicate color desired. Nickel-plated brass body. Wire fits through body tip, wraps around screw portion and tightened with knurled collar. Fits standard phone tip jacks	855B 855BL 855GR 855Y 855R 855W	Black Blue Green Yellow Red White	.17 .17 .17 .17 .17 .17
		**SOLDERLESS TIP PLUG** **Small Type** Molded Bakelite handles indicate desired color. Nickel-plated brass body. Knurled collar when tightened holds wire which has been passed through body tip and wrapped around screw portion. Fits standard phone tip jacks	856B 856BL 856GR 856Y 856W	Black Blue Green Yellow White	.17 .17 .17 .17 .17
		**TIP PLUG** **Heavy Duty, Insulated** Nickel-plated brass plug with molded Bakelite handles. Large diameter well permits soldering of heavy duty wire directly into plug. Accepts standard phone tip jacks. Choice of Blue, Black, Red, Green, Yellow and White handle. Indicate color.	857B 857BL 857GR 857R 857Y 857W	Black Blue Green Red Yellow White	.17 .17 .17 .17 .17 .17
		**INSULATED TIP PLUG** Plastic handle. Available in red or black. Nickel plated brass body	858B 858R	Black Red	.132 .132
		**NEEDLE TIP AND CHUCK** Nickel-plated brass body, nickel-plated steel needle. Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.	866	Metal	.22
		**INSULATED NEEDLE TIP PLUG** Molded Bakelite handles in Red, Black, Yellow, White, Green and Blue. Indicate color desired. Nickel-plated brass, body, nickel-plated steel needle. Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.	868B 868BL 868GR 868R 868Y 868W	Black Blue Green Red Yellow White	.25 .25 .25 .25 .25 .25

Small parts—large headaches. This is often the plight of the distributor, manufacturer, engineer, repairman, and hobbyist. NT•T now offers a one-stop source for the majority of these small items which, no matter how small, are often needed. Relieve your purchasing problems by ordering from NT•T.

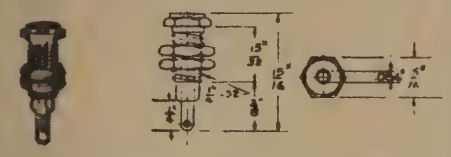
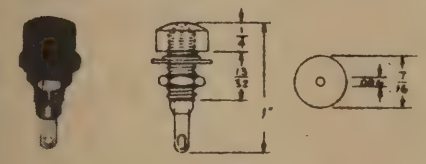
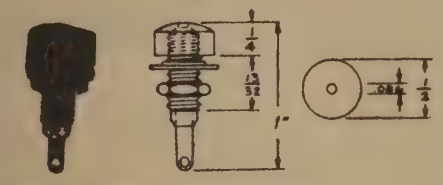
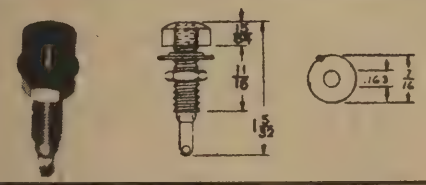
Net

© United Technical Publications

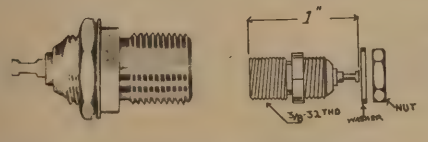
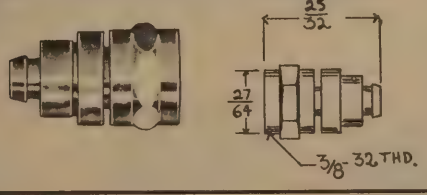
ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

TIP JACKS

As with all NT•T products, NT•T Tip Jacks are engineered and manufactured to the most exacting standards and specifications of the industry. All use the finest molds and spring contacts to provide years of service.

ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**PHONE TIP JACK** **Non-Insulated Type** A nickel-plated brass body with a phosphor bronze spring, this phone tip jack provides positive contact with standard phone tip plug. Mounts in 1/4" hole in any panel, up to 3/8" thick. Supplied with hex nut.	810	Metal	.15
	**PHONE TIP JACK** **Insulated Type** Nickel-plated brass body Jack has Molded Bakelite head in choice of colors. Spring of phosphor bronze assures good contact. Mounts in 5/16" hole in panels up to 3/8" thickness. Supplied with hex nut and fibre washer. 7/16" diameter head.	842B 842BL 842GR 842R 842Y 842W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
	**1/2" DIAMETER HEAD** This nickel-plated brass body Phone Tip, Jack has Molded Bakelite head in choice of colors: Black or Red. (Indicate color desired.) Spring of phosphor bronze. Positive contact with end accepts standard phone tip plugs. Mounts in 5/16" hole in any panel up to 3/8" thick. Supplied complete with hex nut and fibre washer.	843B 843R	Black Red	.25 .25
	**INSULATED JACK** **Combination Type** Accepts standard phone tip plugs or standard banana plugs. Molded Bakelite head in Red, Blue, Black, Yellow, Green, White. Indicate color desired. Nickel-plated brass body, with phosphor bronze spring. Supplied with hex nut and fibre washer.	848B 848BL 848GR 848R 848Y 848W	Black Blue Green Red Yellow White	.20 .20 .20 .20 .20 .20

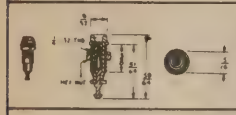
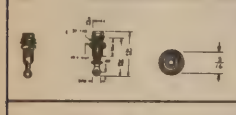
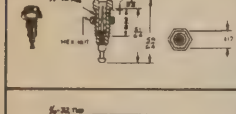
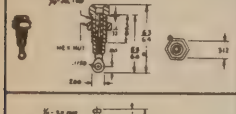
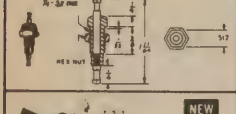
"F" TYPE COAXIAL ANTENNA CONNECTORS

	**SOLDERLESS, MALE "F" TYPE** Female. Chassis or panel mount. For RG-59/U cable. Spring contacts. Silver plated brass. Low resistance. Low signal loss due to low pressure polyethelene insulation	6-72-F	Metal	.50
	**SOLDERLESS, MALE, "F" TYPE** Male. For use on RG-59/U cable. Silver plated brass. Ferrule is built on.	6-72A-M	Metal	.33
	**SOLDERLESS, MALE, "F" TYPE** Male. For use on RG-59/U cable. Silver plated brass. External type ferrule for clamping ground wire	6-72-M	Metal	.33

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

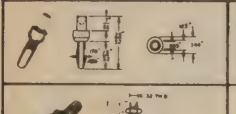
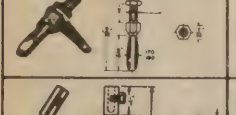
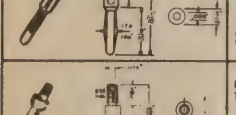
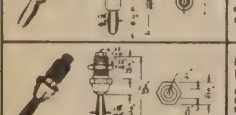
NYLON TIP JACKS

The NT-T Nylon Tip Jacks which are used throughout the electronic industry provide a very rugged compact, and neat receptacle for all tip plugs. Note the wide assortment of types and colors.

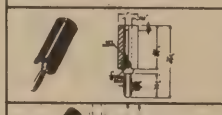
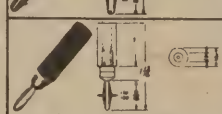
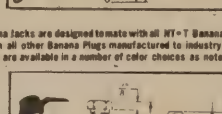
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**NYLON TIP JACK** **Wrap-Around Type with Metal Shell** Molded nylon tip jack with metal shell eliminates the possibility of threads stripping during assembly. Indicate color desired.	883B 883BL 883GR 883OR 883Y 883R 883W	Black Blue Green Orange Yellow Red White	.30 .30 .30 .30 .30 .30 .30
		**NYLON TIP JACK** **Spade Terminal Type with Metal Shell** Metal shell eliminates the possibility of threads stripping during assembly. Indicate [illegible] desired.	884B 884BL 884GR 884OR 884Y 884R 884W	Black Blue Green Orange Yellow Red White	.42 .42 .42 .42 .42 .42 .42
		**NYLON TIP JACK** **Feed-Through Type with Metal Shell** Thread stripping during assembly is eliminated with metal shell. Indicate color desired.	885B 885BL 885GR 885OR 885Y 885R 885W	Black Blue Green Orange Yellow Red White	.39 .39 .39 .39 .39 .39 .39
		**ALL NYLON TIP JACK** **Wrap-Around Type** Completely molded. Accepts all standard phone tip plugs. Contact recessed in hex gun head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/4" hole. Nylon Grade FM 10001 is used for body. Nickel-plated brass hex nut ends color desired.	886B 886BL 886GR 886OR 886Y 886R 886W	Black Blue Green Orange Yellow Red White	.21 .21 .21 .21 .21 .21 .21
		**ALL NYLON TIP JACK** **Spade Terminal Type** Completely molded. Accepts all standard phone tip plugs. Contact recessed in hex gun head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/4" hole. Nylon Grade FM 10001 is used for body. Center contact is beat treated silver-plated phosphor bronze. Nickel-plated brass hex nut.	887B 887BL 887GR 887OR 887Y 887R 887W	Black Blue Green Orange Yellow Red White	.30 .30 .30 .30 .30 .30 .30
		**ALL NYLON TIP JACK** **Feed Through Type** Completely molded. Contact recessed wherever head for both safe contact and grip in tightening. Mounts in panels up to 1/4" thick in 1/2" hole. Nylon Grade FM 10001 for body. Center contact is tin plated brass. Nickel plated brass hex nut.	888B 888BL 888GR 888OR 888Y 888R 888W	Black Blue Green Orange Yellow Red White	.282 .282 .282 .282 .282 .282 .282
	NEW	**ALL NYLON TIP JACK** **Spood Clip Type** Completely molded. Accepts all standard phone tip plugs. For use in rapid assembly applications. Mounts in 9/32" hole in panels up to 9/64" thick. Available in black or red.	889R 889B	Red Black	.08 .08

BANANA PLUGS

Standard, miniature, or dual, NT-T can provide you with the widest selection of Banana Plugs. All are designed, engineered, and manufactured to specifications of the industry. Only the finest molds and closest tolerances are used to provide for trouble free useage.

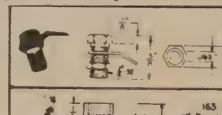
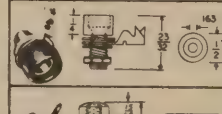
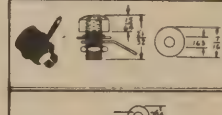
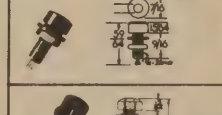
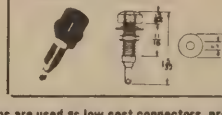
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**MIDGET BANANA PLUG** **Rivet Type** Nickel or silver plated brass body with phosphor bronze spring. Fits all standard banana jacks.	809	Metal	.18
		**BANANA PLUGS** Nickel plated hex brass body with phosphor bronze spring supplied with or without solid ring lug and nut.	811	Metal	.25
		**BANANA PLUG** **Solderless** Nickel-plated phosphor bronze spring. Side screw holds wire eliminating soldering. Accepts standard banana jacks. Threaded shank to fit plastic handle.	812	Metal	.20
		**MIDGET BANANA PLUG** **Threaded Type** Silver plated brass body with phosphor bronze spring.	814	Metal	.18
		**BANANA PLUG** **Phosphor Bronze** Nickel plated hex brass body with phosphor bronze spring. Wire can be directly soldered to brass stud or directly to plug. Solderless connection is made possible because stud locks wire to plug.	815	Metal	.25
		**BANANA PLUGS** Nickel plated hex brass body with phosphor bronze spring. Wire can be fed through side hole or can be soldered to brass stud. Thread end to facilitate the use of an insulated handle.	816	Metal	.20
		**BANANA PLUG** **Threaded Stud** Nickel plated brass banana plug fitting standard banana jacks. Four leaf phosphor bronze spring. Threaded male enables it to be used on all size panels. Supplied with screw and tinned brass lug.	819	Metal	.20
		**BANANA PLUG** **8-32 Thread, Lug, Nut** Nickel plated brass banana plug which fits standard banana jack. Four leaf nickel plated phosphor bronze spring & hex nut and phosphor bronze lug are supplied. Stud is threaded for panel mounting.	821	Metal	.20
		**INSULATED BANANA PLUG** **Meter-Type, Push Button** Nickel plated brass body with nickel phosphor bronze slotted spring. Molded Bakelite handle in Red or Black - indicate color desired. Push button type feed conductor through hole. Release button conductor is locked at portion. Fits standard banana jacks.	836B 836R	Black Red	.36 .36

BANANA PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		NEW **STACKING** **INSULATED BANANA PLUG** Molded polystyrene handle. Colors red or black. Spring is phosphor bronze, nickel plated. Body and set screw are brass, nickel plated. The set screw is for phone tip or wire connections. Plug can be stacked.	839B 839R	Black Red	.48 .48
		**INSULATED BANANA PLUG** **Miniature Type** Fits standard banana jacks with wire soldered directly into shell. Machined Plastic handle in Red or Black - indicate color desired. Nickel plated brass plug with nickel plated phosphor bronze spring.	840-B 840-R	Black Red	.20 .20
		**STACKING** **DUAL BANANA PLUGS** Molded polystyrene. Nickel plated brass 4-leaf phosphor bronze springs. Mates with standard dual binding posts with ¾" centers and with NT-KT binding post 4-876 and 3-878. Polarity indicated on top and side. Can be stacked for multiple connections. 15 Amps A.C. Available in red or black.	841B 841R	Black Red	.72 .72
		**INSULATED BANANA PLUG** Fits all standard banana jacks. Molded bakelite handle can be furnished in Red, Black and Blue. Four-leaved spring is made of phosphor bronze and is nickel plated.	851-B 851-BL 851-R	Black Blue Red	.25 .25 .25
		**INSULATED BANANA PLUG** **With Side Screw** Fitting standard banana jacks, set screw holds wire without soldering. This Banana Plug has Molded Bakelite handle in Red, White, Black, Blue, Yellow or Green. Indicate color desired. Plug is nickel-plated brass with four-leaved phosphor bronze spring.	852-B 852-BL 852-GR 852-Y 852-R 852-W	Black Blue Green Yellow Red White	.25 .25 .25 .25 .25 .25
		**INSULATED BANANA PLUG** Molded Bakelite handles in Red, White, Blue, Black, Yellow, Green. Indicate desired color. Nickel plated brass body. Knurled collar when tightened holds wire which has been passed through body tip and wrapped around screw portion. Fits standard phone tip jacks.	853-B 853-BL 853-GR 853-Y 853-R 853-W	Black Blue Green Yellow Red White	.30 .30 .30 .30 .30 .30

BANANA JACKS

NT-T Banana Jacks are designed to mate with all NT-T Banana Plugs and also are engineered to match all other Banana Plugs manufactured to industry specifications and standards. NT-T Jacks are available in a number of color choices as noted.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**BANANA JACK** **Non-Insulated Type** Mounting of 1/4" hole in any panel up to 3/8" thick. It will accept standard banana plug. Its body is HEX Brass, nickel-plated and is supplied with hex nut and tinned brass lug.	813	Metal	.15
		**BANANA JACK** **Insulated Type** Nickel-plated brass body. Accepts standard banana plug. Mounts in any panel up to 3/8" thick in 5/16" hole. Supplied with hex nut fibre washer lock washer and tinned brass lug.	844-B 844-BL 844-R	Black Blue Red	.18 .18 .18
		**BANANA JACK** **Insulated Type** Molded Bakelite head. Nickel plated brass body. Accepts standard banana plugs. Mounts in any panel up to 3/8" thick in 5/16" hole. Supplied with hex nut fibre washer and tinned brass lug.	845-B 845-BL 845-GR 845-R 845-Y 845-W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
		**BANANA JACK** **Insulated Type** With wrap-around terminal. Molded bakelite. Available in red, white, blue, green, yellow, black. Brass nickel plated.	846-B 846-BL 846-GR 846-R 846-Y 846-W	Black Blue Green Red Yellow White	.17 .17 .17 .17 .17 .17
		**INSULATED JACK** **Combination Type** Accepts standard phone tip plugs or standard banana plugs. Molded Bakelite head in Red, Blue, Black, Yellow, Green, White - indicate color desired. Nickel-plated brass body with phosphor bronze spring. Supplied with hex nut and fibre washer.	848-B 848-BL 848-GR 848-R 848-Y 848-W	Black Blue Green Red Yellow White	.20 .20 .20 .20 .20 .20

CONTACT CONNECTORS

Contact strips are used as low cost connectors, provides 1/2" spacing. Contacts will accommodate 1/8" pins.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**TWO CONTACT STRIP** Used on many television receivers for speaker hook-up or on the tuners to connect such circuits as AGC, pilot lights, or other voltage sources.	002-5	—	.06

MAGNETIC MICROPHONE HOLDER

ILLUSTRATION	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	Ideal for mobile communication. No more fumbling to find the microphone holder. NT-T's Magnetic Microphone surfaces such as dash boards, and the sides of set. This holder was designed not only for standard CB type applications, but also for heavy two-way radio work such as cabs, ambulances, and industrial communication. This convenience allows the driver to keep his on the road and avoid accidents. Fits most microphones.	3-006	Metal	.99

Net

© United Technical Publications

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

BINDING POSTS

NT•T offers the most extensive line of binding posts designed with precision molds and engineered to provide complete versatility. For use on test equipment, meters, breadboards, and experimental situations.

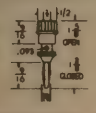
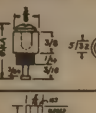
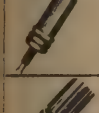
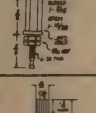
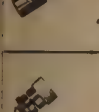
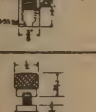
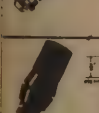
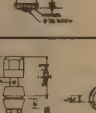
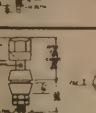
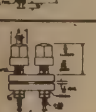
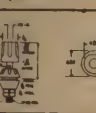
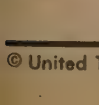
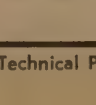
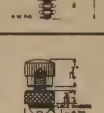
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**COMBINATION BINDING POST AND BANANA PLUG** Converts any standard jack into 5-way binding post. Molded fluted captive nylon head. Phosphor Bronze, nickel plated spring. Available in red or black.	863-B 863-R	Black Red	.30 .30
		**COMBINATION BINDING POST AND BANANA PLUG** Molded captive nylon hex head. Converts any standard jack into 5-way binding post. Phosphor Bronze, nickel plated spring. Available in red or black.	864-B 864-R	Black Red	.30 .30
		**METAL BINDING POST** Combination Terminal Stake-In Binding Post Similar to 1-872 but smaller in size. Screw-head, turret terminal. Knurled shank. Lockwasher. Brass, nickel plated. Knurled end 8-32 x 1/4" BHS. For 1/8 thick panel	872	Metal	.114
		**METAL BINDING POST** Combination Terminal Stake-In Binding Post Screw head, brass, nickel plated, turret terminal. Knurled shank. Knurled end. 10-32 x 1/4" long BHS. For 9/16 thick panel	1-872	Metal	.114
		**METAL BINDING POST** Captive head. Wrap-around terminal. Hex shape. Brass, nickel plated. Accepts phone tip, spade lug, banana plug, alligator clip, or wire	873	Metal	.35
		**METAL BINDING POST** Gold plated. Fluted brass. Molded black nylon insulator. 5-way will accept phone tip, spade lug, banana plug, alligator clip, or wire	1-873	Metal	.50
		**METAL BINDING POST** Brass nickel plated. Accepts standard phone tips or banana plugs	874	Metal	.23
		**METAL BINDING POST** Brass nickel plated. Supplied complete with screw and lockwasher	875	Metal	.25
		**5-WAY BINDING POST** Accepts tip and banana plugs, spade lugs, alligator clips, and wire strands. Direct solder connection. Molded nylon head and washer completely insulates post from panel. Mounts in ¼" or keyed hole for panels 1/16" to ¼" thick. Nickel plated brass metal parts. Molded in brass bushings in head and washer. Available in choice of six colors.	876B 876R 876BL 876GR 876Y 876W	Black Red Blue Green Yellow White	.35 .35 .35 .35 .35 .35
		**5-WAY BINDING POST** Molded nylon. Hexagonal head. Screw-end. Accepts phone, tip, spade, lug, banana plug alligator clip, or wire connections. Available in red or black	1-876-B 1-876-R	Black Red	.40 .40
		**5-WAY BINDING POST** Molded nylon. Hexagonal head. Spade lug. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black	2-876-B 2-876-R	Black Red	.42 .42
		**5-WAY BINDING POST** Accepts tip and banana plugs, spade lugs, alligator clips, and wire. Wrap around terminal. Molded nylon head and washer completely insulates post from panel. Mounts in ¼" or keyed hole for panels 1/16" to ¼" thick. Gold plated brass, metal parts. Molded-in-place brass bushings in head and washer. Available in choice of six colors.	3-876B 3-876R 3-876BL 3-876GR 3-876Y 3-876W	Black Red Blue Green Yellow White	.50 .50 .50 .50 .50 .50
		**DUAL 5-WAY BINDING POST** Nylon hexagonal captive head. Brass nickel plated. Wrap-around type. Accepts phone, spade, banana, or wire connections. Available in red or black combination	4-876-B 4-876-R 4-876-BR	Black Red Black/Red	.95 .95 .95
		**5-WAY BINDING POST** Molded nylon. Fluted head. Wrap-around end. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black	877-B 877-R	Black Red	.49 .49
		**5-WAY BINDING POST** Molded nylon. Fluted head. Screw end. Accepts phone tips, spade lug, banana plug, alligator clip, or wire connections. Available in red or black	1-877-B 1-877-R	Black Red	.45 .45
		**5-WAY BINDING POST** Molded nylon. Fluted head. Spade end. Accepts phone tip, spade lug, banana plug, alligator clip, or a wire connection. Available in red or black.	2-877B 2-877R	Black Red	.52 .52
		**5-WAY GROUNDING TYPE** Designed to accept phone tip plug, banana plug, spade lug, alligator clip, wire strand. Molded plastic, captive head. Indicate color desired. Red, black, 8-32 threaded stud. Nickel-plated brass body and insert in head.	878-B 878-R	Black Red	.22 .22

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**DUAL 5-WAY BINDING POST** Nylon fluted, captive head. Brass, nickel plated. Wrap-around type. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black combinations.	2-878-B 2-878-R 2-878B/R	Black Red Black/Red	.80 .80 .80
		**FULLY INSULATED TYPE** Designed to accept phone tip plugs, spade lugs, banana plugs, alligator clips or wires. Mounts in 1/4" hole in panel. Molded plastic head and washer, with nickel plated brass body. Available in red and black.	879-B 879-R	Black Red	.25 .25
		**BINDING POST** Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	880-B 880-R	Black Red	.25 .25
		BINDING POST Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	881-B 881-R	Black Red	.25 .25
		4 WAY BINDING POST Self-locking. Molded nylon. Fluted head. Screw end. Accepts phone, spade, banana alligator or wire connection. Available in red and black.	882-B 882-R	Black Red	.27 .27

NT•T now offers this extensive line of Anode Connectors for conventional CRT applications and color. The large rubber mushroom caps on the connectors help alleviate the problem of corona. Insist on NT•T.

ANODE CONNECTORS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		STANDARD CONNECTOR NEW	212-18"	--	.55
		COLOR CONNECTOR For use on Color Synthetic ray tubes.	239-18"	--	.42
		STANDARD CONNECTOR	242-18"	--	.21
		STANDARD CONNECTOR	246-18"	--	.37
		COLOR CONNECTOR Large rubber cup for color tubes.	250-27"	--	.57

HIGH VOLTAGE PLATE CAP

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		HIGH VOLTAGE PLATE CAP NEW Used extensively on high voltage regulator tubes in color television receivers. Made of high dielectric material consisting of Alkyd 420 10" wire.	260-10"	--	1.20

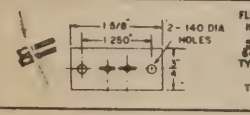
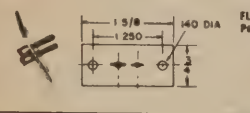
CHEMICALS

ILLUSTRATION	DESCRIPTION	Catalog Number	Standard Pack	USA Net Each
	LECTRO-KLEEN Tuner-Contact Cleaner There is no longer a need to stock a special contact cleaner for controls and another type for tuners. LECTRO-KLEEN will do all of your electronic cleaning jobs. LECTRO-KLEEN cleans, lubricates, and protects at the same time. Due to the low viscosity, UHF and VHF tuners will not drift. One squirt shows the difference. Most important, LECTRO-KLEEN will not harm plastic . . . and it's non-toxic . . . safe for you, too. Insist on LECTRO-KLEEN.	7-001	24-6 oz. Cans	1.17
			SPECIALLY FORMULATED FOR COLOR TELEVISION	

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

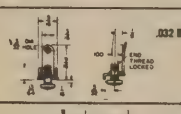
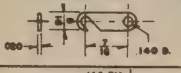
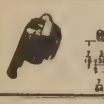
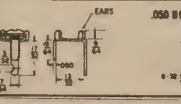
INTERLOCK RECEPTACLES

Pins are made from 1/4" hard-brass wire cadmium plated. Polarized interlocks are made in both flush and bath tub styles.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		FLUSH RECEPTACLE Standard .062 X .076	714	—	.07
		RECESSED RECEPTACLE Standard	718	—	.09
		FLUSH RECEPTACLE Polarized	731	—	.09
		RECESSED RECEPTACLE Polarized	733	—	.11

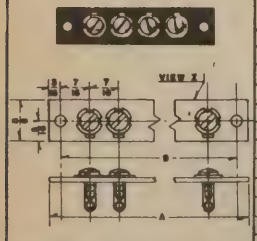
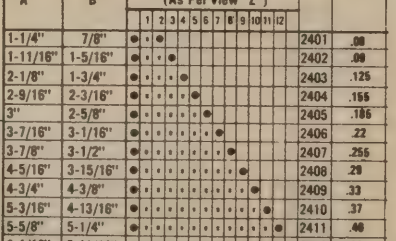
BINDING POST TERMINALS

Lugs are tapped, with screws inserted ready for use, as replacement or in design of your own strips. All hot-tinned brass for ease in soldering.

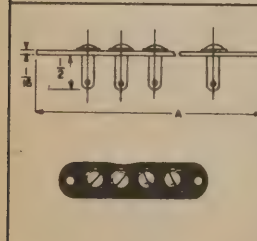
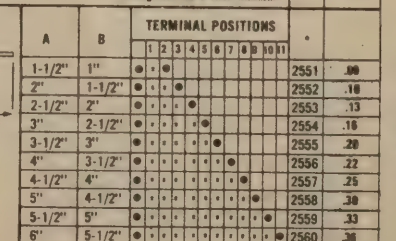
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		.032 BRASS 6-32x5/16 SCREW	4403	Metal	.05
		SHORTING LINK 7/16" Centers	4515	Metal	.018
		SHORTING LINK 1/2" Centers	4516	Metal	.018
		.050 BRASS 8-32x3/8 SCREW	4418	Metal	.07

BINDING POST BOARDS

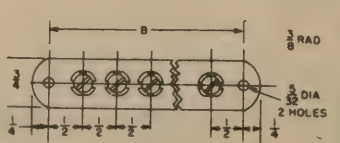
Boards are 1/16" thick XP Laminated Phenolic. Terminals are 1/32" thick, brass, cadmium plated. Screws are Steel nickel-plated

ILLUSTRATION	DIMENSIONS	2400 SERIES • The last one or two digits in the catalog number indicate the number of screw terminals. For example: 2402 means a 2400 Series Binding Post with 2 screw terminals.	Cat. #	Std. 10 Pack USA Net Each
				

A	B	LUG POSITIONS (As Per View "Z") 1 2 3 4 5 6 7 8 9 10 11 12	Cat. #	Std. 10 Pack USA Net Each
1-1/4"	7/8"	● ◦ ●	2401	.08
1-11/16"	1-5/16"	● ◦ ◦ ●	2402	.09
2-1/8"	1-3/4"	● ◦ ◦ ◦ ●	2403	.125
2-9/16"	2-3/16"	● ◦ ◦ ◦ ◦ ●	2404	.155
3"	2-5/8"	● ◦ ◦ ◦ ◦ ◦ ●	2405	.185
3-7/16"	3-1/16"	● ◦ ◦ ◦ ◦ ◦ ◦ ●	2406	.22
3-7/8"	3-1/2"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2407	.255
4-5/16"	3-15/16"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2408	.29
4-3/4"	4-3/8"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2409	.33
5-3/16"	4-13/16"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2410	.37
5-5/8"	5-1/4"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2411	.40
6-1/16"	5-11/16"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦	2412	.44

ILLUSTRATION	DIMENSIONS	2551 SERIES • The last digit in the catalog number indicates the number of screw terminals. For example: 2562 means a 2500 series Binding Post with 2 screw terminals.	Cat. #	Std. 10 Pk USA Net Each
				

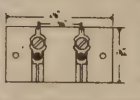
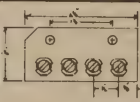
A	B	TERMINAL POSITIONS 1 2 3 4 5 6 7 8 9 10 11	Cat. #	Std. 10 Pk USA Net Each
1-1/2"	1"	● ◦ ●	2551	.09
2"	1-1/2"	● ◦ ◦ ●	2552	.10
2-1/2"	2"	● ◦ ◦ ◦ ●	2553	.13
3"	2-1/2"	● ◦ ◦ ◦ ◦ ●	2554	.16
3-1/2"	3"	● ◦ ◦ ◦ ◦ ◦ ●	2555	.20
4"	3-1/2"	● ◦ ◦ ◦ ◦ ◦ ◦ ●	2556	.22
4-1/2"	4"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2557	.25
5"	4-1/2"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦	2558	.30
5-1/2"	5"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2559	.33
6"	5-1/2"	● ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ◦ ●	2560	.36



Utilized as replacements for antenna terminals on the rear of many television receivers, and as speaker terminals on many amplifiers. Makes an excellent replacement and is ideal for the engineer or hobbyist in the construction of new equipment.

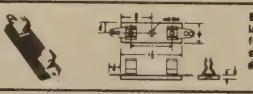
ANTENNA BINDING POSTS

Exact, or in most cases suitable replacement for antenna strips on the majority of television receivers.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		UHF CONVERTER STRIP Replacement on many UHF converters on the market today.	001-3	—	.32
		STANDARD STRIP Used on many receivers providing only VHF reception. Tuner antenna wire plugs into strip allowing fast disconnect.	001-4	—	.16
		UHF-VHF STRIP Used on many of the new receivers with combination UHF-VHF tuners.	001-12	—	.25

FUSE MOUNTING BASES

3AG fuse mounting assemblies as used throughout industry. Fuse blocks available in one, two, and three pole assemblies.

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Two .140 diameter mounting holes.	403	Black	.35
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Three pole unit with mounting holes for #6 screws.	405	Black	.61
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Two pole unit with mounting holes for #6 screws.	406	Black	.38
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Single pole with .140 diameter mounting holes.	408	Black	.18
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Single pole with solder connector below base.	410	Black	.14
		NYLON INLINE FUSE HOLDER with 20" lead NEW	448	White	.35
		PANEL MOUNTED HOLDERS 3AG Type Fuses Molded from black, general purpose phenolic powder. All metal parts are plated to resist corrosion and solder lugs are plated to facilitate soldering. Rated at 15 amps., 250 volts and is Underwriter Laboratories approved.	450	Black	.42
		PANEL MOUNTED HOLDERS 3AG Type Fuses Short Type NEW Molded from black, general purpose phenolic powder. All metal parts are plated to resist corrosion and solder lugs are plated to facilitate soldering. Rated at 15 amps., 250 volts and is Underwriter Laboratories approved.	451	Black	.48

Net

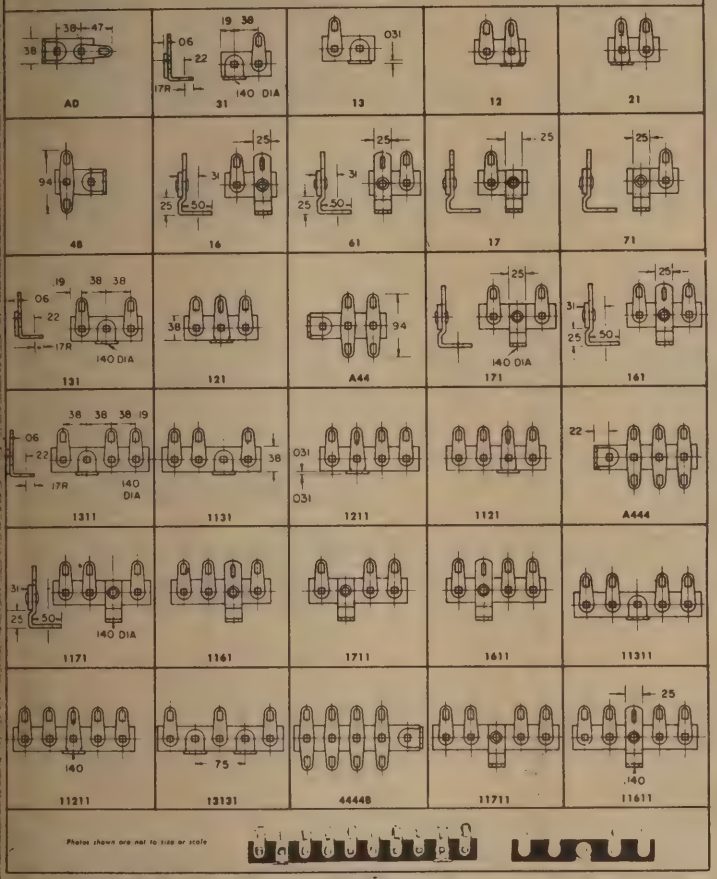
© United Technical Publications

ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

TERMINAL STRIPS

Strips are 1/16" by 3/8" NEMA grade XP laminated phenolic with brass or steel lugs. All are securely eyeletted in position. Lug spacing is .38". NT• T's vast assortment of strips allows for the most complete coverage and applications.

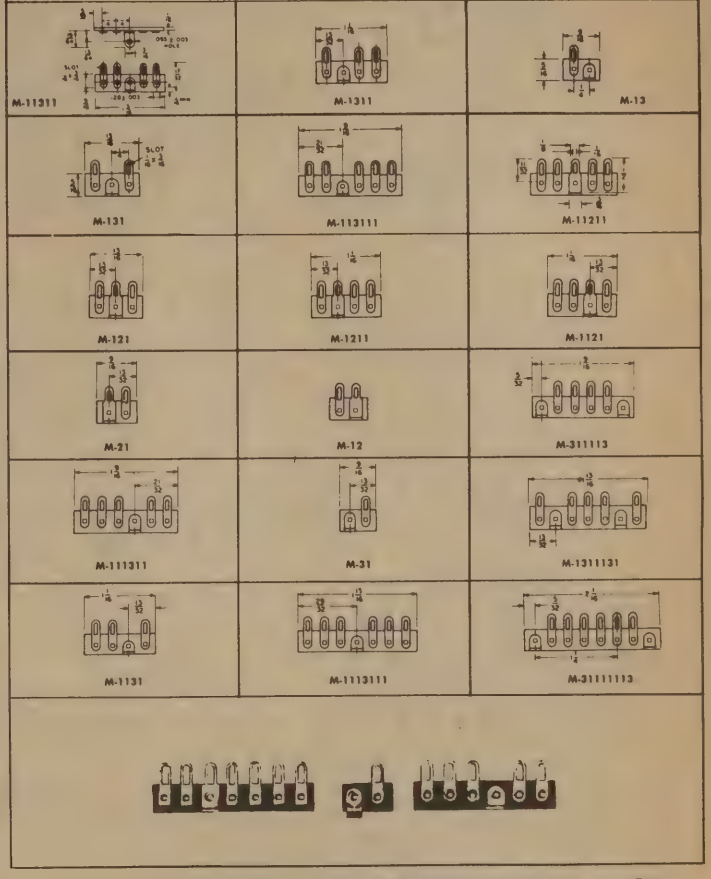
ILLUSTRATIONS



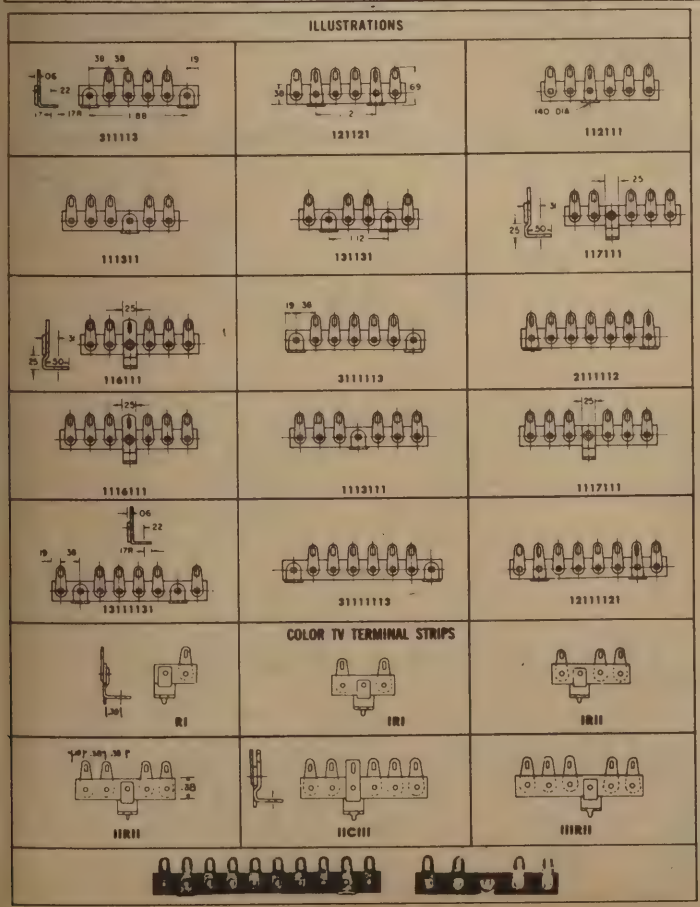
MINIATURE TERMINAL STRIPS

Strips are 1/16" by 5/16" NEMA grade XP laminated phenolic with brass or steel lugs. All are securely eyeletted in position. Lug spacing is 1/4". NT•T's vast assortment of strips allows for the most complete coverage and applications.

ILLUSTRATIONS



ILLUSTRATIONS



TERMINAL STRIPS PRICE LIST

Catalog Number	Bulk Pack' Qty	Bulk Pack' USA Net Each
AD	100	03
48	100	05
12	100	031
13	100	03
16	100	038
17	100	038
21	100	031
31	100	.03
A44	100*	065
61	100	038
71	100	038
121	100	033
131	100	032
161	100	04
171	100	04
A444	100	075
1121	100	042
1131	100	041
1161	100	.051
1171	100	051
1211	100	042
1311	100	041
1611	100	051
1711	100	051
4444B	100	10
11211	100	.046
11311	100	045
11611	100	056
11711	100	056
13131	100	05
111311	100	.06
112111	100	062
116111	100	.074
117111	100	074
121121	100	064

Catalog Number	Bulk Pack' Qty	Bulk Pack' USA Net Each
131131	100	06
311113	100	06
1113111	100	064
1116111	100	078
1117111	100	078
2111112	100	068
3111113	100	065
12111121	100	075
13111131	100	07
31111113	100	07
M 12	100	041
M 13	100	04
M 21	100	041
M 31	100	04
M 121	100	043
M 131	100	045
M 1121	100	055
M 1131	100	055
M 1211	100	055
M 1311	100	055
M 11211	100	06
M 11311	100	06
M 111311	100	065
M 113111	100	065
M 311113	100	07
M-1113111	100	09
M 1311131	100	095
M 31111113	100	092
R1	100	032
1R1	100	037
1R11	100	042
11R11	100	048
11C111	100	051
111R11	100	051

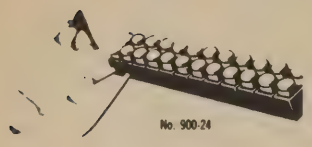
ntt / distributor sales division of **NATIONAL TEL-TRONICS CORP.**

MOLDED TERMINAL BLOCKS

900 SERIES PUSH BUTTON

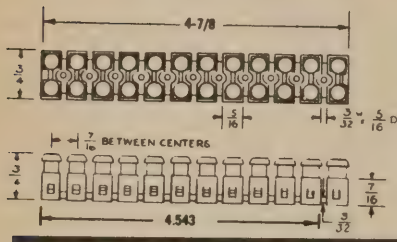


No. 900-10



No. 900-24

Catalog Number	Color	Std. 10 Pack Each	Qty.
900-4	Black	.498	100
900-6	Black	.66	100
900-8	Black	.848	100
900-10	Black	1.02	100
900-12	Black	1.23	100
900-14	Black	1.44	100
900-16	Black	1.59	100
900-18	Black	1.77	100
900-20	Black	1.95	100
900-24	Black	2.31	100



Like Type No. 905, the No. 900 terminal block is solderless, and is molded of hard black polyvinylchloride. Push buttons are molded of red polyvinylchloride.

These terminal blocks have extremely high dielectric properties and are approved to resist 440 volts or 500 volts when mounted on insulated surface. Maximum current 27 amperes, maximum heat capacity 70° C. Maximum wire size applicable AWG #12. Maximum contact pressure: 13.22 lbs. Connection of conductor is extremely fast. Press the red button and insert the wire. Release pressure for locking. The beryllium copper contacts are molded into the block. Type 900 is available for 24 connectors. It may be cut to smaller size if required.

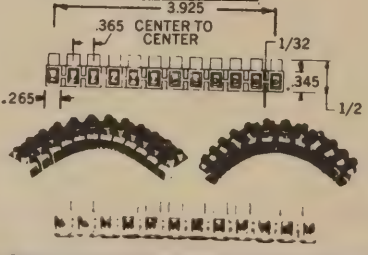
905 SERIES • FLEXIBLE

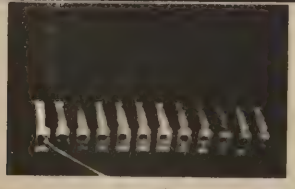
Type No. 905 Solderless Terminal Blocks are specially designed for applications where space and weight conservation are important factors. Because they are molded of flexible polyvinylchloride material they may be bent in any direction to fit contours and sharp angles. Typical applications for these terminal blocks include missile guidance systems, computers, aircraft communications, underwater detecting equipment, etc.

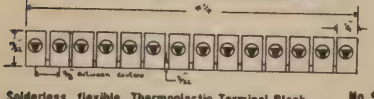
The shortest distance between the live parts of Type No. 905 Terminal Block is 3/8". Its brass terminals will accommodate a #10 wire as a maximum. The polyester material of which the blocks are made is rated at max. of 30 amps, 380 volts, or 440 volts if mounted on insulated surface. Maximum heat capacity: 60° C. Insert conductor in block and tighten the set screw.

Flexible Terminal Block No. 905 measures 3-$^{39}/_{64}$ long, 5/8" wide, 1/2" high and 11/32" between terminal centers. It may be cut to smaller sizes as required.

Catalog Number	Color	Std. 10 Pack USA Net Each
905	Gray	1.21



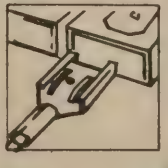


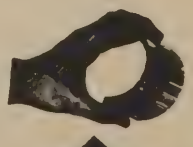


Catalog Number	Color	Std. 10 Pack USA Net Each
910-4	Clear	.444
910-6	Clear	.584
910-8	Clear	.762
910-10	Clear	.924
910-12	Clear	1.08
910-14	Clear	1.26
910-16	Clear	1.44
910-18	Clear	1.56
910-20	Clear	1.74
910-24	Clear	2.07

Solderless, flexible, Thermoplastic Terminal Block. Accepts stranded tinned or solid wire to 13 AWG. Just press wire into opening. No wrapping, no soldering. Place small blade screw driver in top slot and press to release wire. Contacts are Copper nickel-plated. Maximum operating temperature 212° F. Transit resistance 0.7 Ohms. Units are rated at 380-440 Volts D.C. Ideal for labs, schools, and hobbyists. Type 910 is available up to 24 connectors and may be cut down as desired.

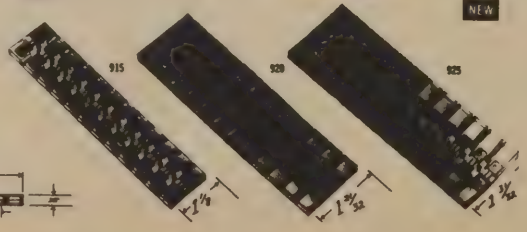
No. 910-4 —Four-connector terminal block
No. 910-6 —Six-connector terminal block
No. 910-8 —Eight-connector terminal block
No. 910-10—Ten-connector terminal block
No. 910-12—Twelve-connector terminal block
No. 910-14—Fourteen-connector terminal block
No. 910-16—Sixteen-connector terminal block
No. 910-18—Eighteen-connector terminal block
No. 910-20—Twenty-connector terminal block
No. 910-24—Twenty-four-connector terminal block





Unique terminal block for use with quick-disconnect 1/4" width terminals. Ideal for breadboarding, test strips, and simplifying installations. Solderless, exceptionally flexible. Available in 6 and 12 cell (12 and 24 connectors) that may be easily cut to fit, and in three widths. Molded from transparent Polyvinyl chloride. Rated at 250 VDC, 20A, 80° C.

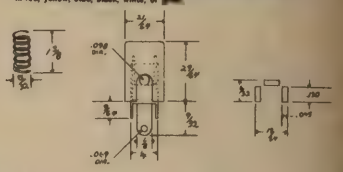
Catalog Number	Color	Std. 10 Pack USA Net Each
915-12	Clear	.52
915-24	Clear	1.03
920-12	Clear	.52
920-24	Clear	1.02
925-12	Clear	.56
925-24	Clear	1.11

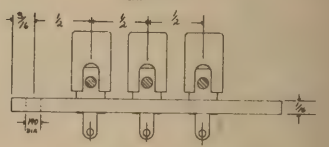


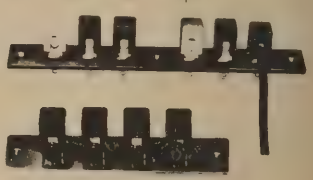


COMPRESSION TYPE TERMINAL BLOCKS

Series 927 push button terminal blocks are unique. They firmly grasp stripped wire in a spring loaded grip. Top of push button is pressed down and wire is inserted into hole. Releasing push button permits top to rise and clamp wire securely. Push buttons are available singly or in strips to your order in single or multiple rows. The buttons are cadmium plated steel. Springs are phosphor bronze. Button is molded of styrene plastic in red, yellow, blue, black, white, or green.









NEW

HOW TO ORDER COLOR CODE

A four terminal strip consisting of a black, yellow, white, and blue button would be identified by the part number followed by the letters B-Y-W-Bl. Color Code: R—Red, Y—Yellow, Bl—Blue, B—Black, W—White, G-Green.

TERMINAL NUMBER										
927-2	O	X	X	O						
927-3	O	X	X	X	O					
927-4	O	X	X	X	X	O				
927-6	O	X	X	X	X	X	X	O		
927-8	O	X	X	X	X	O	X	X	X	O

X — TERMINALS O — MOUNTING HOLES

Catalog Number	Color	Std. 10 Pack USA Net Each
927-2	B-R	.840
927-4	B-R-Y-Bl	1.20
927-6	B-R-Y-Bl-W-G	1.80
927-8	B-R-Y-R-Bl-B-W-G	2.64

SPACERS



BRASS HEX HEAD SPACERS Cadmium Plated 1/4" HEX				
Length "L"	Thd 4-40	Thd 6-32	Thd 8-32	NET Per C
.250	H2525-440	H2525-632	H2525-832	5.30
.375	H2537-440	H2537-632	H2537-832	6.50
.500	H2550-440	H2550-632	H2550-832	7.40
.750	H2575-440	H2575-632	H2575-832	11.20
1.000	H2510-440	H2510-632	H2510-832	12.10

BRASS SPACERS Cadmium Plated 1/4" O.D.				
Length "L"	for #4 Screw	for #6 Screw	for #8 Screw	NET Per C
.250	R2525-4	R2525-6	R2525-8	4.20
.375	R2537-4	R2537-6	R2537-8	4.90
.500	R2550-4	R2550-6	R2550-8	5.70
.750	R2575-4	R2575-6	R2575-8	8.20
1.000	R2510-4	R2510-6	R2510-8	9.70
3/8" O.D.				
.500			R3750-8	9.80
.750			R3775-8	11.20

BRASS THREADED SPACERS Cadmium Plated 1/4" O.D.				
Length "L"	Thd 4-40	Thd 6-32	Thd 8-32	NET Per C
.250	R2525-440	R2525-632	R2525-832	4.80
.375	R2537-440	R2537-632	R2537-832	5.60
.500	R2550-440	R2550-632	R2550-832	6.70
.750	R2575-440	R2575-632	R2575-832	10.20
1.000	R2510-440	R2510-632	R2510-832	11.40

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job

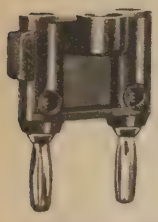


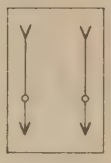
Call your local distributor for all your requirements

POMONA ELECTRONICS

BANANA PLUG ACCESSORIES

DOUBLE BANANA PLUG



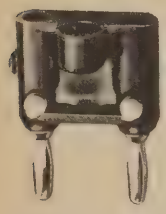


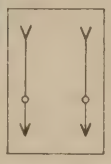
Double banana plug on ¾" centers; set screws secure leads; simplifies cable construction or component mounting; banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL MDP (Specify Color) QUANTITY DISC. CODE (A) **NET .75**

DOUBLE BANANA PLUG WITH SOLDER TURRET TERMINALS



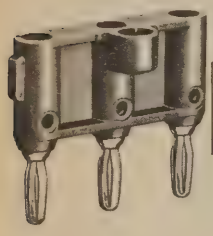


Similar to Model MDP, except has solder turret terminals for permanent noise-free connections of cables and components. Double banana plug on ¾" centers; banana jacks permit top Stack-Up for multiple connections.

COLOR: Black

MODEL MDP-ST QUANTITY DISC. CODE (A) **NET .95**

TRIPLE BANANA PLUG



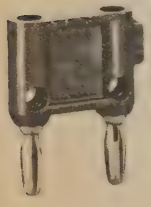


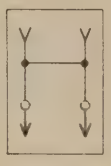
Triple banana plug on ¾" centers; set screws secure leads. Ideal for balanced line 2 conductor shielded cable assemblies. Banana jacks permit top Stack-up for multiple connections.

COLORS: Black, Red.

MODEL 2970 (Specify Color) QUANTITY DISC. CODE (A) **NET 1.25**

INSULATED SHORTING BAR



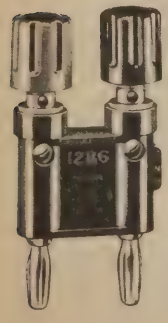


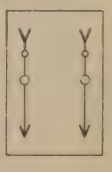
Ideal as a connecting link for use with ¾" spaced banana jacks. Banana plugs internally solder-bonded with #14 AWG wire. Banana jacks provide top Stack-Up. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance less than 1.5 milliohms installed. Current rating 15 Amps. Cont., 30 Amps. Int. "Shorting Bar" marked on top of plug.

COLORS: Natural, Black, Red.

MODEL MDP-S (Specify Color) QUANTITY DISC. CODE (A) **NET 1.25**

BINDING POSTS TO DOUBLE BANANA PLUG





Features insulated binding posts on ¾" centers for rapid mounting and interchangeability of components. Binding posts allow top Stack-Up for multiple connections. Side Stack-Up provided by thru-holes in plug body.

UPPER: Insulated double binding posts, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

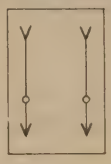
LOWER: Double banana plug, on ¾" centers.

COLORS: Body, Black. Binding Posts, Black/Red.

MODEL 1286 QUANTITY DISC. CODE (A) **NET 2.75**

COMPONENT MOUNTING DOUBLE BANANA PLUG





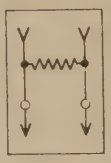
Double banana plug on ¾" centers; set screws secure leads; features recess for mounting small components; banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Red

MODEL 1330 (Specify Color) QUANTITY DISC. CODE (A) **NET .75**

MOLDED PRECISION RESISTOR



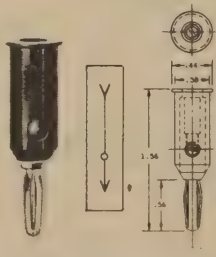


Ideal where rapid interchange of resistance values is required. Used in breadboarding, R & D labs., Standards, Terminations, etc. Deposited carbon 1% resistor, ½ watt, molded internally. Resistor soldered to double banana plug, on ¾" centers. Top Stack-Up provided for multiple connections. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance value stamped on top of plug.

(OHMS)					
	50	200	1K	100K	1 Meg.
	75	250	5K	200K	2 Meg.
	120	500	10K	250K	5 Meg.
	130	600	20K	500K	10 Meg.
	150	900	50K		

MODEL MDP-R (Specify Value) QUANTITY DISC. CODE (A) **NET 2.95**

SOLDERLESS BANANA PLUG —STACK-UP



Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

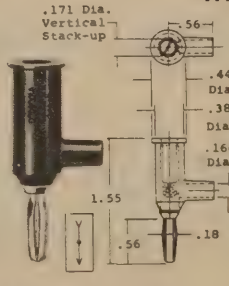
UPPER: Banana jack, .171 dia.; Brass, nickel plated.

LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1325 (Specify color) QUANTITY DISC. CODE (A) **NET .50**

SOLDERLESS BANANA PLUG WITH SAFETY COLLAR —STACK-UP



Features: Integral safety collar insulates exposed wire leads. Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.

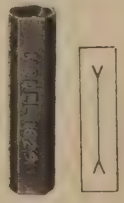
UPPER: Banana jack, .166 dia.; Brass, nickel plated.

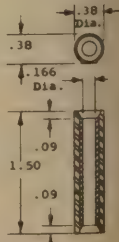
LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1825 (Specify Color) QUANTITY DISC. CODE (A) **NET .50**

SINGLE BANANA PLUG SPLICE





Provides rapid method for splicing single banana plug patch cords. Reduces the necessity of storing extra long patch cords. Molded thermo-plastic body eliminates shock hazard by completely enclosing banana plug contact. Brass, nickel plated banana jack, .166 dia.

COLORS: Black, Red.

Standard Package: 10 (per color)

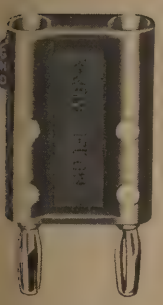
MODEL 1829 (Specify color) QUANTITY DISC. CODE (A) **NET .25 ea.**

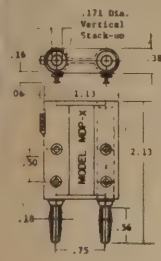
© United Technical Publications

POMONA ELECTRONICS

MISCELLANEOUS TEST ACCESSORIES

DOUBLE BANANA PLUG, FOUR TERMINAL ISOLATION







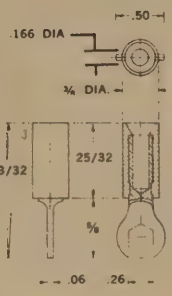
Provides four terminal isolation. Top Stack-Up receptacles isolated from lower plugs. Ideal for insertion of matching networks in laboratory VTVM's, signal generators, etc. Gold flashed solder turret terminals for permanent noise-free connections.

UPPER: Double banana jacks, .166 dia., on ¾" centers.
LOWER: Double banana plug on ¾" centers.
COLOR: Red.

MODEL MDP-X QUANTITY DISC. CODE (A) **NET 3.25**

INSULATED SPADE LUG ADAPTER





Permits single banana plug to be used with equipment having binding posts. Tough thermoplastic molded to body for maximum reliability and low shock hazard. Spade lug body, one piece machined brass, nickel plated.

UPPER: Banana jack, .166 dia.
LOWER: Spade lug, .26 opening.
COLORS: Black, Red.

MODEL 1614 (Specify color) QUANTITY DISC. CODE (A) **NET .35**

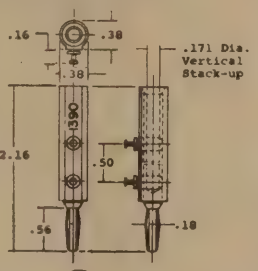
PLUG — SINGLE BANANA, ISOLATION





Provides two terminal isolation. Top Stack-Up receptacle is isolated from lower plug to permit addition of series resistors, diodes, etc. Ideal for computers, lab. circuit design and testing. Gold flashed solder turret terminals for permanent noise-free connections.

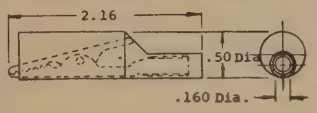
UPPER: Banana jack, .166 dia.
LOWER: Banana plug.
COLORS: Black, Red.



MODEL 1390 (Specify color) QUANTITY DISC. CODE (A) **NET 1.50**

INSULATED ALLIGATOR CLIP TO BANANA JACK





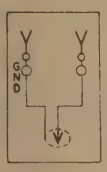
Clip, No. 60 Mueller, Steel, Cadmium Plated Vinyl insulators, No. 62 (5 Red, 5 Black). Unassembled.

Standard Package of 10 clips and 10 insulators.

MODEL 2240 QUANTITY DISC. CODE (A) **NET .20 ea.**

ADAPTER — BINDING POSTS TO UHF PLUG





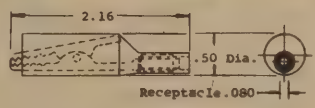
Permits single or double banana plugs to be used with equipment having a UHF receptacle, ⅝" dia. Convenient for use with modern oscilloscopes. Center conductor binding post Red; Ground, Black.

UPPER: Insulated binding posts, on ¾" centers with .166 dia. jacks.
LOWER: UHF plug.

MODEL 1699 QUANTITY DISC. CODE (A) **NET 5.85**

INSULATED ALLIGATOR CLIP TO PIN TIP JACK



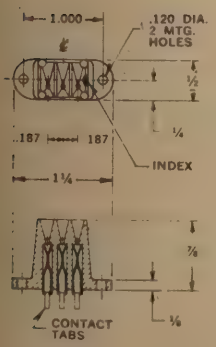


Alligator Clip, Steel, Cadmium Plated. Tip Jack, Beryllium Copper, Gold Flashed, accepts .080 dia. Pin tip plug. Vinyl insulators (5 Red, 5 Black). Unassembled.

Standard Package of 10 clips and 10 insulators.

MODEL 1437 QUANTITY DISC. CODE (A) **NET .50 ea.**

TRANSISTOR SOCKET



For use in testing 3 lead transistors with .017 dia. leads. Beryllium copper springs for long life. Ideal for aging racks, incoming inspection, life testing, etc.



MODEL TS-187 QUANTITY DISC. CODE (A)

MODEL	TEMP. RANGE	INSULATION RESISTANCE	COLOR	NET
TS187	−100°C To +200°C.	1 x 10^5 Megohms Min. @ 500 V.D.C. @ 40% R.H., 24°C.	Black	1.75

ADAPTER — BANANA JACK TO PIN TIP





Permits standard single banana plug patch cords to be used with equipment having tip jacks.

UPPER: Banana jack, .166 dia. Brass, nickel plated.
LOWER: Pin tip, .080 dia. Brass, nickel plated. Cross hole (.166 dia.) in body provides side Stack-Up connection.
COLORS: Black, Red.

Standard Package: 10 (per color)

MODEL 1432 (Specify Color) QUANTITY DISC. CODE (A) **NET .20 ea.**

ADAPTER — .080 TIP JACK TO BANANA PLUG





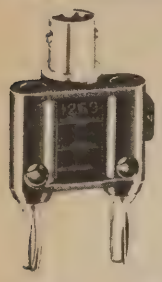
Permits .080 dia. pin tip patch cords to be used with equipment having banana jacks. Insulation molded to plug body.

UPPER: Tip jack, beryllium copper, gold flashed. Accepts .080 dia. pin.
LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack. Cross hole (.166 dia.) in body provides side Stack-Up connection.
COLORS: Black, Red.

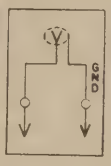
MODEL 1809 (Specify Color) QUANTITY DISC. CODE (A) **NET .75**

POMONA ELECTRONICS

BNC ADAPTERS



ADAPTER — BNC RECEPTACLE TO DOUBLE BANANA PLUG

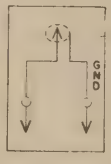


Permits BNC plug to be used with equipment having banana jacks. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.
UPPER: BNC receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1269 QUANTITY DISC. CODE (A) **NET 3.25**

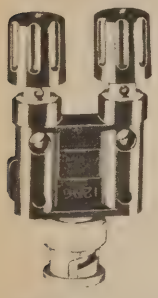


ADAPTER — BNC PLUG TO DOUBLE BANANA PLUG

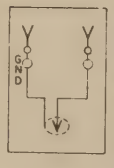


Permits BNC receptacle to be used with equipment having banana jacks. Minimizes number of coaxial connections for maximum efficiency.
UPPER: BNC plug.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1270 QUANTITY DISC. CODE (A) **NET 3.95**



ADAPTER — BINDING POSTS TO BNC PLUG



Permits single or double banana plugs to be used with equipment having BNC receptacle. Excellent for use with laboratory oscilloscopes.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: BNC plug.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1296 QUANTITY DISC. CODE (A) **NET 4.95**

ADAPTER — SINGLE BINDING POST TO BNC PLUG





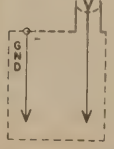
Permits single banana plug to be used with equipment having a BNC receptacle. Connector body features a Non-Tarnish finish.
UPPER: Insulated binding post for multiple stacking.
LOWER: BNC Plug.
COLOR: Binding Post: Black or Red (specify)

MODEL 3430 (Specify color) QUANTITY DISC. CODE (A) **NET 2.50**



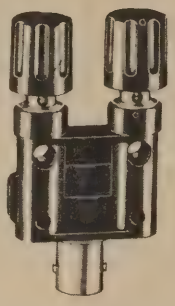
ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA PLUGS

Permits BNC plug to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise Pick-up more than 70 DB. Ideal for low level inputs to oscilloscopes, wave analyzers, etc.

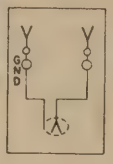


UPPER: BNC receptacle.
LOWER: Shielded double banana plug, on ¾" centers.

MODEL 1645 QUANTITY DISC. CODE (A) **NET 3.75**

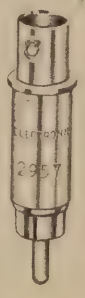


ADAPTER — BINDING POSTS TO BNC RECEPTACLE

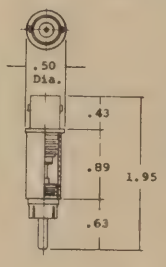


Permits single or double banana plugs to be used with equipment having BNC plug.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: BNC receptacle.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1452 QUANTITY DISC. CODE (A) **NET 4.95**



ADAPTER — BNC RECEPTACLE TO PHONO PLUG



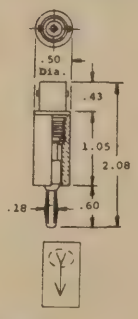
Permits BNC plug to be used with equipment having phono jacks. Readily adapts equipment to available BNC coaxial cables. All metal construction reduces pick-up more than 70 DB. to insure proper shielding.
UPPER: BNC receptacle UG1094/U.
LOWER: Phono plug.



MODEL 2957 QUANTITY DISC. CODE (A) **NET 3.50**

ADAPTER — BNC RECEPTACLE TO SINGLE BANANA PLUG



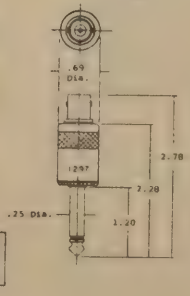


Permits BNC plug to be used with equipment having banana jacks. Inner conductor connected only. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.
UPPER: BNC receptacle, UG1094/U.
LOWER: Single Banana Plug.
COLOR: Black.

MODEL 1894 QUANTITY DISC. CODE (A) **NET 2.50**



ADAPTER — BNC RECEPTACLE TO PHONE PLUG



Permits BNC plug to be used with equipment having standard ¼" dia. phone jacks. Readily adapts equipment to available BNC coaxial cables. All metal construction to insure proper shielding.
UPPER: BNC receptacle, UG1094/U.
LOWER: Standard ¼" dia. phone plug, 1 1/16" Long.

MODEL 1297 QUANTITY DISC. CODE (A) **NET 5.85**

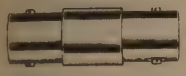
Net

© United Technical Publications

POMONA ELECTRONICS

TEST ADAPTERS

ADAPTER — BNC JACK TO JACK



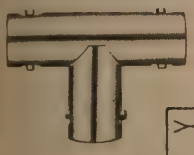


Allows the interconnection of two coaxial cables with BNC plugs.

FEATURES:
- Non-Tarnish finish.
- 50 Ohm impedance.
- Teflon insulation.
- Gold flashed beryllium copper contacts.

MODEL 3283 — QUANTITY DISC. CODE (A) NET 1.50

ADAPTER — BNC "T" — 3 JACKS



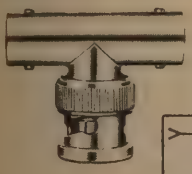


Allows the interconnection of three coaxial cables with BNC plugs.

FEATURES:
- Non-Tarnish finish.
- 50 Ohm impedance.
- Teflon insulation.
- Gold flashed beryllium copper contacts.

MODEL 3284 — QUANTITY DISC. CODE (A) NET 5.45

ADAPTER — BNC "T" JACK — PLUG — JACK





With this adapter, equipment or coaxial cables having a single BNC jack are changed to two BNC jacks.

FEATURES:
- Non-Tarnish finish.
- 50 Ohm impedance.
- Teflon insulation.
- Gold flashed beryllium copper female and outer male contact.

MODEL 3285 — QUANTITY DISC. CODE (A) NET 3.25

ADAPTER — BNC PLUG TO PLUG





Allows the interconnection of two coaxial cables with BNC Jacks.

FEATURES:
- Non-Tarnish finish.
- 50 Ohm impedance.
- Teflon insulation.
- Beryllium copper outer finger contacts.
- Gold flashed male contacts.

MODEL 3533 — QUANTITY DISC. CODE (A) NET 2.95

ADAPTER — BNC JACK TO UHF PLUG





Allows the use of a BNC plug on equipment having a UHF Jack.

FEATURES:
- Non-Tarnish finish.
- Rexolite insulation.
- Gold flashed beryllium copper female contact.
- Gold flashed male contact.

MODEL 3286 — QUANTITY DISC. CODE (A) NET 1.75

ADAPTER — UHF JACK TO BNC PLUG





Allows the use of a UHF Plug on equipment having a BNC Jack.

FEATURES:
- Non-Tarnish finish.
- 50 Ohm impedance.
- Rexolite insulation.
- Gold flashed Phosphor Bronze female UHF and male BNC contacts.

MODEL 3287 — QUANTITY DISC. CODE (A) NET 3.25

ADAPTER — BNC JACK TO TYPE "N" PLUG





Allows the use of a BNC Plug on equipment having a type "N" jack.

FEATURES:
- Non-Tarnish finish.
- Teflon insulation.
- Gold flashed contacts.

MODEL 3288 — QUANTITY DISC. CODE (A) NET 2.25

ADAPTER — BINDING POSTS TO PHONE PLUG



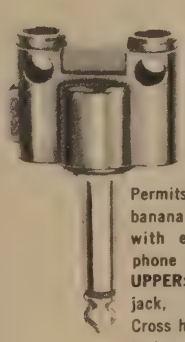
Permits single or double banana plug to be used with equipment having phone jacks. Ideal for rapid mounting of components and test leads.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.

LOWER: ¼" dia. phone plug, 1-3/16" long.
COLOR: Body, Black. Binding Posts: Black/Red.

QUANTITY DISC. CODE (A)

MODEL 1285 NET 4.85

ADAPTER — BANANA JACKS TO PHONE PLUG



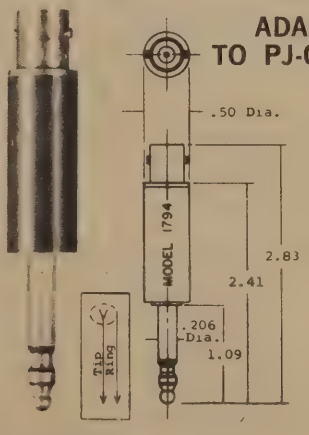
Permits single or double banana plugs to be used with equipment having phone jacks.
UPPER: Double banana jack, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

LOWER: Standard ¼" dia. phone plug, 1-3/16" long.
COLOR: Black.

QUANTITY DISC. CODE (A)

MODEL 1980 NET 2.85

ADAPTER-BNC RECEPTACLE TO PJ-068/PJ-309* PHONE PLUG

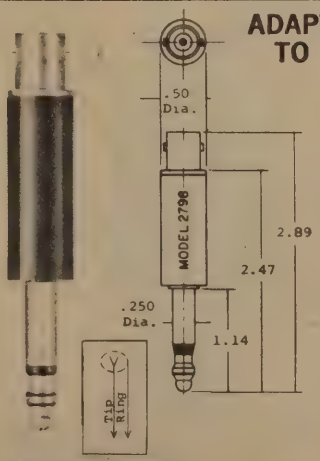


Permits BNC plug to be used with equipment having three circuit phone jacks for .206 dia. phone plugs. Readily adapts equipment to available BNC coaxial cables. Tip connected to inner contact of connector and Ring connected to shell. Sleeve, no connection.

LOWER: Phone Plug, PJ-068/PJ-309*
COLOR: Black
*PJ-309 Interchangeable with WE-309

MODEL 1794 — QUANTITY DISC. CODE (A) NET 6.85

ADAPTER — BNC RECEPTACLE TO PJ-051* PHONE PLUG



Permits BNC plug to be used with equipment having three circuit phone jacks for .250 dia. phone plugs. Readily adapts equipment to available BNC coaxial cables. Tip connected to inner contact of connector and Ring connected to shell. Sleeve, no connection.

UPPER: BNC receptacle, UG1094/U.
LOWER: Phone Plug, PJ-051*
*PJ-051 Interchangeable with WE 310

MODEL 2798 — QUANTITY DISC. CODE (A) NET 6.85

© United Technical Publications

POMONA ELECTRONICS

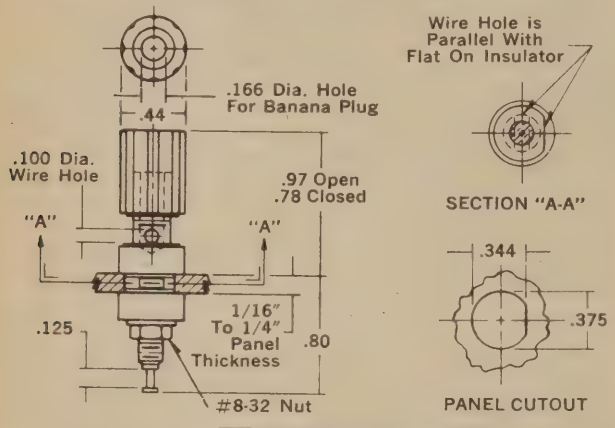
INSULATED BINDING POSTS BANANA JACKS & PIN TIP JACKS

INSULATED LEXAN* POLYCARBONATE BINDING POSTS

Three Miniaturized standard insulated Lexan* Binding Posts to fill the needs of most critical requirements. The plastic molding on these units is Lexan* Polycarbonate which has high impact strength, low loss, low power factor and high insulation resistance. Smaller design than presently available.

FEATURES:
- Polycarbonate insulation.
- Small design.
- Standard and low thermal EMF types available.
- 5 way Binding Post.
- Accepts std. Banana Plug.
- Captive thumb nut.
- Gold or nickel plated.

RATINGS:
- Operating Temp.: —65°C. to +150°C.
- Working Voltage: 1500 VDC.
- Current: 15 Amps Cont., 30 Amps Int.



MINIATURIZED STANDARD TYPE



BRASS body and thumb nut insert, available GOLD FLASHED per MIL-G-45204 (or) NICKEL PLATED per QQ-N-290 class 2.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 3750 (Specify Color) Gold Flashed — **NET .90**

MODEL 3760 (Specify Color) Nickel plated — **NET .75**

QUANTITY DISC. CODE (A)

LOW THERMAL EMF MINIATURIZED STANDARD TYPE



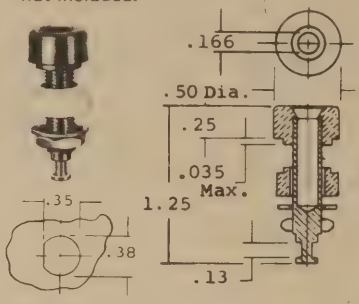
Copper Body and Thumb nut insert, GOLD FLASHED per MIL-G-45204. Excellent for use when Thermoelectric effects are a significant source of error. Gold flashed for high conductivity.

COLORS: Black Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 3770 (Specify Color) QUANTITY DISC. CODE (A) **NET 1.25**

INSULATED BANANA JACK ASSEMBLY SILVER PLATED

Used with standard banana plug. Body, one piece brass, silver plated. Head insulation molded of tough Polycarbonate thermoplastic. Heavy duty shouldered ceramic insulator. Nickel plated lockwasher and hex nut included.



FEATURES:
- Closed entry receptacle, .166 dia.
- Insulator head molded to body
- Mounts in 3/8" dia. hole, panels from .035" to .375" thick
- Solder turret terminal
- Rated: 2,500 WVDC

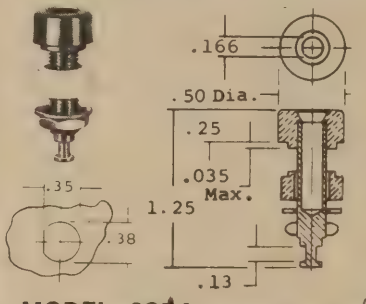
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

STD. PKG. 10 (per color) unassembled.

MODEL 1581 (Specify color) QUANTITY DISC. CODE (A) **NET .25 ea.**

INSULATED BANANA JACK ASSEMBLY GOLD PLATED

Used with standard banana plug. Body, one piece brass, gold plated. Head insulation and panel insulator are molded of tough Polycarbonate thermoplastic. Nickel plated lockwasher and hex nut included.



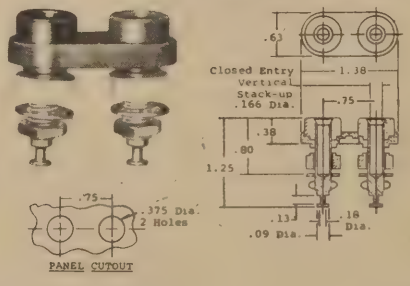
FEATURES:
- Closed entry receptacle, .166 dia.
- Insulator head molded to body
- Mounts in 3/8" dia. hole, panels from .035" to .375" thick
- Solder turret terminal
- Rated: 2,500 WVDC

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

STD. PKG. 10 (per color) unassembled.

MODEL 2854 (Specify color) QUANTITY DISC. CODE (A) **NET .35 ea.**

INSULATED DOUBLE BANANA JACK ASSEMBLY SILVER PLATED



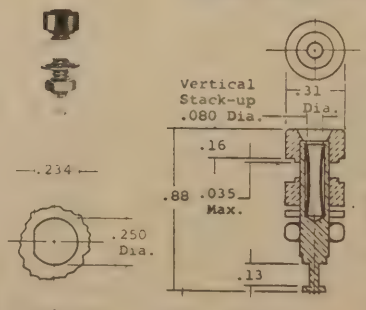
Double banana jack silver plated on 3/4" centers with one red and one black jack. Choice of Black or Red plate.

Mounts in panels from .035" to .275" thick.

MODEL 2269 Black Plate
MODEL 2269-2 Red Plate

MODEL 2269 (Specify color) QUANTITY DISC. CODE (A) **NET .75**

.080 DIA. PIN TIP JACK



Miniature jack accepts .080 dia. pin tip plugs. Polycarbonate Thermoplastic insulated head molded directly to gold flashed brass body. Contact spring, heat treated beryllium copper, gold flashed. Nickel plated hex nut and lockwasher included unassembled.

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

STD. PKG. 10 (per color)

MODEL 3542 (Specify color) QUANTITY DISC. CODE (A) **NET .25 ea.**

*LEXAN is a General Electric trademark

Net
© United Technical Publications

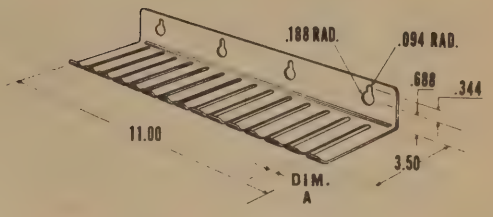
POMONA ELECTRONICS

MISCELLANEOUS ACCESSORIES



TEST LEAD HOLDER

No need to spend time searching for a particular test lead. With this new rack, all of your patch cords and cable assemblies can be conveniently filed for instant selection — within easy reach. Holder mounts quickly on any vertical surface. Test leads are easy to store, easy to remove. Two models to choose from for different size cables.



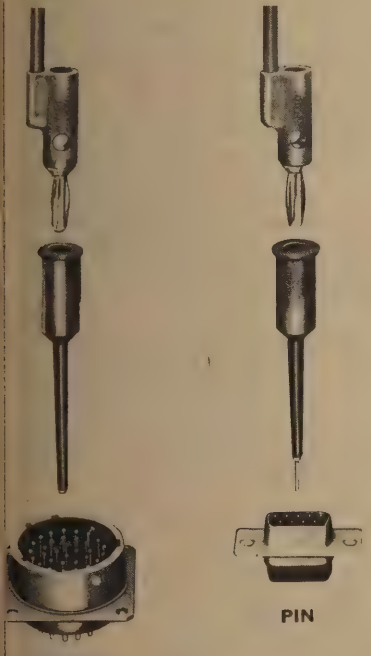
MATERIAL: Cold Rolled Steel.
FINISH: Baked Enamel.

	MAX. CABLE DIA. (DIM. A)	COLOR	NET
MODEL 1508	.210"	Orange	2.95
MODEL 2708	.450"	Blue	2.95

QUANTITY DISC. CODE (A)

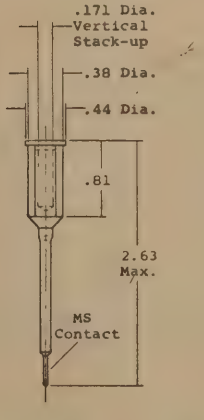
CONNECTOR TEST ADAPTERS

TYPICAL APPLICATION



An ideal test adapter for the rapid testing of the hard to get at contacts of multi-pin MS type connectors such as miniature circular, standard circular and rack and panel. Excellent for testing of continuity, voltage and signal on individual contacts. Test adapter available in Pin and socket contacts sizes of 20, 16 and 12.

- Gold flashed contacts conform to "MS" Dimensions.
- Flexible tip prevents damage to connector contacts if test adapter is accidently bent.
- Flexible tip allows testing of adjacent contacts.
- Fully insulated to prevent accidental shorting.
- Accepts standard banana plug.



UPPER: Banana jack, .166 dia., brass, nickel plated.
LOWER: "MS" style contact, gold flashed, see tab block.
Color: See tab block.

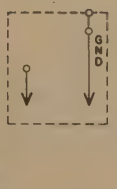
MODEL	CONTACT SIZE	TYPE	COLOR	NET
3560	20	Socket	Red	1.25
3561	20	Pin	Black	1.25
3562	16	Socket	Red	1.50
3563	16	Pin	Black	1.25
3564	12	Socket	Red	1.75
3565	12	Pin	Black	1.50

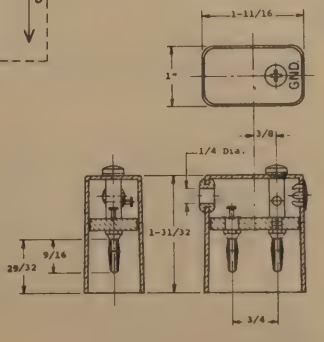
QUANTITY DISC. CODE (A)



SHIELDED DOUBLE BANANA PLUG RIGHT ANGLE CABLE ENTRY

RATED: 15A CONTINUOUS
2800 PEAK WV
5000 VDC BREAKDOWN
2.0 PF @ 1 MC.





- Shielded double plug, ¾" spaced
- Ceramic insulating base
- Die cast aluminum shell, black anodized
- GND clearly molded in shell
- Noise pick-up reduced 70 DB
- One piece nickel plated beryllium copper springs for use with 0.166 diameter banana jack binding posts.
- Rounded banana spring design results in maximum contact area and minimum contact resistance
- Vinyl grommet and nickel plated snap button supplied

MODEL 1791

QUANTITY DISC. CODE (A) **NET 3.95**

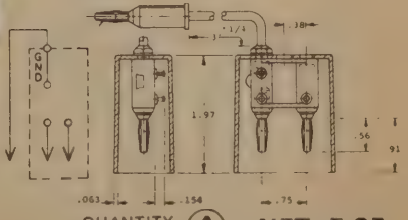
BALANCED LINE SHIELDED DOUBLE BANANA PLUG



- Unique 3 terminal design allows connection to shielded two conductor cable while maintaining balanced conditions • Minimizes ground loop errors in low signal level applications • Die cast aluminum shell, black anodized • Noise pick-up reduced at least 70 DB • Gold flashed solder turret terminals for reliable noise free connections • One piece nickel plated beryllium copper springs for use with standard 0.166 dia. banana jack binding posts.

RATED:

- 15A Continuous
- 1000 WV Peak; line to shield
- 2000 WV peak; line to line
- 2500 V peak breakdown; line to shield
- 5000 V peak breakdown, line to line
- 2.0 pf @ 1 MC Capacity; line to line
- 3.0 pf @ 1 MC. capacity; both lines to shield.



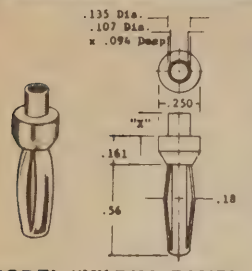
MODEL 1921

QUANTITY DISC. CODE (A) **NET 5.85**

POMONA ELECTRONICS

STANDARD AND MINIATURE BANANA PLUGS

RIVET TYPE BANANA PLUG



Excellent for riveting to panels or boards. Used with standard .166 dia. banana jacks.

- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Jack body, Brass Per QQ-B-626 comp. 22.
- Plating, Nickel per QQ-N-290, class 2.
- Rated, 15A. Cont., 30A. Int.

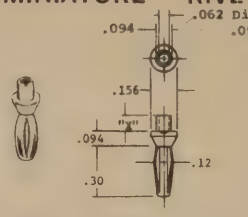
(Swaging Tool No. 3518 NET 9.50)

MODEL	"X" DIM.	PANEL
3257	.094	1/16"
3258	.125	3/32"
3259	.156	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .25 ea.**

MINIATURE — RIVET TYPE BANANA PLUG



Excellent for riveting to panels or boards. Used with miniature .104 dia. banana jacks.

- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Plug body, Brass per QQ-B-626 comp. 22.
- Plating, Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Rated, 5A. Cont., 10A. Int.

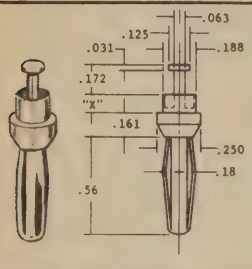
(Swaging Tool No. 3520 NET 9.50)

MODEL	"X" DIM.	PANEL
3268	.094	1/16"
3271	.125	3/32"
3272	.156	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .22 ea.**

RIVET TYPE BANANA PLUG WITH TURRET



Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. Used with standard .166 dia. banana jacks.

- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Jack body, Brass Per QQ-B-626 comp. 22.
- Plating, Nickel per QQ-N-290, class 2.
- Rated, 15A. Cont., 30A. Int.

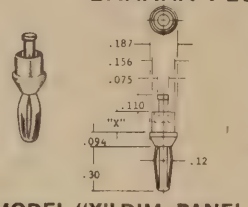
(Swaging Tool No. 3519 NET 9.50)

MODEL	"X" DIM.	PANEL
3260	.105	1/16"
3261	.135	3/32"
3262	.165	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .29 ea.**

MINIATURE — RIVET TYPE BANANA PLUG WITH TURRET



Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. Used with miniature .104 dia. banana jacks.

- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Plug body, Brass per QQ-B-626 comp. 22.
- Plating, Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Rated, 5A. Cont., 10A. Int.

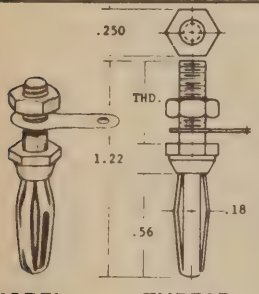
(Swaging Tool No. 3521 NET 9.50)

MODEL	"X" DIM.	PANEL
3273	.105	1/16"
3274	.135	3/32"
3275	.165	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .29 ea.**

BANANA PLUG WITH THREADED STUD



Threaded stud for rapid mounting. Used with standard .166 dia. banana jacks. Furnished with hex nut and solder lug.

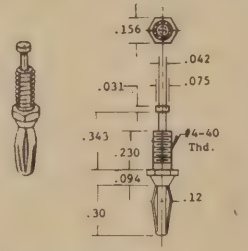
- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Plug body, Hex brass per QQ-B-626 comp. 22.
- Plating, Nickel per QQ-N-290, class 2.
- Rated, 15A. Cont., 30A. Int.

Standard Package 10
Unassembled

MODEL	THREAD
3263	6-32 x 1/2"
3264	8-32 x 1/2"

QUANTITY DISC. CODE (A) **NET .32 ea.**

MINIATURE — BANANA PLUG WITH THREADED STUD



Threaded stud for rapid mounting. Solder turret for attachment of wires. Used with .104 dia. miniature banana jacks.

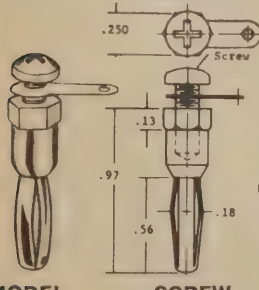
- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Plug body, Brass per QQ-B-626 comp. 22.
- Plating, Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Rated, 5A. Cont., 10A. Int.

Standard Package 10

MODEL 3276

QUANTITY DISC. CODE (A) **NET .25 ea.**

BANANA PLUG WITH SCREW



Mounts to various size panels. Used with standard .166 dia. banana jacks. Furnished with screw and solder lug.

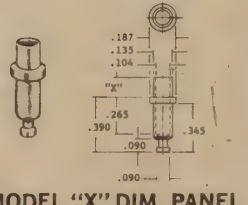
- Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.
- Plug body, Hex brass per QQ-B-626 comp. 22.
- Plating, Nickel per QQ-N-290, class 2.
- Rated, 15A. Cont., 30A. Int.

Standard Package 10
Unassembled

MODEL	SCREW
3265	6-32 x 1/4"
3266	8-32 x 1/4"

QUANTITY DISC. CODE (A) **NET .32 ea.**

MINIATURE — RIVET TYPE BANANA JACK WITH TURRET



Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. .104 dia. jack accepts miniature banana plug.

- Jack body, Brass per QQ-B-626 comp. 22.
- Plating, Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Rated, 5A. Cont., 10A. Int.

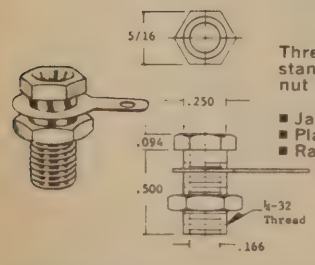
(Swaging Tool No. 3522 NET 9.50)

MODEL	"X" DIM.	PANEL
3277	.105	1/16"
3278	.135	3/32"
3279	.165	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .15 ea.**

UNINSULATED—BANANA JACK



Threaded for rapid mounting. Used with standard banana plugs. Furnished with hex nut and solder lug.

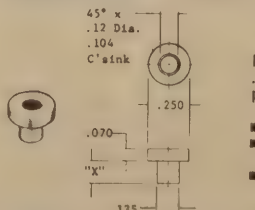
- Jack body, Brass per QQ-B-626 comp. 22.
- Plating, Nickel per QQ-N-290, class 2.
- Rated, 15A. Cont., 30A. Int.

Standard Package 10
Unassembled

MODEL 3267

QUANTITY DISC. CODE (A) **NET .15 ea.**

MINIATURE — RIVET TYPE BANANA JACK



Excellent for riveting to panels or boards. .104 dia. jack accepts miniature banana plug.

- Jack body, Brass per QQ-B-626 comp. 22.
- Plating, Gold flashed per MIL-G-45204 Type II (.00002/.00003).
- Rated, 5A. Cont., 10A. Int.

(Swaging Tool No. 3523 NET 9.50)

MODEL	"X" DIM.	PANEL
3280	.105	1/16"
3281	.135	3/32"
3282	.165	1/8"

Std. Pkg. 10

QUANTITY DISC. CODE (A) **NET .10 ea.**

ALL PRODUCTS SHOWN ACTUAL SIZE

© United Technical Publications

POMONA ELECTRONICS

½" SPACED MINIATURE BANANA PLUGS AND ACCESSORIES

ONE-THIRD SMALLER Miniature Banana Plugs, a state-of-the-art development for the ever increasing demand for miniaturized test equipment.

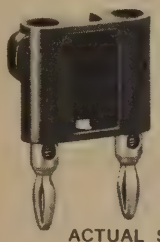
Banana plug springs are precision formed of one-piece beryllium copper, heat treated for maximum life and low contact resistance. Tough thermoplastic molded to plug bodies.

SPECIFICATIONS:

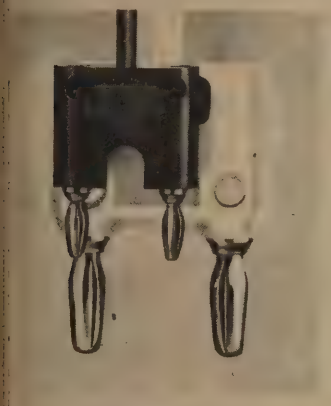
- Fits 0.104 dia. miniature banana jacks.
- Plug body brass, per QQ-B-626, Comp. #22.
- Gold flashed per MIL-G-45204 Type 11 (.00002/.00003).
- Spring, beryllium copper alloy 170 per QQ-C-533.

RATINGS:

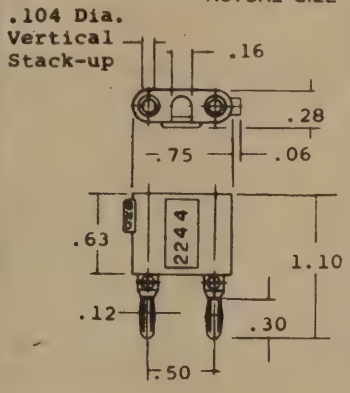
- Operating temp.: —25°C to +85°C.
- Working voltage: 2500 VDC.
- Current: 5 amps cont., 10 amps. int.



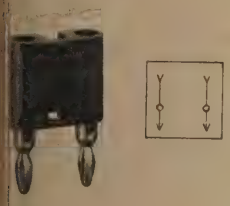
ACTUAL SIZE



ACTUAL SIZE



MINIATURE—DOUBLE BANANA PLUG WITH SET SCREWS



Miniature double banana plug on ½" centers. Internal set screws to secure cable or component leads. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections.

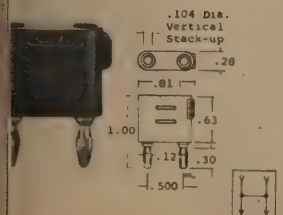
COLORS: Black, Red.

MODEL 2244 Black
MODEL 2244-2 Red

(Screwdriver No. 3736 NET .50)

MODEL 2244 QUANTITY DISC. CODE (A) **NET .95**

MINIATURE—DOUBLE BANANA PLUG WITH SHORTING BAR



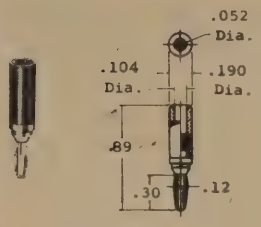
Ideal as a connecting link for use with ½" spaced banana jacks. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections. Banana plugs internally solder-bonded with #18 AWG wire. "Shorting Bar" stamped on plug.

COLORS: Black, Red.

MODEL 2035 Black
MODEL 2035-2 Red

MODEL 2035 QUANTITY DISC. CODE (A) **NET 1.25**

MINIATURE SOLDER TYPE BANANA PLUG



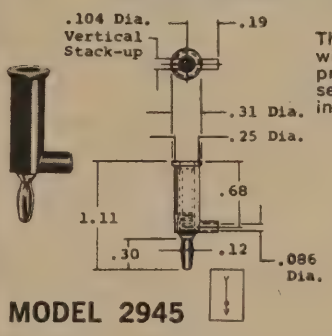
Miniature in line plug for use with miniature binding posts or banana jacks. Wire is soldered directly to the threaded plug. Nylon insulated handle.

COLORS: Black, Red.

MODEL 3690-0 Black
MODEL 3690-2 Red

MODEL 3690 QUANTITY DISC. CODE (A) **NET .40**

MINIATURE SOLDERLESS BANANA PLUG WITH SAFETY COLLAR-STACK-UP



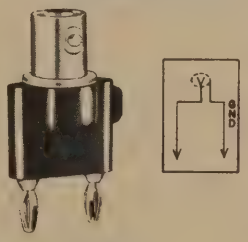
This integral collar insulates exposed wire leads and acts as a strain relief by preventing the flexing of the lead at the set screw. Wire firmly held in place with internal set screw, eliminating soldering.

MODEL 2945-0 Black
MODEL 2945-2 Red

(Screwdriver No. 3736 NET .50)

MODEL 2945 QUANTITY DISC. CODE (A) **NET .50**

ADAPTER — BNC RECEPTACLE TO MINIATURE DOUBLE BANANA PLUG



This adapter allows a BNC plug to be used with equipment having ½" spaced miniature .104 dia. banana jacks. Excellent for adapting test equipment to standard coaxial cables.

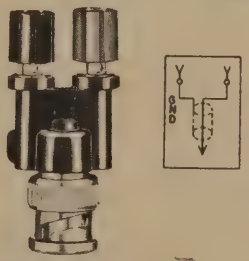
UPPER: BNC receptacle, UG 1094/U.

LOWER: Miniature double banana plug on ½" centers, for use with .104 dia. miniature jacks. Gold flashed one piece heat treated beryllium copper springs.

COLOR: Black.

MODEL 3269 QUANTITY DISC. CODE (A) **NET 3.25**

ADAPTER — MINIATURE BINDING POSTS TO BNC PLUG



This adapter converts a BNC receptacle to miniature ½" spaced 5 way binding posts.

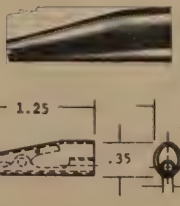
UPPER: Insulated, gold flashed miniature 5 way binding posts on ½" centers with .104 dia. miniature banana jacks.

LOWER: BNC plug.

COLOR: Black.

MODEL 3296 QUANTITY DISC. CODE (A) **NET 5.45**

INSULATED MINIGATOR CLIP TO MINIATURE BANANA JACK



This Minigator clip accepts a miniature banana plug in the rear. Clip is steel, cadmium plated. Pinned hinge construction with full-meshing jaws for small wires. Vinyl insulators (5 red, 5 black). Unassembled.

Standard Package of 10 clips and 10 insulators.

MODEL 3217 QUANTITY DISC. CODE (A) **NET .20 ea.**

POMONA ELECTRONICS

MINIATURE BINDING POSTS
MINIATURE BANANA JACKS

MINIATURE BINDING POSTS

A complete 5-way Binding Post in "Miniature." Captive Thumb Nut and Binding Post Body, machined brass; gold or nickel plated Thumb Nut and Mounting Base molded of High Impact Polycarbonate Thermoplastic. Heavy Duty Shouldered Ceramic Insulator Lockwasher and hex nut included, unassembled, nickel plated.

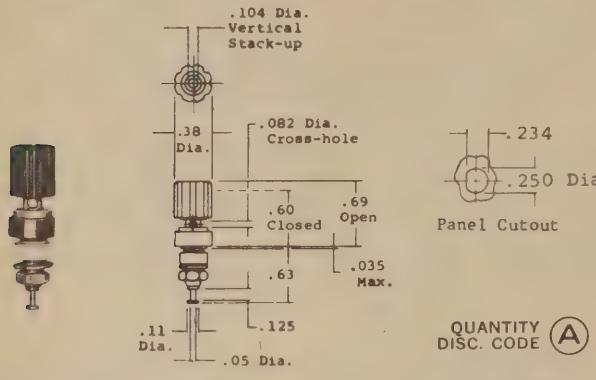
SPECIFICATIONS:

■ 5-way Binding Post ■ Mounts ¼" dia. "D" hole ■ Panels up to 3/16" thick ■ Captive Thumb Nut ■ .082 dia. Cross hole ■ Thumb Nut and Binding Post Body — Gold Flashed per MIL-G-45204 Type 2 OR Nickel Plated per QQ-N-290 Class 2.

RATINGS:

■ Operating Temp.: —65°C to +150°C
■ Working Voltage: 1500 VDC.
■ Current: 5 Amps Cont., 10 Amps Int

MINIATURE—INSULATED BINDING POST



QUANTITY DISC. CODE (A)

MODEL 2382-* *(Specify Color) Gold Flashed Assembly **NET .90**

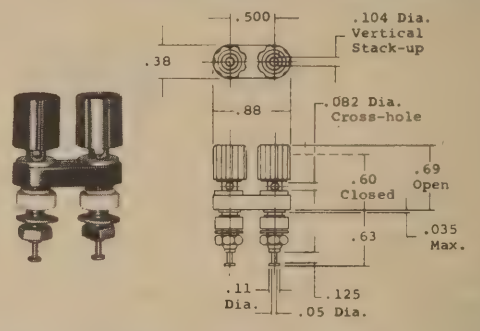
MODEL 2439-* *(Specify Color) Nickel Plated Assembly **NET .75**

(*) COLORS

-0 Black	-5 Green
-1 Brown	-6 Blue
-2 Red	-7 Violet
-3 Orange	-8 Gray
-4 Yellow	-9 White

MINIATURE—INSULATED DOUBLE BINDING POST

Double binding post body on ½" centers with one Red and one Black binding post. Choice of Black or Red plate.



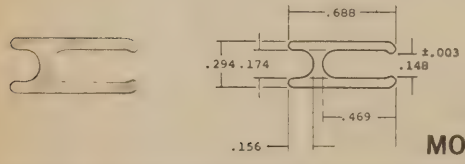
MODEL 2383-* *(Specify Color) Gold Flashed Assembly **NET 1.80**

MODEL 2440-* *(Specify Color) Nickel Plated Assembly **NET 1.50**

QUANTITY DISC. CODE (A)

(*) COLORS
-0 Black Plate
-2 Red Plate

BINDING POSTS SHORTING LINK



Shorting Link for miniature Binding Posts on ½" centers. A snap-on feature holds Link on post when short not needed. **MATERIAL:** Brass .031 thick. **FINISH:** Nickel Plated per QQ-N-290 class 2 or Gold Flashed per MIL-G-45204 Type 2.

QUANTITY DISC. CODE (A)

Std. Pkg. 10

MODEL 3478 (Gold Flashed) **NET .22 ea.** **MODEL 3479** (Nickel Plated) **NET .15 ea.**

MINIATURE BANANA JACKS

Developed by the need for miniaturization of test equipment and test panels. The new generation of test jacks. Built to Pomona Electronics high standard of quality.

Wide selection of colors available.

Molded of High Impact Polycarbonate Thermoplastic. Banana Jack body, one piece machined brass, gold flashed. Heavy duty shouldered ceramic insulator. Lockwasher and hex nut included, unassembled, nickel plated.

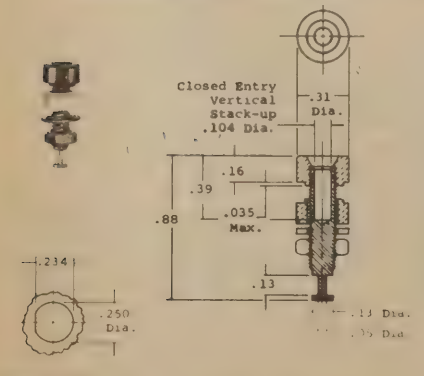
SPECIFICATIONS:

■ Closed entry jack .104 dia. ■ Insulator head molded to body. ■ Mounts in ¼" dia. hole. Model 2142, Panels up to ¼" thick. Model 2143, Panels up to 3/16" thick. ■ Solder turret terminal.

RATINGS:

■ Operating Temp.: —65°C to +150°C
■ Working Voltage: 1500 VDC.
■ Current: 5 Amps Cont., 10 Amps Int

MINIATURE—INSULATED BANANA JACK

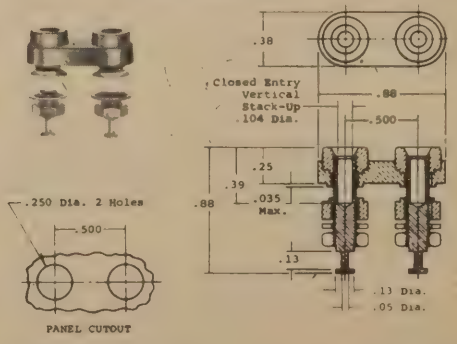


2142 —BLACK
2142-1—BROWN
2142-2—RED
2142-3—ORANGE
2142-4—YELLOW
2142-5—GREEN
2142-6—BLUE
2142-7—VIOLET
2142-8—GRAY
2142-9—WHITE

MODEL 2142 Standard Package: 10 (per color) QUANTITY DISC. CODE (A) **NET .25 ea.**

MINIATURE—INSULATED DOUBLE BANANA JACK

Double banana jack on ½" centers with one red and one black jack. Choice of Black or Red plate.



MODEL 2143 (Black Plate)

MODEL 2143-2 (Red Plate)

MODEL 2143 QUANTITY DISC. CODE (A) **NET .75**

Net

© United Technical Publications

POMONA ELECTRONICS

MINIATURE PATCH CORDS

iniature patch cords for use with .104 dia. miniature banana jacks. Excellent for mini-turization of test equipment and high density packaging for patch systems.

anana plug springs precision formed of one piece beryllium copper, heat treated for aximum life and low contact resistance. Tough thermoplastic molded to plug body nd wire.



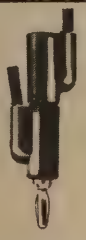
EATURES:

Fits .104 dia. miniature banana jacks ■ Plug body brass, per QQ-B-626, Comp. #22 Gold flashed per MIL-G-45204 Type II (.00002/.00003) ■ Spring, one piece heat eated beryllium copper, alloy 170 per QQ-C-533.

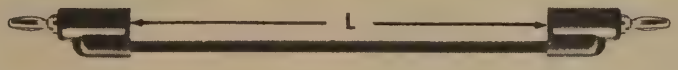
PECIFICATIONS:

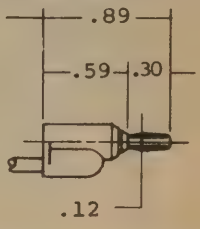
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087" O.D. RATED: 5 A. Cont., 10 A. Int., 5,000 V.D.C. ■ OPERATING TEMP.: —0°C to +105 C°

ODEL	LENGTH	NET
)81-4	4"	1.50
)81-8	8"	1.50
)81-12	12"	1.50
)81-18	18"	1.50
)81-24	24"	1.50
)81-36	36"	1.50
)81-48	48"	1.55
)81-60	60"	1.60



MINIATURE—BANANA PLUG STACK-UP PATCH CORD



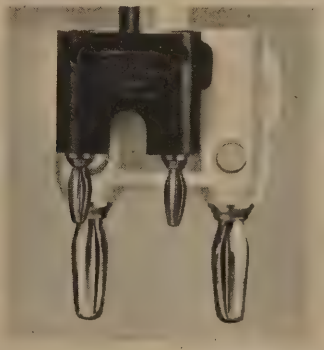


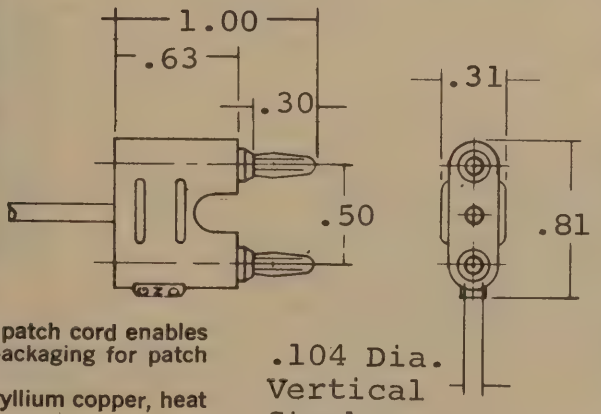
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

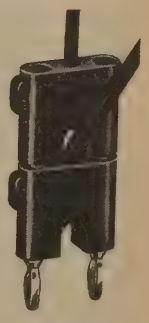
MODEL 1081 (Specify Color) ★QUANTITY DISC. CODE (A)

MOLDED MINIATURE DOUBLE BANANA PLUG PATCH CORDS

ACTUAL SIZE







STACK-UP

⅓ smaller...

miniature double banana plug on ½" centers. This patch cord enables iniaturization of test equipment and high density packaging for patch ystems.

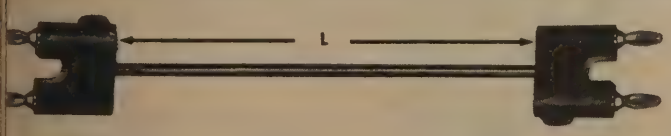
anana plug springs precision formed of one piece beryllium copper, heat eated for maximum life and low contact resistance.

ABLE DESCRIPTION:

ielded coax., RG174/U. Polyethylene insulation, Vinyl jacket. Nom. cap. 9.5 pf/ft. Nom. Imp. 50 Ohms. Nom. O.D. .100". **Color: Black.**

NOTE: Molded double plug matches color of cable.

MINIATURE—DOUBLE BANANA PLUG BOTH ENDS



NN: END } Miniature Double Banana plug on ½" centers.

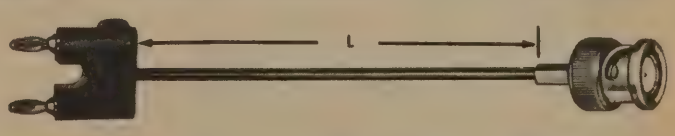
CABLE: Shielded Coax., RG174/U.

CONN: 2nd END } Miniature double banana plug on ½" centers.

MODEL	LENGTH
2247-K-12	12"
2247-K-24	24"
2247-K-36	36"
2247-K-48	48"
2247-K-60	60"

ODEL 2247 QUANTITY DISC. CODE (B) **NET 4.95**

MINIATURE–DOUBLE BANANA PLUG TO BNC MALE



CONN: 1st END } Miniature Double Banana Plug on ½" centers

CABLE: Shielded Coax., RG174/U

CONN: 2nd END } Male BNC

MODEL	LENGTH
2248-K-12	12"
2248-K-24	24"
2248-K-36	36"
2248-K-48	48"
2248-K-60	60"

MODEL 2248 QUANTITY DISC. CODE (B) **NET 5.95**

POMONA ELECTRONICS

"BLACK BOXES"

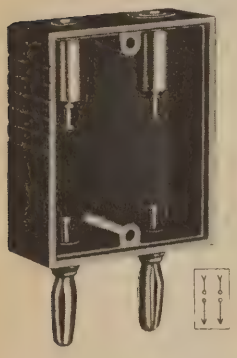
CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

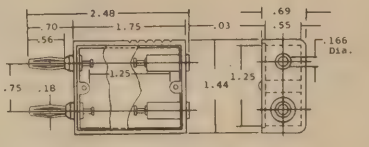
Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and 2 each #2-56 cover screws included.

APPLICABLE SPECIFICATIONS:

Operating Temp: —25°C to +125°C. Working Voltage: 5000 VDC. Current: 15 Amps Cont., 30 Amps Int.

COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG—JUNIOR SIZE





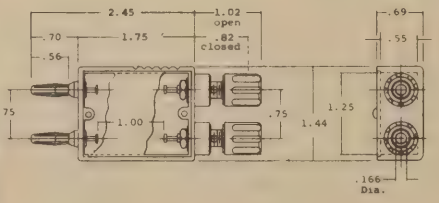
UPPER: Banana jacks, .166" dia. and solder turret terminals on ¾" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2098 QUANTITY DISC. CODE (A) **NET 3.45**

COMPONENT MOUNTING—BINDING POSTS TO DOUBLE BANANA PLUG—JUNIOR SIZE





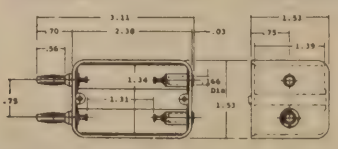
UPPER: Banana jack binding posts with solder turret terminals, on ¾" centers. Red and Black.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2259 QUANTITY DISC. CODE (A) **NET 4.85**

COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG—KING SIZE



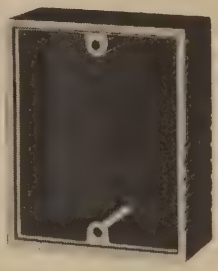


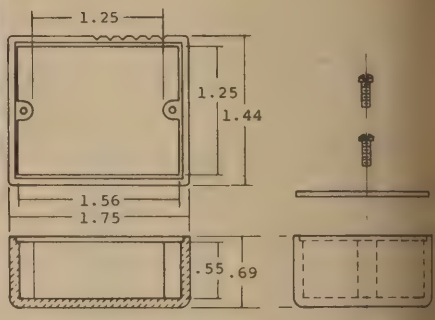
UPPER: Banana jacks, .166" dia. and solder turret terminals on ¾" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2224 QUANTITY DISC. CODE (A) **NET 3.45**

BLACK BOX—JUNIOR SIZE



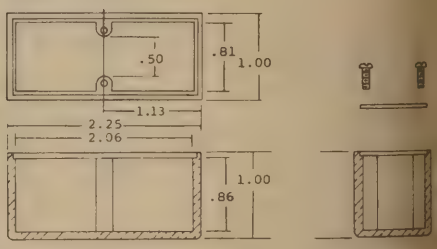


MODEL	COLOR
2105	Black
3720	Red
3721	Green

QUANTITY DISC. CODE (A) **NET .85**

BLACK BOX—QUEEN SIZE



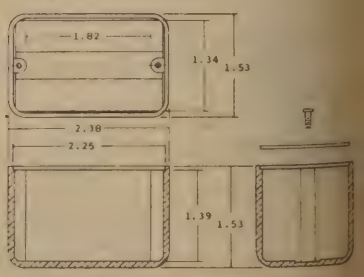


MODEL	COLOR
2103	Black
3722	Red
3723	Green

QUANTITY DISC. CODE (A) **NET .85**

BLACK BOX—KING SIZE





MODEL	COLOR
2104	Black
3724	Red
3725	Green

QUANTITY DISC. CODE (A) **NET .85**

Net

© United Technical Publications

POMONA ELECTRONICS

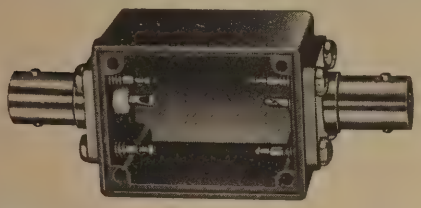
SHIELDED "BLACK BOXES" MINIATURE SIZE & SIZE "A"

OW AVAILABLE, *SHIELDED* "BLACK BOXES." Boxes that lfill the requirement for RF applications.
eal for compact packaging, eg., voltage dividers, isolation etworks, impedance matching networks, and other varied ses.
over and self-tapping screws included.

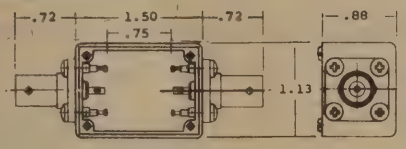
PPLICABLE SPECIFICATIONS: (ALL MODELS)
perating Temp.: −55°C to +150°C.
orking Voltage: 500 V Peak
oise Rejection: Greater than 70DB.

FEATURES:
- SHIELDED HOUSING; Die Cast Aluminum. FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
- COVER; .040 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
- Four screws secure cover for proper shielding.
- Solder turret terminals for permanent noise free connection of components.

MINIATURE SIZE BNC RECEPTACLE BOTH ENDS



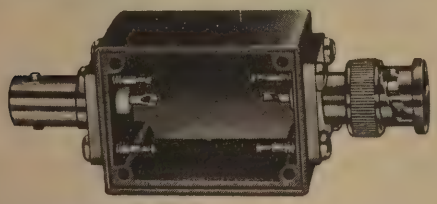
ONN: } BNC Receptacle Jack,
t END } UG290A/U.
ONN: } BNC Receptacle Jack,
d END } UG290A/U.



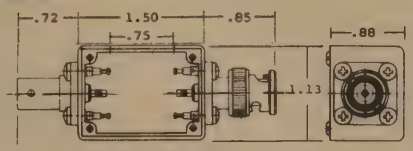


ODEL 3751 — QUANTITY DISC. CODE (A) NET 6.85

MINIATURE SIZE BNC RECEPTACLE TO BNC PLUG



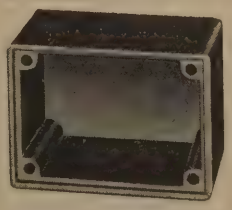
ONN: } BNC Receptacle Jack,
t END } UG290A/U.
ONN: } BNC Receptacle Plug,
d END } UG1104A/U.





ODEL 3752 — QUANTITY DISC. CODE (A) NET 7.85

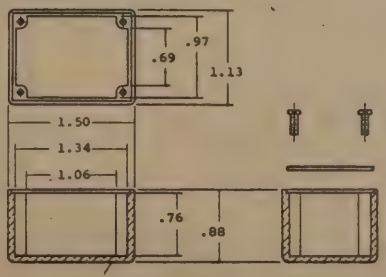
EMPTY — SHIELDED "BLACK BOX"



MINIATURE SIZE

ODEL 3753
NISH: Blue Baked Enamel.
cludes cover with rt number on ver and four ver screws.

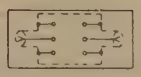
ODEL 3754
NISH: None
cludes unmarked ver and four ver screws.

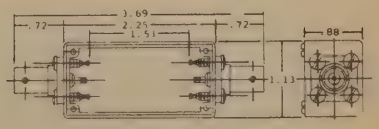


ODEL 3753
ODEL 3754 — QUANTITY DISC. CODE (A) NET 1.50

SIZE "A" - BNC RECEPTACLE BOTH ENDS



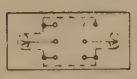




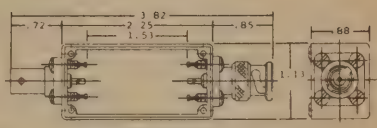
MODEL 2390 — QUANTITY DISC. CODE (A) NET 6.85

SIZE "A" BNC RECEPTACLE TO BNC PLUG





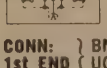
CONN: } BNC Receptacle Jack,
1st END } UG290A/U.
CONN: } BNC Receptacle Plug,
2nd END } UG1104A/U.



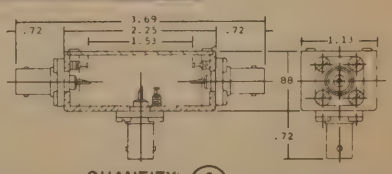
MODEL 2391 — QUANTITY DISC. CODE (A) NET 7.85

SIZE "A" — BNC RECEPTACLE "T"





CONN: } BNC Receptacle Jack,
1st END } UG290A/U.
CENTER: BNC Receptacle Jack, UG290A/U.
CONN: } BNC Receptacle Jack,
2nd END } UG290A/U.



MODEL 2392 — QUANTITY DISC. CODE (A) NET 9.50

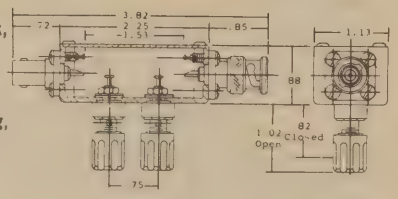
POMONA ELECTRONICS

SHIELDED "BLACK BOXES" SIZE "A" & SIZE "B"

SIZE "A" — BNC RECEPTACLE TO BNC PLUG WITH BINDING POSTS



CONN: } BNC Receptacle Jack,
1st END } UG290A/U.
CENTER: Banana jack binding posts with solder turret terminals. Red and Black.
CONN: } BNC Receptacle Plug,
2nd END } UG1104A/U.



MODEL 2393

QUANTITY DISC. CODE (A) **NET 10.85**

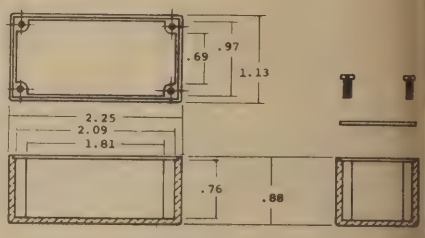
EMPTY — SHIELDED "BLACK BOX"



SIZE "A"

MODEL 2397
FINISH: Blue Baked Enamel.
Includes cover with part number on cover and four cover screws.

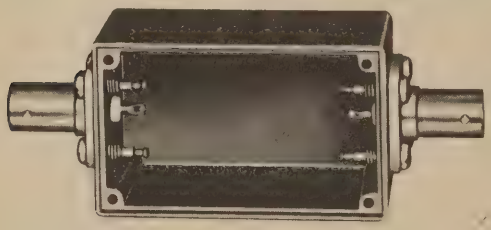
MODEL 2400
FINISH: None
Includes unmarked cover and four cover screws.



MODEL 2397
MODEL 2400

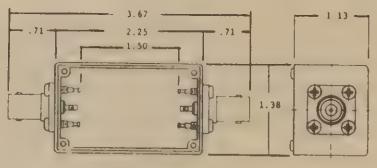
QUANTITY DISC. CODE (A) **NET 1.50**

SIZE "B" BNC RECEPTACLE BOTH ENDS



CONN: } BNC Receptacle Jack,
1st END } UG290A/U.
CONN: } BNC Receptacle Jack,
2nd END } UG290A/U.

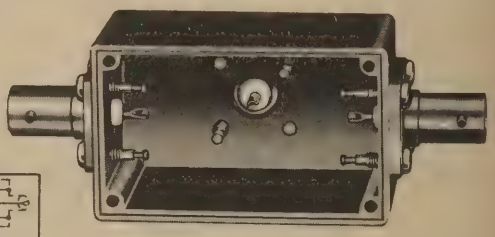


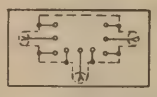


MODEL 3230

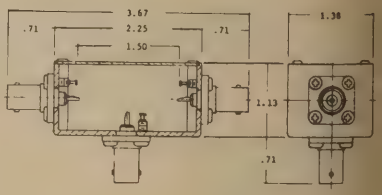
QUANTITY DISC. CODE (A) **NET 6.85**

SIZE "B" — BNC RECEPTACLE "T"





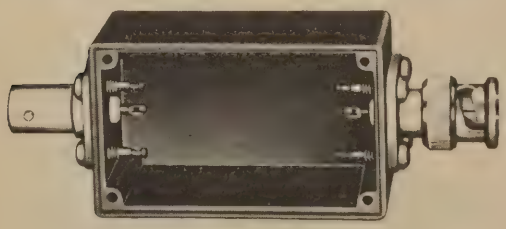
CONN: } BNC Receptacle Jack,
1st. END } UG290A/U.
CENTER: BNC Receptacle Jack, UG290A/U.
CONN: } BNC Receptacle Jack,
2nd END } UG290A/U.



MODEL 3232

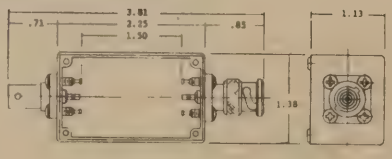
QUANTITY DISC. CODE (A) **NET 9.50**

SIZE "B" BNC RECEPTACLE TO BNC PLUG



CONN: } BNC Receptacle Jack,
1st END } UG290A/U.
CONN: } BNC Receptacle Plug,
2nd END } UG1104A/U.





MODEL 3231

QUANTITY DISC. CODE (A) **NET 7.85**

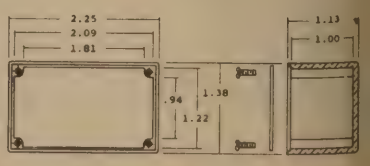
EMPTY — SHIELDED "BLACK BOX"



SIZE "B"

MODEL 2417
FINISH: Blue Baked Enamel.
Includes cover with part number on cover and four cover screws.

MODEL 2428
FINISH: None
Includes unmarked cover and four cover screws.



MODEL 2417
MODEL 2428

QUANTITY DISC. CODE (A) **NET 1.50**

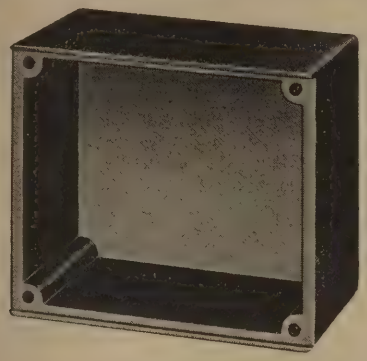
Net

© United Technical Publications

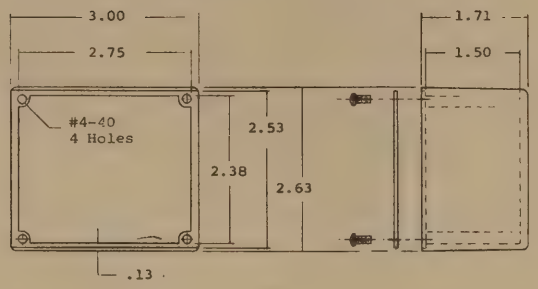
POMONA ELECTRONICS

SHIELDED "BLACK BOXES" SIZE "C" & SIZE "D"

SHIELDED HOUSING: Die Cast Aluminum, Alloy #A380,
FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
COVER: .063 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
4 ea. #4-40 x ¼" screws secure cover for proper shielding.
Solder turret terminals for permanent noise free connection of components.



SIZE "C"



MODEL 3601
FINISH: Blue Baked Enamel. Includes cover with part number on cover and four cover screws.

MODEL 3606
FINISH: None. Includes unmarked cover and four cover screws.

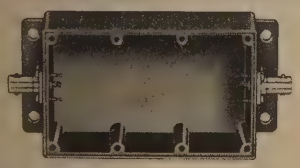
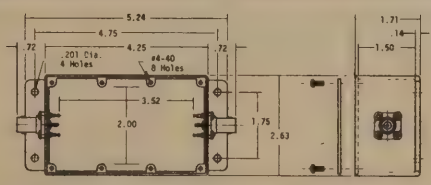
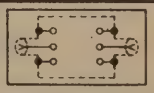
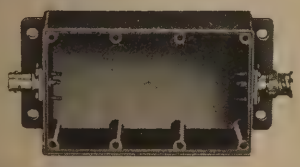
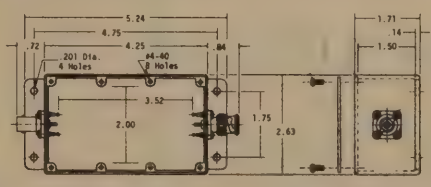
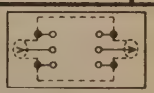
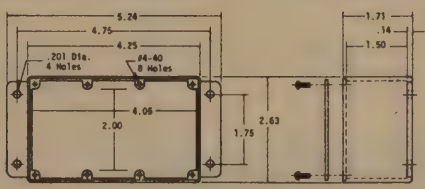
hese larger boxes are excellent for compact packaging of volt-ge dividers, isolation networks and many other applications.

PPLICABLE SPECIFICATIONS: (All Models)
perating Temp.: —55°C to +150°C.
orking Voltage: 500 Peak.
oise Rejection: Greater than 70DB

EATURES:
SHIELDED HOUSING; Die Cast Aluminum, Alloy #A380,
FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
COVER: .080 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
8 ea. #4-40 x ¼" screws secure cover for proper shielding.
Solder turret terminals for permanent noise free connection of components.
2 flanges for easy mounting of box.

SIZE "D"



MODEL	CONN. 1st END	CONN. 2nd END			
 MODEL 2902	BNC Receptacle Jack UG290A/U	BNC Receptacle Jack UG290A/U		 QUANTITY DISC. CODE (A)	NET 9.85
 MODEL 2903	BNC Receptacle Jack UG290A/U	BNC Receptacle Plug UG1104A/U		 QUANTITY DISC. CODE (A)	NET 10.85
 MODEL 2901	NONE	NONE		QUANTITY DISC. CODE (A)	NET 5.85
MODEL 2906 SEE 2901	NONE	NONE	Same as Model 2901 except box is unpainted and cover is unmarked.	QUANTITY DISC. CODE (A)	NET 5 .85

POMONA ELECTRONICS

SHIELDED "BLACK BOXES" WITH CARD GUIDES – 1½" DEEP

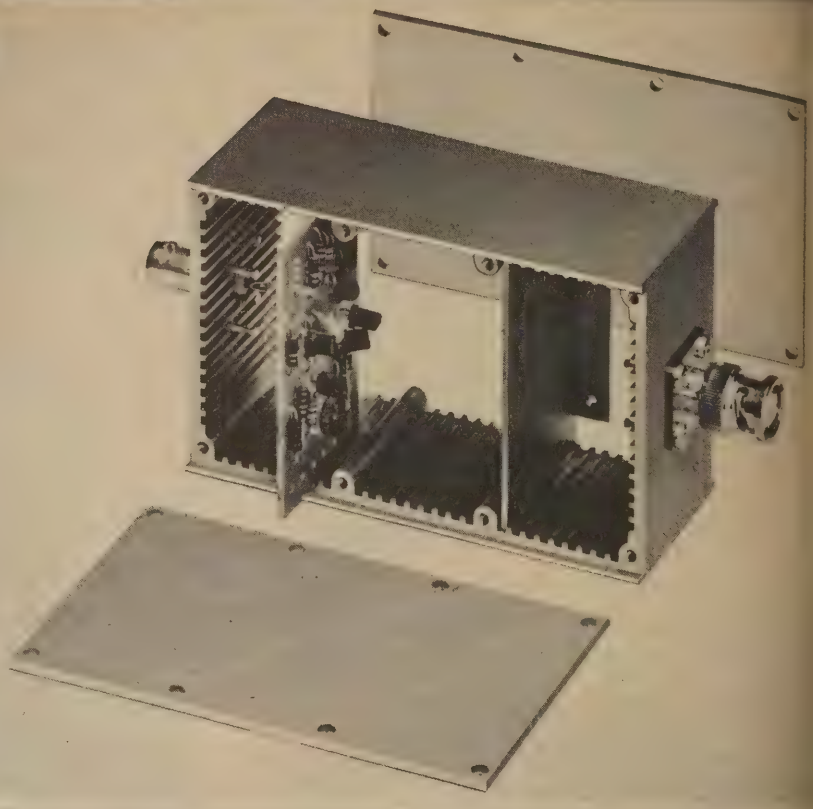
SHIELDED "BLACK BOXES" WITH CARD GUIDES

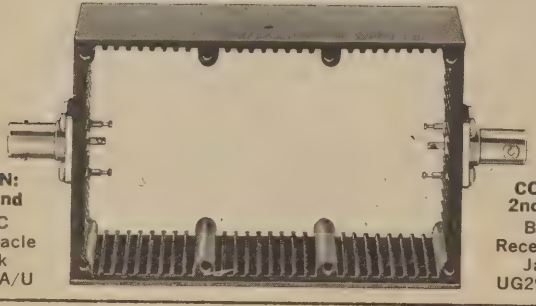
Aluminum boxes, slotted to accept 1/16" circuit boards and shielding dividers. Excellent for packaging electronic circuitry. Boxes have removable top and bottom covers. Useable inside space: 4" x 2" x 1½".

APPLICABLE SPECIFICATIONS:
(All Models)
Operating Temp.: —55°C to +150°C.
Working Voltage: 500 Peak.
Noise Rejection: Greater than 70DB

FEATURES:

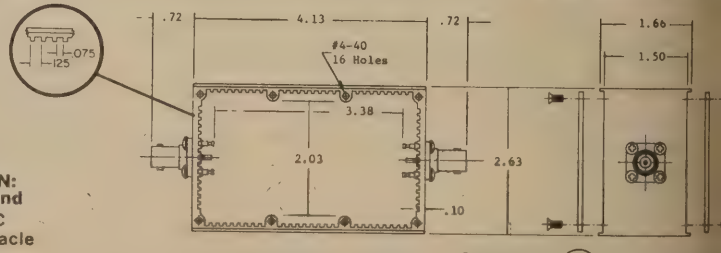
- **SHIELDED HOUSING:** Extruded Aluminum, Alloy #6061-T6. FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
- **COVERS:** Top and bottom, .080 thick Aluminum #6061-T6 with clear anodized Finish per MIL-A-8625A.
- **COVER SCREWS:** 16 EA #4-40x1/4" screws secure top and bottom cover for proper shielding.
- Solder turret terminals for permanent noise free connection of components.



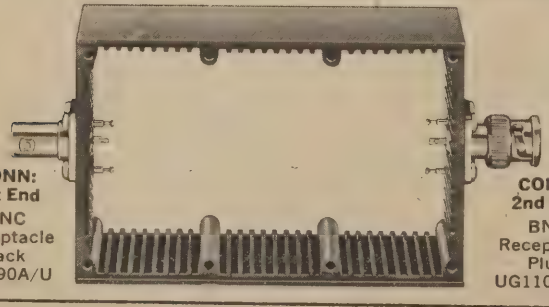


CONN: 1st End
BNC Receptacle Jack UG290A/U

CONN: 2nd End
BNC Receptacle Jack UG290A/U

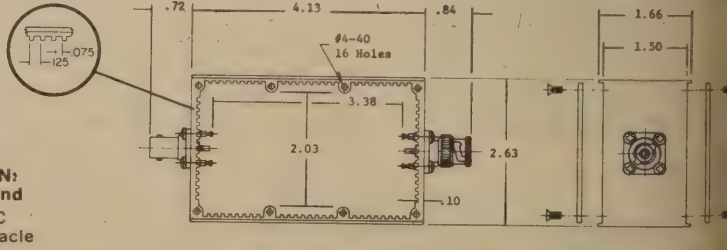


MODEL 3302 QUANTITY DISC. CODE (A) **NET 10.8**

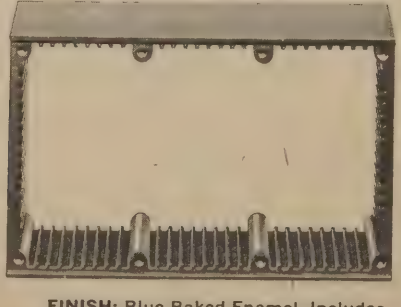


CONN: 1st End
BNC Receptacle Jack UG290A/U

CONN: 2nd End
BNC Receptacle Plug UG1104A/U

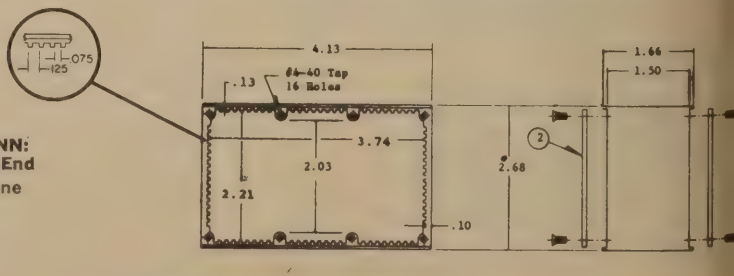


MODEL 3303 QUANTITY DISC. CODE (A) **NET 11.8**



CONN: 1st End
None

CONN: 2nd End
None



MODEL 3301 **FINISH:** Blue Baked Enamel. Includes top and bottom covers with part number on one and 16 cover screws.

MODEL 3306 **FINISH:** None. Includes unmarked top and bottom covers with 16 cover screws.

QUANTITY DISC. CODE (A) **NET 6.8**

Net

© United Technical Publications

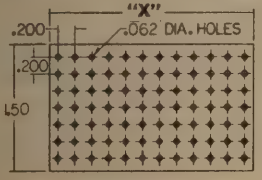
POMONA ELECTRONICS

SHIELDED "BLACK BOXES" WITH CARD GUIDES – 3" & 6" DEEP

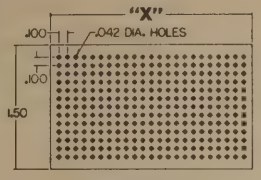
1½" BOX CIRCUIT MOUNTING BOARDS

Two sizes of various types of punched and blank circuit boards for rapid assembly of components. Pre-cut to the proper size. Boards slide easily into the box card guides. All boards are 1/16" thick.

- Boards 1.50 x 2.39 used laterally.
- Boards 1.50 x 3.90 used lengthwise.



BOARD A

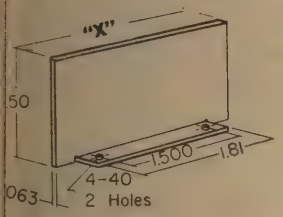


BOARD B

QUANTITY DISC. CODE (A)

BRD.	MODEL	NO. OF HOLES	"X" DIM.	MATERIAL	NET
A	3321	12 x 7	2.39	Paper-Epoxy (PEE)	.50
A	3322	NONE	2.39	Paper-Epoxy (PEE)	.35
A	3323	12 x 7	2.39	Glass-Epoxy (GEE)	.65
A	3324	NONE	2.39	Glass-Epoxy (GEE)	.45
A	3325	12 x 7	2.39	Glass-Epoxy (GEE) COP. CLAD 1 Side	.75
B	3326	24 x 15	2.39	Glass-Epoxy (GEE)	.85
A	3330	19 x 7	3.90	Paper-Epoxy (PEE)	.65
A	3331	19 x 7	3.90	Glass-Epoxy (GEE)	.85
A	3332	19 x 7	3.90	Glass-Epoxy (GEE) COP. CLAD 1 Side	1.35
B	3333	38 x 15	3.90	Glass-Epoxy (GEE)	1.10

1½" BOX SHIELDING DIVIDERS



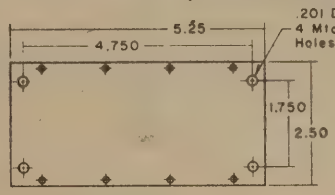
Two sizes of Aluminum dividers for dividing the box into shielded compartments. **MATERIAL:** .063 Aluminum, clear anodized per MIL-A-8625A.

- Divider 1.50 x 2.39 used laterally.
- Divider 1.50 x 3.90 used lengthwise.

MODEL	"X" DIM.	NET
3327	2.39	.85
3334	3.90	1.10

QUANTITY DISC. CODE (A)

LARGER BOTTOM PLATE FOR MOUNTING (ALL SIZE BOXES)



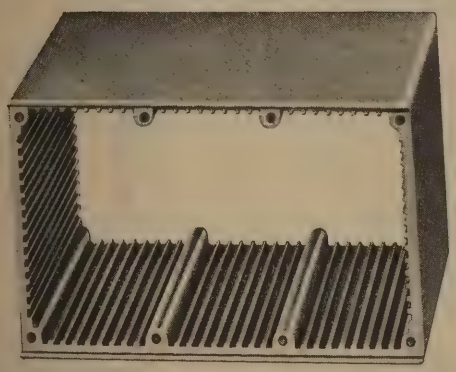
This larger plate, when attached to the box, provides flanges for mounting.

MATERIAL: .080 Aluminum #6061-T6, clear anodized per MIL-A-8625A.

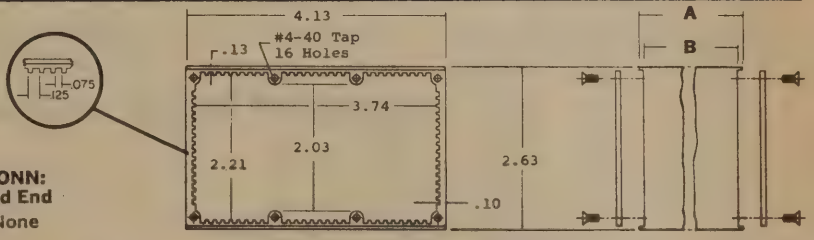
MODEL 3328 (Plate only)

QUANTITY DISC. CODE (A) **NET 1.25**

3" AND 6" BOXES



CONN: 1st End None



CONN: 2nd End None

MODEL 3311 & 3742

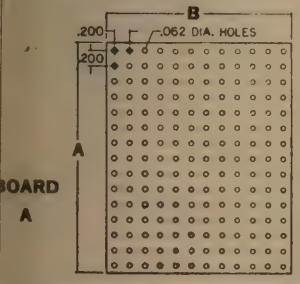
FINISH: Blue baked enamel. Includes top and bottom cover with part no. on one.

MODEL 3316 & 3743

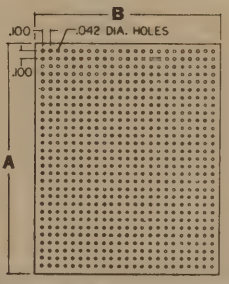
FINISH: None. Unmarked covers.

QUANTITY DISC. CODE (A)

MODEL	DIM. A	DIM. B	NET
3311	3.16	3.00	8.85
3316	3.16	3.00	8.85
3742	6.16	6.00	10.85
3743	6.16	6.00	10.85



BOARD A



BOARD B

3" AND 6" BOX CIRCUIT MOUNTING BOARDS

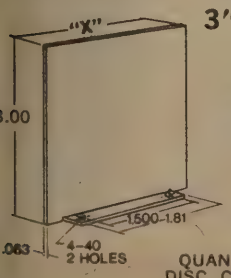
Various sizes and types of punched and blank circuit boards for rapid assembly of components. Pre-cut to the proper size. Boards slide easily into the box card guides. All boards are 1/16" thick.

- Boards 3.00 & 6.00 x 3.29 used laterally.
- Boards 3.00 & 6.00 x 3.90 used lengthwise.

QUANTITY DISC. CODE (A)

BRD.	MODEL	NO. OF HOLES	DIM. A	DIM. B	MATERIAL	NET
A	3550	12 x 15	3.00	2.39	Paper Epoxy (PEE)	1.00
A	3551	12 x 15	3.00	2.39	Glass-Epoxy (GEE)	1.50
A	3552	12 x 15	3.00	2.39	Glass-Epoxy (GEE) COP. CLAD 1 Side	1.75
B	3553	23 x 30	3.00	2.39	Glass-Epoxy (GEE)	1.75
A	3554	19 x 15	3.00	3.90	Paper Epoxy (PEE)	1.00
A	3555	19 x 15	3.00	3.90	Glass-Epoxy (GEE)	1.50
A	3556	19 x 15	3.00	3.90	Glass-Epoxy (GEE) COP. CLAD 1 Side	1.75
B	3557	39 x 30	3.00	3.90	Glass-Epoxy (GEE)	1.75
B	3726	23 x 60	6.00	2.39	Glass-Epoxy (GEE)	2.75
B	3727	39 x 60	6.00	3.90	Glass-Epoxy (GEE)	2.95

3" BOX SHIELDING DIVIDERS



Two sizes of Aluminum dividers for dividing the box into shielded compartments. **MATERIAL:** .063 Aluminum, clear anodized per MIL-A-8625A.

- Divider 3.00 x 2.39 used laterally.
- Divider 3.00 x 3.90 used lengthwise.

MODEL	"X" DIM.	NET
3558	2.39	1.10
3559	3.90	1.35

QUANTITY DISC. CODE (A)

POMONA ELECTRONICS

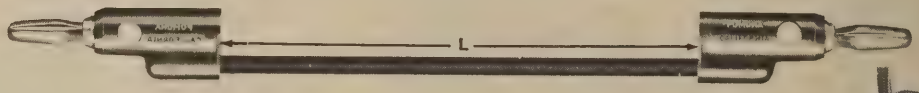
BANANA PLUG PATCH CORDS

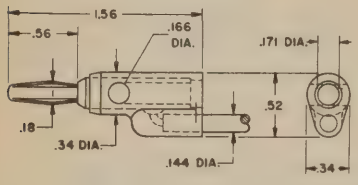
FEATURES

- One piece beryllium copper heat treated spring for maximum long life.
- Rounded spring design results in maximum contact area.
- Extra flexible polyvinyl insulation used on all leads.
- Fits standard 0.166 dia. banana jacks.
- Spring, beryllium copper alloy 170 per QQ-C-533.
- Plug body, brass per QQ-B-626, Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.0 ohms per banana plug.
- Operating Temp.: −0°C to +105°
- Wire, 18 AWG, stranding 65 x 36 T.
- Insulation, polyvinyl .144" O.D.
- Ratings: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.

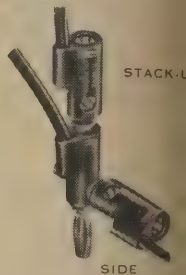
STACK-UP BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
B-4	4"	1.50
B-8	8"	1.50
B-12	12"	1.50
B-18	18"	1.50
B-24	24"	1.50
B-36	36"	1.50
B-48	48"	1.55
B-60	60"	1.60





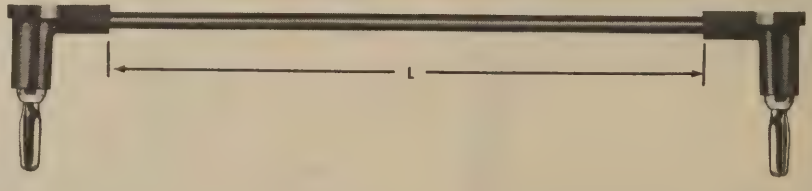
Multiple stacking feature accommodates the most complex stacking; keeps circuitry neater. Greatly simplifies circuit connections and changes. Reliable solder-bonded connections withstand pull test in excess of 50 lbs. Banana plugs both ends.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



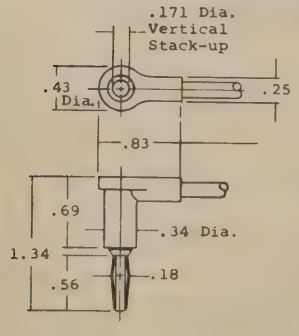
MODEL B (Specify Color) QUANTITY DISC. CODE (A) ★

STACK-UP RIGHT ANGLE BANANA PLUG PATCH CORD

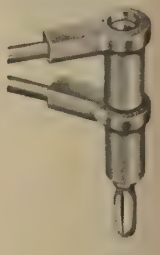
MODEL	LENGTH	NET
2864-4	4"	1.50
2864-8	8"	1.50
2864-12	12"	1.50
2864-18	18"	1.50
2864-24	24"	1.50
2864-36	36"	1.50
2864-48	48"	1.55
2864-60	60"	1.60





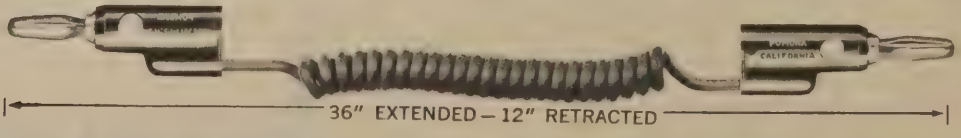


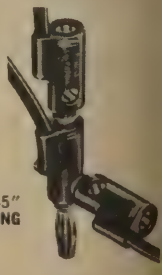
Vertical Stacking feature allows endless circuit connections and the right angle design keeps wires close to the chassis. An oversize shoulder allows easy connect and disconnect.
BANANA PLUGS: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body and wire.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
OPERATING TEMP.: −0°C to +105°C.
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



MODEL 2864 (Specify Color) QUANTITY DISC. CODE (A) ★

RETRACTILE (COILED) PATCH CORD—WITH STACK-UP BANANA PLUGS





Permits the use of one size patch cord in place of many various lengths. **BANANA PLUGS:** Spring, one piece beryllium copper heat treated, nickel plated. Tough thermoplastic molded to body and wire. **WIRE:** 20 AWG; Stranding 41 x 36 tinned copper; rubber insulation .145" O.D. **RATED:** 4 A. Cont., 10 A Int./5000 WVDC. **OPERATING TEMP.:** −20°C to +60°C. **COLOR:** Black, Red.

MODEL 2484-36 (Specify Color) QUANTITY DISC. CODE (A)

NET 2.95

Net

© United Technical Publications

POMONA ELECTRONICS

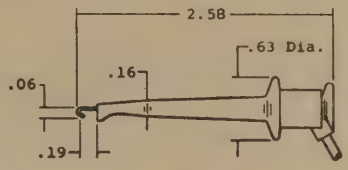
MINI-TEST CLIPS

miniature test clip for making rapid and reliable tests. Plunger type action ives fast positive contact. Conductor is gold plated beryllium copper. Nylon nsulation molded directly onto clip and wire providing a strong, reliable ntegral unit. Clip is completely insulated to point of connection.



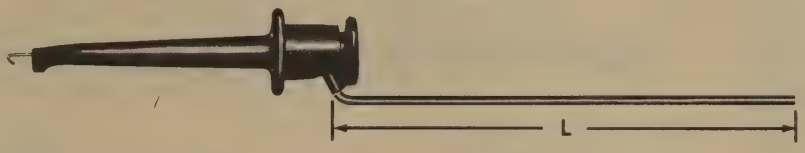


EATURES:
- Plunger type action between thumb and two fingers.
- Comfortable finger grip operation.
- Positive connection that won't pop off.
- No sharp teeth to damage or nick wires.
- Beryllium copper conductor alloy 170 per QQ-C-533; gold plated per MIL-G-45204 Type II.
- Stainless steel spring.
- Molded nylon insulator per MIL-P-20693.



MINI-TEST CLIP ONE END ONLY

ODEL	LENGTH	NET
780-8	8″	.75
780-12	12″	.75
780-24	24″	.75
780-36	36″	.75
780-48	48″	.80
780-60	60″	.85



Miniature Test Clip with wire connected one end only. No connector on opposite end allows connection of various components. Nylon insulation is molded directly onto clip and wire.

MINI-TEST CLIP: Beryllium copper gold plated hook tip. Nylon insulation molded directly onto clip and wire.
WIRE: 22 AWG, stranded 105 x 42 T.C. Extra flexible polyvinyl insulation .052″ O.D.
OPERATING TEMP.: −25°C. to +105°C.
COLORS: Black, Red.

ODEL 3780 (Specify Color) QUANTITY DISC. CODE (A) ★

MINI-TEST CLIP BOTH ENDS

ODEL	LENGTH	NET
781-8	8″	1.50
781-12	12″	1.50
781-18	18″	1.50
781-24	24″	1.50
781-36	36″	1.50
781-48	48″	1.55
781-60	60″	1.60



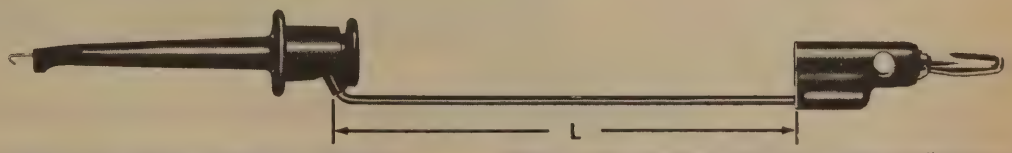
Miniature test clip on both ends for rapid interconnection of test points. Connects quickly and gently to test points without damage from sharp teeth.

MINI-TEST CLIP: Beryllium copper gold plated hook tip. Nylon insulation molded directly onto clip and wire.
WIRE: 22 AWG, stranded 105 x 42 T.C. Extra flexible polyvinyl insulation .052″ O.D.
OPERATING TEMP.: −25°C. to +105°C.
COLORS: Black, Red.

ODEL 3781 (Specify Color) QUANTITY DISC. CODE (A) ★

MINI-TEST CLIP TO STACKING BANANA PLUG

ODEL	LENGTH	NET
782-12	12″	1.25
782-24	24″	1.25
782-36	36″	1.25
782-48	48″	1.30
782-60	60″	1.35



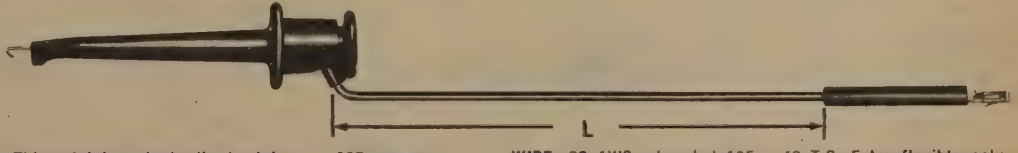
Miniature Test Clip lead adapts to equipment using standard banana jacks.
MINI-TEST CLIP: Beryllium copper gold plated hook tip. Nylon insulation molded directly onto clip and wire.

WIRE: 22 AWG, stranded 105 x 42 T.C. Extra flexible polyvinyl insulation .052″ O.D.
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough Thermoplastic molded to plug body and wire.
OPERATING TEMP.: −25°C. to +105°C.
COLORS: Black, Red.

ODEL 3782 (Specify Color) QUANTITY DISC. CODE (A) ★

MINI-TEST CLIP TO .025 SQUARE PIN RECEPTACLE

ODEL	LENGTH	NET
783-12	12″	1.25
783-24	24″	1.25
783-36	36″	1.25
783-48	48″	1.30
783-60	60″	1.35



This miniature test clip lead has a .025 square pin receptacle which slides over .025 square pins.
MINI-TEST CLIP: Beryllium copper gold plated hook tip. Nylon insulation molded directly onto clip and wire.

WIRE: 22 AWG, stranded 105 x 42 T.C. Extra flexible polyvinyl insulation .052″ O.D.
.025 PIN RECEPTACLE: Gold plated phosphor bronze contact.
OPERATING TEMP.: −25°C. to +105°C.
COLORS: Black, Red.

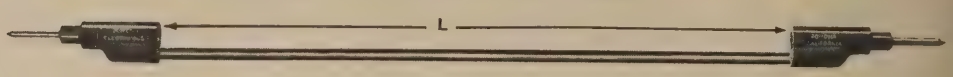
ODEL 3783 (Specify Color) QUANTITY DISC. CODE (A) ★

POMONA ELECTRONICS

MISCELLANEOUS TEST LEADS

PIN TIP VERTICAL STACKING PATCH CORD

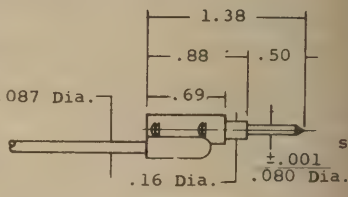
MODEL	LENGTH	NET
P-4	4″	1.75
P-8	8″	1.75
P-12	12″	1.75
P-18	18″	1.75
P-24	24″	1.75
P-36	36″	1.75
P-48	48″	1.80
P-60	60″	1.85



MODEL P
(Specify Color)
★QUANTITY DISC. CODE (A)

A must in circuit designing and testing, with instruments that utilize tip jacks.
PIN TIP: .080 dia., ½″ long, brass, gold flashed.
TIP JACK, STACK-UP: Beryllium copper, gold flashed. Accepts .080 dia. pin.

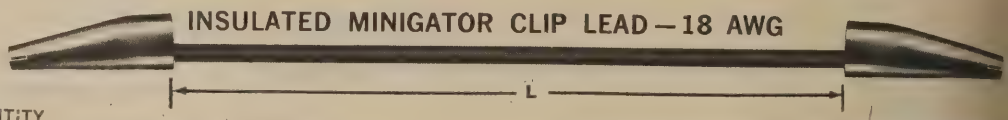
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087″ O.D.
RATED: 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



INSULATED MINIGATOR CLIP LEAD—18 AWG

MODEL	LENGTH	NET
MG-B-4	4″	.95
MG-B-8	8″	.95
MG-B-12	12″	.95
MG-B-24	24″	.95
MG-B-36	36″	.95
MG-B-48	48″	1.00
MG-B-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE (A) ★

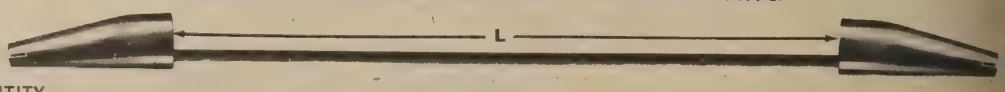
CLIP: Minigator, steel, cad plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

INSULATOR: Red vinyl with red wire. Black on all other colo
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED MINIGATOR CLIP LEAD—20 AWG

MODEL	LENGTH	NET
1236-4	4″	.95
1236-8	8″	.95
1236-12	12″	.95
1236-24	24″	.95
1236-36	36″	.95
1236-48	48″	1.00
1236-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE (A) ★

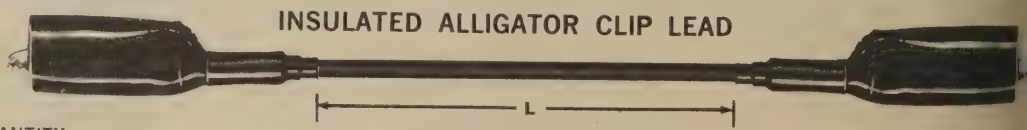
CLIP: Minigator, steel, cad. plated.
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087″ O.D.

INSULATOR: Red Vinyl with Red Wire. Black on all oth colors.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED ALLIGATOR CLIP LEAD

MODEL	LENGTH	NET
AL-B-4	4″	1.10
AL-B-8	8″	1.10
AL-B-12	12″	1.10
AL-B-24	24″	1.10
AL-B-36	36″	1.10
AL-B-48	48″	1.15
AL-B-60	60″	1.20

(Specify Color)



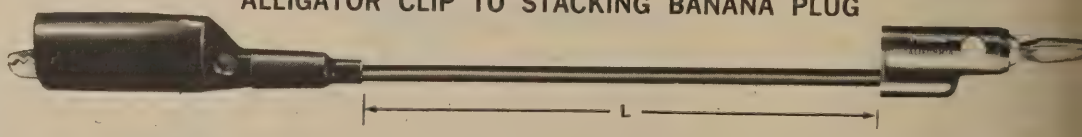
QUANTITY DISC. CODE (A) ★

CLIP: Alligator, steel, cad plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

INSULATOR: Red vinyl with red wire. Black on all other colo
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

ALLIGATOR CLIP TO STACKING BANANA PLUG

MODEL	LENGTH	NET
1166-4	4″	1.10
1166-8	8″	1.10
1166-12	12″	1.10
1166-24	24″	1.10
1166-36	36″	1.10
1166-48	48″	1.15
1166-60	60″	1.20



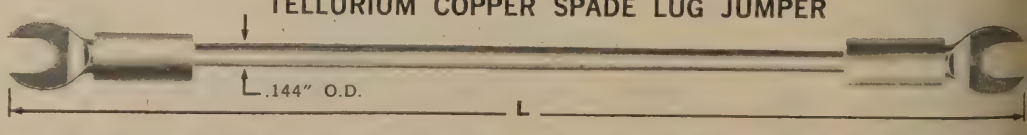
Adapts to equipment using standard banana jacks.
CLIP: Alligator, Steel, cadmium plated
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body and wire.

INSULATOR: Red vinyl with red wire. Black on all other color
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

MODEL 1166 (Specify Color) QUANTITY DISC. CODE (A) ★

TELLURIUM COPPER SPADE LUG JUMPER

MODEL	LENGTH	NET
1693-12	12″	2.75
1693-18	18″	2.75
1693-24	24″	2.75
1693-36	36″	2.75
1693-48	48″	2.75
1693-60	60″	2.75



Single conductor tellurium copper spade lug jumper used in applications where guard shield is not required. Tough thermoplastic molded to spade lug body. Color matches wire. Tellurium Copper heavy duty one piece machined spade lug gold plated per MIL-G-45204. Type II, Class I. Conductor, 12 AWG multi-stranded bare copper. Insulation polyvinyl, 105°C, .144″ O.D.
COLORS: Black, Red, Green.

MODEL 1693 (Specify Color) ★ QUANTITY DISC. CODE (A)

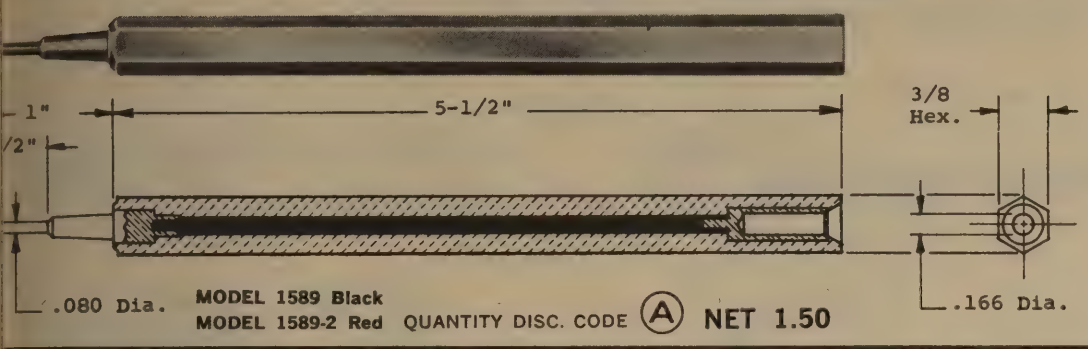
★ Various lengths may be aggregated for best quantity price.

Net

© United Technical Publications

POMONA ELECTRONICS — TEST PROBES

TEST PROBE TO BANANA JACK



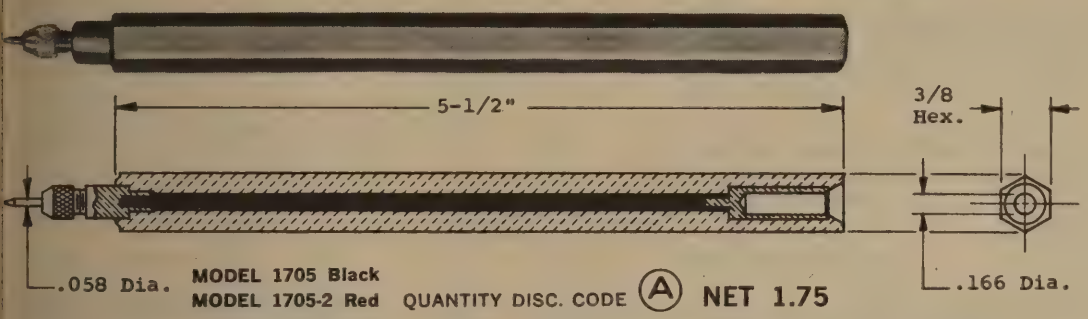
MODEL 1589 Black
MODEL 1589-2 Red QUANTITY DISC. CODE (A) **NET 1.50**

Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

PIN TIP: .080 dia. x ½" long, brass nickel plated.

BANANA JACK: .166 dia. Brass nickel plated. Accepts standard banana plug.

NEEDLE TIP PROBE TO BANANA JACK



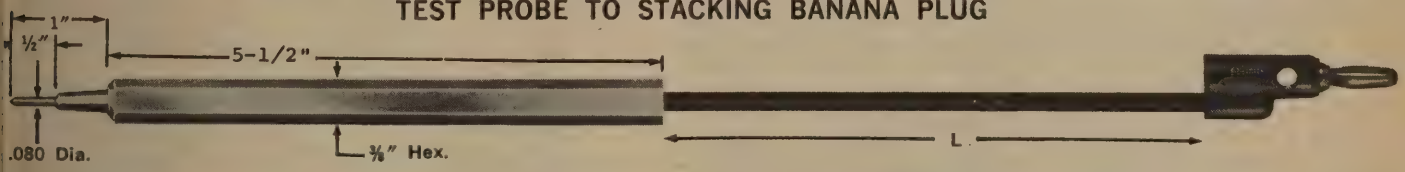
MODEL 1705 Black
MODEL 1705-2 Red QUANTITY DISC. CODE (A) **NET 1.75**

Sharp replaceable needle tip allows testing of encapsulated circuits. Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

PIN TIP: Replaceable needle tip, steel nickel plated.

BANANA JACK: .166 dia. Brass nickel plated. Accepts standard banana plug.

TEST PROBE TO STACKING BANANA PLUG

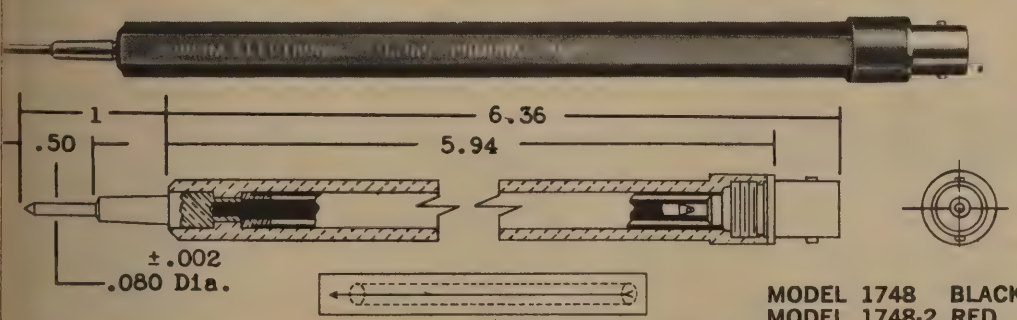


MODEL 1382-36-B	36" Long	Black	NET 1.95
MODEL 1382-36-R	36" Long	Red	NET 1.95
MODEL 1382-48-B	48" Long	Black	NET 1.95
MODEL 1382-48-R	48" Long	Red	NET 1.95

QUANTITY DISC. CODE (A)

Insulated handle molded to probe tip and wire lead.
PROBE PIN TIP: .080 dia. x ½" long. Brass nickel plated
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to plug body and wire.
COLORS: Black, Red.

TEST PROBE TO BNC RECEPTACLE



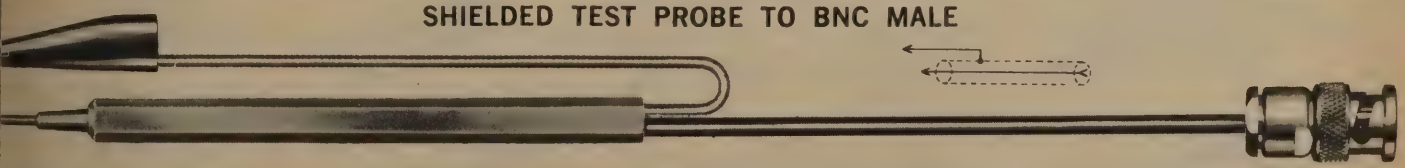
MODEL 1748 BLACK
MODEL 1748-2 RED QUANTITY DISC. CODE (A) **NET 5.85**

BNC receptacle in handle connected to tip. Permits the use of coaxial cables with BNC plug for circuit testing as a test prod. Tough thermoplastic molded to BNC receptable and tip. Shield extends to within 1½" of the probe tip end.

PIN TIP: .080" dia. x ½" long, brass, nickel plated.

RECEPTACLE: BNC, UG1094/U.

SHIELDED TEST PROBE TO BNC MALE



shielded test probe with the shield extending to within 1½" of the probe tip
nd. One piece molded construction. Insulated handle molded to probe tip and
able. Insulated minigator clip connected to shield lead.
ROBE PIN TIP: .080 dia. x ½" long. Brass, nickel plated.
ONNECTOR: BNC Male, UG88E/U.

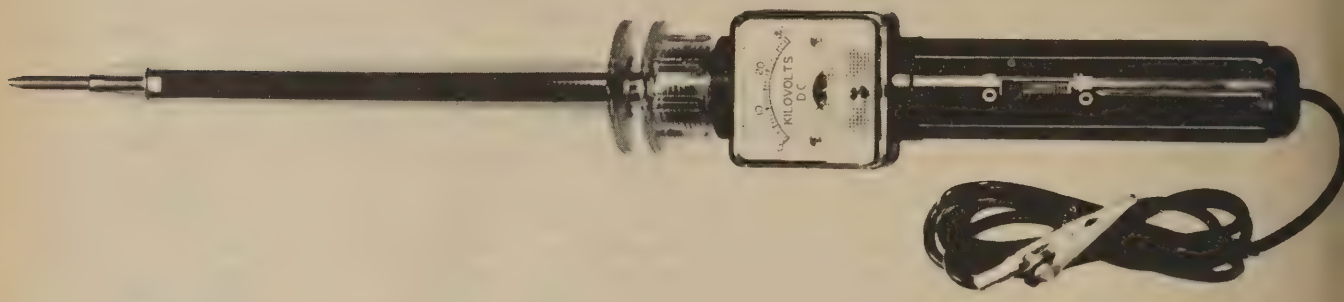
CLIP: Minigator, steel, cad. plated.
INSULATOR, VINYL: Color, Black.
CABLE: Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.
HANDLE: Color, red, molded of tough thermo-plastic.

MODEL 2739-C-48 . . . . . 48" long QUANTITY DISC. CODE (B) **NET 6.85**

POMONA ELECTRONICS

HIGH VOLTAGE TEST PROBES & MOLDED BREAKOUTS

DC HIGH VOLTAGE TEST PROBES WITH BUILT-IN METER



These High Voltage Test Probes built by Pomona Electronics are the most advanced instruments of their kind on the market; the only test probes featuring a built-in voltmeter. The Test Probes are self-contained, portable test instruments for rapid measurements of high voltages.

Easy to operate! Just ground the test probe instrument by attaching alligator clip to chassis, contact test probe tip to high voltage being measured and read voltage from the built-in meter. No warm-up time. No batteries.

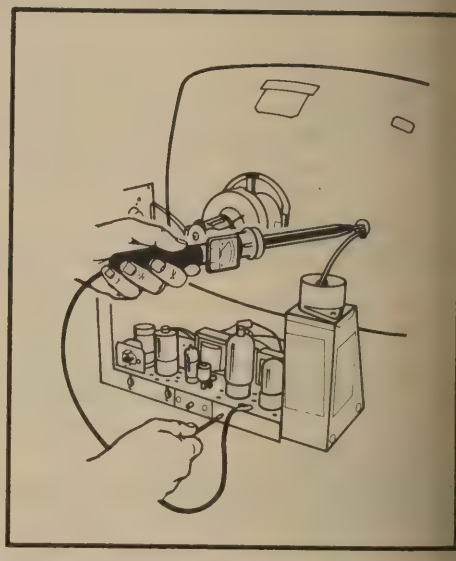
SPECIFICATIONS:

RANGE: See below. **SENSITIVITY:** 20,000 ohms/volt (50 ua) movement. **ACCURACY:** ± 3% full scale. **MULTIPLIER RESISTANCE:** See below. **MATERIAL:** Handle—high impact thermoplastic. Probe—high impact polystyrene. **LENGTH:** 14¾" overall. **WEIGHT:** 8 ounces.

MODEL	VOLTS Full Scale	MULTIPLIER RESISTANCE	NET
2900	30,000	600 Megohm	19.95
3157(*)	15,000	300 Megohm	29.95
3163(*)	6,000	120 Megohm	29.95

*Models 3157 and 3163 are supplied with Model 3295 carrying case.

QUANTITY DISC. CODE ©



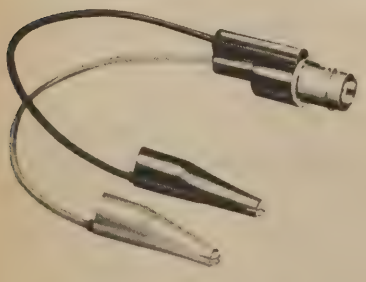
PATENT PENDING

MOLDED BREAKOUTS

A new series of "Breakouts", designed to convert standard coaxial cables to test cables.
By connecting proper Breakout receptacle or plug to corresponding cable plug or receptacle, any standard coaxial cable becomes a test cable equipped with clip leads.
All connections feature a non-tarnish finish, and tough molded thermoplastic insulation molded to connector and wire.

APPLICABLE SPECIFICATIONS:
Wire: (With Alligator Clips) 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
Wire: (With Minigator Clips) 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087" O.D.
Operating Temp.: —25°C to +85°C.
Working Voltage: 500 V Peak.

BNC RECEPTACLE TO TEST CLIPS

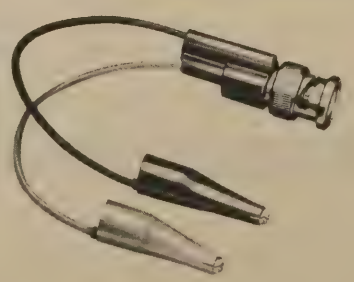


CONNECTOR: BNC Receptacle, UG1094/U.
INSULATION: Tough thermoplastic molded to connector and wire.
WIRE: See above.
TEST CLIPS: Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

OVERALL LENGTH 7"

MODEL 2630 (ALLIGATOR CLIPS)
MODEL 2631 (MINIGATOR CLIPS) QUANTITY DISC. CODE Ⓐ **NET 3.45**

BNC PLUG TO TEST CLIPS



CONNECTOR: BNC Plug.
INSULATION: Tough thermo plastic molded to connec tor and wire.
WIRE: See above.
TEST CLIPS: Minigator o Alligator, Steel, cad plated. Insulators, Vinyl 1 Black, 1 Red.

OVERALL LENGTH 7"

MODEL 2885 (ALLIGATOR CLIPS)
MODEL 2886 (MINIGATOR CLIPS) QUANTITY DISC. CODE Ⓐ **NET 4.50**

Net
© United Technical Publications

POMONA ELECTRONICS

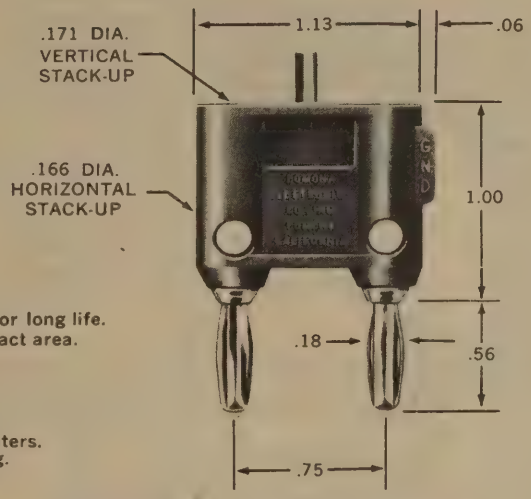
DOUBLE BANANA PLUG CABLE ASSEMBLIES

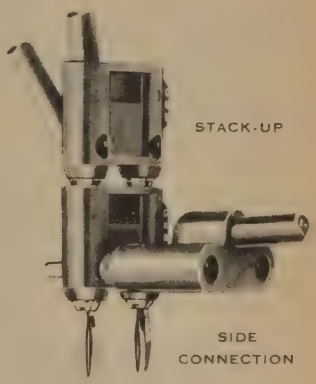
POMONA MOLDED DOUBLE BANANA PLUG PATCH CORDS AND TEST LEADS

. . . indispensable for bridge transformer connections, three terminal capacitor measurements and general hook-up for two wire systems. They are horizontally and vertically stackable in parallel.

Tough thermo-plastic material molded to plug body and cable insures maximum strength, moisture resistance and excellent insulative properties.

Used by leading industries in applications where extreme reliability is of prime importance.





FEATURES . . .

- One piece beryllium copper heat treated spring for long life.
- Rounded spring design results in maximum contact area.
- GND., clearly molded on plug body and shell.
- Solder-bonded noise-free connections.

SPECIFICATIONS . . .

- Fits standard 0.166 dia. banana jacks, on ¾" centers.
- Contact resistance less than 0.001 ohms per plug.
- Spring beryllium copper alloy 170 per QQ-C-533.
- Plug body brass per QQ-B-625, Comp. 22.
- Nickel plated per QQ-N-290, Class 2.

CABLE TYPE DESCRIPTION

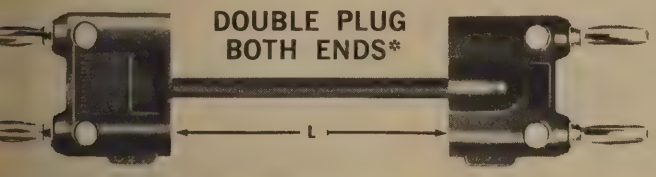
TWO COND. TWISTED PAIR
18 AWG, Strand. 65 x 36 T.C.
Vinyl insulation. Vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.
COLOR: Gray.

SHIELDED MICROPHONE CABLE
Polyethylene insulation. Vinyl jacket, .205" O.D. Nom. Cap. 25 pf/ft.
COLOR: Gray.

SHIELDED COAXIAL CABLE
Polyethylene insulation, Vinyl jacket

TYPES	RG58C/U	RG59B/U	RG62A/U
Color	Black	Black	Black
Nom. Imp.	50	75	93
CAP. pf./ft.	30	21	13.5
O.D.	.195	.242	.242

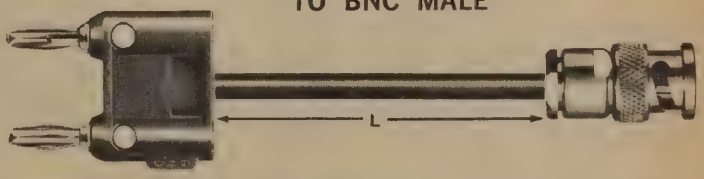
DOUBLE PLUG BOTH ENDS*



TWO COND. TWISTED PR.	SHIELDED MIC. CABLE	RG58C/U	RG59B/U	LENGTH	NET
2BA-18	2BB-18	2BC-18	2BE-18	18"	4.95
2BA-24	2BB-24	2BC-24	2BE-24	24"	4.95
2BA-30	2BB-30	2BC-30	2BE-30	30"	4.95
2BA-36	2BB-36	2BC-36	2BE-36	36"	4.95
2BA-48	2BB-48	2BC-48	2BE-48	48"	4.95
2BA-60	2BB-60	2BC-60	2BE-60	60"	4.95

★ QUANTITY DISC. CODE (B)

DOUBLE BANANA PLUG TO BNC MALE

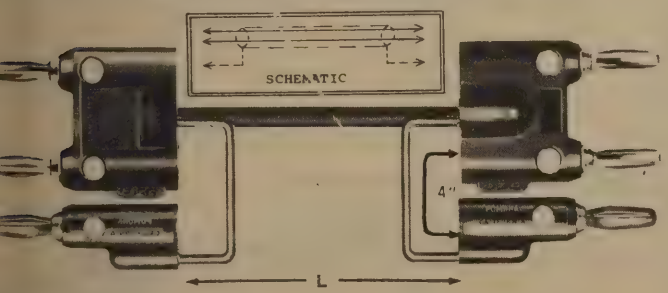


CONN.: 1ST END } Double Banana Plug, on ¾" Centers. **CABLE:** Shielded coax., RG58C/U **CONN.:** 2ND END } UG88E/U, Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BB-BNC-18	2BC-BNC-18	18"	5.95
2BB-BNC-24	2BC-BNC-24	24"	5.95
2BB-BNC-30	2BC-BNC-30	30"	5.95
2BB-BNC-36	2BC-BNC-36	36"	5.95
2BB-BNC-48	2BC-BNC-48	48"	5.95
2BB-BNC-60	2BC-BNC-60	60"	5.95

★QUANTITY DISC. CODE (B)

TWO COND. SHIELDED BALANCED LINE

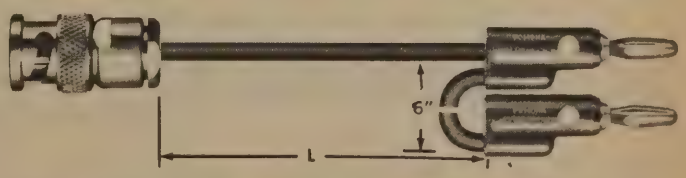


NOTE: For BNC type TWINAX Patch cords and jacks, see Page 18.

CABLE DESCRIPTION	MODEL	LENGTH	NET
Cond. shielded mic. cable. Polyethylene insu-	1167-18	18"	7.95
tion. Vinyl jacket, .231" O.D. Nom. Cap.	1167-24	24"	7.95
tween cond. 18 pf./ft. Nom. Cap. between	1167-30	30"	7.95
ie cond. and remaining cond. connected to	1167-36	36"	7.95
ield, 32 pf./ft. COLOR: Cable and double	1167-48	48"	7.95
ug, Gray. Single ground plug, Green.	1167-60	60"	7.95

★ QUANTITY DISC. CODE (B)

BNC MALE TO SINGLE BANANA PLUGS



CONN: 1st END } UG88E/U Male BNC **CABLE:** Shielded Coax., RG58C/U **CONN:** 2nd END } Single Banana Plugs Color: 1 Black, 1 Red.

CABLE DESCRIPTION:
Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D. Nom. Cap. 28.5 pf/ft.
★ QUANTITY DISC. CODE (B)

MODEL	LENGTH	NET
2241-C-18	18"	5.95
2241-C-24	24"	5.95
2241-C-36	36"	5.95
2241-C-48	48"	5.95

NOTE: Molded double plug matches color of cable. Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U Cable, BLACK.

★ Various lengths may be aggregated for best quantity price.

POMONA ELECTRONICS

CABLE ASSEMBLIES

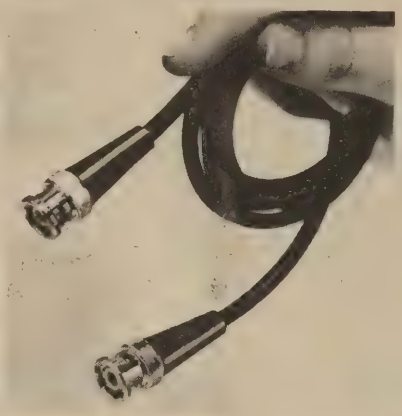
STRESS RELIEVED AND WEATHERPROOFED CRIMP BNC CABLE ASSEMBLIES

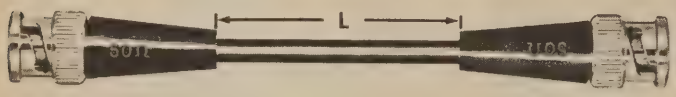
These new cable assemblies feature polyethylene collars which are injection molded directly onto cable jacket and connector body. The resulting encapsulation offers two outstanding advantages:

STRESS PROTECTION against failure from excess bending, flexing, twisting;

WEATHERPROOF SEAL between cable and connector.

Connectors have non-tarnish finish and conform to MIL-C-39012





CONN: 1st END Crimp Male BNC (Comparable to UG88E/U) **CABLE:** Shielded Coax., RG58C/U. **CONN: 2nd END** Crimp Male BNC (Comparable to UG88E/U)

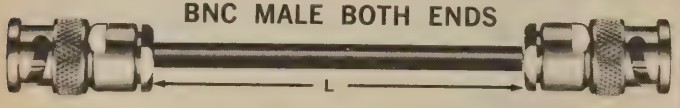
CONN: 1st END Crimp Male BNC (Comparable to UG260B/U) **Cable:** Shielded Coax., RG59B/U or RG62A/U **CONN: 2nd END** Crimp Male BNC (Comparable to UG260B/U)

CABLE TYPES

RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
2249-C-12	2249-E-12	4.85	2249-M-12	5.95	12″
2249-C-24	2249-E-24	4.85	2249-M-24	5.95	24″
2249-C-36	2249-E-36	4.85	2249-M-36	5.95	36″
2249-C-48	2249-E-48	4.85	2249-M-48	5.95	48″
2249-C-60	2249-E-60	4.85	2249-M-60	5.95	60″

★ QUANTITY DISC. CODE (B)

BNC MALE BOTH ENDS



CONN: 1st END UG88E/U Male BNC **CABLE:** Shielded Coax., RG58C/U **CONN: 2nd END** UG88E/U Male BNC

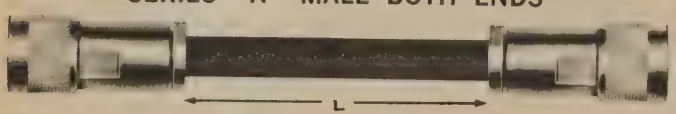
CONN: 1st END UG260B/U Male BNC **CABLE:** Shielded Coax., RG59B/U or RG62A/U **CONN: 2nd END** UG260B/U Male BNC

CABLE TYPES

SHIELDED MIC. CABLE	RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
BNC-B-18	BNC-C-18	BNC-E-18	5.95	BNC-M-18	6.95	18″
BNC-B-24	BNC-C-24	BNC-E-24	5.95	BNC-M-24	6.95	24″
BNC-B-30	BNC-C-30	BNC-E-30	5.95	BNC-M-30	6.95	30″
BNC-B-36	BNC-C-36	BNC-E-36	5.95	BNC-M-36	6.95	36″
BNC-B-48	BNC-C-48	BNC-E-48	5.95	BNC-M-48	6.95	48″
BNC-B-60	BNC-C-60	BNC-E-60	5.95	BNC-M-60	6.95	60″

★ QUANTITY DISC. CODE (B)

SERIES "N" MALE BOTH ENDS



CONN: 1st END UG21E/U "N" Male **CABLE:** Coax., RG213/U or RG214/U **CONN: 2nd END** UG21E/U "N" Male

CABLE TYPES

RG213/U	NET	LENGTH	RG214/U	NET
1658-S-18	10.85	18″	1658-T-18	12.85
1658-S-24	10.85	24″	1658-T-24	12.85
1658-S-36	10.85	36″	1658-T-36	12.85
1658-S-48	11.35	48″	1658-T-48	13.60
1658-S-60	11.85	60″	1658-T-60	14.35

MODEL 1658 ★ QUANTITY DISC. CODE (B)

ALLIGATOR CLIPS TO BNC MALE



CONN: 1ST END Alligator Clips, Steel, cad plated. Insulators, Vinyl: Black/Red. **CABLE:** Shielded Mic. or Shielded Coax, RG58C/U. **CONN: 2ND END** UG88E/U, BNC, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
AL-B-BNC-18	AL-C-BNC-18	18″	5.95
AL-B-BNC-24	AL-C-BNC-24	24″	5.95
AL-B-BNC-30	AL-C-BNC-30	30″	5.95
AL-B-BNC-36	AL-C-BNC-36	36″	5.95
AL-B-BNC-48	AL-C-BNC-48	48″	5.95
AL-B-BNC-60	AL-C-BNC-60	60″	5.95

★ QUANTITY DISC. CODE (B)

MINIGATOR CLIPS TO BNC MALE



CONN: 1ST END Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red. **CABLE:** Shielded Mic. or Shielded Coax, RG58C/U. **CONN: 2ND END** UG88E/U, BNC, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
MG-B-BNC-18	MG-C-BNC-18	18″	5.95
MG-B-BNC-24	MG-C-BNC-24	24″	5.95
MG-B-BNC-30	MG-C-BNC-30	30″	5.95
MG-B-BNC-36	MG-C-BNC-36	36″	5.95
MG-B-BNC-48	MG-C-BNC-48	48″	5.95
MG-B-BNC 60	MG-C-BNC-60	60″	5.95

★ QUANTITY DISC. CODE (B)

ALLIGATOR CLIPS TO DOUBLE BANANA PLUG*

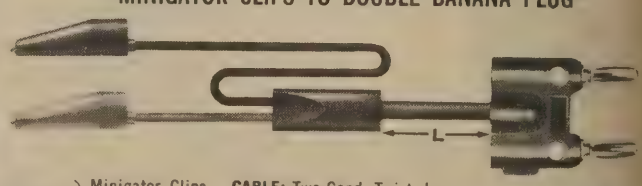


CONN: 1ST END Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red. **CABLE:** Two Cond. Twisted Pair, Shielded Mic. or Shielded Coax, RG58C/U. **CONN: 2ND END** Double Banana Plug, on ¾″ centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-AL-18	2BB-AL-18	2BC-AL-18	18″	5.95
2BA-AL-24	2BB-AL-24	2BC-AL-24	24″	5.95
2BA-AL-30	2BB-AL-30	2BC-AL-30	30″	5.95
2BA-AL-36	2BB-AL-36	2BC-AL-36	36″	5.95
2BA-AL-48	2BB-AL-48	2BC-AL-48	48″	5.95
2BA-AL-60	2BB-AL-60	2BC-AL-60	60″	5.95

★ QUANTITY DISC. CODE (B)

MINIGATOR CLIPS TO DOUBLE BANANA PLUG*



CONN: 1ST END Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red. **CABLE:** Two Cond. Twisted pair, Shielded Mic. or Shielded Coax, RG58C/U. **CONN: 2ND END** Double Banana Plug, on ¾″ centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-MG-18	2BB-MG-18	2BC-MG-18	18″	5.95
2BA-MG-24	2BB-MG-24	2BC-MG-24	24″	5.95
2BA-MG-30	2BB-MG-30	2BC-MG-30	30″	5.95
2BA-MG-36	2BB-MG-36	2BC-MG-36	36″	5.95
2BA-MG-48	2BB-MG-48	2BC-MG-48	48″	5.95
2BA-MG-60	2BB-MG-60	2BC-MG-60	60″	5.95

★ QUANTITY DISC. CODE (B)

★ Various lengths may be aggregated for best quantity price.

© United Technical Publications



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

Then...

call your local distributor for fast, reliable service!

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

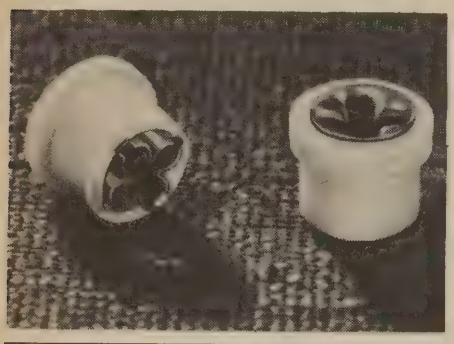
*Reg. Trademark, E. I. Du Pont de Nemours & Co.

PRESS-FIT® TEFLON* CLOVERLEAF® RECEPTACLES

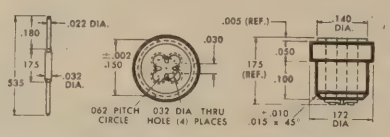
. . . providing the economies of dip-soldering with the inherent reliability of wired chassis construction

The "Press-Fit" Cloverleaf Receptacle provides economical yet uniformly perfect solder joints by means of dip soldering on a metal chassis. The unique Cloverleaf configuration permits insertion of four or more wire leads, plus an optional center post for mounting additional components after the dip-soldering operation. This design provides an encompassing hold on the leads, while providing for excellent capillary flow of solder. The Cloverleaf receptacle is a Sealectro "Press-Fit" design. Virgin Teflon insulation, precisely machined to "Press-Fit" into the chassis provides fast, positive and economical installation.

The reliability of dip solder joints made with the Cloverleaf receptacle, combined with the inherent dependability and repairability of metal chassis construction makes it ideal for use in high density, complex electronic instrumentation packaging, while the low cost of the terminal and its simple installation provides a new and outstanding assembly technique for premium quality radio and television manufacturing.



*FT-E-12

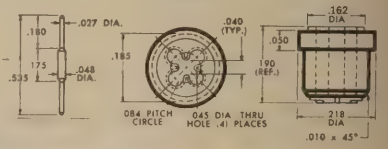


INSTALLATION DATA:

Break Installation Edge .136 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .160 $^{+.000}_{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-9-4

*FT-E-15

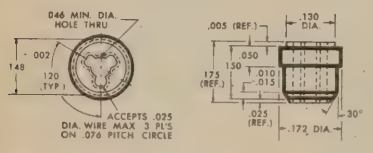


INSTALLATION DATA:

Break Installation Edge .172 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .195 $^{+.000}_{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-9-5

*FT-E-16

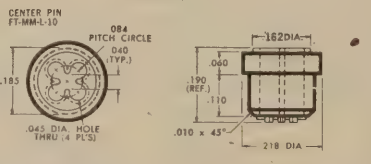


INSTALLATION DATA:

Break Installation Edge .136 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .160 $^{+.000}_{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: T-8800020 and B-8X-1

*FT-E-17

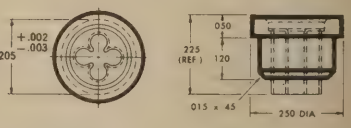


INSTALLATION DATA:

Break Installation Edge .172 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .195 $^{+.000}_{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-18-X3

*FT-E-19



INSTALLATION DATA:

Break Installation Edge .197 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .230 $^{+.000}_{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

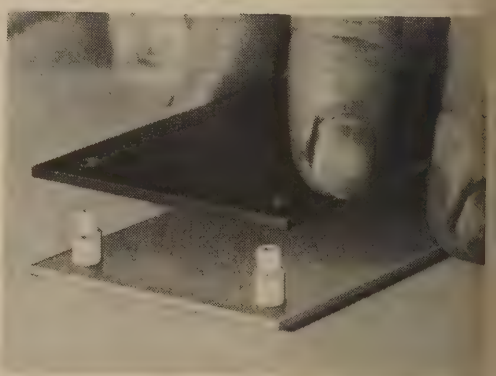
Insertion Tool: B-22-X1

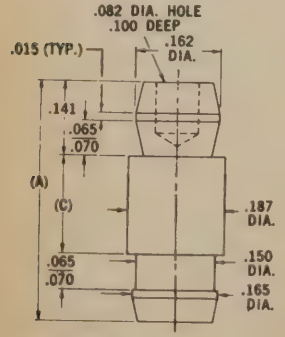
PRESS-FIT® TEFLON** SPACER/BUSHINGS

The Newest and Best Way to Mount P.C. Boards to Metal Panels and Chassis

Mount and insulate P.C. boards on metal chassis or panels without nuts, bolts, or lock washers. The new Press-Fit Teflon* Spacer/Bushings save assembly time while providing an economical and mechanically secure mounting device.

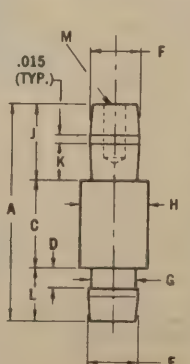
Machined from pure Teflon*, these new units are designed for various thickness P.C. boards and chassis or panels. Insertion in the chassis is a simple, one-step operation. The grommet end of each Spacer/Bushing is simply snapped in pre-drilled or punched metal chassis holes with entrance edge broken. Once inserted, they're in for good. P.C. boards require only mating holes for the opposite end of the Spacer/Bushing and may be snapped on and off of the mother board at will.





NOTE: Mtg. Hole .152 ±.002 Dia. in .062 ±.006 thick chassis.

*Part No.	A	C
227298	1.021	.750
227294	.958	.687
227290	.896	.625
227286	.833	.562
227282	.771	.500
227278	.708	.437
227274	.646	.375
227270	.583	.312
227266	.521	.250
227262	.458	.187
227258	.396	.125



*Part No.	A	C	D	E	F	G	H	J	K	L	M
228004	.782	.500	.045	.151	.151	.136	.187	.175	.098	.107	.082 Dia. x .130 deep
228006	.674	.375	.093	.165	.162	.150	.187	.141	.065	.050	.082 Dia. x .100 deep
228005	.657	.375	.045	.151	.151	.136	.187	.175	.098	.107	.082 Dia. x .100 deep
228007	.544	.250	.055	.165	.162	.150	.187	.177	.098	.047	.082 Dia. x .100 deep
228002	.490	.250	.030	.098	.100	.084	.125	.140	.068	.100	.041 Dia. x .100 deep
228000	.400	.160	.036	.092	.092	.084	.125	.140	.068	.100	.041 Dia. x .100 deep
228009	.400	.093	.065	.165	.162	.150	.187	.177	.098	.040	.082 Dia. x .100 deep
228001	.392	.160	.028	.092	.092	.084	.125	.140	.068	.100	.082 Dia. x .100 deep

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

** Registered Trademark, E. I. DuPont deNemours & Co.

© United Technical Publications

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co.

PRESS-FIT® Performance, whether measured in function, reliability, life or costs, cannot exceed the performance parameters of the components involved in the equipment. This basic fact was recognized by Sealectro in 1952 and led to the design, development, and introduction of the Teflon insulated "Press-Fit" terminal as a superior performance component, providing greater reliability, better electrical connections, and improved cost factors on the production line. These outstanding features have established Sealectro as the leading supplier of Teflon insulated terminals throughout the world.

The units described in this catalog are available for the off-the-shelf delivery from your local authorized Sealectro distributor to provide you with the fastest possible delivery and shortest lead time requirements. If additional information or terminal configurations other than those listed are required, Sealectro's distributor, field representative, and factory personnel are at your service.

STAND-OFFS Subminiature

(Standard Plating P-47: .0003 Solder over .0001 Copper)

Fig.	Part No.	Part Number Description	Tool No.	Cap. mmf	V, RMS Nom. Rating	60 CPS Flash-over Sea Level	A	B	B_1	B_2	C	D	E Dia.	E_1	F Dia.	$^{+.002}_{-.000}$ G Dia.
1	003-1009	ST-SM-16	B3-1	0.60	1000	3000	.350	.210			.040	.100	.040		.125	.093
1	003-1000	ST-SM-1	B-8	0.45	1000	3000	.350	.210			.040	.160	.040		.172	.148
1	013-1001	ST-SM-1C2	B-8	0.50	1000	3000	.410	.210			.040	.160	.040		.172	.148
3	003-2000	ST-MM-10-TUR	B3-2C	0.40	1000	3000	.310	.170	.020	.060	.040	.100	.030	.060	.125	.093
3	003-2003	ST-SM-16-TUR	B3-2B	0.60	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.125	.093
3	013-2001	ST-SM-1-TUR	B-8	0.40	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.172	.148
3	013-2003	ST-SM-1-TUR-C2	B-8	0.50	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.172	.148
3	013-2004	ST-SM-1-TUR-C4	B-8	0.40	1000	3000	.360	.210	.020	.100	.040	.110	.040	.080	.172	.148
3	013-2007	ST-SM-19-TUR-C2	B-8	0.55	1000	3000	.500	.210	.020	.100	.040	.250	.040	.080	.172	.148
3	013-2011	ST-SM-22-TUR	B-8	0.50	1700	4500	.428	.210	.020	.100	.093	.125	.040	.080	.172	.148
3	013-2016	ST-SM-25-TUR	B8-A	0.50	1000	3000	.334	.154	.020	.046	.040	.140	.046	.093	.172	.148
3	013-2019	ST-SM-29-TUR	B8-A	0.50	1000	3000	.455	.250	.020	.093	.040	.165	.040	.093	.172	.148
3	013-2020	ST-SM-29-TUR-C2	B8-A	0.60	1000	3000	.540	.250	.020	.093	.040	.250	.040	.093	.172	.148
3	013-2009	ST-SM-21-TUR	B-18	0.40	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.218	.185
6	013-2028	ST-SM-47-TUR-C2	B-8	0.40	1000	3000	.350	.210	.020	.120	.040	.100	.040	.080	.172	.148
51	004-1007	RST-SM-16	B3-2X	0.40	1000	3000	.350	.210			.040	.100	.040		.125	.093
51	014-1000	RST-SM-1	B8-X-1	0.40	1200	3500	.350	.210			.040	.100	.040		.172	.148
51	014-1001	RST-SM-1B2	B8-G	0.40	1200	3500	.330	.210			.020	.100	.040		.172	.148
54	004-2000	RST-MM-10-TUR	B1-2	0.40	500	2000	.310	.170	.020	.060	.040	.100	.030	.060	.125	.093
54	014-2001	RST-SM-1-TUR	B8-X-1	0.40	1200	3500	.350	.210	.020	.100	.040	.100	.040	.080	.172	.148
54	014-2009	RST-SM-25-TUR-C4	B8-X-1	0.40	1500	4000	.295	.156	.020	.046	.040	.100	.046	.093	.172	.148
54	014-2015	RST-SM-38-TUR	B10	0.40	1500	4000	.405	.210	.020	.100	.040	.155	.040	.080	.188	.171
54	014-2007	RST-SM-21-TUR	B18	0.30	1700	4500	.375	.210	.020	.100	.040	.125	.040	.080	.218	.185
55	014-2011	RST-SM-31-TUR	B8-X-1	0.50	1700	4500	.455	.227	.020	.187	.040	.187	.040	.080	.172	.148

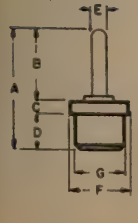


Fig. 1

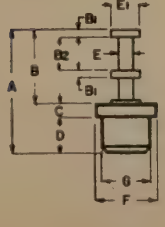


Fig. 3

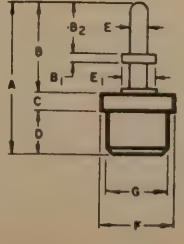


Fig. 6

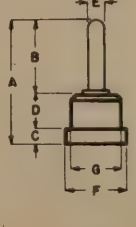


Fig. 51

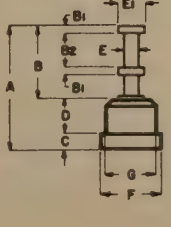


Fig. 54

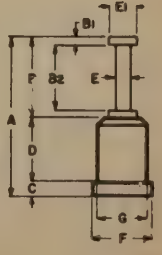


Fig. 55

SEALECTRO PRESS-FIT® TEFLON*-TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co.

STAND-OFFS Miniature

(Standard Plating P-60: .0003 Silver over Copper Flash)

Fig.	Part No.	Part Number Description	Tool No.	Cap. mmf	V, RMS Nom. Rating	60 CPS Flash-over Sea Level	A	B	B_1	B_2	C	D	E Dia.	E_1	F Dia.	G Dia. +.002 −.000	J Dia.	K	K_1
101	013-2046	ST-250	B12	0.30	2500	6000	.431	.156	.020	.046	.125	.150	.046	.093	.187	.165			
101	013-2058	ST-1000	B13	0.20	2800	6700	.493	.156	.020	.046	.187	.150	.046	.093	.187	.165			
101	013-2060	ST-1000L2	B13	0.30	2800	6700	.584	.250	.020	.093	.187	.150	.040	.093	.187	.165			
101	013-2051	ST-250L4	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.062	.125	.187	.171			
105	013-3005	ST-250SL	B11	0.70	2000	5000	.478	.203			.125	.150	.148		.187	.171	.078		.156
105	013-2058	ST-1000SL	B11	0.70	2300	5600	.540	.203			.187	.150	.148		.187	.171	.078		.156
105	013-3013	ST-1500SL	B11	0.45	2700	6500	.603	.203			.250	.150	.148		.187	.171	.078		.156
105	013-3016	ST-2000SL	B11	0.30	4200	9500	.753	.203			.400	.150	.148		.187	.171	.078		.156
151	014-2020	RST-1	B18-1B	0.40	3000	7000	.487	.154	.020	.046	.046	.287	.046	.093	.218	.185			
151	014-2021	RST-1L2	B18-1B	0.20	3000	7000	.583	.250	.020	.093	.046	.287	.046	.093	.218	.185			
203	015-2002	DST-1000	B13	0.20	2500	6000	.819	.210	.020	.100	.187	.212	.040	.080	.187	.171			
203	025-2003	DST-1015	B20	0.20	2700	6500	.819	.210	.020	.100	.187	.212	.040	.080	.218	.187			

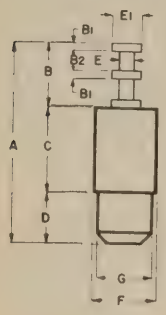


Fig. 101

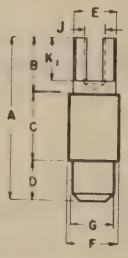


Fig. 105

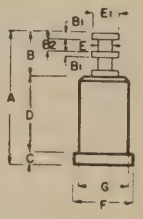


Fig. 151

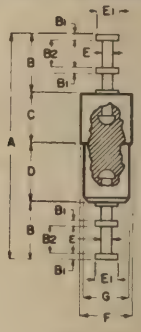


Fig. 203

FEED-THRUS Subminiature

(Standard Plating P-47: .0003 Solder over .0001 Copper)

Fig.	Part No.	Part Number Description	Tool No.	Cap. mmf	V, RMS Nom. Rating	60 CPS Flash-over Sea Level	A	B	B_1	B_2	C	D	E	E_1	F Dia.	G Dia. +.002 −.000	J Dia.	K	K_1
302	001-2013	FT-MM-5-TUR	B0	0.70	400	1800	.510	.100	.020	.060	.040	.100	.040	.060	.093	.075			
304	001-6021	FT-MM-7	B0-1	0.70	400	1800	.588	.125			.040	.100	.030	.060	.093	.075	.040		.080
351	001-1007	FT-SM-16	B3-1	0.75	500	2000	.515	.210			.040	.100	.040		.125	.093			
351	011-1001	FT-SM-022	B8-A	0.65	1000	3000	.630	.210			.040	.170	.040		.172	.148			
351	011-1004	FT-SM-1	B8-16	0.50	1000	3000	.515	.210			.040	.100	.040		.172	.148			
351	011-1008	FT-SM-1L2	B8-16	0.50	1000	3000	.443	.210			.040	.100	.040		.172	.148			
351	011-4021	FT-SM-14	B8-16	0.50	1000	3000	.375	.125			.040	.100	.040		.172	.148			
351	011-1038	FT-SM-19	B8-16	0.60	1000	3000	.535	.210			.040	.160	.040		.172	.148			
360	001-2004	FT-SM-16-TUR	B-3-2B	0.70	500	2000	.500	.210	.020	.100	.040	.100	.040	.080	.125	.093			
360	011-2004	FT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148			
360	011-2007	FT-SM-1-TUR-C4	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.165	.040	.080	.172	.148			
360	011-2010	FT-SM-1-TUR-L2	B8	0.50	1000	3000	.438	.210	.020	.100	.040	.100	.040	.080	.172	.148			
361	011-2000	FT-SM-025-TUR	E8	0.65	1000	3000	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148			
361	011-2013	FT-SM-2-TUR	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.148			
361	011-2014	FT-SM-2-TUR-C2	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.125	.040	.080	.172	.148			
361	011-2023	FT-SM-22-TUR	B9	0.65	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148			
361	011-2024	FT-SM-22-TUR-C2	B9	0.65	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148			
361	011-2022	FT-SM-21-TUR	B18	0.65	1200	3500	.531	.210	.020	.100	.040	.125	.040	.080	.218	.185			

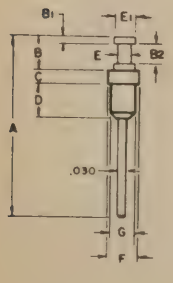


Fig. 302

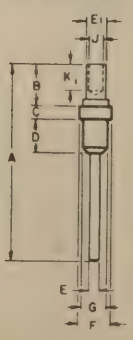


Fig. 304

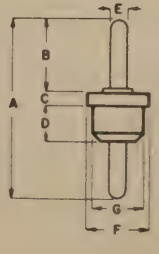


Fig. 351

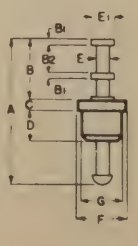


Fig. 360

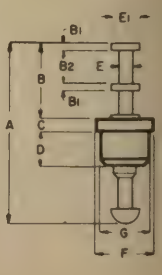


Fig. 361

© United Technical Publications

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co.

FEED-THRUS Subminiature (Cont.)

(Standard Plating P-47: .0003 Solder over .0001 Copper)

Fig.	Part No.	Part Number Description	Tool No.	Cap. mmf	V, RMS Nom. Rating	60 CPS Flash-over Sea Level	A	B	B_1	B_2	C	D	E	E_1	F Dia.	G Dia. $^{+.002}_{-.000}$	J
364	011-2025	FT-SM-32-TUR	B8	0.50	1000	3000	.350	.125	.020	.095	.040	.100	.040	.080	.172	.148	
501	001-6033	FT-SM-59	B3-1	0.40	500	2000	.225	.125			.040	.060	.040		.125	.093	
510	011-6033	FT-SM-74	B9-1	0.75	1000	3000	.351	.133	.020	.093	.093	.125	.082	.125	.172	.148	.062
511	011-6022	FT-SM-71	B8-A	0.50	1000	3000	.303	.133	.020	.093	.040	.100	.060	.090	.172	.148	.030
452	012-1000	RFT-SM-1	B8	0.50	1000	3000	.515	.210			.040	.100	.040		.172	.148	
454	012-2000	RFT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148	

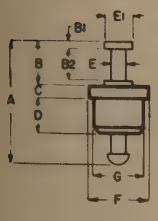


Fig. 364

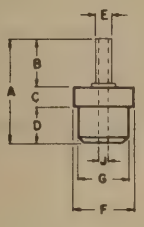


Fig. 501

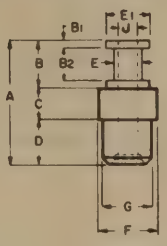


Fig. 510

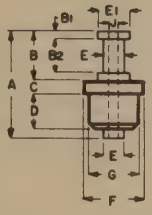


Fig. 511

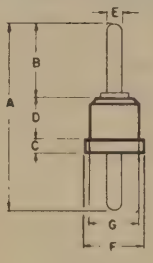


Fig. 452

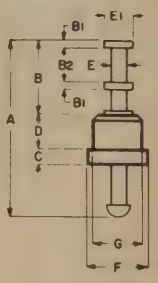


Fig. 454

FEED-THRUS Miniature

(Standard Plating P-60: .0003 Silver over Copper Flash)

Fig.	Part No.	Part Number Description	Tool No.	Cap. mmf	V, RMS Nom. Rating	60 CPS Flash-over Sea Level	A	B	B_1	B_2	C	D	E	E_1	F Dia.	G Dia. $^{+.002}_{-.000}$	J	K	K_1
607	011-2062	FT-1000	B13	0.70	2200	5500	.740	.125	.031	.062	.187	.212	.050	.093	.187	.171			
607	011-2067	FT-1100	B12-3	0.70	2500	6000	.740	.125	.031	.062	.250	.150	.050	.093	.187	.171			
607	011-2072	FT-1500	B12-3	0.70	3000	7000	.865	.125	.031	.062	.250	.275	.050	.093	.187	.171			
608	011-2061	FT-995-DTUR	B9-3	0.85	1500	4000	.836	.250	.020	.093	.125	.230	.050	.093	.172	.148			
608	011-2064	FT-1000-DTUR	B13-3B	0.80	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.171			
609	011-2057	FT-950-DTUR	B12	1.00	1500	4000	.828	.281	.031	.093	.125	.200	.062	.125	.187	.171			
610	021-2010	FT-1550-DTUR	B24-A	1.25	3000	7000	1.187	.281	.031	.093	.250	.375	.062	.125	.250	.218			
615	011-3014	FT-1000SL	B11	0.80	2000	5000	.821	.203			.187	.212	.148		.187	.171	.078		
615	011-2072	FT-1500SL	B13-X-3	0.90	2500	6000	.947	.203			.250	.275	.148		.187	.171	.078		
616	011-3028	FT-900SL	B11	0.90	1000	3000	.593	.203			.150	.100	.148		.187	.171	.078		.156

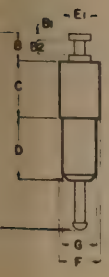


Fig. 607

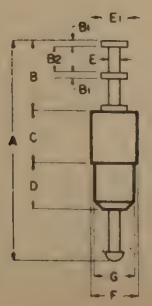


Fig. 608

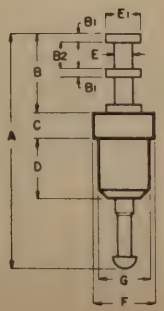


Fig. 609

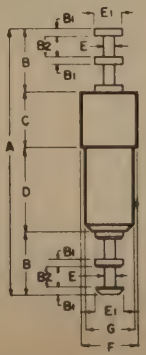


Fig. 610

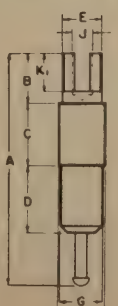


Fig. 615

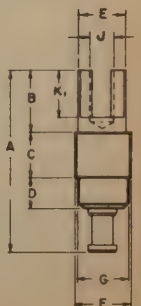


Fig. 616

© United Technical Publications

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co

TEST POINT JACKS

(Standard Plating P-20: .000005 Gold over .0003 Silver)

Fig.	Part No.	Part Number Desc.	Tool No.	Cap. mmf	V,RMS Nom. Rating	60 CPS Flash-over Sea Level	Ref. A	B	B_1	B_2	C	D	E Dia.	E_1 Dia.	F Dia.	G +.002 −.000	J Probe Dia.	J_1 Probe Lngth.	K	K_1
701	016-2008	SKT-14	S5	0.35	1000	3000	.345	.120	.023	.077	.046	.179	.040	.060	.172	.148	.040	.140		
701	016-2004	SKT-12	S7	0.70	1000	3000	.375	.060	.010	.040	.046	.269	.046	.078	.218	.170	.090	.250		
701	016-2025	SKT-2BC	S2	0.70	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185	.090	.195		
701	016-2000	SKT-5BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185	.080	.195		
701	016-2003	SKT-10	S1	0.70	1200	3500	.640	.187	.037	.104	.050	.400	.054	.074	.218	.185	.080	.287		
701	016-2015	SKT-37C1	S12	0.55	1000	3000	.340	.120	.023	.077	.046	.174	.054	.074	.218	.185	.090	.140		
701	016-2016	SKT-41	S2	0.55	1200	3500	.467	.120	.035	.047	.046	.301	.054	.074	.218	.185	.080	.225		
701	026-2000	SKT-3BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.250	.204	.080	.195		
703	016-8000	SKT-1	S31	0.55	1200	3500	.687	.354			.046	.287	.115		.218	.185	.050	.250	.140	.042
713	016-6600	SKT-400	S17	0.50	1000	3000	.359	.140			.065	.154			.187	.148	.040	.125		
732	026-4005	SKT-103PC		0.50	1200	3500	.400	.140	.125			.378	.050	.080	.218	.187	.080	.250		
715	016-8010	SKT-0804	S38				.637	.412			.050	.175	.075		.218	.185	.080	.312	.116	.055

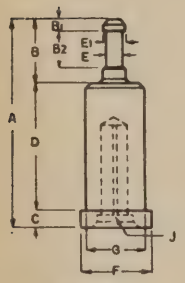


Fig. 701

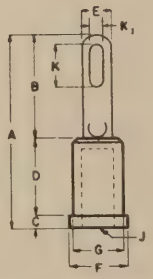


Fig. 703

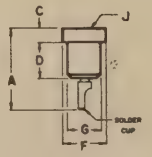
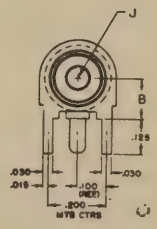


Fig. 713



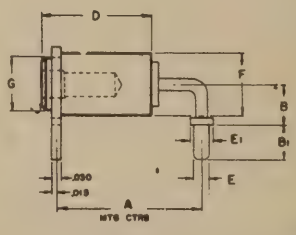


Fig. 732

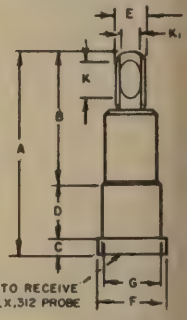


Fig. 715

PROBES

(Standard Plating P-20: .000005 Gold over .0003 Silver)

Fig.	Part No.	Part Number Desc.	Tool No.	Cap. mmf	V,RMS Nom. Rating	60 CPS Flash-over Sea Level	Ref. A	B	B_1	B_2	C	D	E Dia.	E_1 Dia.	F Dia.	G +.002 −.000	J Probe Dia.	J_1 Probe Lngth.	K	K_1
801	011-4034	FT-M-9	B18-1B	1.0	1000	3000	1.937	.250			.046	.165	.050		.172	.148				
804	011-4029	FT-M-7	B18-1B	0.80	1000	3000	.739	.281			.046	.287	.081		.218	.185				
804	011-4031	FT-M-8	B18-1B	0.90	1000	3000	.562	.250			.046	.141	.050		.218	.185				
808	011-4013	PR-800	B-23A	0.70	1200	3500	.559	.187			.065	.169	080		.250	.185				
809	021-4002	PR-300					.645	.270			.375		.080		.218		.062	.218		

*Plating P-90: .0003 Nickel over Copper Flash.

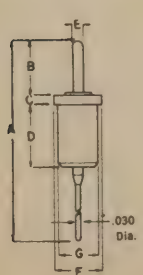


Fig. 801

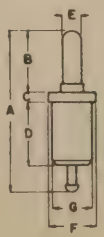


Fig. 804

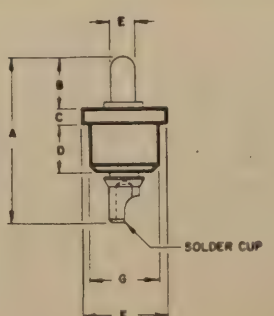


Fig. 808

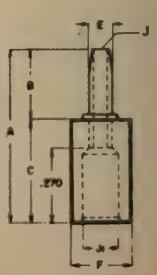


Fig. 809

© United Technical Publication

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co.

NEW! For chamfered or non-chamfered holes

Rivet-Loc™ patented

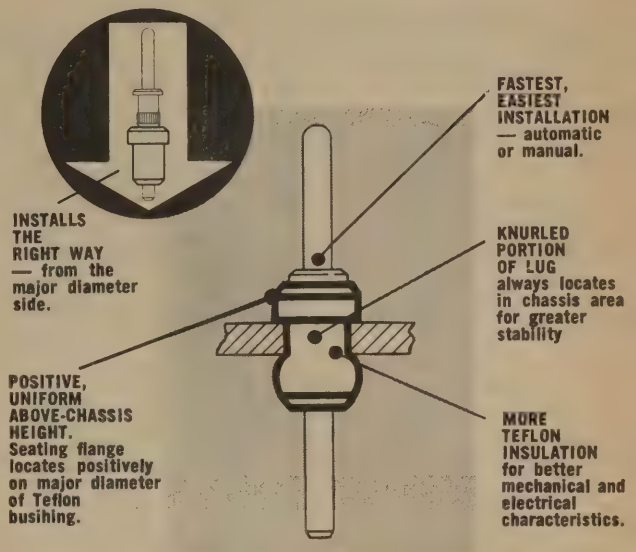
TEFLON INSULATED TERMINALS

Rivet-Loc terminals overcome all the inherent shortcomings of the older semi-assembled design which assembles by pushing the metal lug into the minor diameter of the Teflon bushing. Whereas the original semi-assembled design depended upon the mass of the metal lug displacing the Teflon, the Rivet-Loc employs a simple **Riveting** and **Locking** of the Teflon bushing assuring a better finished installation.

Rivet-Loc is installed in one simple, smooth operation with all insertion forces working together, instead of against each other as in the case of the previous semi-assembled design. Thus, the final seating and locking of the terminal in the chassis is uniform, even with wide parameters of tool settings.

Proved in millions of installations, Rivet-Loc not only offers far superior mechanical characteristics, it also has proved more dependable electrically. The smaller metal lug mass in proportion to the Teflon bushing provides far better dielectric strength. This extra protection of pure virgin Teflon enhances the dependability and performance of your equipment.

The numbers listed here are currently considered standard. However, new numbers are being added constantly. Virtually any terminal configuration or requirement can be met with the Rivet-Loc concept. Submit your requirements to Sealectro.



FEED-THRUS Rivet-Loc™ patented

Fig.	Part No.	Insertion Tool Number	A	B	C	D	E Dia.	F Dia.	±.002 G Dia.	±.015 R	Insertion Hole ±.002
1	007-6000	R3-A3	.387	.140	.040	.125	.040	.130	.107	.045	.109
1	007-6010	R3-A3	.434	.140	.040	.172	.040	.130	.107	.075	.109
2	007-6011	R4-A2	.515	.210	.040	.125	.040	.125	.084	.045	.086
2	007-6050	R2-A4	.656	.235	.040	.125	.030	.135	.113	.040	.117
2	007-6005	R5-A1	.687	.265	.075	.160	.050	.172	.134	.045	.136
2	007-6006	R5-A1	.887	.465	.075	.160	.050	.172	.134	.045	.136
2	007-6007	R5-A1	.730	.465	.075	.160	.050	.172	.134	.045	.136
2	007-6016	R4-A1	.570	.210	.040	.150	.040	.172	.134	.045	.136
2	007-6017	R4-A1	.515	.210	.040	.180	.040	.172	.134	.075	.136
3	007-6012	R1-A1	.500	.210	.040	.150	.040	.172	.134	.045	.136
3	007-6013	R1-A1	.530	.210	.040	.180	.040	.172	.134	.075	.136
3	007-6014	R1-A1	.458	.210	.040	.150	.040	.172	.134	.045	.136

Plating: Bright electro-tin a smooth finish featuring extraordinary soldering characteristics and shelf life is standard. Other finishes including all MIL-Spec numbers, are available upon special order.

*T. M., E. I. Dupont DeNemours & Co.

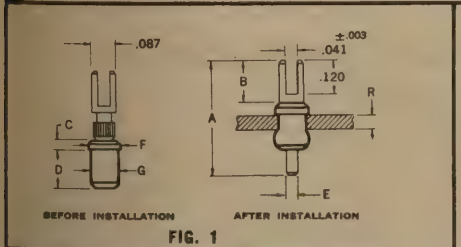


FIG. 1

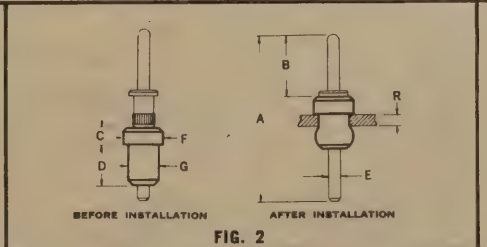


FIG. 2

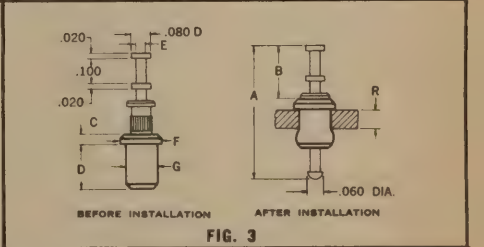


FIG. 3

STAND-OFFS Rivet-Loc™

Fig.	Part No.	Insertion Tool Number	A	B	C	D	E Dia.	F Dia.	±.002 G Dia.	±.015 R	Insertion Hole ±.002
4	003-6000	R3-A3	.275	.140	.040	.125	.087	.130	.107	.075	.109
4	003-6010	R3-A3	.322	.140	.040	.172	.087	.130	.107	.075	.109
5	003-6011	R4-A2	.345	.210	.040	.125	.040	.125	.084	.045	.086
5	003-6016	R4-A1	.370	.210	.040	.150	.040	.172	.134	.045	.136
5	003-6017	R4-A1	.405	.210	.040	.180	.040	.172	.134	.075	.136
6	003-6012	R1-A1	.370	.210	.040	.150	.040	.172	.134	.045	.136
6	003-6013	R1-A1	.400	.210	.040	.180	.040	.172	.134	.075	.136

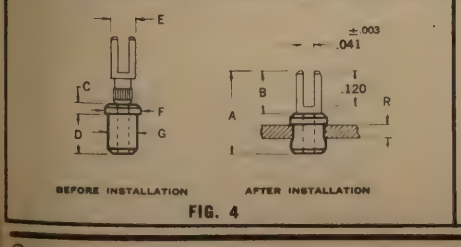


FIG. 4

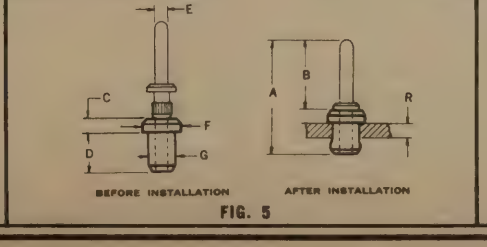


FIG. 5

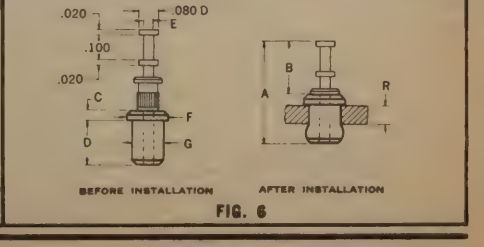


FIG. 6

© United Technical Publications

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co

TEFLON BUSHINGS

SINGLE SHOULDER

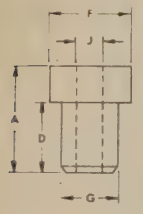


FIGURE A

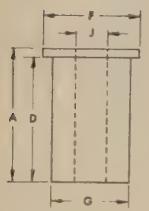


FIGURE B

Fig.	Description	Part No.	G	A	D	J	F	Fig.	Description	Part No.	G	A	D	J	F
A	B-1555	019-0157	.045	.106	.075	.025	.080	A	B-1514	019-0116	.172	.200	.125	.071	.200
A	B-1519	019-0121	.067	.120	.080	.031	.093	A	B-1487	019-0089	.175	.312	.250	.093	.210
A	B-1516	019-0118	.075	.140	.100	.042	.093	A	B-1445	019-0133	.179	.140	.100	.085	.200
A	B-1520	019-0122	.075	.140	.100	.025	.095	A	B-1423	019-0023	.185	.333	.287	.041	.218
A	B-1440	019-0040	.093	.140	.100	.040	.125	A	B-1434	019-0033	.185	.380	.287	.050	.218
A	B-1440-1	019-0041	.093	.140	.100	.035	.125	A	B-1447	019-0046	.185	.225	.185	.120	.218
A	B-1441	019-0042	.093	.100	.060	.037	.125	A	B-1447-1	019-0047	.185	.130	.090	.120	.218
A	B-1464	019-0066	.093	.100	.080	.038	.125	A	B-1451-1	019-0053	.185	.327	.140	.128	.218
A	B-1553	019-0155	.093	.100	.080	.048	.125	A	B-1469	019-0072	.185	.303	.210	.046	.215
A	B-1576	019-0178	.095	.060	.040	.038	.125	A	B-1473	019-0076	.185	.450	.400	.150	.218
A	B-1461	019-0063	.109	.085	.059	.032	.128	A	B-1486	019-0088	.185	.333	.287	.093	.218
A	B-1422	019-0022	.120	.103	.053	.040	.130	A	B-1490	019-0092	.185	.330	.250	.074	.218
A	B-1410	019-0009	.125	.060	.040	.030	.150	A	B-1598	019-0227	.188	.170	.130	.080	.218
A	B-1448	019-0049	.125	.120	.095	.080	.145	A	B-1590	019-0192	.188	.130	.100	.080	.218
A	B-1477	019-0080	.136	.140	.100	.060	.169	A	B-1442	019-0043	.200	.195	.155	.125	.250
A	B-1460	019-0062	.140	.100	.080	.089	.160	A	B-1479	019-0228	.203	.140	.100	.060	.226
A	B-1414	019-0014	.148	.140	.100	.060	.172	A	B-1428	019-0028	.214	.437	.375	.090	.250
A	B-1435	019-0034	.148	.140	.100	.040	.172	A	B-1412	019-0012	.241	.150	.110	.187	.281
A	B-1439	019-0039	.148	.160	.120	.073	.172	A	B-1512	019-0114	.245	.250	.157	.156	.308
A	B-1455	019-0057	.148	.165	.125	.084	.172	A	B-1480	019-0082	.250	.140	.100	.060	.273
A	B-1465-1	019-0067	.148	.140	.100	.060	.220	A	B-1552	019-0154	.265	.312	.250	.136	.312
A	B-1465-2	019-0068	.148	.140	.100	.090	.220	A	B-1483	019-0085	.287	.140	.100	.060	.310
A	B-1475	019-0078	.148	.140	.100	.073	.172	A	B-1549	019-0151	.395	.170	.130	.312	.437
A	B-1485	019-0087	.148	.140	.100	.065	.172	B	B-1563	019-0165	.120	.120	.060	.060	.180
A	B-1498	019-0100	.148	.140	.100	.030	.172	B	B-1578	019-0180	.120	.118	.058	.050	.180
A	B-1508	019-0110	.148	.150	.125	.024	.172	B	B-1575	019-0177	.123	.124	.093	.086	.281
A	B-1543	019-0145	.148	.140	.100	.052	.172	B	B-1567	019-0169	.150	.221	.175	.118	.250
A	B-1539	019-0141	.148	.220	.125	.052	.172	B	B-1597	019-0226	.150	.091	.045	.118	.250
A	B-1573	019-0175	.148	.170	.100	.059	.172	B	B-1606	019-0231	.184	.045	.025	.150	.194
A	B-1404	019-0003	.157	.093	.078	.089	.172	B	B-1585	019-0187	.203	.062	.031	.144	.320
A	B-1405	019-0004	.157	.074	.059	.089	.172	B	B-1506	019-0108	.242	.093	.046	.157	.375
A	B-1478	019-0081	.165	.140	.100	.060	.186	B	B-1556	019-0158	.247	.178	.128	.140	.500
A	B-1456	019-0058	.171	.160	.110	.063	.218	B	B-1429	019-0029	.296	.500	.469	.120	.375
A	B-1474	019-0077	.172	.200	.125	.089	.200	B	B-1430	019-0030	.296	.500	.469	.210	.375
A	B-1489	019-0091	.172	.140	.100	.051	.195	B	B-1568	019-0170	.304	.045	.015	.204	.375

GROMMET TYPE

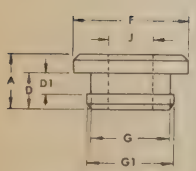


FIGURE C

Fig.	Description	Part No.	G	A	D	D1	G1	F	J
C	B-1453	019-0055	.103	.080	.040	.017	.115	.145	.067
C	B-1449	019-0050	.123	.070	.040	.020	.143	.187	.052
C	B-1401	019-0000	.154	.104	.054	.025	.164	.218	.085
C	B-1403	019-0002	.154	.104	.069	.040	.164	.218	.120
C	B-1406	019-0005	.154	.094	.044	.015	.164	.218	.099
C	B-1407	019-0006	.154	.104	.069	.040	.164	.218	.085
C	B-1408	019-0007	.154	.094	.044	.015	.164	.218	.085
C	B-1413	019-0013	.154	.094	.044	.015	.164	.218	.120
C	B-1416	019-0016	.154	.104	.069	.040	.164	.218	.099
C	B-1418	019-0018	.154	.085	.035	.015	.164	.195	.085
C	B-1419	019-0019	.154	.134	.099	.070	.164	.218	.120
C	B-1420	019-0020	.154	.104	.054	.025	.164	.218	.099
C	B-1421	019-0021	.154	.104	.069	.040	.164	.218	.120
C	B-1424	019-0024	.154	.094	.044	.025	.164	.195	.085
C	B-1432	019-0032	.154	.104	.054	.025	.164	.218	.120
C	B-1437	019-0036	.154	.125	.075	.060	.164	.218	.120
C	B-1463	019-0065	.154	.104	.054	.035	.164	.218	.099
C	B-1466	019-0069	.154	.140	.105	.075	.164	.218	.120
C	B-1472	019-0075	.154	.135	.085	.060	.164	.218	.085
C	B-1482	019-0084	.154	.104	.054	.035	.164	.218	.128
C	B-1462	019-0064	.168	.156	.106	.076	.178	.218	.089
C	B-1431	019-0031	.184	.104	.069	.040	.194	.248	.150
C	B-1467	019-0070	.190	.104	.054	.035	.200	.250	.157
C	B-1467-1	019-0140	.190	.104	.054	.035	.200	.250	.120
C	B-1436	019-0035	.199	.104	.069	.040	.210	.260	.128
C	B-1450	019-0051	.199	.190	.140	.120	.210	.230	.128
C	B-1459	019-0060	.204	.104	.069	.040	.214	.268	.170
C	B-1459-1	019-0061	.204	.104	.069	.040	.214	.268	.125
C	B-1545	019-0147	.204	.124	.089	.060	.214	.268	.099
C	B-1558	019-0160	.204	.124	.089	.060	.214	.268	.170

WASHER



FIGURE J

Description	Part No.	F	A	J
B-1481	019-0083	.132	.031	.045
B-1515	019-0117	.132	.031	.045
B-1493	019-0095	.170	.125	.109
B-1497	019-0099	.187	.031	.062
B-1588	019-0190	.280	.125	.195
B-1600	019-0229	.280	.090	.195
B-1587	019-0189	.281	.062	.187
B-1594	019-0196	.437	.062	.250

SINGLE SHOULDER, NO HOLE

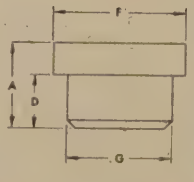


FIGURE E

Description	Part No.	G	A	D	F
B-1452	019-0054	.148	.125	.075	.172
B-1484	019-0086	.148	.193	.100	.172
B-1604	019-0230	.148	.190	.150	.172
B-1457	019-0059	.165	.275	.150	.197
B-1446	019-0045	.185	.330	.250	.218
B-1451	019-0052	.185	.327	.140	.218
B-1541	019-0143	.185	.672	.626	.218
B-1491	019-0093	.200	.160	.100	.250
B-1443	019-0044	.218	.140	.075	.250
B-1454	019-0056	.218	.240	.200	.250
B-1415	019-0015	.204	.317	.271	.250
B-1592	019-0194	.264	.140	.100	.312
B-1513	019-0115	.290	.155	.115	.323

SINGLE SHOULDER, COUNTER-SUNK HOLE

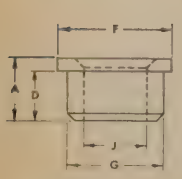


FIGURE D

Fig.	Description	Part No.	G	A	D	J	F
D	B-1409	019-0008	.148	.080	.060	.030	.172
D	B-1402	019-0001	.183	.250	.204	.140	.250
D	B-1447-2	019-0048	.185	.130	.090	.120	.218
D	B-1507	019-0109	.185	.116	.094	.120	.218
D	B-1522	019-0124	.185	.250	.204	.140	.250
D	B-1582	019-0184	.185	.053	.031	.120	.218
D	B-1565	019-0167	.185	.108	.083	.120	.218
D	B-1411	019-0010	.232	.265	.140	.088	.260
D	B-1433	019-0135	.232	.188	.093	.088	.260
D	B-1433-1	019-0142	.232	.188	.093	.117	.260
D	B-1560	019-0162	.232	.188	.120	.098	.262
D	B-1411-1	019-0011	.234	.265	.125	.093	.260

SINGLE SHOULDER, TAPERED HOLE

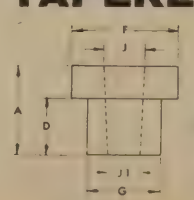


FIGURE F

Description	Part No.	G	A	D	F	J	J1
B-1528	019-0130	.141	.167	.105	.203	.078	.062
B-1529	019-0131	.141	.200	.138	.203	.078	.062
B-1505	019-0107	.156	.153	.108	.200	.102	.064

© United Technical Publications

SEALECTRO PRESS-FIT® TEFLON* TERMINALS

*Reg. Trademark, E. I. Du Pont de Nemours & Co.

Sealectro MIL Spec Terminals and Transistor/IC Hardware

•MIL-T-55155 Terminals

TEFLON** INSULATED

MIL PART NO.	SEALECTRO PART NO.	DESCRIPTION
FT-03-9-B-01A	011-4021	FT-SM-14
FT-03-9-B-02A	011-1004	FT-SM-1
FT-03-9-B-03A	011-1065	FT-800-L5
FT-04-9-B-01A	011-2011	FT-SM-1TUR-L4
FT-04-9-B-02A	011-2103	011-2103
FT-05-9-B-01	001-6033	FT-SM-59
FT-05-9-B-02	001-6001	FT-SM-59
FT-05-9-B-03	011-6015	FT-SM-62
FT-06-9-B-01	002-6000	RFT-SM-40
RT-06-9-B-02	012-6004	RFT-SM-62
SE-07-9-B-01	013-2004	ST-SM-1-TUR-C4
SE-07-9-B-02	013-2046	ST-250
SE-08-9-B-01	013-1000	ST-SM-1
SE-09-9-E-01	013-5707	013-5707*
SE-09-9-E-02	023-5705	023-5705*
SE-10-9-D-01	003-5701	TF-304-TUR
SE-10-9-D-02	003-5702	TF-302-TUR-T1

NON-INSULATED

MIL PART NO.	SEALECTRO PART NO.	MIL PART NO.	SEALECTRO PART NO.	MIL PART NO.	SEALECTRO PART NO.
SE-11 x CO1	029-2015	SE-13 x CO4A	029-2033	SE-15 x CO6A	029-2047
SE-11 x CO2	029-2016	SE-13 x CO5A	029-2034	SE-15 x CO7A	029-2048
SE-11 x CO3	029-2017	SE-13 x CO6A	029-2035	SE-15 x CO8A	029-2049
SE-12 x CO1A	029-2018			SE-15 x CO9A	029-2050
SE-12 x CO2A	029-2019	SE-14 x CO1A	029-2036	SE-16 x CO1A	029-6006
SE-12 x CO3A	029-2020	SE-14 x CO2A	029-2037	SE-16 x CO2A	029-6010
SE-12 x CO4A	029-2021	SE-14 x CO3A	029-2038	SE-16 x CO3A	029-6011
SE-12 x CO5A	029-2022	SE-14 x CO4A	029-2039		
SE-12 x CO6A	029-2023	SE-14 x CO5A	029-2040	SE-17 x CO1A	029-6012
SE-12 x CO7A	029-2024	SE-14 x CO6A	029-2041	SE-17 x CO2A	029-6013
SE-12 x CO8A	029-2025			SE-17 x CO3A	029-6014
SE-12 x CO9A	029-2026	SE-15 x CO1A	029-2042		
		SE-15 x CO2A	029-2043	SE-23 x CO1	029-2027
SE-13 x CO1A	029-2030	SE-15 x CO3A	029-2044	SE-23 x CO2	029-2014
SE-13 x CO2A	029-2031	SE-15 x CO4A	029-2045	SE-23 x CO3	029-2028
SE-13 x CO3A	029-2032	SE-15 x CO5A	029-2046	SE-23 x CO4	029-2029

* Supplied with MIL Spec. mounting hardware. If desired without mounting hardware; please specify;
SE-099E-01 TM-300-TUR-P-79
SE-099E-02 TM-301-TUR-C1-P-79

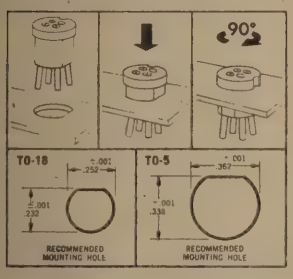
**Reg. Trademark, E. I. DuPont de Nemours & Co.

•Transistor and IC Hardware

Needs no mounting hardware. Provides full insulation from metal chassis.

PRESS-FIT® ¼ TURN *Supercon* TRANSISTOR AND IC SOCKETS

- **Supercon high retention precision Contacts.**
- **D-hole mounting without interference fit or loose hardware.**

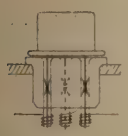


An exclusive Sealectro design that can save tremendous time and money on the assembly line. Merely drop ¼ turn unit through D-hole and manual or automatic tooling automatically turns it 90°. Flatted portion turns free, while rounded area is grooved against D-Flat, producing a positive locking action in chassis.

MATERIAL:

Insulator: Teflon
Shell: Brass
Contact: Beryllium Copper
Std. Plating: Gold over Copper

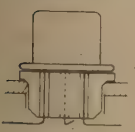
Supercon transistor and I.C. hardware features high-retention precision contacts. Allows fast easy replacement of transistor or I.C. Maintains retention, in excess of 50 grams per lead, through shock and vibration and repeated component insertions. Permits transistor or I.C. device interface into associated circuitry without electrical noise or signal dissipation due to contact resistance build-up.



PRESS-FIT SERIES 60:
Transistor and I.C. sockets
Low-cost, high precision series 60 sockets. Permit plug-in and removal of TO-5, TO-18 cans and I.C. packages at will. Precise contact design provides a positive mechanical grip while making electrical contact with minimum resistance.



PRESS-FIT TRANSISTOR AND IC HOLDERS
Provides insulated chassis mounting with thru holes and soldering lugs for transistor leads and circuit connections.



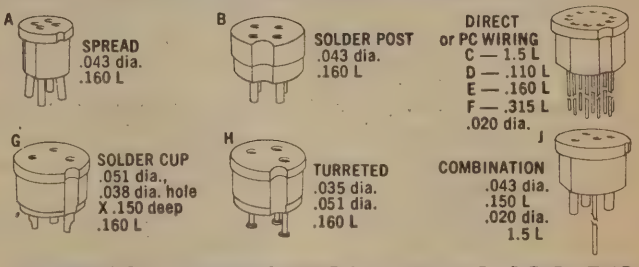
PRESS-FIT TRANSISTOR AND IC BUSHINGS
Press-fit or grommet-type chassis mounting. Provides support for transistor can and thru-chassis hole plus strain relief for leads.



PRESS-FIT TRANSISTOR AND IC PADS
Provides insulation from mounting surface and strain relief for glass seals.

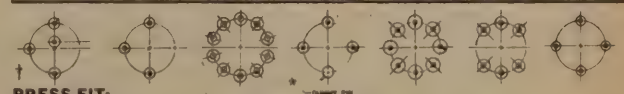
Sealectro Transistor and IC Socket and mounting devices provide the excellent electrical and mechanical characteristics of Teflon, and eliminate the need for loose mounting hardware such as quick-nuts, seating rings, screws, washers, etc.
Electrically, only the finest contact metals and platings are employed to assure lowest electrical noise, maximum contact retention and longest service life.

— Free 12 page catalog details all above transistor and IC hardware.



SUPERCON TRANSISTOR AND IC SOCKETS

Part No.	Leads	Pitch Circle	Contacts	Fig.	Mtg. Hole
¼ TURN					
027-1705	4	.100	4	A	I
027-1706	3	.100	4*	A	I
027-1700	4	.200	4	B	II
027-1701	3	.200	3	B	II
027-1702	3	.200	4*	B	II
027-1703	4	.200	4†	J	II
027-1707	8	.200	8	C	II
027-1708	6	.200	6	C	II
027-1709	10	.230	10	C	II
027-1704	3	.100	3	A	I
PRESS FIT					
027-1712	3	.100	3	E	.215
027-1727	4	.100	4	E	.215
027-1728	3	.100	3	A	.250
027-1729	4	.100	4	A	.250
027-1730	3	.100	4*	A	.250
027-1731	3	.100	3	E	.215
027-1732	4	.100	4	E	.215
027-6700	3	.100	3	G	.215
027-6701	3	.100	3	G	.215
027-6702	4	.100	4	G	.215
027-1713	3	.200	3	D	.360
027-1716	4	.200	4	B	.360
027-1717	3	.200	3	B	.360
027-1718	3	.200	4*	B	.360
027-1719	4	.200	4†	J	.360
027-1720	4	.200	4	F	.360
027-1721	3	.200	3	F	.360
027-2700	3	.200	3	H	.360
027-2701	4	.200	4	H	.360
027-6710	4	.200	4	G	.360
027-6703	3	.200	3	G	.360
027-6711	3	.200	3	H	.360
027-6712	4	.200	4	H	.360
027-1714	10	.230	10	D	.360
027-1715	8	.200	8	F	.360
027-1722	6	.200	6	F	.360
027-1723	10	.230	10	F	.360
027-1724	8	.200	8	C	.360
027-1725	6	.200	6	C	.360
027-1726	10	.230	10	C	.360
027-2702	6	.200	6	H	.360
027-2703	8	.200	8	H	.360
027-2704	10	.230	10	H	.360
027-6704	8	.200	8	G	.360
027-6705	6	.200	6	G	.360
027-6713	10	.230	10	G	.360
027-6714	6	.200	6	H	.360
027-6715	8	.200	8	H	.360
027-6716	10	.230	10	H	.360



PRESS-FIT:
For chassis thickness .040" and over use 60° countersink. Use 82° countersink under .040".

Hole Dia.	Entrance Dia.
.215	.234
.250	.280
.360	.380

© United Technical Publications

SEALECTRO

CONHEX®

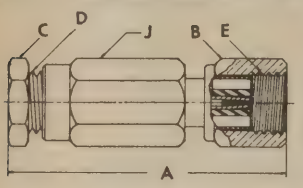
SUB-MINIATURE R. F. CONNECTORS

PLATING: 0.0001 Gold ove
0.0001 Copper.

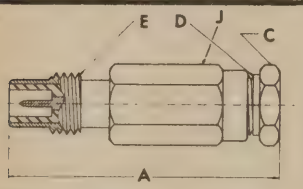
MATING CONNECTORS: All Screw On (Snap-On) plugs will mat with all Screw-On (Snap-O jacks & receptacles of the sam resistance rating.

U. S. Pat. Nu. 2,937,360

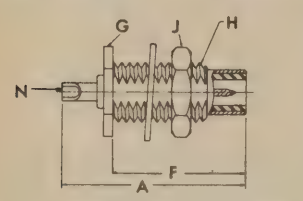
See listing on following page for typical cables.	50 OHM	75 OHM



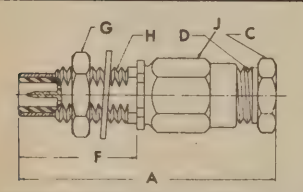
	50-007-0000	50-107-0000
A	7/8 approx.	13/16 approx.
B	15/64 HEX	11/32 HEX
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40 UNS-2A
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
J	15/64 HEX	5/16 HEX



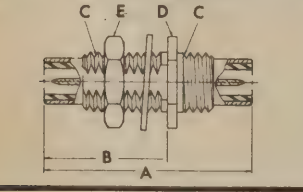
	50-008-0000	50-108-0000
A	27/32 approx.	51/64 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	15/64 HEX	5/16 HEX



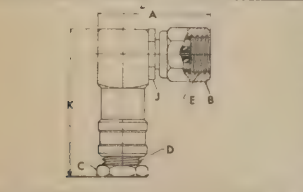
	50-043-0000	50-143-0000
A	19/32	19/32
F	.426	.426
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	1/4 HEX	3/8 HEX
N	.060 O.D. x .040 I.D. x .078 Deep	.060 O.D. x .040 I.D. x .078 Deep



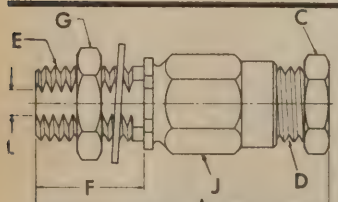
	50-010-0000	50-110-0000
A	7/8 approx.	7/8 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	15/64 HEX	11/32 HEX



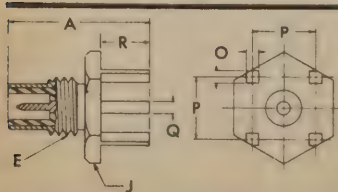
	50-075-0000	50-175-0000
A	.671	.671
B	.397	.397
C	#10-32, UNF-2A	#5/16-32, UNEF-2A
D	1/4 HEX	3/8 HEX
E	1/4 HEX	3/8 HEX



	50-011-0000	50-111-0000
A	39/64 approx.	23/32 approx.
B	15/64 HEX	11/32 HEX
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
J	15/64 HEX	11/32 HEX
K	3/4 approx.	27/32 approx.

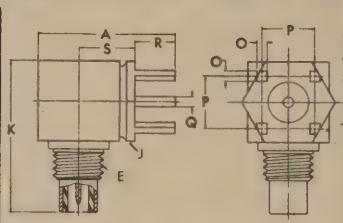


	55-013-0000	50-113-0000
A	49/64 approx.	3/4 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
F	.277	.277
G	1/4 HEX	3/8 HEX
J	15/64 HEX	11/32 HEX
L	.067D.	.111D.

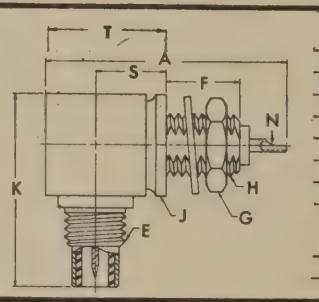


	50-051-0000	50-151-0000
A	.448	.448
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	5/16 HEX	3/8 HEX
O	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D.	.038D.
R	.155	.155

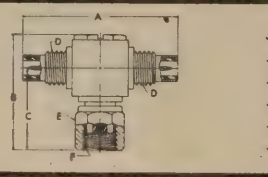
See listing on following page for typical cables.	50 OHM	75 OHM



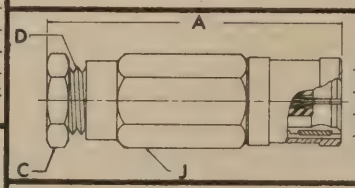
	50-053-0000	50-153-0000
A	17/32 approx.	19/32 approx.
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	5/16 HEX	3/8 HEX
K	19/32	21/32
O	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D	.038D
R	.155	.155
S	3/8	13/32



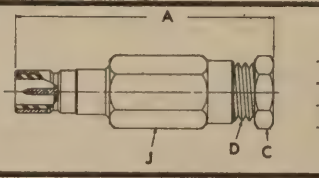
	50-047-0000	50-147-0000
A	3/4 approx.	13/16 approx.
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
F	.228	.228
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	5/16 HEX	3/8 HEX
K	19/32	21/32
N	.038 O.D. x .025 I.D. x .078 Deep	.038 O.D. x .025 I.D. x .078 Deep
S	.215	.247
T	3/8	.435



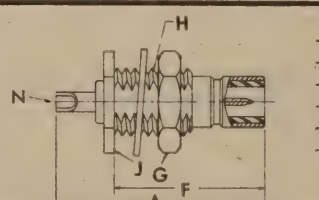
	50-085-0000	50-185-0000
A	.860	.923
B	21/32 approx.	23/32 approx.
C	15/32 approx.	1/2 approx.
D	#10-32, UNF-2A	#5/16-32, UNEF-2A
E	15/64 HEX	11/32 HEX
F	#10-32, UNF-2B	#5/16-32, UNEF-2B



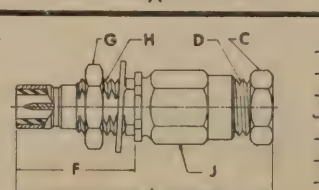
	51-007-0000	51-107-0000
A	7/8 approx.	27/32 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
J	15/64 HEX	11/32 HEX



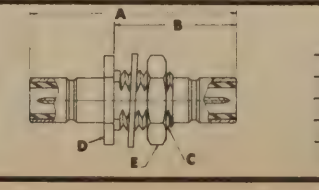
	51-008-0000	51-108-0000
A	7/8 approx.	51/64 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
J	15/64 HEX	5/16 HEX



	51-043-0000	51-143-0000
A	19/32	19/32
F	.426	.426
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	1/4 HEX	3/8 HEX
N	.060 O.D. x .040 I.D. x .078 Deep	.060 O.D. x .040 I.D. x .078 Deep



	51-010-0000	51-110-0000
A	7/8 approx.	7/8 approx.
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9-32-40, UNS-2A
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	15/64 HEX	11/32 HEX



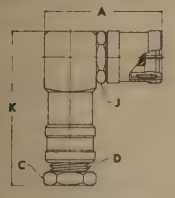
	51-075-0000	51-175-0000
A	.671	.671
B	.430	.430
C	#10-32, UNF-2A	#5/16-32, UNEF-2A
D	1/4 HEX	3/8 HEX
E	1/4 HEX	3/8 HEX

© United Technical Publications

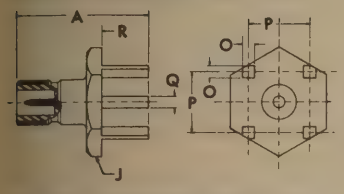
SEALECTRO CONHEX®

SUB-MINIATURE R. F. CONNECTORS

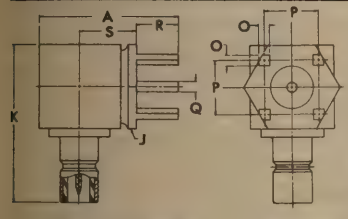
See listing below for typical cables.



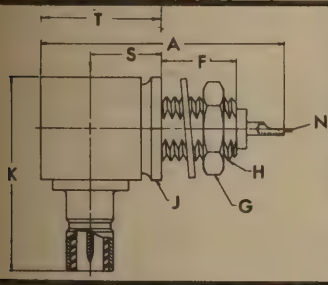
	50 OHM	75 OHM
	51-011-0000	51-111-0000
A	19/32	11/16
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
J	15/64 HEX	11/32 HEX
K	3/4 approx.	27/32 approx.



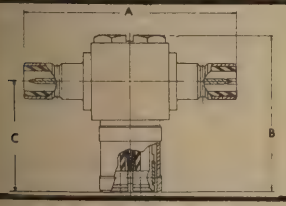
	51-051-0000	51-151-0000
A	.448	.448
J	5/16 HEX	3/8 HEX
D	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D	.038D
R	.155	.155



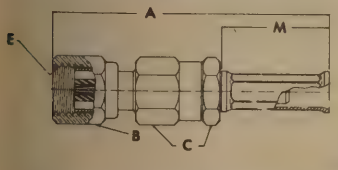
	51-053-0000	51-153-0000
A	17/32 approx.	19/32 approx.
J	5/16 HEX	3/8 HEX
K	19/32	21/32
O	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D	.038D
R	.155	.155
S	.215	.247



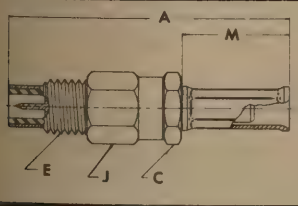
	51-047-0000	51-147-0000
A	3/4 approx.	13/16 approx.
F	.228	.228
G	1/4 HEX	3/8 HEX
H	#10-32, UNEF-2A	#5/16-32, UNEF-2A
J	5/16 HEX	3/8 HEX
K	19/32	21/32
N	.038 O.D. x .025 I.D. x .078 Deep	.038 O.D. x .025 I.D. x .078 Deep
S	.215	.247
T	.372	.435



	51-085-0000	51-185-0000
A	.860	.923
B	41/64	45/64
C	.456	.488

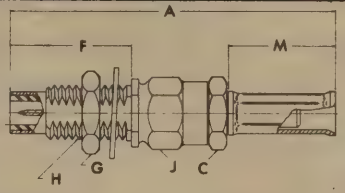


	50-024-0000	50-124-0000
A	1-1/32 approx.	1-1/16 approx.
B	15/64 HEX	11/32 HEX
C	7/32 HEX	5/16 HEX
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
M	3/8	13/32

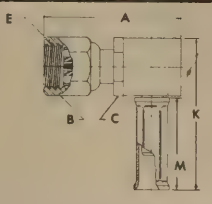


	50-025-0000	50-125-0000
A	63/64 approx.	1-1/64 approx.
C	7/32 HEX	5/16 HEX
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	5/16 HEX
M	3/8	13/32

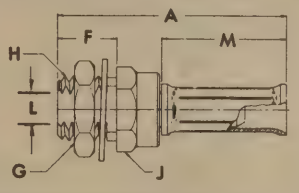
See listing below for typical cables.



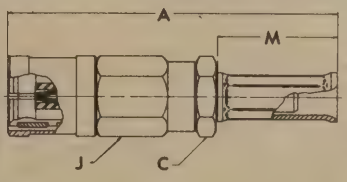
	50 OHM	75 OHM
	50-027-0000	50-127-0000
A	1-1/8 approx.	1-5/32 approx.
C	7/32 HEX	5/16 HEX
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 approx.	11/32 HEX
M	3/8	13/32



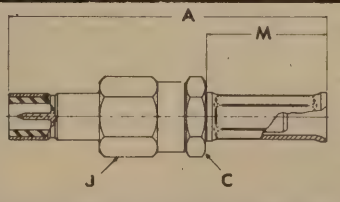
	50-028-0000	50-128-0000
A	39/64 approx.	21/32 approx.
B	15/64 HEX	11/32 HEX
C	15/64 HEX	11/32 HEX
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
K	5/8 approx.	23/32 approx.
M	3/8	13/32



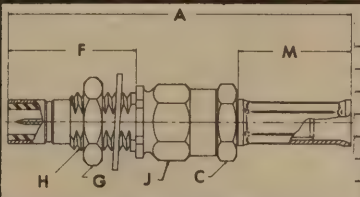
	55-031-0000	55-131-0000
A	47/64 approx	51/64 approx.
F	.228	.228
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	11/32 HEX
L	.067D	.111D
M	3/8	13/32



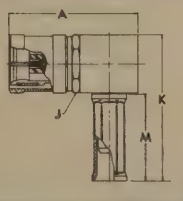
	51-024-0000	50-124-0000
A	1-1/64 approx.	1-3/64 approx.
C	7/32 HEX	5/16 HEX
J	7/32 HEX	11/32 HEX
M	3/8	13/32



	51-025-0000	51-125-0000
A	63/64 approx.	1-1/64 approx.
C	7/32 HEX	5/16 HEX
J	7/32 HEX	5/16 HEX
M	3/8	13/32



	51-027-0000	51-127-0000
A	1-1/8 approx.	1-5/32 approx.
C	7/32 HEX	5/16 HEX
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	11/32 HEX
M	3/8	13/32



	51-028-0000	51-128-0000
A	19/32	41/64
J	15/64 HEX	11/32 HEX
K	5/8 approx.	23/32 approx.
M	3/8	13/32

CRIMP-ON ASSEMBLY TOOL— Part No. CT-9

TYPICAL SPEC CABLES FOR USE WITH "CONHEX" CONNECTORS

Standard 50 ohm **clamp-type** connectors accept:
RG-161/U, 174/U, 179/U, 188/U and 316/U cables.

Standard 50 ohm **crimp-type** connectors accept:
RG-161/U, 174/U, 179/U, 187/U, 188/U and 316/U cables.

Standard 75 ohm **clamp-type** connectors accept:
RG-180/U and 195/U cables.

Standard 75 ohm **crimp-type** connectors accept:
RG-180/U and 195/U cables.

Other cables having the same component diameters as those listed can also be used in the same series of connectors.

© United Technical Publications

SEALECTRO SRM

MINIATURE R.F. CONNECTORS

MIL-C-39012

• GOLD PLATED STAINLESS STEEL

The Sealectro SRM Series of miniature R.F. connectors has been specifically designed to meet the most stringent requirements of sophisticated Space, Aviation, Military, and Industrial systems. From DC to 18 GHz, they combine high performance with assembly ease. All of the cable connectors illustrated feature captivated gold-plated contacts. They are also completely compatible with all similar types of miniature connectors which conform to MIL-C-39012.

• LOW V.S.W.R. ...BROADBAND

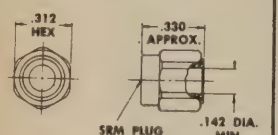
In addition to the distributor-stocked connectors shown, Sealectro offers many additional units including:

- Removable contacts
- Captivated contacts
- Tapped mounting holes
- Plating variations
- Slotted or milled contacts
- Intraseries Adaptors
- Interseries Adaptors
  - Conhex-MIL-C-22557
  - N, TNC, BNC
  - APC-7, GR-874, GR900

• HIGH PERFORMANCE

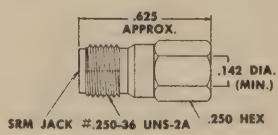
Sealectro also offers a complete custo cable assembly facility to service yo needs. All assemblies are tested 100% f continuity and mateability. This enable the user to realize a 100% yield witho having to consider shrinkage, instructio of personnel, or in-house testing and r working. To assure the fastest possib delivery on prototype connectors, Seale tro maintains a complete staff of appl cation and design engineers as well a an extensive prototype developme facility.

STRAIGHT CABLE PLUG .141D SEMI-RIGID SOLDER-TYPE



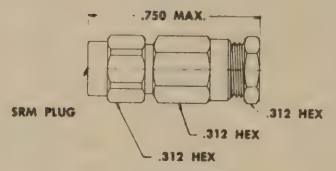
55-607-3703-31

STRAIGHT CABLE JACK .141D SEMI-RIGID SOLDER-TYPE



55-608-3703-31

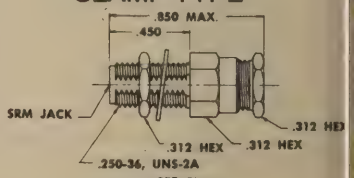
STRAIGHT CABLE PLUG CLAMP-TYPE



SEE CHART

50-607-XXXX-31

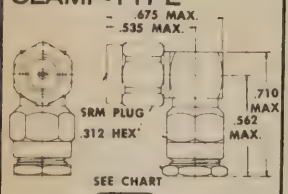
STRAIGHT BULKHEAD CABLE JACK CLAMP-TYPE



SEE CHART

50-610-XXXX-31

RIGHT ANGLE CABLE PLUG CLAMP-TYPE



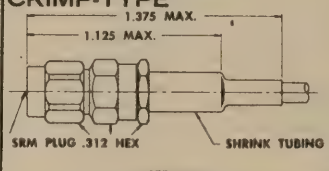
SEE CHART

50-611-XXXX-31

CABLE SELECTION CHART CLAMP-TYPE

PART NO.	CABLE
-3188-	RG-174/U, -179/U, -187/U, -188/U, & -316/U
-3141-	RG-55/U, -58/U, -141/U, -142/U, -223/U
-3703-	.141 DIA. SEMI-RIGID CABLE

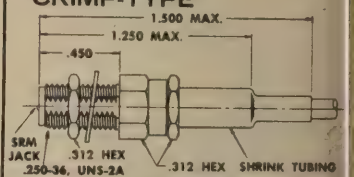
STRAIGHT CABLE PLUG CRIMP-TYPE



SEE CHART

50-624-XXXX-31

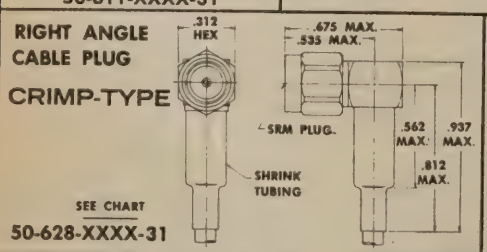
STRAIGHT BULKHEAD CABLE JACK CRIMP-TYPE



SEE CHART

50-627-XXXX-31

RIGHT ANGLE CABLE PLUG CRIMP-TYPE



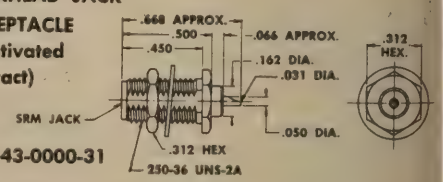
SEE CHART

50-628-XXXX-31

CABLE SELECTION CHART CRIMP-TYPE

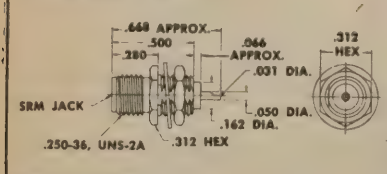
PART NO.	CABLE
-3188-	RG-174/U, -179/U, 187/U, -188/U, & -316/U
-3141-	RG-58/U, & -141/U,
-3142-	RG-55/U, -142/U, & -223/U

BULKHEAD JACK RECEPTACLE (Captivated Contact)



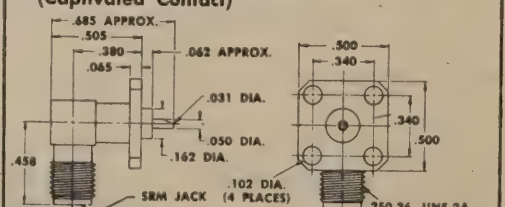
50-643-0000-31

BULKHEAD JACK RECEPTACLE (Captivated Contact)



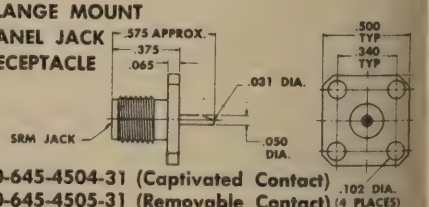
50-645-0000-31

RIGHT ANGLE PANEL JACK RECEPTACLE (Captivated Contact)



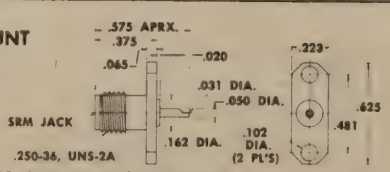
50-647-4504-31

FLANGE MOUNT PANEL JACK RECEPTACLE



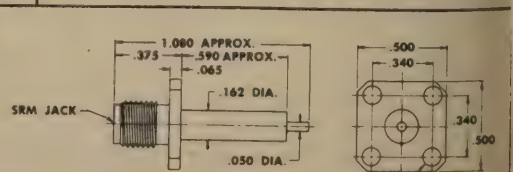
50-645-4504-31 (Captivated Contact)
50-645-4505-31 (Removable Contact)

FLANGE MOUNT PANEL JACK RECEPTACLE



50-645-4524-31 (Captivated Contact)
50-645-4525-31 (Removable Contact)

FLANGE MOUNT PANEL JACK RECEPTACLE



50-645-4520-31 (Captivated Contact)
50-645-4521-31 (Removable Contact)

© United Technical Publications

SEALECTRO PROGRAMMING DEVICES

SEALECTRO PROGRAM SWITCHING

SEALECTROBOARD ® MODULAR CORDLESS PROGRAM BOARDS *

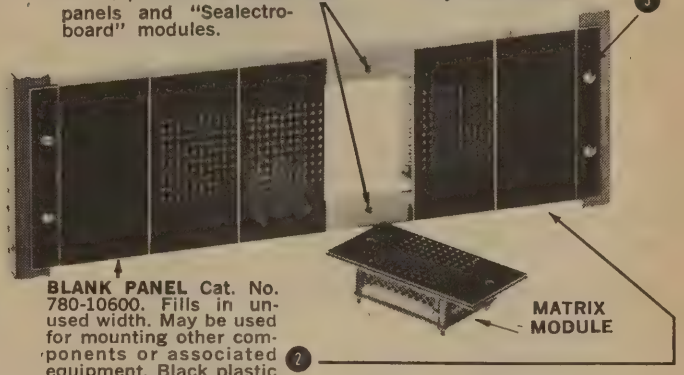
"Sealectroboard" programming and switching provides complete ease and simplicity of operation with drastic reductions in hardware and space. The units consist of two decks of bussed contacts running at right angles to each other in the X and Y directions, forming an electrical matrix. A single shorting or component holding pin is used to complete the program circuit . . . move the pin to a new location and a new program function is generated.

The "Modular Sealectroboard" provides an extremely flexible means of program system expansion with a built-in appearance. The system consists of only four standard component assemblies, designed such that when installed in a standard E.I.A. 19" relay rack, or bench cabinet, they result in a very attractive unit.

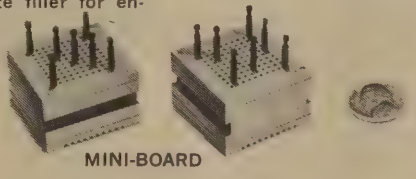
The "Modular Sealectroboard" can be expanded from a 10 x 10 hole matrix to a 10 x 60 hole matrix in one standard 5¼" x 19" rack panel. Additional panels can be added and interwired to expand program capacity as system requirements dictate.

MODULE RAIL Cat. No. 710-20001. Rails are designed for mounting on standard 19" relay racks. Offset is provided for flush panel installation. Mounting holes are provided for any combination (up to 6) of blank panels and "Sealectroboard" modules.

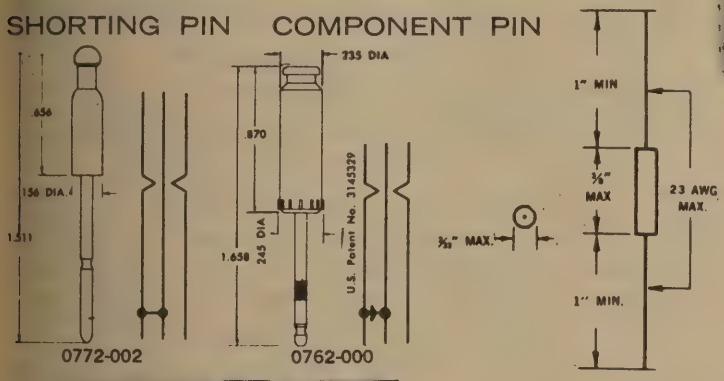
SIDE PLATE Cat. No. 708-70005. Provides end dressing, or return to relay rack frame.



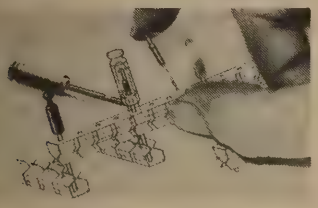
BLANK PANEL Cat. No. 780-10600. Fills in unused width. May be used for mounting other components or associated equipment. Black plastic with white filler for engraving.



SHORTING PIN COMPONENT PIN



0772-002 0762-000



Compact, modular, .100 centers. Low cost reliable X-Y matrix. Provides 100 crosspoints on 1.47 square, 27/32 thick. solderless termination at back accepts plug-in crimp-on-lead pins. Special jumpers permit selective bussing between modules.

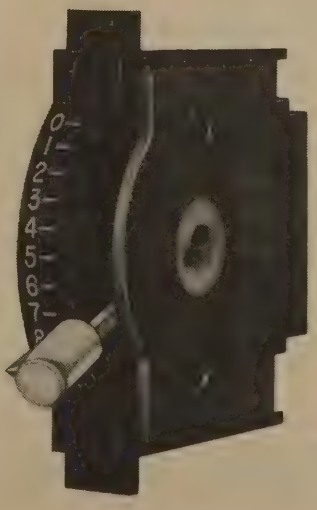
Write for catalog.

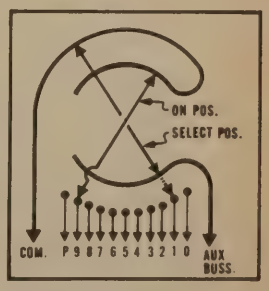
* Available off-the-shelf from Authorized Local Sealectro Distributors.

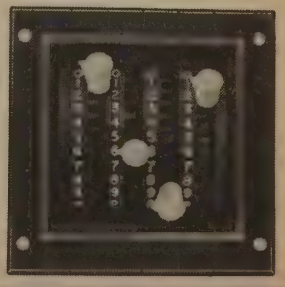
SLIDE 'N SWITCH™

DIRECT ACCESS PROGRAMMING CIRCUIT SELECTOR

- **Exclusive direct access to any circuit from any circuit.**
- **Up to 10 times as fast as thumbwheel switches.**
- **Modular expandable design.**
- **Compact. 2⅝" high. Each switch module 1 1/32" wide.**
- **Economical. Costs far less than average thumbwheel switch.**
- **Guaranteed for 250,000 operations per contact minimum.****
- **Terminates in standard PC card connector, or hard wire.**







An entirely new and different switching concept with maximum versatility built-in, Slide 'n Switch provides direct choice of output circuit without switching electrically through intermediate points. While in transit, the common side is connected through a termination on the rear of the unit to indicate the "in transit" situation or can be used as an electrical interlock.

This precision switch can be set in a fraction of the time required for thumbwheel units, as the handle is simply pulled out and swung in a single movement to the desired circuit.

Terminations on the rear of the switch module are printed circuit, spaced .125" center to center, and will mate with standard edge-mount pc card connectors. Terminal holes are also provided for hard-wiring with solder joints.

Completely modular, the switch modules are mounted on a threaded rod in any number desired. End caps complete the bezel for front panel mounting.

*Pat. Pend.
**At 250 MA Switching.

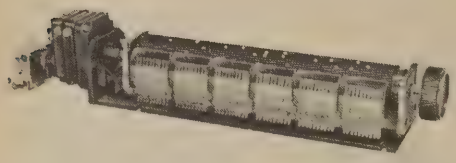
© United Technical Publications

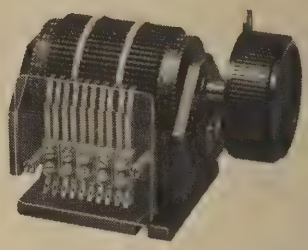
SEALECTRO PROGRAMMING DEVICES

SEALECTRO PROGRAM SWITCHING

SEALECTROSWITCH®

SERIES S-500 FIELD ADJUSTABLE PROGRAM SWITCHES

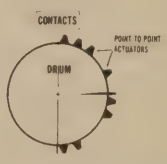




- 1, 7, and 15 Ampere Contacts
- Accurate Actuator Alignment Lines for Ease of Program Set-Up and Changes
- Manual, Stepping Motor and Timing Motor Drives
- Removable Drums
- Extremely Strong Extruded Frame for Durability
- Modular Contact Construction for Easy Field Replacement
- Both Camming and Point-to-Point Actuators
- High Visibility Drum Position Indicator
- Precisely Extruded Drum for 100% Program Repeatability

Sealectroswitch is a precision electro-mechanical timing and programming device featuring sliding actuators which may be positioned to select the operation of any, all or no contacts at any single drum position in the field and without special tools. A rigid frame, combined with a precisely extruded aluminum programming drum assures timing accuracy and program repeatability. A variety of options on contact ratings, drum drives, actuators, number of drum positions, and number of contacts assure the maximum in programming and timing flexibility for every conceivable application.





Both camming and point-to-point actuators are offered with standard model Sealectroswitches. The camming actuators, when mounted in adjacent program drum positions, do not allow the contacts to "break" between program steps. The point-to-point actuators allow the contacts to open between program steps. A three-in-one insertion tool is available for camming type actuators only and is preloaded with 100 actuators in black, red, blue or white for easy program set-up and identifications.

"LCT*" SEALECTROTIMER

. . . FIELD ADJUSTABLE, MULTIPLE FUNCTION, LOW COST PROGRAMMING SWITCH

- Economical, precise programming
- Sets up in seconds with 100% repeatability
- Up to 60 ON/OFF functions per revolution
- 15 Amp contact rating

Here's the answer to those many timer and programming problems. A unique combination of complete field adjustability, 100% repeatable, and multiple ON/OFF functions. No loose parts. No changing of cams. Everything required for complete flexibility in a single, compact, economical unit designed for extra-long life.

60 drum positions, precisely fabricated in at factory, permit up to 60 ON/OFF functions in a single 360° operation on a single contact. The drum is indexed, eliminating guesswork in set-ups, and also guaranteeing 100% repeatability when re-setting to a former program.

Actuators are merely slid by hand, to or out of operational position. In seconds, set up a complex timing program with varying time dwells for ON/OFF functions. In seconds, set up a pulse generator capable for supplying precisely timed pulses in various groups.

And all this costs no more than ordinary overlap type cam timers that provide a single ON/OFF function.

*Low Cost Timer

NUMERICAL INDEX SPEEDS SET UP OR CHANGES IN FIELD

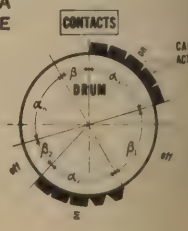
BUILT-IN PRECISION POSITIONS ON DRUM ASSURE COMPLETE SET UP ACCURACY

MERELY SLIDE ACTUATORS IN OR OUT OF CONTACT ACTUATION AREA. EVERYTHING STORES RIGHT ON DRUM



SINGLE OR DOUBLE CONTACT

SEALECTROSWITCH DRUM-TYPE PROGRAMMER PROVIDES ACCURATELY RE-PROGRAMMABLE, CUSTOMIZED PULSE TRAINS AT A FRACTION OF THE COST OF EXPENSIVE SQUARE-WAVE GENERATORS.





UL AND CSA APPROVED

© United Technical Publications

5-way® BINDING POSTS

5 WAYS TO CONNECT ● GOLD-PLATED BRASS PARTS ● RANGE OF COLORS



FLUTED NUT TYPES

Plastic parts of standard (not miniature) size types molded of Lexan polycarbonate resin; brass parts are gold-plated. Rated for 30 amperes, 1000 volts working. Nickel-plated brass types available on special order.



HEX NUT TYPES

Rated for 30 amperes, 1000 volts working. Brass parts are gold-plated; plastic parts are of nylon compounded to meet military specifications MIL-P-20693A, Type IV. Nickel-plated brass types available on order.



GROUNDING TYPE

For making rapid connections to ground. Made of finely machined brass nickel-plated and polished. Panel grounding collar frozen to shaft has "D" type shoulder for locking in keyed panel hole.



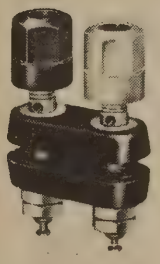
MINIATURE TYPES

Fluted nut design only. Rated for 15 amperes, 1000 volts working. Gold-plated brass parts; nylon plastic parts compounded to meet military specification MIL-P-20693A, Type IV. Types with nickel-plated brass available also.



DUAL ADAPTER TYPE

Designed to facilitate line voltage connections from output receptacles to binding posts. Has integral parallel-blade plug. Rating is 15 amperes, 125 volts. Body is black; captive black and white thumbnuts are mounted on ¾" centers. Brass parts are gold-plated. Ideal for safe, rigid connections to equipment lacking a parallel-blade plug and cord assembly.



DOUBLE ASSEMBLY TYPES

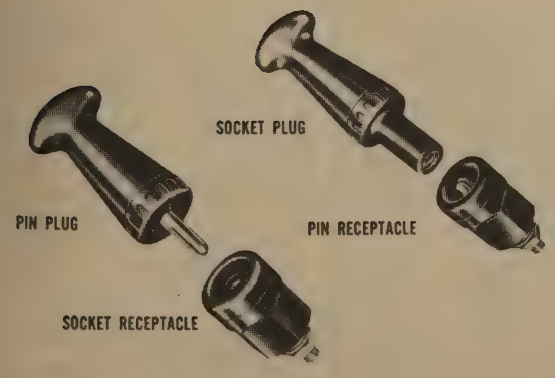
For instrument and equipment panels requiring binding posts mounted on ¾" centers. Rated for a current capacity of 30 amperes and a working voltage of 1000 volts. Brass parts are gold-plated; panel insulators in black only. Rugged, self-contained assembly makes mounting more accurate, faster and easier than two individual binding posts and gives maximum strength where connections are frequently made.

STYLE	TYPE
5-WAY® BINDING POSTS	
FLUTED NUT — STANDARD	DF31*
HEX NUT — STANDARD	DF30*
GROUNDING — ALL METAL	GP30NC
FLUTED NUT — MINIATURE	DF21*

STYLE	TYPE
DUAL ADAPTER TYPE	
BLACK & WHITE FLUTED NUTS	DAP15BWC
DOUBLE ASSEMBLY TYPES	
BLACK & WHITE HEX NUTS	DF30-2-BWTC
TWO BLACK HEX NUTS	DF30-2-BBC
BLACK & RED HEX NUTS	DF30-2-BRC

*Add desired color suffix to series designation number: BC (black), BLC (blue), RC (red), WTC (white), YC (yellow), GNC (green). For example: DF21BLC.

SUPERCON® ELECTRICAL CONNECTORS



Nylon plastic parts; gold-plated brass current-carrying parts. Wiring connections to the same plug can be either soldered or solderless. Plug cable-fastening screws permit a wide range of cable sizes. Plug grips are of a simple, two-piece threaded construction for quick assembly. All receptacle plastic parts are molded of the same color to permit more rapid and accurate circuit identification front and back of panel when installed. The 25, 50 and 100 ampere types are listed by Underwriters' Laboratories, Inc.

AMPERES	PIN PLUGS TYPE†	SOCKET RECEPTACLES TYPE†	SOCKET PLUGS TYPE†	PIN RECEPTACLES TYPE†
25	PP25G	RS25G	PS25G	RP25G
50	PP50G	RS50G	PS50G	RP50G
100	PP100G	RS100G	PS100G	RP100G
250	PP250G	RS250G	PS250G	RP250G

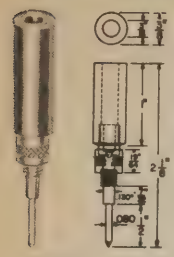
†Add desired color suffix to series designation number: B (black), BL (blue), R (red), WT (white), Y (yellow), GN (green). For example: PS25GWT.

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES IN SECTIONS 3500, 4000, AND 5600

© United Technical Publications

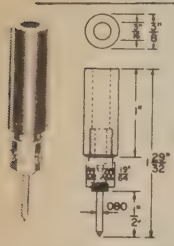
specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENT



INSULATED TIP PLUG
Solderless

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks.
Std. Pkg. 100

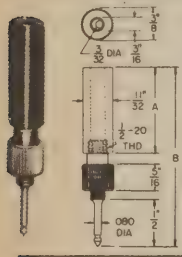
No.	Type	NET Per C
200	Senior	$17.00



INSULATED TIP PLUG
Solderless

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks.
Std. Pkg. 100

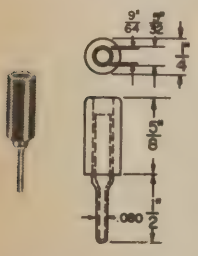
No.	Type	NET Per C
201	Junior	$17.00



INSULATED TIP PLUG
Made to Meet Signal Corps Spec.

HANDLE: ETHYL CELLULOSE, Red or Black. SPECIFY COLOR
PLUG: Steel, case hardened to Signal Corps specs.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Recess at end of prod tip, holds plugs firmly in jack spring. Prevents tip from falling out when in an inverted position.

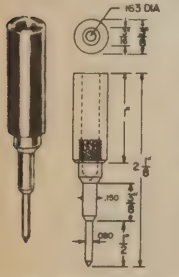
No.	Handle (A)	Overall (B)	Std. Pkg.	NET Per C
250	1 inch	2¼"	50	$60.00
358	3 inch	4¼"	25	90.00



INSULATED TIP PLUG
Solder Type

HANDLE: MOLDED BUTYRATE, per FED. SPEC. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated our No. 158.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Drawn hollow tip for easy soldering. Fits standard phone tip jack. Std. Pkg. 100

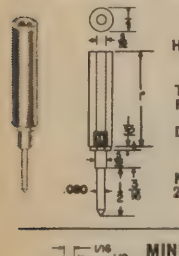
No.	NET Per C
297	$12.00



INSULATED TIP PLUG
Heavy Duty Type

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Std. Pkg. 100

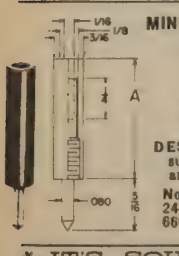
No.	NET Per C
229	$17.00



SUB-MINIATURE TIP PLUG

HANDLE: FIBRE, per MIL-F-1148A Grade CH. Red, Black. SPECIFY COLOR
TIP: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks. Std. Pkg. 100

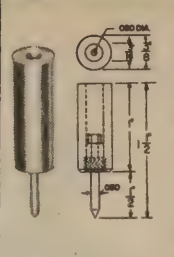
No.	NET Per C
270	$20.00



MINIATURE TIP PLUG AND TEST PROD

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 2 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks.

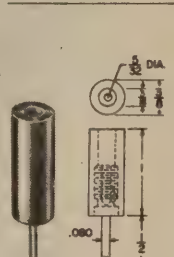
No.	Length (A)	Std. Pkg.	NET Per C
244	¾"	100	$18.00
666	3"	25	30.00



INSULATED SHORT TIP PLUG

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Inserts flush to insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone
Std. Pkg. 100

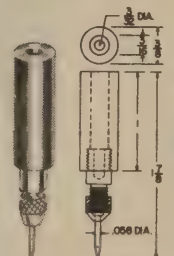
No.	NET Per C
203	$13.20



INSULATED SHORT TIP PLUG
Solderless

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to insulated handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. pkg. 100

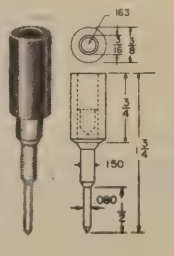
No.	NET Per C
283	$15.00



INSULATED TIP PLUG
Photo Needle

HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement of broken needle. Needle pierces corrosion or plating for positive reading.
Std. Pkg. 100

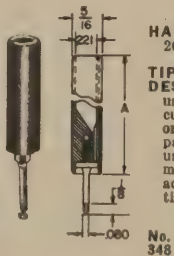
No.	NET Per C
216	$25.00



ADAPTER
Banana Plug to Tip Plug

HANDLE: MOLDED BUTYRATE, per FED. SPEC. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts standard banana plugs, adapts to standard tip plug. Std. Pkg. 100

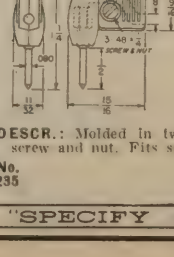
No.	NET Per C
215	$17.00



SUB-MINIATURE TIP PLUG
AND TEST PROD

HANDLE: Molded Nylon, per MIL-P-20693A. Available in Red or Black. SPECIFY COLOR
TIP: Brass, Silver plated.
DESCR.: Solderless assembly. Ideal for use with sub-miniature printed-circuit tip jacks. Sharp tip breaks flux or oxide coating on printed-circuit pattern for positive contact when used as prod. Grooved head or prod makes positive contact when laid across wires. Fits all standard .080" tip jacks.

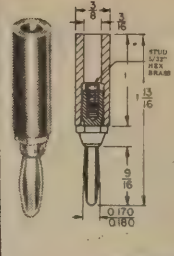
No.	Handle (A)	Overall (B)	Std. Pkg.	NET Per C
348	1 inch	1-5/16"	100	$35.00
349	4 inches	4-5/16"	25	$45.00



METER TIP PLUG

HANDLE: MOLDED PHENOLIC plastic, Red and Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Molded in two halves for easy assembly with screw and nut. Fits standard phone tip jacks.

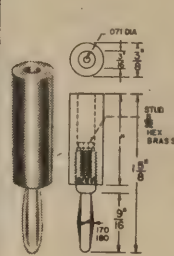
No.	NET Per C
235	$30.00



INSULATED BANANA PLUG

HANDLE: MOLDED PHENO plastic, Red, Black, Yel Green, Blue, White. SPECIFY CO
PLUG: Hex brass, nickel or si plated.
SPRING: Four-leaved phos bronze or beryllium copper, ni or silver plated.
RATING: 15 Amps AC for 1 Temp. rise, continuous duty.
DESCR.: Wire can be soldere brass stud or directly into itself. Stud also locks wire plug for solderless connect Fits standard banana jacks.
Std. Pkg.

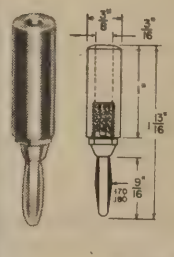
No.	Spring Material	Plating	NE Per
212	Phosphor Bronze	Nickel	$30.
232	Phosphor Bronze	Silver	33.
242	Beryllium Copper	Nickel	35.
262	Beryllium Copper	Silver	38.



INSULATED BANANA PLUG

HANDLE: MOLDED PHENO plastic, Red, Black, Yell Green, Blue, White. SPECIFY CO
PLUG: Brass, nickel or si plated.
SPRING: Four-leaved phos bronze or beryllium copper, ni or silver plated.
RATING: 15 Amps AC for 1 Temp. rise, continuous duty.
DESCR.: Wire can be soldere brass stud or directly into p itself. Stud also locks wire plug for solderless connect Fits standard banana jacks.
Std. Pkg.

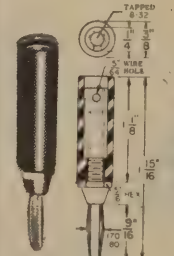
No.	Spring Material	Plating	NE Per
211	Phosphor Bronze	Nickel	$25.
261	Phosphor Bronze	Silver	28.
271	Beryllium Copper	Nickel	30.
281	Beryllium Copper	Silver	33.



INSULATED BANANA PLUG
Solderless

HANDLE: MOLDED PHENO plastic, Red, Black, Yell Green, Blue, White. SPECIFY CO
PLUG: Hex brass, nickel or si plated.
SPRING: Four-leaved phos bronze or beryllium copper, ni or silver plated.
RATING: 15 Amps AC for 1 Temp. rise, continuous duty.
DESCR.: Solderless: Wire through handle and body of then wrapped around screw t tion. Fits standard banana ja
Std. Pkg.

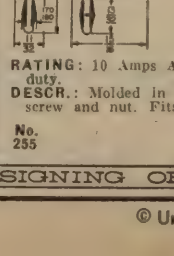
No.	Spring Material	Plating	NE Per
295	Phosphor Bronze	Nickel	$30.
296	Phosphor Bronze	Silver	33.
297	Beryllium Copper	Nickel	35.
298	Beryllium Copper	Silver	38.



INSULATED BANANA PLUG
Solderless

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Typ I, Class II. Red, Black. SPECIFY COLO
BODY: Hex brass, nickel plate with mating brass spacer.
SPRING: Four-leaved phospho bronze, nickel plated.
RATING: 15 Amps AC for 10° Temp. rise, continuous duty.
DESCR.: Cross drilled hole spacer enables quick solderless connection of wire to plug. Fit standard banana jacks.
Std. Pkg. 10

No.	NET Per C
236	$45.0



METER BANANA PLUG

HANDLE: MOLDED PHENO IC plastic, Red and Black SPECIFY COL
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosph bronze, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuo duty.
DESCR.: Molded in two halves for easy assembly w screw and nut. Fits standard banana jacks.
Std. Pkg.

No.	NET Pe
255	$40

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

© United Technical Publications

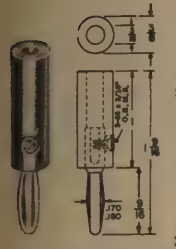
NYLON HANDLE TIP & BANANA PLUGS

COLOR CODE SUFFIX Add to Catalog Number as required

— 101 WHITE
— 102 RED
— 103 BLACK
— 104 GREEN
— 105 BLUE
— 106 ORANGE
— 107 YELLOW
— 108 BROWN
— 112 PURPLE
— 113 GREY

BANANA PLUG TYPE

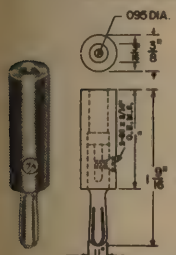
INSULATED BANANA PLUG
With Side Screw



HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Set screw secures wire without soldering. Fits standard banana jacks. Std. Pkg. 100

No.	Spring	NET Per C
204	Phosphor Bronze	$25.00
254	Beryllium Copper	30.00

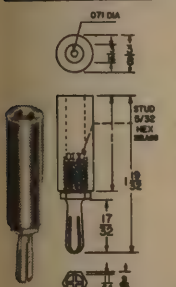
INSULATED BANANA PLUG
Split Type With Side Screw



HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Set screw secures wire, without soldering. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
213	$20.00

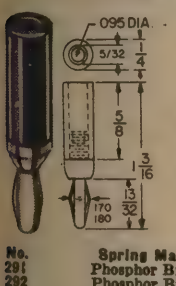
INSULATED BANANA PLUG
Split Type With Internal Stud



HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
253	$22.00

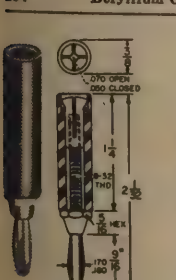
INSULATED BANANA PLUG
Midget Type



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire soldered directly into stud. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
291	Phosphor Bronze	Nickel	$25.00
292	Phosphor Bronze	Silver	28.00
293	Beryllium Copper	Nickel	30.00
294	Beryllium Copper	Silver	33.00

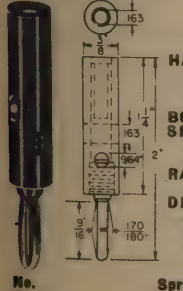
INSULATED BANANA PLUG
With Internal Spring Collett



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR
BODY: Hex brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Spring collett provides quick connect and disconnect of wire. Tin wire for secure contact. Fits standard banana jack. Std. Pkg. 100

No.	NET Per C
239	$50.00

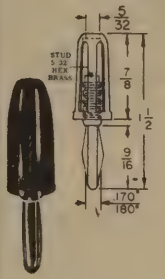
STACK BANANA PLUG
Solderless



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red, Black, Yellow or Green. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits. Std. Pkg. 50

No.	Spring Material	NET Per C
1511	Phosphor Bronze	$35.00
1512	Beryllium Copper	44.00

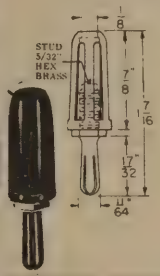
NYLON BANANA PLUG



HANDLE: MOLDED NYLON, per MIL-P-20693A.
COLORS: Available in 10 std. colors as coded above. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Phosphor bronze or beryllium copper nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
476	Phosphor Bronze	Nickel	$28.00
477	Phosphor Bronze	Silver	31.00
478	Beryllium Copper	Nickel	33.00
479	Beryllium Copper	Silver	36.00

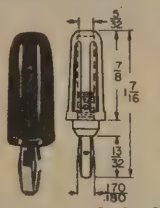
NYLON BANANA PLUG
Split Type



HANDLE: MOLDED NYLON, per MIL-P-20693A.
COLORS: Available in 10 std. colors as coded above. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
494	$25.00

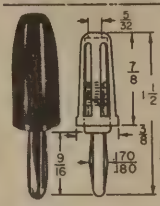
NYLON BANANA PLUG
Short Spring



HANDLE: MOLDED NYLON, per MIL-P-20693A.
COLORS: Available in 10 std. colors as coded above. SPECIFY COLOR
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire soldered directly into stud. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
426	Phosphor Bronze	Nickel	$23.00
427	Phosphor Bronze	Silver	26.00
428	Beryllium Copper	Nickel	28.00
429	Beryllium Copper	Silver	31.00

NYLON BANANA PLUG
Solderless

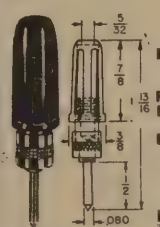


HANDLE: MOLDED NYLON, per MIL-P-20693A.
COLORS: Available in 10 std. colors as coded above. SPECIFY COLOR
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
455	Phosphor Bronze	Nickel	$25.00
456	Phosphor Bronze	Silver	28.00
457	Beryllium Copper	Nickel	30.00
458	Beryllium Copper	Silver	33.00

PIN TIP TYPE

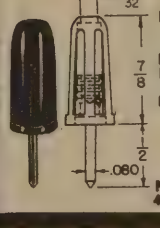
NYLON TIP PLUG
Solderless



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portions and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
490	$20.00

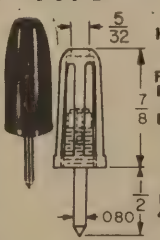
NYLON SHORT TIP PLUG
Solderless



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
492	$20.00

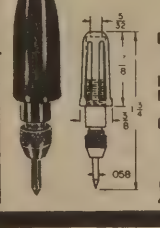
NYLON SHORT TIP PLUG



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Inserts flush to insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
491	$16.00

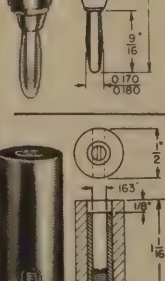
NYLON TIP PLUG
Phono Needle



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement of broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 100

No.	NET Per C
493	$28.00

HIGH TEMPERATURE BANANA PLUG



HANDLE: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
PLUG: Hex brass, nickel plated.
SPRING: Four-leaved, INCONEL.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Withstands temperature to 1200 degrees F. Full resiliency—non-oxidizing. Excellent for thermo-couple connection on plastic extruding die heads. Std. Pkg. 10

No.	NET Per C
388	$90.00

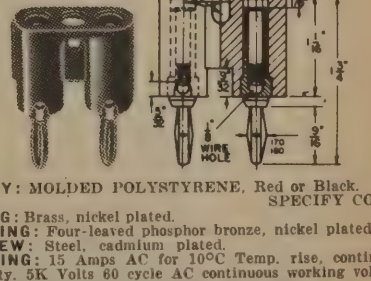
STACK BANANA PLUG



BODY: MOLDED POLYSTYRENE, Red or Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
SCREW: Steel, cadmium plated
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Internal set screw for wire or phone tip connection. Can be stacked for multiple connections. Std. Pkg. 50

No.	NET Per C
324	$48.00

DUAL BANANA PLUG



BODY: MOLDED POLYSTYRENE, Red or Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
SCREW: Steel, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. CAPACITANCE 1.0 pf. between conductors.
DESCR.: Mates with standard dual binding post ¾" centers. Polarity indicated on top and side. Wire held with internal set screw. Can be stacked for multiple connections. Std. Pkg. 25

No.	NET Per C
210	$72.00

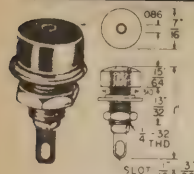
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

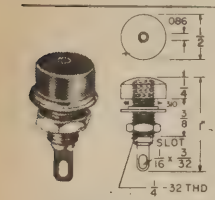
INSULATED PHONE TIP JACK



HEAD: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass, nickel plated.
CONTACT: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Positive contact with standard phone tip plugs. Supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to ⅜" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.	NET Per C
202	$15.00

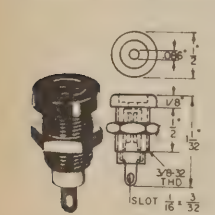
INSULATED PHONE TIP JACK



HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, class MH. Red, Black, Yellow, Green. SPECIFY COLOR
BODY: Brass, nickel plated.
CONTACT: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise continuous duty. 750 Volts 60 cycle AC Continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Complete with hex nut & fibre washer. Mounts in 5/16" hole in panels up to ⅜" thick. Accepts standard phone tip plugs. **Std. pkg. 100**

No.	NET Per C
223	$25.00

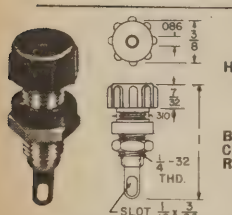
MOLDED NYLON TIP JACK



BODY: MOLDED NYLON, per MIL-P-20693A. Red, Black, Yellow, Green, Blue. SPECIFY COLOR
CONTACT: Phosphor bronze.
CAP: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 pf.
DESCR.: Mounts in ⅜" hole in panels up to 5/16" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.	NET Per C
240	$20.00

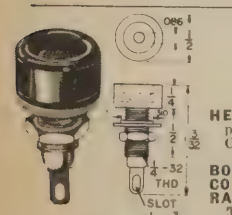
NYLON PHONE TIP JACK



HEAD: MOLDED NYLON, per MIL-P-20693A. With molded nylon washer. Red, Black, Yellow, Green, Blue. SPECIFY COLOR
BODY: Brass, nickel plated.
CONTACT: Phosphor bronze.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Extruded portion of head and washer provides excellent insulation from panel. Supplied with hex nut. Mounts in 5/16" hole in panels up to ¼" thick. Accepts standard tip plugs. **Std. Pkg. 100**

No.	NET Per C
241	$27.00

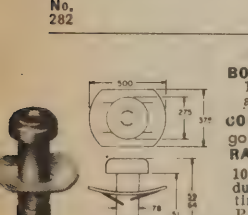
INSULATED TIP JACK Meter Type



HEAD: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass, nickel plated.
CONTACT: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to ⅜" thick. Recessed jack body prevents possibility of shock or grounding. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.	NET Per C
282	$23.00

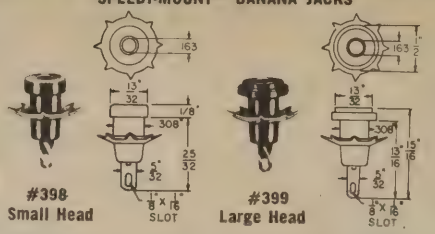
NYLON TEST TIP JACK



BODY: Nylon, Grade FM 10001. Specify color as coded above. 10 colors.
CONTACT: Phosphor bronze, gold plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 3 KV 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Mounts in ⅜" hole with Tinnerman Speed Nut for fast permanent assembly. Teeth embed into jack body, preventing pulling out and turning. Accepts standard phone tip plugs. **Std. Pkg. 25**

No.	NET Per C
1598	15.00

"SPEEDI-MOUNT" BANANA JACKS

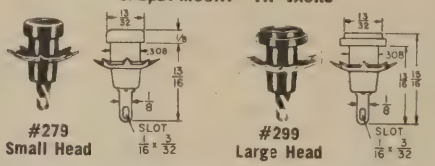


#398 Small Head — #399 Large Head

BODY: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
CONTACT: Brass, cadmium plated.
WASHER: Steel cadmium plated, internal and external tooth.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.
DESCR.: Unusual dished lockwasher permits fast assembly. Teeth embed into jack and panels, prevent pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard banana plug. **Std. Pkg. 100**

No.		Head Dia.	NET Per C
398	Small Head	13/32"	$8.00
399	Large Head	½"	$8.00

"SPEEDI-MOUNT" TIP JACKS

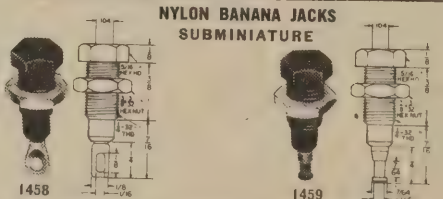


#279 Small Head — #299 Large Head

BODY: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
CONTACT: Phosphor bronze.
WASHER: Steel cadmium plated, internal and external tooth.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 pf.
DESCR: Unusual dished lockwasher permits fast assembly. Teeth embed into jack and panels, prevents pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.	Description	NET Per C
279	Small Head 13/32" Dia.	$8.00
299	Large Head ½" Dia.	8.00

NYLON BANANA JACKS SUBMINIATURE

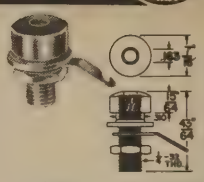


1458 — 1459

BODY: MOLDED NYLON, per MIL-P-20693A.
COLORS: Available in 10 colors as coded above. Specify color by adding color code suffix to basic catalog number.
CONTACT: Brass, gold washed.
RATING: 10 Amps AC for 10°C. Temp. Rise, continuous duty. 2 KV 60 cycle AC continuous working voltage. Capacitance 3.0 pf.
DESCR: Mounts in ¼" hole in panels up to ¼" thick. Accepts subminiature banana plugs. One-piece turret contact allows sealed panel entry hole. Hex head for ease in mounting. Recessed contact provides for full seating of plug with no exposed metal. **Std. Pkg. 100**

No.	Terminal	NET Per C
1458	Pierced	$30.00
1459	Turret	$21.00

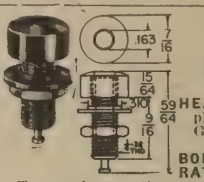
INSULATED BANANA JAC



HEAD: MOLDED PHEN IC plastic, Red, Black, low, Green, Blue, Wh SPECIFY CO
BODY: Brass, nickel pla
RATING: 15 Amps AC 10°C Temp. rise, continu duty. 750 Volts 60 cycle continuous working voltage. CAPACITANCE 4.0 p
DESCR.: Supplied with hex nut, fibre washer, and b tinned lug. Mounts in 5/16" hole in panels up to thick. Accepts standard banana plugs. **Std. Pkg.**

No.	NET P
205	$1

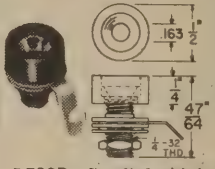
INSULATED BANANA JACK With Turret Terminal



HEAD: MOLDED PHENO plastic, Red, Black, Yel Green, Blue, White. SPECIFY CO
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 1 Temp. rise, continuous duty. 750 Volts 60 cycle continuous working voltage. CAPACITANCE 4.0 pf
DESCR.: Supplied with hex nut & fibre washer. Mo in 5/16" hole in panels up to ⅜" thick. Solder direc turret terminal. Accepts standard banana plugs. **Std. Pkg.**

No.	NET Per C $17
256	

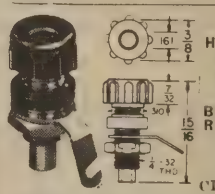
INSULATED BANANA JAC



HEAD: MOLDED PHEN IC plastic, Red, Black, low, Green, Blue, Wh SPECIFY CO
BODY: Brass, nickel pla
RATING: 15 Amps AC 10°C Temp. rise, continu duty. 750 Volts 60 cycle continuous working volt CAPACITANCE 4.0 pf.
DESCR.: Supplied with hex nut, fibre washer, lockwa and brass tinned lug. Mounts in 5/16" hole in pa up to ⅜" thick. Jack body recessed for snug cont Accepts standard banana plugs. **Std. Pkg.**

No.	NET P
219	$1

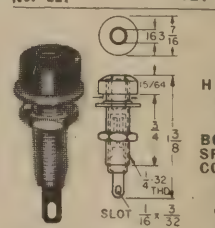
NYLON BANANA JACK



HEAD: MOLDED NYLON, MIL-P-20693A. With mol nylon washer. Red, Bl Yellow, Green, Blue. SPECIFY COL
BODY: Brass, nickel plated
RATING: 15 Amps AC for 1 Temp. rise, continuous d 1 K Volts 60 cycle AC cont uous working voltage. CAI CITANCE 4.0 pf.
DESCR.: Extruded portion of head and washer provi excellent insulation from panel. Supplied with hex n brass tinned lug. Mounts in 5/16" hole in panels up ¼" thick. Accepts standard banana plugs.

No.	NET Per C $25.00 Std. Pkg.
221	

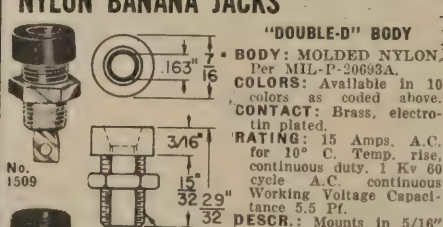
INSULATED JACK Combination Type



HEAD: MOLDED PHENOL plastic, Red, Black, Yell Green, Blue, White. SPECIFY COL
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
CONTACT: 12 Amps AC 10°C Temp. rise, continu duty. 750 Volts 60 cycle continuous working volta CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with hex nut & fibre washer. Acce standard phone tip plugs or standard banana plu Mounts in 5/16" hole in panels up to ½" thick. **Std. Pkg.**

No.	NET Per C $20.
206	

NYLON BANANA JACKS



"DOUBLE-D" BODY

No. 1509

BODY: MOLDED NYLON, Per MIL-P-20693A.
COLORS: Available in 10 colors as coded above.
CONTACT: Brass, electro-tin plated.
RATING: 15 Amps, A.C. for 10° C. Temp. rise, continuous duty. 1 Kv 60 cycle A.C. continuous Working Voltage Capacitance 5.5 Pf.
DESCR.: Mounts in 5/16" round, single, or double "D" holes in panels up to 5/16" thick. Accepts standard banana plugs. One-piece turret terminal contact allows sealed panel entry hole. **Std. Pkg. 100**

No.	NET Per C
1509	$12.00

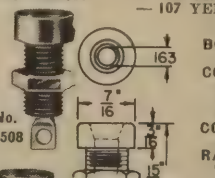
As above but completely enclosed jack with solder turret terminals.

No.	NET Per C $15.00
1499	

COLOR CODE SUFFIX — Add to Catalog Number as requi

— 101 WHITE — 102 RED — 103 BLACK — 104 GREEN — 105 BLUE — 106 ORANGE — 107 YELLOW — 108 BROWN — 112 PURPLE — 113 GREY

Full Round Body



No. 1508

BODY: MOLDED NYLON, MIL-P-20693A.
COLORS: Available in 10 co as coded above. Specify co by adding color code suffix basic catalog number.
CONTACT: Brass, electro- plated.
RATING: 15 Amps AC for 10 Temp. rise, continuous du 1 Kv., 60 cycle A.C. conti uous Working Voltage. CAP CITANCE 5.0 Pf.
DESCR.: Mounts in 5/16" h in panels up to 5/16" thi Accepts standard banana plu One-piece turret terminal co tact allows sealed panel ent hole.

No. 1508 NET Per C $12.

As above but completely enclosed jack with solder turre terminals.

No. 1498	NET Per C $15.0

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

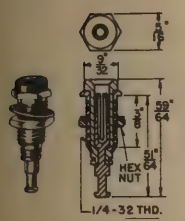
specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

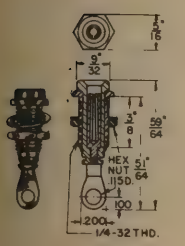
NYLON TIP JACKS

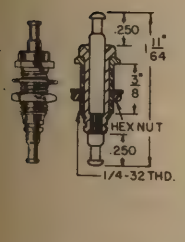
With Metal Shell
Made to Meet MS-16108 Spec.

COLOR CODE SUFFIX
(Add to Catalog Number as Required)

— 101 WHITE	— 105 BLUE	— 108 BROWN
— 102 RED	— 106 ORANGE	— 112 PURPLE
— 103 BLACK	— 107 YELLOW	— 113 GREY
— 104 GREEN		





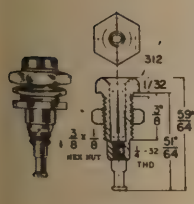


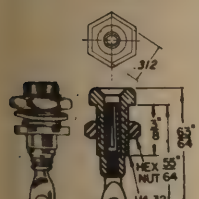
Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements:

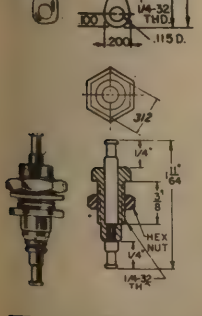
1. Salt Spray Test — Withstands 100 hours.
2. Rating — 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 10.0 pf.
3. Insulation Resistance — 5,000 megohms.
4. Operating Conditions —
   - A. Continuous: 23 hours on, 1 hour off.
   - B. Elevation: Up to 5,000 ft.
   - C. Temperature: —55 to + 85°C.
   - D. Humidity: Up to 95%.
5. Material Specifications —
   - A. Insulator: Molded Nylon, per MIL-P-20693A. Specify color as coded above.
   - B. Shell and Nut: Brass Nickel Plated per QQ-N-290, type V (FC).
   - C. Lockwasher: Phosphor Bronze Nickel Plated per Spec. QQ-N-290, type V (FC).
   - D. Center Contact: Heat Treated Bery, Copper, Silver plated per QQ-S-365, Gold plated overall.
6. Non-Operating Conditions —
   - A. Elevation: Up to 50,000 ft.
   - B. Temperature: Continuous exposure for 72 hours at +160°F and 240 hours at —80°F.
   - C. Humidity: Up to 100%.

No.	Type	Std. Pkg.	NET Per C
1501	Wrap Around	25	$30.00
1502	Spade Terminal	25	42.00
1503	Feed Through	25	39.00

ALL NYLON TIP JACK







Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in ¼" hole in panels up to ¼" thick. Meets following requirements:

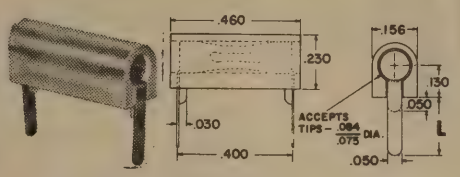
1. Salt Spray Test — Withstands 100 hours.
2. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 pf.
3. Insulation Resistance — 5,000 megohms.
4. Operating Temperature— —55 to +85°C.
5. Material Specifications —
   - A. Body: Molded Nylon, per MIL-P-20693A. Specify Color as coded above.
   - B. Center contact: Heat treated Phosphor Bronze, Silver plated per QQ-S-365, Gold plated overall. No. 1507 Brass, per QQ-B-626, Comp. 22, plated as above.
   - C. Hex Nut: Brass Nickel Plated.

COLORS: Available in White, Red, Black, Green, Blue, Orange, Yellow, Brown, Purple and Grey. Specify color as coded above.

No.	Type	Pkg.	Per C
1505	Wrap Around	25	$21.00
1506	Spade Terminal	25	30.00
1507	Feed Through	25	28.20

RIGHT ANGLE PRINTED CIRCUIT TEST JACK

MILITARY TYPE
Made to Meet MIL-C-39024/11



BODY: MOLDED NYLON, Per MIL-P-17091. 10 Colors, specify color, as coded.
SPRING: Beryllium opper, Per QQ-C-533.
FINISH: Gold Plate, per MIL-G-45204, lass I. Type 2. Nickel underplate, per QQ-N-290, Class I Type 7, .0002" thick.
MOUNTING: Mounts in .052" dia. holes on .400" centers. Board thickness as specified below. Can be spaced side-by-side .160" on centers minimum.
MECHANICAL DATA: Thermal shock, vibration, humidity, insulation resistance, salt spray per MIL-STD-202B. All mechanical Tests per applicable section of MIL-C-39024. Insertion force 30 oz. max., withdrawal force 3 oz. min., with .080" (.001") probe.
RATINGS: Operating voltage 1500 volts, 60 cps RMS, sea level. 350 volts, 60 cps RMS at 50,000 feet. 5 amps. AC max. current rating. Contact resistance 20 millivolt drop max. At specified current, at 25°C.
DESCR: Double entry design, probe inserts from either end of jack. Closed entry construction will not accept probes larger than .084", will contact probes down to .074". Closed bottom design keeps jack from fouling with solder or flux. Locking ears keep jack firmly in board until soldered. Precise dimensions allow for automated assembly on boards. **Std. Pkg. 100**

"L" DIMENSION 0.156

For boards up to 1/16" thick, MIL-C-39024/11-01 thru -10.

No.	NET Per C
325	$11.00

"L" DIMENSION 0.219

For boards up to 1/8" thick, MIL-C-39024/11-21 thru -30.

No.	NET Per C
321	$11.00

ECONOMY TYPE

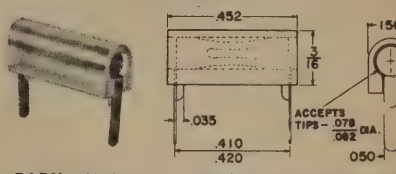
"L" DIMENSION 0.156

No.	Spring Plating	NET Per C
306	Gold flash over .0002 Silver	$10.00
359	.0002 Silver	9.00

"L" DIMENSION 0.219

328	Gold flash .0002 Silver-	$10.00
402	.0002 Silver	9.00

COMMERCIAL TYPE



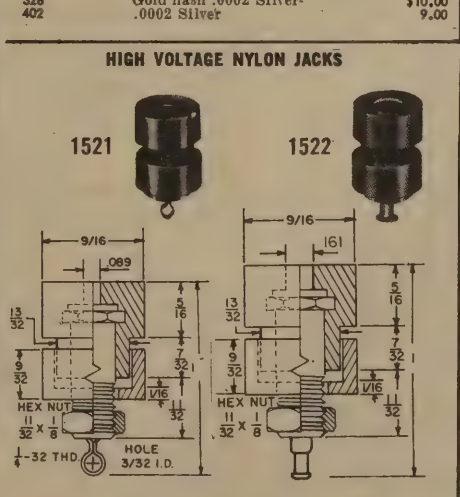
BODY: MOLDED NPLON, Per MIL-P-20693A. 10 colors, specify color as coded.
SPRING: Beryllium Copper, per QQ-C-533.
FINISH: Silver underplate, .0002" min., per QQ-S-365, Type I, with .00003" Gold overplate; per MIL-F-14072, M-310.
RATINGS: 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV. 60 cycle AC continuous working voltage. Contact resistance 5 milliohms max. at rated current. Capacitance less than 5 MHz at 1 pf.
MOUNTING: Mounts in .052" dia. holes, on .400" centers, in boards up to 3/16" thick. Can be spaced side-by-side .160" on centers min.
MECHANICAL DATA: Thermal shock, vibration, humidity, insulation resistance, and salt spray tests per MIL-STD-202B. Solderability per MIL-S-6872. Insertion and withdrawal force: 8 oz. min., 5 lbs. max. with .080" (±.001") dia. probe.
DESCR.: Double-entry design, probe inserts from either end of jack. Closed entry construction will not accept probes larger than .084", will contact probes down to .074". Closed bottom construction keeps jack from fouling with solder or flux. Locking ears hold jack firmly in board until soldered. Precise dimensions allow for automated assembly on boards. **Std. Pkg. 100**

No.	NET Per C
430	$11.00

ECONOMY TYPE

499	Spring — Gold flash over .0002 Silver	$10.00
498	Spring — .0002 Silver.	9.00

HIGH VOLTAGE NYLON JACKS



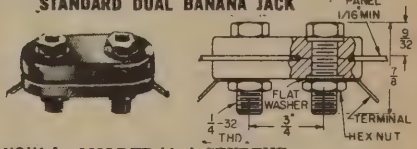
HIGH VOLTAGE NYLON JACKS
Made to meet MS-16107 Spec.

Heavy molded nylon body and cup washer prevent high-voltage flashover to panel. Meets following requirements:
1. Salt Spray Test—Withstands 100 hours.
2. Electrical Rating—15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage. Millivolt drop per MIL-J-6751. CAPACITANCE 2.0 pf.
3. Material Specifications.
   - A. Insulator and Washer: — Molded Nylon, per MIL-P-20693A. Colors to Fed. Std. 595. Specify color as coded above.
   - B. Insert Shell and Nut: Brass, Nickel plated per QQ-N-290, type V (FC).
   - C. Contact: Phosphor bronze, Silver plated .0002" per QQ-S-365, Gold plated overall.

Specify color as coded above, 10 colors.

No.		NET Per C
1522	BANANA	$45.00
1521	PHONE TIP	$45.00

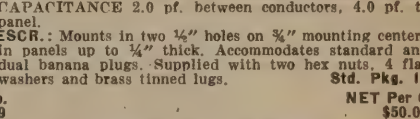
STANDARD DUAL BANANA JACK



INSULA.: MOLDED black STYRENE.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 4.0 pf. to panel.
DESCR.: Mounts in two ⅛" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates standard and dual banana plugs. Supplied with two hex nuts, 4 flat washers and brass tinned lugs. **Std. Pkg. 10**

No.	NET Per C
489	$50.00

STANDARD DUAL TIP JACK



Same as above, except:
BODY: Recessed, brass, nickel plated.
DESCR.: Mounts in two ⅛" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates standard phone tip plugs. Supplied with two hex nuts. **Std. Pkg. 10**

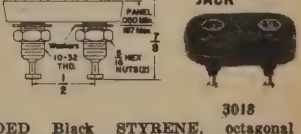
No.	NET Per C
488	$55.00

MINIATURE DUAL BANANA JACK



3019

MINIATURE DUAL TIP JACK



3018

INSULA.: MOLDED Black STYRENE, octagonal keyed to align cross-holes at alternate 90° holes.
BODY: Brass, nickel plated
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd to panel.
DESCR.: Mounts in two ¼" round single or double "D" holes on ⅛" mounting centers in panels up to ¼" thick. Accommodates miniature and dual banana plugs. Supplied with two hex nuts. **Std. Pkg. 10**

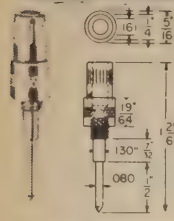
No.	Jack Dia. "A"	NET Per C
3019	.104	$60.00

Same as above, except:
BODY: Recessed, brass, nickel plated.
CONTACT: Phosphor bronze.
DESCR.: Mounts in two ¼" round single or double "D" holes on ⅛" mounting centers in panels up to ¼" thick. Accommodates miniature dual phone tip plugs and standard .080 phone tip plugs. Supplied with two hex nuts. **Std. Pkg. 10**

No.	Jack Dia. "A"	NET Per C
3018	.080	$60.00

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

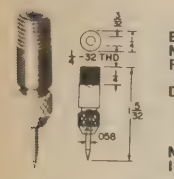
specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONEN



SOLDERLESS TIP PLUG

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wraps around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks.
Std. Pkg. 100

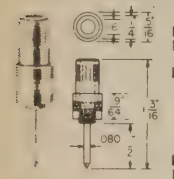
No.	Type	NET Per C
105	Senior	$15.00



NEEDLE TIP AND CHUCK

BODY: Brass, nickel plated.
NEEDLE: Steel, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement. Needle pierces plating or corrosion for positive reading.
Std. Pkg.100

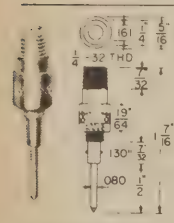
No.	NET Per C
128	$22.00



SOLDERLESS TIP PLUG

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip then wraps around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks.
Std. Pkg. 100

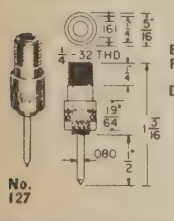
No.	Type	NET Per C
106	Junior	$15.00



SOLDERLESS TIP PLUG Threaded Sr.

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with knurled collar. Threaded for easy assembly in plastic handle. Fits standard phone tip jacks. **Std. Pkg. 100**

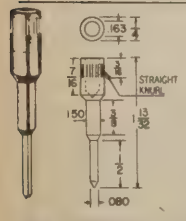
No.	Type	NET Per C
124	Senior	$15.00



SOLDERLESS TIP PLUG Threaded Jr.

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with assembly in plastic handle. Fits knurled collar. Threaded for easy standard phone tip jacks.
Std. Pkg.100

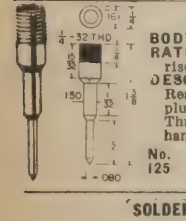
No.	Type	NET Per C
127	Junior	$15.00



HEAVY DUTY TIP PLUG Force-Fit

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise continuous duty.
DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits all standard phone tip jacks.
Std. Pkg. 25

No.	Type	NET Per C
156	Force Fit	$13.00

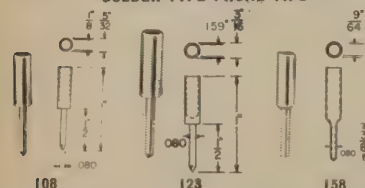


HEAVY DUTY TIP PLUG

BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle. **Std. Pkg.100**

No.	Type	NET Per C
125	Threaded	$15.00

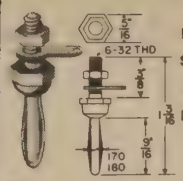
SOLDER TYPE PHONE TIPS



108 123 158

RATING: 12 Amps AC for 10°C Temp. rise, continuous
MATERIAL: Brass, nickel plated.

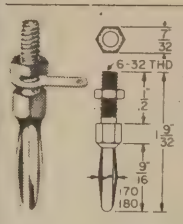
No.	Type	NET Per C
108	Standard	$3.00
123	Large I.D.	4.00
158	Drawn	1.70



BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and phosphor bronze tinned lug. Threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

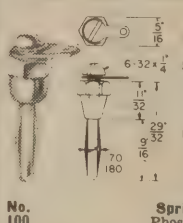
No	NET Per C
102	$25.00



BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and phosphor bronze tinned lug. Threaded stud. for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

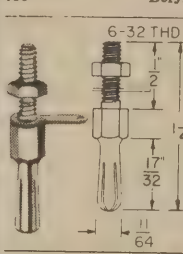
No.	NET Per C
101	$25.00



BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and phosphor bronze tinned lug. Internal female permits use on all size panels. Fits standard banana jacks. **Std. Pkg. 100**

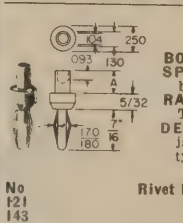
No.	Spring Material	NET Per C
100	Phosphor Bronze	$25.00
190	Beryllium Copper	30.00



BANANA PLUG Split Type

BODY: HEX BRASS, nickel plated, cross-slotted.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Fits all standard banana jacks. Supplied with hex nut and phosphor bronze lug, threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
104	$17.00



MIDGET BANANA PLUG Rivet Type

BODY: BRASS, silver plated.
SPRING: Four-leaved phosphor bronze, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise. continuous duty.
DESCR.: Fits all standard banana jacks. Can be furnished in varying types to meet Jan specs. **Std. Pkg. 100**

No	Rivet Length "A"	NET Per C
121	7/32"	$18.00
143	3/16"	18.00
139	1/8"	18.00

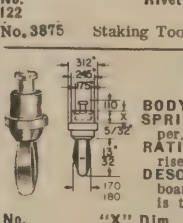
No. 3875 Staking Tool **Net Ea. $1.50**

MIL-SPEC. TYPE

Same as above, made to meet Signal Corps Drawings SC-C2231. **Std. Pkg. 100**

No.	Rivet Length "A"	NET Per C
122	0.261	$20.00

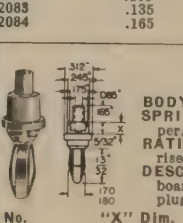
No. 3875 Staking Tool **Net Ea. $1.50**



RIVET TYPE BANANA PLUG Wrap Around Type

BODY: BRASS, nickel plated.
SPRING: Four leaved, beryllium copper, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Rivets to panel or bakelite board. Wire wraps around stud and is then soldered. **Std. Pkg. 100**

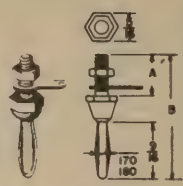
No.	"X" Dim.	Panel	NET Per C
2082	.105	1/16"	$25.00
2083	.135	3/32"	25.00
2084	.165	1/8"	25.00



RIVET TYPE BANANA PLUG Solder Well Type

BODY: BRASS, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Rivets to panel or bakelite board. Wire solders to well in rear of plug. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2067	.105	1/16"	$25.00
2068	.135	3/32"	25.00
2069	.165	1/8"	25.00

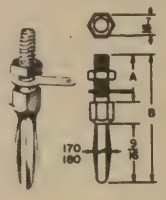


BANANA PLUG

BODY: HEX BRASS, n or silver plated.
SPRING: Phosphor bronz beryllium copper, n or silver plated.
RATING: 15 Amps AC 10°C Temp. rise, contin duty.
DESCR.: Supplied with nut and tinned phos bronze lug threaded stu panel mounting. Fits st ard banana jacks. Std. Pk

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPR Nickel Plated Ove	
No.	NET Per C	A	B	No.
431	$25.00	6-32x3/8"	1 7/32"	443
432	25.00	6-32x1/2"	1 11/32"	444
433	25.00	6-32x5/8"	1 15/32"	445
434	25.00	8-32x3/8"	1 7/32"	446
435	25.00	8-32x1/2"	1 11/32"	447
436	25.00	8-32x5/8"	1 15/32"	448

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPR Silver Plated Over	
No.	NET Per C	A	B	No.
437	$28.00	6-32x3/8"	1 7/32"	449
438	28.00	6-32x1/2"	1 11/32"	450
439	28.00	6-32x5/8"	1 15/32"	451
440	28.00	8-32x3/8"	1 7/32"	452
441	28.00	8-32x1/2"	1 11/32"	453
442	28.00	8-32x5/8"	1 15/32"	454

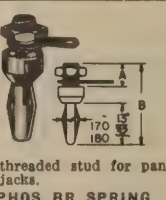


BANANA PLUG

BODY: HEX BRASS, n or silver plated.
SPRING: Phosphor bronz beryllium copper, n or silver plated.
RATING: 15 Amps AC 10°C Temp. rise, contin duty.
DESCR.: Supplied with nut and tinned phos bronze lug threaded stu panel mounting. Fits st ard banana jacks. Std. Pk

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPR Nickel Plated Ove	
No.	NET Per C	A	B	No.
401	$25.00	6-32x3/8"	1 7/32"	414
403	25.00	6-32x1/2"	1 11/32"	415
404	25.00	6-32x5/8"	1 15/32"	416
405	25.00	8-32x3/8"	1 7/32"	417
406	25.00	8-32x1/2"	1 11/32"	418
407	25.00	8-32x5/8"	1 15/32"	419

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPR Silver Plated Over	
No.	NET Per C	A	B	No.
408	$28.00	6-32x3/8"	1 7/32"	420
409	28.00	6-32x1/2"	1 11/32"	421
410	28.00	6-32x5/8"	1 15/32"	422
411	28.00	8-32x3/8"	1 7/32"	423
412	28.00	8-32x1/2"	1 11/32"	424
413	28.00	8-32x5/8"	1 15/32"	425

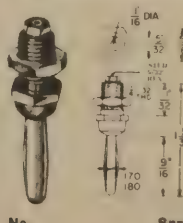


MIDGET BANANA PLUG

BODY: BRASS, nickel or s plated.
SPRING: Phosphor bronze beryllium copper. Nickel or ver plated.
RATING: 10 Amps AC for 1 Temp. rise, continuous dut
DESCR.: Supplied with hex and tinned phosphor bronze threaded stud for panel mounting. Fits standard ba jacks. Std. Pkg.

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPRI Nickel Plated Over	
No.	NET Per C	A	B	No.
460	$20.00	4-40x3/8"	15/16"	468
461	20.00	4-40x1/2"	1 1/16"	469
462	20.00	6-32x3/8"	15/16"	470
463	20.00	6-32x1/2"	1 1/16"	471

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPRI Silver Plated Overa	
No.	NET Per C	A	B	No.
464	$23.00	4-40x3/8"	15/16"	472
465	23.00	4-40x1/2"	1 1/16"	473
466	23.00	6-32x3/8"	15/16"	474
467	23.00	6-32x1/2"	1 1/16"	475



BANANA PLUG

BODY: HEX BRASS, nic plated.
SPRING: Phosphor bronze beryllium copper, nickel plat
RATING: 15 Amps AC for 1 Temp. rise, continuous duty
DESCR.: Supplied with hex n Wire can be soldered to br stud or directly into plug self. Stud also locks wire plug for solderless connecti **Std. Pkg.**

No.	Spring Material	NET Per
145	Phosphor Bronze	$25.
135	Beryllium Copper	30

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

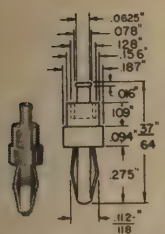
 © United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

SUBMINIATURE PLUGS & JACKS

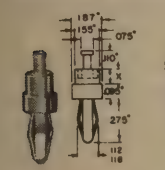


MINIATURE BANANA PLUG
Rivet Type

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 100**

No.	NET Per C
191	$17.00

No. 3876 Staking Tool Kit — Net Ea. $3.00

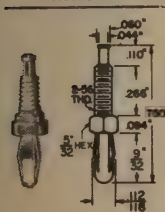


Rivet Type MINIATURE BANANA PLUG

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2073	.105	1/16"	$17.00
2074	.135	5/32"	17.00
2075	.165	1/8"	

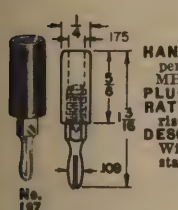
No. 3876 Staking Tool Kit — Net Ea. $3.00



MINIATURE BANANA PLUG

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 100**

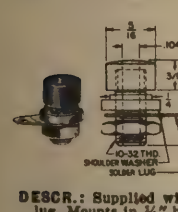
No.	NET Per C
192	$17.00



INSULATED BANANA PLUG
Sub Miniature

HANDLE: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, Class MH. Red or Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire solders directly into plug. Fits standard midget banana jacks. **Std. Pkg. 100**

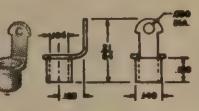
No.	NET Per C
197	$20.00



INSULATED BANANA JACK
Sub Miniature

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, Class MH. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 volts 60 cycle AC continuous working voltage. CAPACITANCE 6.0 pf.
DESCR.: Supplied with hex nut, fibre washer and tinned lug. Mounts in ¼" hole in panels up to ⅛" thick. Accepts standard midget banana plugs. **Std. Pkg. 100**

No.	NET Per C
198	$25.00

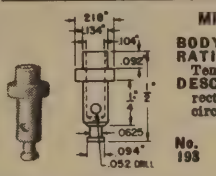


MINIATURE BANANA JACK

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: This jack is riveted directly to chassis or to printed circuit board for easy assembly. Std. Pkg. 1000

No.	NET Per M
194	$13.00

No. 3875 Staking Tool — Net Ea. $1.50



MINIATURE BANANA JACK

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: This jack is riveted directly to chassis or to printed circuit board for easy assembly. **Std. Pkg. 100**

No.	NET Per C
193	$9.00

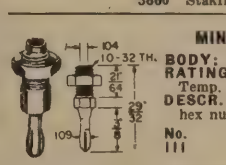
No. 3860 Staking Tool Kit — Net Ea. $3.00



MINIATURE BANANA JACK
Panel Mount

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: This jack is riveted directly chassis or to printed circuit board for easy assembly. **Std. Pkg. 100**

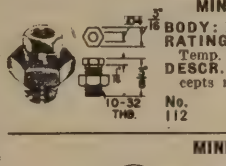
No.	"X" Dim.	Panel	NET Per C
2076	.105	1/16"	$9.00
2077	.135	5/32"	9.00
2078	.165	1/8"	9.00
3860	Staking Tool Kit		Net Ea. $3.00



MINIATURE BANANA PLUG

BODY: BRASS, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted, supplied with hex nut. Fits midget banana jacks.

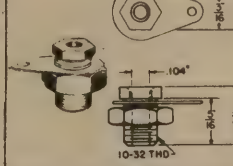
No.	NET Per C
111	$12.00



MINIATURE BANANA JACK

BODY: BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut. Accepts midget banana plugs.

No.	NET Per C
112	$9.00



MINIATURE BANANA JACK

BODY: HEX BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and tinned lug Mounts in .198 (#10) hole in panels up to ⅛" thick. Accepts standard midget banana plugs. **Std. Pkg. 100**

No.	NET Per C
195	$9.00

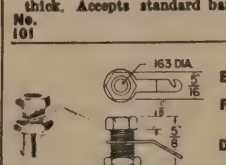
STANDARD BANANA JACKS



BANANA JACK

BODY: Hex brass nickel plated with recessed head.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. Mounts in ¼" hole; fits panels up to ⅝" thick. Accepts standard banana plugs. **Std. Pkg. 100**

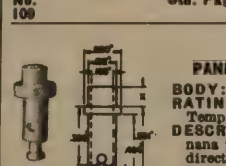
No.	NET Per C
101	$15.00



BANANA JACK

BODY: Hex brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. Mounts in ¼" hole in panels up to ⅜" thick. Accepts standard banana plugs.

No.	Std. Pkg. 100	NET Per C
100		$15.00



PANEL MOUNT BANANA JACK

BODY: BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts all standard banana plugs. These jacks are riveted directly to chassis or bakelite board. **Std. Pkg. 100**

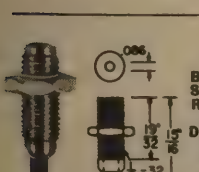
No.	"X" Dim.	Panel	NET Per C
2079	.105	1/16"	$11.00
2080	.135	5/32"	11.00
2081	.165	1/8"	11.00

STANDARD TIP JACKS

PHONE TIP JACK

BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Positive contact with standard phone tip plugs. Supplied with hex nut. Mounts in ⅛" hole in panels up to ⅝" thick. **Std. Pkg. 100**

No.	NET Per C
107	$15.00

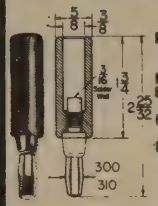


HEADLESS PHONE TIP JACK

BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut. Used with plastic molded instrument cases, where jack body is screwed into case. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.	NET Per C
147	$12.00

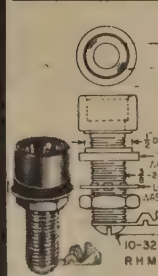
GIANT BANANA PLUGS & JACKS



INS. GIANT BANANA PLUG

HANDLE: MACHINED PHENOLIC plastic.
Red or Black. SPECIFY COLOR
BODY: Hex brass, nickel plated.
SPRING: Six-leaved, phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Large deep internal well for soldering heavy duty wire. Recessed so that no metal portions are exposed when plugged into mating jack, in order to prevent shocks or grounding. **Std. Pkg. 50**

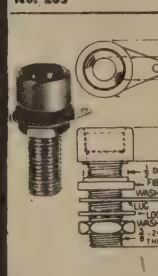
No.	NET Per C
285	$80.00



INS. GIANT BANANA JACK

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, class MH. Red or Black.
SPECIFY COLOR
BODY: Hex brass, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 pf.
DESCR.: Supplied with hex nut, fibre washer, lock-washer, screw and tinned copper lug. Jack body recessed for snug contact. Mounts in ½" hole in panel up to ¾" thick. **Std. Pkg. 50**

No.	NET Per C
285	$55.00



INS. GIANT BANANA JACK

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, class MH, Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 pf.
DESCR.: Supplied with hex nut, fibre washer, lock-washer, and brass tinned lug. Jack body recessed for snug contact. Mounts in ½" hole in panel up to ¾" thick. **Std. Pkg. 50**

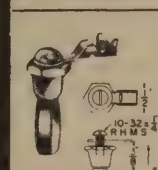
No.	NET Per C
287	$55.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. Large deep internal well for soldering heavy duty wire. **Std. Pkg. 50**

No.	NET Per C
185	$55.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and brass tinned lug. Internal female permits use on all size panels. **Std. Pkg. 50**

No.	NET Per C
186	$45.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and brass tinned lug. Internal female thread permits use on all size panels. **Std. Pkg. 50**

No.	NET Per C
188	$45.00



GIANT BANANA JACK

BODY: HEX BRASS, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. **Std. Pkg. 50**

No.	Hex Head	Mtg. Hole	Panel	NET Per C
187	1/2"	3/8"	1/2"	$40.00
157	5/8"	1/2"	5/8"	40.00

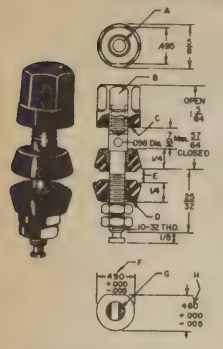
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

NYLON BINDING POST HEX HEAD



NOTES:
- A Banana Plug Receptacle, .161 I. D.
- B Head non-removable from stud.
- C Molded-in Brass Bushing in Head.
- D Molded-in Brass Bushing in Washers.
- E For Panels 1/16" to 1/4" thick.
- F Drill ½" hole for mounting washers.
- G Wire Hole is at right angle to Flat on Insulated Washers.
- H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)

RATING: 30 Amps AC for 10°C temp. rise, continuous duty, 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 pf.

ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

DESCR: MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in ½" or keyed hole as indicated. Wrap around type—direct solder connection to stud. BODY & INSERTS: Brass, per QQ-B-626, Comp. 22, Gold Plated Overall.

COLORS: Red, Black, Yellow, Green, Blue, White. Specify color.

Std. Pkg. 100

No.	NET Per C
257	$50.00

MIL-SPEC BINDING POST

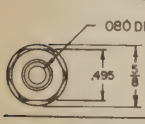
Same as our #257 above, made to meet MIL-P-55149/1, Type PB01FA01 & PB01FA02. Std. Pkg. 50

No.	NET Per C
267	$55.00

ECONOMY TYPE
All Metal Parts Nickel Plated

Same as No. 257 above except all metal parts NICKEL PLATED instead of gold plated. Supplied in Red and Black only. Std. Pkg. 100

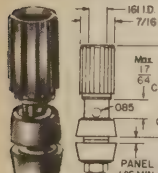
No.	Color	Net Per C
899-102	Red	$35.00
899-103	Black	35.00



PIN JACK TYPE

Same as above, with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply. Std. Pkg 100

No.	NET per C
258	$50.00



NYLON BINDING POST Insulated

HEAD: CAPTIVE, MOLDED NYLON, per MIL-P-20693A, with brass Gold-Plated Insert.
BODY: Brass, Gold Plated.
WASHERS: MOLDED NYLON, per MIL-P-20693A, with brass Gold-plated inserts.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, CAPACITANCE 3.0 pf.

DESCR.: Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in 3/8" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection.

COLORS: Red, Black, Yellow, Green, Blue, White.

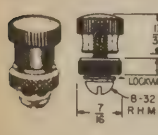
SPECIFY COLOR Std. Pkg. 100

No.	NET Per C
1517	$50.00

MIL-SPEC BINDING POST

Same as our #1517 above, but made to meet MIL-P-55149/1, Type PB01FA01 & PB01FA02. Std. Pkg. 100

No.	Net Per C
1514	$55.00

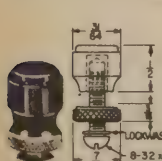


BINDING POST

HEAD: MOLDED PHENOLIC plastic, with molded-in brass threaded insert, Red or Black. SPECIFY COLOR
WASHER: Brass, nickel plated
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Supplied complete with screw and lockwasher. Std. Pkg. 100

No.	NET Per C
265	$25.00



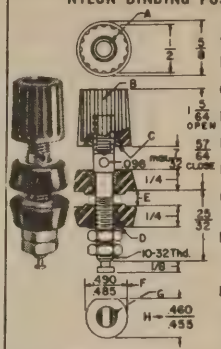
BINDING POST

HEAD: MOLDED PHENOLIC plastic, with molded-in brass threaded insert, Red or Black. SPECIFY COLOR
WASHER: Brass, nickel plated
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Supplied complete with screw and lockwasher. Std. Pkg. 100

No.	NET Per C
266	$25.00

NYLON BINDING POST FLUTED HEAD



NOTES:
- A Banana Plug Receptacle. .161 I.D.
- B Head non-removable from stud.
- C Molded-in Brass Bushing in Head.
- D Molded-in Brass Bushing in Washers.
- E For Panels 1/16" to ¼" thick.
- F Drill ½" hole for mounting washers.
- G Wire Hole is at right angle to Flat on Insulated Washers.
- H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)

RATING: 30 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 pf.

ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

DESCR.: MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in ½" or keyed hole as indicated. Wrap around type—direct solder connection to stud. BODY & INSERTS: Brass, per QQ-B-626, Comp. 22, Gold Plated Overall.

COLORS: Red, Black, Yellow, Green, Blue, White. Specify color. Std. Pkg. 100

No.	NET Per C
459	$50.00

MIL-SPEC BINDING POST

Same as our #459 above, made to meet MIL-P-55149/1; PB01FA03 & PB01FA04. Std. Pkg. 100

No.	NET Per C
495	$55.00

PIN JACK TYPE

Same as above, with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply. Std. Pkg. 100

No.	NET Per C
497	$50.00



NYLON BINDING POST Grounded

HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A, Red or Black with brass nickel plated insert.
SPECIFY COLOR
WASHER: Molded nylon with brass nickel plated insert.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 6.0 pf.

DESCR.: Supplied with 2 hex nuts. Grounds to panel but supplied with nylon washer for uniformity of height with No. 378 when used on same panel. Can be insulated from panel by using our No. 2150 shoulder washer. Std. Pkg. 100

No.	NET Per C
377	$35.00



NYLON BINDING POST Insulated

HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A, Red or Black with brass nickel plated insert.
SPECIFY COLOR
WASHER: Molded nylon with brass nickel plated insert.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf.

DESCR.: Supplied with two hex nuts. Boss washer insulates post from chassis when used with bakelite washer supplied.

No.	Min. Panel Thickness	Std. Pkg. 100 NET Per C
378	1/16"	$35.00
198	1/32"	35.00



NYLON BINDING POST Grounded

HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert.
SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 7.0 pf.

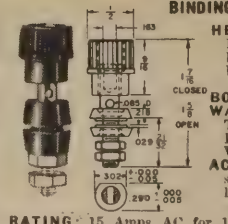
DESCR.: Supplied with two hex nuts. Can be insulated from panel by using our No. 2150 shoulder washer and 2162 flat washer. Std. Pkg. 100

No.	NET Per C
379	$30.00



MATERIAL: Spring brass, nickel plated .033" thick.
RATING: 50 Amps AC continuous duty for 10° C Temp Rise.
DESCR.: Snaps over contact barrels of dual binding posts with standard 3/4" mounting centers for positive shorting. Snap-in feature allows use in any position without falling off. Rotates on either post for open circuit use, retaining snap-in feature. Center hole allows easy insertion or removal. Std. Pkg. 100

No.	NET Per C
327	$6.00



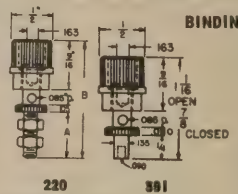
BINDING POST Insulated

HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
WASHERS: MOLDED BUTYRATE, per MIL-L-P349A, Type 3, Class MS. With brass inserts.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 pf.

DESCR.: Mounts in 5/16" hole in panel with milled slot for locking, supplied with two hex nuts. Std. Pkg. 100

No.	Description	Net Per C
260	8-32 Stud	$45.00
259	6-32 Stud	45.00
	With brass nickel plated insert in head	
290	8-32 Stud	$50.00
231	6-32 Stud	50.00



BINDING POST Grounded

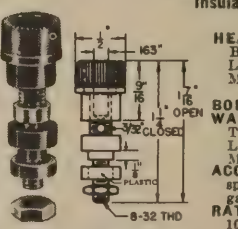
HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

220 391

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 5.0 pf.

DESCR: Can be completely insulated from panel by using our 2155 and 2163 fibre washers. Supplied with 2 hex nuts. Std. Pkg. 100

No.	Description	NET Per C
220	8-32 x ½ Stud	$22.00
230	6-32 x ⅜ Stud	22.00
391	Rivet Type	17.00
	With brass nickel plated Insert In head	
280	8-32 Stud	$27.00
264	6-32 Stud	27.00
394	Rivet Type	22.00
3875	Staking Tool	Net Ea. 1.50

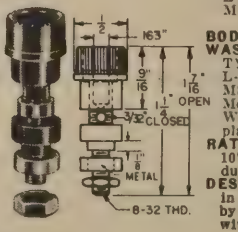


BINDING POST Insulated

HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
WASHERS: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.

DESCR.: Mounts in ¼" hole in panel. Supplied with one hex nut. Std. Pkg. 100

No.	NET Per C
386	$25.00

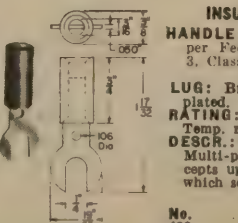


BINDING POST Grounded

HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
WASHERS: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Mounting Washer — Molded plastic. Back-up Washer — Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Mounts in ¼" hole in panel. Grounded to panel by back-up washer. Supplied with one hex nut. Std. Pkg. 100

No.	NET Per C
387	$30.00



INSULATED SPADE LUG

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
LUG: Brass, .050 thick, nickel plated.
RATING: 30 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¼" I.D. fits all standard Multi-purpose binding posts. Accepts up to #10 insulated wire, which solders in front hole. Std. Pkg. 100

No.	NET Per C
400	$15.00

Net

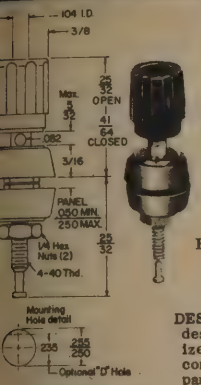
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

MINIATURE BINDING POST

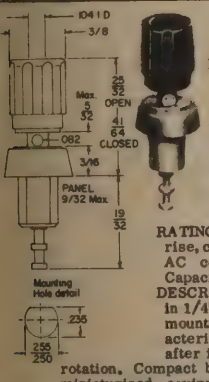


HEAD: Captive, Molded Nylon, per MIL-P-20693A, with Brass, Gold plated insert.
BODY: Brass, Gold Plated.
WASHERS: Molded Nylon, per MIL-P-20693A, with Brass Gold Plated inserts.
ACCEPTS: Standard .080" phone tip, #6 spade lug, miniature banana plug, alligator clip or wire.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC, continuous working voltage. Capacitance 2.5 pf.
DESCR.: Compact Binding post designed for use with miniaturized equipment. Molded washers completely insulate post from panel. Mounts in 1/4 round or "D" hole in panel as indicated. Wrap-around solder turret for direct wire connection.
COLORS: Available in Red, Black, Yellow, Green, Blue, and White. SPECIFY COLOR by adding Color Code suffix to basic Catalog No.

Std. Pkg. 100

No.	NET Per C
3015	$50.00

MINIATURE PRESS-FIT TEFLON* BINDING POST

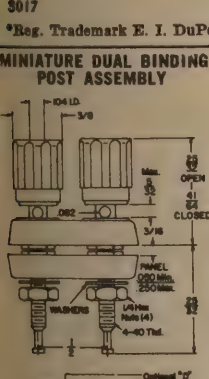


HEAD: Captive Molded Nylon, per MIL-P-20693A, with Brass, Gold plated insert.
BODY: Brass, Gold plated.
WASHER BODY: Virgin Teflon per MIL-P-19468.
ACCEPTS: Standard .080" phone tip, #6 spade lug, miniature Banana Plug, alligator clip or wire.
RATING: 5 Amps AC for 10°C. Temp. rise, continuous duty. 1 Kv, 60 cycle AC continuous working voltage. Capacitance 2.5 pf.
DESCR.: Unique binding post mounts in 1/4" "D" punched hole without any mounting hardware. Memory characteristic of Teflon locks unit hole after insertion and "D" flat prevents rotation. Compact binding post head for use with miniaturized equipment. Wrap-around solder turret for direct wire connection.
COLORS: Available in Red, Black, Yellow, Green, Blue, and White, SPECIFY COLOR by adding Color Code suffix to basic catalog No.

No.	NET Per C
3017	$60.00

*Reg. Trademark E. I. DuPont Co.

MINIATURE DUAL BINDING POST ASSEMBLY



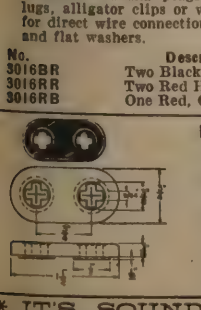


INSUL.: MOLDED Black STYRENE, octagonal-keyed to align cross-holes at alternate 90° positions.
BODIES: Brass, Gold plated.
HEADS: CAPTIVE, MOLDED NYLON, per MIL-P-20693A, with Brass plated inserts.
HARDWARE: Brass, Gold plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 2 Kv 60 cycle AC, continuous working voltage. Capacitance 3.5 pf between conductors, 3.0 pf to panel.
DESCR.: Compact Dual Binding Post designed for use with miniaturized equipment. Mounts in two 1/4" round, single or double "D" holes on 1/2" centers, in panels up to 1/4" thick. 1/2" center spacing designed for use with miniature dual connectors. Also accepts single miniature banana plugs, 080" phone tips, #6 spade lugs, alligator clips or wire. Wraparound solder turret for direct wire connections. Supplied with two hex nuts and flat washers.

Std. Pkg. 25

No.	Description	NET Per C
3016BR	Two Black Heads	$75.00
3016RR	Two Red Heads	75.00
3016RB	One Red, One Black Head	75.00

BLACK STYRENE INSULATOR

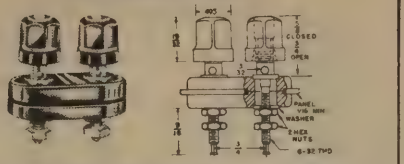


INSUL.: STYRENE, black. Spec. L-P316, Type L.
RATING: 2 K Volts 60 cycle AC continuous working voltage.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick

Std. Pkg. 100

No.	NET Per C
207	$3.00

DUAL ASSEMBLY Nylon

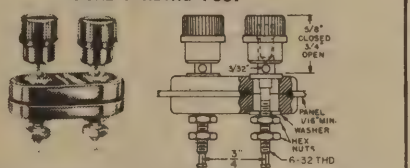


INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp., rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	Description	NET Per C
269BB	Two Black Heads	$95.00
269RR	Two Red Heads	95.00
269RB	One Red, One Black Head	95.00

DUAL BINDING POST

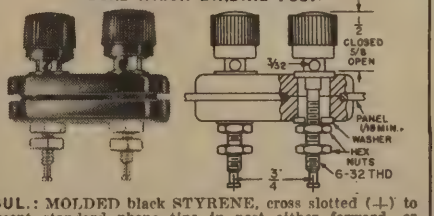


INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	Description	NET Per C
224BB	Two Black Heads	$70.00
224RR	Two Red Heads	70.00
224RB	One Red, One Black Head	70.00
	Same as above with brass nickel plated insert in head	
263BB	Two Black Heads	$80.00
263RR	Two Red Heads	80.00
263RB	One Red, One Black Head	80.00

DUAL NYLON BINDING POST

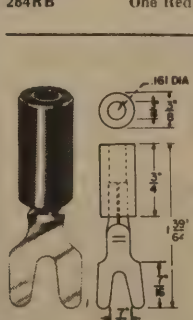


INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp., rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR.: Mounts in two 1/4" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	Net Per C
284BB	$70.00
284RR	70.00
284RB	70.00

INSULATED SPADE LUG OR BANANA PLUG ADAPTER



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black. SPECIFY COLOR
LUG: Steel electro tinned, .020 thick.
RATING: 15 Amp AC for 10°C Temp. rise, continuous duty.
DESCR.: Tapered slot fits studs from 1/4" dia. down to #6 dia. Fits all standard binding posts. Accepts standard banana plugs in rear. Solder bridge for wire connection up to No. 18 AWG.

Std. No.	Description	Pkg.	NET
218	Insulated Spade Lug	100	$14.00 Per C
129	Lug Only	1000	25.00 per M

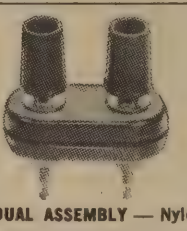


DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward. or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	Description	NET Per C
1813BB	Two Black Heads	$70.00
1813RR	Two Red Heads	70.00
1813RB	One Red, One Black Head	70.00



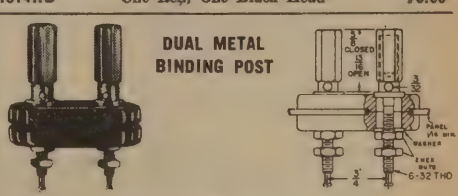
DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward. or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	Description	NET Per C
1814BB	Two Black Heads	$70.00
1814RR	Two Red Heads	70.00
1814RB	One Red, One Black Head	70.00

DUAL METAL BINDING POST

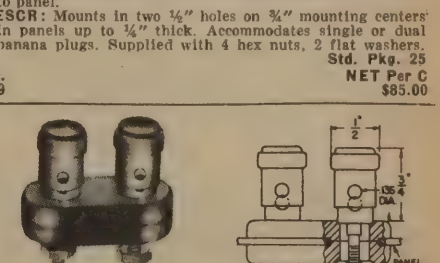


INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: Hex brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 pf. between conductors, 3.0 pf. to panel.
DESCR: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

Std. Pkg. 25

No.	NET Per C
209	$85.00

DUAL SPRING-LOADED BINDING POST



INSUL.: MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward, or sideways. Supplied in colors on special order.
HEAD: Captive, brass, nickel plated.
CAP: Moldel black styrene.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage. CAPACITANCE 4.0 pf. between conductors, 3.0 pf. to panel.
DESCR: Mounts in two 1/4" holes on 3/4" mounting centers in panels up to 1/4" thick. Accepts standard phone tips or wires in side holes, and locks them in place when pressure on cap is released. Supplied with 4 hex nuts, 2 flat washers.

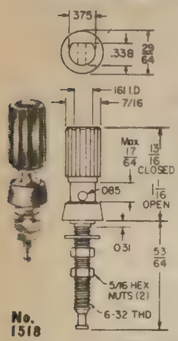
Std. Pkg. 25

No.	NET Per C
2713	$120.00

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONEN

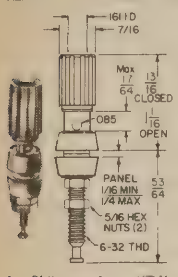
METAL BINDING POST
Grounded



HEAD: CAPTIVE, Fluted Brass, Gold-plated.
BODY: Brass, Gold-plated.
WASHER: MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Fluted-head metal post to match our No. 1517. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding.
Std. Pkg. 100

No.	NET Per C
1518	$50.00

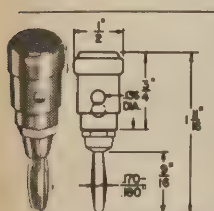
METAL BINDING POST
Insulated



HEAD: CAPTIVE, Fluted Brass, Gold-plated.
BODY: Brass, Gold-plated.
WASHER: MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C temp. rise, continuous duty. 1 K Volts, 60 cycle AC continuous working voltage. CAPACITANCE 3.0 pf.
DESCR.: Fluted-head metal post to match our No. 1517. Mounts in ⅜" round or "D" hole in panel. Molded washers insulate post from panel for use where internal ground circuit is isolated from chassis or panel. Std. Pkg. 100

No.	NET Per C
1519	$55.00

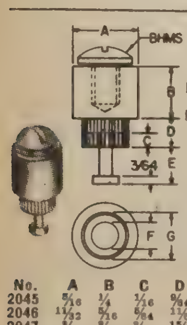
COMBINATION POST-PLUG



HEAD: Captive, brass nickel plated.
CAP: Molded Styrene, black.
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Converts any panel-mounted banana jack into a spring loaded push-post. Accepts standard phone tip, solid or stranded wire, and locks them in place on release of pressure on cap. Std. Pkg. 25

No.	NET Per C
2714	$75.00

COMBINATION TERMINALS



MATERIAL: BRASS, alloy plate.
DESCR.: Combination Screw and Turret Terminal. Knurled shank prevents turning. Supplied complete with BHMS and Internal Tooth Lockwasher, unassembled.
Std. Pkg. 100

No.	A	B	C	D	E	F	G	BHMS	Panel Thk	Net Per C
2045	5/16	1/4	1/16	9/64	11/64	1/8	.220	6-32	3/32	$11 40
2046	11/32	5/16	5/64	11/64	13/64	9/64	.250	8-32	1/8	11.40
2047	3/8	3/8	3/32	15/64	13/64	5/32	.257	10-32	3/16	11.40

METAL BINDING POST



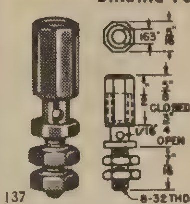
110

HEAD: BRASS, nickel plated.
WASHER: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied complete with screw and lockwasher.

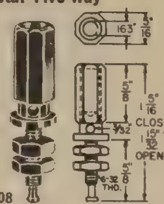
Std. Pkg. 100

No. 110 NET Per C $25.00

BINDING POST - Metal Five-Way



137

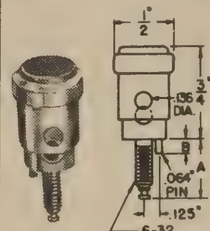


208

HEAD: CAPTIVE: octagonal brass, nickel plated.
BODY: Brass, nickel plated.
ACCEPTS: Phone tip, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 5.0 mmfd.
DESCR.: Can be completely insulated from panel by using our 2155 and 2163 fibre washers. Supplied with two hex. nuts.
Std. Pkg. 100

No.	Description	NET Per C
137	Standard	$30.00
208	Wrap-around	35.00

BINDING POST
Spring Loaded



HEAD: Captive, Brass nickel plated.
CAP: STYRENE, black.
BODY: Brass, nickel plated.
PIN: Nickel Silver.
ACCEPTS: Standard phone tip or wire in side hole and locks them in place on release of pressure on cap.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Side dowel pin locates and prevents post from turning when mounted in panel.

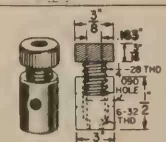
A	B	With Dowel Pin No.	NET Per C	Less Dowel Pin No.	NET Per C
5/16"	1/8"	2701	$45.00	2801	$41.00
⅜"	⅛"	2702	47.00	2802	43.00
½"	¼"	2703	49.00	2803	45.00
¾"	¼"	2704	50.00	2804	46.00
1"	⅜"	2705	52.00	2805	48.00



Same as above less threaded stud. Supplied with 6-32 internal mounting thread.

No.	Description	NET Per C
2709	With ⅛" lg. Dowel Pin	$40.00
2809	Without Dowel Pin	36.00

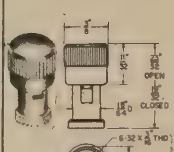
METAL BINDING POST



HEAD: BRASS, nickel plated.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts standard phone tips or banana plugs.
Std. Pkg. 100

No.	NET Per C
136	$23.00

BINDING POST
Compression Type



HEAD: Captive, brass nickel plated. Straight knurled for finger grip.
BODY: Brass, nickel plated.
ACCEPTS: Phone tips or wire (up to #10 gauge).
DESCR.: Head screws down to compress wire between body and sliding contact. Internally threaded for 6-32 mounting screw. Base knurled for positive grip to panel.
Std. pkg. 100

No. 159 NET Per C $28.00

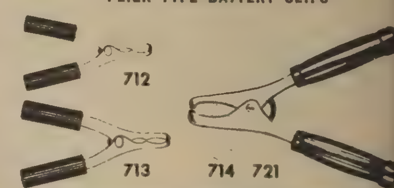
MORE THAN TEN THOUSAND ITEMS MANUFACTURED UNDER ONE ROOF

SMITH BATTERY CLIPS



No.	Current Capacity	Jaw Spread	Length	Spring	Std. Pkg.	NET Per (
STEEL, ELECTROPLATED						
365	5 Amp.	⅜"	1⅝"	7 lbs.	100	$ 8.(
366	10 Amp.	9/16"	2"	10 lbs.	100	9.(
701	25 Amp.	1"	2½"	17 lbs.	10	17.(
702	30 Amp.	1½"	3⅞"	33 lbs.	5	25.(
704	100 Amp.	1⅜"	5"	40 lbs.	5	71.:
SOLID COPPER						
703	50 Amp.	1"	2½"	17 lbs.	5	30.0
705	100 Amp.	1¼"	4¾"	33 lbs.	5	80.0
706	200 Amp.	1⅜"	5¾"	40 lbs.	5	155.0

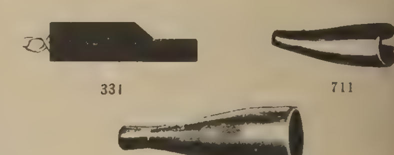
PLIER TYPE BATTERY CLIPS



Insulated Vinylite Handles, Red or Black.
SPECIFY COLOR

No.	Amps.	Material	Overall Size	Std. Pkg.	NET Per C
712	35	Steel, Cop. Pl.	3¼"	5	$27.00
713	75	Steel, Cop. Pl.	4½"	5	29.00
714	100	Steel, Cop. Pl.	7½"	5	53.00
721	300	Solid Copper	7½"	5	150.00

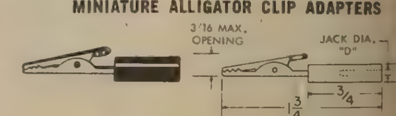
BATTERY CLIP INSULATORS



Red or Black. SPECIFY COLOR

No.	Made to fit Smith Clip #	Material	Std. Pkg.	NET Per (
331	365	Vinyl	100	$ 3.5(
710	704, 706	H.D. Rubber	10	75.0(
711	366	Vinyl	10	8.0(

MINIATURE ALLIGATOR CLIP ADAPTERS



HANDLE: MOLDED BUTYRATE. Per Fed. Spec. L-P-349-A, Type 3, Class MS, Red or Black. SPECIFY COLOR
CLIP: Steel Cadmium plated, or Copper.
BODY: Brass, Cadmium plated.
CONTACT: Beryllium Copper (Tip Jack only).
RATING: 1 Amp for 10°C Temp. rise, continuous duty.
DESCR.: Jack in rear adapts miniature alligator clip to phone tip plug, miniature banana plug or standard banana plug. Std. Pkg. 50

No.	Type	Jack Dia. "D"	NET Per C
STEEL, CADMIUM PLATED			
1320	Tip Plug	.080"	$35.00
1321	Min. Banana Plug	.104"	35.00
1322	Std. Banana Plug	.161"	35.00
COPPER			
1323	Tip Plug	.080"	40.00
1324	Min. Banana Plug	.104"	40.00
1325	Std. Banana Plug	.161"	40.00

"Your SPECIALS are STANDARD with SMITH!"

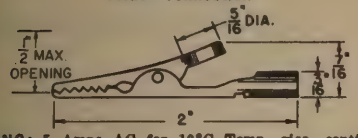
The Jacks, Plugs and Binding Posts shown on this and other pages are considered "standard" catalog items, and are available for immediate delivery in quantity.

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

ALLIGATOR CLIPS
Solder Connection



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
300	Steel, Cad. Pl.	$6.10
380	Solid Copper	8.00
382	Brass N.P.	10.00

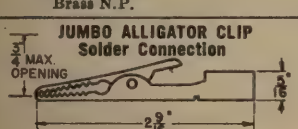
Screw Connection



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
350	Steel, Cad. Pl.	$7.00
360	Solid Copper	10.80
339	Brass N.P.	12.00

JUMBO ALLIGATOR CLIP
Solder Connection



RATING: STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.
COPPER: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¾" jaw opening. Jaws match accurately. For heavy terminal use. **Std. Pkg. 100**

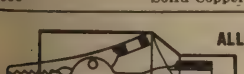
No.	Type	NET Per C
392	Steel, Cad. Pl.	$16.50
396	Solid Copper	19.80

Screw Connection

RATING: STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.
COPPER: 15 Amps AC for 10°C Temp. rise continuous duty.
DESCR.: ¾" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use. **Std. Pkg. 100**

No.	Type	NET Per C
368	Steel, Cad. Pl.	$19.80
356	Solid Copper	23.10

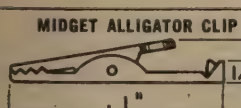
ALLIGATOR CLIP BOOTS



MATERIAL: MOLDED VINYL PLASTIC, Red, Black, Yellow, Green, Blue or White. SPECIFY COLOR
RATING: 1 K Volts 60 cycle AC continuous working voltage.
DESCR.: Fully insulated clip while allowing maximum jaw opening. No. 331 for use on standard size alligator clips such as our No. 300. No. 389 for use on miniature alligator clips, such as our No. 338. **Std. Pkg. 100**

No.	Description	NET Per C
331	Standard	$3.50
389	Miniature	2.90

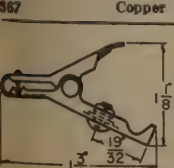
MIDGET ALLIGATOR CLIP



DESCR.: 5/16" jaw opening, jaws match accurately and grip securely. Unique SMITH spring construction. Solder connection and ears for crimping. **Std. Pkg. 100**

No.	Type	NET Per C
338	Steel, Cad. Pl.	$5.30
367	Copper	6.50

TL137 TEST CLIP
Signal Corps Approved



RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Steel, nickel plated, made in accordance with governme... spe s. ¾" jaw opening. Needle for piercing cor osion. **Std. Pkg. 25**

No.	NET Per C
315	$65.00

INSULATED ALLIGATOR CLIPS
Solder Connection



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
301	Steel, Cad. Pl.	$9.00
381	Solid Copper	9.90
354	Brass N.P.	12.00

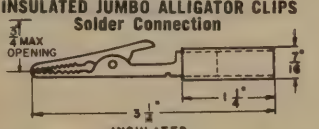
Screw Connection



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
351	Steel, Cad. Pl.	$9.80
361	Solid Copper	13.40
362	Brass N.P.	14.00

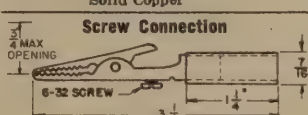
INSULATED JUMBO ALLIGATOR CLIPS
Solder Connection



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR
RATING: STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.
COPPER: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¾" jaw opening. Jaws match accurately. For heavy terminal use. **Std. Pkg. 25**

No.	Type	NET Per C
393	Steel, Cad. Pl.	$23.10
397	Solid Copper	26.40

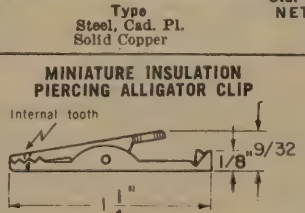
Screw Connection



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR
RATING: STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.
COPPER: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¾" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use. **Std. Pkg. 25**

No.	Type	NET Per C
369	Steel, Cad. Pl.	$26.40
357	Solid Copper	29.70

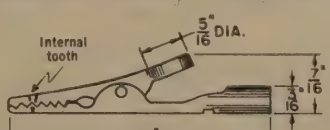
MINIATURE INSULATION PIERCING ALLIGATOR CLIP



RATING: 1 Amp AC for 10°C Temp. rise, continuous duty.
DESCR.: 3/16" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Solder connection and ears for crimping. **Std. Pkg. 100**

No.	NET Per C
326	$8.70

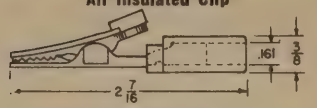
INSULATION PIERCING ALLIGATOR CLIP



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR: 1/2" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Accepts standard banana plug in rear. **Std. Pkg. 100**

No.	NET Per C
347	$13.60

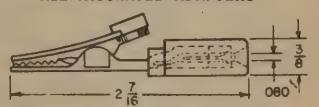
All Insulated Clip



INSULA.: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.
CLIP: Steel cadmium plated. SPECIFY COLOR
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.
DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Solder type connection. **Std. Pkg. 50**

No.	NET Per C
337	$26.40

ALL INSULATED ADAPTERS

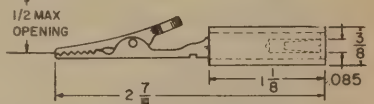


Phone Tip to Alligator Clip

INSULA.: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CLIP: Steel, cadmium plated.
BODY: Brass.
CONTACT: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Jack in rear permits adapting standard phone tip plugs to alligator clips. **Std. Pkg. 50**

No.	NET Per C
336	$39.60

ALLIGATOR CLIP ADAPTERS

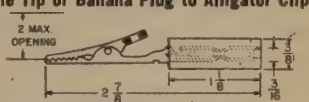


Phone Tip to Alligator Clip

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black. SPECIFY COLOR
CLIP: Steel, cadmium plated or solid copper.
BODY: Brass.
CONTACT: Phosphor bronze.
RATING: 5 Amps for 10°C Temp. rise, continuous duty.
DESCR.: Jack in rear permits adapting standard phone tip, plug to alligator clips. **Std. Pkg. 50**

No.	Description	NET Per C
304	Steel Clip	$36.30
334	Copper Clip	$39.60

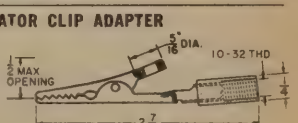
Phone Tip or Banana Plug to Alligator Clip



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CLIP: Steel, cadmium plated or solid copper.
BODY: Brass.
CONTACT: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Combination jack in rear, permits the adapting standard phone tip plug or banana plugs to alligator clip. **Std. Pkg. 25**

No.	Description	NET Per C
305	Steep Clip	$42.90
335	Copper Clip	46.20

ALLIGATOR CLIP ADAPTER



BUSHING: Brass, nickel plated.
CLIP: Steel cadmium plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Adapts standard solderless tips to alligator clip. This novel quick-adapter is a must for all types of bench work. **Std. Pkg. 50**

No.	NET Per C
310	$14.50

ALLIGATOR CLIP ADAPTER



CLIP: Steel, cadmium plated.
RATING: 5 Amps AC for 10°C Temp. rise, Continuous duty.
DESCR.: ½" jaw opening. Jaws match accurately and grip securely. Accepts standard phone tip in rear. Crimped for spring tension. **Std. pkg. 100**

No.	NET Per C
333	$8.70

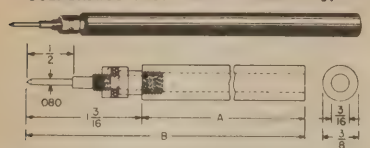
* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONE

SOLDERLESS TEST PROD—Threaded Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

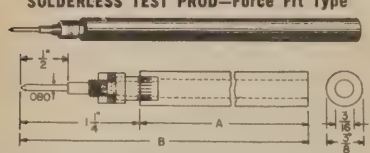
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
302	4"	5¼"	$30.00
303	5½"	6¾"	33.00

SOLDERLESS TEST PROD—Force Fit Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

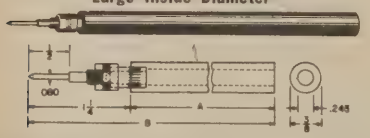
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
382	4"	5¼"	$30.00
383	5½"	6¾"	33.00

SOLDERLESS TEST PROD—Force Fit Type Large Inside Diameter



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

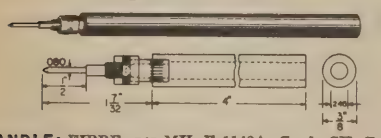
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Extra large I.D. for heavy duty wire. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
352	4"	5¼"	$30.00
353	5½"	6¾"	33.00

SOLDERLESS FIBRE TEST PROD Large Inside Diameter



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red or Black. SPECIFY CLOR

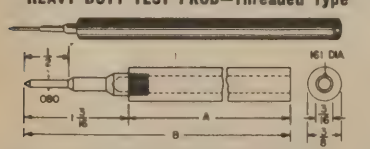
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Large I.D. permits use of heavy duty wire. Std. Pkg. 25

No.	NET Per C
328	$35.00

HEAVY DUTY TEST PROD—Threaded Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

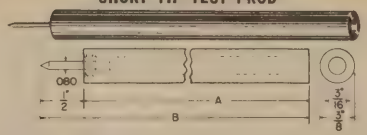
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
319	4"	5 5/16"	$30.00
329	5½"	6 11/16"	33.00

SHORT TIP TEST PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

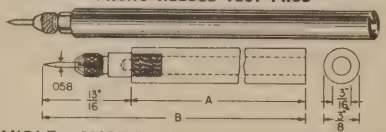
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Inserts flush with insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
363	4"	4⅛"	$25.00
364	5½"	6"	28.00

PHONO NEEDLE TEST PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

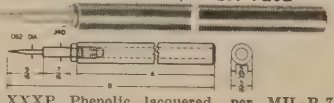
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Removable chuck for easy replacement or broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
317	4"	4 13/64"	$33.00
318	5½"	6 29/64"	38.00

SOLDERLESS PHONO NEEDLE TEST PROD



HANDLE: XXXP Phenolic lacquered, per MIL-P-79, Form TR. Red or Black. SPECIFY COLOR

PLUG: Brass, nickel plated.

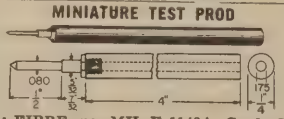
NEEDLE: Phono needle, steel.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to pellet for solderless connections. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
314	4"	5 3/32"	$75.00
313	6"	7 3/32"	81.00

MINIATURE TEST PROD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red or Black SPECIFY CLOR

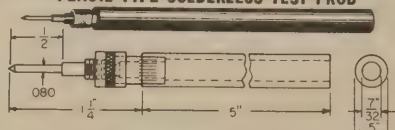
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Threaded for easy assembly. Ideally suited for checking all types sub-miniature equipment. Std. Pkg. 25

No.	NET Per C
322	$35.00

PENCIL TYPE SOLDERLESS TEST PROD



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class 2. Red or Black. SPECIFY COLOR

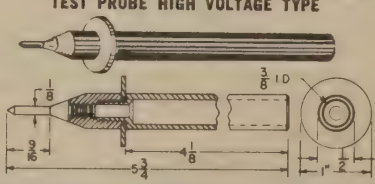
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug, then wraps around screw portion and is tightened with knurled collar. Std. Pkg. 25

No.	Force Fit Type	NET Per C
384		$30.00

TEST PROBE HIGH VOLTAGE TYPE



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red or Black. SPECIFY COLOR

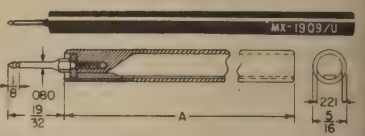
PROBE: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 15 KV 60 cycle AC continuous working voltage.

DESCR.: Heavy insulated fibre probe with flash-over shield for high-voltage applications. Large internal I.D. accommodates shielded cable or R.F. networks. Heavy duty removal tip. Std. Pkg. 10

No.	NET Per C
630	$79.00

NYLON HANDLE PRODS AND TIPS



HANDLE: MOLDED NYLON, per MIL-P20693A. Sify color.

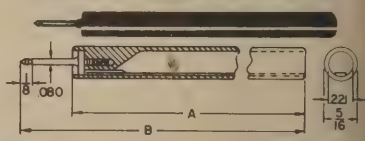
TIP: Brass, silver plated.

RATING: 10 Amps AC for 10°C Temp. rise, continu duty.

DESCR.: Solderless. Made to meet Signal Corps Draw SC-C-82761. Std. Pkg

No.	Sig. Corps. Drawing and Part No.	Size ("A")	Color	P
176	MX-1906/U	1"	Red	$6
177	MX-1907/U	1"	Black	6
178	MX-1909/U	4"	Red	7
179	MX-1910/U	4"	Black	7

MINIATURE TIP PLUG AND TEST PROD



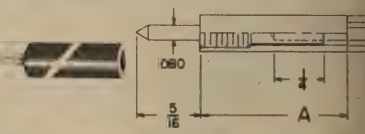
HANDLE: Molded Nylon, per MIL-P-20693A. Availa in Red or Black. SPECIFY COL

TIP: Brass, Silver plated.

DESCR.: Solderless assembly. Ideal for use with s miniature printed-circuit tip jacks. Sharp tip bre flux or oxide coating on printed-circuit pattern for p tive contact when used as prod. Grooved head of p makes positive contact when laid across wires. Fits standard .080" tip jacks. Std. Pkg.

No.	Handle (A)	Overall (B)	NET P
348	1"	1 5/16"	$35
349	4"	4 5/16"	45

MINIATURE TIP PLUG AND TEST PROD



HANDLE: MACHINED BUTYRATE, per MIL-P 10408A, Type I, Class II. Red or Black. SPECIFY COLO

PLUG: Brass, nickel plated.

RATING: 2 Amps AC for 10°C Temp. rise, continuou duty.

DESCR.: Ideally suited for checking sub-miniatur equipment. Fits standard phone tip jacks. Std. Pkg. 10

No.	Std. Pkg.	Length (A)	NET Per
244	100	¾"	$18.0
666	25	3"	30.0

MINIATURE TEST LEAD



HANDLE: MACHINED BUTYRATE, 3/16" O.D., 4" long, per MIL-P-10408A, Type I, Class II, Red and Black.

PLUG: MACHINED BUTYRATE, 3/16" O.D., ¾" long, per MIL-P-10408A, Type I, Class II.

TIPS: Brass, nickel plated. Std. Pkg. 6

No.	NET Per C
560	$1.26



LABORATORY INTERCHANGE KIT

DESCR.: All parts interchangeable, converts any standard test lead to an all purpose unit. Packaged in an electronically sealed vinyl kit.

Consists of one Red, one Black of the following:
Phone tips No. 215 Spade lugs No. 218
Tip plug adapter No. 214
Alligator clip jack No. 305 Std. Pkg. 1

No. 540 NET Ea. $2.25

We are equipped to manufacture Patch Cords, Jumpers and Test Leads in every conceivable combination of terminal ends — plugs, jacks, clips and connectors — to be found in our entire line.

What are YOUR special requirements? We welcome your inquiry!

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

SOLDERLESS TIP TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Solderless: Brass, nickel plated. Std. Pkg.12

No.	Meter End	NET Per Pr.
600	Phone Tips	$1.05
601	Spade Lugs	1.05
602	Alligator Clips	1.10

PHONO NEEDLE TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
BODY: Brass, nickel plated.
NEEDLE: Steel, nickel plated. Std. Pkg.12

No.	Meter End	NET Per. Pr.
613	Phone Tips	$1.05
614	Spade Lugs	1.05
615	Alligator Clips	1.10

ALL SOLDERLESS TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
TIP: Solderless: Brass, nickel plated. Std. Pkg.12

No.	NET Per Pr.
603	1.35

HIGH TENSION TEST LEAD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
PLUG: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
TIP: Brass, nickel plated. Std. Pkg. 6

No.	Meter End	NET Per Pr.
620	Ins. Phone Tips	$2.20
621	Ins. Spade Lugs	2.20
622	Ins. Alligator Clips	2.40

SHORT TIP TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED PHENOLIC plastic, Red and Black.
TIP: Brass, nickel plated. Std. Pkg. 12

No.	NET Per Pr.
624	$1.10

SLIM HANDLE TEST LEAD



HANDLES: MACHINED BUTYRATE, per MIL-P-10408A, type 1, class 2. Red and Black 5/16" O.D.
TIPS: Prod: Brass, Nickel Plated. Meter End: Drawn Brass Nickel Plated. Std. Pkg. 12

No.	NET Per Pr.
670	$.85

BANANA PLUG TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED PHENOLIC plastic, Red and Black.
TIP PLUG: Solderless: Brass, nickel plated.
BODY: Brass, nickel plated.
SPRING: Four leaved phosphor bronze, nickel plated. Std. Pkg.12

No.	NET Per Pr.
623	$1.50

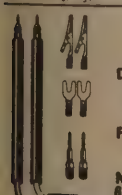
SLIM HANDLE TEST LEAD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red, Black. ¼" O.D.
PLUG: FIBRE, per MIL-F-1148A, Grade CH. Red, Black. ¼" O.D.
TIPS: Brass, nickel plated Std. Pkg. 12

No.	NET Per Pr.
678	$1.26

TEST LEAD KIT



DESCR.: Each kit is supplied with one pair of test leads. One end test prods, other end ins. banana plugs.
FITTINGS: Two each: Phone tips, alligator clips, spade lugs. Std. Pkg. 6

No.	Type	NET Ea.
610	Solderless Prods	$2.10
611	Needle Tip Prods	2.10

SHIELDED TEST LEADS



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Prod tip brass, nickel plated. Meter end, see type.
DESCR.: Plugs insert flush to insulated handle. Prods have retractable cover leaving no metal exposed. Eliminates possibility of shock or grounding. Supplied with either phone tip or banana plug meter ends. Other variations on special order. Std. Pkg. 6

No.	Type	NET Per Pr.
616	Phone Tip End	$1.90
617	Banana Plug End	2.00

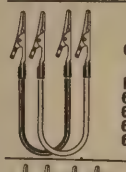
ALLIGATOR CLIP TEST LEAD



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIPS: Solderless: Brass, nickel plated.
CLIPS: Steel, cadmium plated.
BOOT: Vinyl Plastic. Red and Black Std. Pkg.12

No.	NET Per Pr.
672	$1.26

ALLIGATOR CLIP TEST LEAD



CLIPS: STEEL, cadmium plated. Std. Pkg.12

No.	Wire	NET Per Pr.
604	12 inches	$.82
605	24 inches	.85
606	36 inches	.88
607	48 inches	.91

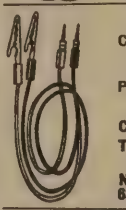
ALLIGATOR CLIP TEST LEAD
With Boots



CLIPS: Steel, Cadmium Plated
BOOTS: Vinyl plastic Red and Black. Std. Pkg.12

No.	Wire	NET Per Pr.
629	12 inches	$.92
657	24 inches	.96
658	36 inches	.99
659	48 inches	1.02

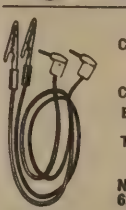
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red and Black
PLUG HANDLES: MOLDED PHENOLIC PLASTIC, Red and Black.
CLIPS: Steel, cadmium plated
TIPS: Solderless: Brass, nickel plated. Std. Pkg.12

No.	NET Per Pr.
627	$.99

ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red and Black
CLIPS: Steel, cadmium plated.
ELBOWS: MOLDED PHENOLIC plastic, Red and Black.
TIPS: Brass, Nickel Plated. Std. Pkg.12

No.	NET Per Pr.
628	$1.20

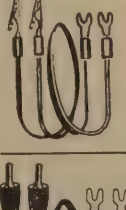
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
CLIPS: Steel, Cadmium Plated.
ELBOWS: MOLDED PHENOLIC plastic, Red and Black.
SPRING: Four-leaved phosphor bronze, nickel plated. Std. Pkg. 12

No.	NET Per Pr.
647	$1.30

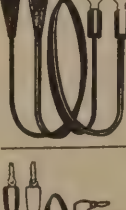
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-349A, Type 3, Class MS, Red and Black
CLIPS: Steel, cadmium plated
LUGS: Brass, Nickel Plated. Std. Pkg. 12

No.	NET Per Pr.
649	$1.20

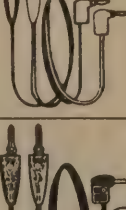
CROCODILE CLIP TEST LEAD



CLIPS: STEEL, Cadmium Plated.
BOOT: Vinyl Plastic, Red and Black.
HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
LUG: Brass, Nickel Plated. Std. Pkg. 12

No.	NET Per Pr.
671	$1.20

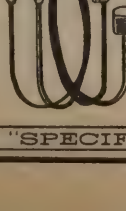
CROCODILE CLIP TEST LEAD



CLIPS: Steel, Cadmium plated.
BOOTS: Vinyl plastic, Red and Black.
ELBOWS: MOLDED PHENOLIC plastic, Red and Black.
TIPS: Brass, Nickel Plated.
SPRING: Four-leaved phosphor bronze, nickel plated. Std. Pkg. 25

No.	NET Per Pr.
648	$1.30

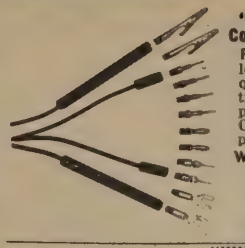
CROCODILE CLIP TEST LEAD



CLIPS: STEEL, cadmium p'ated.
BOOT: Vinyl plastic. Red and Black.
ELBOWS: MOLDED PHENOLIC plastic, Red and Black.
TIPS: Brass, Nickel Plated.
SPRING: Four-leaved phosphor bronze, nickel plated. Std. Pkg. 12

No.	NET Per Pr.
675	$1.20

"UNIVERSAL TEST LEAD" Completely Interchangeable



Fifty Leads In One! One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Complete as shown. With plastic kit. Std. Pkg. 6
WIRE: 5 KV rubber covered, 26 strands #34 copper, #20 AWG insulated to an O.D. of .125".

No.	NET Ea.
699	$4.00

"UNIVERSAL TEST LEAD" Completely Interchangeable



Fifty Leads In One. One lead can make any required test lead combination. All parts adapt into prod handle or meter tip. Supplied with miniature tips, clips, banana plugs and spade tips. Complete as shown. With plastic kit. **WIRE:** 5 KV rubber Std. Pkg. 6 covered, 26 strands #34 copper, #20 AWG insulated to an O.D. of .125"

No.	Description	NET Ea.
679	Miniature	$4.00

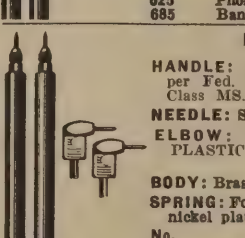
METER TEST LEADS Solderless Prod



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Solderless: Brass, nickel plated.
ELBOW: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.
BODY: Brass, nickel plated.
SPRING: Four leaved, phosphor bronze, nickel plated. Std. Pkg. 6

No.	Type	NET Per Pr.
625	Phone Tip Meter Tip	$1.50
685	Banana Meter Tip	1.70

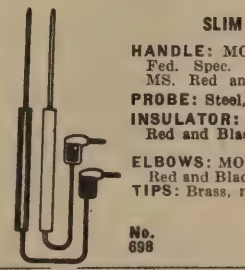
NEEDLE PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
NEEDLE: Steel, nickel plated.
ELBOW: MOLDED PHENOLIC PLASTIC, Red and Black.
BODY: Brass, nickel plated.
SPRING: Four leaved, phosphor bronze, nickel plated. Std. Pkg.12

No.	Type	NET Per Pr.
626	Phone Tip Meter Tip	$1.50
686	Banana Meter Tip	1.70

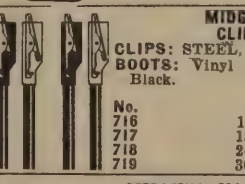
SLIM JIM TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PROBE: Steel, cadmium plated.
INSULATOR: Vinyl spaghetti tubing, Red and Black.
ELBOWS: MOLDED PHENOLIC plastic. Red and Black.
TIPS: Brass, nickel plated. Std. Pkg. 12

No.	NET Per Pr.
698	$1.35

MIDGET ALLIGATOR CLIP TEST LEAD



CLIPS: STEEL, Cadmium plated
BOOTS: Vinyl plastic Red and Black. Std. Pkg. 12

No.	Wire	NET Per Pr.
716	12 inches	$.92
717	18 inches	.94
718	24 inches	.96
719	36 inches	.99

RETRACTILE ALL SOLDERLESS TEST LEAD



HANDLE: MOLDED BUTYRATE per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED PHENOLIC plastic. Red and Black. MIL-M-14 CFG.
TIP: Solderless brass, nickel plated.
WIRE #20 gauge, 41/36 strand, 4000 volt, nom. O.D. .165. Retracts to 12". Extends to 6 ft. Std. Pkg. 6

No.	NET Per Pr.
618	$3.00

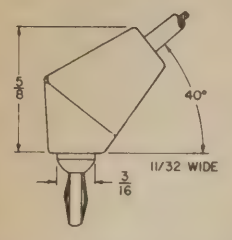
TEST LEAD WIRE SPECIFICATIONS

All test leads on this page are supplied with extra-flexible rubber-covered kinkless wire, 50-in. long, unless specified otherwise. **#20 wire, 26/34 strands, 5000 Volts, .125" O.D.**

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT



PLUG HANDLE



ALLIGATOR CLIP TEST LEAD FOR STANDARD BANANA JACKS

CLIPS: Steel, Cadmium Plated, Standard.
BOOTS: Vinyl Plastic, Red and Black.
BODIES: Brass, Nickel Plated, and Aluminum.
SPRING: Four-leaved Beryllium copper, Nickel Plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 12**

No.	NET Per Pr.
1332	$1.30



FOR MINIATURE BANANA JACKS

Same as above, except:
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 12**

No.	NET Per Pr.
1342	$1.30



SLIM JIM TEST LEAD FOR STANDARD BANANA JACKS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PROBE: Steel, Cadmium Plated.
INSULATOR: Vinyl Spaghetti Tubing. Red and Black.
BODIES: Brass, Nickel Plated, and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 12**

No.	NET Per Pr.
1330	$1.70

FOR MINIATURE BANANA JACKS

Same as above, except:
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 12**

No.	NET Per Pr.
1340	$1.70



PHONO NEEDLE TEST LEAD FOR STANDARD BANANA JACKS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS Red and Black.
BODIES: Brass, Nickel Plated, and Aluminum.
NEEDLE: Steel, Nickel Plated.
SPRING: Four-leaved Beryllium copper, Nickel Plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 12**

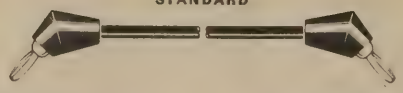
No.	NET Per Pr.
1331	$1.70

FOR MINIATURE BANANA JACKS

Same as above, except:
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 12**

No.	NET Per Pr.
1341	$1.70

BANANA PLUG STANDARD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 10**

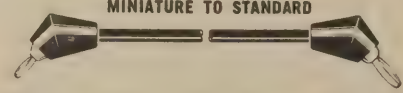
No.	Length ("A")	NET Each
1334-8	8 inches	$ .75
1334-12	12 inches	.75
1334-24	24 inches	.80
1334-36	36 inches	.85

MINIATURE

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1344-8	8 inches	$ .75
1344-12	12 inches	.75
1344-24	24 inches	.80
1344-36	36 inches	.85

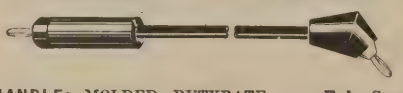
MINIATURE TO STANDARD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1349-8	8 inches	$ .75
1349-12	12 inches	.75
1349-24	24 inches	.80
1349-36	36 inches	.85

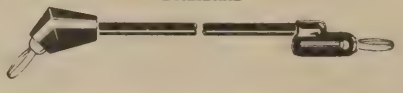
MINIATURE ANGLE TO MINIATURE STRAIGHT



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1348-8	8 inches	$ .75
1348-12	12 inches	.75
1348-24	24 inches	.80
1348-36	36 inches	.85

CROSS PATCH TO BANANA PLUGS STANDARD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1335-8	8 inches	$1.10
1335-12	12 inches	1.10
1335-24	24 inches	1.15
1335-36	36 inches	1.20

MINIATURE

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 5 KV PVC flexible wire, 19 strands #36 copper, #24 AWG, insulated to an O.D. of .090". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1345-8	8 inches	$1.10
1345-12	12 inches	1.10
1345-24	24 inches	1.15
1345-36	36 inches	1.20

COLOR CODE SUFFIX

Add to Catalog Number as required

—101 WHITE —103 BLACK —105 BLUE
—102 RED —104 GREEN —107 YELLOW

"CROSS PATCH" BANANA PLUG CORD STANDARD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".
DESCR.: Interconnects unlimited number of multiple circuits. Positive, lasting contact for all banana plugs on top and side. **Std. Pkg.**

WITH PLUG SPRING 9/16" LONG

No.	Length ("A")	NET Ea
1510-8	8 inches	$1.3
1510-12	12 inches	1.3
1510-25	24 inches	1.3
1510-36	36 inches	1.4

WITH LUG SPRING 13/32" LONG

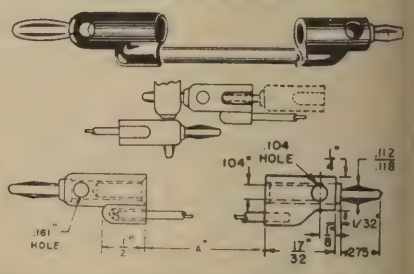
No.	Length ("A")	NET Ea
1515-8	8 inches	$1.3
1515-12	12 inches	1.3
1515-24	24 inches	1.3
1515-36	36 inches	1.4

MINIATURE

HANDLE: MOLDED BUTYRATE, per Fed Spec. L-P349A Type 3, Class MS. Available in ten colors listed above. SPECIFY COLOR
BODY: Brass, silver plated.
SPRING: Four-leaved beryllium copper, silver plated.
WIRE: General purpose, PVC insulated, 1/64" wall, #24 AWG, 41/34 stranded conductor. Voltage rating up to 1 KV RMS.
DESCR.: Interconnects unlimited number of multiple circuits. Positive, lasting contact for banana plugs on top and side. Special lengths on request. **Std. Pkg.**

No.	Length ("A")	NET E
1590-6	6 inches	1.3
1590-12	12 inches	1.3
1590-18	18 inches	1.3
1590-24	24 inches	1.4

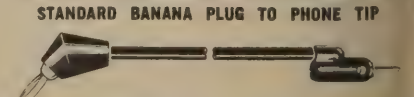
STANDARD "CROSS PATCH" TO MINIATURE "CROSS PATCH"



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of /140".
DESCR.: Mates with miniature or standard banana jacks or binding posts. Interconnects unlimited number of multiple circuits. Positive, lasting contact for all banana plugs on top and side. One end terminates in a miniature banana plug, other end in standard banana plug

No.	Length ("A")	St. Pkg. 10 NET Ea.
1728-8	8 inches	$1.30
1728-12	12 inches	1.30
1728-24	24 inches	1.35
1728-36	36 inches	1.40

STANDARD BANANA PLUG TO PHONE TIP



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR
BODY: Brass Nickel Plated and Aluminum.
SPRING: Four-leaved Beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". **Std. Pkg. 10**

No.	Length ("A")	NET Each
1336-8	8 inches	$1.10
1336-12	12 inches	1.10
1336-24	24 inches	1.15
1336-36	36 inches	1.20

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

COLOR CODE SUFFIX
Add to Catalog Number as required
—101 WHITE —103 BLACK —105 BLUE
—102 RED —104 GREEN —107 YELLOW

"CROSS PATCH" PIN TIP CORD



NDLE: MOLDED BUTYRATE, per Fed. Spec. -P349A, Type 3, Class MS. Red, Black, Yellow, Green, lue, White SPECIFY COLOR

DY: Brass, nickel plated.

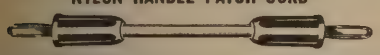
NTACT: Beryllium copper.

RE: 10 KV PVC flexible wire, 65 strands #36 copper, sulated to an O.D. of .140".

GC.: Interconnects an unlimited number of multiple rcuits .080" tip plug and female jack in rear of body s all standard phone tips and jacks. Side holes accept ndard banana plugs. Std. Pkg. 10

No.	Length ("A")	NET Ea.
95-8	8 inches	$1.40
95-12	12 inches	1.40
95-24	24 inches	1.45
95-36	36 inches	1.50

NYLON HANDLE PATCH CORD



NDLE: MOLDED NYLON, per MIL-P-20693A. Red, lack, Yellow or Green. SPECIFY COLOR

DY: Brass, nickel plated.

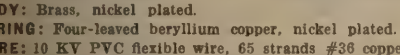
RING: Four-leaved beryllium copper, nickel plated.

RE: 10 KV PVC flexible wire, 65 strands #36 copper, 18 AWG, insulated to an O.D. of .140".

SCR.: Uses our standard No. 478 banana plug to interconnect circuits. Fits standard banana jacks. Std. Pkg. 10

o.	Length	NET Ea.
0-8	8 inches	$1.00
0-12	12 inches	1.00
0-24	24 inches	1.00
0-36	36 inches	1.05

MINIATURE MOLDED PATCH CORDS



NDLE: MOLDED BUTYRATE, per Fed. Spec. -P349A, Type 3, Class MS. Red, Yellow, Black, reen, assemblies. SPECIFY COLOR

DY: Brass, nickel plated.

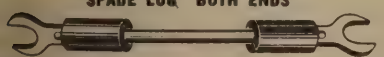
NG: Four-leaved beryllium copper, nickel plated.

RE: 10 KV PVC flexible wire, 65 strands #36 copper, nsulated to an O.D. of .140".

SCR.: Interconnects banana jacks on closely spaced enters where space is at a premium. Fits standard anana jacks. Std. Pkg. 10

o.	WIRE	NET Ea.
0-8	8 inches	$ .75
0-12	12 inches	.75
0-24	24 inches	.80
0-36	36 inches	.85

SPADE LUG BOTH ENDS



NDLES: MOLDED BUTYRATE, per Fed. Spec. -P349A, Type 3, Class MS. Red, Black, SPECIFY COLOR

: Brass, .050 thick, nickel plated.

TING: 25 Amps AC for 10°C Temp. rise, continuous uty.

RE: 10 KV PVC flexible wire, 65 strands #36 copper, 18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

e.	Length	Net Ea.
4-12	12 inches	$ .62
4-24	24 inches	.64
4-36	36 inches	.66
4-48	48 inches	.68
4-60	60 inches	.70

FOR ENGINEERS & PURCHASING AGENTS!

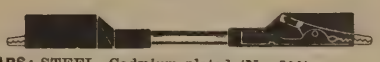
NEW SMITH CATALOG

is an important Reference Work on electronic component parts, containing: Detailed specifications! Data; Dimensional Drawings.

SEND FOR YOUR FREE COPY

ALLIGATOR CLIP

STANDARD



CLIPS: STEEL, Cadmium plated (No. 300).

BOOTS: Vinyl plastic. Boot colors match wire.

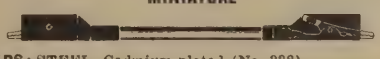
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D of .140". Available in Red, Black, Yellow, Green, Blue, and White. SPECIFY COLOR

Std. Pkg. 10

No.	Length	NET Ea.
1596-12	12 inches	$ .57
1596-24	24 inches	.59
1596-36	36 inches	.61
1596-48	48 inches	.63
1596-60	60 inches	.65

MINIATURE



CLIPS: STEEL, Cadmium plated (No. 338).

BOOTS: Vinyl plastic. Boot colors match wire.

RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.

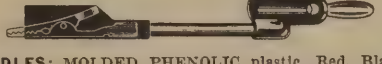
WIRE: General purpose, PVC insulated 1/64" wall, #18 AWG, 16/30 stranded conductor. Available in Red, Black, Yellow, Green, Blue, and White. SPECIFY COLOR

Std. Pkg. 10

No.	Length	Net Ea.
1597-12	12 inches	$ .57
1597-18	18 inches	.58
1597-24	24 inches	.59
1597-36	36 inches	.61
1597-48	48 inches	.63
1597-60	60 inches	.65

ALLIGATOR CLIP TO BANANA PLUG

STANDARD



HANDLES: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR

PLUG: Hex brass, nickel plated.

SPRING: Four-leaved phosphor bronze, nickel plated.

CLIPS: STEEL, Cadmium plated.

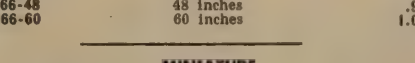
BOOTS: Vinyl plastic. Boot colors match wire. .

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	NET Ea.
1866-12	12 inches	$ .90
1866-24	24 inches	.92
1866-36	36 inches	.95
1866-48	48 inches	.97
1866-60	60 inches	1.00

MINIATURE



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR

BODY: Brass, nickel plated.

SPRING: Four-leaved beryllium copper, nickel plated.

WIRE: General purpose, PVC insulated, 1/64" wall, #18 AWG, 41/34 stranded conductor. Voltage rating up to 1 KV RMS.

CLIP: Steel cadmium plated No. 338 Insulator molded vinyl plastic No. 389, insulators match wire color.

DESCR.: Interconnects, unlimited number of multiple circuits. Positive lasting contacts between banana plugs. Insulated alligator clip for temporary circuit connection. Std. Pkg. 10

No.	Length	NET Ea.
1794-12	12 inches	$.85
1794-24	24 inches	.90
1794-36	36 inches	.95
1794-48	48 inches	1.00

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!

COLOR CODE SUFFIX
Add to Catalog Number as required
—101 WHITE —103 BLACK —105 BLUE
—102 RED —104 GREEN —107 YELLOW

STANDARD ALLIGATOR CLIP TO PIN PLUG



HANDLES: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green, Blue, White. SPECIFY COLOR

PLUG: Brass, nickel plated.

CLIPS: STEEL, Cadmium plated.

BOOTS: Vinyl plastic. Boot colors match wire.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	NET Ea.
1865-12	12 inches	$ .87
1865-24	24 inches	.89
1865-36	36 inches	.91
1865-48	48 inches	.93
1865-60	60 inches	.95

STANDARD ALLIGATOR CLIP TO SPADE LUG



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A. Type 3, Class MS. Red, Black, SPECIFY COLOR

LUG: Brass, .050 thick, nickel plated.

CLIPS: STEEL, Cadmium plated.

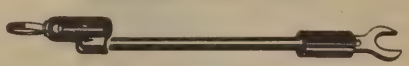
BOOTS: Vinyl plastic. Boot colors match wire.

RATING: 15 Amps AC for 10°C Temp. rise, continuous duty

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1867-12	12 inches	$ .62
1867-24	24 inches	.64
1867-36	36 inches	.66
1867-48	48 inches	.68
1867-60	60 inches	.70

CROSS PATCH BANANA PLUG TO INSULATED SPADE LUG



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Available in red or black. SPECIFY COLOR

BODY: Brass, nickel plated.

SPRING: Four-leaved beryllium copper, nickel pl.

WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".

LUG: Brass, nickel plated, .050 thick No. 400

DESCR.: Interconnects unlimited number of multiple contacts. Positive lasting contacts between banana plugs. Insulated spade lug for binding post connection. Std. Pkg. 10

No.	Length	NET Ea.
1789-12	12 inches	$.80
1789-24	24 inches	.85
1789-36	36 inches	.90
1789-48	48 inches	.95
1789-60	60 inches	1.00

You'll find these SMITH products on the shelves of leading industrial Electronic Distributors, throughout the U.S.A. For your production runs, draw directly on our large plant inventories of standard components.

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT

RF PATCH CORDS

MOLDED BUTTON

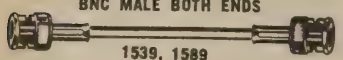


	WIRE "B"	WIRE "C"	WIRE "D"
DESCRIPTION	Shielded microphone cable.	RG58/U Coaxial cable.	RG-11/U Coaxial cable.
INSULATION	Polyethylene	Polyethylene	Polyethylene
JACKET	Vinyl	Vinyl	Vinyl
NOM. CAP.	25 mmf./ft.	50 Ohm Impedance	20.5 mmf./ft.

CRIMPED FOR GREATER RELIABILITY

Patented weatherproof seal on both male and female connectors provides greater flexibility and strain relief

BNC MALE BOTH ENDS

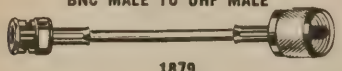


1539, 1589

WIRE: As specified above. Std. Pkg. 10

No. Wire "B"	No. Wire "C"	Length	NET Ea.
1539-12	1589-12	12"	$5.35
1539-24	1589-24	24"	5.45
1539-36	1589-36	36"	5.55
1539-48	1589-48	48"	5.65
1539-60	1589-60	60"	5.75

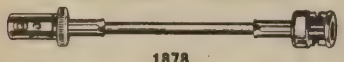
BNC MALE TO UHF MALE



1879

No. Wire "C"	Length	NET Ea.
1879-12	12 inches	$5.35
1879-24	24 inches	5.45
1879-36	36 inches	5.55
1879-48	48 inches	5.65
1879-60	60 inches	5.75

BNC FEMALE TO BNC MALE



1878

No. Wire "C"	Length	NET Ea.
1878-12	12 inches	$5.60
1878-24	24 inches	5.70
1878-36	36 inches	5.80
1878-48	48 inches	5.90
1878-60	60 inches	6.00

UHF MALE TO ALLIGATOR CLIPS

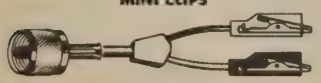


1872, 1536, 1586

CLIPS: Steel Cadmium Plated (#300).
INSUL.: Molded Vinyl (#300).
DESC.: For testing wave patterns, etc. One end terminates with UHF Male, other end with insulated alligator clips, one red, one black.
WIRE: As specified above. Std. Pkg. 10

No. Wire "B"	No. Wire "C"	No. Wire "D"	Lgth.	NET Ea.
1536-12	1586-12	1872-12	12"	$5.35
1536-24	1586-24	1872-24	24"	5.45
1536-36	1586-36	1872-36	36"	5.55
1536-48	1586-48	1872-48	48"	5.65
1536-60	1586-60	1872-60	60"	5.75

UHF MALE TO INSULATED MINI CLIPS

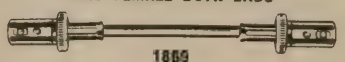


CLIP: Steel, Cadmium plated, No. 338.
INSULATOR: Molded Vinyl plastic, No. 384.
WIRE: RG-174/U coaxial cable.
DESCR.: For testing wave patterns, etc.
One end terminates with UHF male, other end with insulated mini clips, one red, one black. Std. Pkg. 10

No.	Length	Net Ea.
1790-12	12 inches	$5.35
1790-24	24 inches	5.45
1790-36	36 inches	5.55
1790-48	48 inches	5.65
1790-60	60 inches	5.75

MORE THAN TEN THOUSAND ITEMS MANUFACTURED UNDER ONE ROOF

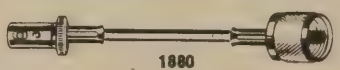
BNC FEMALE BOTH ENDS



1869

No. Wire "C"	Length	NET Ea.
1869-12	12 inches	$6.10
1689-24	24 inches	6.20
1689-36	36 inches	6.30
1869-48	48 inches	6.40
1869-60	60 inches	6.50

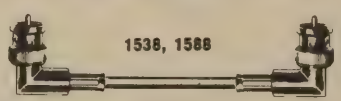
BNC FEMALE TO UHF MALE



1880

No. Wire "C"	Length	NET Ea.
1880-12	12 inches	$5.35
1880-24	24 inches	5.45
1880-36	36 inches	5.55
1880-48	48 inches	5.65
1880-60	60 inches	5.75

RIGHT ANGLE BNC TO RIGHT ANGLE BNC



1538, 1588

WIRE: As specified above.

No. Wire "B"	No. Wire "C"	Length	NET Ea.
1538-12	1588-12	12"	$10.00
1538-24	1588-24	24"	10.10
1538-36	1588-36	36"	10.20
1538-48	1588-48	48"	10.30
1538-60	1588-60	60"	10.40

BNC MALE TO ALLIGATOR CLIPS



1537, 1587

CLIPS: Steel Cadmium Plated (#300).
INSUL.: Molded Vinyl (#331).
WIRE: As specified above.
DESCR.: For testing wave patterns, etc. One end terminates with BNC Male Plug, other end with insulated alligator clips, one red, one black. Std. Pkg. 10

No. Wire "B"	No. Wire "C"	Length	NET Ea.
1537-12	1587-12	12"	$5.35
1537-24	1587-24	24"	5.45
1537-36	1587-36	36"	5.55
1537-48	1587-48	48"	5.65
1537-60	1587-60	60"	5.75

BNC MALE TO INSULATED MINI CLIPS



CLIPS: Steel, Cadmium plated, No. 338.
INSULATOR: Molded Vinyl plastic, No. 389.
WIRE: RG-174/U coaxial cable.
DESCR.: For testing wave patterns, etc.
One end terminates with BNC male, other end with insulated mini clips, one red, one black. Std. Pkg. 10

No.	Length	Net Ea.
1791-12	12 inches	$5.35
1791-24	24 inches	5.45
1791-36	36 inches	5.55
1791-48	48 inches	5.65
1791-60	60 inches	5.75

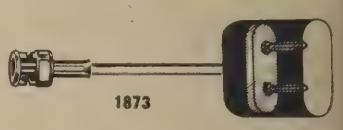
UHF MALE BOTH ENDS



1870, 1871

No. Wire "C"	No. Wire "D"	Length	NET E
1871-12	1870-12	12"	$5.
1871-24	1870-24	24"	5.
1871-36	1870-36	36"	5.
1871-48	1870-48	48"	5.
1871-60	1870-60	60"	5.

BNC MALE TO SHIELDED DOUBLE PLUG



1873

BODY: MOLDED BUTYRATE, per Fed. Spec L-P349A, Type 3, Class MS. Assemblies.
SHIELD: Aluminum, black anodized.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plate
DESCR.: Mates with standard dual binding post havin ¾" center. One end terminates with double shielde banana plug, other end with BNC Male Plug. Std. Pkg.

No. Wire "C"	Length	NET E
1873-12	12 inches	$6.
1873-24	24 inches	6.
1873-36	36 inches	6.
1873-48	48 inches	6.
1873-60	60 inches	6.

UHF MALE TO SHIELDED DOUBLE PLUG



1874, 1875

SHIELD: Aluminum, black anodized.
BODY: MOLDED BUTYRATE, per Fed. Spec L-349A. Type 3, Class MS.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated
DESCR.: Mates with standard dual binding post havin ¾" center. One end terminates with double shielde banana plug, other end in UHF Conn. Std. Pkg.

No. Wire "C"	No. Wire "D"	Length	NET Ea
1874-12	1875-12	12"	$6.
1874-24	1875-24	24"	6.
1874-36	1875-36	36"	6.
1874-48	1875-48	48"	6.
1874-60	1875-60	60"	6.

UHF COAXIAL CABLE CONNECTORS
SOLDER TYPE

R.F. Connectors for use with RG-8, 9, 10, 11, 12, 6 65/U coaxial cables. Std. Pkg.



1713

STRAIGHT COAXIAL CONNECTO
Brass, Silver-plated shell.

No.	Type	NET Per
1713	PL-259	$65.0



1715

CHASSIS TYPE COAXIAL RECEPTACLE

1715	SO-239	$60.0



1716

COAXIAL JUNCTION
For joining separate cable lengths

1716	PL-258	$115.0

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

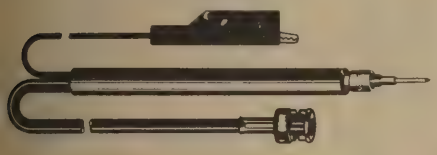
BNC FEMALE TO TEST PROBE



HANDLE: Molded Butyrate, per Federal Spec. L-P349A, Type 3, Class MS. BLACK.
TIP: .080 Brass Nickel Plated.
CONNECTOR: BNC Female.
DESCR.: Permits the use of coaxial cables terminated with a BNC Male for all circuit testing. Probe shielded within 1" from tip.
Std. Pkg. 1

No.	NET Ea.
1797	$4.85

BNC MALE TO TEST PROBE



HANDLE: Molded Butyrate per Federal Spec. L-P349A, Type 3, Class MS, RED.
TIP: .080 Brass Nickel Plated.
CONNECTOR: BNC Male.
WIRE: RG-58/U, 48" long.
CLIP: Miniature steel alligator clip, cadmium plated with black insulator.
DESCR.: Permits the use of probe testing with any equipment utilizing a BNC female termination. Probe shielded within 1" from tip.
Std. Pkg. 1

No.	NET Ea.
1798	$5.85

BNC MALE TO STACK TIP PLUGS



WIRE: RG-58/U coaxial cable.
PLUGS: No. 1595, one Red, one Black.
DESCR.: For testing wave patterns, etc.
One end terminates with BNC male, other end with cross patch tip plugs, one red, one black. Std. Pkg. 10

No.	Length	Net Ea.
1792-12	12 inches	$5.50
1792-24	24 inches	5.75
1792-36	36 inches	6.00
1792-48	48 inches	6.25
1792-60	60 inches	6.50

BNC MALE TO STACK BANANA PLUGS



WIRE: RG-58/U coaxial cable
PLUGS: No. 1510, one red, one black
DESCR.: For testing wave patterns, etc.
One end terminates with BNC male, other end with cross patch standard banana plugs, one red, one black. Std. Pkg. 10

No.	Length	Net Ea.
1793-12	12 inches	$5.50
1793-24	24 inches	5.75
1793-36	36 inches	6.00
1793-48	48 inches	6.25
1793-60	60 inches	6.50

WE INVITE YOU to use our manufacturing and engineering facilities and our know-how to meet YOUR PARTICULAR REQUIREMENTS.

SOLDERLESS COAXIAL CATV CONNECTORS & ACCESSORIES

MALE CABLE CONNECTORS
Crimp Type

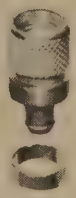

FIG. 1


FIG. 2


FIG. 3

Designed to crimp onto cable, and use the center conductor of the cable for the male pin. For use with RG-59/U, RG-11/U and RG-6/U cable. Std. Pkg. 25

No.	Style	Fig.	Descr.	NET Each
1652	C-52	1	RG-59/U Separate Ring	$ .35
1816	F-59	2	RG-59/U Separate Ring	.30
1817	F-59A	3	RG-59/U Integral Ring	.35
1818	F-56	2	RG-6/U Separate Ring	.35
1819	F-11	2	RG-11/U Separate Ring	.60



FEMALE CHASSIS FITTINGS

Designed to accept above "C" and "F" series connectors. Supplied with nut and washer. Std. Pkg. 25

No.	Style	Descr.	NET Each
1660	C-61	Mounts in 5/16" hole	$ .60
1820	F-61	Mounts in 3/8" hole	.50



CABLE COUPLINGS

Female splice fittings for joining two cables with above series "C" and "F" connectors. Can also be used as bulkhead thru fittings. Supplied with nut for bulkhead mount. Std. Pkg. 25

No.	Style	Descr.	NET Each
1680	C-81	Mounts in 1/4" hole	$ .70
1821	F-81	Mounts in 3/8" hole	.70

ACCESSORIES


FIG. 4

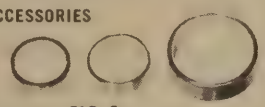

FIG. 5

Fig. 4
"F" Series 75-ohm termination 1/4 Watt 5%.
No. 1822 Std. Pkg. 25 NET Each $.75

Fig. 5

No.	Crimp Ring for:	Std. Pkg.	NET Per C
1823	RG-59/U Cable	100	$2.50
1824	RG-11/U Cable	100	4.50
1825	RG-6/U Cable	100	3.50


FIG. 6

Fig. 6
Combination crimp and stripping tool for above connectors. Std. Pkg. 1
No. 1826 NET Each $2.95

"F" Connector Kit, consists of 6 each of connectors Nos. 1816, 1817, 1818, 1819, 1820, 1821, 1822 and 1826 Crimping Tool. Std. Pkg. 1
No. 1827 NET Per Kit $23.00



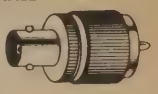
BNC FEMALE JACK

No.	Type	Descr.	NET Ea.
1768	UG-1094/U	Single Hole Jack	$1.00

THE SMITH ORGANIZATION
has been a major supplier of electronic components to the industry for 25 years. Today, with its modern plant facilities and capabilities we are in a position to convert your ideas and needs, whether they be one or a million, and deliver what you want, when you want it!

ADAPTERS

BNC FEMALE TO UHF MALE



FRONT: UHF plug.
REAR: BNC jack.
DESCR.: Permits the use of a BNC plug on equipment using a UHF jack. Std. Pkg. 1

No.	NET Ea.
1703	$1.75

UHF FEMALE TO BNC MALE



FRONT: BNC plug.
REAR: UHF jack.
DESCR.: Permits the use of a UHF plug to equipment using a BNC jack. Std. Pkg. 1

No.	NET Ea.
1700	$2.95

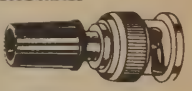
BINDING POST TO UHF MALE



FRONT: UHF male.
REAR: Insulated 5-way binding post.
DESCR.: Permits the adaptation of a 5-way insulated binding post to equipment using a UHF jack. Available in Red or Black. Std. Pkg. 1

No.	NET Ea.
1706	$2.25

BINDING POST TO BNC MALE



FRONT: BNC male.
REAR: Insulated 5-way binding post.
DESCR.: Permits adaptation of a 5-way insulated binding post to equipment using a BNC jack. Available in Red or Black. Std. Pkg. 1

No.	NET Ea.
1705	$2.25

BNC MALE TO BNC MALE



FRONT: BNC plug.
REAR: BNC plug.
DESCR.: Permits interconnection between cable terminations with BNC jacks. Std. Pkg. 1

No.	NET Ea.
1704	$2.95

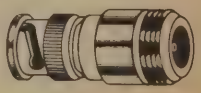
BNC FEMALE TO TYPE "N" MALE



FRONT: Type "N" plug.
REAR: BNC jack
DESCR.: Permits the use of a BNC plug on equipment using a Type "N" jack. Std. Pkg. 1

No.	NET Ea.
1701	$1.95

TYPE "N" FEMALE TO BNC MALE



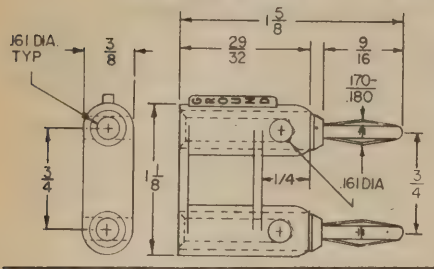
FRONT: BNC plug.
REAR: Type "N" jack.
DESCR.: Permits the use of a type "N" plug on equipment using a BNC jack. Std. Pkg. 1

No.	NET Ea.
1702	$2.95

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

STANDARD DUAL TEST ADAPTERS



MATERIALS:
BODY: Molded Butyrate, per Fed Spec. L-P349A, Type 3, Class MS. Color BLACK unless otherwise specified.
CONDUCTOR: Brass, per QQ-B-626, Comp. 22, ½ hard.
SPRING: Four-leaved beryllium copper, heat treated.
HEAD: Molded Nylon, per MIL-P-20693A.
SHIELD: Drawn Aluminum.
SCREWS: Steel, cadmium plated.

FINISHES:
CONDUCTOR: Nickel plate, per QQ-N-290, Class I, Type VII.
SPRING: Nickel plate, as above.
TERMINAL: Gold washed.
CONNECTOR: Non-tarnish.
SHIELD: Black Anodized.

COLOR CODE SUFFIX
Add to Catalog Number as required

–101 WHITE	–105 BLUE	–108 BROWN
–102 RED	–106 ORANGE	–112 PURPLE
–103 BLACK	–107 YELLOW	–113 GREY
–104 GREEN		

RATINGS:
CURRENT: 15 Amps AC for 10°C Temp. Rise, continuous duty, except where limited by co-axial connectors.
VOLTAGE: 5 KV, 60 cycle AC continuous working voltage, except where limited by co-axial connectors.
CAPACITY: 1.0 mmfd nominal between ¾" spaced conductors.
RESISTANCE: 1 milliohm or less per conductor.

CABLE MOUNTED DUAL BANANA PLUGS


1675 1676 1787

SET-SCREW TYPE
REAR: 7/32 Dia. cable guide. Dual banana jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" centers. Set-screws secure leads to conductors.
COLORS: Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1675		$.72

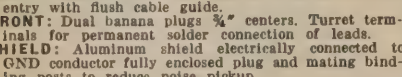
TURRET-TERMINAL TYPE
REAR: 7/32 Dia. cable guide. Dual banana jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" centers. Turret terminals for permanent solder connection of leads.
COLORS: Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1676		$.81

SHIELDED TYPE
REAR: Mounting screw and locating boss. Inline cable entry with flush cable guide.
FRONT: Dual banana plugs ¾" centers. Turret terminals for permanent solder connection of leads.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclosed plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1787		$2.25

COMPONENT MOUNTING DUAL PLUGS


1678 1693 1770

TURRET-TERMINAL TYPE
REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual banana plugs on ¾" centers. Turret terminals for permanent solder connection of component leads.
COLORS: Available in Red or Black as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1678		$.81

.080" PHONE TIP TYPE
REAR: Dual phone tip jacks on ¾" centers for stacking.
FRONT: Dual .080" phone tips on ¾" centers. Turret terminals for permanent solder connections of component leads.
COLORS: Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1693		$.81

THREE TERMINAL ISOLATION TYPE
REAR: Dual banana jacks on ¾" centers for stacking.
CENTER: Turret-terminal connections to isolated front and rear conductors in HOT circuit, and straight-thru connection of GND circuit, with terminal, allow insertion of "T" and "P" networks in input-output circuits in instruments.
FRONT: Dual banana plugs on ¾" centers.
COLORS: Available in 10 colors as coded above. (Specify color)

No.	Std. Pkg. 1	NET Ea.
1770		$2.50

MORE THAN TEN THOUSAND
ELECTRONIC COMPONENT PARTS MANUFACTURED UNDER ONE ROOF!

COMPONENT MOUNTING DUAL PLUGS


1677 1694 1696

SET-SCREW TYPE
REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual banana jacks on ¾" centers. Set-screws secure component leads to conductors.
COLORS: Available in Red or Black as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1677		$.72

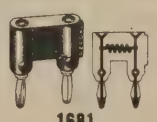
SET-SCREW PHONE TIP
REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual .080" pnone tips on ¾" centers. Set-screws secure component leads to conductors.
COLORS: Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1694		$.72

FOUR TERMINAL ISOLATION TYPE
REAR: Dual banana jacks on ¾" centers for stacking.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits of instruments.
FRONT: Dual banana plugs on ¾" centers.
COLORS: Available in Red or Black as coded above. (Specify color)

No.	Std. Pkg. 1	NET Ea.
1696		$3.25

MOLDED-IN PRECISION RESISTORS


1681

REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual banana plugs on ¾" centers. Banana jack side holes for stacking.
INTERNAL: Resistors and capacitors are available molded into housing. All values are available on special order only. Std. Pkg. 1

No.		NET Ea.
1681	Black only.	$2.75

SHORTING TYPE


1516 1683 1692

DUAL BANANA PLUG SHORTING TYPE
REAR: Dual banana jacks on ¾" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.
COLORS: Available in Red, Black, Yellow, and Green. (Specify color)

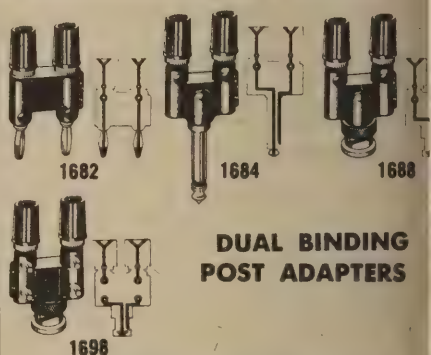
No.	Std. Pkg. 10	NET Ea.
1516		$1.00

METAL SHORTING BAR TYPE
REAR: 3/32" thick brass busbar. 15 amps. continuous duty.
FRONT: Dual banana plugs on ¾" centers. Unit sits flush to panel.

No.	Std. Pkg. 10	NET Ea.
1683		$.75

.080" PHONE TIP
REAR: Dual banana jacks on ¾" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual .080" phone tips on ¾" centers. Banana jack holes for side stacking.
COLORS: Available in Red or Black as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1692		$1.00


1682 1684 1688 1698

DUAL BINDING POST ADAPTERS

BINDING POSTS TO DUAL BANANA PLUGS
REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking. Black body.
FRONT: Dual banana plugs on ¾" centers.

No.	Std. Pkg. 1	NET Ea.
1682		$2.25

BINDING POSTS TO 2-CIRCUIT PHONE PLUG
REAR: Insulated dual 5-way binding posts, Red and Black heads. on ¾" centers. Banana jack holes for side stacking. Black body.
FRONT: Standard ¼" 2-circuit phone plug.

No.	Std. Pkg. 1	NET Ea.
1684		$4.60

BINDING POSTS TO BNC MALE
REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking. Black body.
FRONT: BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1688		$4.60

BINDING POSTS TO ISOLATED BNC MALE
REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Black body.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.
FRONT: BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1698		10.00


1685 1679

ADAPTERS

DUAL BANANA JACKS TO 2-CIRCUIT PHONE PLUG
REAR: Dual banana jacks on ¾" centers, rear and side for stacking. Black only.
FRONT: Standard ¼" 2-circuit phone plug.

No.	Std. Pkg. 1	NET Ea.
1685		$2.60

DUAL PHONE-TIP TO DUAL BANANA PLUGS
REAR: Dual .080" phone tip jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" enters. Banana jack holes for side stacking. Black only.

No.	Std. Pkg. 10	NET Ea.
1679		$.81

USE OUR VAST NATIONAL DISTRIBUTION NETWORK for Off-The-Shelf Deliveries of your smaller hardware requirements!

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

 © United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

DUAL BINDING POST ADAPTERS



BINDING POSTS TO BNC FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial jack.

No.	Std. Pkg. 1	NET Ea.
689	Black body.	$4.60

BINDING POSTS TO TNC MALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: TNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
776	Black body.	$7.00

BINDING POSTS TO TNC FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: TNC series co-axial jack.

No.	Std. Pkg. 1	NET Ea.
777	Black body.	$6.00

BINDING POSTS TO TYPE N MALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: Type N co-axial plug.

No.	Std. Pkg. 1	NET Ea.
780	Black body.	$7.00

BINDING POSTS TO TYPE N FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: Type N co-axial jack.

No.	Std. Pkg. 1	NET Ea.
781	Black body.	$6.00

BINDING POSTS TO UHF MALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: UHF series co-axial plug.

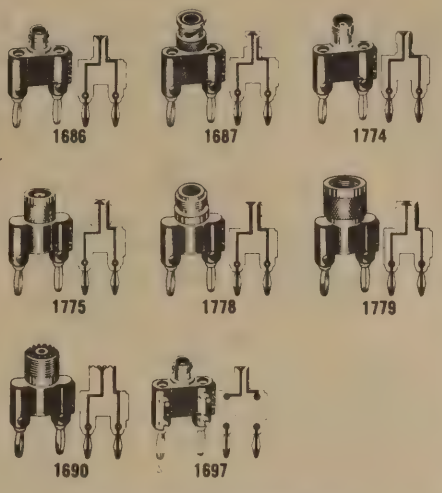
No.	Std. Pkg. 1	NET Ea.
695	Black body.	$5.00

BINDING POSTS TO UHF FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: UHF series co-axial jack.

No.	Std. Pkg. 1	NET Ea.
691	Black body.	$5.25

COAXIAL CONNECTOR ADAPTERS



BNC FEMALE TO BANANA PLUGS

REAR: BNC series co-axial jack. Banana jack holes for side stacking.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1686	Black body.	$2.95

BNC MALE TO BANANA PLUGS

REAR: BNC series co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1687	Black body.	$3.60

TNC FEMALE TO BANANA PLUGS

REAR: TNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1774	Black body.	$5.95

TNC MALE TO BANANA PLUGS

REAR: TNC series co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1775	Black body.	$6.50

TYPE N FEMALE TO BANANA PLUGS

REAR: Type N co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1778	Black body.	$5.85

TYPE N MALE TO BANANA PLUGS

REAR: Type N co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1779	Black body.	$6.50

UHF FEMALE TO BANANA PLUGS

REAR: UHF series co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1690	Black body.	$4.60

BNC FEMALE TO ISOLATED DUAL BANANA PLUGS

REAR: BNC series co-axial jack.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.
FRONT: Dual banana plugs on ¾" centers.

No.	Std. Pkg. 1	NET Ea.
1697	Black body.	$9.00

SHIELDED CO-AXIAL CONNECTOR ADAPTERS



BNC FEMALE TO DUAL BANANA PLUGS

REAR: BNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclose plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1783	Black body.	$3.25

BNC FEMALE TO DUAL BANANA JACKS

REAR: BNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully encloses jacks and mating plug to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1784	Black body.	$3.25

TNC FEMALE TO DUAL BANANA PLUGS

REAR: TNC series co-axial jack.
FRONT: Dual banana plug ¾" center.
SHIELD: Aluminum shield electrically connected to GND conductor fully encloses plug and binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1785	Black body.	$5.85

TYPE N FEMALE TO DUAL BANANA PLUGS

REAR: Type N co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclosed plug and binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1786	Black body.	$5.85

UHF FEMALE TO DUAL BANANA PLUGS

REAR: UHF series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclose plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1788	Black body.	$4.85

SPECIAL REQUIREMENTS?

Use our Engineering and Production Facilities to design and develop new products or modify existing components to meet your specific needs. "Specials are Standard with SMITH!"

ORIGINAL EQUIPMENT MANUFACTURERS:

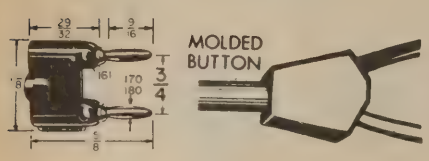
For your PRODUCTION requirements of SMITH standard products, we suggest you contact the factory. Use our facilities for variations to meet YOUR SPECIFICATIONS

IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONEN

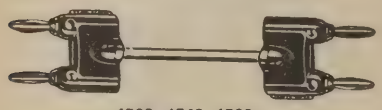
STANDARD DUAL BANANA PLUG (¾") PATCH CORDS
CENTERS

CABLE TYPES AVAILABLE



	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded microphone cable.	RG58/U Coaxial ca
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl	Vinyl	Vinyl
NOM. CAP.	30 pf./ft.	25 pf./ft.	50 Ohm Impedance

DOUBLE PLUG BOTH ENDS

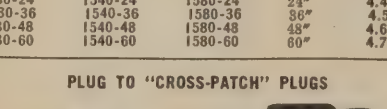


1530, 1540, 1580

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black or Grey to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. Each end terminates with molded double banana plug. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1530-12	1540-12	1580-12	12"	$4.35
1530-24	1540-24	1580-24	24"	4.45
1530-36	1540-36	1580-36	36"	4.55
1530-48	1540-48	1580-48	48"	4.65
1530-60	1540-60	1580-60	60"	4.75

PLUG TO "CROSS-PATCH" PLUGS

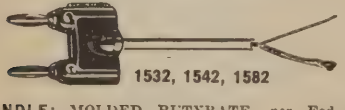


1523, 1524, 1525

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black or Grey to match wire.
BODY: Brass nickel plated.
SPRING: Four-leaved beryllium, nickel plated.
WIRE: As specified above.
PLUG: Our No. 1510. Red and black.
DESCR.: Mates with standard dual binding post having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" banana plugs, color coded Red and Black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1523-12	1524-12	1525-12	12"	$5.35
1523-24	1524-24	1525-24	24"	5.45
1523-36	1524-36	1525-36	36"	5.55
1523-48	1524-48	1525-48	48"	5.65
1523-60	1524-60	1525-60	60"	5.75

PLUG TO TINNED LEADS



1532, 1542, 1582

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on the side. One end terminates with double banana plug, other end stripped and tinned. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1532-12	1542-12	1582-12	12"	$3.35
1532-24	1542-24	1582-24	24"	3.45
1532-36	1542-36	1582-36	36"	3.55
1532-48	1542-48	1582-48	48"	3.65
1532-60	1542-60	1582-60	60"	3.75

PLUG TO "CROSS-PATCH" PIN PLUGS

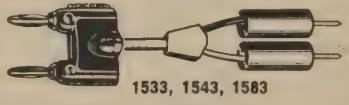


1592, 1593, 1594

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
WIRE: As specified above.
PLUG: Our No. 1595. Red and black.
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
DESCR.: Mates with standard dual binding post having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1592-12	1593-12	1594-12	12"	$5.35
1592-24	1593-24	1594-24	24"	5.45
1592-36	1593-36	1594-36	36"	5.55
1592-48	1593-48	1594-48	48"	5.65
1592-60	1593-60	1594-60	60"	5.75

PLUG TO PHONE TIP

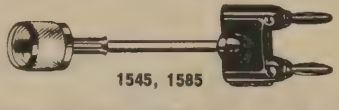


1533, 1543, 1583

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
PLUG: Our No. 203. Red and black.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated tip plug, one red and one black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1533-12	1543-12	1583-12	12"	$4.70
1533-24	1543-24	1583-24	24"	4.80
1533-36	1543-36	1583-36	36"	4.90
1533-48	1543-48	1583-48	48"	5.00
1533-60	1543-60	1583-60	60"	5.10

UHF MALE TO DOUBLE PLUG

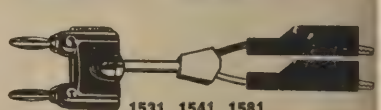


1545, 1585

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black or Grey to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with UHF Male Plug. **Std. Pkg. 10**

No. Wire "B"	No. Wire "C"	Length	NET Ea.
1545-12	1585-12	12"	$5.35
1545-24	1585-24	24"	5.45
1545-36	1585-36	36"	5.55
1545-48	1585-48	48"	5.65
1545-60	1585-60	60"	5.75

DOUBLE PLUG TO ALLIGATOR CLIPS

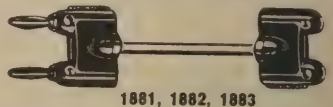


1531, 1541, 1581

HANDLES: MOLDED BUTYRATE, per Fed. Spe L-P349A, Type 3, Class MS. Black or Grey match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plate
CLIP: Steel cadmium plated (No. 300).
INSUL.: Molded vinyl plastic (No. 331).
WIRE: As specified above.
DESCR.: Mates with standard dual binding post ha ing ¾" center. Polarity indicated by the wo GROUND molded on side. One end terminates wi double banana plug, other end with insulated all gator clips, one red, one black. **Std. Pkg.**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET E
1531-12	1541-12	1581-12	12"	$5.
1531-24	1541-24	1581-24	24"	5.
1531-36	1541-36	1581-36	36"	5.
1531-48	1541-48	1581-48	48"	5.
1531-60	1541-60	1581-60	60"	5.

DOUBLE PLUG TO DOUBLE JACK

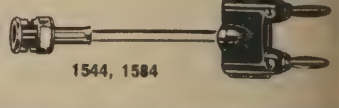


1881, 1882, 1883

HANDLES: MOLDED BUTYRATE, per Fed. Spec L-P349A, Type 3, Class MS. Black or Grey t match wire.
PLUG: Brass, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post havin ¾" center. Polarity indicated by the word GROUN molded on side. Interconnects unlimited number o multiple circuits top and side. One end terminate with molded double banana plug, other end in doubl extension jack. **Std. Pkg. 1**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea
1881-12	1882-12	1883-12	12"	$4.3
1881-24	1882-24	1883-24	24"	4.4
1881-36	1882-36	1883-36	36"	4.5
1881-48	1882-48	1883-48	48"	4.6
1881-60	1882-60	1883-60	60"	4.7

BNC MALE TO DOUBLE PLUG



1544, 1584

HANDLES: MOLDED BUTYRATE, per Fed. Spec P-P349A, Type 3, Class MS. Black or Grey t match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated
WIRE: As specified above.
DESCR.: Mates with standard dual binding post havin ¾" center. Polarity indicated by the word GROUN molded on side. One end terminates with doubl banana plug, other end with BNC Male Plug. **Std. Pkg. 1**

No. Wire "B"	No. Wire "C"	Length	NET Ea
1544-12	1584-12	12"	$5.3
1544-24	1584-24	24"	5.4
1544-36	1584-36	36"	5.5
1544-48	1584-48	48"	5.6
1544-60	1584-60	60"	5.7

SMITH TEFLON TERMINALS



- Standoff — Feed-thru
- Probes — Test Jacks
- Connectors — Sockets
- Custom Fabrication
- Miniature
- Subminiature
- Microminiature



Complete 24 Page Teflon Terminals Catalog FREE ON REQUEST!

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

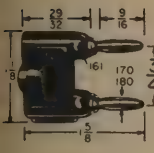
Net
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

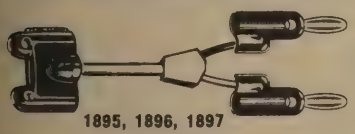
STANDARD DUAL BANANA PLUG (¾") PATCH CORDS
CENTERS



CABLE TYPES AVAILABLE

	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded microphone cable.	RG58/U Coaxial cable.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl	Vinyl	Vinyl
NOM. CAP.	30 pf./ft.	25 pf./ft.	30 Ohm Impedance

DOUBLE JACK TO "CROSS-PATCH" PLUGS

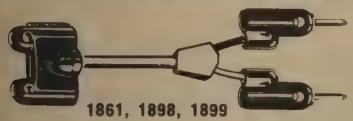


1895, 1896, 1897

ANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
ODY: Brass, nickel plated.
RING: Four-leaved beryllium copper, nickel plated.
RE: As specified above.
UG: Our No. 1510. Red and black.
SCR.: Mates with standard dual banana plugs having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-Patch" banana plugs, color coded Red and Black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
5-12	1896-12	1897-12	12"	$5.35
5-24	1896-24	1897-24	24"	5.45
5-36	1986-36	1897-36	36"	5.55
5-48	1896-48	1897-48	48"	5.65
5-60	1896-60	1897-60	60"	5.75

DOUBLE JACK TO "CROSS-PATCH" PIN PLUGS

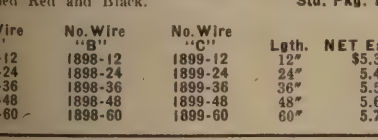


1861, 1898, 1899

NDLE: MOLDED BUTYRATE, per Fed. Spec. -P349A, Type 3, Class MS. Black.
DY: Brass, nickel plated.
RE: As specified above.
UG: Our No. 1595. Red and black.
SCR.: Mates with standard dual banana plugs having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1-12	1898-12	1899-12	12"	$5.35
1-24	1898-24	1899-24	24"	5.45
1-36	1898-36	1899-36	36"	5.55
1-48	1898-48	1899-48	48"	5.65
1-60	1898-60	1899-60	60"	5.75

STANDARD DUAL BANANA PLUG TO STANDARD BANANA PLUGS



NDLE: MOLDED BUTYRATE, per Fed. Spec. -P349A, Type 3, Class MS. Black.
DIES: Brass Nickel Plated, and Aluminum.
RING: Four-leaved Beryllium copper, nickel plated.
RE: RG58/U Coaxial Cable. Std. Pkg. 10

	Length	NET each
7-12	12 inches	$5.00
7-24	24 inches	5.10
7-36	36 inches	5.20
7-48	48 inches	5.30
7-60	60 inches	5.40

MINIATURE DUAL BANANA PLUG TO MINIATURE DUAL BANANA PLUGS

me as above except:
RE: RG174/U Coaxial Cable. Std. Pkg. 10

	Length	NET each
7-12	12 inches	$5.00
7-24	24 inches	5.10
7-36	36 inches	5.20
7-48	48 inches	5.30
7-60	60 inches	5.40

DOUBLE JACK TO PHONE TIP



1892, 1893, 1894

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
PLUG: Brass, nickel plated.
WIRE: As specified above.
PLUG: Our No. 203, Red and black.
DESCR.: Mates with standard dual banana plugs having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana jacks, other end with insulated tip plug, one red and one black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1892-12	1893-12	1894-12	12"	$4.70
1892-24	1893-24	1894-24	24"	4.80
1892-36	1893-36	1894-36	36"	4.90
1892-48	1893-48	1894-48	48"	5.00
1892-60	1893-60	1894-60	60"	5.10

DOUBLE JACK TO ALLIGATOR CLIPS



1889, 1890, 1891

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
JACKS: Brass, nickel plated.
CLIP: Steel cadmium plated (No. 300).
INSUL.: Molded vinyl plastic (No. 331).
WIRE: As specified above.
DESCR.: Mates with standard dual banana plugs having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana jacks, other end with insulated alligator clips, one red, one black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1889-12	1890-12	1891-12	12"	$5.35
1889-24	1890-24	1891-24	24"	5.45
1889-36	1890-36	1891-36	36"	5.55
1889-48	1890-48	1891-48	48"	5.65
1889-60	1890-60	1891-60	60"	5.75

DOUBLE JACK TO DOUBLE PLUG



1881, 1882, 1883

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates with molded double banana plug, other end in double extension jack.

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1881-12	1882-12	1883-12	12"	$4.35
1881-24	1882-24	1883-24	24"	4.45
1881-36	1882-36	1883-36	36"	4.55
1881-48	1882-48	1883-48	48"	4.65
1881-60	1882-60	1883-60	60"	4.75

DOUBLE JACK TO STRIPPED & TINNED LEADS



1886, 1887, 1888

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
PLUG: Brass, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual plugs having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates in double extension jack, other end in stripped and tinned leads. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1886-12	1887-12	1888-12	12"	$3.35
1886-24	1887-24	1888-24	24"	3.45
1886-36	1887-36	1888-36	36"	3.55
1886-48	1887-48	1888-48	48"	3.65
1886-60	1887-60	1888-60	60"	3.75

SHIELDED DOUBLE PLUG TO SHIELDED DOUBLE PLUG

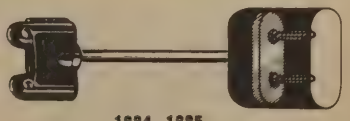


1876, 1877

SHIELD: Aluminum, black anodized.
BODY: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
DESCR.: Mates with standard dual binding post having ¾" center. Both ends terminate with double shielded banana plugs. Std. Pkg. 10

No. RG58/U Wire	No. RG-11/U Wire	Length	NET Ea.
1876-12	1877-12	12"	$5.85
1876-24	1877-24	24"	5.95
1876-36	1877-36	36"	6.05
1876-48	1877-48	48"	6.15
1876-60	1877-60	60"	6.25

DOUBLE JACK TO SHIELDED DOUBLE PLUG



1884, 1885

SHIELD: Aluminum, black anodized.
HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Black.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates with molded double shielded banana plug, other end in double extension jack. Std. Pkg. 10

No. Wire "B"	No. Wire "C"	Length	NET Ea.
1884-12	1885-12	12"	$5.30
1884-24	1885-24	24"	5.40
1884-36	1885-36	36"	5.50
1884-48	1885-48	48"	5.60
1884-60	1885-60	60"	5.70

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

MINIATURE DUAL BANANA PLUG PATCH CORDS

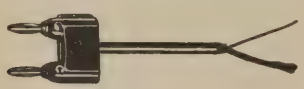
MINIATURE DUAL BANANA PLUG TO BNC MALE



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Coaxial Cable.
CONN.: BNC male.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" center. Polarity indicated by the word GROUND molded on side. One end terminates with the double banana plug, other end with BNC male conn. **Std. Pkg. 10**

No.	Length	NET Ea.
1748-12	12"	$5.35
1748-24	24"	5.45
1748-36	36"	5.55
1748-48	48"	5.65
1748-60	60"	5.75

MINIATURE DUAL BANANA PLUGS TO TINNED LEADS



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Coaxial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end stripped and tinned. **Std. Pkg. 10**

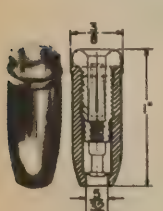
No.	Length	NET Ea.
1534-12	12"	$3.35
1534-24	24"	3.45
1534-36	36"	3.55
1534-48	48"	3.65
1534-60	60"	3.75

MINIATURE DUAL BANANA PLUG TO INSULATED MINI-CLIPS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P348A, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
CLIP: Steel cadmium plated (No. 338).
INSULATOR: Molded vinyl plastic (No. 389).
WIRE: RG-174/U Coaxial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated miniature clips. **Std. Pkg. 10**

No.	Length	NET Ea.
1739-12	12"	$5.35
1739-24	24"	5.45
1739-36	36"	5.55
1739-48	48"	5.65
1739-60	60"	5.75



NYLON IN-LINE TIP JACK

Color Code Suffix
Add to Catalog Number as Required

— 101 WHITE	— 106 ORANGE
— 102 RED	— 107 YELLOW
— 103 BLACK	— 108 BROWN
— 104 GREEN	— 112 PURPLE
— 105 BLUE	— 113 GREY

All Nylon

HANDLE: MOLDED NYLON, per MIL-P-20693A. Supplied in 10 colors, as coded above.
BODY: Molded Nylon, per MIL-P-20693A.
CONTACT: Phosphor Bronze, gold plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.
DESCR.: Fits all standard phone-tip plugs, with recessed contact for safe connection. Ideally suited for use in patch and extension cords. Can also be used for panel mounting where wrap-around terminal connection must be insulated at rear. **Std. Pkg. 50**

No. 1513 **NET Per C $90.00**

MINIATURE SINGLE TEST ADAPTERS

Materials:
BODIES MACHINED: Butyrate, per MIL-P-10408A, Type 1, Class 2. Color Black or Red. Specify color by adding color code suffix to basic part No. as coded above.
CONDUCTORS: Brass, per QQ-B-626, Comp. 22, half hard.
SPRINGS: Four-leaved beryllium copper, heat-treated.
HEADS: Molded Nylon, Per MIL-P-20693A.
SCREWS: Steel, cadmium plated.

Finishes:
CONDUCTORS: Nickel Plate, per QQ-N-290, Class I, Type VII.
SPRING: Nickel Plate, as above.
TERMINAL: Gold washed.

Mechanical	Standard Adapters	Miniature Adapt
PHONE TIP:	.080 Dia. x ½" long	.080 Dia. x ⅜" l
BANANA PLUG:	.180/.170 Dia. x 9/16" long	.118/.112 Dia. x 9/32" long
PHONE JACKS:	.080 Dia.	.080 Dia.
BANANA JACKS:	.161 Dia.	.104 Dia.
BODIES:	¾" Dia.	¼" Dia.

Ratings:
CURRENT: 15 Amps (Standard), 5 Amps (Miniature) for 10°C Temp. Rise, Continuous Duty, except wh limited by a co-axial connector.
VOLTAGE: 5 KV (Standard), 2 KV (Miniature) 60 cy AC Continuous Working Voltage, except where limited co-axial connector.
RESISTANCE: 1 Milliohm or less when seated in prop mating connectors.

COLOR CODE SUFFIX Add to Catalog Number as Required —103 BLACK —102 RE



BINDING POST TO BANANA PLUG

REAR: Insulated 5-way binding post.
FRONT: Standard or Miniature Banana plug. Banana jack hole or side stacking. **Std. Pkg. 10**

No.	Description	NET Ea.
5025	Standard Adapter	$1.10
5035	Miniature Adapter	1.10



BINDING POST TO PHONE TIP

REAR: Insulated 5-way binding post.
FRONT: Standard .080 phone tip. Banana jack hole for side stacking. **Std. Pkg. 10**

No.	Description	NET Ea.
5026	Standard Adapter	$1.00
5036	Miniature Adapter	1.00



BINDING POST TO ISOLATED BANANA PLUG

REAR: Insulated 5-way binding post.
CENTER: Turret-terminal connections to isolated front and rear conductors allow insertion of component in series input circuit.
FRONT: Standard or miniature banana plug. **Std. Pkg. 10**

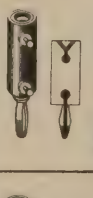
No.	Description	NET Ea.
5027	Standard Adapter	$1.10
5037	Miniature Adapter	1.10



BINDING POST TO ISOLATED PHONE TIP

REAR: Insulated 5-way binding post.
CENTER: Turret-terminal connections to isolated front and rear conductors allow insertion of component in series input circuit.
FRONT: Standard .080 phone tip. **Std. Pkg. 10**

No.	Description	NET Ea.
5028	Standard Adapter	$1.00
5038	Miniature Adapter	1.00



BANANA JACK TO ISOLATED BANANA PLUG

REAR: Standard or Miniature Banana Jack.
CENTER: Turret-terminal connections to isolated front and rear conductors allow insertion of component in series input circuit.
FRONT: Standard or miniature banana plug. **Std. Pkg. 10**

No.	Description	NET Ea.
5029	Standard Adapter	$1.00
5039	Miniature Adapter	1.00



TIP JACK TO ISOLATED PHONE TIP

REAR: Standard .080 tip jack.
CENTER: Turret-terminal connections to isolated front and rear conductors allow insertion of component in series input circuit.
FRONT: Standard .080 phone tip. **Std. Pkg. 10**

No.	Description	NET Ea.
5030	Standard Adapter	$.95
5040	Miniature Adapter	.95



IN-LINE BANANA JACK

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green. SPECIFY COLOR
CAP: MOLDED PHENOLIC plastic, Red, Black, Yellow, Green.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Suitable for test lead extension where long leads are required. Accepts standard banana plugs. **Std. Pkg. 50**

No. 251 **NET Per C $21.00**



STACKING SOLDERLESS PHONE TIP

REAR: Standard or miniature banana jac stacking.
SIDE: Wire lead hole secures test lead internal set-screw.
FRONT: Standard .080 phone tip. **Std. Pk**

No.	Description	NE
5031	Standard Adapter	
5041	Miniature Adapter	



STACKING SOLDERLESS BANANA PLUG

REAR: Miniature Banana jack for stacki
SIDE: Wire lead hole secures test lead internal set-screw.
FRONT: Miniature banana plug.

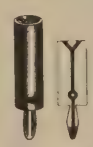
No.	Description	NET
5042	Miniature Adapter	



BNC SERIES JACK TO BANANA PLUG

REAR: BNC Series co-axial jack.
SIDE: Banana jack hole for side stacking.
FRONT: Standard banana plug. **Std. Pk**

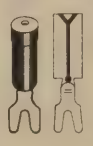
No.	Description	NET
5032	Standard Adapter	$2



TIP JACK TO BANANA PLUG

REAR: Standard .080 phone tip jack.
FRONT: Standard or miniature banana Banana Jack hole for side stacking. **Std. Pk**

No.	Description	NET P
214	Standard Adapter	$5
5033	Miniature Adapter	5



TIP JACK TO SPADE LUG

REAR: Standard .080 tip jack.
FRONT: Tapered spade lug fits studs from down to #6. **Std. Pkg**

No.	Description	NET P
249	Standard Adapter	$4



BANANA PLUG SPLICE

REAR: Standard or miniature banana jack.
FRONT: Standard or miniature banana Banana Jack hole for side stacking. **Std. Pkg**

No.	Description	NET P
245	Standard banana jack both ends	$2
5043	Miniature ban. jack both ends	2
5034	Stand. ban. jack to min. ban. jack	2



PHONE TIP PLUG SPLICE

REAR: Standard .080 phone jack.
FRONT: Standard .080 phone jack. Banana hole for side stacking. **Std. Pkg**

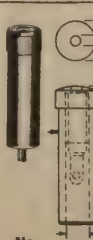
No.	Description	NET P
246	Standard Adapter	$3



BANANA JACK TO TIP JACK

REAR: Standard or miniature banana jack.
FRONT: Standard .080 tip jack. Banana hole for side stacking. **Std. Pkg**

No.	Description	NET P
496	Standard banana to tip jack	$3
5044	Miniature banana to tip jack	3



IN-LINE PHONE TIP JACK

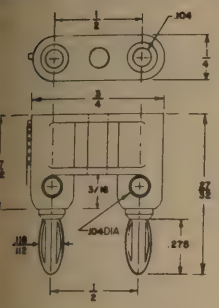
HANDLE: MACHINED BUTYRA per MIL-P-10408A, Type I, II. Red, Black, Yellow, Green. SPECIFY CO
CAP: MOLDED PHENOLIC pla Red, Black, Yellow, Green.
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C T rise, continuous duty.
DESCR.: Suitable for test lead tension where long leads are quired. Accepts standard phone plug. **Std. Pkg**

No. 248 **NET Pe $21**

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net
© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS



MINIATURE DUAL TEST ADAPTERS

CAPACITY: 3.0 pf. nominal between ½" spaced conductors.
RESISTANCE: 1 milliohm or less per conductor.
MATERIALS:
BODY: Molded Butyrate, per Fed. Spec. L-P349A, Type 3, Class MS. Color BLACK unless otherwise specified.
CONDUCTOR: Brass, per QQ-B-626, Comp. 22, ½ hard.
SPRING: Four-leaved beryllium copper, heat treated.
HEAD: Molded Nylon, per MIL-P-20693A. **SCREWS:** Steel, cadmium plated.
FINISHES:
CONDUCTOR: Nickel plate, per QQ-N-290, Class I, Type VII.
SPRING: Nickel plated. **TERMINAL:** Gold washed. **CONNECTOR:** Non-tarnish Plate.

RATINGS:
CURRENT: 5 Amps AC for 10°C Temp. Rise, continuous duty, except where limited by co-axial connectors.
VOLTAGE: 2 KV, 60 cycle AC continuous working voltage, except where limited by co-axial connectors.

SET SCREW CONNECTION



1749 1754

BANANA PLUGS

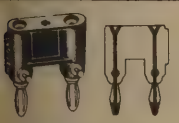
REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers. Set-screws secure leads to conductors.
COLORS: Available in Red or Black (Specify color.) Std. Pkg. 10

No.	NET Ea.
1749	$ .72

.080 PHONE TIP

REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual .080" phone tips on ½" centers. Set-screws secure component leads to conductors.
COLORS: Available in Red or Black (Specify color.) Std. Pkg. 10

No.	NET Ea.
1754	$ .72



TURRET TERMINAL CONNECTION

REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers, Turret terminals for permanent solder connection of component leads.
COLORS: Available in Red or Black (Specify color.) Std. Pkg. 10

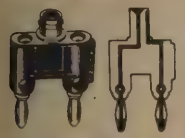
No.	NET Ea.
1750	$ .81



PHONE TIP ADAPTER

REAR: Dual .080" phone tip jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers.
COLORS: Available in Red or Black (Specify color.) Std. Pkg. 10

No.	NET Ea.
1751	$ .81

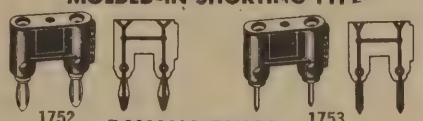


BNC FEMALE TO BANANA PLUGS

REAR: BNC series co-axial jack. Banana jack holes for stacking.
FRONT: Dual banana plugs on ½" centers Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1758	Black only	$3.00

MOLDED-IN SHORTING TYPE



1752 1753

BANANA PLUGS

REAR: Dual banana jacks on ½" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.
COLORS: Available in Red or Black (Specify color.) Std. Pkg. 10

No.	NET Ea.
1752	$ .72

.080 PHONE TIP

Same as above, except:
FRONT: Dual .080 phone tips on ½" centers. Banana jack holes for side stacking.

No.	NET Ea.
1753	$ .72

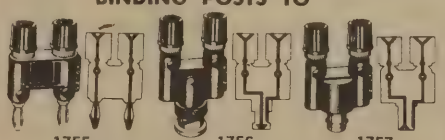


METAL SHORTING BAR TYPE

REAR: 3/32" thick brass busbar, 15 Amps, continuous duty.
FRONT: Dual miniature banana plugs on ½" centers. Unit sits flush to panel. Std. Pkg. 10

No.	Net per C
1795	$66.00

BINDING POSTS TO



1755 1756 1757

DUAL BANANA PLUGS

REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.
FRONT: Dual banana plugs on ½" centers. Std. Pkg. 1

No.		NET Ea.
1755	Black body	$2.25

BNC MALE

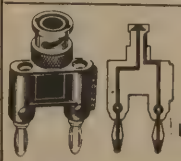
REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial plug. Std. Pkg. 1

No.		NET Ea.
1756	Black body	$4.95

BNC FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial jack. Std. Pkg. 1

No.		NET Ea.
1757	Black body	$4.60



BNC MALE TO BANANA PLUGS

REAR: BNC series co-axial plug.
FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1759	Black only	$3.95

MINIATURE DUAL BANANA PLUG PATCH CORDS

MINIATURE DUAL BANANA PLUG TO STANDARD DUAL BANANA PLUG



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plate.
WIRE: RG-174 Coaxial wire.
DESCR.: Mates with standard or miniature banana jacks or binding posts having ½" center or ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates in a miniature dual banana plug, ½" center, other end in a standard dual banana plug ¾" center. Std. Pkg. 10

No.	Length	NET Ea.
1729-12	12"	$4.35
1729-24	24"	4.45
1729-36	36"	4.55
1729-48	48"	4.65
1729-60	60"	4.75

MINIATURE DUAL BANANA PLUG PATCH CORDS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUGS: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Coaxial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. Each end terminated with molded double banana plug. Std. Pkg. 10

No.	Length	NET Ea.
1599-12	12"	$4.35
1599-24	24"	4.45
1599-36	36"	4.55
1599-48	48"	4.65
1599-60	60"	4.75

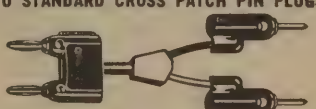
MINIATURE DUAL BANANA PLUG TO MINIATURE CROSS PATCH BANANA PLUGS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Coaxial Cable.
PLUGS: Our No. 1590, Red and Black.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with Cross-Patch banana plugs, color coded Red and Black. Std. Pkg. 10

No.	Length	NET Ea.
1738-12	12"	$5.35
1738-24	24"	5.45
1738-36	36"	5.55
1738-48	48"	5.65
1738-60	60"	5.75

MINIATURE DUAL BANANA PLUG TO STANDARD CROSS PATCH PIN PLUGS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Coaxial Cable.
PLUGS: Our No. 1595, Red and Black.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with cross-patch pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. Std. Pkg. 10

No.	Length	NET Ea.
1535-12	12"	$5.35
1535-24	24"	5.45
1535-36	36"	5.55
1535-48	48"	5.65
1535-60	60"	5.75

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT

RUBBER GROMMETS



Formerly listed by Radio Essentials, Inc., and American Radio Hardware Inc., (Their catalog numbers as below, minus first digit).

Std. Pkg. 100

Cat. No.	I.D. A	P.H. B	P.T. C	O.D. D	W E	NET Per C
91114	1/8	1/4	1/16	11/32	3/16	$2.50
91118	3/16	5/16	1/16	7/16	7/32	2.50
91103	3/16	15/32	1/8	9/16	3/8	3.30
91122	1/4	11/32	1/32	1/2	5/32	3.10
91119	1/4	13/32	1/16	9/16	1/4	2.70
91102	9/32	13/32	5/32	5/8	3/8	3.50
91123	9/32	1/2	1/4	11/16	7/16	5.50
91117	5/16	7/16	1/8	19/32	3/8	3.50
91116	5/16	1/2	1/8	3/4	3/8	5.00
91106	5/16	1/2	3/16	5/8	1/2	7.20
91120	19/64	7/16	1/16	5/8	1/4	3.10
91113	21/64	13/32	1/16	5/8	1/4	3.10
91107	3/8	7/16	3/32	5/8	5/16	5.00
91121	3/8	1/2	1/16	21/32	1/4	3.00
91100	3/8	1/2	9/64	13/16	13/32	8.00
91111	3/8	11/16	9/64	7/8-1"	13/32	9.00
91109	3/8	7/8	1/4	1-1/16	3/8	15.00
91124	7/16	9/16	1/16	3/4	1/4	3.50
91112	49/64	1-3/32	1/16	1-5/8	5/16	12.00

RECESS RUBBER BUMPERS

Std. Pkg. 100



FIG 1

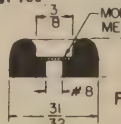


FIG. 2

No.	Fig.	A	B	C	NET Per C
2192	1	7/32"	17/32"	1/4"	$1.70
2193	1	1/4"	5/8"	5/16"	2.20
2194	1	9/32"	3/4"	3/8"	3.30
2184	1	9/32"	5/8"	9/32"	3.30
		With molded-in metal washer			
2135	2	3/8"	31/32"	7/8"	5.00



FIG 3

With Screw and Nut



FIG. 4

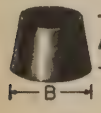
8-32 X 1/2 SCREW & NUT

Supplied complete with 1/2" mounting screw and hex nut For panels up to 1/4" thick. Specify longer screw for thicker panels

Std. Pkg. 100

No.	Fig.	A	B	C	Screw	NET Per C
2196	3	7/32"	17/32"	1/4"	6-32	$6.70
2197	3	1/4"	5/8"	5/16"	6-32	7.20
2198	3	9/32"	5/8"	3/8"	6-32	8.30
2199	3	1/4"	5/8"	9/32"	6-32	8.30
		With molded-in metal washer				
2195	4	3/8"	31/32"	7/8"	8-32	10.00

VINYL CABINET BUMPERS



All molded cabinet bumpers with brass insert to absorb screw load. Molded of ethylene vinyl, color black.

Std. Pkg. 100

No.	Size Screw	A	B	NET Per C
2181	4	3/8"	9/16"	$5.50
2182	6	7/16"	3/4"	6.50
2183	8	5/8"	15/16"	7.50

NYLON STRAIN RELIEF BUSHINGS

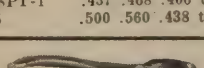


One piece construction. Eliminates grommets, wire knots and costly labor. Completely insulates wire from chassis and prevents cord pull push and twist. No. 937 ideal for small mike cables; No. 938 for line cords; No. 939 for Co-Ax Wire.

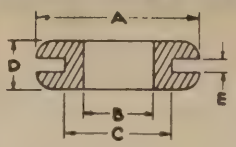
Std. Pkg. 50

A: Chassis Hole
B: Diameter of head
C: Length
D: Chassis Thickness

No.	Wire Size	A	B	C	D	NET Per C
937	1/8-3/16"	.375	.440	.415	to 1/16"	$4.00
938	SP-1 & SPT-1	.437	.468	.406	to 1/16"	4.00
939	.235-.265	.500	.560	.438	to 3/32"	4.50



No. 940 Setting Pliers — NET Each $25.00



RUBBER GROMMETS



Std. Pkg. 100

Cat. No.	I.D. A	P.H. B	P.T. C	O.D. D	W E	NET Per C
2185	1/8	3/16	1/16	5/16	3/16	2.40
2172	3/16	5/16	1/16	7/16	3/16	2.20
2170	1/4	3/8	1/16	5/8	1/4	2.50
2174	5/16	7/16	1/16	5/8	1/4	2.40
2175	3/8	1/2	1/16	21/32	1/4	2.50
2177	7/16	9/16	1/16	3/4	1/4	2.50
2186	1/2	3/4	1/16	1-1/16	5/16	5.30
2188	9/16	13/16	1/16	1-1/16	5/16	5.40
2187	5/8	7/8	1/16	1-1/8	5/16	5.30
2189	3/4	7/8	1/32	1"	5/32	5.20

VINYL GROMMETS

DESCR.: Exceptional aging qualities. High dielectric properties. Oil resistant. Durameter hardness 45 to 85.

Cat. No.	I.D. A	P.H. B	P.T. C	O.D. D	W E	NET Per C
2145	1/8	1/4	1/16	11/32	3/16	1.10
2146	3/16	5/16	1/16	7/16	7/32	1.35
2147	1/4	3/8	1/16	9/16	1/4	1.65
2148	3/8	1/2	1/16	5/8	1/4	1.75
2149	1/2	5/8	1/16	13/16	9/32	2.65

SNAP-LOCK PLASTIC GROMMETS

Snaps in Place—FAST! • Stays Put—LOCKED IN!

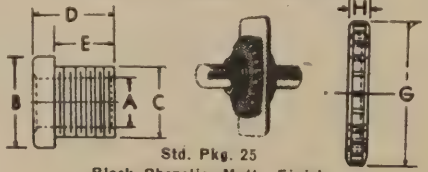


Std. Pkg. 100

Two identical halves snap tight, lock in place. Provides a rigid bearing surface, greater dielectric, extreme chemical and wear resistance. Identical halves form complete grommet. Color, black.

Cat. No.	I.D. A	P.H. B	P.T. C	O.D. D	W E	NET Per C
2178	3/16	5/16	1/16	7/16	1/4	3.30
2179	1/4	3/8	1/16	1/2	1/4	3.50
2180	3/8	1/2	1/16	5/8	1/4	3.65

INSULATED GROMMET BUSHINGS



Std. Pkg. 25

Black Phenolic—Matte Finish

No.	BUSHING A	B	C	D	E	COLLAR G	H	NET Per C
931	1/8"	3/16"	1/4"—32	.3750"	1/4"	1/2"	1/8"	$40.00
932	5/16"	7/16"	5/16"—32	.4250"	5/16"	5/8"	1/8"	40.00
933	1/4"	1/2"	3/8"—27	.4375"	5/16"	11/16"	1/8"	40.00
934	5/16"	9/16"	15/32"—32	.4500"	5/16"	7/8"	1/8"	40.00
935	3/8"	3/4"	5/8"—27	.4500"	5/16"	1"	1/8"	40.00

FIBRE WASHER KIT

Each kit contains about 1,000 Flat and Shoulder Washers, packed in an 18-compartment plastic box, in the following approximate quantities of SMITH standard washers:
100 each #2151, 2161, 2153, 2160; 75 each #2150, 2162; 60 each #2155, 2163; 50 each #2156, 2164, 2154, 2165; 35 each #2159, 2167; 25 each #2158, 2168; 10 each #2157, 2169.

No.		NET Each
2173	Kit of 1,000 Washers	$8.00

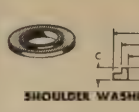
EXTRUDED "CATERPILLAR" NYLON GROMMET

Shape your own grommets to fit any size or shape opening. Made of non-conductive Black Nylon. Type 6/6, fungus resistant to conform to Mil M 20693a, Type 1. Available in 25 ft. rolls for panel thickness .052 to .125

Std. Pkg. 1

No.	A	B	C	D	E	NET Ea.
2692	.052	.150	.040	.190	.125	$10.00
2693	.085	.155	.045	.200	.162	11.50
2694	.125	.175	.045	.220	.206	12.00

FIBRE WASHERS



SHOULDER WASHERS — FLAT WASHERS

MATERIAL: Commercial vulcanized fibre, black, MIL-F-1148A, grade CH.

TOLERANCES: "A" dim. (I.D.) — +.010 —.000
All other dimensions show, ±1/64".
"E" dim. (shoulder dia.) — +.000 —.010

SHOULDER WASHERS

Cat. No.	Screw Clear.	A (I.D.)	B (O.D.)	C (Thk)	D (Shldr Hgt.)	E (Shldr Dia.)	NET Per C	NE Per
2171	No. 2	.093	.250	.055	.025	.154	$ .90	$6
2151	No. 4	.115	.250	.062	.031	.187	.90	6
2152	No. 6	.141	.250	.093	.031	.187	.95	6
2153	No. 6	.141	.312	.093	.031	.187	1.05	7
2150	No. 6	.141	.375	.093	.031	.240	1.00	7
2155	No. 8	.167	.375	.093	.031	.246	1.05	7
2156	No. 10	.194	.375	.093	.031	.308	1.05	7
2154	1/4"	.253	.500	.093	.031	.308	1.10	7
2159	17/64"	.265	.500	.093	.031	.365	1.10	8
2158	3/8"	.385	.625	.093	.031	.498	1.35	10
2157	3/8"	.378	.750	.093	.031	.498	1.40	11

FLAT WASHERS

Cat. No.	Screw Clear.	A (I.D.)	B (O.D.)	C (Thk)	NET Per C	NE Per
2191	No. 2	.093	.250	1/32"	$ .95	$6.
2161	No. 4	.115	.250	1/16"	.95	6.
2160	No. 6	.141	.250	1/16"	.95	6.
2162	No. 6	.141	.375	1/16"	.90	6.
2163	No. 8	.169	.375	1/16"	.90	6.
2164	No. 10	.196	.375	1/16"	.90	6.
2165	1/4"	.253	.500	1/16"	.90	6.
2166	1/4"	.253	.500	3/32"	.95	6.
2167	5/16"	.315	.500	1/16"	.95	6.
2168	3/8"	.385	.625	1/16"	1.05	7.
2169	3/8"	.378	.750	1/16"	1.25	9.

NYLON WASHERS

MATERIAL: Nylon (Zytel 101), natural, per MIL-20693A.

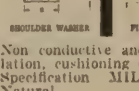
TOLERANCES: "A" dim. (I.D.) — +.010 —.000
All other dimensions shown, ±1/64".
"E" dim. (shoulder dia.) — +.000 —.010

SHOULDER WASHERS

Cat. No.	Screw Clear.	A (I.D.)	B (O.D.)	C (Thk)	D (Shldr Hgt.)	E (Shldr Dia.)	NET Per C	NE Per
2651	No. 2	.093	.250	.055	.025	.154	$2.20	$17.
2661	No. 4	.115	.250	.062	.031	.187	2.20	17.
2662	No. 6	.141	.250	.093	.031	.187	2.20	17.
2663	No. 6	.141	.312	.093	.031	.187	2.30	18.
2660	No. 6	.141	.375	.093	.031	.240	2.50	20.
2665	No. 8	.167	.375	.093	.031	.246	2.50	20.
2666	No. 10	.194	.375	.093	.031	.308	2.50	20.
2664	1/4"	.253	.500	.093	.031	.308	2.40	19.
2669	17/64"	.265	.500	.093	.031	.365	3.30	26.
2668	3/8"	.385	.625	.093	.031	.498	4.00	33.
2667	3/8"	.378	.750	.093	.031	.498	6.50	50.

FLAT WASHERS

Cat. No.	Screw Clear.	A (I.D.)	B (O.D.)	C (Thk)	NET Per C	NE Per
2652	No. 2	.093	.250	1/32"	$1.90	$15.
2671	No. 4	.115	.250	1/16"	1.90	15.
2514	No. 4	.115	.281	3/64"	1.90	18.
2670	No. 6	.141	.250	1/16"	1.90	15.
2515	No. 6	.141	.312	3/64"	2.00	20.
2672	No. 6	.141	.375	1/16"	2.30	18.
2673	No. 8	.170	.375	1/16"	2.50	20.
2516	No. 8	.170	.375	1/16"	2.20	22.
2674	No. 10	1.96	.375	1/16"	2.50	20.
2517	No. 10	.196	.437	1/16"	2.30	23.
2675	1/4"	.253	.500	1/16"	2.50	20.
2676	1/4"	.253	.500	3/32"	3.10	25.
2518	1/4"	.253	.562	1/16"	2.50	25.
2677	5/16"	.315	.500	1/16"	2.50	20.
2678	3/8"	.385	.625	1/16"	2.80	22.
2679	3/8"	.378	.750	1/16"	3.40	27.



SHOULDER WASHER — FINISHING WASHER

MOLDED NYLON WASHERS

SHOULDER-FINISHIN

Non conductive and corrosion resistant, ideal for insulation, cushioning or sparing protection. Meets Militar Specification MIL-P-20693, Type 1, Available i Natural.

Std. Pkg. 10

SHOULDER WASHERS

No.	I.D.	O.D.	A	B	C	NET Per
2681	.122	.187	.281	.040	.040	$2.2
2682	.146	.281	.328	.040	.040	2.4
2683	.174	.250	.375	.060	.050	2.5
2684	.201	.281	.437	.050	.050	2.7
2685	.260	.375	.562	.060	.060	3.0
2686	.385	.500	.750	.060	.060	4.7

FINISHING WASHERS

No.	O.D.	I.D.	Thickness	NET Per
2687	.437	.143	.100	$5.0
2688	.515	.171	.115	5.2
2689	.580	.191	.152	5.5
2690	.609	.225	.160	6.0
2691	.683	.251	.183	6.5

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

INSTRUMENT KNOBS



Plain — **With Pointer** — **With Skirt**

Molded black bakelite instrument knobs with molded in brass insert for ¼" shafts. **Style B** pointer knobs have white vinyl pointer. **Style C** skirt type have white indicator line. **Style D** same as style A except with protruding brass insert for mounting special dials and pointers. **Std. Pkg. 10**

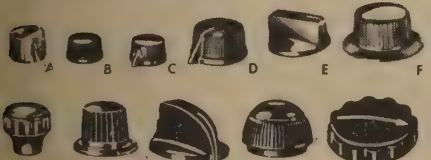
No.	Style	O.D.	Pointer Size	Height	Per C
2200	A	1⅛"		5/8"	$37.00
2201	A	1⅜"		11/16"	38.00
2202	A	1⅝"		¾"	43.00
2203	A	2⅜"		⅞"	63.00
2204	B	1⅛"	¾" pointer	11/16"	56.00
2205	B	1⅜"	1 1/16" pointer	¾"	58.00
2206	B	1⅝"	1 3/16" pointer	13/16"	62.00
2207	B	2⅜"	1 5/16" pointer	15/16"	84.00
2208	C	1⅛"	1½" Skirt	13/16"	69.00
2209	C	1⅜"	1¾" Skirt	⅞"	71.00
2210	C	1⅝"	2 1/16" Skirt	29/32"	85.00
2211	C	2⅜"	3" Skirt	1 1/32"	111.00
2212	D	1⅛"		29/32"	45.00
2213	D	1⅜"		29/32"	47.00
2214	D	1⅝"		27/32"	52.00
2215	D	2⅜"		31/32"	72.00
			SKIRT ONLY		
2216		1½"	Skirt only		$11.00
2217		1¾"	Skirt only		19.00
2218		2 1/16"	Skirt only		21.00
2219		3"	Skirt only		25.00

Matte Finish — Made to Meet MS-91531

Molded Black, Matte finish bakelite instrument knobs, with molded-in brass insert for ¼" shafts. All knobs supplied with two (2) Allen-head set-screws. Style B pointer knobs have white vinyl pointer. Style C skirt knobs have white indicator line on skirt. **Std. Pkg. 10**

No.	Style	O.D.	Pointer size	Height	NET Per C
2460	A	1½"		5/8"	$105.00
2461	A	1⅝"		¾"	125.00
2462	A	2⅜"		⅞"	150.00
2463	B	1½"	¾" pointer	11/16"	110.00
2464	B	1⅝"	1 3/16" pointer	13/16"	125.00
2465	B	2⅜"	1 9/16" pointer	15/16"	155.00
2466	C	1½"	1½" skirt	13/16"	152.00
2467	C	1⅝"	2 1/16" skirt	29/32"	185.00
2468	C	2⅜"	3" skirt	1 1/32"	230.00

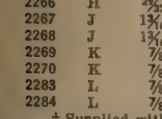
CONTROL KNOBS



Molded bakelite control knobs. Supplied with ¼" molded hole; complete with set screw. *Recessed for locknut. **Std. Pkg. 25**

No.	Style	O.D.	Height	Color	NET Per C
2240	A	¾"	13/32"	Black	$20.00
2241	A	¾"	19/32"	Walnut	21.00
2242	B	1 1/16"	13/32"	Black	9.00
2243	B	1 1/16"	13/32"	Walnut	13.00
2244*	B	1"	½"	Black	17.00
2245*	B	1"	½"	Walnut	18.00
2275†	B	1 1/16"	13/32"	Black	12.00
2276†	B	1 1/16"	13/32"	Red	33.00
2246	C	1 1/16"	13/32"	Black	9.00
2247	C	1 1/16"	13/32"	Walnut	13.00
2273†	C	1 1/16"	13/32"	Black	12.00
2274†	C	1 1/16"	13/32"	Red	33.00
2248*	D	1"	½"	Black	21.00
2249*	D	1"	½"	Walnut	23.00
2250*	E	1⅛"	5/16"	Black	18.00
2251*	E	1⅛"	5/16"	Walnut	19.00
2252*	F	1½"	11/16"	Black	23.00
2253*	F	1½"	11/16"	Walnut	25.00
2254*	F	1½"	11/16"	Ivory	26.00
2258	G	⅞"	¾"	Black	22.00
2259	G	⅞"	¾"	Walnut	23.00
2265	H	29/32"	19/32"	Black	22.00
2266	H	29/32"	19/32"	Red	23.00
2267	J	13/16"	5/8"	Black	18.00
2268	J	13/16"	5/8"	Red	19.00
2269	K	⅞"	5/8"	Black	27.00
2270	K	⅞"	5/8"	Red	28.00
2283	L	⅞"	½"	Black	31.00
2284	L	⅞"	½"	Red	32.00

† Supplied with brass insert.



PUSH BUTTON KNOBS

Std. Pkg. 25

No.	Style	O.D.	Height	Color	Per C
2277	A	½"	5/64"	Black	$9.00
2278	A	½"	5/64"	Red	11.00
2279	B	3/4"	9/16"	Black	6.00
2280	B	3/4"	9/16"	Red	7.50

POINTER KNOBS

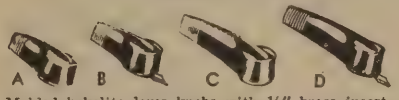


A Length 1¼" Hgt. ⅝" — **B** Length 2" Hgt. ⅝" — **C** Length 1¼" Hgt. ⅝"

Molded bakelite pointer knobs, supplied with ¼" plain hole or brass inset. Complete with set screw. **Std. Pkg. 25**

No.	Style	Type Hole	Color	NET Per C
2220	A	¼" Plain	Black	$10.00
2221	A	¼" Plain	Walnut	15.00
2222	A	¼" Plain	Ivory	16.00
2223	A	¼" Brass Insert	Black	15.00
2224	A	¼" Brass Insert	Walnut	23.00
2225	A	¼" Brass Insert	Red	24.00
2226	B	¼" Plain	Black	26.00
2227	B	¼" Plain	Walnut	27.00
2228	B	¼" Brass Insert	Black	33.00
2229	B	¼" Brass Insert	Walnut	35.00
2230	C	¼" Plain	Black	18.00
2231	C	¼" Plain	Walnut	19.00

LEVER KNOBS



Molded bakelite lever knobs with ¼" brass insert, complete with set screw. **Std. Pkg. 25**

No.	Style	Length	Height	Color	NET Per C
2232	A	1⅝"	19/32"	Black	$33.00
2233	A	1⅝"	19/32"	Walnut	35.00
2234	B	1 15/16"	19/32"	Black	55.00
2235	B	1 15/16"	19/32"	Walnut	56.00
2236	C	2½"	⅝"	Black	32.00
2237	C	2½"	⅝"	Walnut	33.00
2238	D	2 13/16"	⅝"	Black	53.00
2239	D	2 13/16"	⅝"	Walnut	55.00

FLUTED INSTRUMENT KNOBS



Molded black bakelite fluted instrument knobs, supplied with white-filled line on crown and skirt, opposite set-screw. Supplied with ¼" plain hole with set-screw. **Std. Pkg. 10**

No.	Skirt Dia.	Height	NET Per C
2391	¾"	½"	$32.00
2392	1½"	5/8"	37.00
2393	1¼"	¾"	41.00
2394	1½"	⅞"	43.00
2395	2"	15/16"	56.00
	With ¼" plain hole with set-screw		
2396	¾"	½"	34.00

CONCENTRIC FLUTED

Molded black and Red bakelite dual-concentric fluted instrument knobs. Outside knob is black with white filled line on skirt. Inner knob is red with white-filled line on skirt and crown. Both knobs supplied with set-screws. **Std. Pkg. 10**

No.	NET Per C
2397	$68.00

BINDING POST KNOBS



Std. Pkg. 25

No.	Style	threaded 8-32 brass inserts O.D.	Height	Color	NET Per C
2271	A	¾"	½"	Black	$11.00
2272	A	¾"	½"	Red	12.00
2285	B	½"	5/16"	Red	10.00
2286	B	½"	5/16"	Black	10.00
2287	C	½"	½"	Red	10.00
2288	C	½"	½"	Black	10.00



CONTROL PLATES

MATERIAL: Brass Black Satin Finish. Etched silver numerals.

DIMENSION: 13/32" I.D. x O.D. as specified, x .020" thick. **Std. Pkg. 5**

Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 No.	Degrees	Total Graduations	O.D.	NET Per C
2900	2906	180	20	2"	$105.00
2901	2907	270	20	2"	105.00
2902	2908	325	20	2"	105.00
2903	2909	180	100	3½"	150.00
2904	2910	270	100	3½"	150.00
2905	2911	325	100	3½"	150.00



DIAL PLATES

MATERIAL: Brass Chrome Silver Finish, .020" thick.

DESCR.: Mounting Holes 9/64". **Std. Pkg. 5**

Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 No.	Degrees	A	B	NET Per C
2912	2928	180	1⅛"	3/8"	$80.00
2913	2929	270	1⅛"	3/8"	80.00
2914	2930	325	1⅛"	3/8"	80.00
2915	2931	360	1⅛"	3/8"	80.00
2916	2932	180	1¾"	31/64"	100.00
2917	2933	270	1¾"	31/64"	100.00
2918	2934	325	1¾"	31/64"	100.00
2919	2935	360	1¾"	31/64"	100.00
2920	2936	180	2¾"	¾"	135.00
2921	2937	270	2¾"	¾"	135.00
2922	2938	325	2¾"	¾"	135.00
2923	2939	360	2¾"	¾"	135.00
2924	2940	180	4"	15/16"	170.00
2925	2941	270	4"	15/16"	170.00
2926	2942	325	4"	15/16"	170.00
2927	2943	360	4"	15/16"	170.00



DIAL AND KNOB ASSEMBLY

DIAL: Brass Chrome Silver Finish, .020" thick.

KNOB: Molded Bakelite with ¼" Brass insert. **Std. Pkg. 5**

Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 *No.	Degrees	O.D.	NET Each
2960	2976	180	1½"	$1.35
2961	2977	270	1½"	1.35
2962	2978	325	1½"	1.35
2963	2979	360	1½"	1.35
2964	2980	180	1⅝"	1.50
2965	2981	270	1⅝"	1.50
2966	2982	325	1⅝"	1.50
2967	2983	360	1⅝"	1.50
2968	2984	180	2⅜"	3.00
2969	2985	270	2⅜"	3.00
2970	2986	325	2⅜"	3.00
2971	2987	360	2⅜"	3.00
2972	2988	180	4"	3.45
2973	2989	270	4"	3.45
2974	2990	325	4"	3.45
2975	2991	360	4"	3.45



VERNIER DIAL MARKERS

MATERIAL: Brass Chrome Silver Finish. Supplied with hardware. **Std. Pkg. 5**

No.	For °Dials	Dial O.D.	NET Per C
2944	180	1⅛"	$85.00
2945	270	1⅛"	85.00
2946	325	1⅛"	85.00
2947	360	1⅛"	85.00
2948	180	1¾"	85.00
2949	270	1¾"	85.00
2950	325	1¾"	85.00
2951	360	1¾"	85.00
2952	180	2⅜"	85.00
2953	270	2⅜"	85.00
2954	325	2⅜"	85.00
2955	360	2⅜"	85.00
2956	180	4"	85.00
2957	270	4"	85.00
2958	325	4"	85.00
2959	360	4"	85.00

KNOB DIAL PLATES



2261 — 2262 — 2290

DIAL: BRASS, chrome silver, 1⅝" O.D.
KNOB: Molded bakelite black (our 2250).
DESCR.: For matching dials on instruments, receivers, amplifiers. Dial has clear black etched numbers. Knob fits 1/4" shaft. **Std. Pkg. 10**

No.	Type	NET Each
2261	10 to 0 180 Degrees	$1.05
2262	10 to 0 270 Degrees	1.05
	DIAL PLATES ONLY ½" I.D.	
2263	10 to 0 180 Degrees	.80
2264	10 to 0 270 Degrees	.80

DIAL: Nickel silver, 1⅝" O.D.
KNOB: Molded bakelite.
DESCR.: Engraved numerals, varnish coated. 10 to 0, in 360 degrees. Knob fits ¼" shaft. **Std. Pkg. 10**

No.	NET Each
2290	$1.05

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT

PRINTED CIRCUIT CONNECTORS



COMMERCIAL

INSULATOR: Glass filled blue Alkyd.
CONTACTS: Beryl Copper .00001 gold flash; pierced terminal.
ACCEPTS: 1/16" Printed Circuit Cards.
MTG. HOLE: .125 Clearance.
DESCR.: Bifurcated bellows action assures positive electrical contact.

.156 SPACING

.125 Mtg. Hole Clearance
Pierced Terminal — Std. Pkg. 5

Smith No.	No. of Contacts	Single or Double	Mtg. Centers	NET Ea.
6216	6	S	1.531	1.65
6217	10	S	2.156	1.75
6218	15	S	2.937	1.60
6219	18	S	3.406	2.40
6220	22	S	4.031	2.50
6221	28	S	5.046	4.25
6222	36	S	6.219	3.30
6223	12	D	1.531	1.70
6224	20	D	2.156	1.75
6225	30	D	2.937	1.65
6226	36	D	3.406	2.45
6227	44	D	4.031	2.50
6228	56	D	5.046	4.25
6229	72	D	6.219	3.40
6230	86	D	7.302	3.90

MIL-C-21097

MILITARY

INSULATOR: Diallyl Phthalate, Green, Type GDI-30 per MIL-P-19833.
CONTACTS: Beryl. Copper .000031 gold per MIL-G-45204, Type II over .0005 silver per QQ-5-365, pierced terminal.
ACCEPTS: 1/16" Printed Circuit Cards.
MTG. HOLE: .125 Clearance.
DESCR.: Bifurcated bellows action assures positive electrical contact.

.156 SPACING

.125 Mtg. Hole Clearance. Pierced Terminal — Std. Pkg. 5

No. Smith	No. of Contacts	Single or Double	Mtg. Centers	NET Ea.
6200	6	S	1.531	2.75
6201	10	S	2.156	2.95
6202	15	S	2.937	3.25
6203	18	S	3.406	3.70
6204	22	S	4.031	3.90
6205	28	S	5.046	4.25
6206	36	S	6.219	4.65
6207	43	S	7.302	7.15
6208	12	D	1.531	2.90
6209	20	D	2.156	3.00
6210	30	D	2.937	3.25
6211	36	D	3.406	3.70
6212	44	D	4.031	3.90
6213	56	D	5.046	4.25
6214	72	D	6.219	4.65
6215	86	D	7.302	7.15

.100 SPACING

.125 Mtg. Hole Clearance. Pierced Terminal — Std. Pkg. 1

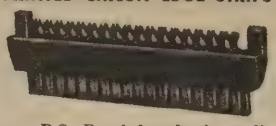
Smith No.	No. of Contacts	Single or Double	Mtg. Centers	NET Ea.
6231	40	D	2.625	6.75
6232	60	D	—	7.50
6233	70	D	4.125	8.40
6234	80	D	4.625	9.25
6235	100	D	—	9.90
6236	120	D	6.625	10.10

.050 SPACING

.125 Mtg. Hole Clearance. Dip Solder Terminal — Std. Pkg. 1

Smith No.	No. of Contacts	Single or Double	Mtg. Centers	NET Ea.
6237	40	D	1.500	10.25
6238	60	D	2.000	12.00
6239	80	D	2.500	12.50
6240	100	D	3.000	14.10
6241	110	D	3.250	14.50
6242	128	D	3.500	15.50

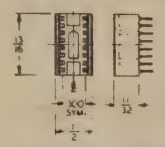
PRINTED CIRCUIT EDGE STRIPS



Convert any P.C. Board for plug-in applications. Can also be used where high reliability is required. Molded diallyl phthalate body with gold plated contacts .125 Micro-inch. Available in single or double sided. For 1/16" boards. — Std. Pkg. 1

No.	Contacts	Single or Double	NET Each
6254	6	S	$4.40
6255	10	S	5.10
6256	15	S	6.10
6257	18	S	6.60
6258	22	S	7.15
6259	12	D	5.55
6260	20	D	6.80
6261	30	D	8.30
6262	36	D	9.35
6263	44	D	10.75

INTEGRATED SOCKETS DUAL IN-LINE

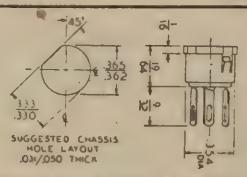


P.C.

For 14 and 16 pin in-line Hybrid packages having .100" x .300" grid spacing. Accepts round or flat pins. Body of general purpose phenolic. Brass electro plated contacts for P.C. version and brass cadmium plated contacts for self-mounting type.

No.	Pins	Body	NET Per C
6252	14	P.C.	$50.00
6253	16	P.C.	50.00

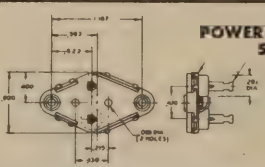
TRANSISTOR SOCKETS



Snap-in type transistor sockets for TO-5 and TO-18 3 and 4 lead, plus 3 lead in-line transistors. Phosphor bronze, cadmium plated contacts with a polysulfone body. Fits in "D" shape hole. — Std. Pkg. 100

No.	Case	NET Per C
6264	TO-18	$15.00
6265	TO-5	15.00

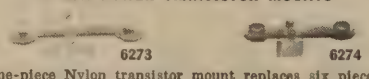
POWER TRANSISTOR SOCKET



For use with transistors having a TO-3 case. Body of general purpose phenolic with contacts of phosphor bronze, gold over silver plated. Mounting plate with 6-32 tapped holes. — Std. Pkg. 100

No.	NET Per C
6266	$25.00

NYLON POWER TRANSISTOR MOUNTS

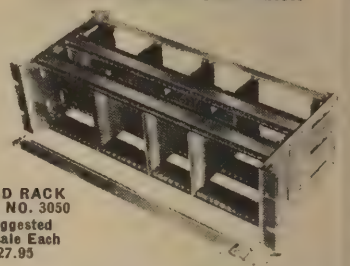


6273 6274

One-piece Nylon transistor mount replaces six pieces of conventional insulation when mounting power transistors. Built-in barrier separates and insulates base and emitter pins from each other. Screw insulators require 3/16" clearance holes, pin insulators .113 dia. clearance. Mounting centers are standard for types TO-3 and TO-66 power transistors. — Std. Pkg. 100

No.	Transistor Type	NET Per C
6273	TO-3	$4.00
6274	TO-66	4.00

A UNIVERSALLY ADJUSTABLE PRINTED CIRCUIT CARD RACK



CARD RACK CAT. NO. 3050
Suggested Resale Each $27.95

Complete and Economical Support System for Printed Circuit Card

ADJUSTABLE UP-AND-DOWN
For Card Widths 2⅜" to 4¾"

ADJUSTABLE LOCKING BAR
Holds Cards Securely against Rear Connectors

ADJUSTABLE CARD SPACING
Variable in .400" Increments

ADJUSTABLE FRONT-TO-BACK
For Card Lengths 3½" to 7¼"

ADJUSTABLE
For P.C. Connector Sizes

ADJUSTABLE CALIBRATED SLIDE RACKS
For Fast, Precise Adjustments to Any Card Size

FITS STANDARD 19-INCH EQUIPMENT RACKS

- Simple Adjustments for Multiple Card Sizes
- Simple Adjustments for Card Spacing
- Front to Back Adjustment of Printed Circuit Card Connectors
- Simple Adjustments for Printed Circuit Connector Sizes
- Locking Bar to Secure P.C. Cards
- Complete with Board Guides

SPECIFICATIONS

CARD CAPACITY
Up to 39 cards, depending on component height

CARD SIZES
1/16" thick standard.
With Locking Bar Feature:
Maximum Card Width: 4¾"
Maximum Card Length: 6½"
Minimum Card Width: 2⅜"
Minimum Card Length: 4⅜"
Without Front Card Lock:
Maximum Card Length: 7¼"
Minimum Card Length: 3½"

CARD SPACING
.400" Min. Centers, Adjustable in .400" increments

CARD GUIDES
Precision Molded Plastic. Four guides provided for each card to insure location accuracy. Guides nest together in staggered holes for minimum practical card spacing.

ADJUSTABILITY
All card guide and connector rails slide smoothly on Nylon bushings for ease in adjusting. Card rails adjust symmetrically to keep cards centered in rack. Connector rails adjust front-to-back to keep cards against locking rail. Adjust index marks permanently stamped on side plates for standard card sizes.

CONNECTOR SPACING
Accommodates card-edge connectors with mounting centers from 0.936" minimum to 4.437" maximum

CONSTRUCTION
Heavy-gauge clear Anodized aluminum. Guide and alignment members are extrusions for maximum precision of fits.

DIMENSIONS
Designed ot fit standard 19" equipment racks, 5¼" panel space. Length 19"; Width 5¼"; Depth 8"

ASSEMBLY
Supplied knocked-down. All hardware, card guides and complete assembly instructions included.

SPECIAL FEATURES

LOCKING BAR
Front locking bar holds cards securely against rear connectors. Held in place with captive screws for rapid card change. Card identification marking available on front of locking bar.

STACKING
Can be stacked for wider panels in multiples of 5¼". Accessory brackets available for free-standing stacking.

SPECIALS
Special color anodized finishes available on request. Non-standard sizes available on special order.

REPLACEMENT PARTS

Part No.	Description	NET Ea.
3050-1	Guide Rail	$2.5
3050-2	Guide Rail Bracket	.5
3050-3	Connector Rail Bracket	1.2
3050-4	Connector Rail	1.0
3050-5	Side Plate	2.5
3050-6	Locking Bar Bracket	.5
3050-7	Locking Bar	1.5
3050-8	Screw, 4-40 x 1/4, Type F Phillips	.0
3050-9	Screw, 4-40 x 3/8, Type F Phillips	.0
3050-10	Screw, 6-32 x 5/16, Type F Phillips	.0
3050-11	Hex Nut, 4-40 x 1/4	.0
3050-12	Lockwasher, Int. Tooth, #4	.0
3050-13	Nylon Guide Bushing	.0
3050-14	Captive Screw	.1
3050-16	Nylon Washer	.0
3050-17	Plastic Card Guide	.0
3050-18	Instructions	.5

P. C. PROTOTYPE ETCHING EQUIPMENT FOR SCREEN CUTTING

Photo layout film for hand-cutting mechanical negatives. A red film is laminated to a transparent backing sheet. When knife-cut, the red film laminate is peeled back to permit light to penetrate only through the cutaway area; the remainder is light-safe. Supplied in 8" x 10" sheets. — Std. Pkg. 6

No. 6268 — NET Each $1.00

SWIVEL CUTTING KNIFE for cutting circles and curves. Also locks tight for cutting straight lines. — Std. Pkg. 6

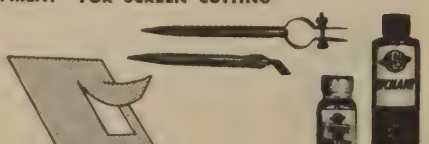
No. 6269 — NET Each $1.00

EXTRA BLADES for above. — Std. Pkg. 12

No. 6270 — NET Each $.50

PARALLEL LINE-CUTTING KNIFE, for cutting parallel lines up to ½" in width. — Std. Pkg. 1

No. 6271 — NET Each $3.50



FOR ETCHING

A low cost kit to enable the engineer to quickly etch copper-clad boards in minutes. The kit contains a unique felt-tip Resist Ink pen to apply the Resist-Ink as easily as writing. Also included is a 2-oz. bottle of Resist-Ink solvent and a 6-oz. bottle of ferric-chloride etchant solution. — Std. Pkg. 1

No. 6272 — NET Each $3.95

© United Technical Publications

specify* **SMITH**

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

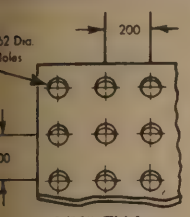
PRINTED CIRCUIT PRE-PUNCH BOARDS

SPECIFICATIONS

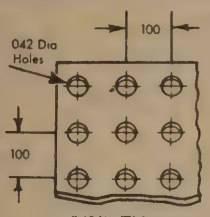
boards are precision-punched and pre-cut to size with various spacings to accom-date and provide economical mounting of components in Electronic circuitry. They e ideal for production and prototype uses. They can be etched as required, drilled, nched or sawed. The following specifications apply:

XXXP—Phenolic unclad, Type PBE-P per MIL-P-3115, 250° F Max.
EXXXP—Epoxy Paper, Type PEE per MIL-P-22324, 250° F Max.
XXXPC—Phenolic, Copper Clad, Type PP per MIL-P-13949, 250° F Max.
G-10—Epoxy Glass, unclad, Type GEE per MIL-P-18177, 300° F Max.
G-10—Epoxy Glass, Copper Clad, Type GE per MIL-P-13949B, 300° Max.

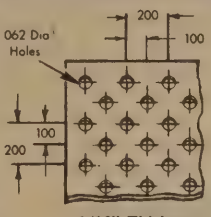
Many Others Available — Specials — Inquire



"F" PATTERN



"P" PATTERN



"G" PATTERN

"F" PATTERN — MATERIALS AVAILABLE

Std. Pkg. 10

Size	No. of Holes	XXXP No.	XXXP NET Per C	G-10 No.	G-10 NET Per C	XXXP 1 Side Copper Clad No.	XXXP 1 Side Copper Clad NET Per C	G-10 1 Side Copper Clad No.	G-10 1 Side Copper Clad NET Per C
3x4	15x20	6001	28.00	6014	72.00	6027	39.00	6040	100.00
3x4.5	15x22	6002	35.00	6015	81.00	6028	45.00	6041	110.00
3x6	15x30	6003	45.00	6016	105.00	6029	60.00	6042	150.00
3x6.5	15x32	6004	48.00	6017	115.00	6030	62.00	6043	160.00
3.5x4	17x20	6005	33.00	6018	82.00	6031	45.00	6044	114.00
3.5x4.5	17x22	6006	36.50	6019	91.00	6032	50.00	6045	127.00
3.5x6	17x30	6007	50.50	6020	120.00	6033	67.00	6046	155.00
3.5x6.5	17x32	6008	55.50	6021	131.00	6034	73.00	6047	183.00
4x4.5	20x22	6009	45.00	6022	108.00	6035	60.00	6048	150.00
4x6	20x30	6010	56.00	6023	138.00	6036	75.00	6049	192.00
4x6.5	20x32	6011	60.00	6024	147.00	6037	81.00	6050	207.00
4.5x6	22x30	6012	61.50	6025	152.00	6038	83.00	6051	207.00
4.5x6.5	22x32	6013	66.00	6026	162.00	6039	88.00	6052	230.00

"P" PATTERN — MATERIALS AVAILABLE

Std. Pkg. 10

Size	No. of Holes	G-10 No.	G-10 NET Per C	G-10 1 Side Copper Clad No.	G-10 1 Side Copper Clad NET Per C
2.5x4	25x40	6092	66.00	6109	90.00
2.5x4.5	25x45	6093	74.00	6110	100.00
2.5x6	25x60	6094	99.00	6111	134.00
2.5x6.5	25x65	6095	105.00	6112	142.00
3x4	30x40	6096	77.00	6113	105.00
3x4.5	30x45	6097	85.00	6114	115.00
3x6	30x60	6098	110.00	6115	155.00
3x6.5	30x65	6099	122.00	6116	165.00
3.5x4	35x40	6100	88.00	6117	119.00
3.5x4.5	35x45	6101	96.00	6118	132.00
3.5x6	35x60	6102	127.00	6119	177.00
3.5x6.5	35x65	6103	135.00	6120	184.00
4x4.5	40x45	6104	114.00	6121	155.00
4x6	40x60	6105	144.00	6122	197.00
4.5x6	45x60	6107	157.00	6124	220.00
4x6.5	40x65	6106	152.00	6123	212.00
4.5x6.5	45x65	6108	168.00	6125	235.00

"G" PATTERN — MATERIALS AVAILABLE

Std. Pkg. 10

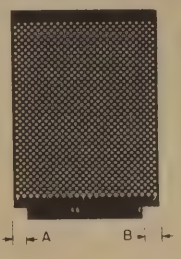
Size	No. of Hole	XXXP No.	XXXP NET Per C	G-10 No.	G-10 NET Per C	G-10 1 Side Copper Clad No.	G-10 1 Side Copper Clad NET Per C
3x4	(15x20)2	6053	30.00	6066	72.00	6079	100.00
3x4.5	(15x22)2	6054	32.50	6067	81.00	6080	110.00
3x6	(15x30)2	6055	45.00	6068	105.00	6081	150.00
3x6.5	(15x32)2	6056	48.00	6069	115.00	6082	160.00
3.5x4	(17x20)2	6057	37.00	6070	80.00	6083	114.00
3.5x4.5	(17x22)2	6058	36.50	6071	91.00	6084	127.00
3.5x6	(17x30)2	6059	50.50	6072	120.00	6085	155.00
3.5x6.5	(17x32)2	6060	55.50	6073	131.00	6086	183.00
4x4.5	(20x22)2	6061	45.00	6074	108.00	6087	150.00
4x6	(20x30)2	6062	56.00	6075	138.00	6088	192.00
4x6.5	(20x32)2	6063	60.00	6076	147.00	6089	207.00
4.5x6	(22x30)2	6064	61.50	6077	152.00	6090	207.00
4.5x6.5	(22x32)2	6065	66.00	6078	162.00	6091	230.00

FOR ENGINEERS & PURCHASING AGENTS!

New Smith Catalog is an important Reference Work on electronic component parts, containing:
Detailed specifications! Data; Dimensional Drawings.



SEND FOR YOUR FREE COPY #72R



4.5" x 6.5" PLUG-IN CARDS WITH ETCHED FINGERS

.062 Holes. .100 x .200 Alternate Centers.
.156 Spacing. 1/16" Thickness.

Total Contacts	1 or 2 Sides	Fig. A	Fig. B	G-10 No.	G-10 NET Ea.	XXXP No.	XXXP NET Ea.
43	2	.408	.508	6126	3.71	6130	3.35
43	2	.458	.458	6127	3.71	6131	3.35
22	1	.408	.508	6128	3.05	6132	2.43
22	1	.458	.458	6129	3.05	6133	2.43

CONNECTOR INFORMATION:

With Plug-In Cards SMITH Nos.	Use SMITH Connector Commercial No.	Military No.
6126 and 6130	6227	6212
6127 and 6131	6227	6212
6128 and 6132	6220	6204
6129 and 6133	6220	6204

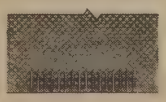


FIG. 1



FIG. 2

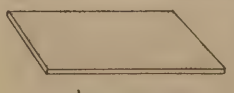
PLUG-IN CARDS WITH ELCO "VARICON" CONTACTS

.062 Holes. .100 x .200 Alternate Centers.
1/16"Thickness.

No.	Fig.	No. of Contacts	Size	Material	NET Ea.
6134	1	16	4.5x6.5	Paper Epoxy	4.00
6135	1	16	4.5x6.5	Glass Epoxy	4.40
6136	1	12	3x4.5	Paper Epoxy	2.85
6137	1	12	3x4.5	Glass Epoxy	3.15
6138	1	14	3x4.5	Paper Epoxy	3.00
6139	1	14	3x4.5	Glass Epoxy	3.50
6140	2	35	4.5x6.5	Glass Epoxy	7.50
6141	2	35	4.5x6.5	Paper Epoxy	6.20

CONNECTOR INFORMATION:

Plug-In Cards, SMITH Nos.	Use Elco Connector No.
6134 and 6135	5009-016-156-001
6136 and 6137	5009-012-156-001
6138 and 6139	5004-014-103-002
6140	7008-035-146-001
6141	7001-035-146-001

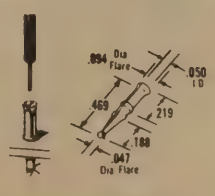


BLANK PANELS

1 and 2 Sides Copper.
1/16" Thickness.

Std. Pkg. 5

Size	XXXP Copper 1 Side NET No.	XXXP Copper 1 Side NET Per C	XXXP Copper 2 Sides NET No.	XXXP Copper 2 Sides NET Per C	G-10 Copper 1 Side NET No.	G-10 Copper 1 Side NET Per C	Copper 2 Sides G-10 NET No.	Copper 2 Sides G-10 NET Per C
3x4.5	6142	38.00	6144	51.00	6146	88.00	6148	98.00
4.5x6.5	6143	70.00	6145	98.00	6147	170.00	6149	193.00



MINIATURE TUBULAR TERMINALS

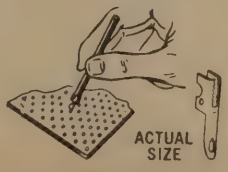
For .062-.067 Diam. Hole

For printed circuits. Suitable for mounting transistors, resistors, neons, etc. Tapered section retains wire leads. Positive locking in hole, no staking required. Firmly holds wires of .010 to .050 diam.
Material: .006 thick brass, precision-formed and pre-tinned
No. 6160 Std. Pkg. 100 NET Per C $2.00



INSERTION TOOL, for hand insertion.
No. 6161 Std. Pkg. 6 NET Each $1.25

PUSH-IN TERMINALS For .062 Diam. Holes



Miniature type, excellent for point-to-point or feed-thru wiring. Serrated slot grips transistor or heavier leads. Multiple connections quickly and easily made. **Material:** .008 thick Beryllium Copper. **Finish:** Fused Tin Plate.
No. 6162 Std. Pkg. 100 NET Per C $2.00

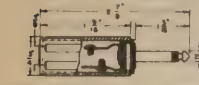
INSERTION TOOL, for hand insertion.
No. 6163 Std. Pkg. 6 NET Each $.65

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENT

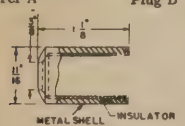
STANDARD PHONE PLUGS

BODY: Body, tip, and sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC working voltage.
DESCR.: Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.
LUGS: 2 circuit plugs are screw terminals with ribbed clips and cord anchor. 3 circuit plugs are solder lugs.
Std. Pkg. 50

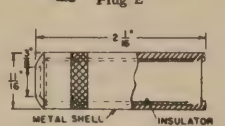

Barrel A


Plug D

Plug E

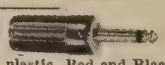


Barrel B



Barrel C

Phenolic Barrel



BARREL: MOLDED PHENOLIC plastic, Red and Black. SPECIFY COLOR
Std. Pkg. 50

No.	Circuit	Terminals	Plug	Barrel	NET Per C
222	2	Screw	D	A	$57.00
227	3	Solder	E	A	80.00

Shielded Barrel



BARREL: BRASS, nickel plated with tubular insert.
Std. Pkg. 25

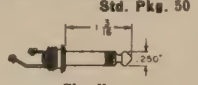
No.	Circuit	Terminals	Plug	Barrel	NET Per C
252	2	Screw	D	B	$90.00
272	2	Screw	D	C	100.00
228	3	Solder	E	B	105.00
238	3	Solder	E	C	115.00

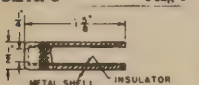
SLIM PHONE PLUGS — Cable Clamp Style

BODY: Body, tip, and sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage.
DESCR.: Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.
Std. Pkg. 50

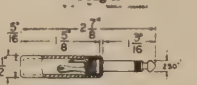

Barrel G

Plug F

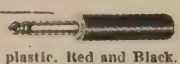

Plug H



Barrel J


PLUG "O"

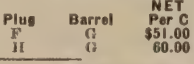
Phenolic Barrel



BARREL: MOLDED PHENOLIC plastic, Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
225	2	Solder	F	G	$51.00
307	2	Screw	H	G	60.00

Shielded Barrel



BARREL: BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
226	2	Solder	F	J	$72.00
316	2	Screw	H	J	85.00

ECONOMY TYPE

DESCR.: An inexpensive modified version of our popular #225 and 226 plugs shown above. Features two small solder lugs. Std. Pkg. 50

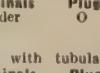
Phenolic Barrel SPECIFY COLOR
BARREL: MOLDED PHENOLIC plastic, Red and Black.

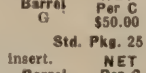
No.	Circuit	Terminals	Plug	Barrel	NET Per C
320	2	Solder	O	G	$50.00

Shielded Barrel Std. Pkg. 25
BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
330	2	Solder	O	J	$70.00

TELEPHONE JACKS





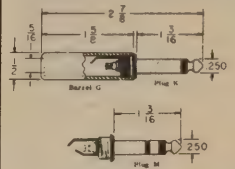
BUSHING: BRASS, nickel plated.
INSUL.: Bakelite, type PBE-P per MIL-P-3115B.
SPRING: Nickel-Silver alloy, spring temper. New tapered design provides for ease of insertion while eliminating possibility of shorts.
SLEEVE TERM.: Brass, hot tinned.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.
DESCR.: Notched insulating washers accurately locate all parts, and eliminate possibility of shorts and arc-over. Springs designed for firm, low-resistance electrical contact. Bushings ¼" long, threaded ⅜"-32. Mounts in ¾" hole in panels up to ⅝" thick. Overall diameter ⅞" require 1" clearance behind panel. Supplied with ⅛" hex brass nut and ⅝" steel panel washer, all nickel plated. Std. Pkg. 50

No.	Circuit	NET Per C
275	Two Conductor Open	$30.00
276	Two Conductor Closed	35.00
277	Three Conductor Open	39.00
278	Three Conductor Closed	60.00



IMPROVED "TURRET-CENTER" STYLE

BODY: Body, Tip, Ring, and sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV 60 cycle AC continuous working voltage.
DESCR.: New, improved construction has co-axial "turret-terminal" tip lug and widely separated contacts for maximum voltage ratings. Styrene separator, Mylar sleeves, and Nylon bushings used for increased performance. Fits standard phone jacks. Std. Pkg. 50



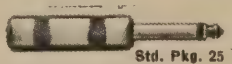
Phenolic Barrel



BARREL.: MOLDED PHENOLIC plastic, Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
171	2	Solder	K	G	$60.00
172	2	Screw	L	G	65.00
308	3	Solder	M	G	75.00
309	3	Screw	N	G	85.00

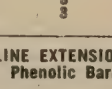
Shielded Barrel

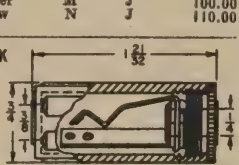

Std. Pkg. 25

BARREL: BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
173	2	Solder	K	J	$85.00
174	2	Screw	L	J	90.00
311	3	Solder	M	J	100.00
312	3	Screw	N	J	110.00

IN-LINE EXTENSION JACK
Phenolic Barrel

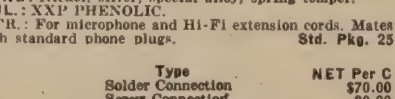




BARREL: MOLDED PHENOLIC plastic, Red and Black.
BODY: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.
SPRING: Nickel, silver, special alloy, spring temper.
INSUL.: XXP PHENOLIC.
DESCR.: For microphone and Hi-Fi extension cords. Mates with standard phone plugs. Std. Pkg. 25

No.	Type	NET Per C
274	Solder Connection	$70.00
288	Screw Connectiof	80.00

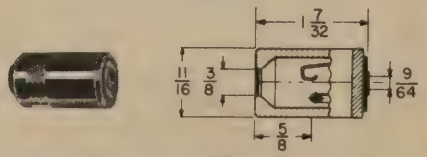
Shielded Barrel



BARREL: Brass, nickel plated, with tubular insulator.
BODY: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.
SPRING: Nickel, silver, special alloy, spring temper.
INSUL.: XXP Bakelite.
DESCR.: For microphone and Hi-Fi extension cords. Mates with standard phone plugs. Std. Pkg. 25

No.	Type	NET Per C
279	Solder Connection	$100.00
289	Screw Connection	110.00

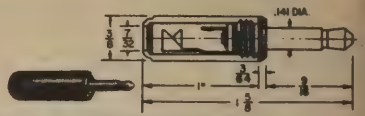
MINIATURE EXTENSION JACK
Shielded



BARREL: Brass, nickel plated.
BODY: Brass, nickel plated.
SPRING: Nickel silver alloy, spring temper.
INSUL.: Phenolic.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.
DESCR.: Mates with Miniature Phone Plugs. Std. Pkg. 25

No.	Circuit	Terminals	NET Per C
487	2	Solder	$110.00

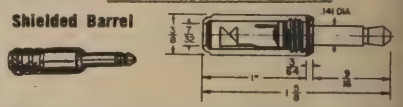
MINIATURE PHONE PLUG



HANDLE: MOLDED plastic, Black.
BODY: Body, tip, sleeve—Brass, nickel plated.
TERM.: Brass, hot tin dipped.
RATING: 5 Amps AC for 10°C Temp. rise, continuo duty. 350 Volts 60 cycle AC continuous working voltag
DESCR.: Designed for use with small radios, tape r corders, etc. Solder terminals.

No.	Circuit	NET Per
480	Two Conductor	$70.

Shielded Barrel



BARREL: BRASS, nickel plated with tubular insulator.
BODY: Body, tip, sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuo duty. 350 Volts 60 cycle AC continuous working voltag
DESCR.: Designed for use with small radios, tape r corders, etc. Solder terminals. Std. Pkg.

No.	Circuit	NET Per
481	Two Conductor	$106.0

MINIATURE TELEPHONE JACKS





BUSHING: BRASS, nickel plated.
INSUL.: XXXP Phenolic, type PBE-P per MIL-P-3115.
SPRING: Nickel silver alloy, spring temper.
TERM.: Brass, hot tinned.
RATING: 5 Amps AC for 10°C Temp. rise, continuo duty. 500 Volts 60 cycle AC continuous working voltag
DESCR.: Notched insulation washers interlock sprin and lugs, eliminate possibility of shifting which resu in electrical shorts. Springs firmly hold mating plu Supplied with hex brass nut and steel mounting washe all nickel plated. Std. Pkg.

No.	Circuit	NET Per
482	Two Conductor, Open	$42.
483	Two Conductor, Closed	$45.

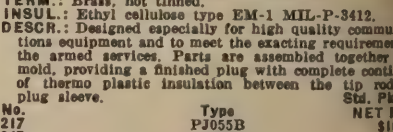
PJ055 AND PJ068 PLUGS



BARREL: MOLDED plastic.
BODY: Body, tip, sleeve—Machined brass.
TERM.: Brass, hot tinned.
INSUL.: Ethyl cellulose type EM-1 MIL-P-3412.
DESCR.: Designed especially for high quality communic tions equipment and to meet the exacting requirements the armed services, Parts are assembled together in mold, providing a finished plug with complete continu of thermo plastic insulation between the tip rod a plug sleeve. Std. Pkg.

No.	Type	NET Per
217	PJ055B	$100.
247	PJ068B	215.

CORD CLAMP STRAIN RELIE



MATERIAL: Cold Rolled Ste per QQ-S-636. Finish zinc p Spec. 7253, Table II, Type
DESCR.: Used on Governme cord assemblies. Made in a cordance with Signal Corp Spec. SC-A-7674. Std. Pkg. 1

No.	NET Per
747	$2.0

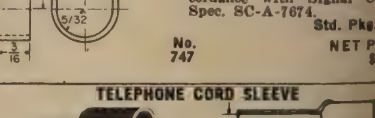
TELEPHONE CORD SLEEVE



MATERIAL: Neoprene in accordance with Grade SC415AF per MIL-R-3065.
DESCR.: Used on Government cord assemblies, for Strai Relief, Dust and Moisture Seal. Std. Pkg. 10

No.	NET Per
745	$10.0

PHONE PLUG ADAPTER



BODY: Body, tip, sleeve—Brass, nickel plated.
INSUL.: XXXP PHENOLIC.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty 750 Volts 60 cycle AC continuous working voltage.
DESCR.: Assembled to insure positive contact with inpu wire of mating microphone connector. Molded styren separator insures maximum insulation between conductors Mates with No. 116 microphone connector. Fits standar phone jacks. Std. Pkg. 2

No.	NET Per
113	$40.0

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

Net
© United Technical Publications

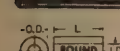
specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

BRASS ROUND SPACERS
Cadmium Plated





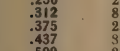
These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a #4, #6, or #8 screw. **Std. Pkg. 100**

¼" O.D.

Length "L"	Clearance Hole #4 (.115) No.	#6 (.140) No.	#8 (.171) No.	NET Per C
.125	8700	8701	8702	$3.70
.187	8703	8704	8705	3.90
.250	2340	2100	2105	4.20
.312	8706	8707	8708	4.70
.375	2341	2101	2106	4.90
.437	8709	8710	8711	5.30
.500	2342	2102	2107	5.70
.562	8712	8713	8714	6.20
.652	8715	8716	8717	6.60
.687	8718	8719	8720	8.10
.750	2343	2103	2108	8.20
.812	8721	8722	8723	8.40
.875	8724	8725	8726	9.10
.937	8727	8728	8729	9.30
1.000	2344	2104	2109	9.70

⅜" O.D.

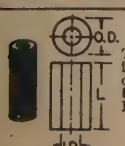
.125	8730	8731	8732	$6.00
.187	8733	8734	8735	6.60
.250	2345	2110	2115	7.30
.312	8736	8737	8738	7.80
.375	2346	2111	2116	8.70
.437	8739	8740	8741	9.40
.500	2347	2112	2117	9.60
.562	8742	8743	8744	11.00
.625	8745	8746	8747	11.90
.687	8748	8749	8750	12.10
.750	2348	2113	2118	12.20
.812	8751	8752	8753	13.50
.875	8754	8755	8756	14.80
.937	8757	8758	8759	15.30
1.000	2349	2114	2119	16.70



BRASS THREADED ROUND SPACERS
Cadmium Plated

¼" O.D.

Length "L"	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	NET Per C
.125	8760	8761	8762	$4.30
.187	8763	8764	8765	4.60
.250	2370	2120	2125	4.80
.312	8766	8767	8768	5.30
.375	2371	2121	2126	5.60
.437	8769	8770	8771	5.90
.500	2372	2122	2127	6.70
.562	8772	8773	8774	7.20
.625	8775	8776	8777	7.90
.687	8778	8779	8780	10.10
.750	2373	2123	2128	10.20
.812	8781	8782	8783	10.50
.875	8784	8785	8786	10.55
.937	8787	8788	8789	11.00
1.000	2374	2124	2129	11.40



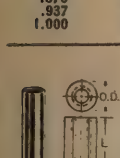
FIBRE SPACERS

These fibre bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc.
MATERIAL: FIBRE, per MIL-F-1148A, Grade CH.

¼" O.D.

Std. Pkg. 100

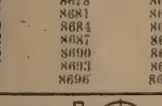
Length "L"	Clearance Hole #4 (.115) No.	#6 (.140) No.	#8 (.171) No.	NET Per C
.125	8880	8881	8882	$3.30
.187	8883	8884	8885	3.80
.250	2335	2130	2140	4.30
.312	8886	8887	8888	4.90
.375	2336	2131	2141	5.50
.437	8889	8890	8891	6.00
.500	2337	2132	2142	6.50
.562	8892	8893	8894	7.00
.625	8895	8896	8897	7.50
.687	8898	8899	8900	8.00
.750	2338	2133	2143	8.50
.812	8901	8902	8903	8.80
.875	8904	8905	8906	9.30
.937	8907	8908	8909	9.70
1.000	2339	2134	2144	10.00



PHENOLIC THREADED SPACERS ¼" O.D.

Ideal for use in mounting chassis, components, etc. Good mechanical strength, resists abrasives and chemicals. Excellent dielectric and low moisture absorption. **Std. Pkg. 100**
MATERIAL: PBE Grade MIL-P-79A. Natural color.

Length "L"	THD. 4-40 No.	THD. 6-32 No.	THD. 8-32 No.	NET Per C
.250	8660	8661	8662	$ 8.00
.312	8663	8664	8665	9.00
.375	8666	8667	8668	.950
.437	8669	8670	8671	10.00
.500	8672	8673	8674	11.00
.562	8675	8676	8677	12.00
.625	8678	8679	8680	13.00
.687	8681	8682	8683	14.00
.750	8684	8685	8686	15.00
.812	8687	8688	8689	15.50
.875	8690	8691	8692	16.50
.937	8693	8694	8695	17.00
1.000	8696	8697	8698	18.00



NYLON SPACER BUSHINGS

Natural Color, MIL-P-20693A. **Std. Pkg. 100**

No.	I.D.(A)	B	C	D	E	NET Per C
2534	#4 (.115)	.235	3/64	1/4	.147	$2.30
2535	#6 (.140)	.290	3/64	1/4	.170	2.40
2536	#8 (.170)	.344	1/16	3/8	.205	2.50
2537	#10 (.200)	.399	1/16	3/8	.260	2.70
2538	1/4"(.260)	.513	1/16	3/8	.312	3.00

BRASS HEX SPACERS
Cadmium Plated

¼" HEX

Length "L"	Clearance Hole #4 (.115) No.	#6 (.140) No.	#8 (.171) No.	NET Per C
.125	8790	8791	8792	$3.80
.187	8793	8794	8795	4.00
.250	2380	2300	2305	4.30
.312	8796	8797	8798	5.20
.375	2381	2301	2306	5.40
.437	8799	8800	8801	5.60
.500	2382	2302	2307	5.80
.562	8802	8803	8804	6.40
.625	8805	8806	8807	6.70
.687	8808	8809	8810	8.20
.750	2383	2303	2308	8.50
.812	8811	8812	8813	8.80
.875	8814	8815	8816	9.20
.937	8817	8818	8819	9.60
1.000	2384	2304	2309	9.90

⅜" HEX

.125	8850	8851	8852	$6.20
.187	8853	8854	8855	6.80
.250	2385	2310	2315	7.40
.312	8856	8857	8858	8.10
.375	2386	2311	2316	9.00
.437	8859	8860	8861	10.10
.500	2387	2312	2317	11.00
.562	8862	8863	8864	12.10
.625	8865	8866	8867	13.50
.687	8868	8869	8870	13.60
.750	2388	2313	2318	14.40
.812	8871	8872	8873	15.20
.875	8874	8875	8876	16.70
.937	8877	8878	8879	17.00
1.000	2389	2314	2319	18.60



BRASS THREADED HEX SPACERS
Cadmium Plated

¼" HEX

Std. Pkg. 100

Length "L"	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	NET Per C
.125	8820	8821	8822	$4.50
.187	8823	8824	8825	4.80
.250	2330	2320	2325	5.30
.312	8826	8827	8828	5.60
.375	2331	2321	2326	6.50
.437	8829	8830	8831	6.70
.500	2332	2322	2327	7.40
.562	8832	8833	8834	8.10
.625	8835	8836	8837	8.50
.687	8838	8839	8840	11.00
.750	2333	2323	2328	11.20
.812	8841	8842	8843	11.30
.875	8844	8845	8846	11.60
.937	8847	8848	8849	11.70
1.000	2334	2324	2329	12.10



CERAMIC STANDOFFS

MADE TO JAN. SPECS.
Grade L-5 Ceramic made to JAN 1-8 and JAN 1-10 Specs. Outside of ceramic is glazed. **Std. Pkg. 50**

No.	Type	A	B	C	Thd.	NET Per C
2600	NL523W01-004	½"	⅜"	5/32"	6-32	$18.00
2601	NL523W01-005	5/8"	⅜"	¼"	6-32	20.00
2602	NL523W01-006	¾"	⅜"	¼"	6-32	21.00
2603	NL523W01-008	1"	⅜"	⅜"	6-32	22.00
2604	NL523W01-010	1¼"	¼"	⅜"	6-32	24.00
2605	NL523W01-012	1½"	⅜"	⅜"	6-32	25.00
2606	NL523W01-016	2"	⅜"	¾"	6-32	26.00
2607	NL523W02-005	5/8"	½"	¾"	8-32	20.00
2608	NL523W02-006	¾"	½"	¼"	8-32	21.00
2609	NL523W02-008	1"	½"	⅜"	8-32	22.00
2610	NL523W02-010	1¼"	½"	⅜"	8-32	24.00
2611	NL523W02-012	1½"	½"	⅜"	8-32	27.00
2612	NL523W02-016	2"	½"	⅜"	8-32	33.00
2613	NL523W02-020	2½"	½"	⅜"	8-32	34.00
2614	NL523W02-024	3"	½"	⅜"	8-32	35.00
2615	NL523W03-008	1"	¾"	⅜"	10-32	30.00
2616	NL523W03-010	1¼"	¾"	⅜"	10-32	31.00
2617	NL523W03-012	1½"	¾"	⅜"	10-32	39.00
2618	NL523W03-016	2"	¾"	⅜"	10-32	40.00
2619	NL523W03-020	2½"	¾"	⅜"	10-32	45.00
2620	NL523W03-024	3"	¾"	⅜"	10-32	50.00
2621	NL523W03-032	4"	¾"	⅜"	10-32	60.00
2622	NL523W04-010	1¼"	1"	5/16"	¼-20	42.00
2623	NL523W04-012	1½"	1"	5/16"	¼-20	53.00
2624	NL523W04-016	2"	1"	5/16"	¼-20	58.00
2625	NL523W04-020	2½"	1"	5/16"	¼-20	60.00
2626	NL523W04-024	3"	1"	5/16"	¼-20	70.00
2627	NL523W04-032	4"	1"	5/16"	¼-20	85.00
2628	NL523W04-040	5"	1"	5/16"	¼-20	105.00
2629	NL523W04-048	6"	1"	5/16"	¼-20	115.00

COMMERCIAL

Grade L5 Ceramic with outside glazed. **Std. Pkg. 50**

No.	A	B	C	Thd.	NET Per C
2640	¼"	¼"	Thru	6-32	$15.00
2641	½"	¼"	3/32"	6-32	16.00
2642	⅜"	⅜"	3/32"	6-32	17.00
2643	½"	⅜"	3/16"	6-32	18.00
2644	½"	½"	¾"	6-32	20.00
2645	¾"	½"	¼"	6-32	21.00
2646	1"	½"	⅜"	6-32	23.00
2647	1½"	½"	¾"	6-32	27.00
2648	2½"	½"	½"	6-32	30.00
2649	2½"	¾"	¾"	¼-20	45.00
2650	4"	¾"	¾"	¼-20	60.00

ALUMINUM SPACERS

Irridite 14-2 per MIL-C-5541 — **Std. Pkg. 100**

ROUND



Length "L"	.250 O.D. Clearance Hole for #4 screw No.	for #6 screw No.	for #8 screw No.	NET Per C	.312 O.D. Clearance Hole for #10 screw No.	NET Per C
.125	8480	8500	8520	$ 9.75	8540	$ 8.50
.250	8481	8501	8521	10.50	8541	10.75
.375	8482	8502	8522	11.00	8542	11.50
.500	8483	8503	8523	11.75	8543	12.25
.625	8484	8504	8524	12.50	8544	13.00
.750	8485	8505	8525	14.25	8545	14.50
.875	8486	8506	8526	14.50	8546	14.75
1.000	8487	8507	8527	15.00	8547	15.25
1.250	8488	8508	8528	20.00	8548	21.50
1.500	8489	8509	8529	21.50	8549	22.50
1.750	8490	8510	8530	21.75	8550	23.50
2.000	8491	8511	8531	22.25	8551	25.50
2.50	8492	8512	8532	24.00	8552	28.00
3.00	8493	8513	8533	28.00	8553	28.75
3.50	8494	8514	8534	30.00	8554	46.00
4.00	8495	8515	8535	32.00	8555	48.00
5.00	8496	8516	8536	40.00	8556	54.00
6.00	8497	8517	8537	44.00	8557	62.00

ROUND THREADED



Length "L"	.250 O.D. 4-40 THD	6-32 THD	8-32 THD	NET Per C	.312 O.D. 10-32 THD	NET Per C
.125	8320	8340	8360	$ 8.75	8380	$ 9.00
.250	8321	8341	8361	12.00	8381	12.75
.375	8322	8342	8362	12.50	8382	13.00
.500	8323	8343	8363	13.00	8383	14.00
.625	8324	8344	8364	14.75	8384	15.25
.750	8325	8345	8365	15.50	8385	17.75
.875	8326	8346	8366	17.00	8386	18.75
1.000	8327	8347	8367	18.00	8387	19.75
1.250	8328	8348	8368	19.50	8388	20.50
1.500	8329	8349	8369	20.25	8389	21.50
1.750	8330	8350	8370	21.50	8390	22.50
2.00	8331	8351	8371	21.75	8391	24.00
2.50	8332	8352	8372	24.00	8392	28.00
3.00	8333	8353	8373	25.50	8393	28.00
3.50	8334	8354	8374	29.00	8394	31.00
4.00	8335	8355	8375	32.00	8395	34.00

HEX



Length "L"	.250 O.D. Clearance Hole for #4 screw No.	for #6 screw No.	for #8 screw No.	NET Per C	.312 O.D. Clearance Hole for #10 screw No.	NET Per C
.125	8560	8580	8600	$ 9.25	8620	$11.50
.250	8561	8581	8601	11.00	8621	13.50
.375	8562	8582	8602	12.00	8622	14.25
.500	8563	8583	8603	12.25	8623	15.00
.625	8564	8584	8604	13.50	8624	16.00
.750	8565	8585	8605	15.00	8625	16.50
.875	8566	8586	8606	15.50	8626	17.00
1.000	8567	8587	8607	20.00	8627	17.50
1.250	8568	8588	8608	21.00	8628	22.00
1.500	8569	8589	8609	22.00	8629	23.75
1.750	8570	8590	8610	22.50	8630	25.50
2.00	8571	8591	8611	23.00	8631	28.00

HEX THREADED



Length "L"	.250 O.D. 4-40 THD	6-32 THD	8-32 THD	NET Per C	.312 O.D. 10-32 THD	NET Per C
.125	8400	8420	8440	$11.00	8460	$12.25
.250	8401	8421	8441	12.00	8461	15.00
.375	8402	8422	8442	13.50	8462	16.00
.500	8403	8423	8443	14.00	8463	16.75
.625	8404	8424	8444	15.25	8464	17.50
.750	8405	8425	8445	16.00	8465	20.00
.875	8406	8426	8446	18.00	8466	20.50
1.000	8407	8427	8447	18.50	8467	21.00
1.250	8408	8428	8448	20.25	8468	21.75
1.500	8409	8429	8449	22.00	8469	22.75
1.750	8410	8430	8450	21.50	8470	28.00
2.00	8411	8431	8451	22.50	8471	28.00
2.50	8412	8432	8452	25.00	8472	30.00
3.00	8413	8433	8453	28.50	8473	32.00
3.50	8414	8434	8454	30.00	8474	33.00
4.00	8415	8435	8455	31.00	8475	38.00

NYLON SPACERS ¼" O.D.



Non-conductive and molded of corrosive resistant Nylon. Useful for a wide variety of applications as well as for bushings, bearings, rollers and glides. Available in Natural finish, ¼" O.D. in various clearance hole diameters. **Std. Pkg. 100**

Length	#4 (.115") No.	#6 (.140") No.	#8 (.171") No.	NET Per C
.125	4000	4001	4002	$ 3.30
.187	4003	4004	4005	3.80
.250	4006	4007	4008	4.30
.312	4009	4010	4011	4.90
.375	4012	4013	4014	5.50
.437	4015	4016	4017	6.00
.500	4018	4019	4020	6.50
.562	4021	4022	4023	7.00
.625	4024	4025	4026	7.50
.687	4027	4028	4029	8.00
.750	4030	4031	4032	8.50
.812	4033	4034	4035	8.80
.875	4036	4037	4038	9.30
.937	4039	4040	4041	9.70
1.000	4042	4043	4044	10.00

MORE THAN TEN THOUSAND ITEMS MANUFACTURED UNDER ONE ROOF

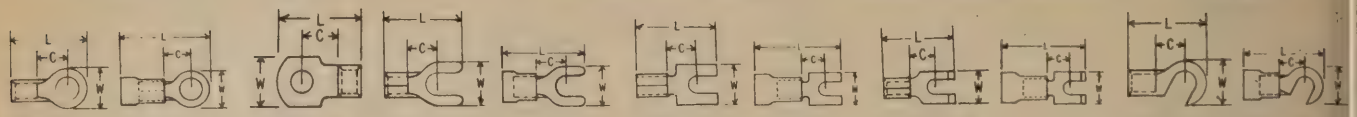
* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

SOLDERLESS TERMINALS

COLOR CODE: RED: 22-18 AWG; BLUE: 16-14 AWG; YELLOW: 12-10 AWG

RING | FLAG | SPADE | BLOCK SPADE | BLOCK SPADE FLANGED | HOOK



NON-INS. INS. NON-INS. NON-INS. INS. NON-INS. INS. NON-INS. INS. NON-INS. INS.

WIRE SIZE 12—10 AWG

UL APPROVED .040 Electrolytic Copper Tin Plated

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
RING TERMINAL — NON-INSULATED						
4931	Butted Seam	8-10	3/8	9/32	47/64	$2.80
4932	Butted Seam	12¼	39/64	7/16	31/32	3.20
4933	Butted Seam	5/16-⅜	39/64	7/16	31/32	3.20
4934	Brazed	8-10	39/64	7/16	47/64	4.80
4935	Brazed	12¼	39/64	7/16	31/32	5.50
4936	Brazed	5/16-⅜	39/64	7/16	31/32	5.50
RING TERMINAL — INSULATED						
4937	Vinyl	8-10	3/8	9/32	1-1/64	5.50
4938	Vinyl	12¼	39/64	7/16	1-9/32	6.00
4939	Vinyl	5/16-⅜	39/64	7/16	1-9/32	6.00
4940	Nylon	8-10	3/8	9/32	1-1/64	7.00
4941	Nylon	12¼	39/64	7/16	1-9/32	8.00
4942	Nylon	5/16-⅜	39/64	7/16	1-9/32	8.00
FLAG TERMINAL — NON-INSULATED						
4943	Butted Seam	8-10	3/8	9/32	11/16	$3.20
SPADE TERMINAL — NON-INSULATED						
4944	Butted Seam	8	3/8	9/32	47/64	$2.80
4945	Butted Seam	10	3/8	9/32	47/64	2.80
4946	Brazed	8	3/8	9/32	47/64	4.80
4947	Brazed	10	3/8	9/32	47/64	4.80
SPADE TERMINAL — INSULATED						
4948	Vinyl	8	3/8	9/32	1-1/64	5.50
4949	Vinyl	10	3/8	9/32	1-1/64	5.50
4950	Nylon	8	3/8	9/32	1-1/64	7.00
4951	Nylon	10	3/8	9/32	1-1/64	7.00
BLOCK SPADES — NON-INSULATED						
4952	Butted Seam	8	5/16	9/32	47/64	$2.80
4953	Butted Seam	10	5/16	9/32	47/64	2.80
4954	Brazed	8	5/16	9/32	47/64	4.80
4955	Brazed	10	5/16	9/32	47/64	4.80
BLOCK SPADE - INSULATED						
4956	Nylon	8	5/16	9/32	1-1/64	5.50
4957	Vinyl	10	5/16	9/32	1-1/64	5.50
4958	Nylon	8	5/16	9/32	1-1/64	7.50
4959	Nylon	10	5/16	9/32	1-1/64	7.50
HOOK TERMINAL — NON-INSULATED						
4960	Butted Seam	8	3/8	9/32	47/64	$2.80
4961	Butted Seam	10	3/8	9/32	47/64	2.80
4962	Brazed	8	3/8	9/32	47/64	4.80
4963	Brazed	10	3/8	9/32	47/64	4.80
HOOK TERMINAL — INSULATED						
4964	Vinyl	8	3/8	9/32	1-1/64	5.50
4965	Vinyl	10	3/8	9/32	1-1/64	5.50
4966	Nylon	8	3/8	9/32	1-1/64	7.50
4967	Nylon	10	3/8	9/32	1-1/64	7.50

WIRE SIZE 26—24 AWG

UL APPROVED .020 Electrolytic Copper Tin Plated

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
MINIATURE RING TERMINAL - NON-INSULATED						
4968	Butted Seam	4	13/64	7/32	37/64	$6.00
4969	Butted Seam	6	13/64	7/32	37/64	6.00
4970	Butted Seam	8	1/4	9/32	21/32	6.00
4971	Butted Seam	10	1/4	9/32	21/32	6.00
MINIATURE RING TERMINAL — INSULATED						
4972	Nylon	4	13/64	7/32	39/64	7.00
4973	Nylon	6	13/64	7/32	39/64	7.00
4974	Nylon	8	1/4	9/32	11/16	7.00
4975	Nylon	10	1/4	9/32	11/16	7.00
MINIATURE SPADE TERMINAL - NON-INSULATED						
4976	Butted Seam	4	13/64	7/32	37/64	$6.00
4977	Butted Seam	6	1/4	9/32	11/16	6.00
MINIATURE SPADE TERMINAL — INSULATED						
4978	Nylon	4	13/64	7/32	39/64	7.00
4979	Nylon	6	1/4	9/32	11/16	7.00

WIRE SIZE 16—14 AWG

UL APPROVED .030 Electrolytic Copper Tin Plated

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
RING TERMINAL — NON-INSULATED						
4865	Butted Seam	4-6	1/4	7/32	19/32	$2.00
4866	Butted Seam	8	21/64	1/4	11/16	2.00
4867	Butted Seam	10	21/64	1/4	11/16	2.00
4868	Butted Seam	12¼	15/32	13/32	57/64	2.50
4869	Brazed	4-6	1/4	7/32	19/32	3.20
4870	Brazed	8	21/64	1/4	11/64	3.20
4871	Brazed	10	21/64	1/4	11/64	3.20
4872	Brazed	12¼	15/32	13/32	57/64	4.00
RING TERMINAL — INSULATED						
4873	Vinyl	4-6	1/4	7/32	25/32	4.00
4874	Vinyl	8	21/64	1/4	7/8	4.00
4875	Vinyl	10	21/64	1/4	7/8	4.00
4876	Vinyl	12¼	15/32	13/32	1-3/16	4.50
4877	Nylon	4-6	1/4	7/32	25/32	6.50
4878	Nylon	8	21/64	1/4	7/8	6.50
4879	Nylon	10	21/64	1/4	7/8	6.50
4880	Nylon	12¼	15/32	13/32	1-3/64	7.50
FLAG TERMINAL — NON-INSULATED						
4881	Butted Seam	8-10	3/8	11/32	11/16	$3.00
SPADE TERMINAL — NON-INSULATED						
4882	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4883	Butted Seam	8	21/64	1/4	11/16	2.00
4884	Butted Seam	10	21/64	1/4	11/16	2.00
4885	Brazed	4-6	21/64	1/4	11/16	3.20
4886	Brazed	8	21/64	1/4	11/16	3.20
4887	Brazed	10	21/64	1/4	11/16	3.20
SPADE TERMINAL — INSULATED						
4888	Vinyl	4-6	21/64	1/4	7/8	4.00
4889	Vinyl	8	21/64	1/4	7/8	4.00
4890	Vinyl	10	21/64	1/4	7/8	4.00
4891	Nylon	4-6	21/64	1/4	7/8	6.50
4892	Nylon	8	21/64	1/4	7/8	6.50
4893	Nylon	10	21/64	1/4	7/8	6.50
BLOCK SPADES — NON-INSULATED						
4894	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4895	Butted Seam	8	19/64	1/4	21/32	2.00
4896	Butted Seam	10	19/64	1/4	21/32	2.00
4897	Brazed	4-6	19/64	1/4	21/32	3.20
4898	Brazed	8	19/64	1/4	21/32	3.20
4899	Brazed	10	19/64	1/4	21/32	3.20
BLOCK SPADES — INSULATED						
4901	Vinyl	4-6	19/64	1/4	27/32	4.00
4902	Vinyl	8	19/64	1/4	27/32	4.00
4903	Vinyl	10	19/64	1/4	27/32	4.00
4904	Nylon	4-6	19/64	1/4	27/32	6.50
4905	Nylon	8	19/64	1/4	27/32	6.50
4906	Nylon	10				6.50
BLOCK SPADES FLANGED — NON-INSULATED						
4907	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4908	Butted Seam	8	19/64	1/4	21/32	2.00
4909	Butted Seam	10	19/64	1/4	21/32	2.00
4910	Brazed	4-6	19/64	1/4	21/32	3.20
4911	Brazed	8	19/64	1/4	21/32	3.20
4912	Brazed	10	19/64	1/4	21/32	3.20
BLOCK SPADES FLANGED — INSULATED						
4913	Vinyl	4-6	19/64	1/4	27/32	4.00
4914	Vinyl	8	19/64	1/4	27/32	4.00
4914	Vinyl	10	19/64	1/4	27/32	4.00
4916	Nylon	4-6	19/64	1/4	27/32	6.50
4917	Nylon	8	19/64	1/4	27/32	6.50
4918	Nylon	10	19/64	1/4	27/32	6.50
HOOK TERMINAL — NON-INSULATED						
4919	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4920	Butted Seam	8	21/64	1/4	11/16	2.00
4921	Butted Seam	10	21/64	1/4	11/16	2.00
4922	Brazed	4-6	21/64	1/4	11/16	3.20
4923	Brazed	8	21/64	1/4	11/16	3.20
4924	Brazed	10	21/64	1/4	11/16	3.20
HOOK TERMINAL — INSULATED						
4925	Vinyl	4-6	21/64	1/4	7/8	4.00
4926	Vinyl	8	21/64	1/4	7/8	4.00
4927	Vinyl	10	21/64	1/4	7/8	4.00
4928	Nylon	4-6	21/64	1/4	7/8	6.50
4929	Nylon	8	21/64	1/4	7/8	6.50
4930	Nylon	10	21/64	1/4	7/8	6.50

STANDARD PACKAGE: 100 OF A NUMBER

WIRE SIZE 22—18 AWG

UL APPROVED .020 Electrolytic Copper Tin Plated

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
RING TERMINAL — NON-INSULATED						
4801	Butted Seam	4-6	1/4	7/32	19/32	$2.00
4802	Butted Seam	8	21/64	1/4	11/16	2.00
4803	Butted Seam	10	21/64	1/4	11/16	2.00
4804	Brazed	4-6	1/4	7/32	19/32	3.20
4805	Brazed	8	21/64	1/4	11/16	3.20
4806	Brazed	10	21/64	1/4	11/16	3.20
RING TERMINAL — INSULATED						
4809	Vinyl	4-6	1/4	7/32	25/32	4.00
4810	Vinyl	8	21/64	1/4	7/8	4.00
4811	Vinyl	10	21/64	1/4	7/8	4.00
4812	Nylon	4-6	1/4	7/32	25/32	6.50
4813	Nylon	8	21/64	1/4	7/8	6.50
4814	Nylon	10	21/64	1/4	7/8	6.50
FLAG TERMINAL — NON-INSULATED						
4815	Butted Seam	8-10	3/8	11/32	21/32	$3.00
SPADE TERMINAL — NON-INSULATED						
4816	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4817	Butted Seam	8	21/64	1/4	11/16	2.00
4818	Butted Seam	10	21/64	1/4	11/16	2.00
4819	Brazed	4-6	21/64	1/4	11/16	3.20
4820	Brazed	8	21/64	1/4	11/16	3.20
4821	Brazed	10	21/64	1/4	11/16	3.20
SPADE TERMINAL — INSULATED						
4822	Vinyl	4-6	21/64	1/4	7/8	4.00
4823	Vinyl	8	21/64	1/4	7/8	4.00
4824	Vinyl	10	21/64	1/4	7/8	4.00
4825	Nylon	4-6	21/64	1/4	7/8	6.50
4826	Nylon	8	21/64	1/4	7/8	6.50
4827	Nylon	10	21/64	1/4	7/8	6.50
BLOCK SPADES — NON-INSULATED						
4829	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4830	Butted Seam	8	19/64	1/4	21/32	2.00
4831	Butted Seam	10	19/64	1/4	21/32	2.00
4832	Brazed	4-6	19/64	1/4	21/32	3.20
4833	Brazed	8	19/64	1/4	21/32	3.20
4834	Brazed	10				3.20
BLOCK SPADES — INSULATED						
4835	Vinyl	4-6	19/64	1/4	27/32	4.00
4836	Vinyl	8	19/64	1/4	27/32	4.00
4837	Vinyl	10	19/64	1/4	27/32	4.00
4838	Nylon	4-6	19/64	1/4	27/32	6.50
4839	Nylon	8	19/64	1/4	27/32	6.50
4840	Nylon	10	19/64	1/4	27/32	6.50
BLOCK SPADES FLANGED — NON-INSULATED						
4841	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4842	Butted Seam	8	19/64	1/4	21/32	2.00
4843	Butted Seam	10	19/64	1/4	21/32	2.00
4844	Brazed	4-6	19/64	1/4	21/32	3.20
4845	Brazed	8	19/64	1/4	21/32	3.20
4846	Brazed	10	19/64	1/4	21/32	3.20
BLOCK SPADES FLANGED — INSULATED						
4847	Vinyl	4-6	19/64	1/4	27/32	4.00
4848	Vinyl	8	19/64	1/4	27/32	4.00
4849	Vinyl	10	19/64	1/4	27/32	4.00
4850	Nylon	4-6	19/64	1/4	27/32	6.50
4851	Nylon	8	19/64	1/4	27/32	6.50
4852	Nylon	10	19/64	1/4	27/32	6.50
HOOK TERMINAL — NON-INSULATED						
4853	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4854	Butted Seam	8	21/64	1/4	11/16	2.00
4855	Butted Seam	10	21/64	1/4	11/16	2.00
4856	Brazed	4-6	21/64	1/4	11/16	3.20
4857	Brazed	8	21/64	1/4	11/16	3.20
4858	Brazed	10	21/64	1/4	11/16	3.20
HOOK TERMINAL — INSULATED						
4859	Vinyl	4-6	21/64	1/4	7/8	4.00
4860	Vinyl	8	21/64	1/4	7/8	4.00
4861	Vinyl	10	21/64	1/4	7/8	4.00
4862	Nylon	4-6	21/64	1/4	7/8	6.50
4863	Nylon	8	21/64	1/4	7/8	6.50
4864	Nylon	10	21/64	1/4	7/8	6.50

SEE NEXT PAGE FOR SMITH SOLDERLESS TERMINAL BARREL STYLES

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

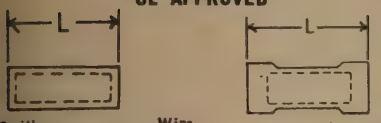
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

BUTT CONNECTORS
UL APPROVED



Smith Cat. No.	Material	Wire Size	Thick	L	Cost Per C
NON-INSULATED					
986	Butted Seam	26-24	.016	5/8	$6.50
987	Butted Seam	22-18	.030	9/16	2.00
988	Butted Seam	16-14	.030	9/16	2.00
989	Butted Seam	12-10	.040	9/16	3.00
INSULATED —					
990	Nylon	26-24	.016	7/8	9.50
991	Vinyl	22-18	.030	15/16	5.00
992	Vinyl	16-14	.030	15/16	5.00
993	Vinyl	12-10	.040	15/16	6.00

PARALLEL CONNECTORS —



NON-INSULATED					
994	Butted Seam	22-18	.030	5/16	$2.00
995	Butted Seam	12-10	.030	5/16	2.00
996	Butted Seam	12-10	.040	5/16	2.50
INSULATED					
997	Vinyl	22-18	.030	11/16	3.50
998	Vinyl	16-14	.030	11/16	3.50
999	Vinyl	12-10	.040	11/16	4.50

CONNECTORS



BUTT CONNECTORS — CLOSED END

Smith Cat. No.	Material	Wire Size	I.D.	O.D.	L	Cost Per C
005	Nylon	22-14	1/4	13/32	45/64	$3.50
006	Nylon	18-10	3/8	15/32	3/4	4.50



MULTI-STACKING QUICK SLIDE SELF-MATING

Smith Cat. No.	Material	Wire Size	W	Thick	Length	Cost Per C
NON-INSULATED						
077	Butted Seam	22-18	.250	.030	5/8"	$5.75
078	Butted Seam	16-14	.250	.030	5/8"	5.75
INSULATED						
079	Vinyl	22-18	.250	.030	7/8"	8.75
080	Vinyl	16-14	.250	.030	7/8"	8.75

MULTI-STACKING QUICK SLIDE SELF-MATING

Smith Cat. No.	Material	Wire Size	W	Thick	Length	Cost Per C
082	Open Barrel Solder	20-14	.250	.030	3/4"	$5.75

TOOL & KITS

ALL KITS PACKED IN PLASTIC BOXES



TOOL NO. 4980

Made of heavy gauge heat treated tool steel with insulated handles. Adjustable tension screw, cuts and crimps wire and all types of terminals 10-22 AWG, also 7 mm.

No.		NET Ea.
4980		$5.00
4050	With Bolt Cutter	5.50

TERMINAL KIT, UNINSULATED

Terminal Kit, Uninsulated, contains 200 popular assorted types, 18 styles.

Cat. No. 4981	With Tool	NET $10.00
Cat. No. 4984	Less Tool	NET $ 5.00

TERMINAL KIT, VINYL INSULATED

Terminal Kit, Vinyl Insulated Types, contains 180 popular types, 18 styles.

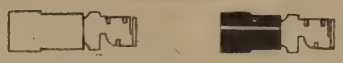
Cat. No. 4982	With Tool	NET $14.00
Cat. No. 4985	Less Tool	NET $ 9.00

TERMINAL KIT, NYLON INSULATED

Terminal Kit, Nylon Insulated Types, contains 165, assorted types, 18 styles.

Cat. No. 4983	With Tool	NET $17.00
Cat. No. 5000	Less Tool	NET $12.00

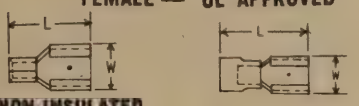
*CROSS-LOCK DISCONNECT — SELF-MATING



Smith Cat. No.	Material	Wire Size	W	Thick	Cost Per C
NON-INSULATED					
5001	Butted Seam	22-18	1/4	.030	$3.50
5002	Butted Seam	16-14	1/4	.030	3.50
INSULATED					
5003	Vinyl	22-18	1/4	.030	6.00
5004	Vinyl	16-14	1/4	.030	6.00

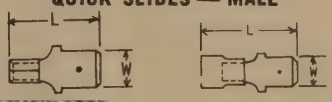
* U. S. PATENT

QUICK SLIDES — FEMALE — UL APPROVED



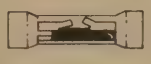
Smith Cat. No.	Material	Wire Size	W	Thick	L	Cost Per C
NON-INSULATED						
5007	Butted Seam	18-14	.187 .205	.016 .030	31/64	$2.00
5008	Butted Seam	18-14	.250		41/64	2.00
INSULATED						
5009	Vinyl	18-14	.187 .205	.016 .030	25/32	4.50
5010	Vinyl	18-14	.250	.032	55/64	4.50

QUICK SLIDES — MALE



Smith Cat. No.	Material	Wire Size	W	Thick	L	Cost Per C
NON-INSULATED						
5011	Butted Seam	18-14	.187	.016 .030	1/2	$2.00
5012	Butted Seam	18-14	.250	.032	23/32	2.00
INSULATED						
5013	Vinyl	18-14	.187	.016 .030	25/32	4.50
5014	Vinyl	18-14	.250	.032	59/64	4.50

SNAP PLUG RECEPTACLE INSULATED



Smith Cat. No.	Material		Cost Per C
5024	Vinyl	used with .157 plug	$6.00

QUICK SLIDE ADAPTER



Smith Cat. No.	Material	Wire Size	W	Thick	Length	Cost Per C
5081	—	—	.250	.030	3/4"	$5.75

QUICK SLIDE MALE TABS



Smith Cat. No.	Material	Stud Size	W	Thick	Length	Cost Per C
5083	—	#6	.250	.030	13/16"	$2.50
5084	—	#8	.250	.030	13/16"	2.50

*QUICK SLIDES — SELF MATING
UL APPROVED



NON-INSULATED —						
5015	Butted Seam	18-14	.187-.205		31/64	$2.50
5016	Butted Seam	18-14	.250		41/64	2.50
INSULATED — PATENTED						
5017	Vinyl	18-14	.187-.205	—	25/32	4.50
5018	Vinyl	18-14	.250	—	25/32	4.50

* U. S. PATENT

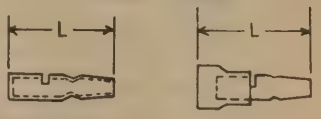
QUICK SLIDE RECEPTACLE INSULATED



DOUBLE MALE INLINE CONNECTION

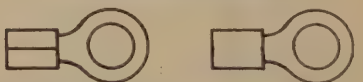
5019	Vinyl	.157	.250W	$7.50

SNAP PLUGS —



Smith Cat. No.	Material	Snap Area	Wire Size	L	Thick	Net Per C
NON-INSULATED						
5020	Butted Seam	16-14	.157	3/16	.030	$2.00
5021	Butted Seam	16-14	.176	3/16	.030	2.00
INSULATED						
5022	Vinyl	16-14	.157	3/16	.030	4.00
5023	Vinyl	16-14	.176	3/16	.030	4.00

SMITH BARREL STYLES
NON-INSULATED TERMINALS



BUTTED SEAM
- Eletrolytic pure copper, tin plated.
- Open end for visual inspection of wire contact.
- Tight grip, multiple barrel serrations for full wire contact.

BRAZED — Same as above except silver brazed barrel.

INSULATED TERMINALS



VINYL INSULATED
- Electrolytic pure copper, tin plated.
- Vinyl insulation, butted seam.
- Flared for easy wire insertion.
- Color coded for proper wire selection.

NYLON INSULATED
- Electrolytic pure copper, tin plated.
- Flared for easy wire insertion.
- Nylon insulation.
- Butted seam with seamless brass sleeve attached.
- Color Coded.

PLUG-IN MODULE HOUSING

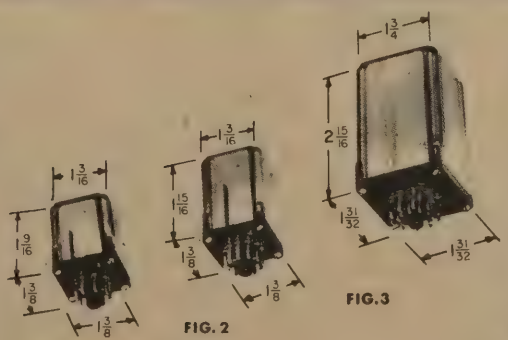


FIG. 1 FIG. 2 FIG. 3

Molded plastic housings and pin headers fit standard tube sockets. For use in packaging relays, networks, miniature interchangeable circuits in plug-in, replaceable modules. Available in three sizes and materials for a wide range of temperature and environmental applications.

HEADERS: MOLDED PHENOLIC plastic, Black.
HOUSINGS: MOLDED POLYSTYRENE, Black, MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Clear.
MOLDED NYLON, per MIL-P-20693A, Natural.
Housings are supplied complete with header and mounting screws.
PINS: Brass, nickel plated.
SCREWS: Steel, Cadmium plated. **Std. Pkg.** 10

HOUSING	STYRENE Cat. No.	STYRENE NET Each	BUTYRATE Cat. No.	BUTYRATE NET Each	NYLON Cat. No.	NYLON NET Each
Miniature (Fig. 1)						
8-Pin	2437-08	$.66	2421-08	$.76	2424-08	$.69
9-Pin	2437-09	.76	2421-09	.88	2424-09	.88
11-Pin	2437-11	.76	2421-11	.88	2424-11	.88
20-Pin	2437-20	.88	2421-20	1.00	2424-20	1.00
Standard (Fig. 2)						
8-Pin	2438-08	$.64	2422-08	$.64	2432-08	$.76
9-Pin	2438-09	.70	2422-09	.76	2432-09	.88
11-Pin	2438-11	.70	2422-11	.76	2432-11	.88
20-Pin	2438-20	.88	2422-20	.88	2432-20	1.00
Large (Fig. 3)						
8-Pin	2439-08	$.81	2423-08	$1.20	—	—
11-Pin	2439-11	.88	2423-11	1.25	—	—
20-Pin	2439-20	1.15	2423-20	1.45	—	—

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

AMP "SOLISTRAND" Non-Insulated



The only terminal designed for use with solid, stranded or irregularly shaped wires, or combinations of wires. Corrosion resistant, high strength, electro-tinned; versatile — widely adaptable.

Std. Pkg. 100

RING TONGUE

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all L.	Stud Clear.	NET Per C
	2850	32989	4	7/32	17/32	5/32	$5.50
22	2851	34194	6	7/32	17/32	5/32	5.50
	2852	32990	8	7/32	11/16	15/64	6.50
to	2853	33214	10	7/32	11/16	5/32	6.50
	2854	33215	1/4	15/32	13/16	27/64	8.50
16	2855	33452	5/16	15/32	13/16	27/64	8.50
	2856	33453	3/8	17/32	13/16	17/32	8.50
	2857	32991	4	1/4	3/4	11/64	$6.50
16	2858	34197	6	1/4	3/4	13/64	6.50
	2859	32992	8	5/16	11/32	1/4	6.50
to	2860	320093	10	5/16	11/32	1/4	6.50
	2861	33218	1/4	15/32	13/16	7/16	8.50
14	2862	33454	5/16	15/32	13/16	7/16	8.50
	2863	33455	3/8	17/32	11/8	17/32	8.50

SPADE TONGUE (B)

22	2864	32897	6	11/32	5/8	13/64	$5.50
to	2865	32898	8	11/32	5/8	13/64	5.50
16	2866	32899	10	11/32	5/8	13/64	5.50
16	2867	32903	6	11/32	5/8	13/64	$5.50
to	2868	32904	8	11/32	5/8	13/64	5.50
14	2869	32905	10	11/32	5/8	13/64	5.50

BUTT CONNECTOR (C)

2870	31818	22-16	.140 I.D.	37/64	$7.00
2871	31819	16-14	.170 I.D.	37/64	7.00

SOLDERLESS TERMINAL ASSORTMENTS



A basic assortment of the most commonly used Ring Tongue and Spade Terminals for wire sizes 22 thru 14. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	Style	Std. Pkg.	NET
1526	200	"PLASTI-GRIP"		$22.00
1527	300	"PLASTI-GRIP"		32.00
1528	200	"SOLISTRAND"		14.00
1529	300	"SOLISTRAND"		20.00
1577	300	"P.I.D.G."		28.00
1578	300	"P.I.D.G."		40.00

AMP "PLASTI-GRIP" (P.G.)



Insulated, strong, special plastic has high dielectric strength. Applied with single operation of press dies or hand tools. High tensile strength. High conductivity copper, electro-tinned. Color coded for wire size.

Std. Pkg. 100

RING TONGUE (A)

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all L.	Stud Clear.	NET Per C
	2750	34141	4	7/32	21/32	5/32	$9.50
22	2751	34142	6	7/32	21/32	5/32	9.50
	2752	34145	8	7/32	23/32	1/4	9.50
to	2753	34146	10	7/32	23/32	1/4	9.50
	2754	34150	1/4	15/32	13/16	27/64	11.00
16	2755	34151	5/16	15/32	13/16	27/64	11.00
	2756	34152	3/8	17/32	113/64	17/32	11.00
	2757	34157	4	1/4	11/16	5/32	$9.50
16	2758	34158	6	1/4	11/16	5/32	9.50
	2759	34160	8	11/32	27/32	17/64	9.50
to	2760	34161	10	11/32	27/32	17/64	9.50
	2761	34162	1/4	15/32	13/16	27/64	11.00
14	2762	34163	5/16	15/32	13/16	27/64	11.00
	2763	34164	3/8	17/32	113/64	3/4	11.00

SPADE TONGUE (B)

22	2764	34153	6	11/32	49/64	13/64	$9.50
to	2765	34155	8	3/8	57/64	19/64	9.50
16	2766	34156	10	3/8	57/64	19/64	9.50
16	2767	34165	6	3/8	57/64	19/64	$9.50
to	2768	34166	8	3/8	57/64	19/64	9.50
14	2769	34167	10	3/8	57/64	19/64	9.50

HOOK TONGUE (C)

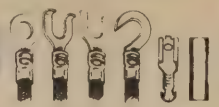
20-16	2770	34501	6	3/32	47/64	3/16	$9.50
	2771	321699	8	11/32	55/64	5/32	9.50
16-14	2772	320263	8	11/32	55/64	17/64	$12.50

BUTT CONNECTOR (D)

2773	34070	22-16	.140 I.D.	1	$11.00
2774	34071	16-14	.170 I.D.	1 1/4	11.00

SOLDERLESS TERMINALS

AMP Pre-Insulated Diamond Grip



Color-coded for wire size. Std. Pkg. 100

RING TONGUE (A)

Wire Size	No.	AMP No.	Stud Size	Tongue Width	Overall Length	Stud Clear.	Per C
22	1550	320882	4	3/16	31/32	5/32	$12.00
	1551	31881	6	7/32	31/32	5/32	12.00
to	1552	31886	8	7/32	23/32	1/4	12.00
	1553	31887	10	7/32	23/32	1/4	12.00
16	1554	31894	1/4	15/32	1 1/16	27/64	13.50
14	1555	32441	4	1/4	11/16	11/64	12.00
	1556	32442	6	1/4	11/16	13/64	12.00
to	1557	31902	8	11/32	27/32	5/32	12.00
	1558	322298	10	5/16		1/4	12.00
16	1559	31906	1/4	15/32	1/16	7/16	13.50

FLANGED SPADE (B)

22-16	1560	32562	6	13/64	23/32	13/64	$12.00
	1561	32498	8	27/64	13/16	1/4	13.50
	1562	320861	6	13/64	23/32	13/64	12.00
14-16	1563	320862	8	13/64	23/32	13/64	12.00
	1564	320863	10	13/64	23/32	13/64	12.00

SPADE TONGUE (C)

	1565	34541	6	1/4	53/64	13/64	$13.50
22-16	1566	32053	8	3/8	57/64	19/64	12.00
	1567	32054	10	3/8	57/64	19/64	12.00
	1568	35559	6	13/64	47/64	13/64	12.00
14-16	1569	321233	8	13/64	47/64	13/64	13.50
	1570	32060	10	3/8	57/64	5/16	12.00

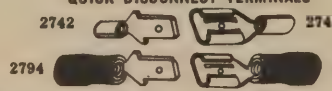
HOOK TONGUE (D)

22-16	1571	34313	6	5/32	47/64	13/64	$12.00
	1572	32456	8	11/32	55/64	5/32	12.00
	1573	320381	6	11/32	27/32	5/32	12.00
14-16	1574	320306	8	11/32	27/32	5/32	14.50
	1575	35481	10	11/32	27/32	5/32	14.50
18-14	1576	Terminal Strip Connectors					$4.50

BUTT CONNECTOR (F)

22-16	1548	320559	.125 I.D.	$44.00
16-14	1549	320562	.150 I.D.	44.00

QUICK DISCONNECT TERMINALS



Terminals of pure electrolytic copper. Resists corrosion and insures shelf life. Beveled entry for easy wire threading and improved V-ridges for wire protection. Male tongue width .248/.251, female entry .225 Min.

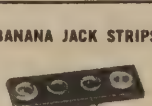
Sd. Pkg. 100

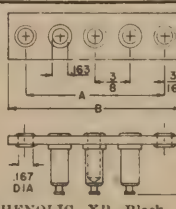
Male	Female	Wire-Size	NET Per C
		Non-Insulated	
2742	2745	22-16	$2.10
2743	2746	16-14	2.10
2744	2747	12-10	2.10
		Insulated	
2794	2797	22-16	4.50
2795	2798	16-14	4.50
2796	2799	12-10	4.50

Std. Pkg. 1

No. 2748	Kit, 50 each, 12 types in plastic box	NET Ea. $19.80

BANANA JACK STRIPS





STRIP: LAMINATED PHENOLIC, XP, Black.
BODY: Brass, nickle plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC continuous working voltage.
DESCR.: From 2 to 10 Banana jacks assembled on ¾" centers on a heavy-duty board. Provides positive contact with standard banana plugs. Mounting holes accept screws up to #8.

Std. Pkg. 25

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	Net Per C
1972	2	1¾"	1½"	$23.00
1973	3	1½"	1¾"	30.00
1974	4	1¾"	2¼"	40.00
1975	5	2¼"	2⅝"	50.00
1976	6	2⅝"	3"	56.00
1977	7	3"	3⅜"	66.00
1978	8	3⅜"	3¾"	76.00
1979	9	3¾"	4⅛"	82.00
1980	10	4⅛"	4½"	92.00

SOLDER LUGS—Hot Tinned



Std. Pkg. 1000

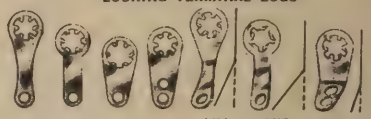
No.	Material	Length	Thick.	Hole	NET Per M
1484	Ph. Br.	5/8"	.020"	No. 6	$12.00
1485-4	Ph. Br.	17/32"	.012"	No. 4	10.00
1485-6	Ph. Br.	17/32"	.012"	No. 6	10.00
1485-8	Ph. Br.	17/32"	.012"	No. 8	10.00
1485-10	Ph. Br.	17/32"	.012"	No. 10	10.00
1486-4	Ph. Br.	13/16"	.012"	No. 4	10.00
1486-6	Ph. Br.	13/16"	.012"	No. 6	10.00
1486-8	Ph. Br.	13/16"	.012"	No. 8	10.00
1486-10	Ph. Br.	13/16"	.012"	No. 10	10.00
1488-4	Ph. Br.	9/16"	.012"	No. 4	10.00
1488-6	Ph. Br.	9/16"	.012"	No. 6	10.00
1488-8	Ph. Br.	9/16"	.012"	No. 8	10.00
1490	Brass	3/4"	.020"	No. 10	12.00
1491	Copper	15/16"	.020"	No. 10	20.00
1493	Brass	1-1/8"	.027"	¼"	25.00
1494-6	Brass	5/8"	.020"	No. 6	11.00
1494-8	Brass	5/8"	.020"	No. 8	11.00
1495	Brass	5/8"	.020"	No. 8	12.00
1496	Brass	3/4"	.020"	¼"	12.00
1497	Brass	7/8"	.017"	⅜"	15.00

SOLDER LUG ASSORTMENT

A complete assortment of the most widely used Solder Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box. Std. Pkg. 1

No.	Approx Quantity of Terminals	NET
1546	1400	$13.00

LOCKING TERMINAL LUGS



BRASS HOT TINNED Std. Pkg. 1000

No.	Length	Thick	Hole	NET Per M
1410-4	7/16"	.018"	No. 4	$11.00
1410-6	7/16"	.018"	No. 6	11.00
1410-8	7/16"	.018"	No. 8	11.00
1410-10	57/64"	.018"	No. 10	12.00
1410-14	13/16"	.018"	¼"	12.00
1411-4	47/64"	.020"	No. 4	11.00
1411-6	47/64"	.020"	No. 6	11.00
1411-8	47/64"	.020"	No. 8	11.00
1412-4	7/8"	.018"	No. 4	10.00
1412-6	7/8"	.018"	No. 6	10.00
1412-8	7/8"	.018"	No. 8	10.00
1413-4	23/32"	.018"	No. 4	11.00
1413-6	23/32"	.018"	No. 6	11.00
1413-8	36/32"	.018"	No. 8	11.00
1414-4	15/16"	.018"	No. 4	11.00
1414-6	15/16"	.018"	No. 6	11.00
1414-8	15/16"	.018"	No. 8	11.00
1414-10	59/64"	.018"	No. 10	12.00
1415-4	47/64"	.018"	No. 4	11.00
1415-6	47/64"	.018"	No. 6	11.00
1415-8	47/64"	.018"	No. 8	11.00
1416-4	17/16"	.020"	No. 4	11.00
1416-6	17/16"	.020"	No. 6	11.00
1416-8	17/16"	.020"	No. 8	11.00

LOCKING TYPE TERMINAL LUGS



Brass Electro Plated

No.	Length	Thick	Hole	NET Per M
1465	47/64"	.020	#4	$12.00
1466	47/64"	.020	#6	12.00
1467	7/8"	.020	#8	12.00
1468	13/16"	.020	1/4"	12.00

LOCKING TERMINAL LUG ASSORTMENT

A complete assortment of the most widely used Locking Terminal Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	NET
1547	900	$13.00



TERMINAL LUGS & SCREWS

Recommended for heavy duty terminal strips. Lugs are tapped with screw inserted. Brass hot tinned.

Std. Pkg. 100

No.	Screw	NET Per C
1478	6-32	$5.00
1479	8-32	7.00



EYELET TYPE SOLDER LUGS

Std. Pkg. 1000

No.	Length	Hole	NET Per M
1480	5/8"	5/64" slot	$7.00
1481	5/8"	#8	15.00
No. 3874	Staking Tool Kit		Net Ea. $1.50

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

TIE DOWN TERMINAL STRIPS



Miniature Type

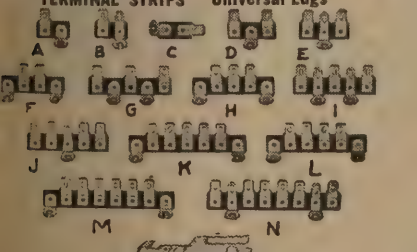
G: STEEL cadmium lated, spaced ⅜" **RIP:** XP Phenolic ¾" ide x .062 thick. **UNT.:** .140 I.D. for No. screw.

Standard Type

LUG: STEEL cadmium plated, spaced 1/4" centers. **STRIP:** XP Phenolic 5/16" wide & .062 thick. **MOUNT.:** .096 I.D. for No. 3 screw or 3/32 rivet.

Std. Pkg. 100 STANDARD TYPE NET Per C	Illus-tration	Std. Pkg. 100 MINIATURE TYPE No.	NET Per C
$3.00	A	1061	$4.00
3.10	B	1062	4.10
3.00	C	1003	4.00
3.10	D	1004	4.10
3.00	E	1039	4.00
3.00	F	1005	4.00
3.00	G	1009	4.00
3.30	H	1055	5.50
3.20	I	1043	4.50
3.30	J	1064	5.50
3.20	K	1063	4.50
3.20	L	1059	4.50
4.20	M	1074	5.50
4.10	N	1072	5.50
4.60	O	1067	6.00
5.00	P	1073	6.10
5.60	Q	1060	6.50
5.60	R	1071	6.50
5.00	S	1065	6.10
4.60	T	1066	6.00
4.50	U	1084	6.00
6.00	V	1069	7.00
6.20	W	1076	7.50
6.80	X	1158	9.00
6.80	Y	1156	9.00
6.50	Z	1157	8.80
6.50	AA	1060	8.80
7.00	BB	1078	9.50
7.50	CC	1075	10.00
7.00	DD	1096	9.50
7.50	EE	1070	10.00
6.50	FF	—	

TERMINAL STRIPS Universal Lugs



G: Steel, cadmium plated, spaced ⅜" **RIP:** XP Phenolic ⅜" wide x .062 thick. **UNT.:** .140" I.D. for No. 6 screw. **SCR.:** QUICK CONNECT-DISCONNECT; TIE **OINT SOLDER:** WRAP and SOLDER.

Std. Pkg. 100

Illust.	NET Per C	No.	Illust.	NET Per C
A	$3.00	1092	H	$6.50
B	3.50	1093	I	7.00
C	3.00	1094	J	6.00
D	3.80	1095	K	8.00
E	4.20	1097	L	7.50
F	5.50	1098	M	9.00
G	6.50	1099	N	9.50

QUALIFIED SALES ENGINEERS

he men and their organizations comprising the ationwide network of SMITH REPRESENTATIVES re technically qualified and eager to consult with ou on your requirements for standard or special omponents manufactured by Herman H. Smith Inc.



HEAVY DUTY TERMINAL BOARDS

LUG: BRASS, cadmium plated .042 thick spaced 1/2" centers. Terminals numbered.
STRIP: XP Phenolic 7/8" wide x 3/32" thick, numbered.
SCREW: Brass, nickel plated 8-32 x 5/16".

Std. Pkg. 25

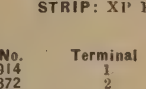
No.	Terminals	Mtg. Center	NET Per C
902	2	1½"	$20.00
903	3	2"	25.00
904	4	2½"	30.00
905	5	3"	36.00
906	6	3½"	41.00
907	7	4"	46.00
908	8	4½"	52.00
909	9	5"	60.00
910	10	5½"	63.00
911	11	6"	74.00
912	12	6½"	80.00



SCREW TYPE TERMINAL BOARD

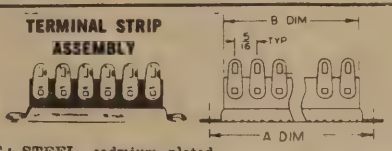
LUGS: BRASS, hot tinned, spaced 7/16" centers.
SCREW: Steel, cadmium plated 6-32x⅜.
STRIP: XP Phenolic 5/8" wide x .062 thick.

No.	Terminal	Mounting Center	Std. Pkg.	NET Per C
914	1	7/8"	50	$ 8.00
872	2	1-7/16"	50	9.00
873	3	1-3/4"	50	12.50
874	4	2-3/16"	50	15.50
875	5	2-5/8"	25	18.50
876	6	3-1/16"	25	22.00
877	7	3-1/2"	25	25.50
928	8	3-15/16"	25	29.00
929	9	4-3/8"	25	33.00
930	10	4-13/16"	25	37.00



878 Shorting Link 1.80

TERMINAL STRIP ASSEMBLY

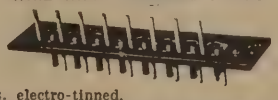


LUG: STEEL, cadmium plated.
BASE: STEEL, cadmium plated. Mounting holes for No. 6 screw.
STRIP: XP Phenolic

Std. Pkg. 100

No.	Terminals	Dimensions "A"	Dimensions "B"	NET
3002	2	1.000	⅝"	$7.50
3003	3	1.312	15/16"	8.50
3004	4	1.625	1⅛"	9.00
3005	5	1.937	1 5/16"	10.50
3006	6	2.250	1⅝"	11.00
3007	7	2.562	1 13/16"	12.50
3008	8	2.875	2⅛"	14.00
3009	9	3.187	2 5/16"	15.00
3010	10	3.500	2½"	16.00
3011	11	3.812	2 11/16"	17.00
3012	12	4.125	2¾"	19.00
3013	13	4.937	3 7/32"	22.00

WIRE WRAP TERMINAL STRIPS



LUG: Brass, electro-tinned.
STRIP: Cotton Fabric Base Phenolic, Type LE.
SCREW: Brass, nickel plated.
DESCR.: Accommodates lugs for wires, size AWG #18 to 22. Rated 750 volts RMS (½ breakdown voltage).

Std. Pkg. 25

No.	Term.	(A) Mtg Ctrs.	B	NET Per C
941	8	3½"	3⅞"	$100.00
942	10	4¼"	4⅝"	120.00
943	12	5"	5⅜"	140.00

INSTRUMENT CASES AND COVERS



Ideal for small instruments and test equipment. The right size and the right mounting for your requirements. Molded of high quality, glass finish, thermosetting plastic. Threaded brass insert for cover mounting. BLACK ONLY. Std. Pkg. 5

No.	H	W	D	Insert	NET Ea.
2377	4"	2-7/8"	1-9/16"	4-40	$ .50
2291	5"	4-1/4"	1-3/4"	6-32	1.00
2255	6-1/4"	3-3/4"	2"	6-32	.65
2257	6-13/16"	5-9/32"	2-5/16"	4-40	1.45
2289	8-1/2"	7-7/16"	3"	6-32	2.65

PHENOLIC COVERS

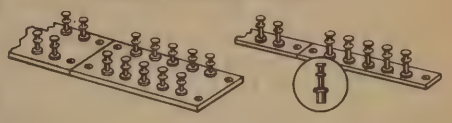
2378	For No. 2377	$ .35
2292	For No. 2291	.30
2256	For No. 2255	.70
2260	For No. 2257	1.00
2390	For No. 2289	2.20

PANEL PLATE

Brushed and lacquered Aluminum

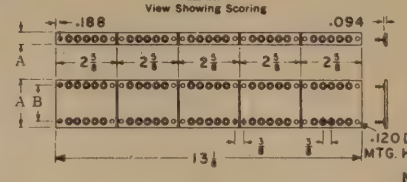
2379	For No. 2255	$1.10

SCORED TERMINAL BOARDS



featuring
SNAP-APART SEPARATION

SMITH Scored Boards are fabricated in PBE material per MIL-P-3115C, Temp. 250° F. Max., Type XXXP. Terminals are securely staked and are made of Brass per QQ-626 comp. 22, half-hard with hot-tinned dip solder finish, per MIL-F-14072, Type 221. Smith type 2008. Std. Pkg. 10



No.	A	B	Terminals	NET Price Each
2810	½"	Single Row	25	$1.60
2811	1½"	1"	50	3.10
2812	2"	1½"	50	3.30
2813	2½"	2"	50	3.40
2814	3"	2½"	50	3.50

BRACKET TYPE TERMINAL STRIPS



LUGS: STEEL cadmium plated, spaced ⅜" centers.
STRIPS: XP Phenolic ⅜" wide x .062 thick.
MOUNT: .140 I.D. for No. 6 screw.

Std. Pkg. 100

No.	Fig.	Lugs	NET Per C
1077	A	2	$4.00
1079	C	3	5.50
1080	B	3	5.50
1081	B	4	6.00
1082	B	5	7.00
1083	B	6	8.00

"T" TYPE TERMINAL STRIPS

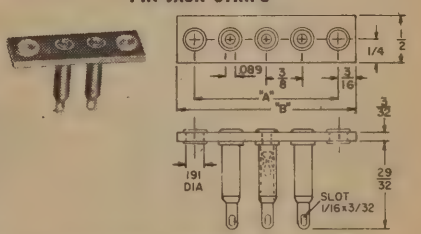


LUGS: STEEL, cadmium plated, spaced ⅜" centers.
BRACKETS: Brass, cadmium plated.
STRIP: X Phenolic ⅜" wide x .062 thick.
MOUNT: .140 I.D. for No. 6 screw.

Std. Pkg. 100

No.	Lugs	NET Per C
815	1	$5.00
816	2	6.50
817	3	7.50
818	4	8.50
819	5	10.00

PIN JACK STRIPS



STRIP: LAMINATED PHENOLIC, XP, Black.

BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC continuous working voltage.
DESCR.: From 2 to 10 pin jacks assembled on ⅜" centers on a heavy-duty board. Provides positive contact with standard phone tip plugs. Mounting holes accept screws up to #8. Std. Pkg. 25

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	NET Per C
1982	2	1⅛"	1½"	$25.00
1983	3	1½"	1⅞"	32.00
1984	4	1⅞"	2¼"	42.00
1985	5	2¼"	2⅝"	52.00
1986	6	2⅝"	3"	58.00
1987	7	3"	3⅜"	68.00
1988	8	3⅜"	3¾"	78.00
1989	9	3¾"	4⅛"	84.00
1990	10	4⅛"	4½"	94.00

USE OUR VAST NATIONAL DISTRIBUTION NETWORK for Off-The-Shelf Deliveries of your smaller hardware requirements!

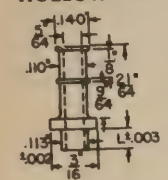
IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

SWAGE TURRET TERMINALS

Terminals shown below are "stock" items, available for speedy delivery. All brass, silver-plated, precision made. See next page for Suggested Resale Prices. For quantities over 15,000 request special prices. Inquiries are invited, for special types and sizes to particular requirements.
L indicates Shank Length of Lug. T indicates thickness of mounting boards. Standard Package 100

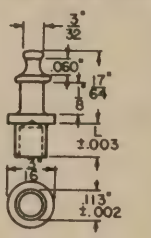
2000
HOLLOW LUG



No.	L	T
2000A	.075	1/32
2000B	.105	1/16
2000C	.135	3/32
2000D	.165	1/8
2000E	.195	3/32
2000F	.230	3/16

Staking Tool Kit No. 3860

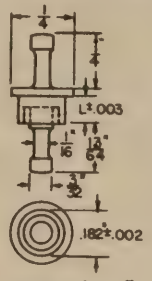
2001
SHORT TERMINAL LUG



No.	L	T
2001A	.075	1/32
2001B	.105	1/16
2001C	.135	3/32
2001D	.165	1/8

Staking Tool Kit No. 3860

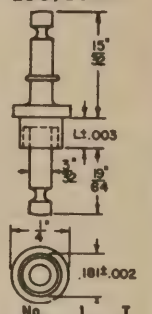
2002
DOUBLE END TERMINAL LUG



No.	L	T
2002A	.105	1/16
2002B	.135	3/32
2002C	.165	1/8
2002D	.195	3/32
2002E	.230	3/16

Staking Tool Kit No. 3861

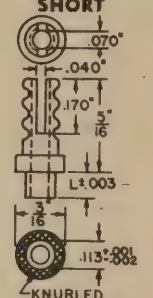
2003
DOUBLE END LUG, LONG



No.	L	T
2003A	.105	1/16
2003B	.135	3/32
2003C	.165	1/8
2003D	.195	3/32
2003E	.230	3/16

Staking Tool Kit No. 3862

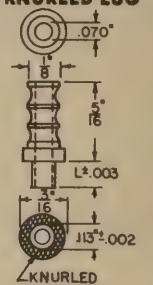
2004
SLOTTED TERMINAL LUG SHORT



No.	L	T
2004A	.075	1/32
2004B	.105	1/16
2004C	.135	3/32
2004D	.165	1/8

Staking Tool Kit No. 3863

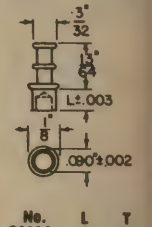
2005
HOLLOW KNURLED LUG



No.	L	T
2005A	.105	1/16
2005B	.135	3/32
2005C	.165	1/8

Staking Tool Kit No. 3860

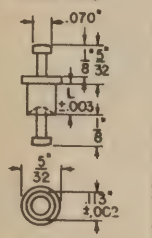
2006
SHORT TERMINAL LUG



No.	L	T
2006A	.075	1/32
2006B	.105	1/16
2006C	.135	3/32
2006D	.165	1/8

Staking Tool Kit No. 3864

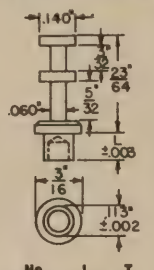
2007
SHORT DOUBLE END LUG



No.	L	T
2007A	.075	1/32
2007B	.105	1/16
2007C	.135	3/32
2007D	.165	1/8

Staking Tool Kit No. 3865

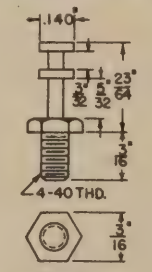
2008
TERMINAL LUG



No.	L	T
2008A	.075	1/32
2008B	.105	1/16
2008C	.135	3/32
2008D	.165	1/8
2008E	.195	3/32
2008F	.230	3/16
2008G	.293	1/4

Staking Tool Kit No. 3860

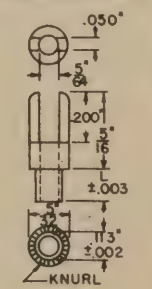
2009
TERMINAL LUG



No. 2009

Staking Tool Kit Not Required

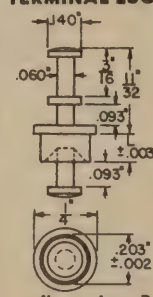
2010
SPLIT TERMINAL LUG



No.	L	T
2010A	.075	1/32
2010B	.105	1/16
2010C	.135	3/32
2010D	.165	1/8

Staking Tool Kit No. 3866

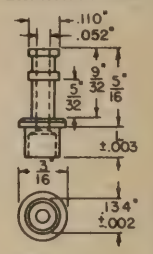
2011
DOUBLE END TERMINAL LUG



No.	L	T
2011A	.105	1/16
2011B	.135	3/32
2011C	.165	1/8
2011D	.195	3/32
2011E	.230	3/16

Staking Tool Kit Not Available

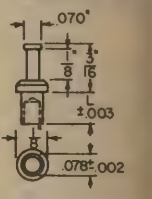
2012
TERMINAL LUG



No.	L	T
2012A	.105	1/16
2012B	.135	3/32
2012C	.165	1/8

Staking Tool Kit No. 3860

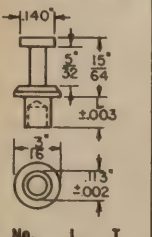
2013
TERMINAL LUG



No.	L	T
2013A	.075	1/32
2013B	.105	1/16
2013C	.135	3/32
2013D	.165	1/8

Staking Tool Kit No. 3864

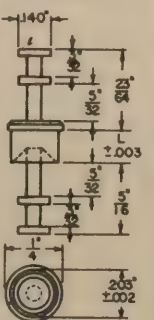
2014
TERMINAL LUG



No.	L	T
2014A	.105	1/16
2014B	.135	3/32
2014C	.165	1/8
2014D	.195	3/32
2014E	.230	3/16

Staking Tool Kit No. 3860

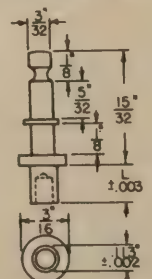
2015
TERMINAL LUG



No.	L	T
2015A	.135	3/32
2015B	.165	1/8
2015C	.195	3/32
2015D	.230	3/16

Staking Tool Kit Not Available

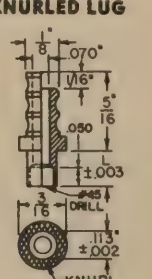
2016
TERMINAL LUG



No.	L	T
2016A	.105	1/16
2016B	.135	3/32
2016C	.155	1/8

Staking Tool Kit No. 3860

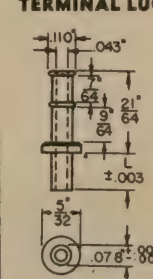
2017
HOLLOW KNURLED LUG



No.	L	T
2017A	.105	1/16
2017B	.135	3/32
2017C	.165	1/8
2017D	.195	3/32

Staking Tool Kit No. 3860

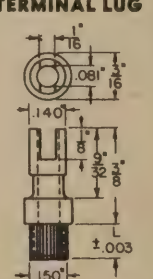
2018
HOLLOW TERMINAL LUG



No.	L	T
2018A	.075	1/32
2018B	.105	1/16
2018C	.135	3/32
2018D	.165	1/8
2018E	.195	3/32
2018F	.230	3/16

Staking Tool Kit No. 3863

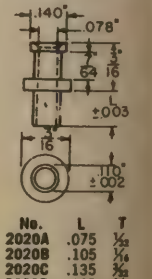
2019
SPLIT TERMINAL LUG



No.	L	T
2019A	.075	1/32
2019B	.105	1/16
2019C	.135	3/32
2019D	.165	1/8
2019E	.195	3/32
2019F	.230	3/16

Staking Tool Kit No. 3860

2020
TERMINAL LUG



No.	L	T
2020A	.075	1/32
2020B	.105	1/16
2020C	.135	3/32
2020D	.165	1/8

Staking Tool Kit No. 3860

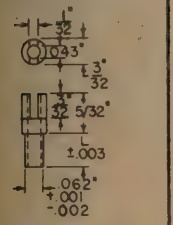
* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

SWAGE TURRET TERMINALS

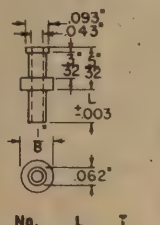
2021 MINIATURE SPADE LUG



No.	L	T
2021A	.037	1/64
2021B	.053	1/32
2021C	.084	1/16
2021D	.115	3/32
2021E	.147	1/8

Staking Tool Kit No. 3867

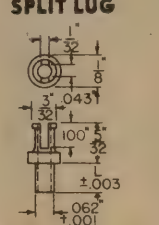
2022 MINIATURE HOLLOW LUG



No.	L	T
2022A	.037	1/64
2022B	.053	1/32
2022C	.084	1/16
2022D	.115	3/32
2022E	.147	1/8

Staking Tool Kit No. 3864

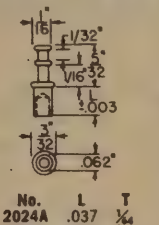
2023 MINIATURE HOLLOW SPLIT LUG



No.	L	T
2023A	.037	1/64
2023B	.053	1/32
2023C	.084	1/16
2023D	.115	3/32
2023E	.147	1/8

Staking Tool Kit No. 3864

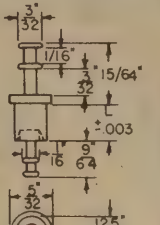
2024 MINIATURE DOUBLE TIE LUG



No.	L	T
2024A	.037	1/64
2024B	.053	1/32
2024C	.084	1/16
2024D	.115	3/32
2024E	.147	1/8

Staking Tool Kit No. 3868

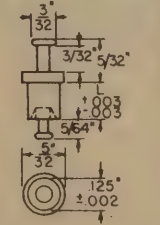
2025 MINIATURE THROUGH LUG



No.	L	T
2025A	.075	1/32
2025B	.105	1/16
2025C	.135	3/32
2025D	.165	1/8

Staking Tool Kit No. 3869

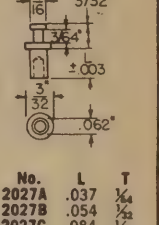
2026 MINIATURE THROUGH LUG



No.	L	T
2026A	.075	1/32
2026B	.105	1/16
2026C	.135	3/32
2026D	.165	1/8

Staking Tool Kit No. 3869

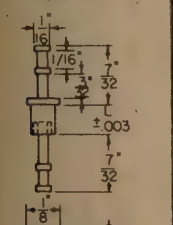
2027 MINIATURE LUG



No.	L	T
2027A	.037	1/64
2027B	.054	1/32
2027C	.084	1/16
2027D	.115	3/32
2027E	.147	1/8

Staking Tool Kit No. 3868

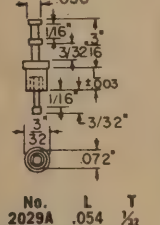
2028 FEED-THRU TERMINAL LUG



No.	L	T
2028A	.054	1/32
2028B	.084	1/16
2028C	.115	3/32
2028D	.147	1/8

Staking Tool Kit No. 3870

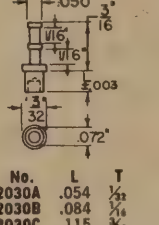
2029 TERMINAL LUG



No.	L	T
2029A	.054	1/32
2029B	.084	1/16
2029C	.115	3/32
2029D	.147	1/8

Staking Tool Kit No. 3871

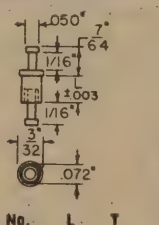
2030 TERMINAL LUG



No.	L	T
2030A	.054	1/32
2030B	.084	1/16
2030C	.115	3/32
2030D	.147	1/8

Staking Tool Kit No. 3868

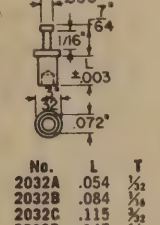
2031 FEED TERMINAL LUG



No.	L	T
2031A	.054	1/32
2031B	.084	1/16
2031C	.115	3/32
2031D	.147	1/8

Staking Tool Kit No. 3871

2032 TERMINAL LUG



No.	L	T
2032A	.054	1/32
2032B	.084	1/16
2032C	.115	3/32
2032D	.147	1/8

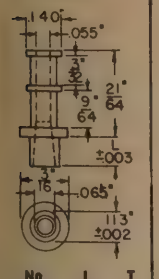
Staking Tool Kit No. 3868

SUGGESTED RESALE

Cat. No. Series	NET Per C
2000	$2.80
2001	3.00
2002	4.20
2003	6.80
2004	5.30
2005	4.00
2006	1.80
2007	2.30
2008	2.80
2009	5.10
2010	4.30
2011	5.40
2012	4.80
2013	1.80
2014	2.30
2015	6.30
2016	3.20
2017	4.10
2018	4.10
2019	5.00

Cat. No. Series	NET Per C
2020	$2.80
2021	2.70
2022	2.50
2023	3.00
2024	2.60
2025	4.20
2026	3.80
2027	2.00
2028	2.70
2029	2.50
2030	2.10
2031	2.40
2032	2.10
2033	6.20
2034	7.20
2035	6.30
2036	6.30
2037	18.00
2038	19.00

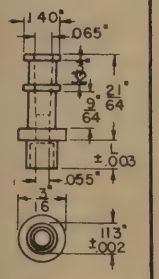
2033 RECEPTACLE LUG



No.	L	T
2033A	.075	1/32
2033B	.105	1/16
2033C	.135	3/32
2033D	.165	1/8
2033E	.195	5/32
2033F	.230	3/16

Staking Tool Kit No. 3860

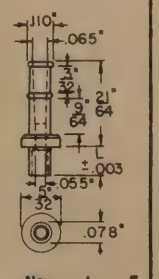
2034 RECEPTACLE LUG



No.	L	T
2034A	.075	1/32
2034B	.105	1/16
2034C	.135	3/32
2034D	.165	1/8
2034E	.195	5/32
2034F	.230	3/16

Staking Tool Kit No. 3860

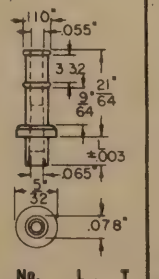
2035 RECEPTACLE LUG



No.	L	T
2035A	.075	1/32
2035B	.105	1/16
2035C	.135	3/32
2035D	.165	1/8
2035E	.195	5/32
2035F	.230	3/16

Staking Tool Kit No. 3863

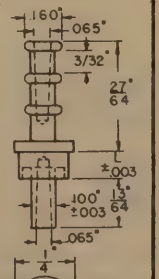
2036 RECEPTACLE LUG



No.	L	T
2036A	.075	1/32
2036B	.105	1/16
2036C	.135	3/32
2036D	.165	1/8
2036E	.195	5/32
2036F	.230	3/16

Staking Tool Kit No. 3863

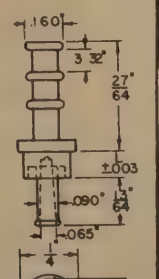
2037 TAPERED TERMINAL



No.	L	T
2037A	.105	1/16
2037B	.135	3/32
2037C	.165	1/8

Staking Tool Kit Not Available

2038 TAPERED TERMINAL



No.	L	T
2038A	.105	1/16
2038B	.135	3/32
2038C	.165	1/8

Staking Tool Kit Not Available

ALL STAKING TOOL KITS
Each.....$3.00

ACCESSORY TOOL HOLDERS



Anvil Bench Tool Holder, 1/4" anvils. Malleable iron base with bottom felt pad for bench use.
No. 3877 Net Ea. $4.20



Anvil tool holder for use with drill press, arbor, kick press, punch press or vise.
No. 3878 Net Ea. $1.50

We invite your inquiries on other types of turret terminals not shown here.

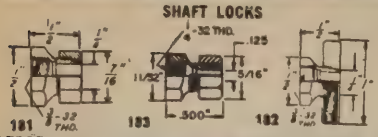
© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

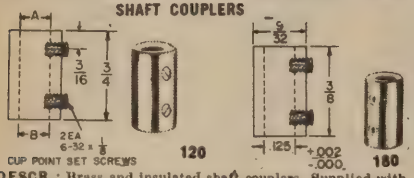
SHAFT LOCKS



DESCR.: Brass, nickel plated shaft locks, supplied with lock nut. Standard (No. 181, 182) for ¼" shafts; miniature (No. 183) for ⅛" shafts. **Std. Pkg. 50**

No.	(A)	(B)	(C)	(D)	(E)	Per C
181	.253	1/2"	1/2"	7/16"	3/8"-32	$30.00
182	.253	1/2"	1/2"	1"	3/8"-32	50.00
183	.128	1/2"	11/32"	5/16"	1/4"-32	20.00

SHAFT COUPLERS

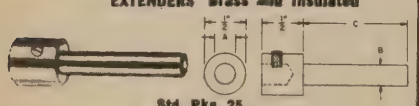


DESCR.: Brass and insulated shaft couplers. Supplied with two 6-32 x ⅛" slotted cup-point set screws, except as indicated. **Std. Pkg. 50**

Brass, Nickel Plated Couplers

No.	(A)	(B)	(C)	(D)	(E)	NET Per C
120	1/4"	1/4"	7/16"	3/4"	3/16"	$30.00
131	1/4"	3/8"	1/2"	3/4"	3/16"	30.00
133	3/8"	3/8"	1/2"	3/4"	3/16"	30.00
			With Four Set Screws, Spaced 90°			
138	1/4"	1/4"	7/16"	3/4"	3/16"	35.00
			Miniature Coupler, With 4-40 x ⅛" Allen Head Cup-Point Set Screws			
180	1/8"	1/8"	9/32"	3/8"	5/64"	40.00
			Insulated Black Fibre, Per Mil-F-1148A, Grade Ch.			
140	1/4"	1/4"	7/16"	3/4"	3/16"	30.00
141	1/4"	3/8"	1/2"	3/4"	3/16"	30.00
142	3/8"	3/8"	1/2"	3/4"	3/16"	30.00

EXTENDERS Brass and Insulated

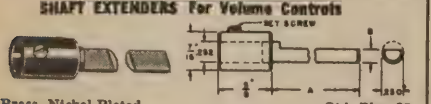


Std. Pkg. 25

Long Shaft Type

No.	A	B	C	Material	NET Per C
130	¼"-¼"		1¼"	Brass N.P.	$40.00
180	¼"-¼"		1¼"	Fibre	40.00
132	¼"-¼"		1¼"	Brass N.P.	40.00
184	¼"-¼"		1¼"	Fibre	40.00
			Short Shaft Type		
160	¼"-¼"		¾"	Brass N.P.	$35.00
181	¼"-¼"		¾"	Fibre	35.00
162	¼"-¼"		¾"	Brass N.P.	35.00
163	¼"-¼"		¾"	Fibre	35.00
			MINIATURE EXTENDER With Allen Head Set Screws		
189	⅛"-⅛"		⅜"	Brass N.P	$35.00

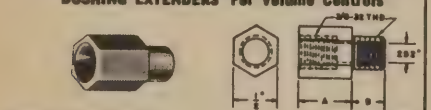
SHAFT EXTENDERS For Volume Controls



Brass, Nickel Plated. **Std. Pkg. 25**

No.	A	B	NET Per C
		FULL ROUND	
2356	2"	.250"	$33.00
2357	3",	.250"	34.00
2358	4"	.250"	36.00
		WITH FLAT	
2359	2"	.219"	37.00
2360	3"	.219"	40.00
2361	4"	.219"	50.00
2362	2"	.156"	37.00
2363	3"	.156"	40.00
2364	4"	.156"	55.00

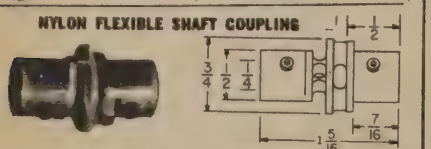
BUSHING EXTENDERS For Volume Controls



Brass, Nickel Plated. **Std. Pkg. 25**

No.	A	B	NET Per C
2850	¼"	¼"	$28.00
2851	¼"	¾"	33.00
2852	¼"	½"	36.00
2853	1¼"	¾"	38.00
2854	1¼"	½"	39.00
2855	¼"	1¼"	40.00

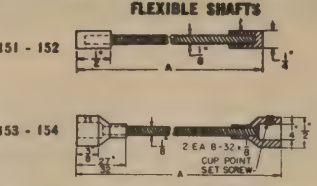
NYLON FLEXIBLE SHAFT COUPLING



DESCR.: Molded nylon with molded-in brass bushings. Hi-temp nylon not influenced by moisture. Designed for long reach shaft coupling. Supplied with 2 Allen head set screws. **Std. Pkg. 25**

No. 184 NET Per C $165.00

FLEXIBLE SHAFTS

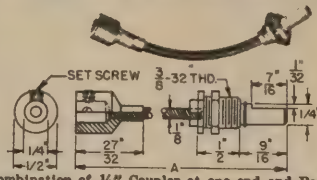


High quality phosphor bronze non-magnetic, non-rusting flexible shafts. Remote control when necessary to mount condensers and potentiometers away from panel at unusual angles. Turns at any angle up to 90°; free from back lash.

Std. Pkg. 25

No.	Size "A"	Description	NET Per C
151	3"	With ¼" hub	$75.00
152	6"	With ¼" hub	85.00
153	3⅝"	With ¼" coupler	120.00
154	6⅝"	With ¼" coupler	125.00

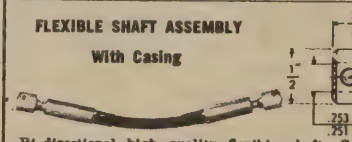
BI-DIRECTIONAL FLEXIBLE SHAFT AND PANEL BEARING



Combination of ¼" Coupler at one end and Panel Bearing Assembly at other. High quality phosphor bronze non-magnetic, non-rusting flexible shaft, turns at any angle up to 90°. Free from backlash. **Std. Pkg. 25**

No.	Length "A"	NET Ea.
183	4½"	$1.45
186	7⅛"	1.55

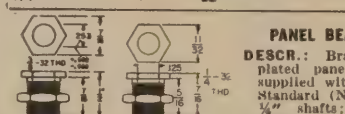
FLEXIBLE SHAFT ASSEMBLY With Casing



Bi-directional high quality flexible shaft. Cable casing acts as a support and reduces amount of deflection in cable. Metal parts steel cadmium plated.

No.	Length	NET Ea.
169	8"	$ 8.00
170	12"	10.00

PANEL BEARINGS

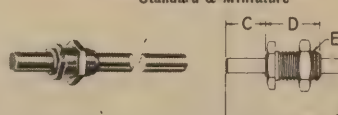


DESCR.: Brass, nickel plated panel bearings, supplied with hex nut. Standard (No. 119) for ¼" shafts; miniature (No. 184) for ⅛" shafts. **Std. Pkg. 100**

No.	(A)	(B)	(C)	(D)	(E)	Per C
119	.253	7/16"	1/2"	7/16"	3/8"-32	$15.00
184	.128	11/32"	7/16"	5/16"	1/4"-32	15.00

PANEL BEARING ASSEMBLIES

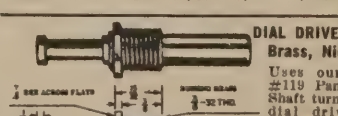
Standard & Miniature



DESCR.: Brass, nickel plated for ¼" and ⅛" shafts. **Std. Pkg. 50**

No.	A	B	C	D	E	NET Per C
148	.250	3"	1/2	1/2	3/8-32	$40.00
149	.250	6"	1/2	1/2	3/8-32	60.00
1448	.125	2"	11/32	7/16	1/4-32	40.00
1449	.125	4"	11/32	7/16	1/4-32	60.00

DIAL DRIVE ASSEMBLY Brass, Nickel Plated



Uses our standard #119 Panel Bearing. Shaft turned down for dial drive. Nickel Plated overall. **Std. Pkg. 25**

No.	NET Per C
128	$36.00

DIAL LOCK



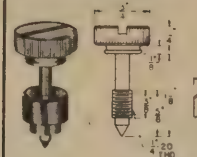
HEAD: Captive: Brass, nickel plated.

BODY: Brass nickel plated.

DESCR.: Prevents detuning of the dial when locked by means of the captive knurled nut. Supplied with hex nut & lockwasher. **Std. Pkg. 25**

No.	NET Per C
199	$70.00

CAPTIVE SCREW & BUSHING Large Head

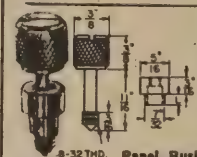


BODY: BRASS, nickel plated.

DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel. **Std. Pkg. 25**

No.	Panel Bushing Length (L)	Panel Thick.	NET Per C
2365-A	1/4"	1/8"	$70.00
2365-B	3/8"	3/16"	70.00
2365-C	5/8"	1/4"	70.00

CAPTIVE SCREW & BUSHING Small Head

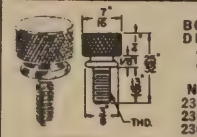


BODY: BRASS, nickel plated.

DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel. **Std. Pkg. 25**

No.	Panel Bushing Length (L)	Panel Thick.	NET Per C
2375-A	1/4"	1/8"	$35.00
2375-B	3/8"	3/16"	35.00
2375-C	5/8"	1/4"	35.00

THUMB SCREW

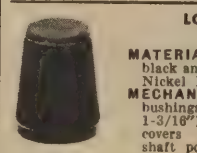


BODY: BRASS, nickel plated.

DESCR.: Used extensively for quick removal of panels from chassis. **Std. Pkg. 25**

No.	Thread	NET Per C
2366	6-32	$18.00
2367	8-32	18.00
2368	10-32	18.00

LOCKING AND PLAIN POT COVERS



MATERIALS: Covers are aluminum, black anodized. Adapter Nuts are Brass, Nickel Plated.

MECHANICAL: Fits ⅜-32 threaded bushings. Long covers, (L Dimension 1-3/16") for shafts up to 1" long. Short covers (L Dimension ⅞") for stub shaft pots.

PLAIN POT COVER

DESCR.: Cover replaces knob on pot shaft to prevent accidental change of setting. Adapter nut replaces conventional mounting nut at front of panel. Cover easily removed and replaced for changing pot setting. **Std. Pkg. 5**

No.	Descr.	Length "L"	NET Ea.
2401	Long Cover	1-3/16"	$1.65
2404	Short Cover	7/8"	1.65

LOCKING POT COVER

DESCR.: Locking cover for pots with built-in locking feature, such as Ohmite type CLU, CTS type LT, etc. Cover replaces locking nut supplied with pot, and both locks setting and prevents attempts to turn locked shaft. Cover looks like knob, and provides more finished appearance on panel. **Std. Pkg. 5**

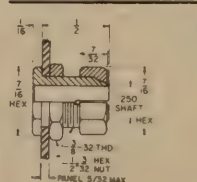
Length "L"	NET Ea.	No.	Descr.
2402	Long Cover	1-3/16"	$1.40
2405	Short Cover	7/8"	1.40

POT-LOCKING ADAPTER COVER

DESCR.: Converts standard, non-locking pots to locking type, and provides finished appearance on panel, while preventing attempts to turn locked shaft. Lock nut adapter replaces conventional mounting nut at front of panel. Cover easily removed for change of pot setting. **Std. Pkg. 5**

Length "L"	NET Ea.	No.	Descr.
2403	Long Cover	1-3/16"	$1.75
2406	Short Cover	7/8"	1.75

PANEL MOUNT SHAFT LOCKS



DESCR.: Brass, nickel plated combination panel bearings and shaft locks. Type 155 mounts on front of panel with 4-40 hardware thru flange plate. Type 14 mounts thru panel in ⅜" hole. For ¼" shafts. **Std. Pkg. 50**

No.	Type	NET Per C
114	Single-hole mount	$30.00
155	Flange mount	50.00

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

EQUIPMENT HANDLES

MATERIAL AND FINISH SPECIFICATIONS

The following specifications are met by all panel handles, ferrules, and hardware where applicable:

Materials:

BRASS: In accordance with Federal Spec. QQ-B-626, Composition 22, ½ Hard.
ALUMINUM: In accordance with Federal Spec. QQ-A-365, Composition A, Type 3.
STEEL: Cold-Rolled, in accordance with QQ-S-633b, Grade FS-1010.

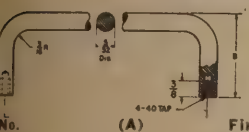
Finishes:

NICKEL PLATE: Polished Nickel Plate, in accordance with Federal Spec. QQ-N-290, Class I, Type VI.
BLACK OXIDE: In accordance with MIL-F-495A.
SATIN ETCH: Commercial finish.
BLACK ANODIZE: In accordance with MIL-A-8625A.
OPTICAL BLACK: Color in accordance with Fed. Std. 595, type 37038. Paint complies with Fed. Spec. TT-E-527.

Note:

Aluminum Handles, either round or oval, and matching ferrules, can be supplied anodized in colors per MIL-A-8625A on special order.

PANEL HANDLES



5/32" Diameter panel handles, Brass and Aluminum, finished as shown, with internal 4-40 thread. Individually packaged. Std. Pkg. 10

No.	(A)	Finish	NET Ea.
		BRASS	
1632	1¼"	Nickel Plate	$.85
1633	1¼"	Black Oxide	.85
1636	2"	Nickel Plate	.95
1637	2"	Black Oxide	.95
1640	3"	Nickel Plate	1.00
1641	3"	Black Oxide	1.00
		ALUMINUM	
1634	1¼"	Satin	.75
1635	1¼"	Blk. Anodize	.80
1638	2"	Satin	.80
1639	2"	Blk. Anodize	.85
1642	3"	Satin	.90
1643	3"	Blk. Anodize	.95

PANEL HANDLES



o.	(A)	Finish	NET Ea.
		BRASS	
616	2"	Nickel Plate	$1.00
617	2"	Black Oxide	1.00
620	3"	Nickel Plate	1.05
621	3"	Black Oxide	1.05
624	4"	Nickel Plate	1.10
625	4"	Black Oxide	1.10
628	6"	Nickel Plate	1.20
629	6"	Black Oxide	1.20
		ALUMINUM	
618	2"	Satin	.65
619	2"	Blk. Anodize	.75
622	3"	Satin	.75
623	3"	Blk. Anodize	.80
626	4"	Satin	.80
627	4"	Blk. Anodize	.85
630	6"	Satin	.85
631	6"	Blk. Anodize	.90

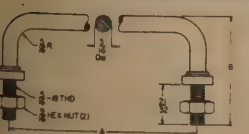
PANEL HANDLES



Brass Panel Handles, finished as shown, with internal thread. Individually packaged. Std. Pkg. 10

o.	(A)	(B)	(C)	NET Ea.
		BRASS NICKEL PLATE		
650	3"	1-5/16"	7/16"	$1.15
657	3"	1-1/2"	9/16"	1.20
656	4-1/4"	1-1/2"	9/16"	1.30
651	4-9/16"	1-1/2"	9/16"	1.35
652	6-7/16"	1-3/4"	9/16"	1.70
		BRASS BLACK OXIDE		
601	3"	1-5/16"	7/16"	$1.15
602	3"	1-1/2"	9/16"	1.20
604	4-1/4"	1-1/2"	9/16"	1.30
605	4-9/16"	1-1/2"	9/16"	1.35
606	6-7/16"	1-3/4"	9/16"	1.70

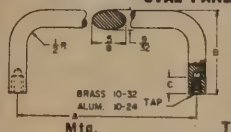
PANEL HANDLES



Brass Panel Handles, finished as shown with male threaded stud. Supplied complete with matching ferrules, and brass, nickel plated hex nuts. Individually packaged. Std. Pkg. 10

e.	(A)	(B)	NET Ea.
		BRASS NICKEL PLATE	
607	2"	2-1/8"	$1.55
609	3"	2-1/8"	1.60
611	4"	2-1/8"	1.70
653	4-1/4"	2-1/8"	1.75
614	6"	2-11/16"	1.90
		BRASS BLACK OXIDE	
608	2"	2-1/8"	$1.55
610	3"	2-1/8"	1.60
612	4"	2-1/8"	1.70
613	4-1/4"	2-1/8"	1.75
615	6"	2-11/16"	1.90

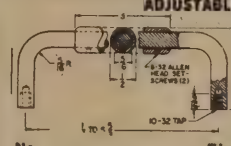
OVAL PANEL HANDLES



Flat, oval panel handles in Brass and Aluminum, finished as shown. Brass handles have internal 10-32 thread, Aluminum handles have internal 10-24 thread. Individually packaged. Std. Pkg. 10

No.	Mtg. Ctrs. (A)	Height (B)	Tap Depth (C)	Finish	NET Ea.
			BRASS		
1644	3"	1-9/32"	9/32"	Nickel Plate	$2.50
1645	3"	1-9/32"	9/32"	Black Oxide	2.50
1647	4-9/16"	1-1/2"	1/2"	Nickel Plate	2.70
1648	4-9/16"	1-1/2"	1/2"	Black Oxide	2.70
1651	6-7/16"	1-3/4"	1/2"	Nickel Plate	2.75
1653	6-7/16"	1-3/4"	1/2"	Black Oxide	2.75
1655	9"	1-3/4"	1/2"	Nickel Plate	3.40
1657	9"	1-3/4"	1/2"	Black Oxide	3.40
			ALUMINUM		
1646	3"	1-9/32"	9/32"	Black Anodize	1.65
1649	4-9/16"	1-1/2"	9/32"	Black Anodize	1.80
1654	6-7/16"	1-3/4"	9/32"	Black Anodize	2.10
1658	9"	1-3/4"	9/32"	Black Anodize	2.20

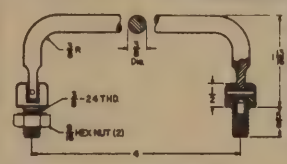
ADJUSTABLE HANDLES



Adjustable Brass Panel handles, with mounting center range from 4⅛" to 6⅝". Finished as shown. Internal 10-32 thread, supplied with Allen-Head locking screws. Individually packaged. Std. Pkg. 10

No.	Finish	NET Ea.
1659	Nickel Plate	$4.50
1661	Black Oxide	4.50

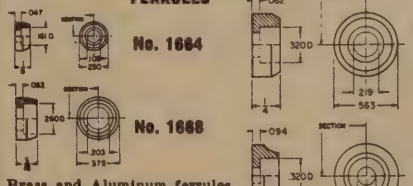
FOLDING HANDLES



Folding Brass panel handles, with spring-loaded detents which snap into upright or left-or-right folded position. Finished as shown. Supplied with brass, nickel plated hex nuts. Mounts in ⅜" panel holes. Individually packaged. Std. Pkg. 10

No.	Finish	NET Ea.
1662	Nickel Plate	$5.00
1668	Black Oxide	5.00

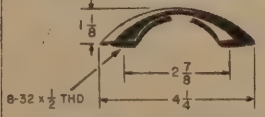
FERRULES



Brass and Aluminum ferrules, finished as shown, to match handles listed above. Std. Pkg. 50

No.	Fig.	(A)	(B)	(C)	(D)	(E)	Per C
				BRASS, NICKEL PLATED			
1664	1	5/32"	.109	1/8"	1/4"	3/64"	$18.00
1668	1	1/4"	.203	3/16"	3/8"	1/16"	18.00
2055	1	5/16"	.219	1/4"	9/16"	1/16"	18.00
2054	2	5/16"	.196	5/16"	3/4"	3/32"	18.00
				BRASS, BLACK OXIDE			
1665	1	5/32"	.109	1/8"	1/4"	3/64"	$18.00
1669	1	1/4"	.203	3/16"	3/8"	1/16"	18.00
1673	1	5/16"	.219	1/4"	9/16"	1/16"	18.00
1672	2	5/16"	.196	5/16"	3/4"	3/32"	18.00
				ALUMINUM SATIN ETCH			
1666	1	5/32"	.109	1/8"	1/4"	3/64"	13.00
1670	1	1/4"	.203	3/16"	3/8"	1/16"	13.00
				ALUMINUM, BLACK ANODIZED			
1667	1	5/32"	.109	1/8"	1/4"	3/64"	13.00
1671	1	1/4"	.203	3/16"	3/8"	1/16"	13.00

BAKELITE HANDLE

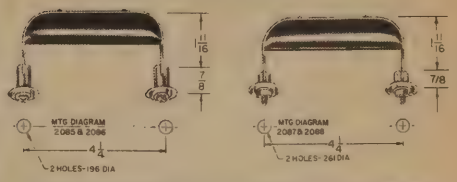


Std. Pkg. 10

MATERIAL: Molded Phenolic, Red or Black.
RATING: 40 lbs maximum load.
DESCR.: Molded cabinet handle attaches with two 8-32 screws (not supplied) on 2⅞" mounting centers.

No.	Color	NET Per C
2281	Black	$18.00
2282	Red	18.00

MOLDED GRIP HANDLES



HANDLE: Molded high impact Styrene, fungus resistant.
HARDWARE: Steel, nickel plated.
RATING: 75 lbs maximum load.
DESCR.: Rounded palm fitting design. Std. Pkg. 10

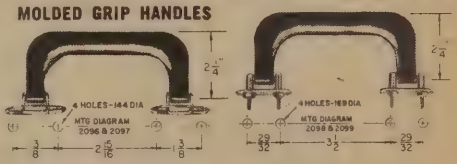
Attaches with 10-32 machine screws supplied. Maximum panel thickness ¼".

No.	Color	Net Ea.
2085	Black	$1.45
2086	Grey	1.45

Attaches with integral ¼-20 studs and nuts supplied. Maximum panel thickness ¼".

2087	Black	$1.45
2088	Grey	1.45

MOLDED GRIP HANDLES



HANDLE: Molded high impact Styrene.
HARDWARE: Steel, nickel plated.
RATING: 60 lbs maximum load.
DESCR.: Designed for economy and rugged use. Folds flat to case. Std. Pkg. 10

Attaches with rivets or #6 screws (not supplied). Maximum panel thickness unlimited.

No.	Color	Net Ea.
2096	Black	$ .66
2097	Grey	.66

Attaches with integral 8-32 studs and nuts supplied. Maximum panel thickness ⅜".

2098	Black	$1.05
2099	Grey	1.05

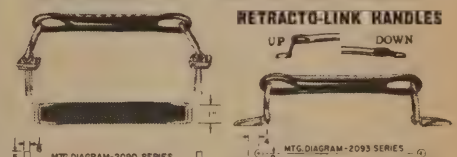
SPRING-GLIDE HANDLES



HANDLE: Black genuine leather, contoured stitched.
HARDWARE: Steel, chrome plate.
RATING: 120 lbs maximum load.
DESCR.: Strong spring-glide retract mechanism prevents handle rattle at vibration extremes, automatically lies flat against case when not in use. Attaches with fold tabs on cap against rear bearing washer plate. Spring and washer plate can be secured with optional screws. Maximum panel thickness ¼". Std. Pkg. 10

No.	Color	Net Ea.
2089	Black	$2.75

RETRACTO-LINK HANDLES



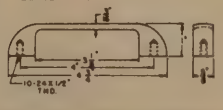
HANDLE: Black genuine leather, matching stitching.
HARDWARE: Steel, nickel plated.
RATING: 60 lbs maximum load.
DESCR.: Sliding link retracts inside handle to lie flat to panel when not in use. Shipped with all hardware assembled except decorative cover cap. Std. Pkg. 10

Attaches with fold tabs against rear bearing washer plate, which can be secured with optional #6 screws (not supplied). Maximum panel thickness ½".

No.	Length	Mtg. Ctr. "A"	NET Ea.
2090	4½"	4¾"	$2.50
2091	5½"	5¾"	2.50
2092	6¾"	7"	2.50

Attaches with #6 screws or rivets (not supplied). Maximum panel thickness unlimited.

2093	4½"	5¾"	$2.50
2094	5½"	6⅝"	2.50
2095	6¾"	7⅞"	2.50



OVAL HANDLE



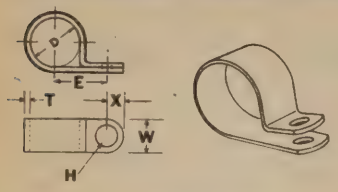
Die Cast Zamac Handle. Brush chrome plated.

Std. Pkg. 10
No. NET Per C
2065 $90.00

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENT

ALL-MOLDED CABLE CLAMPS



POLYPROPYLENE

Marked for easy identification. Polypropylene cable clamps feature excellent support at low cost. Manufactured entirely from propylene, they exhibit no environmental stress cracking and have excellent heat resistance at prolonged periods of time. Propylene clamps are impervious to most acids, alkalies, organic solvents and detergents. Conforms to applicable Mil. Specs. **Std. Pkg. 100**

T = .060 X = 7/32"
W = 1/2" H = 13/64"

No.	Hole (D)	E	NET Per C
8910	1/8"	.360	$1.60
8911	3/16"	.423	1.80
8912	1/4"	.457	1.90
8913	5/16"	.498	2.00
8914	3/8"	.529	2.10
8915	7/16"	.560	2.20
8916	1/2"	.592	2.30
8917	9/16"	.623	2.40
8918	5/8"	.654	2.50
8919	11/16"	.752	2.60
8920	3/4"	.783	2.70
8921	7/8"	.845	2.90
8922	1"	.908	3.00

CELLULOSE

Marked for easy identification. Cellulose Cable Clamps feature excellent support at low cost. Made entirely from cellulose, they are ultra-violet stabilized for extreme weather resistance. Tough and lightweight, they provide exceptional service in both outdoor and indoor applications. Conforms to applicable Mil. Specs. **Std. Pkg. 100**

T = .060 X = 7/32"
W = 1/2" H = 13/64"

No.	Hole (D)	E	NET Per C
8925	1/8"	.360	$2.10
8926	3/16"	.423	2.20
8927	1/4"	.457	2.30
8928	5/16"	.498	2.40
8929	3/8"	.529	2.50
8930	7/16"	.560	2.60
8931	1/2"	.592	2.70
8932	9/16"	.623	2.90
8933	5/8"	.654	3.00
8934	11/16"	.752	3.30
8935	3/4"	.783	3.50
8936	7/8"	.845	3.70
8937	1"	.908	3.90

NYLON

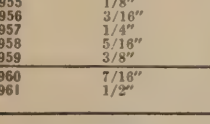
Marked for easy identification. Black Nylon Cable Clamps feature excellent support. Manufactured from the best material available they exhibit a tough rigidity at elevated temperatures. Nylon is insoluble in common solvents, alkalies, dilute mineral acids and most organic acids. Made to meet these Military Specifications: Mil-Std.-24E; MS-30914(ord.) Mil-C-21565(NAS); Mil-P-17091-B; Mil-P-20693. **Std. Pkg. 100**

T = .060 X = 7/32"
W = 1/2" H = 13/64"

No.	Hole (D)	E	NET Per C
8940	1/8"	.360	$2.30
8941	3/16"	.423	2.40
8942	1/4"	.457	2.50
8943	5/16"	.495	2.60
8944	3/8"	.529	2.70
8945	7/16"	.560	2.80
8946	1/2"	.592	2.90
8947	9/16"	.623	3.00
8948	5/8"	.654	3.20
8949	11/16"	.752	3.30
8950	3/4"	.783	3.50
8951	7/8"	.845	3.70
8952	1"	.908	3.90

T = .050 W = 3/4" X = 7/32" H = 13/64"

8955	1/8"	.325	1.90
8956	3/16"	.378	2.00
8957	1/4"	.409	2.10
8958	5/16"	.441	2.20
8959	3/8"	.471	2.30
8960	7/16"	.519	2.40
8961	1/2"	.550	2.50

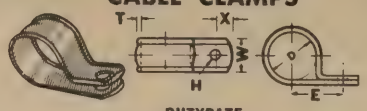


BEADED WIRE TIES
White Nylon

Std. Pkg. 100

No. 8962 — 5" Long — NET Per C $2.30

CABLE CLAMPS



BUTYRATE

Made to meet MIL Std 242B (Ships), MS 3914 (Ord.) Withstands temperatures from —60 to +175 degrees F.

T .060 — W 1/2" X 7/32" — H .204 **Std. Pkg. 100**

No.	Hole (D)	E	NET Per C
831	1/8	.360	$2.34
832	5/16	.423	2.40
833	1/4	.457	2.58
834	5/16	.498	2.85
835	3/8	.529	3.00
836	7/16	.560	3.30
837	1/2	.592	3.60
838	9/16	.623	4.20
839	5/8	.654	4.50
840	11/16	.752	4.80
841	3/4	.783	5.10
842	7/8	.845	5.40
843	1	.908	5.70
844	1 1/8	.970	6.00
845	1 1/4	1.062	6.30

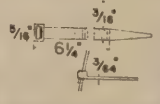
NYLON

MIL P17091A, Amend 2. Withstands temperatures from —60 to +250 degrees F. **Std. Pkg. 100**

	1/8" to 1/2" (D)	9/16" to 1 1/4" (D)
T	.040	.060
W	3/8"	1/2"
X	7/32"	13/64"
H	.167	.204

No.	Hole (D)	E	Per C
771	1/8	.310	$3.60
772	5/16	.373	3.90
773	1/4	.407	4.20
774	5/16	.448	4.65
775	3/8	.479	4.80
776	7/16	.510	5.10
777	1/2	.542	5.40
778	9/16	.623	6.60
779	5/8	.654	7.20
780	11/16	.752	7.50
781	3/4	.783	8.10
782	7/8	.845	8.70
783	1	.908	10.20
784	1 1/8	1.002	12.00
785	1 1/4	1.062	13.80

NYLON LOCKING CLAMP



Wedge and ratchet design makes for positive holding and locking. Accommodates cables from 1/8" to 1 3/4". No knot tying, just slip clamp around cable, insert tongue and pull tight.

No.	Std. Pkg.	NET Per C
800	100	$9.00

NYLON MOUNTING TABS



For use with No. 800 locking clamp when premounted assembly points are desired. Furnished with .203 mounting hole. **Std. Pkg. 100**

No.	NET Per C
801	$3.00

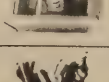
NYLON PERFORTATING STRAPPING



For bundling of wire, cable and tubing. Time saver for harnessing. Use No. 803 ratchet buckle for fast assembly. Supplied on 50' rolls.

No.	Std. Pkg.	NET Per Roll
802	1	$18.00

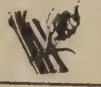
NYLON RATCHET BUCKLE



For No. 802 strapping. Quick and easier assembly with this ingenious item. **Std. Pkg. 100**

No.		NET Per C
803	For 1/2" Strapping	$12.00

TIGHTENING TOOL



Used with strapping for fast assembly. **Std. Pkg. 1**

No.	NET Ea.
804	$20.00



NYLON ADJUSTABLE CABLE TIE

Efficiently and economically replaces lacing cord, tape and other fasteners in wrap-around applications. Adjustable from 1/4" to 1 3/4" diameter. Once applied it cannot slip. Made of Nylon. **Std. Pkg. 500/1000**

No. 8963C	NET Per C $ 1.50
No. 8963M	NET Per M $13.00

BLIND HOLE MOUNTING ACCESSORIES

Molded of polyethylene and requires no mounting hardware or special tools, just snaps into hole. Color Gray, temperature rating 100-250°F. **Std. Pkg. 100**

GROMMETS — max. panel thickness .095



No.	Mtg. Hole	Cable Dia.	NET Per C
8974	1/4"	1/8"	$2.00
8975	3/8"	1/4"	2.25
8976	1/2"	3/8"	2.50
8977	5/8"	1/2"	3.50
8978	3/4"	5/8"	4.00

CABLE STRAPS — mounting hole 1/4", 5/16" wide for panel thickness 1/16".



No.	Max. Cable Dia.	NET Per C
8971	1/4"	$2.00
8972	7/16"	2.50
8973	5/8"	3.00



NYLON LACING CORD

MIL-T-713-D, Type P, classes 3, 2 and 1. Supplied in 1-lb. tubes. **Std. Pkg. 1**

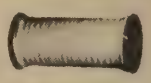
Natural

No.	Class	Test	Yardage	NET Ea.
734	1	70 lb.	600	$9.00
735	2	48 lb.	800	9.30
736	3	32 lb.	1140	9.60

Black

No.	Class	Test	Yardage	NET Ea.
791	1	70 lb.	600	$10.80
792	2	48 lb.	800	11.10
793	3	32 lb.	1140	11.40

NYLON LACING TAPE — Braided — MGD Finish



#18 size meets MIL-T-43435, size 3, finish B. Furnished in 500 yard spools.

Natural Color

No.	Size	Width	Thick	Test	NET Each
766	18	.090	.0125	50 lbs.	$10.50
767	21	.0625	.009	25 lbs.	8.00

Black Color

No.	Size	Width	Thick	Test	NET Each
769	18	.090	.0125	50 lbs.	$11.00
770	21	.0625	.009	25 lbs.	8.50

Commercial Type

Has all application of above but at a much lower cost. Supplied in 1-lb tubes in natural color.

No.	Width	Yardage	NET Ea.
743	1/8"	620	$5.70

LINEN LACING CORD

Mildew proofed. Spec. MIL-T-713-A. Type N. Supplied in 1 lb. tubes.



Natural

No.	Ply	Class	Yds.	NET Ea.
727	4	—	850	$6.00
730	6	3	600	6.00
739	8	2	470	6.00
733	9	—	400	6.00
742	12	1	300	6.00

Black

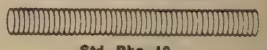
794	4	—	850	6.60
795	6	3	600	6.60
796	8	2	470	6.60
797	9	—	400	6.60
798	12	1	300	6.60

DACRON LACING CORD

Conforms to the physical requirements of MIL-T-713A. Greater tensile strength with minimal stretch than nylon. Fungus, acid and abrasion resistance. Supplied in 1 lb. tubes in natural color.

No.	Class	Test	Yardage	NET Ea.
722	1	78 lbs.	750	$10.50
723	2	57 lbs.	1000	11.00
724	3	37 lbs.	1500	11.50

BRASS THREADED RODS



Std. Pkg. 10

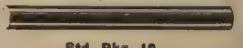
1-Ft. Length No.	NET Ea.	Threaded	2-Ft. Length No.	NET Ea.
1400-1	$.50	6-32	1400-2	$1.00
1401-1	.50	8-32	1401-2	1.00
1402-1	.50	10-32	1402-2	1.00
1403-1	.55	1/4-20	1403-2	1.10

NYLON THREADED RODS

Std. Pkg. 10

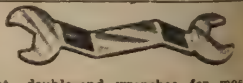
1-Ft. Length No.	NET Ea.	Threaded	2-Ft. Length No.	NET Ea.
1420-1	$1.10	6-32	1420-2	$2.20
1421-1	1.20	8-32	1421-2	2.40
1422-1	1.50	10-32	1422-2	3.00
1423-1	1.80	1/4-20	1423-2	3.60

Brass Acetate & Nylon PLAIN RODS



1/4" DIA No.	Net Ea.	Type	Length	1/8" DIA No.	NET Ea.
1404	$.35	Brass N.P.	6"	1431	$.80
1405	.70	Brass N.P.	12"	1432	.60
1406	.15	Fibre	6"	1433	.15
1407	.30	Fibre	12"	1434	.30
1408	.24	Nylon	6"	1440	.24
1409	.48	Nylon	12"	1441	.48

SHAFT WRENCHES



Specially designed offset, double-end wrenches for most hex sizes encountered in electronic construction. Made of heavy gauge, cadmium plated steel, clearly marked with size. No. 999 is especially useful for Toggle Switch and Volume Control mounting nuts. **Std. Pkg. 25**

No.	For Nut Sizes	NET Per C
997	Set of 2	$50.00
998	5/16" - 3/8"	25.00
999	1/2" - 9/16"	25.00

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

© United Technical Publications

NYLON "HALF" CABLE CLAMPS

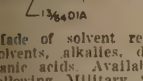


Made of solvent resistant Nylon, unaffected by most solvents, alkalies, dilute mineral acids and most organic acids. Available in Black and conforms to the following Military Specifications: MIL-P-17091A and Amendment 2, MIL-P-17091B/, MIL-M-20693A, Type 1, MIL-STD-242A (Ships)/ MIL-STD-242B (Ships), MS-39014 (ORD).

Std. Pkg. 100

No.	Wire Size	A	B	E	F	NET Per C
964	1/8	.115	.115	.307	.675	5.50
965	3/16	.172	.172	.336	.732	5.90
966	1/4	.234	.234	.366	.793	6.50
967	5/16	.297	.297	.400	.859	6.70
968	3/8	.359	.359	.430	.920	7.00
968	7/16	.422	.422	.460	.980	7.25
970	1/2	.484	.484	.492	1.044	8.00

CABLE CLAMPS

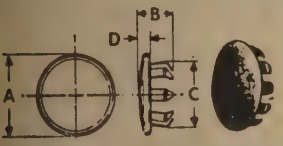


Steel Cadmium Plated with No. 8 Mtg. Hole.

Std. Pkg. 100

	Length	Width	Cable	NET Per C
	5/8"	5/8"	1/4"	$ .90
0	3/4"	3/4"	1/4"	.95
2	1"	3/4"	1/2"	1.00

SNAP BUTTON HOLE PLUGS



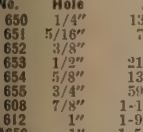
Metal plugs for covering punched or drilled holes. Firm grip spring action prongs in steel, nickel plated.

Std. Pkg. 100

No.	Hole	A	B	C	Prongs	NET Per C
650	1/4"	13/32	15/64	1/16	6	$2.75
651	5/16"	7/16	1/4	1/16	6	2.75
652	3/8"	1/2	15/64	1/16	6	2.75
653	1/2"	21/32	9/32	5/64	8	3.00
654	5/8"	13/16	19/64	5/64	8	4.00
655	3/4"	59/64	19/64	5/64	12	4.00
608	7/8"	1-1/16	19/64	1/16	12	4.50
612	1"	1-9/64	21/64	3/32	12	5.25
*656	1"	1-5/32	19/64	5/64	12	22.00

*Vent

ANGLES



A — Length of leg C — Hole Location
B — Length of leg D — Hole Location
T — Thickness H1 — Hole Diameter
W — Width H2 — Hole Diameter

Std. Pkg. 100

STEEL, Cadmium Plated

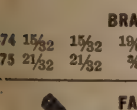
o.	A	B	C	D	W	T	H1	H2	Net Per C
44	7/16	7/16	17/64	1/4	3/8	.032	3/16	#4	$.80
45	1/2	1/2	11/32	23/64	1/2	.050	#6	#4	1.00
46	49/64	27/64	39/64	15/64	5/16	.032	#6	#6	1.00
47	19/64	1/2	61/64	23/64	5/16	.050	#8	#8	1.10
76	11/16	11/16	1/2	1/2	3/8	.032	#6	#6	1.70

Note: No. 1476 has Hot Tin Dipped finish

BRASS, Nickel Plated

74	15/32	15/32	19/64	19/64	5/16	.025	#8	#8	$2.00
75	21/32	21/32	3/8	3/8	3/8	.050	#8	#8	4.00

FAHNESTOCK SPRING BATTERY CLIPS



Clips are made of brass, nickel plated and are available in the single and double clip types.

Std. Pkg. 100

SINGLE CLIPS

No.	Width	Length	Mtg. Hole	NET Per C
539	7/32"	11/16"	#4	$2.80
533	5/16"	25/32"	#6	2.80
534	3/8"	1"	#6	4.00

DOUBLE CLIPS

535	3/16"	1 15/32"	#6	11.00
536	3/8"	2 1/8"	#8	13.00

USE OUR VAST NATIONAL DISTRIBUTION NETWORK for Off-The-Shelf Deliveries of your smaller hardware requirements!

MOLDED "IN-LINE" FUSE HOLDER



For use in automobile radios, T.V., and other applications. Provides positive insulated connection. For use with XXXXX fuse, supplied with 18" wire loop.

Std. Pkg. 50

No. 295 — NET Per C $40.00

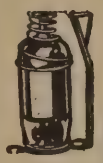
MINI-SHIELDS FOR MINI-TUBES



These Mini-Shields fit snugly on all Mini-Tubes. Available in two sizes for 1½" & 2" long tubes.

		Std. Pkg. 50	NET Per C
550	for 2" tube	1¾"	$7.80
551	for 1½" tube	1¼"	6.60

MINI-SPRING FOR MINI-TUBES



The Mini-Tube guard gives support to the Mini-Tube in two ways. It maintains a direct axial pressure downwards plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently. Std. Pkg. 50

No.	Type	Height (H)	NET Per C
560	Short	1½"	$14.00
561	Medium	1⅞"	14.00
562	Long	2⅝"	14.00
563	9 Prong	1⅞"	14.00

MINIATURE WAFER SOCKETS



Miniature bakelite sockets with brass cadmium plated contacts. XP bakelite top plate 1/16" thick, bottom plate 3/64" thick; high grade spring brass cadmium plated contact; .095 dia. mounting holes. Std. Pkg. 50

No.	Description	MTG. Cen.	NET Per C
	SEVEN PIN		
880	Eyelet only	7/8"	$11.00
881	Eyelet and Shield	7/8"	12.00
882	Grd Strap and Shield	7/8"	13.00
887	Eyelet only	1"	12.00
888	Eyelet and Shield	1"	13.00
889	Grd Strap and Shield	1"	14.00
	NINE PIN		
890	Eyelet only	1⅛"	$14.00
891	Eyelet and Shield	1⅛"	15.00
892	Grd Strap and Shield	1⅛"	16.00

MOLDED MINIATURE SOCKETS



Saddle Type

Molded from either high dielectric black general purpose bakelite or low loss mica-filled bakelite. Both types supplied with center pin. .098 dia. mtg. holes. Std. Pkg. 50

GENERAL PURPOSE BLACK BAKELITE

No.	Type	Pin	Mtg. Ctrs.	Mtg. Hole	NET Per C
895	Bottom Mount	7	7/8"	5/8"	$12.00
896	Top Mount	7	7/8"	5/8"	12.00
897	Bottom Mount	9	1⅛"	¾"	14.00
898	Top Mount	9	1⅛"	¾"	14.00
	LOW LOSS MICA-FILLED BAKELITE				
883	Bottom Mount	7	7/8"	5/8"	13.00
884	Top Mount	7	7/8"	5/8"	13.00
885	Bottom Mount	9	1⅛"	¾"	15.00
886	Top Mount	9	1⅛"	¾"	15.00

CRYSTAL SOCKET

For HC-6/U Type Crystals

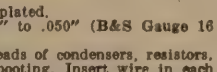


Glazed ceramic base. Phosphor bronze silver plated contacts spaced .486". Pin diameter .051. mtg. hole .125.

Std. Pkg. 50 — NET Per C

No. 1945 — $18.00

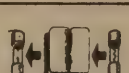
"CLEAPS" (Connectors for Joining Severed Wires)



MATERIAL: Brass, cadmium plated.
WIRE SIZE: For wires, .010" to .050" (B&S Gauge 16 to 30).
DESCR.: Used to splice cut leads of condensers, resistors, etc., in process of trouble-shooting. Insert wire in each tapered end and solder thru center opening. Std. Pkg. 1000

No. 1270 — NET Per C $1.00

TV SNAP-ON FUSE HOLDER



Snap fuse clip over burned out fuse. Insert new fuse without soldering. Std. Pkg. 50

No.	NET Each
529	$ .25

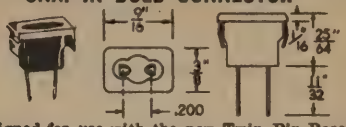
FUSE MOUNTING BASES



Black bakelite, panel mount type. Will accommodate the 3 A G Auto type cartridge fuse. Std. Pkg. 50

No.	Type	NET per C
530	Single	$18.00
531	Double	35.00

SNAP-IN BULB CONNECTOR



Designed for use with the new Twin Pin Baseless Miniature Lamps (G.E. #10-25 volts, #12-6.3 volts, or #15-7.0 volts). Easily assembled to any unit for indicating purposes. Withstands excessive temperatures. Snaps into a .500x.296 rectangular hole in panels .032 to .062 thick. Bezel — brass, cad. plated; contacts — brass, silver plated.

Std. Pkg. 25

No. 1504 — NET Per C $19.00

PILOT LIGHT SOCKETS

Clip-On Type



Can be used by clipping on to variable condenser or chassis. All brackets are cadmium plated.

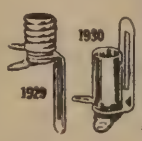
Std. Pkg. 100

No.	Type	NET Per C
1922	Miniature Screw Up Clip	$16.00
1923	Miniature Screw Down Clip	16.00
1924	Miniature Bayonet Up Clip	16.00
1925	Miniature Bayonet Down Clip	16.00
1926	Candelabra Up Clip	16.00
1927	Candelabra Down Clip	16.00
1938	Clip-in Socket	16.00

PILOT LIGHT SOCKETS

Bracket Type

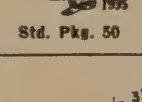
Std. Pkg. 100



No.	Type	NET Per C
1928	Miniature Screw Up Bracket	$16.00
1929	Miniature Screw Down Bracket	16.00
1930	Miniature Bayonet Up Bracket	16.00
1931	Miniature Bayonet Down Bracket	16.00
1932	Candelabra Up Bracket	16.00
1933	Candelabra Down Bracket	16.00

Std. Pkg. 50

UNMOUNTED TYPE SOCKETS

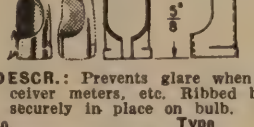


Std. Pkg. 100

No.	Type	NET Per C
1934	Miniature Screw Base	$16.00
1935	Miniature Bayonet Base	16.00
1936	Candelabra Base	16.00

Std. Pkg. 50

PILOT LIGHT SHIELD



DESCR.: Prevents glare when used in radio receiver meters, etc. Ribbed bottom holds shield securely in place on bulb.

Std. Pkg. 100

No.	Type	NET Per C
1963	Brass Cad. Plate	$3.60
1968	Plain Brass	3.30
1969	Flared Brass Cad. Plate	4.20

NAVY TYPE LAMP SOCKETS

75W-125V

CANDELABRA BAYONET BASE



Vibration-proof socket for surface mounting. Made to rigid specifications of black phenolic. Has bayonet sleeve of brass and double contacts of heavy spring phosphor bronze. Std. Pkg. 10

No. 1950 — NET Per C $135.00

CANDELABRA SCREW BASE



Made of black phenolic to strict requirements. Instead of usual screw shell has phosphor bronze wire coiled spring for perfect contact and elimination of vibration. Designed for soldering wire leads. Std. Pkg. 10

No. 1951 — NET Per C $60.00

CANDELABRA SCREW BASE



Easily wired and mounted. A very practical unit made of black phenolic to rigid specifications. Has phosphor bronze spring contact to assure positive contact and elimination of vibration. Std. Pkg. 10

No. 1952 — NET Per C $110.00

specify* SMITH
HERMANN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENT



MACHINE SCREWS, ROUND HEAD

STEEL, CADMIUM PLATED

Size	No.	NET per C	No.	Net per M
2-56 x 1/4	1173C	$1.00	1173M	$ 7.80
2-56 x 1/2	1174C	1.05	1174M	8.40
2-56 x 3/4	1175C	1.25	1175M	9.00
3-48 x 3/4	1176C	1.15	1176M	9.30
4-36 x 1/4	1177C	1.05	1177M	8.50
4-36 x 3/8	1178C	1.10	1178M	8.70
4-36 x 1/2	1183C	1.15	1183M	9.10
4-36 x 5/8	1184C	1.20	1184M	9.60
4-36 x 3/4	1185C	1.25	1185M	10.00
4-40 x 1/4	1350C	1.05	1350M	8.50
4-40 x 3/8	1351C	1.10	1351M	8.70
4-40 x 1/2	1352C	1.15	1352M	9.10
4-40 x 5/8	1353C	1.20	1353M	9.60
4-40 x 3/4	1354C	1.25	1354M	10.00
6-32 x 1/4	1000C	.95	1000M	7.50
6-32 x 3/8	1001C	1.00	1001M	7.80
6-32 x 1/2	1002C	1.05	1002M	8.20
6-32 x 5/8	1355C	1.10	1355M	8.80
6-32 x 3/4	1356C	1.15	1356M	9.30
6-32 x 1	1357C	1.35	1357M	10.80
6-32 x 2	1358C	2.85	1358M	22.80
8-32 x 1/4	1006C	1.20	1006M	9.80
8-32 x 3/8	1007C	1.15	1007M	9.30
8-32 x 1/2	1008C	1.30	1008M	10.20
8-32 x 5/8	1010C	1.35	1010M	10.80
8-32 x 3/4	1359C	1.50	1359M	12.20
10-32 x 1/2	1360C	1.55	1360M	12.50
10-32 x 3/4	1361C	1.60	1361M	12.80
10-32 x 1	1362C	2.15	1362M	17.20

BRASS, NICKEL PLATED

Size	No.	NET per C	No.	Net per M
4-36 x 1/4	1044C	$1.60	1044M	$12.80
4-36 x 3/8	1045C	1.65	1045M	13.20
4-36 x 1/2	1046C	2.00	1046M	16.10
4-40 x 1/4	1047C	1.60	1047M	12.80
4-40 x 3/8	1048C	1.65	1048M	13.20
4-40 x 1/2	1049C	2.00	1049M	16.10
6-32 x 1/4	1050C	2.00	1050M	16.10
6-32 x 3/8	1051C	2.10	1051M	17.10
6-32 x 1/2	1052C	2.40	1052M	19.40
8-32 x 1/4	1056C	3.00	1056M	24.00
8-32 x 3/8	1057C	3.20	1057M	25.40
8-32 x 1/2	1058C	3.60	1058M	29.00



BINDING HEAD

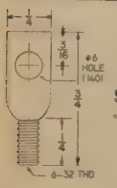
STEEL, CADMIUM PLATED

Size	No.	NET per C	No.	Net per M
2-56 x 1/4	1369C	$1.00	1369M	$ 7.80
2-56 x 1/2	1370C	1.05	1370M	8.40
2-56 x 3/8	1371C	1.10	1371M	8.80
4-40 x 1/4	1372C	1.05	1372M	8.50
4-40 x 1/2	1373C	1.15	1373M	9.10
4-40 x 3/4	1374C	1.25	1374M	10.00
6-32 x 3/16	1375C	1.00	1375M	7.90
6-32 x 1/4	1425C	.95	1425M	7.50
6-32 x 3/8	1426C	1.00	1426M	7.80
6-32 x 1/2	1427C	1.05	1427M	8.20
6-32 x 5/8	1376C	1.10	1376M	8.80
6-32 x 3/4	1377C	1.15	1377M	9.30
8-32 x 1/4	1428C	1.20	1428M	9.80
8-32 x 5/16	1378C	1.15	1378M	9.10
8-32 x 3/8	1429C	1.15	1429M	9.30
8-32 x 1/2	1430C	1.30	1430M	10.20
8-32 x 3/4	1379C	1.50	1379M	12.20
10-32 x 1/2	1380C	1.55	1380M	12.50
10-32 x 3/4	1381C	1.60	1381M	12.80



ROUND HEAD STEEL WOOD SCREWS

Size	No.	NET per C	No.	Net per M
4 x 1/2	1384C	$1.10	1384M	$ 8.90
4 x 3/4	1385C	1.30	1385M	10.30
6 x 3/4	1386C	1.35	1386M	10.50
6 x 1	1387C	1.60	1387M	12.70
8 x 3/4	1388C	1.55	1388M	12.20



SPADE BOLTS

STEEL, CADMIUM PLATED

Size: 6-32 x 5/16

No.	NET per C	No.	Net per M
1500C	$3.10	1500M	$28.00



HEXAGON NUTS

BRASS, NICKEL PLATED

Std. Pkg. 100

Thread Size	WD A.F.	Thick-ness	No.	Net per C	No.	Net per M
4-36	1/4	3/32	1188C	$1.10	1188M	$ 8.90
4-40	1/4	3/32	1168C	1.10	1168M	8.90
6-32	1/4	3/32	1189C	1.10	1189M	8.90
6-32	5/16	7/64	1190C	1.55	1190M	12.30
8-32	5/16	7/64	1192C	1.55	1192M	12.30
10-32	5/16	7/64	1193C	1.55	1193M	12.30
1/4-32	3/8	3/32	1187C	1.90	1187M	15.00

STEEL, CADMIUM PLATED

2-56	3/16	1/16	1363C	1.10	1363M	8.90
3-48	3/16	1/16	1364C	1.10	1364M	8.90
4-36	1/4	3/32	1398C	.95	1398M	7.40
4-40	1/4	3/32	1365C	.95	1365M	7.40
6-32	1/4	3/32	1179C	.95	1179M	7.40
6-32	5/16	7/64	1180C	1.00	1180M	8.10
8-32	1/4	3/32	1366C	.95	1366M	7.40
8-32	5/16	7/64	1181C	1.00	1181M	8.10
10-32	3/8	1/8	1367C	1.27	1367M	10.00
1/4-20	7/16	3/16	1368C	1.45	1368M	11.50
1/4-32	3/8	1/8	1186C	1.60	1186M	13.00



VOLUME CONTROL NUTS



3/8-32 x 1/2 x 3/32 Type & Description	No.	Net per C	No.	Net per M
HEX, Brass, Nickel Pl.	1195C	$4.00	1195M	$35.00
HEX, Steel, Cad. Pl.	1199C	2.50	1199M	22.00
RING, Brass, Nickel Pl.	1120C	3.50	1120M	30.00

TOGGLE SWITCH NUTS

HEX, Brass, Nickel Pl. 15/32-32 x 9/16 x 5/64	1196C	2.00	1196M	18.00
RING, Brass, Nickel Pl. 15/32-32 x 5/8 x 1/16	1197C	3.50	1197M	30.00
DRESS, Brass, Nickel Pl. 15/32-32 x 5/8 x 3/16	1198C	20.00	1198M	180.00



FLAT WASHERS

STEEL, NICKEL PLATED

I.D. (Clear)	O.D.	Thick-ness	No.	Net per C	No.	Net per M
#2	1/4	1/32	1138C	$.70	1138M	$5.80
#4	5/16	1/32	1149C	.65	1149M	5.50
#6	3/8	1/32	1150C	.60	1150M	5.00
#8	3/8	1/32	1151C	.70	1151M	5.80
#10	3/8	1/32	1152C	.75	1152M	6.00
1/4	9/16	3/64	1147C	.85	1147M	6.80
3/8	5/8	1/32	1148C	.95	1148M	7.50
15/32	19/32	1/32	1146C	2.00	1146M	16.00



INTERNAL TOOTH LOCKWASHERS

STEEL, CADMIUM PLATED

#2	3/16	1/32	1118C	$.90	1118M	$7.20
#3	7/32	1/32	1119C	.80	1119M	6.40
#4	1/4	1/32	1127C	.55	1127M	4.50
#6	9/32	1/32	1128C	.55	1128M	4.50
#8	11/32	3/64	1129C	.60	1129M	4.90
#10	3/8	3/64	1130C	.60	1130M	4.90
1/4	15/32	1/16	1132C	.80	1132M	6.50
3/8	11/16	1/16	1131C	1.50	1131M	12.20
3/8	1/2	3/64	1145C	1.90	1145M	15.00



EXTERNAL TOOTH LOCKWASHERS

STEEL, CADMIUM PLATED

#4	1/4	1/32	1139C	$.55	1139M	$4.50
#6	5/16	1/32	1140C	.55	1140M	4.50
#8	3/8	1/32	1141C	.60	1141M	4.90
#10	13/32	3/64	1142C	.60	1142M	4.90
1/4	1/2	1/16	1144C	.80	1144M	6.50
3/8	11/16	5/64	1143C	1.50	1143M	12.20



OVAL HEAD RACK SCREWS

STEEL, NICKEL PLATED

Size	No.	NET per C	No.	Net per M
6-32 x 3/4	1382C	$1.15	1382M	$ 9.30
8-32 x 3/4	1383C	1.50	1383M	12.20
10-32 x 1/2	1111C	1.55	1111M	12.50
10-32 x 3/4	1112C	1.85	1112M	14.80

NYLON SCREWS

Natural Color, MIL-P-20693A. Std. Pkg. 10



Size	A No.	B No.	C No.	D No.	E No.	F No.	NET per C
4-40 x 1/4	2500	2520	2540	2560	2580	2480	$3.5
4-40 x 3/8	2501	2521	2541	2561	2581	2481	3.5
4-40 x 1/2	2502	2522	2542	2562	2582	2482	3.5
6-32 x 1/4	2503	2523	2543	2563	2583	2483	3.5
6-32 x 3/8	2504	2524	2544	2564	2584	2484	3.5
6-32 x 1/2	2505	2525	2545	2565	2585	2485	3.5
6-32 x 5/8	2506	2526	2546	2566	2586	2486	3.5
6-32 x 3/4	2507	2527	2547	2567	2587	2487	3.5
8-32 x 1/4	2509	2529	2549	2569	2589	2489	3.5
8-32 x 3/8	2510	2530	2550	2570	2590	2490	3.5
8-32 x 1/2	2511	2531	2551	2571	2591	2491	3.5
8-32 x 5/8	2512	2532	2552	2572	2592	2492	3.5



NYLON HEX NUTS

Natural Color, MIL-P-20693A. Std. Pkg. 100

No.	Size	NET per C
2554	4-40 x 1/4	$7.00
2555	6-32 x 5/16	7.00
2556	8-32 x 11/32	7.00
2557	10-32 x 3/8	7.00



SELF TAPPING SCREWS

STEEL, CADMIUM PLATED

ROUND HEAD — TYPE A — SHARP POINT

Size	No.	NET per C	No.	Net per M
4 x 1/2	1801C	$1.05	1801M	$ 8.60
6 x 1/4	1802C	1.10	1802M	8.70
6 x 3/8	1803C	1.20	1803M	9.40
6 x 1/2	1804C	1.25	1804M	9.90
8 x 3/8	1805C	1.40	1805M	11.00
8 x 1/2	1806C	1.50	1806M	11.90



ROUND HEAD — TYPE Z — BLUNT POINT

4 x 1/2	1807C	$1.05	1807M	$ 8.60
6 x 1/4	1808C	1.10	1808M	8.70
6 x 3/8	1809C	1.20	1809M	9.40
6 x 1/2	1810C	1.25	1810M	9.90
8 x 3/8	1811C	1.40	1811M	11.00
8 x 1/2	1812C	1.50	1812M	11.90



SLOTTED HEX HEAD — TYPE Z — PLUNT POINT

6 x 1/4	1830C	$1.20	8130M	$ 9.70
6 x 3/8	1831C	1.30	1831M	10.50
6 x 1/2	1832C	1.40	1832M	11.10
8 x 3/8	1833C	1.55	1833M	12.30
8 x 1/2	1834C	1.65	1834M	13.30



PAN HEAD METAL SCREWS

STEEL, CADMIUM PLATED

Size	No.	NET per C	No.	Net per M
4 x 1/2	1389C	$1.05	1389M	$ 8.60
6 x 1/4	1390C	1.10	1390M	8.70
6 x 3/8	1391C	1.20	1391M	9.40
6 x 1/2	1392C	1.25	1392M	9.90
6 x 3/4	1393C	1.35	1393M	10.90
8 x 1/4	1394C	1.40	1394M	11.00
8 x 3/8	1395C	1.45	1395M	11.40
8 x 1/2	1396C	1.50	1396M	11.90
8 x 1	1397C	1.80	1397M	14.90



COUNTER SUNK WASHERS

BRASS, NICKEL PLATED

Size	No.	NET per C	No.	Net per M
#6	1115C	$1.00	1115M	$ 7.80
#8	1116C	1.25	1116M	9.90
#10	1117C	1.40	1117M	11.20

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

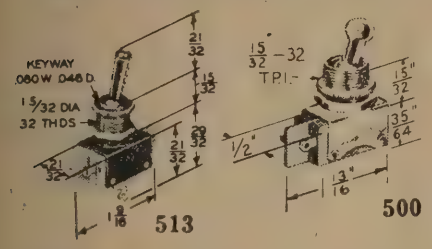
Net

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

ARROW HART & HEGEMAN SWITCHES

SMALL CANOPY TYPE SWITCHES



Laminated type 15/32-32 slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Solder terminals. SPST rated at 3 amps-250 volts AC-DC; all other rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Std. Pkg. 10

BAT LEVER POSITIVE ACTION

15/32" long shaft No.	NET Each	CIRCUIT	13/32" long shaft No.	NET Each
510	$ .97	SPST	584	$ .97
511	1.22	SPDT	585	1.22
542	1.25	2-Circ.	586	1.25
512	1.76	DPST	587	1.76
513	2.01	DPDT	588	2.01

BAT LEVER MOMENTARY ACTION

15/32" long shaft

Normally Closed (ON)			Normally Open (OFF)	
	NET Each	CIRCUIT		NET Each
1020	$1.69	SPST	1024	$1.69
1021	1.81	SPDT	——	——
1022	2.33	DPST	1025	2.33
1023	2.60	DPDT	——	——

BALL LEVER POSITIVE ACTION

15/32" long shaft NET Each	CIRCUIT	3/4" long shaft NET Each
500 $ .97	SPST	501 $1.29
502 1.22	SPDT	503 1.54
540 1.25	2 Circ.	541 1.61
504 1.76	DPST	505 2.08
506 2.01	DPDT	507 2.34

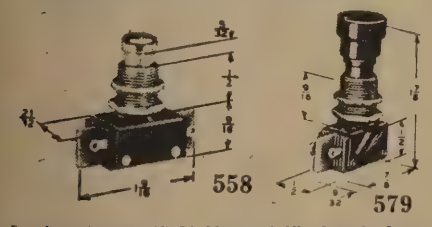
It's Sound Planning to SPECIFY SMITH FOR SWITCHES

To assist you in planning your prototypes and production, Smith maintains an inventory of all switches listed here —

IN STOCK — IN DEPTH

to meet your Immediate Requirements!

MOMENTARY PUSH SWITCHES



Laminated type 15/32-32 x 9/16" slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. All switches accept snap on button. SPST rated at 3 amps-250 volts AC-DC. All others rated at 1 amp-250 volts. 3 amps-125 volts AC-DC. Std. Pkg. 10

SUPPLIED LESS BUTTON: ORDER BUTTON SEPARATELY.

QUICK MAKE AND BREAK

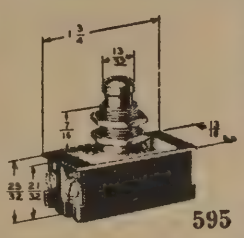
Normally Closed (ON)			Normally Open (OFF)	
No.	NET Each	CIRCUIT	No.	NET Each
552	$1.88	SPST	555	$1.88
556	2.17	SPDT	——	——
557	2.52	2 Circ.	——	——
564	2.60	DPST	558	2.60
559	3.07	DPDT	——	——

SLOW MAKE AND BREAK

Rated at 1 amp.-125 volts AC

Normally Closed (ON)			Normally Open (OFF)	
	NET Each	CIRCUIT		NET Each
582	$1.05	SPST	579	$1.05
580	1.35	2 Circ.	——	——

STANDARD DUTY MOMENTARY PUSH SWITCHES



Molded phenolic base. 15/32-32 x 7/16" long slotted sleeve, nickel finish. Screw terminals. Supplied with hex nuts.

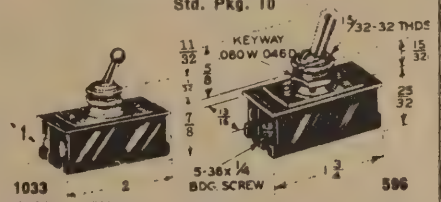
Two circ. rated at 3 amps.-250 volts, 6 amps-125 volts. AC-DC. All others rated at 6 amps-250 volts, 12 amps-125 volts AC-DC. DPST also rated at 1 HP at 250 volts AC-DC. Std. Pkg. 10

Normally Closed (ON)			Normally Open (OFF)	
No.	NET Each	CIRCUIT	No.	NET Each
1026	$2.88	SPST	544	$2.88
1027	2.92	SPDT	——	——
1028	2.96	2 Circ.	——	——
1029	3.00	DPST	595	3.00

STANDARD DUTY TOGGLE SWITCHES

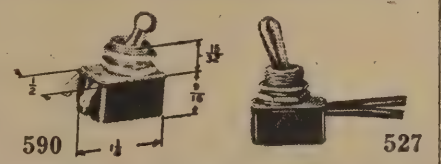
QUICK MAKE AND BREAK

Std. Pkg. 10



BALL LEVER No.	NET Each	CIRCUIT	BAT LEVER No.	NET Each
1030	$1.94	SPST	597	$1.94
1031	1.98	SPDT	598	1.98
1032	2.02	2 Circ.	599	2.02
1033	2.06	DPST	596	2.06

MIDGET SIZE TOGGLE SWITCHES



Molded phenolic base, 15/32-32 x 15/32" long slotted sleeve, nickel finish. Side connected silver plated solder contacts. Supplied with hex nut and knurled nut. SPST rated at 3 amps 250 volts; 6 amps.-125 volts; all others rated at 1 amp-250 volts, 6 amps.-125 volts. Std. Pkg. 10

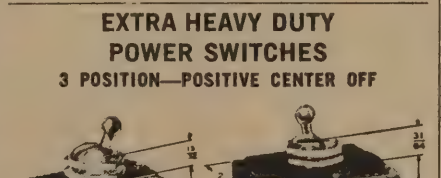
BALL LEVER No.	NET Each	CIRCUIT	BAT LEVER No.	NET Each
590	$1.10	SPST	591	$1.10
589	1.37	SPDT	592	1.37
594	1.40	2 Circ.	593	1.40

4" WIRE LEADS

BALL LEVER NET Each	CIRCUIT	BAT LEVER NET Each
526 $1.18	SPST	527 $1.18
538 1.63	SPDT	528 1.63
543 1.81	2 Circ.	514 1.81

EXTRA HEAVY DUTY POWER SWITCHES

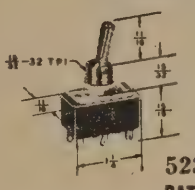
3 POSITION—POSITIVE CENTER OFF



Slotted sleeve 3/4-32, nickel finish. Screw terminals. Supplied with 2 hex nuts. Rated at 5 amps-250 volts. 10 amps-125 volts plus HP rating shown below. Std. Pkg. 5

No.	Circuit	Description	NET Each
574	DPDT	3/4 HP 250 volts AC-DC	$ 6.45
575	TPDT	1/2 HP 115/230 volts AC, 3 phase	9.90
576	4PDT	1/2 HP 115/230 volts AC, 2 phase	13.20

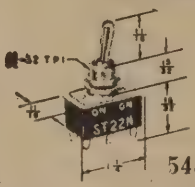
INTERMEDIATE SIZE TOGGLE SWITCHES



Molded phenolic base. 15/32-32 x 15/32" long slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. SPDT rated at 1 amp-250 volts, 6 amps-125 volts AC-DC; all others rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

BAT LEVER POSITIVE ACTION No.	NET Each	CIRCUIT	MOMENTARY ACTION No.		NET Each
520	$1.28	SPST	524	OFF	$2.02
521	1.52	SPDT	549	——	2.20
583	1.58	2 Circ.	——	——	——
522	1.89	DPST	537	OFF	2.64
523	2.17	DPDT	525	——	3.18

ST TYPE TOGGLE SWITCHES



MEETS AN SPEC. JAN-23
Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC.
Std. Pkg. 10

No.	AWS No.	CIRCUIT	Position	NET Each
545	ST 12A	SPST	OFF-ON	$1.73
546	ST 12D	SPDT	ON-ON	1.98
1040	ST 12V	2-Circ.	ON-OFF	2.01
547	ST 22K	DPST	OFF-ON	2.46
548	ST 22N	DPDT	ON-ON	2.70

MOMENTARY NORMALLY OPEN (OFF)

1041	ST 12C	SPST	OFF-ON	$2.27
1042	ST 22M	DPST	OFF-ON	2.98



3 POSITION CENTER OFF

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

No.	CIRCUIT	NET Each
566	SPDT	2.46
565	2 Circ.	2.75
567	DPDT	3.03

CANOPY TYPE ROTARY SWITCHES



Laminated type. 11/32-32 x 15/32" sleeve, nickel finish. Solder lugs. Supplied with hex nut and dress nut. SPST rated at 3 amps-250 volts AC-DC, all others rated at 1 amp-250 volts, 3 amps-125 volts. AC-DC. Key removable in OFF position only on SPST and DPST—key removable in both positions on all others. 1⅛" shaft. Std. Pkg. 10

KEY TYPE No.	NET Each	CIRCUIT	ROTARY TYPE No.	NET Each
1034	$2.52	SPST	570	$1.44
1035	2.57	SPDT	571	1.62
1036	2.64	2 Circ.	——	——
1037	3.18	DPST	572	2.20
1038	3.20	DPDT	573	2.73

SWITCH ACCESSORIES



508 509 581 1146 1170 1171 1172 1196 1197 1198

No.	Description	Std. Pkg.	NET Per C
508	ON-OFF name plate	100	$6.00
509	HI-LO name plate	100	6.00
581	Snap-On Button (Red or Black)	50	27.00
1146	Narrow Rim Lockwasher	100	2.00
1170	Key—Remove off position	50	25.00
1171	Key—Remove both positions	50	25.00
1172	Locking Ring	100	2.70
1196	Hex Nut—Brass N.P.	100	2.00
1197	Ring Nut—Brass N.P.	100	3.50
1198	Dress Nut—Brass N.P.	100	20.00

IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING!

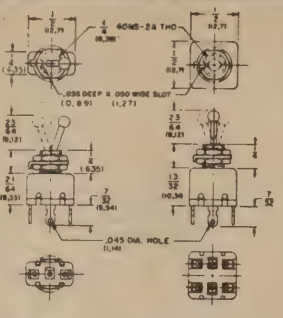
specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT

ARROW, H. & H. MIDGET TOGGLE SWITCHES





SUB-MINIATURE TOGGLE SWITCHES

Offers the greatest switching flexibility and is available in both positive and momentary action. Gold plated silver stationary contacts to insure continuity on low energy circuits and Rhodium plated silver movable contacts to withstand mechanical wear. Molded diallyl phthalate and aluminum housing. Available in Commercial and Military types Rating. Resistive and *Inductive.

5A. 125V. AC
5A. 29V. DC
Max. Inrush: 25A.
Minimum rating: 40 milliamps at 1.5 volts
*AC: 75% Power Factor
DC: An Inductors
Mechanical Life: 100,000 cycles

Std. Pkg. 5

COMMERCIAL

Housing and mounting hardware gold anodized. Available only in stainless steel ball lever.

Smith No.	AH&H No.	Circuit*	Net Each
4740	TC-3	SPDT A-B-A	$5.00
4741	TE-3	SPDT C-B-A	5.30
4742	TG-3	SPDT C-B-C	5.30
4743	TM-3	SPDT C-D-A	5.30
4744	TS-1	SPST B-D-A	4.60
4745	TS-2	DPST B-D-A	5.60
4746	TS-3	SPDT A-D-A	5.00
4747	TC-6	DPDT A-B-A	6.50
4748	TE-6	DPDT C-B-C	8.25
4749	TG-6	DPDT C-B-C	8.25
4750	TM-6	DPDT C-D-A	8.25
4751	TS-6	DPDT A-D-A	6.50

*A-ON, B-OFF, C-Momentary ON, D-None

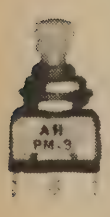
MILITARY

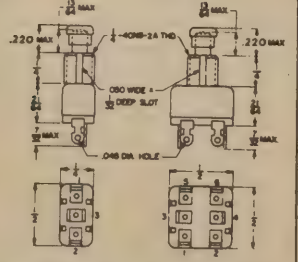
Meets Mil S-3950B, MS75028 and MS75029. Housing and hardware, clear anodized. Available only with aluminum bat lever.

Smith No.	AH&H No.	MS No.	Circuit*	NET Each
4760	TC-3-M	MS75028-21	SPDT A-B-A	$5.30
4761	TE-3-M	MS75028-31	SPDT C-B-A	5.60
4762	TG-3-M	MS75028-27	SPDT C-B-C	5.60
4763	TM-3-M	MS75028-26	SPDT C-D-A	5.60
4764	TS-1-M	MS75028-22	SPST B-D-A	5.00
4765	TS-2-M	MS75029-22	DPST B-D-A	6.00
4766	TS-3-M	MS75028-23	SPDT A-D-A	5.30
4767	TC-6-M	MS75029-21	DPDT A-B-A	6.80
4768	TE-6-M	MS75029-31	DPDT C-B-A	8.60
4769	TG-6-M	MS75029-27	DPDT C-B-C	8.60
4770	TM-6-M	MS75029-26	DPDT C-D-A	8.60
4771	TS-6-M	MS75029-23	DPDT A-D-A	6.80

*A-ON, B-OFF, C-Momentary ON, D-None

ARROW, H. & H. SUB-MINIATURE MOMENTARY PUSH BUTTON SWITCHES





Smallest momentary switch available, combining maximum performance, dependability and durability with minimum weight and envelope. Gold plated leaf contacts, with molded diallyl phthalate body and anodized aluminum housing. Mounts with ¼" diameter slotted sleeve, supplied with mounting hardware. Nylon push button caps are optional and are available in seven colors.

Rating: 2A. 29V.DV Resistive
1A. 115V.AC
Minimum Rating: 10 Micro-amps at 50 MV.
Weight: 2.5 Grams Single Pole
4.0 Grams Double Pole
Mechanical Life: Min. 1,000,000 Cycles.

Smith No.	Circuit	Net Each
4755	SPDT NO/MC	4.60
4756	DPDT NO/MC	5.60
4757	3PST 3P/NO	5.30
4758	3PST 3P/NC	7.60
4754	Button Only, Available in Red, Black, Green, Yellow Blue, Brown, Natural	.17

Std. Pkg. 25

CONTINENTAL-WIRT SLIDE SWITCHES

MATERIALS: Housings—Steel, cad. plated; Insulators—Phenolic: Contacts—Silver Plated Brass; Knobs & Toppers—Black Phenolic (except #8655—Natural Nylon).

RATINGS: Based on 125 Volts
Rating A—3.0 amps AC, 0.5 amps DC
Rating B—6.0 amps AC, 0.5 amps DC
Rating C—0.5 amp AC-DC

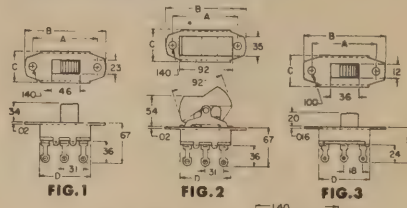


FIG. 1 FIG. 2 FIG. 3

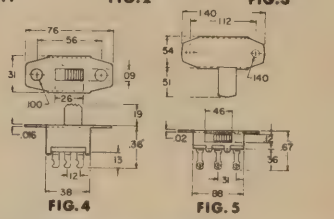


FIG. 4 FIG. 5

DETENT SLIDE SWITCHES

	RATING A NET No.	Per C	DIMENSIONS FIGURE 1 A	B	C	D	RATING B NET No.	Per C
SPST	515	$13.50	1.12	1.40	0.54	0.88	1105	$20.00
SPDT	516	15.00	1.12	1.40	0.54	0.88	1106	21.00
DPST	517	20.00	1.12	1.40	0.54	0.88	1107	27.00
DPDT	518	21.00	1.12	1.40	0.54	0.88	1108	28.00
DP3P'08	1054	33.00	1.40	1.65	0.54	1.18	8637	35.00
3PDT	1109	50.00	1.12	1.40	0.71	0.88	8638	55.00
3P3P'08	8635	60.00	1.40	1.65	0.78	1.18	8639	70.00
4PDT	1104	66.00	1.12	1.40	1.00	0.88	8640	75.00
4P3P'08	8636	70.00	1.40	1.65	1.00	1.18	8641	80.00

SPRING-RETURN SLIDE SWITCHES

SPST	568	$36.00	1.12	1.40	0.54	0.88	8643	$26.00
SPDT	569	30.00	1.12	1.40	0.54	0.88	8644	25.00
DPDT	8642	40.00	1.12	1.40	0.71	0.88	8645	40.00

ROCKER SWITCHES

	RATING A Detent NET No.	Per C	DIMENSIONS FIGURE 2 A	B	C	D	Spr. Return NET No.	Per C
SPST	8646	$43.00	1.12	1.40	0.54	0.88	8651	$53.00
SPDT	8647	45.00	1.12	1.40	0.54	0.88	8651	53.00
DPST	8648	50.00	1.12	1.40	0.54	0.88	—	—
DPDT	8649	52.00	1.12	1.40	0.54	0.88	—	—
3PDT	8650	80.00	1.12	1.40	0.71	0.88	—	—

MINIATURE SLIDE SWITCHES

	RATING C NET No.	Per C	DIMENSIONS FIGURE 3 A	B	C	D	Spr. Return NET No.	Per C
SPDT	1226	27.00	0.81	1.00	0.40	0.63	1236	40.00
DPDT	1227	33.00	0.81	1.00	0.40	0.63	—	—
8P3P'08	1238	40.00	1.00	1.19	0.40	0.80	—	—
DP3P'08	1239	40.00	1.00	1.19	0.40	0.80	—	—

SUBMINIATURE SLIDE SWITCH

RATING C

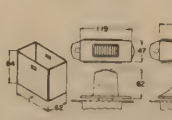
SPDT	8655	$45.00	FIGURE 4	— —

SIDE-ACTION SLIDE SWITCH

RATING A

SPDT	8653	$25.00	FIGURE 5	— —
DPDT	8654	30.00		— —

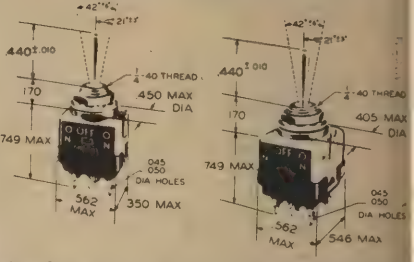
Slide Switch Accessories



519 8656 8657

No.	Description	NET Per C
519	Nylon Shield	$15.00
8656	Black Slide Topper For Standard Switch	9.00
8657	Black Slide Topper For Miniature Switch	11.00

CUTLER-HAMMER MINIATURE MILITARY SWITCHES



Extremely compact, highly reliable power or dry circ switches. Usable as a pre-set switch in aircraft recognit systems; for walkie-talkies; for electronic instruments communications systems.

RATINGS: Res. Load 4 Amps. @ 28 V.D.C. 1 Amp @ V.D.C. 3 Amps. @ 115 V.A.C.
MINIMUM RATING: 25 Microamps. @ 5 Millivolts.

SINGLE POLE

WEIGHT: 5.0 Grams.
CUBIC CONTENT: .147 cubic inches "behind panel" volu

Std. Pkg

.440 LEVER APPROVED TO MIL-S-8834

No.	C-H No.	"MS" No.	Type	Circuit†	N E
1841	8866K1	MS24655-211	SPDT	A-B-A	$7
1842	8866K2	MS24655-271	SPDT	C-B-C	8
1843	8866K3	MS24655-311	SPDT	A-B-C	8
1844	8866K4	MS24655-231	SPDT	A-D-A	7
1845	8866K4	MS24655-241	SPST	A-B-D	8
1846	8866K6	MS24655-281	SPST	D-B-C	8
1847	8866K7	MS24655-221	SPST	A-D-B	7

DOUBLE POLE

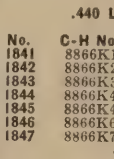
WEIGHT: 6.5 grams.
CUBIC CONTENT: .230 cubic inches "behind panel" volu

Std. Pkg

No.	C-H No.	"MS" No.	Type	Circuit†	NE Ea
1851	8867K1	MS24656-211	DPDT	A-B-A	$ 9.
1852	8867K2	MS24656-271	DPDT	C-B-C	10.
1853	8867K3	MS24656-311	DPDT	A-B-C	10.
1854	8867K4	MS24656-231	DPDT	A-D-A	9.
1855	8867K5	MS24656-241	DPST	A-B-D	10.
1856	8867K6	MS24656-281	DPST	D-B-C	10.
1857	8867K7	MS24656-221	DPST	A-D-B	9.

†Circuit Code: A = On B = Off C = Momentary On D = None E = Momentary Off

C-H MINIATURE MILITARY SWITCHES



Same as above, but with .687" lever. Total weight: 5.0 - 6.5 grams. Bushing dia. 15/32". Gold plated solder lug terminals.

SINGLE POLE

1⅛" LEVER APPROVED TO MIL-S-8834

No.	C-H No.	Type	Circuit†	NET Each
3933	8868K1	SPDT	A-B-A	$7.60
3934	8868K2	SPDT	C-B-C	8.60
3935	8868K3	SPDT	A-B-C	8.60
3936	8868K4	SPDT	A-D-A	7.60
3937	8868K5	SPST	A-B-D	8.60
3938	8868K6	SPST	D-B-C	8.60
3939	8868K7	SPST	A-D-B	7.60

DOUBLE POLE

No.	C-H No.	Type	Circuit†	NET Each
3940	8869K1	DPDT	A-B-A	$ 9.46
3941	8869K2	DPDT	C-B-C	11.00
3942	8869K3	DPDT	A-B-C	11.00
3943	8869K4	DPDT	A-D-A	9.46
3944	8869K5	DPST	A-B-D	11.00
3945	8869K6	DPST	D-B-C	11.00
3946	8869K7	DPST	A-D-B	9.46

†Circuit Code: A = On B = Off C = Momentary On D = None E = Momentary Off

PUSH BUTTON SWITCHES



Push to make—Push to break

AC-DC. UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps. 125 Volts; 3 Amps. 250 Volts. Std. Pkg. 10

No.	C-H No.	Type	Term.	NET Each
989	7206K4	SPST	Lug	$1.47
990	7208K4	SPST	Screw	1.67
991	7207K4	SPST	Wire	1.67

It's Sound Planning to SPECIFY SMITH FOR SWITCHES

To assist you in planning your prototypes and production, Smith maintains an inventory of all switches listed here —

IN STOCK — IN DEPTH to meet your Immediate Requirements!

* IT'S SOUND PLANNING TO SPECIFY SMITH WHEN DESIGNING OR PURCHASING

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

CUTLER-HAMMER SWITCHES

TOGGLE SWITCHES
STANDARD DUTY
15 Amps. 125 Volts — 10 Amps. 250 Volts AC, UL Approved 15/32" shank; slow-make and break; bakelite case. AC rated only for longer life and greater capacity. Std. Pkg. 10



BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	NET Each
966	7501K13	SPST	$1.03
967	7505K4	SPDT	1.18
968	7561K4	DPST	1.57
969	7565K5	DPDT	1.85
970	7611K2	TPST	3.05
971	7615K2	TPDT	3.75



BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	NET Each
972	7500K14	SPST	$1.18
973	7504K4	SPDT	1.38
974	7560K5	DPST	1.85
975	7564K6	DPDT	2.28
976	7610K2	TPST	3.55
977	7614K2	TPDT	4.50

CENTER OFF STANDARD DUTY TOGGLE SWITCHES



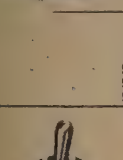
BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	NET Each
978	7503K13	SPDT	$1.18
979	7563K4	DPDT	1.85
980	7613K2	TPDT	3.75

BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	NET Each
981	7502K13	SPDT	$1.38
982	7562K4	DPDT	2.28
983	7612K2	TPDT	4.50

TOGGLE SWITCHES
LIGHT DUTY



AC-DC, UL Approved; 15/32" shank; quick make — quick break; bakelite case. Unusually small size for electrical capacity. Std. Pkg. 10

BACK CONNECTED LUG TERMINALS
SMALL BAT HANDLE 15/32" LONG

No.	C-H No.	Current Rating Type	125 V.	250 V	NET Each
950	8280K16	SPST		3 Amps.	$ .98
951	8381K8	SPST	6 Amps.	3 Amps.	1.12
952	8282K14	SPDT	3 Amps.	1 Amp.	1.24
953	8284K14	2 circ.	3 Amps.	1 Amp.	1.30
954	8360K7	DPST		3 Amps.	1.75
955	8370K7	DPST	6 Amps.	3 Amps.	1.89
956	8363K7	DPDT		3 Amps.	2.02
957	8373K7	DPDT	6 Amps.	3 Amps.	2.17

STANDARD BAT HANDLE 11/16" LONG

					NET Each
1160	8280K38	SPST		3 Amps.	$ .98
1161	8381K38	SPST	6 Amps.	3 Amps.	1.12
1162	8282K38	SPDT	3 Amps.	1 Amp.	1.24
1163	8284K38	2 Circ.	3 Amps.	1 Amp.	1.30
1164	8360K38	DPST		3 Amps.	1.75
1165	8370K38	DPST	6 Amps.	3 Amps.	1.89
1166	8363K38	DPDT		3 Amps.	2.02
1167	8373K38	DPDT	6 Amps.	3 Amps.	2.17



SIDE CONNECTED
SCREW TERMINALS

No.	C-H No.	Current Rating Type	125 V.	250 V.	NET Each
958	8285K8	SPST		3 Amps.	$1.18
959	8396K8	SPST	6 Amps.	3 Amps.	1.33
960	8297K8	SPDT	3 Amps.	1 Amp.	1.55
961	8372K7	DPST	6 Amps.	3 Amps.	2.30
962	8365K7	DPDT		3 Amps.	2.66
963	8375K7	DPDT	6 Amps.	3 Amps.	2.79

WIRE LEADS — SIX INCHES LONG
Small Bat Handle 15/32" Long

No.	C-H No.	Current Rating Type	125 V.	250 V.	NET Each
964	8290K16	SPST		3 Amps.	$1.18
965	8391K8	SPST	6 Amps.	3 Amps.	1.33



PUSH BUTTON MOMENTARY SWITCHES
Std. Pkg. 10
AC-DC, UL Approved, 15/32" shank; rated at ¾ Amp, 125 volts — ¼ Amp, 250 volts.

No.	C-H No.	Type	Term.	NET Each
992	8411K11	SP Norm. Op	Lug	$ .66
993	8411K12	SP Norm. Op	Screw	.78
994	8411K8	SP Norm. Cl	Lug	.48
995	8411K7	SP Norm. Cl	Screw	.64

TOGGLE SWITCHES
HEAVY DUTY



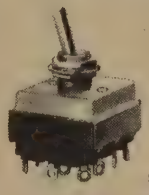
AC - DC, UL Approved; 15/32" shank; quick make-quick break; bakelite case. Screw Terminals.

Std. Pkg. 10

No.	C-H No.	Current Rating Type 125 V	250-V	NET Each
984*	7321K3	SPST 12 A	6 A	$2.10
985*	7320K3	DPST 12 A	6 A	1.96
986+	7361K5	SPST 15 A	10 A	3.53
987+	7360K8	DPST 15 A	10 A	3.38
988±	7402K4	DPST	20 A	4.55

*1 Hp — 125/250V. +1½ Hp — 125/250V.
±1¼ Hp — 125V, 2 Hp — 250V.

FOUR POLE SWITCHES



AC-DC GOVERNMENT APPROVED PER MIL-S-6745. 15/32" shank. Rated 10 amps, 115 volt AC—20 amps, 28 volts DC (Nominal rating per pole) SEALED LEVER Std. Pkg. 5

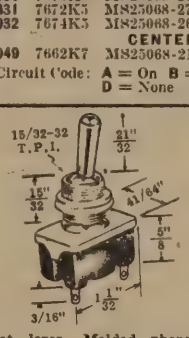
SOLDER LUGS

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
944	7661K6	—	4PST	A-D-B	$5.68
945	7665K4	—	4PDT	A-D-A	6.93
3922	7669K4	—	4PST	A-D-E	7.85
3923	7671K4	—	4PDT	A-B-C	8.70
3924	7673K4	—	4PDT	C-B-C	8.70
3925	7675K4	—	4PDT	A-D-C	8.70
		CENTER OFF			
948	7663K5	—	4PDT	A-B-A	6.93

SCREW TERMINALS (Per MIL-S-3950)

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
946	7660K12	MS25068- *	4PST	A-D-B	$6.60
947	7664K5	MS25068-23	4PDT	A-D-A	7.70
3926	7660K13	MS25068-24	4PST	A-B-D	6.16
3927	7666K6	MS25068- *	4PST	A-D-C	8.55
3928	7666K9	MS25068-28	4PST	D-B-C	8.55
3929	7668K7	MS25068-25	4PST	A-C-D	9.35
3930	7670K6	MS25068-31	4PDT	A-B-C	9.35
3931	7672K5	MS25068-27	4PDT	C-B-C	9.35
3932	7674K5	MS25068-26	4PDT	A-D-C	9.35
		CENTER OFF			
949	7662K7	MS25068-21	4PDT	A-B-A	7.70

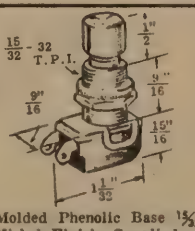
†Circuit Code: A = On B = Off C = Momentary On D = None E = Momentary Off



MIDGET TOGGLE SWITCH

Bat lever. Molded phenolic base. 15/32-32 x 15/32" long. Slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. Rated 1 amp.-250 volts; 3 amps.-125 volts. Std. Pkg. 10

No.	Circuit	NET Each
920	SPST	$1.28
921	SPDT	1.52
922	2 Circ.	1.58
923	DPST	1.89
924	DPDT	2.17



MIDGET MOMENTARY SWITCH
SLOW MAKE AND BREAK

Molded Phenolic Base 15/32-32 x 5/16" slotted sleeve, Nickel Finish. Supplied with hex nut and knurled nut. Side connected silver plated solder contacts. Rated at 3 amps.-120 volts A.C. Supplied less button; order button separately. Std. Pkg. 10

Normally Closed (ON)

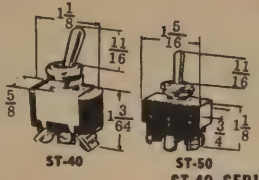
No.	Circuit	NET Each
925	SPST	$1.05
926	2 Circ.	1.12

Normally Open (OFF)

No.	Circuit	NET Each
927	SPST	$1.05

It's Sound Planning to SPECIFY SMITH FOR SWITCHES

"ST" SWITCHES



Nominal Rating Per. Pole:
10 Amps. 115 V. AC
20 Amps. 28V. DC
Std. Pkg. 10

ST-40 SERIES — Single Pole With Screw Terminals

HHS	C-H	JAN Type	Circuit	NET Each
1720	8801K13	ST40A SPST	On-None-Off	$2.14
1721	8813K12	ST40B SPST	On-None-Mom-Off	2.36
1722	8811K12	ST40C SPST	On-None-Mom-On	2.36
1723	8810K12	ST40D SPDT	On-None-On	2.53
1724	8800K13	ST40E SPDT	On-Off-On	2.53
1725	8804K12	ST40F SPDT	On-None-Mom-On	2.75
1726	8812K13	ST40G SPDT	Mom-On-Off-Mom-On	2.75
.727	8809K13	ST40H SPDT	Off-On-Mom-On	2.75

All ST-40 Switches have Sealed Lever.

ST-42 SERIES — Single Pole With Solder Lugs

HHS	C-H	JAN Type	Circuit	Each
1730	8803K6	ST42A SPST	On-None-Off	$1.90
1731	8819K5	ST42B SPST	On-None-Mom-Off	2.00
1732	8817K5	ST42C SPST	On-None-Mom-On	2.00
1733	8816K5	ST42D SPDT	On-None-On	2.00
1734	8802K6	ST42E SPDT	On-Off-On	2.00
1735	8805K5	ST42F SPDT	On-None-Mom-On	2.25
1736	8818K5	ST42G SPDT	Mom-On-Off-Mom-On	2.25
1737	8815K6	ST42H SPDT	On-Off-Mom-On	2.25

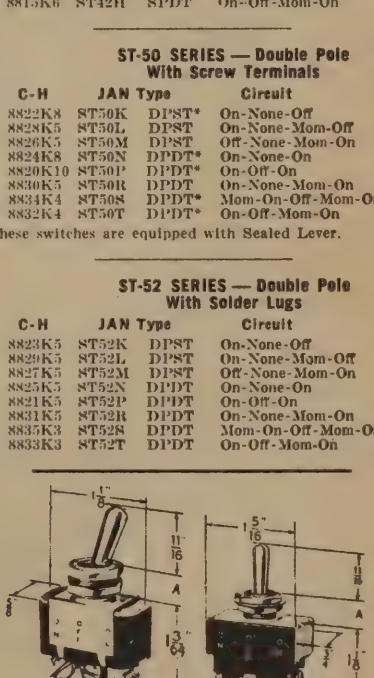
ST-50 SERIES — Double Pole With Screw Terminals

HHS	C-H	JAN Type	Circuit	Each
1740	8822K8	ST50K DPST*	On-None-Off	$2.81
1741	8828K5	ST50L DPST	On-None-Mom-Off	3.47
1742	8826K5	ST50M DPST	Off-None-Mom-On	3.47
1743	8824K8	ST50N DPDT*	On-None-On	3.41
1744	8820K10	ST50P DPDT*	On-Off-On	3.41
1745	8830K5	ST50R DPDT	On-None-Mom-On	4.00
1746	8834K4	ST50S DPDT*	Mom-On-Off-Mom-On	4.00
1747	8832K4	ST50T DPDT*	On-Off-Mom-On	4.00

† These switches are equipped with Sealed Lever.

ST-52 SERIES — Double Pole With Solder Lugs

HHS	C-H	JAN Type	Circuit	Each
1760	8823K5	ST52K DPST	On-None-Off	$2.40
1761	8829K5	ST52L DPST	On-None-Mom-Off	3.06
1762	8827K5	ST52M DPST	Off-None-Mom-On	2.94
1763	8825K5	ST52N DPDT	On-None-On	2.48
1764	8821K5	ST52P DPDT	On-Off-On	2.48
1765	8831K5	ST52R DPDT	On-None-Mom-On	3.15
1766	8835K3	ST52S DPDT	Mom-On-Off-Mom-On	3.15
1767	8833K3	ST52T DPDT	On-Off-Mom-On	3.15



"MS" SERIES Made to Spec. MIL-S-3950B

Supersedes all previous specifications. Made to meet MIL-S-3950B. Provided with sealed lever for protection against sand, dust and moisture. Std. Pkg. 10

SINGLE POLE

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
3900	8800K16	MS35058-21	SPST	A-B-A	$2.53
3901	8801K22	MS35058-22	SPST	A-D-B	2.14
3902	8810K15	MS35058-23	SPST	A-D-A	2.53
3903	8801K23	MS35058-24	SPDT	A-B-D	2.14
3904	8813K18	MS35058-25	SPDT	A-E-D	2.23
3905	8804K13	MS35058-26	SPDT	A-D-C	2.75
3906	8812K14	MS35058-27	SPDT	C-B-C	2.75
3907	8811K18	MS35058-28	SPDT	D-B-C	2.36
3908	8813K17	MS35058-29	SPDT	A-D-E	2.36
3909	8811K17	MS35058-30	SPDT	B-D-C	2.36
3910	8809K16	MS35058-31	SPDT	A-B-C	2.75

DOUBLE POLE

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
3911	8820K16	MS35059-21	DPDT	A-B-A	$3.30
3912	8822K20	MS35059-22	DPST	A-D-B	2.75
3913	8824K14	MS35059-23	DPDT	A-D-A	3.30
3914	8822K21	MS35059-24	DPDT	A-B-D	2.94
3915	8828K12	MS35059-25	DPDT	A-E-D	3.80
3916	8830K13	MS35059-26	DPDT	A-D-C	4.00
3917	8834K5	MS35059-27	DPDT	C-B-C	3.87
3918	8826K14	MS35059-28	DPDT	D-B-C	3.60
3919	8828K13	MS35059-29	DPDT	A-D-E	3.80
3920	8826K15	MS35059-30	DPDT	B-D-C	3.80
3921	8823K6	MS35059-31	DPDT	A-B-C	3.87

†Circuit Code: A = On B = Off C = Momentary On D = E = Momentary Off

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENT

"PANELABELS"

Modern Panel Title Decals



New size type face on all word titles to match modern instrument panels and sound equipment.

Packaged individually in clear plastic boxes — instant selection — box itself can be used as water tray for applying the decals.

Standard Packages of 6.

Please order by catalog number.

NET, EACH PACKAGE $1.50

TRANSMITTER

For industrial prototype use. Hams, Citizens' Banders. Also for Microwave and Broadcast stations.

No. 3700	BLACK
No. 3701	WHITE

RECEIVER

Hams, Citizens' Banders, industrial prototypes, Hi-Fi and Experimenter applications.

No. 3702	BLACK
No. 3703	WHITE
No. 3704	RED
No. 3705	GOLD

DIALS

For all uses in transmitters, Ham and Citizens' Band industrial prototypes, Hi-Fi, electricians, experimenters.

No. 3706	BLACK
No. 3707	WHITE
No. 3708	RED
No. 3709	GOLD

ALPHABETS

Most popular item in the line! For all general uses above.

3710	2-inch	BLACK
3711	2-inch	WHITE
3712	2-inch	RED
3713	2-inch	GOLD
3714	5/8-inch	BLACK
3715	5/8-inch	WHITE
3716	5/8-inch	RED
3717	5/8-inch	GOLD
3718	Assorted	BLACK
3719	Assorted	WHITE
3720	Assorted	RED
3721	Assorted	GOLD

INSTRUMENTS

Primarily for Technicians, Hams and industrial use.

No. 3722	BLACK
No 3723	WHITE

HI-FI AND STEREO

For experimenters, commercial sound distributors, industrial prototypes.

No. 3724	BLACK
No. 3725	WHITE
No. 3726	RED
No. 3727	GOLD

SOUND SYSTEMS

For industrial use by commercial sound distributors, custom installers, electricians and experimenters.

No. 3728	BLACK
No. 3729	WHITE
No. 3730	RED
No. 3731	GOLD

TRANSISTORS AND DIODES

Used by Hams, experimenters, technicians, and industrial prototype use. Includes complete list of transistor and diode numbers plus symbols of PNP, NPN, 4 and 5 element transistors, diode symbols.

No. 3732	BLACK
No. 3733	WHITE

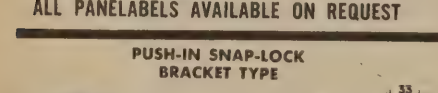
ELECTRICAL DISTRIBUTION

Used primarily by electricians and custom installers on the job and in distribution panel design.

No. 3734	BLACK
No. 3735	WHITE

BOOKLET OF COMPLETE TITLE LISTS OF ALL PANELABELS AVAILABLE ON REQUEST

PUSH-IN SNAP-LOCK BRACKET TYPE

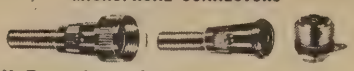


Carbon Steel spring clips lock unit securely in place when pushed into opening. UL Approved.

RATING: 15 Amps, 125 Volts AC or DC.
LEADS: Plastic wire #14 gauge, 6" long.
Std. Pkg. 50

No.	Terminals	Color	NET Per C
1283-103	Wire Leads	Black	$18.00
1284-103	Solder	Black	18.00
1285-103	Klipite	Black	20.00

MICROPHONE CONNECTORS



BODY: Brass, chrome plated.
SPRING: Steel cadmium plated.
INSUL.: XXXP PHENOLIC
EYELET: Brass, hot tinned for easy soldering.

Standard Type 5/8-27 Thread

DESCR.: Designed for use with single conductor cable. Microphone connectors provided with flexible protector spring. Cable clamped firmly to connector by hollow point set screw. **Std. Pkg. 50**

No.	Type	NET Per C
115	Single Contact Male	$30.00
116	Single Contact Female	39.00

CHASSIS CONNECTORS

Mount in .385 hole grounded: .500 hole insulated with shoulder washer. **Std. Pkg. 25**

117	Single Contact Male	30.00

CAP AND CHAIN



DESCR.: Brass, nickel plated. Seals chassis connectors against dust. Eliminates noisy connections. Used with any threaded one or two conductor chassis unit. **Std. Pkg. 25**

No.		NET Per C
118	5/8-27 Thread	$100.00

MICROPHONE CONNECTOR MINIATURE



484 485

BODY: BRASS, nickel plated.
SPRING: Steel, cadmium plated.
INSUL.: XXXP PHENOLIC.
EYELET: Brass, hot tinned.
DESCR.: Ideal for lapel microphone, musical instruments, etc., wherever small cable is used. Accepts cable up to 3/16" diameter. **Std. Pkg. 50**

No.	Type	NET Per C
484	Single Contact Female	$39.00
485	Single Contact Male	30.00

"UNIVERSAL" FOREIGN ADAPTER PLUGS



Permits operation of American, British or Continental electric shavers, radios, record players and other small appliances from any electrical outlet anywhere in the world, supplying the required voltage. All plugs are rated at 15 amps/117 V; 7½ Amps/220 V. **Std. Pkg. 25**

No.	Male Plug	NET Per C
1991	Continental	$ 51.00
1992	American	39.00
1993	Bayonet	60.00
1994	Screw	60.00
1995	Kit of 4 Adapters, 1 each of above **Std. Pkg. 6**	210.00

Streamlined bakelite plug adapters. Adapts from American to Foreign type.

RATING: 125 VAC — 15 AMP
220 VAC — 7.5 AMP **Std. Pkg. 25**

No.	Female End	Male End	NET per C
852	American	Continental	$30.00
856	American	British	40.00

CONVENIENCE OUTLETS

BRACKET TYPE
Top or Bottom Mount



Flat steel bracket mounts with two #6 screws or equivalent size eyelets. Black Only.
RATING: 15 Amps., 125 Volts AC or DC.
LEADS: No. 1279 has two leads, plastic wire #16 gauge, 8" long. UL Approved. **Std. Pkg. 50**

No.	Type	Terminals	NET Per C
1291	Bottom Mount	Solder	$12.00
1279	Bottom Mount	Wire Leads	22.80
1299	Top or Bottom Mount	Solder	12.00



THREE WIRE OUTLET
(With grounding lead)

Carbon steel spring clips lock unit securely in place when pushed into opening. UL Approved.
RATING: 15 Amps, 125 Volts, AC or DC.
LEADS: Two #14 gauge 6" long plastic wire and one #16 gauge green ground lead 6" long.
Std. Pkg.50

No.	Color	NET Per C
1280-103	Black	$38.00
1280-101	White	42.00

TEFLON* SPAGHETTI TUBING



— 101 WHITE	— 107 YELLOW
— 102 RED	— 108 BROWN
— 103 BLACK	— 112 PURPLE
— 104 GREEN	— 113 GREY
— 105 BLUE	— 115 NATURAL
— 106 ORANGE	

(If no color is specified, Natural Teflon (—115) will be supplied.)

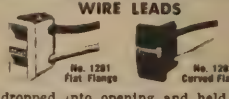
Meets and exceeds MIL-I-22129B. Ideal for slip-on insulation, and provides greater reliability and resistance to high temperatures. Shrink-back is virtually eliminated. Individually packed in dust-proof bags.

SPECIFY COLOR

Cat. No.	AWG Wire Size	Nom. I.D.	Nom Wall Thk.	Std. Pkg. Ft.	NET Each
STANDARD WALL					
7701-24	24	.022	.012	100	$11.68
7701-22	22	.027	.012	100	12.95
7701-20	20	.034	.016	100	17.75
7701-19	19	.038	.016	100	19.38
7701-18	18	.042	.016	100	20.88
7707-17	17	.047	.016	100	22.93
7701-16	16	.053	.016	100	24.63
7701-15	15	.059	.016	100	25.30
7701-14	14	.066	.016	100	27.25
7701-13	13	.076	.016	100	30.30
7701-12	12	.085	.016	100	32.75
7701-11	11	.095	.016	100	36.38
7701-10	10	.106	.016	100	40.00
7701-09	9	.118	.020	100	57.10
7701-81	1/8"	.125	.020	100	61.00
7701-08	8	.133	.020	50	31.25
7701-07	7	.148	.020	50	33.69
7701-06	6	.166	.020	50	36.44
7701-05	5	.186	.020	50	40.10
7701-04	4	.208	.020	50	43.56
7701-03	3	.234	.020	50	49.88
7701-41	1/4"	.250	.020	50	52.88
7701-02	2	.263	.020	50	54.82
7701-01	1	.294	.020	50	60.94
7701-51	5/16"	.312	.020	50	67.50
7701-00	0	.330	.020	50	68.57
THINWALL					
7702-30	30	.012	.009	100	$10.53
7702-28	28	.015	.009	100	9.20
7702-26	26	.018	.009	100	8.88
7702-24	24	.022	.010	100	9.63
7702-22	22	.027	.010	100	10.75
7702-20	20	.034	.012	100	13.63
7702-19	19	.038	.012	100	14.68
7702-18	18	.042	.012	100	15.75
7702-17	17	.047	.012	100	17.38
7702-16	16	.053	.012	100	19.00
7702-15	15	.059	.012	100	19.63
7702-14	14	.066	.012	100	21.00
7702-13	13	.076	.012	100	23.75
7702-12	12	.085	.012	100	25.50
7702-11	11	.095	.012	100	28.38
7702-10	10	.106	.012	100	30.50
7762-09	9	.118	.015	100	44.00
7702-81	1/8"	.125	.015	100	45.00
7702-08	8	.133	.015	50	24.32
7702-07	7	.148	.015	50	26.63
7702-06	6	.166	.015	50	29.75
7702-05	5	.186	.015	50	33.50
7702-04	4	.208	.015	50	36.75
7702-03	3	.234	.015	50	40.75
7702-41	1/4"	.250	.015	50	43.75
7702-02	2	.263	.015	50	45.50
7702-01	1	.294	.015	50	50.69
7702-51	5/16"	.312	.015	50	55.12
7702-00	0	.330	.015	50	56.12
LIGHTWEIGHT					
7703-28	28	.015	.006	100	$ 7.63
7703-26	26	.018	.006	100	7.75
7703-24	24	.022	.006	100	8.13
7703-22	22	.027	.006	100	9.38
7703-20	20	.034	.006	100	11.13
7703-19	19	.038	.006	100	12.38
7703-18	18	.042	.006	100	13.38
7703-17	17	.047	.006	100	14.88
7703-16	16	.053	.006	100	16.13
7703-15	15	.059	.006	100	16.75
7703-14	14	.066	.008	100	19.50
7703-13	13	.076	.008	100	22.25
7703-12	12	.085	.008	100	24.38
7703-11	11	.095	.008	100	27.38
7703-10	10	.106	.008	100	29.50
7703-09	9	.118	.008	50	16.63
7703-81	1/8"	.125	.008	50	17.88
7703-08	8	.133	.008	50	18.44
7703-07	7	.148	.008	50	20.00
7703-06	6	.166	.010	50	25.88
7703-05	5	.186	.010	50	28.38
7703-04	4	.208	.010	50	31.38
7703-03	3	.234	.010	50	34.50
7703-41	1/4"	.250	.010	50	36.69
7703-02	2	.263	.010	50	37.57
7703-01	1	.294	.010	50	41.19
7703-51	5/16"	.312	.012	50	48.69
7703-00	0	.330	.012	50	49.63

* Reg. Trademark E. I. DuPont Co.

SINGLE SCREW BRACKET TYPE WIRE LEADS



Can be dropped into opening and held in place by metal bracket and single central screw, supplied. UL Approved.

SPECIFY COLOR

RATING: 15 Amps, 125 Volts AC or DC.
LEADS: Plastic wire #14 gauge, 6" long.
Std. Pkg. 50

No.	Color	NET Per C
1281-103	Black	$18.00
1282-103	Black	18.00

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

Net

© United Technical Publications

specify* SMITH

HERMAN H. SMITH, INC.

FOR INDUSTRIAL ELECTRONIC COMPONENTS

RUBBER COVERED TEST LEAD WIRE

Single conductor exceptionally flexible rubber covered wire for test lead applications. Conductor is tinned, soft annealed copper wire, stranded as shown. Available in Red and Black. Specify color. Std. Pkg. 6

No.	AWG	Strand	Volt	O.D.	Spool	NET Each
7500	20	41/36	5,000	.120"	100'	$3.30
7501	20	26/34	5,000	.125"	100'	3.30
7502	18	65/36	12,000	.150"	100'	5.00
7503	18	65/36	22,000	.245"	100'	7.00

PLASTIC COVERED TEST LEAD WIRE

Single conductor exceptionally flexible wire for modern test lead applications. Conductor is tinned, soft annealed copper wire, stranded as shown. Insulation is special flexible compound PVC, smooth finish, grease and oil resistant. Available in Red, Black, Yellow, Green, Blue, and White. Specify color. Std. Pkg. 6

No.	AWG	Strand	Volt	O.D.	Spool	NET Each
7510	18	65/36	5,000	.140"	100'	$3.70

PLASTIC-COVERED HOOK UP WIRE

Single conductor flexible stranded wire, soft annealed copper, stranded as shown. Insulation is UL rated PVC, smooth finish. Available in Red, Black, Yellow, Green, Blue, White, and Brown. Specify color. Std. Pkg. 6

No.	AWG	Strand	Volt	O.D.	Spool	NET Each
7561	18	16/30	1,000	.109"	100'	$4.70
7562	16	26/30	1,000	.123"	100'	5.50
7563	14	41/30	1,000	.141"	100'	5.50

PORTABLE APPLIANCE CORD (Zip-Cord)

Two conductor, UL type SPT-1 Vinyl covered appliance cord. Available in White or Brown. Specify color. Std. Pkg. 6

No.	AWG	Strand	Volt	O.D.	Spool	NET Each
7564	18	41/34	300	.110"	100'	$6.00

SHIELDED AUDIO CABLE

Single conductor, stranded tinned copper wire, clear polyethylene insulation. Spiral or braided shield, as shown, tinned. Gray PVC jacket overall. *No. 7520 has 3/36 Phos. bronze wires for pull resistance. Std. Pkg. 6

No.	AWG	Strand	Shield	Cap. mm/ft	O.D.	Spool	NET Each
7520	26	*7/36	Spiral #36		.140"	100'	$5.00
7521	22	19/34	Braid #34	25	.195"	100'	6.70

STEREO AUDIO CABLE

Two separate, shielded audio cables, molded side-by-side for stereo application. Color coded red stripe on one cable for channel identification. Each cable has stranded, tinned copper wire inner conductor color coded clear and red polyethylene insulation. Spiral shield, tinned. Gray PVC jacket overall. Can be separated in "zip-cord" fashion for termination. Std. Pkg. 6

No.	AWG	Strand	Shield	Cap. mm/ft	O.D.	Spool	NET Each
7540	20	10/30	Spiral #36	35	.110"	100'	$7.00

CO-AXIAL CABLE

MIL-type coaxial cable, Stranded bare copper center conductor, polyethylene insulation. Copper braided shield, black PVC jacket overall. Std. Pkg. 6

No.	RG-type	AWG	Braid	Cap. mmf/ft	Spool	NET Each
7530	RG-58C/U	#20 #21	Tinned	28.5	100'	$8.00
7531	RG-11/U	#18	Bare	20.5	50'	9.00

MULTIPLE CONDUCTOR CABLE

Two color-coded (Orange and Yellow) PVC insulated stranded wires. Jute filler, Gray PVC full-round .015 jacket. Std. Pkg. 6

No.	AWG	Strand	Volt	O.D.	Spool	NET Each
7550	18	65/36	600	.210"	100'	$7.50

DRILL & TAP KIT



Contains most popular size drills & taps for electronic bench duty. Includes 4-40, 6-32, 8-32, 10-32 taps with eight corresponding tap & body drills. Std. Pkg. 1

No.		NET Each
750	Kit	$15.00
749	Drill Stand Only	.66

RADIO CHASSIS PUNCHES



ROUND



SQUARE



"KEY"

A complete line of chassis hole punches for swiftly cutting clean, accurately located holes in chassis and panels. An assortment of round, square, "D," and Keyed holes can be punched by inserting in drilled pilot hole, and turning with wrench. Finished hole is smooth, accurately sized without burrs. Round punches are provided with center-line markings for enlarging holes larger than pilot hole. Individually packed.

ROUND HOLE PUNCHES

No.	Hole Size	NET Ea.	No.	Hole Size	NET Ea.
3801	1/4"	$3.05	3814	1 1/4"	$3.60
3802	9/32"	3.05	3815	1 5/16"	4.45
3803	5/16"	3.05	3816	1 3/8"	4.45
3804	11/32"	3.05	3817	1 7/16"	4.90
3805	3/8"	3.05	3818	1 1/2"	5.95
3806	13/32"	3.05	3819	1 9/16"	6.80
3807	7/16"	3.05	3820	1 5/8"	8.40
3808	15/32"	3.45	3821	2"	9.00
3809	1"	3.45	3822	2 1/16"	9.70
3810	1 1/16"	3.60	3823	2 1/8"	10.00
3811	1 1/8"	3.60	3824	2 3/16"	16.30
3812	1 3/16"	3.60	3825	2 1/4"	22.65
3813	1 1/4"	3.60	3826	3"	31.30

SQUARE PUNCHES

3827	1/4"	$8.10	3830	7/8"	$10.30
3828	5/16"	8.10	3831	1"	10.70
3829	3/8"	8.80			

"KEY" PUNCHES

3832	15/32"	$7.45	3834	1 11/16"	$8.50
3833	17/32"	7.85	3835	1 13/16"	10.00

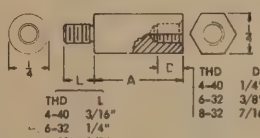
ROUND METER HOLE PUNCH

3836	2 3/32"	$14.85

"D" PUNCHES

3837	1/2x1 1/32"	$6.10	3838	5/8x1 5/32"	$6.50

MALE-FEMALE THREADED SPACERS



BRASS, cadmium plated. Std. Pkg. 100

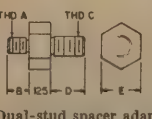
ROUND

4-40 Thd. No.	6-32 Thd. No.	8-32 Thd. No.	Length "A"	NET Per C
8200	8232	8264	.250	$11.50
8201	8233	8265	.375	12.00
8202	8234	8266	.500	12.50
8203	8235	8267	.625	13.00
8204	8236	8268	.750	13.50
8205	8237	8269	.875	14.00
8206	8238	8270	1.000	14.50
8207	8239	8271	1.125	15.00
8208	8240	8272	1.250	15.50
8209	8241	8273	1.375	16.00
8210	8242	8274	1.500	16.50
8211	8243	8275	1.625	17.00
8212	8244	8276	1.750	17.50
8213	8245	8277	2.000	18.00
8214	8246	8278	2.500	19.00
8215	8247	8279	3.000	20.00

HEX

4-40 Thd. No.	6-32 Thd. No.	8-32 Thd. No.	Length "A"	NET Per C
8216	8248	8280	.250	$12.50
8217	8249	8281	.375	13.00
8218	8250	8282	.500	13.50
8219	8251	8283	.625	14.00
8220	8252	8284	.750	14.50
8221	8253	8285	.875	15.00
8222	8254	8286	1.000	15.50
8223	8255	8287	1.125	16.00
8224	8256	8288	1.250	16.50
8225	8257	8289	1.375	17.00
8226	8258	8290	1.500	17.50
8227	8259	8291	1.625	18.00
8228	8260	8292	1.750	18.50
8229	8261	8293	2.000	19.00
8230	8262	8294	2.500	20.00
8231	8263	8295	3.000	21.00

MALE SPACER ADAPTERS



Dual-stud spacer adapters convert female threaded spacers to male-female or splice spacers together for added length. Brass, cadmium plated hex body for wrench tightening. Adds 1/8" to length of spacer. Std. Pkg. 25

No.	Thd. A	Lgth. B	Thd. C	Lgth. D	Hex E	NET Per C
8300	4-40	3/16"	4-40	3/16"	1/4"	$12.00
8301	4-40	3/16"	6-32	1/4"	1/4"	12.00
8302	6-32	1/4"	6-32	1/4"	1/4"	13.00
8303	6-32	1/4"	8-32	3/8"	1/4"	13.00
8304	8-32	3/8"	8-32	3/8"	1/4"	14.00
8305	8-32	3/8"	10-32	3/8"	1/4"	14.00
8306	8-32	3/8"	10-32	3/8"	5/16"	15.00
8307	10-32	3/8"	10-32	3/8"	5/16"	15.00

STANDARD DRIVE SCREWS

No.	Use with Nos.	NET Ea.
3847	3804 to 3807	$.30
3848	3808 to 3817	.35
3849	3818 to 3819	.60
3850	3820 to 3824	.70

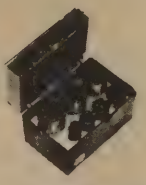
BALL BEARING DRIVE SCREWS



Reduces friction and effort when punching round holes 1 1/16" and larger. For use only with Round punches listed above.

No.	Use with Nos.	NET Ea.
3839	3804 to 3808	$1.35
3840	3809 to 3817	1.45
3841	3818 to 3819	3.50
3842	3820 to 3824 and 3838	3.65
3843	3825 to 3826	6.50

CHASSIS PUNCH SET



A set of 7 of the most often used chassis punch sizes for electronic construction. Packed in a plastic platform box to keep punches sharp and rust-free. Contains the following sizes: 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4".

No.	Description	NET Ea.
3844	Set of 7 Punches	$25.00

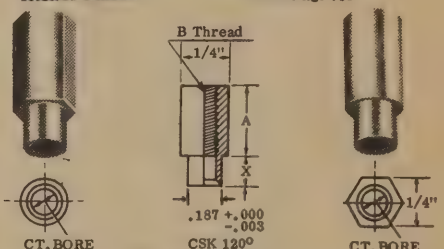
RELAY SOCKET PUNCH

P&B KHP Relay Socket Punch

No.	Hole Size	NET Ea.
3845	1.018 x .861	$16.25
3846	1.250 x 1.375	24.50

BRASS THREADED SWAGE STANDOFFS

Nickel Plated Std. Pkg. 100



*NOTE: For 1" long standoffs, tap is 1/2" from each end. 8-32 taps are full length but do not clear bottom counterbore.

ROUND

No.	NET Per C	A	B	X
4100	$10.00	1/4	4/40	.105
4101	10.00	1/4	4/40	.135
4102	10.00	1/4	4/40	.165
4103	11.00	3/8	4/40	.105
4104	11.00	3/8	4/40	.135
4105	11.00	3/8	4/40	.165
4106	12.50	1/2	4/40	.105
4107	12.50	1/2	4/40	.135
4108	12.50	1/2	4/40	.165
4109	14.00	5/8	4/40	.105
4110	14.00	5/8	4/40	.135
4111	14.00	5/8	4/40	.165
4112	16.00	3/4	4/40	.105
4113	16.00	3/4	4/40	.135
4114	16.00	3/4	4/40	.165
4115	20.00	1	4/40	.105
4116	20.00	1	4/40	.135
4117	20.00	1	4/40	.165
No. 3872			Staking Tool Kit	

HEX

No.	NET Per C	A	B	X
4200	$11.00	1/4	4/40	.105
4201	11.00	1/4	4/40	.135
4202	11.00	1/4	4/40	.165
4203	12.00	3/8	4/40	.105
4204	12.00	3/8	4/40	.135
4205	12.00	3/8	4/40	.165
4206	13.50	1/2	4/40	.105
4207	13.50	1/2	4/40	.135
4208	13.50	1/2	4/40	.165
4209	15.00	5/8	4/40	.105
4210	15.00	5/8	4/40	.135
4211	15.00	5/8	4/40	.165
4212	17.00	3/4	4/40	.105
4213	17.00	3/4	4/40	.135
4214	17.00	3/4	4/40	.165
4215	21.00	1	4/40	.105
4216	21.00	1	4/40	.135
4217	21.00	1	4/40	.165
No. 3872			Staking Tool Kit	NET Ea. $3.00
4118	10.00	1/4	6/32	.105
4119	10.00	1/4	6/32	.135
4120	10.00	1/4	6/32	.165
4121	11.00	3/8	6/32	.105
4122	11.00	3/8	6/32	.135
4123	11.00	3/8	6/32	.165
4124	12.50	1/2	6/32	.105
4125	12.50	1/2	6/32	.135
4126	12.50	1/2	6/32	.165
4127	14.00	5/8	6/32	.105
4128	14.00	5/8	6/32	.135
4129	14.00	5/8	6/32	.165
4130	16.00	3/4	6/32	.105
4131	16.00	3/4	6/32	.135
4132	16.00	3/4	6/32	.165
4133	20.00	1	6/32	.105
4134	20.00	1	6/32	.135
4135	20.00	1	6/32	.165
No. 3873			Staking Tool Kit	NET Ea. $3.00
4136	10.00	1/4	8/32	.105
4137	10.00	1/4	8/32	.135
4138	10.00	1/4	8/32	.165
4139	11.00	3/8	8/32	.105
4140	11.00	3/8	8/32	.135
4141	11.00	3/8	8/32	.165
4142	12.50	1/2	8/32	.105
4143	12.50	1/2	8/32	.135
4144	12.50	1/2	8/32	.165
4145	14.00	5/8	8/32	.105
4146	14.00	5/8	8/32	.135
4147	14.00	5/8	8/32	.165
4148	16.00	3/4	8/32	.105
4149	16.00	3/4	8/32	.135
4150	16.00	3/4	8/32	.165
4151	20.00	1	8/32	.105
4152	20.00	1	8/32	.135
4153	20.00	1	8/32	.165

© United Technical Publications

specify* SMITH
HERMAN H. SMITH, INC.
FOR INDUSTRIAL ELECTRONIC COMPONENTS

NORELCO™ BLANK CASSETTES & ACCESSORIES



NORELCO BLANK CASSETTES

A professional tool for the Professional Executive, Businessman, Writer, News Broadcaster and Educator. Ideal for individual or group listening in all phases of Industry and Education —

- **MANAGEMENT**
- **MARKETING**
- **IN PLANT**
- **ENGINEERING**
- **TEACHING**
- **AUDIO VISUAL**

All Cassettes are manufactured in accordance with INTERNATIONAL PHELPS STANDARDS. Each Cassette is equipped with: steel pins, delrin guide rollers, low friction pads, high efficiency magnetic shield brackets to assure long term quiet reliable operation.

BASE THICKNESS: C30 and C60, 50 mil; C90, 30 mil; C120, 25 mil.

OXIDE COATING: 20 mil except C120, 12 mil.

NORELCO CHALLENGER SERIES

Recommended for general recording — voice, letters.
Frequency Response: Optimum bias 80-8000 Hz, Standard Bias 80-7000 Hz.
Uniformity 1.0 db. Tensilized Polyester.
Supplied in cardboard mailer, 90 day guarantee.

No.	Recording Time	SUGGESTED RESALE, EACH, IN LOTS OF 1 - 11	12 - 60	72 - 204	216 - 276
7006	C-60	1.19	1.00	1.00	.92
7009	C-90	1.69	1.49	1.46	1.28
7012	C-120	2.19	1.93	1.81	1.67

NORELCO "100" SERIES

Recommended for general recording — voice, background, lectures, dictation.
Frequency response: Optimum Bias 80-8000 Hz, Standard Bias 80-7000 Hz.
Uniformity 1.0 db. Tensilized Polyester.
Supplied in plastic box, lifetime guaranteed to give performance, reliability and service.

No.	Recording Time	SUGGESTED RESALE, EACH, IN LOTS OF 1 - 11	12 - 60	72 - 204	216 - 276
7106	C-60	1.45	1.24	1.16	1.07
7109	C-90	2.15	1.84	1.73	1.58
7112	C-120	2.95	2.46	2.31	2.12

NORELCO "200" SERIES

Recommended for: speeches, recitation, recording general discussions. Low noise.
Frequency Response: Optimum Bias 60-12,000 Hz. Standard Bias 60-10,000 Hz.
Uniformity 0.6 db. Tensilized Polyester.
Supplied in plastic box, lifetime guaranteed to give performance, reliability and service.

No.	Recording Time	SUGGESTED RESALE, EACH, IN LOTS OF 1 - 11	12 - 60	72 - 204	216 - 276
7203	C-30	1.55	1.30	1.23	1.13
7206	C-60	1.95	1.64	1.54	1.40
7209	C-90	2.95	2.43	2.29	2.10
7212	C-120	3.95	3.31	3.11	2.84

NORELCO "300" SERIES

High output/Low noise. Extended Frequency & Dynamic Range. Recommended for semi-professional recording on better equipment.
Frequency Response: Optimum bias 40-20,000 Hz. Standard Bias 40-15,000 Hz.
Uniformity 0.3 db. Tensilized polyester.
Supplied in plastic box, lifetime guaranteed to give performance, reliability and service.

No.	Recording Time	SUGGESTED RESALE, EACH, IN LOTS OF 1 - 11	12 - 60	72 - 204	216 - 276
7306	C-60	2.45	2.02	1.90	1.75
7309	C-90	3.45	2.73	2.56	2.39

NORELCO "400" SERIES
CHROMIUM DIOXIDE

Recommended for professional recording on switchable equipment. Widest possible frequency and dynamic range.
High output, low noise, high coercivity.
Supplied in plastic box, guaranteed to give reliability and performance.

No.	Recording Time	SUGGESTED RESALE, EACH, IN LOTS OF 1 - 11	12 - 60	72 - 204	216 - 276
7406	C-60	2.95	2.44	2.19	2.03
7409	C-90	3.96	3.09	2.90	2.70

NORELCO HEAD CLEANING CASSETTE

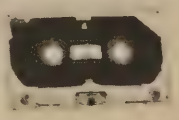
7015	—	1.95	1.78	1.68	1.50



ENDLESS LOOPS

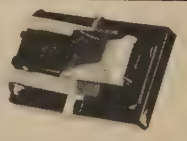
Used for continuous recorded messages, repeators, elevators, burglar and fire alarms, P.O.P. displays and Audio Visual. Playing time three minutes, packaged in Norelco type plastic hinged box.
Std. Pkg. 12

No.	Recording Time	SUGGESTED RESALE EACH IN LOTS OF 1-11	12-60	72-204	216-276
7030	3 min.	5.10	4.52	4.25	3.96
7060	6 min.	5.70	5.07	4.75	4.44



REPAIR CASSETTE

Used to repair or salvage any prerecorded tape. Provided with a 25" leader. Packaged in Norelco type plastic hinged box. Std. Pkg. 12
No. 7017 NET Ea. $1.00



CASSETTE SPLICER

Provides cut and trim operations for all tape cassettes. Std. Pkg. 6
No. 7026 NET Ea. $2.10



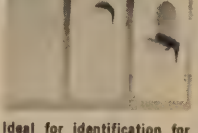
CASSETTE SPLICING TAPE

Cassette splicing tape, ¼ x 150", designed specifically for magnetic tape. Std. Pkg. 12
No. 7027 NET Ea. $0.60



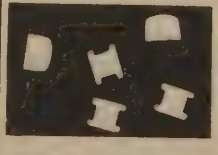
CASSETTE REPAIR & EDITING KIT

Contains splicer, splicing tape, erase tabs, tension winders and repair cassette. Ideal for total maintenance of cassettes. Std. Pkg. 1
No. 7028 NET Ea. $6.25



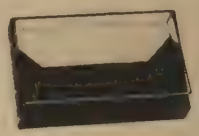
BLANK CASSETTE TITLE LABELS

Ideal for identification for pre-recorded messages etc. Self-stick die-cut for easy application. Packed 25 pcs. Std. Pkg. 12
No. 7029 NET Ea. $1.00



RE-RECORD KIT

Contains 50 reusable plastic erase tabs. Used as replacements for removed cassette tabs on permanent recorded cassettes. Permits automatic erase and is easily removed for permanent recordings. Std. Pkg. 50
No. 7025 NET pkg. of 50 $0.80



DELUXE STORAGE CASE

Norelco type, impact resistant plastic hinged bo
Built-in stops prevent tape from unwinding becoming slack. Std. Pkg.
No. 7023 NET Ea. $0.



MAILER TYP STORAGE CASE

Ampex type hinged soft plastic box. Built-in sto to prevent unwinding or slackening of tape. Ide for Cassette mailing. Std. Pkg.
No. 7024 NET Ea. $0.



CASSETTE TENSION WINDER

Inserts into cassette sprockets to wind tape either direction to take up slack. Packaged pairs. Std. Pkg.
No. 7020 NET Ea. $0.9



30 - CASSETTE CARRYING CASE

Holds 30 cassettes, in individual compartments Available in Olive Skai Texon, red velvet lined St. Pkg.
No. 7018 NET Ea. $13.9



14 - CASSETTE CARRYING CASE

Holds 14 cassettes, in individual compartments. Available in Olive Skai Texon, red velvet lined Std. Pkg.
No. 7019 NET Ea. $8.95



CARRYING CASE

Holds twenty-four 8 Track cartridges in individual compartments. In Olive Skai Texon, red velvet lined. Std. Pkg.
No. 7021 NET Ea. $14.95



12 8-TRACK CARRYING CASE

Holds twelve 8 Track cartridges in individual compartments. In Olive Skai Texon, red velvet lined. Std. Pkg.
No. 7022 NET Ea. $9.95

* IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

© United Technical Publications

TEFLON TEST JACKS, PROBES, PLUGS

COLOR CODE SUFFIX
(Add to Catalog Number as Required)
—101 White —103 Black —105 Blue —107 Yellow —112 Purple
—102 Red —104 Green —106 Orange —108 Brown —113 Grey

SMITH TEFLON† TERMINALS



- Miniature
- Subminiature
- Microminiature

- Standoff — Feed-thru
- Probes — Test Jacks
- Connectors — Sockets
- Custom Fabrication



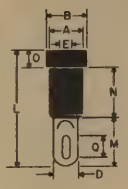
Complete 24 Page Teflon Terminals Catalog FREE ON REQUEST!

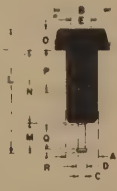
†Reg. Trademark E. I. DuPont Co.

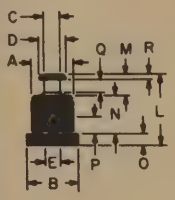
SUGGESTED RESALE PRICES & QUANTITY DISCOUNT SCHEDULE

100 – 999 30% Off 1,000 – 4,999 45% Off 5,000 – 14,999 55% Off 15,000 & up On request

TERMINALS AVAILABLE IN 10 COLORS - SEE COLOR CODE SUFFIXES ABOVE





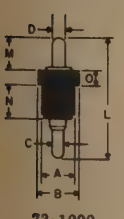


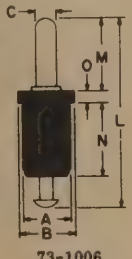
TEST JACKS

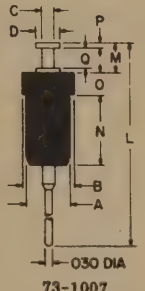
Cat. No.	DIMENSIONS A	B	C	D	E*	L	M	N	O	P**	Q	R	NET Per M
PHONE TIP JACK													
63-1000	.185	.218	—	.105	.050	.687	.354	.287	.046	.250	—	—	$120.00
63-1001	.185	.218	—	.105	.041	.687	.354	.287	.046	.250	—	—	160.00
63-1002	.185	.218	—	.110	.080	.687	.354	.287	.046	.250	—	—	160.00
63-1014	.185	.218	—	.115	.050	.687	.354	.281	.052	.250	—	—	160.00
63-1015	.185	.218	—	.103	.080	.687	.330	.146	.187	.187	—	—	160.00
63-1016	.185	.218	—	.115	.050	.625	.355	.224	.046	.200	—	—	160.00
63-1017	.185	.218	—	.104	.060	.718	.316	.356	.046	.315	—	—	160.00
63-1037	.185	.218	—	.110	.050	.687	.330	.146	.187	.250	—	—	160.00
					*Probe Diameter					**Probe Length			
BANANA JACK													
63-1074	.218	.250	.054	.074	.104	.655	.187	.375	.093	.280	.116	.035	$300.00
63-1508	.265	.460	.062	.093	.161	1.000	.250	.597	.160	.546	.215	.032	500.00
TURRET LUG													
63-1003	.185	.218	.054	.074	.090	.437	.120	.271	.046	.195	.053	.037	$180.00
63-1004	.185	.218	.054	.074	.080	.437	.120	.271	.046	.195	.053	.037	180.00
63-1005	.185	.218	.054	.074	.080	.640	.187	.400	.050	.287	.104	.037	180.00
63-1006	.204	.250	.054	.074	.080	.437	.120	.271	.046	.195	.053	.037	200.00
63-1007	.170	.218	.046	.078	.090	.375	.060	.269	.046	.250	.040	.010	220.00
63-1010	.148	.172	.040	.060	.040	.345	.120	.179	.046	.140	.077	.023	180.00
63-1011	.218	.250	.066	.098	.105	.400	.060	.294	.046	.250	.037	.010	220.00
63-1012	.120	.142	.040	.060	.040	.449	.120	.283	.046	.245	.060	.030	190.00
63-1013	.200	.218	.054	.074	.093	.761	.187	.386	.187	.455	.116	.035	270.00
63-1020	.200	.218	.054	.074	.093	.699	.187	.386	.125	.390	.116	.035	400.00
63-1029	.140	.172	.046	.080	.040	.253	.060	.143	.050	.125	.040	.010	220.00
63-1032	.148	.172	.046	.080	.040	.203	.060	.097	.046	.078	.040	.010	210.00
63-1033	.120	.150	.046	.080	.040	.203	.060	.113	.030	.078	.040	.010	210.00
63-1054	.185	.218	.054	.074	.090	.340	.120	.174	.046	.140	.077	.023	210.00
63-1057	.185	.218	.054	.074	.080	.467	.120	.301	.046	.225	.047	.035	210.00
63-1072	.120	.142	.040	.060	.040	.410	.120	.244	.046	.205	.060	.030	180.00
63-1077	.140	.172	.040	.060	.040	.345	.120	.179	.046	.140	.077	.023	180.00
63-1079	.185	.218	.054	.074	.050	.437	.120	.271	.046	.195	.053	.037	190.00
63-1080	.185	.218	.080	.125	.080	.455	.105	.300	.050	.315	.065	.020	250.00
63-1081	.200	.375	.054	.074	.093	.834	.187	.417	.230	.518	.116	.035	350.00

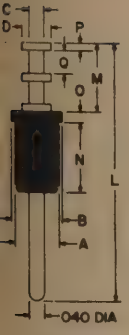
PROBES & PLUGS

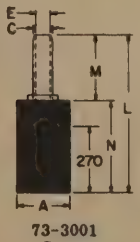
73-1000	.185	.218	.030	.050	—	1.531	.250	.287	.046	—	—	—	$150.00
73-1001	.185	.218	.030	.050	—	.906	.250	.287	.046	—	—	—	150.00
73-1002	.185	.218	.030	.050	—	2.083	.250	.287	.046	—	—	—	150.00
73-1003	.185	.218	.030	.050	—	1.937	.250	.141	.046	—	—	—	130.00
73-1018	.148	.172	.030	.050	—	1.937	.250	.165	.046	—	—	—	180.00
73-1028	.185	.218	.030	.040	—	1.870	.120	.250	.046	—	—	—	180.00
73-1006	.185	.218	.081	—	—	.739	.281	.287	.046	—	—	—	$150.00
73-1011	.185	.218	.050	—	—	.562	.250	.135	.052	—	—	—	120.00
73-1015	.185	.218	.081	—	—	.739	.281	.287	.046	—	—	—	130.00
73-1016	.185	.218	.050	—	—	.562	.250	.141	.046	—	—	—	120.00
73-1017	.185	.218	.081	—	—	.562	.250	.141	.046	—	—	—	130.00
73-1022	.171	.187	.040	—	—	.687	.272	.212	.040	—	—	—	180.00
73-1023	.185	.218	.050	—	—	.906	.250	.287	.046	—	—	—	150.00
73-1026	.185	.218	.090	—	—	.648	.190	.287	.046	—	—	—	170.00
73-1027	.185	.218	.062	—	—	.612	.250	.141	.046	—	—	—	150.00
73-1007	.185	.218	.050	.093	—	2.005	.125	.287	.093	.020	.085	—	$150.00
73-1008	.185	.218	.050	.093	—	1.000	.125	.287	.093	.020	.085	—	150.00
73-1009	.185	.218	.050	.093	—	2.000	.125	.150	.230	.020	.085	—	160.00
73-1010	.185	.218	.060	.125	—	1.052	.281	.287	.046	.031	.093	—	$150.00
73-3001	.218	—	.080	—	.062	.645	.270	.375	—	—	—	—	$120.00
73-3012	.218	—	.090	—	.062	.645	.270	.375	—	—	—	—	150.00
37-1011	.185	.218	.050	—	—	.562	.250	.135	.052	—	—	—	$150.00

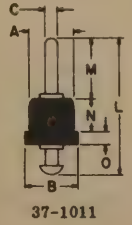










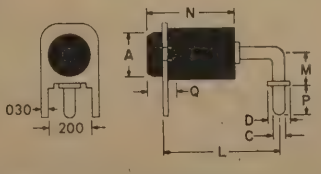


TEFLON PRINTED CIRCUIT TEST JACK

Standard Package 100

Cat. No.	A	B	C	D	E*	L	M	N	P	Q**	NET Per M
63-3002	.187	.218	.050	.080	.080	.500	.140	.378	.125	.250	$350.00
63-3003	.187	.218	.050	.080	.080	.400	.140	.378	.125	.250	350.00
63-3004	.187	.218	.040	.080	.080	.520	.140	.398	.130	.250	350.00
63-3005	.187	.218	.035	.080	.080	.400	.140	.378	.187	.250	360.00
63-3009	.187	.218	.050	.080	.080	.500	.140	.689	.125	.500	390.00

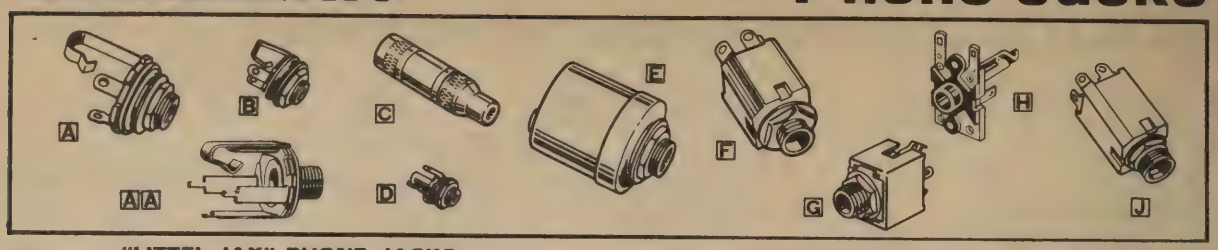
*Probe Diameter **Probe Length



IT'S SOUND PLANNING TO "SPECIFY SMITH" WHEN DESIGNING OR PURCHASING

SWITCHCRAFT INC

Phone Jacks



"LITTEL-JAX" PHONE JACKS

A Quality phone jacks that mate with standard ¼" phone plugs. Notched insulating washers mechanically interlock springs and solder lugs. "V" bend in tip spring firmly "holds" mating plug. Minimum space requirements. Economical. Mounts in single ⅜" hole, panels up to 5/32" thick, except L-11 and L-12A in panels up to ¼" thick.

Nos. C-11 and C-12A mate with No. 440 (PJ-055B) Plug; C-12B, S-12B and S-13B mate with No. 480 (JAN-PJ-068) or No. 484 (W.E. No. 309) Plug. Nos. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve. C-11, C-12B and C-12A per JAN-J-641. All others mate with standard ¼" dia. plugs. .

AA New "Littel-Jax" PC-12A for printed circuit mounting. Std. ¼" dia. jack with all the construction features of standard "Littel-Jax" Same circuit as in No. 12A.

No. 14B Stereo "Littel-Jax", switches-out speakers when connecting stereo headphones. Dual, N.O. switch contacts, open both stereo circuits independently when a 3-conductor plug is inserted.

TWO CONDUCTOR TYPES

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
11	I	250	—	$0.55
C-11	I	440	JJ-034	.80
L-11	I	250	—	.65
S-11	I	S-250	—	.60
12A	III	250	—	.60
C-12A	III	440	JJ-089	.95
L-12A	III	250	—	.70
S-12A	III	480	—	.70
PC-12A	III	250	—	.70
13	V	250	—	1.15
13A	VI	250	—	1.05
13E	IX	250	—	1.15

THREE CONDUCTOR TYPES

12B	IV	267	—	.70
C-12B	IV	480	JJ-033	.95
L-12B	IV	267	—	.90
S-12B	IV	480	—	.90
13B	VIII	267	—	1.00
S-13B	VIII	480	—	1.25
14B	XII	267	—	1.30

"TINI-JAX" MINIATURE PHONE JACKS

B Miniature 2-conductor Phone Jacks, approximately ⅓ the size of the "Littel-Jax"; otherwise similar in construction. Mount in ¼" dia. hole; panel up to ⅛" thick. No. 43A has a unique spring design that requires a pear shaped tip, such as Switchcraft "Tini-Plug" No. 750.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
41	I	750	2	$0.55
42A	III	750	2	.60
43A	VI	750	2	.90

"TINI-EXTENSION JAX"

C An extension or cable jack to mate with "Tini-Plug". Two-conductor. Metal housing for ruggedness and electrical shielding. Solder lug terminals.

Switchcraft Part No. 125 ..... U.S.A. List Price **$1.50**

"MICRO-JAX" SUB MINIATURE PHONE JACK

D Precision manufactured jack for miniaturized applications. Two-conductor, single closed circuit. See Schematic Circuit III. Silver plating on special tempered nickel silver springs. Internally keyed nylon insulation interlocks springs and solder lugs to eliminate shorts. Fits .190" dia. hole in panels to 3/32" thick. Only 1/25th the size of standard phone jacks. Mates with "Micro-Plug", Series 850, 880.
Switchcraft Part No. TR-2A ..... U.S.A. List Price **$0.60**

"SHIELDED JAX"

E A unique modification of the "Littel-Jax". The shield is assembled into and made part of the jack. Ideal for high impedance circuits.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
CN-11	I	250	2	$1.05
CN-12A	III	250	2	1.10
CN-12B	IV	267	3	1.25

"HI-D JAX" PHONE JACKS

F New smaller, more compact phone jacks, mate with std. ¼" phone plugs. Molded box body protects integral silver-plated, nickel silver springs. Low contact resistance and electrical leakage with little capacity between the springs. Mount on ⅝" centers in single ⅜" hole in panels up to 5/32" thick, depth behind panel 13/32". All part Nos. with "L" prefix mount in panels up to ¼" thick; part Nos. with "N" prefix feature a threaded nylon bushing to provide complete insulation of jack sleeve from mtg. panel. Part Nos. with "NL" prefix feature a ⅜" long threaded nylon bushing (same as "N" series) and mount in panels up to ¼" thick. Stereo "HI-D Jax", Nos. 114B, L-114B and N-114B, switches out speakers when connecting stereo headphones. Dual N.O. switch contacts open both stereo circuits independently when a 3-cond. plug is inserted.

TWO CONDUCTOR TYPES

Part No.	Schematic No.	Typical Mating Plug	U.S.A. List Price
111	I	250	$0.55
L-111	I	250	.70
N-111	I	250	.70
NL-111	I	250	.75
112A	III	250	.60
L-112A	III	250	.75
N-112A	III	250	.75
NL-112A	III	250	.80
113	V	250	1.10
113D	VI	250	1.10
113E	IX	250	1.10

THREE CONDUCTOR TYPES

112B	IV	267	.65
L-112B	IV	267	.80
N-112B	IV	267	.80
113B	VIII	267	.85
L-113B	VIII	267	.90
N-113B	VIII	267	.90
NL-113B	VIII	267	.95
113F	VII	267	.85
114B	XII	267	.95
L-114B	XII	267	1.05
N-114B	XII	267	1.05
NL-114B	XII	267	1.10

"TINI-D JAX" MINIATURE PHONE JACK

G New, small completely enclosed, molded phone jack. Mate with Switchcraft "Tini-Plug", No. 750 etc. Phenolic housing protects the bifurcated beryllium copper springs from being bent during mounting. No. 142A has threaded bushing for conventional mtg. Tip spring terminals that "snap-in" P.C. boards. Mount on ¾" centers, in ¼" dia. hole in panels up to ⅛" thick. Depth behind panel 1/16".

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
142A	III	750	2	$0.65

"R-JAX" ECONOMY PHONE JACKS

H Radically new jack design. Simple mounting needs only two (2) 3/32" dia. rivets to fasten securely to mounting panel. Accept standard ¼" dia. phone plugs.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
2A	II	250	2	$0.55
2B	IV	267	3	.60
3E	IX	250	2	.90
4B	XII	267	3	.80

"UNIJAX" PHONE JACKS

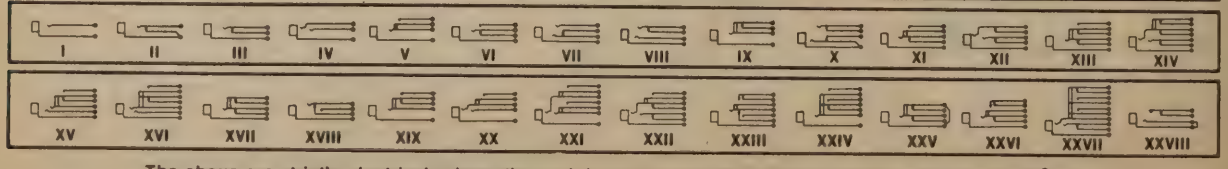
J New, miniature 2-cond. and 3-cond. phone jacks, mate with std. .173" dia. phone plugs. Molded "box" body protects integral silver-plated beryllium copper tip and ring springs. Extremely low contact resistance and electrical leakage with low electrical capacity between springs. Mounts in 3/32" dia. hole in panels up to ⅛" thick. Mounts on 15/32" centers. Only ⅞" depth behind panel.

TWO CONDUCTOR TYPES

Part No.	Schematic No.	Typical Mating Plug	U.S.A. List Price
UJ-1	I	TT-251	$0.55
UJ-2A	III	TT-251	.60

THREE CONDUCTOR TYPES

UJ-2B	IV	TT-253	.65
UJ-4B	XII	TT-253	.95



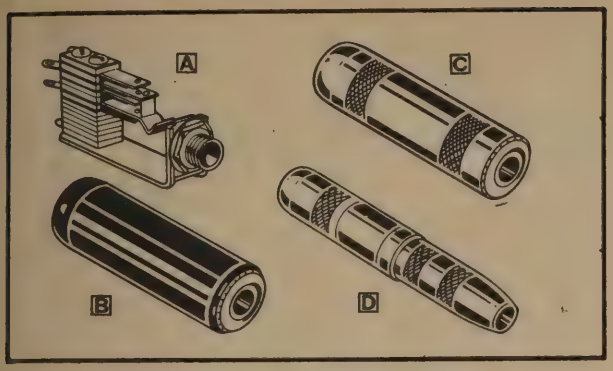
The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

Trade Discount Applies To List Prices Only

© United Technical Publications

Phone Jacks

SWITCHCRAFT INC.



"LF-JAX" LONG FRAME JACKS

A Quality long frame phone jacks with a ground lug that is an integral part of the frame. Fine silver contacts rated at 3 amp., 300 watts, A.C., non-inductive load. Frame also available with a non-turn device, prefix Part No. with letter "R." Standard types mount in single ⅜" dia. hole in panels up to 5/16" thick. Depth behind panel, only 2 25/32".

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
31	I	250	2	$0.95
32	II	250	2	1.25
32A	III	250	2	1.25
32B	IV	267	3	1.25
33	V	250	2	1.35
33A	VI	250	2	1.35
33B	VIII	267	3	1.35
33C	XXVIII	267	3	1.35
33E	IX	250	2	1.35
34	X	267	3	1.50
34A	XI	250	2	1.50
34B	XII	267	3	1.50
35	XIII	250	2	1.80
36	XIV	267	3	2.05

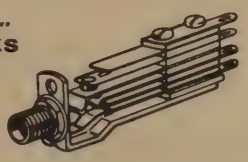
"EXTENSION JAX" CABLE EXTENSION JACKS

Standard ¼", 2 and 3-conductor extension phone jacks with solder lugs or screw type terminals. Size 1 1/16" O.D., 2 3/32" long; 121 and 131 ½" O.D., 2½" long. Black handles are durable plastic. Shielded handles are brass, bright nickel plated.

Part No.	Fig.	Cond.	Typical Mating Plug	Term.	Handle	U.S.A. List Price
80	B	2	250	Screw	Black	$1.45
88	B	2	250	Solder	Black	1.30
120	C	2	270	Screw	Shielded	1.90
121	D	2	270	Solder	Shielded	2.00
126	C	2	R-280	Solder	Shielded	2.10
128	C	2	270	Solder	Shielded	1.75
S-128	C	2	S-250	Solder	Shielded	1.85
131	D	3	290	Solder	Shielded	2.50
830	B	3	267	Screw	Black	1.90
S-830	B	3	480	Screw	Black	2.50
838	B	3	267	Solder	Black	1.75
1230	C	3	290	Screw	Shielded	2.45
S-1230	C	3	480	Screw	Shielded	3.00
1238	C	3	290	Solder	Shielded	2.25

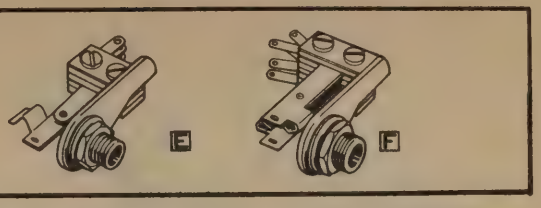
NEW

"TINI-TELEPHONE" JAX PHONE JACKS



Series TT-600, high-quality, miniature phone jacks in 2-cond. and 3-cond. types. Mate with std. .173" dia. phone plugs. Gusseted steel frame for extra rigidity and stability. Special nickel-silver springs provide long life. Welded crossbar palladium contacts. Solder-lug terminals std., wire-wrap term. available on special order. Mounts in ¼" hole, on 7/16" centers, in panels up to 3/32" thick. Only 2 3/16" depth behind panel.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
TT-631	I	TT-251	2	$1.25
TT-632A	II	TT-251	2	1.50
TT-632B	IV	TT-253	3	1.45
TT-632C	XVIII	TT-251	2	1.70
TT-633	V	TT-251	2	1.75
TT-633B	VIII	TT-253	3	1.75
TT-634A	XI	TT-251	2	1.80
TT-634B	XII	TT-253	3	1.75
TT-634C	XVII	TT-251	2	1.75
TT-635	XIII	TT-251	2	2.15
TT-636	XX	TT-253	3	2.15
TT-636A	XIV	TT-253	3	2.50
TT-636C	XXII	TT-253	3	2.45



"SF-JAX" SHORT FRAME PHONE JACKS

E Series 20 – High quality commercial jacks, solder lugs parallel to mounting surface. Mount in ⅜" dia. holes, panels up to 3/16" thick.

F Series 50 – Similar to Series 20, except solder lug location necessitates more depth but requires less panel space. Mount in panels up to ¼" thick.

Series C-20 and C-50 – MIL Types with Military insulation and finishes, otherwise similar to commercial Series 20 and 50; both will mount in panels up to ¼" thick.

SERIES 20 and C-20

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
21	I	250	–	$0.85
22	II	250	–	1.05
22A	III	250	–	1.05
22B	IV	267	–	1.05
23	V	250	–	1.25
C-23	V	440	JJ-099	1.70
23A	VI	250	–	1.25
C-23A	VI	440	JJ-098	1.70
23B	VIII	267	–	1.25
23C	XXVIII	267	–	1.25
23E	IX	250	–	1.25
C-23E	IX	440	JJ-102	1.70
24	X	267	–	1.30
24A	XI	250	–	1.40
24B	XII	267	–	1.40
25	XIII	250	–	1.65
26	XIV	267	–	1.75

SERIES 50 and C-50

51	I	250	–	$0.85
C-51	I	440	JJ-096	1.50
52	II	250	–	1.05
52A	III	250	–	1.05
C-52A	III	440	JJ-097	1.65
52B	IV	267	–	1.05
C-52B	IV	482	JJ-103	1.65
53	V	250	–	1.25
53A	VI	250	–	1.25
C-53A	VI	440	JJ-092	1.90
53B	VIII	267	–	1.25
53C	XXVIII	267	–	1.25
53E	IX	250	–	1.25
54	X	267	–	1.40
54A	XI	250	–	1.40
C-54A	XI	440	JJ-093	1.95
54B	XII	267	–	1.40
C-54B	XII	482	JJ-101	1.95
55	XIII	250	–	1.65
C-55B	XV	482	JJ-095	2.30
56	XIV	267	–	1.75



G

JACK COVERS

G Handy, rugged, spring-load phone jack covers. Covers jack openings when phone plug is removed. Protects against dust and moisture. Series 500 – Use with standard ⅜"-32 threaded bushing type phone jacks. Series 600 – Use with certain type tip jacks with ¼" mounting; height of tip jack head 1/16" to 3/16". Also used as covers for "Tini-Jax".

Part No.	Color	U.S.A. List Price	Part No.	Color	U.S.A. List Price
510	Olive Drab	$1.35	515	Black	$1.35
512	Bright Nickel	1.35	520	Navy Gray	1.35



H

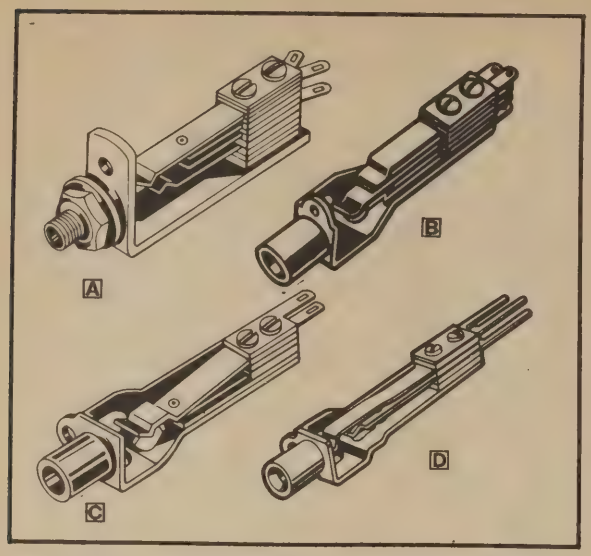
"THICK-PANEL JAX"

H Phone jacks with long bushing. Mount in single 15/32" dia. hole in panels up to 1¼" thick. Solder lug terminals. Ideal for use with microphones; extra shielding virtually eliminates audio hum. No. 151, 2-conductor mates with 240, 245, 250, 255, 270 and 280 Plugs. No. 152B, 3-conductor mates with 260, 267, 269 and 297 Plugs.

Part No.	Description	U.S.A. List Price
151	2-cond. Brass Nickel Plated	$1.65
152B	3-cond. Brass Nickel Plated	1.80

SWITCHCRAFT INC.

Phone Jacks and Plugs



"T-JAX" TELEPHONE TYPE PHONE JACKS

C Long frame, switchboard type, phone jacks. For high quality communication equipment. Springs of nickel silver alloy for maximum life and corrosion resistance. Fine silver contacts are standard. Available in two frame designs. Part numbers in chart cover "A" frame design as shown in Fig. C. For frame design "C" as shown in Fig. B, add prefix letter "C" to part numbers. All jacks listed mate with standard ¼" dia. phone plugs.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
T-331	I	250	2	$1.15
T-332A	III	250	2	1.30
T-332B	IV	267	3	1.30
T-334B	XII	267	3	1.60

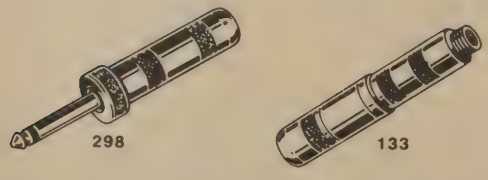
"DUAL-JAX BLOCK"



Molded black phenolic jack blocks for mounting "MT-Jax" and "T-Jax" long frame phone jacks, on ⅝" centers. Can be rack panel mounted individually or in multiples. Blocks are 2¾" W. x 1¼" H. x ⅝" D. Mount with four No. 8-32 flat head screws.

Part No.	Description	U.S.A. List Price
2300	Jack Block, less jacks	$1.60
2331	Two MT-331 jacks	4.20
2332A	Two MT-332A jacks	4.60
2332B	Two MT-332B jacks	4.60
2333	Two MT-333 jacks	5.15

"LOCK-PLUG" AND "EXTENSION JAX"



Standard size ¼", 3-cond. phone plug and mating cable extension jacks, with built-in locking device. Ideal for all P.A., audio applications. Plug has coupling ring that can be threaded to the bushing of a "Littel-Jax" or to the mating end of the "Lock-Extension Jax". "Lock-Plug" handle, 1 51/64" long; ½" dia. "Lock-Extension Jax", ½" O.D.; 2½" long. Solder lug terminals. Available in 2-cond. types on special order.

Part No.	Description	U.S.A. List Price
298	3-Conductor "Lock-Plug"	$2.15
133	3-Conductor "Extension Jax"	2.75

"M-JAX" MILITARY TYPE PHONE JACKS

A Very heavy long frame jacks often referred to as the Navy Jack. Ideal for industrial and Military equipment. Long heavy duty springs with fine silver contacts. Mounts on single ⅜" hole, in panels up to ¼" thick.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
M-441	I	250	—	$1.75
M-443B	VIII	482	JJ-106	2.40
M-444*	XII	484 & 480	JJ-083	2.60
M-444B	XII	482	JJ-082	2.50
M-445	XIII	440	JJ-104	3.05
M-446A	XVI	482	JJ-081	4.25

*Bushing, .2085".

"MT-JAX" MILITARY TELEPHONE JACKS

C Long frame, telephone switchboard jacks designed for high quality communication and military equipment. Springs are of a special nickel silver alloy with welded cross bar palladium contacts. "MT-Jax" are available in two frame designs, namedly "A" & "C". Part numbers in chart cover "A" frame design as shown in Fig. C. For frame design "C" as shown in Fig. B, add prefix letter "C" to part numbers.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
MT-331	I	440*	JJ-086	$1.30
MT-332	I	440	—	—
MT-332A	III	440	JJ-024	1.50
MT-332B	IV	482†	JJ-022	1.50
MT-332C	XVIII	440	JJ-016	1.75
MT-333	V	440	JJ-084	1.70
MT-333B	VIII	482	—	1.75
MT-333E	IX	440	—	1.75
MT-334A	XI	440	—	1.80
MT-334B	XII	482	JJ-042	1.80
MT-334C	XVII	440	JJ-072	1.80
MT-334E	XXV	440	JJ-085	1.80
MT-334F	XIX	440	JJ-035	1.80
MT-335A	XXVI	440	JJ-017	2.05
MT-336A	XIV	482	JJ-075	2.55
MT-336B	XXI	482	JJ-077	2.55
MT-336C	XXII	482	JJ-073	2.55
CMT-336E	XXIII	440	JJ-019	2.55
MT-342B	IV	480‡	—	1.75
MT-344B	XII	480	—	2.05

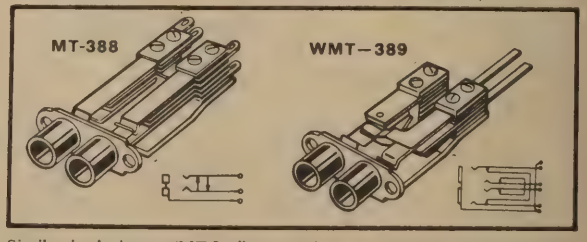
*MIL Type PJ-055. ‡MIL Type PJ-068.
†MIL Type PJ-051B. §Bushing, .2085".

D "WMT-JAX" MILITARY TELEPHONE JACKS

Long-frame telephone phone jacks, same as "MT-Jax", except with wire-wrapping terminals designed to meet all electrical and mechanical requirements for efficient and reliable wire-wrapping terminals. Wire-wrapping terminals have special shoulder which provides a "stop" for the wire-wrapping tool. Construction, materials, contacts and mounting styles identical to those of "MT-Jax".

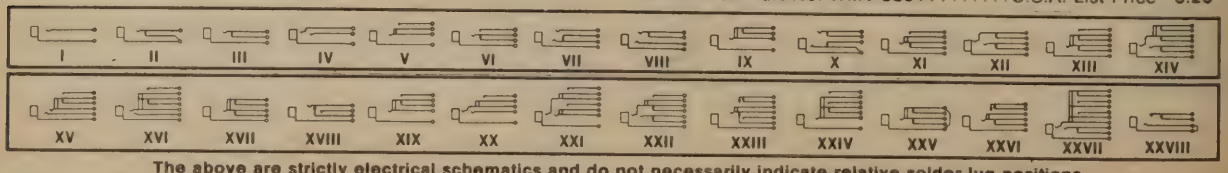
Part No.	Schematic No.	Adjusted for Plug	Conductors	U.S.A. List Price
WMT-331	I	440*	2	$1.40
WMT-332A	III	440	2	1.65
WMT-332B	IV	482†	3	1.65
WMT-334B	XII	482	3	2.00
WMT-334E	XXV	440	2	2.00
WMT-335A	XXVI	440	2	2.25
WMT-336A	XIV	482	3	2.75
WMT-336C	XXII	482	3	2.75
WMT-342B	IV	480‡	3	1.95
WMT-344B	XII	480	3	2.25

*MIL Type PJ-055. †MIL Type PJ-051B. ‡MIL Type PJ-068.



Similar in design to "MT-Jax" except frame is double width, with two mounting ears on 1⅜" centers; bushings are on ⅝" centers. MT-388, MIL-Type No. JJ-088, mates with Nos. 411, 412, 413, 420 and 425 plugs. MT-389 has two 3-conductor jacks interconnected; mates with No. 482 Plug. Also, available with wire-wrapping terminals as Part Nos. WMT-388, WMT-389. Same quality construction, etc.; but now provides the speed, convenience and proven reliability of wrapped, solderless connections.

Switchcraft Part No. MT-388 . . . . . U.S.A. List Price **$4.55**
Switchcraft Part No. MT-389 . . . . . U.S.A. List Price **5.05**
Switchcraft Part No. WMT-388 . . . . . U.S.A. List Price **4.75**
Switchcraft Part No. WMT-389 . . . . . U.S.A. List Price **5.25**



The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

Trade Discount Applies To List Prices Only
© United Technical Publications

Jack Panels, Plugs, Patch Cords

JACK PANELS



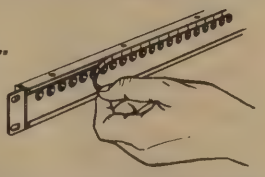
Rugged, heavy-duty jack panels for switching, distribution and control of audio signals in broadcasting stations, theaters, P. A. systems installations, etc. Series 1200, Fig. A, black phenolic panels reinforced with steel for the utmost rigidity. Mounting brackets slotted to fit all standard 19" relay racks. Panel includes plastic covered designation strips. Series 2800, Fig. B, clear anodized aluminum panel. Extremely rugged, yet lightweight. Includes new narrow designation strip for each row. Add Prefix "X" to part numbers to indicate offset ground lugs on jacks. Aluminum panels available only with offset lugs.

Part No.	Fig.	Rows	Number of Jacks	Size, In. W x D x H	U.S.A. List Price
1200	A	Single	24 *	19x1¼x1¾	$15.25
1232A	A	Single	24 T-332A	19x1¼x1¾	42.00
1332A	A	Single	24 MT-332A	19x1¼x1¾	47.25
1400	A	Single	26 *	19x ⅜x1¾	15.25
1432A	A	Single	26 T-332A	19x ⅜x1¾	45.25
1532A	A	Single	26 MT-332A	19x ⅜x1¾	51.50
2400	A	Double	48 *	19x1¼x2⅛	15.75
2432A	A	Double	48 T-332A	19x1¼x2⅛	73.50
2532A	A	Double	48 MT-332A	19x1¼x2⅛	87.25
2600	A	Double	52 *	19x ⅜x1¾	19.00
2632A	A	Double	52 T-332A	19x ⅜x1¾	83.00
2732A	A	Double	52 MT-332A	19x ⅜x1¾	96.50
2800	B	Double	48 *	19x ⅜x1¾	42.00
X2832A	B	Double	48 T-332A	19x ⅜x1¾	99.75
X2932A	B	Double	48 MT-332A	19x ⅜x1¾	113.50

*Supplied less jacks.

NEW

JACK PANELS with "kwik-change" designation strip



Switchcraft jack panels now feature the exclusive "kwik-change" designation strip in Series 1400-300 and Series 2600-300. Identical to Series 1400 and Series 2600 as described above, except for new designation strip. "kwik-change" strip consists of a clear plastic snap-on cover and a re-usable plastic marking strip. Marking strip has matte-finish for in-the-field identification with ink, pencil, etc. Part nos. listed below are jack panels less jack. Can be supplied with jacks on special order. "kwik-change" designation strips are available in KITS for retro-fitting old style panels.

Part No.	Rows	Number of Jacks	Size, In. W x D x H	U.S.A. List Price
1400-301	Single	26	19x1¼x1¾	$19.50
2600-301	Double	52	19x ⅜x1¾	22.00

"KWIK-CHANGE" DESIGNATION STRIP KITS

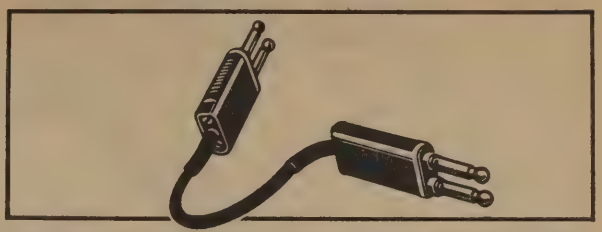
Part No.	Description	U.S.A. List Price
DS-301	Designation Strip Kit (single width) consists of: 1 extruded aluminum mounting strip 1 plastic cover 1 marking strip sheet (5 strips to a sheet) 4 mounting screws. For use on Series 1400 & 2600 jack panels and similar types.	$3.50
DS-302	Plastic Cover (single width)	.90
DS-303	Marking Strip Sheet (single width 5 strips to a sheet)	.50
DS-311	Designation Strip Kit (double width) consists of: 1 extruded aluminum mounting strip 1 plastic cover 1 marking strip sheet (3 strips to a sheet) 4 mounting screws.	3.75
DS-312	Plastic Cover (double width)	1.00
DS-313	Marking Strip Sheet (double width—3 strips to a sheet)	.60

REPLACEMENT PATCH CORDS

Patch cords are made of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall. Cords designed for use with Switchcraft plugs 413, 420 and 482 or equivalents. When used with No. 420, clip off unnecessary lead.
Series 89Q—2-conductor shielded cord with shield termination at both ends.
Series 89P—2-conductor shielded cord with shield termination at one end only.

Part No.		Length	U.S.A. List Price
Both Ends Shielded	One End Shielded		
89QA89	89PA89	6 inch	$2.50
89QB89	89PB89	1 foot	3.05
89QD89	89PD89	2 feet	3.30
89QF89	89PF89	3 feet	3.70
89QH89	89PH89	4 feet	3.85
89QK89	89PK89	6 feet	4.95
89QN89	89PN89	10 feet	7.15

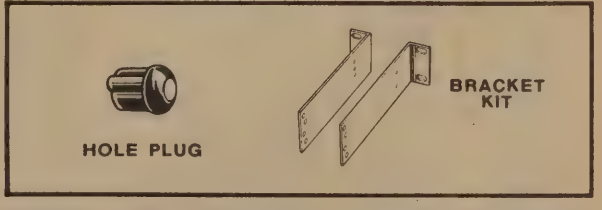
PATCH CORD SETS



All patch cords are constructed of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall.
Series 17Q—2-conductor patch cords have No. 413 "Twin-Plug" at each end with shields grounded both ends.
Series 17P—Same as 17Q, except shield grounded one plug only.
Series 18Q—2-conductor patch cords use Military Plug PJ-051 (Switchcraft Part No. 482) at each end with shields grounded both ends.
Series 19Q—Single conductor patch cords utilize Military Plug PJ-047B (Switchcraft Part No. 420) connected to each end with shield grounded both ends.

Part No.	Length	Plugs Used	U.S.A. List Price
17QA17	6 inch	413	$12.10
17QB17	1 foot	413	12.40
17QD17	2 feet	413	12.65
17QF17	3 feet	413	12.95
17QH17	4 feet	413	13.40
17QK17	6 feet	413	14.30
17QN17	10 feet	413	15.15
17PA17	6 inch	413	12.10
17PB17	1 foot	413	12.40
17PD17	2 feet	413	12.65
17PF17	3 feet	413	13.00
17PH17	4 feet	413	13.40
17PK17	6 feet	413	14.30
17PN17	10 feet	413	15.15
18QA18	6 inch	482	12.65
18QB18	1 foot	482	13.20
18QD18	2 feet	482	13.75
18QF18	3 feet	482	14.30
18QH18	4 feet	482	14.85
18QK18	6 feet	482	15.95
18QN18	10 feet	482	18.15
19QA19	6 inch	420	6.60
19QB19	1 foot	420	6.90
19QD19	2 feet	420	7.45
19QF19	3 feet	420	8.00
19QH19	4 feet	420	8.55
19QK19	6 feet	420	10.00
19QN19	10 feet	420	11.55

JACK PANEL ACCESSORIES



Hole Plug, P-1801, molded nylon, fits all Switchcraft jack panels, Series 1200, 1400, 2400, 2600, 2800. Designed to plug unused holes in jack panels. Bracket Kit, K-107, consists of 2 long L-shaped steel, stand-off brackets and eight No. 6-32 self-tapping screws. To hold jack panels, Series 1400, 2600, 7" in front of mounting rack.

Part No.	Description	U.S.A. List Price
P-1801	Hole Plug	$0.30
K-107	Bracket Kit	4.50



412

MILITARY TYPE "TWIN-PLUG"

Meet exact industrial and military requirements. No. 411, both design and materials, is manufactured in accordance with MIL-P-642(A) specs. Nos. 412 and 413, use identical materials. "Twin-Plug" sleeves spaced ⅝" center to center with self-aligning feature.

Part No. 411—Two electrically independent 2-conductor plugs in black plastic handle. Has provision for Cord Clamp No. S-2674. Military Type PJ-327 (Old Navy No. 491242). Interchangeable with W.E. 327 . . . . . U.S.A. List Price **$5.25**

Part No. 412—Two electrically independent 2-conductor plugs in black plastic handle. Has external cord clamp. Old Military Type PJ-289. Similar to W.E. 289B . . . . . U.S.A. List Price **$4.90**

Part No. 413—Three circuit plug with two electrically independent tip circuits in heavy duty die cast frame. Molded black phenolic handle notched to indicate polarity. Interchangeable with MIL-Type PJ-421 and W.E. 241 . . . . . U.S.A. List Price **$4.90**

Part No. 414—Six circuit plug. Two electrically independent 3 conductor ¼" dia. fingers. Black polarized handle. Interchangeable with WE-338A . . . . . U.S.A. List Price **$9.25**

Part No. 415—Six circuit plug. Two electrically independent 3 conductor fingers. One ¼" dia. finger, one .206" dia. For automatic polarization. Black handle . . . . . U.S.A. List Price **$10.25**

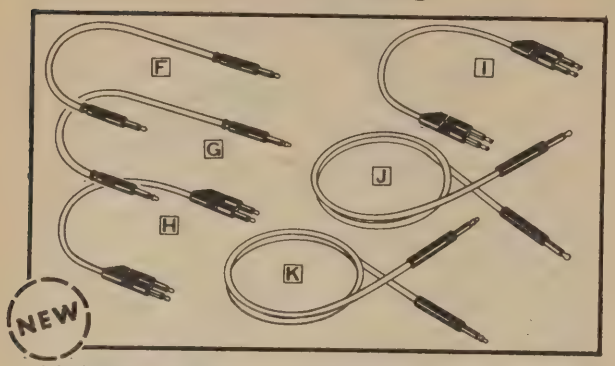
Part No. S-2674—Strain relief clamp, natural brass. For use with Nos. 411, 414, 415 "Twin-Plug". Pkg. of 10 . . U.S.A. List Price **$0.60**

© United Technical Publications

SWITCHCRAFT INC.

"TT" Jack Panels, Jacks, Plugs, Patch Cords

TT-PATCH CORDS



"tini-telephone" patch cords are available in two styles—(1) 2-cond., 3-cond., and twin-plugs molded on braided shield, grey plastic jacketed cable; (2) 2-cond., 3-cond., attachable phone plugs with braided shield, nylon woven, black cord. TT-Patch Cords mate with "UNIJAX", Series TT-30, WTT-30, TT-600 and Part Nos. TT-89, WTT-89.

Series TT-100— F Single cond. Shielded cable with a 2-cond. phone plug molded at each end.

Series TT-120— G 2-cond. Shielded cable with a 3-cond. phone plug molded at each end.

Series TT-140— H 2-cond. Shielded cable with a 3-cond. twin-plug molded at each end. Sleeve circuits are common. Tip circuits wired tip to tip.

Series TT-160— I 4-cond. Shielded cable with 5-cond. twin-plug molded at each end. Sleeve circuits common. Tip circuits wired tip to tip, ring circuits wired ring to ring.

Series TT-720— J 2-cond. Shielded cord with a TT-251 phone plug attached to each end. Shield is grounded to sleeve of each plug and the tinsel cond. is wired tip to tip. The other conductor is clipped off.

Series TT-740— K 2-cond. Shielded cord with a TT-253 phone plug attached to each end. Shield is grounded to sleeve of each plug, the two cond. are wired tip to tip and ring to ring.

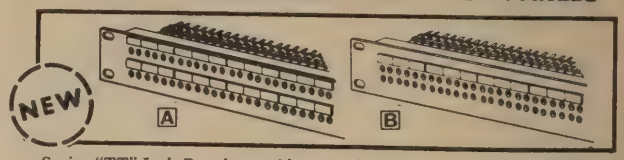
Part No.	Length	Plug Type	U.S.A. List Price
TT-101	6 inch	2-cond. Single	$5.60
TT-102	1 foot	2-cond. Single	5.70
TT-104	2 feet	2-cond. Single	5.90
TT-106	3 feet	2-cond. Single	6.10
TT-107	4 feet	2-cond. Single	6.30
TT-108	5 feet	2-cond. Single	6.50
TT-121	6 inch	3-cond. Single	6.80
TT-122	1 foot	3-cond. Single	6.90
TT-124	2 feet	3-cond. Single	7.10
TT-126	3 feet	3-cond. Single	7.30
TT-127	4 feet	3-cond. Single	7.50
TT-128	5 feet	3-cond. Single	7.70
TT-141	6 inch	3-cond. twin	7.10
TT-142	1 foot	3-cond. twin	7.20
TT-144	2 feet	3-cond. twin	7.40
TT-146	3 feet	3-cond. twin	7.60
TT-147	4 feet	3-cond. twin	7.80
TT-148	5 feet	3-cond. twin	7.90
TT-161	6 inch	5-cond. twin	9.50
TT-162	1 foot	5-cond. twin	9.80
TT-164	2 feet	5-cond. twin	10.40
TT-166	3 feet	5-cond. twin	11.00
TT-167	4 feet	5-cond. twin	11.30
TT-168	5 feet	5-cond. twin	11.60
TT-721	6 inch	TT-251	9.15
TT-722	1 foot	TT-251	9.90
TT-724	2 feet	TT-251	10.60
TT-726	3 feet	TT-251	11.45
TT-727	4 feet	TT-251	12.50
TT-728	5 feet	TT-251	13.35
TT-729	6 feet	TT-251	14.10
TT-741	6 inch	TT-253	11.35
TT-742	1 foot	TT-253	12.05
TT-744	2 feet	TT-253	12.75
TT-746	3 feet	TT-253	13.60
TT-747	4 feet	TT-253	14.70
TT-748	5 feet	TT-253	15.50
TT-749	6 feet	TT-253	16.25

TT REPLACEMENT CORDS

Series TT—700 cords made of high quality bronze tinsel conductors, covered with thermoplastic insulation, then a braided shield and braided black nylon jacket. Cord ends reinforced to accept the internal threaded end of the TT-Phone Plug. For use as a replacement cord on Series TT-100, TT-120, TT-140, TT-160.

Part No.	Length	U.S.A. List Price
TT-701	6 inch	$4.00
TT-702	1 foot	4.75
TT-704	2 feet	5.45
TT-706	3 feet	6.35
TT-707	4 feet	7.40
TT-708	5 feet	8.20
TT-709	6 feet	9.00

SERIES TT "TINI-TELEPHONE" JACK PANELS

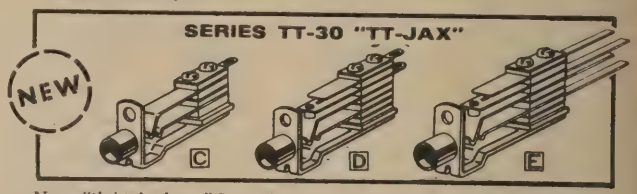


Series "TT" Jack Panels provide up to 96 jacks (48 pairs) in a 1¾" x 19" standard size panel. Constructed of black anodized, extruded aluminum with an extra wide flange for greater rigidity. Series 1600, a double row panel for 96 "TT-Jax" consists of an aluminum panel and 4 molded plastic inserts which accommodate 24 jacks each. Series 1700, a double row panel for 48 "TT-Twin-Jax", consists of an aluminum panel with 2 molded plastic inserts which accommodate 24 twin jacks each. Both Series feature Switchcraft's exclusive "kwik-change" designation strips. Strips consist of a clear plastic snap-on cover and a reusable plastic marking strip.

Part No.	Fig.	Rows	Number of Jacks	U.S.A. List Price
1600	A	Double	96* single jacks	$ 30.00
1632A	A	Double	96 TT-32A	145.00
1634B	A	Double	96 TT-34B	184.00
1700	B	Double	48* twin jacks	35.00
1789	B	Double	48 TT-89	260.00
TT-505			Panel Insert. Less jacks. 24 holes. For No. 1600.	3.80
TT-506			Panel Insert. Blank. For No. 1600.	1.90
TT-507			Panel Insert. Less jacks. 48 holes. For No. 1700.	5.30

*Supplied less jacks.

SERIES TT-30 "TT-JAX"



New, "tini-telephone" Jax, miniatures of the std. long frame telephone-type jacks. Rugged steel frame, with gusset for extra rigidity. Special nickel silver springs with welded crossbar palladium contacts. Series TT-30 require only 2 3/16" depth behind panel, mounted on 5/16" centers, in a ¼" dia. hole in panels up to ⅜" thick. Designed to be mounted on Series 1600 "TT" Jack Panel. Series TT-30 jacks also available with wire-wrap terminals, Fig. E.
Series WTT-30. Same quality construction. Depth behind panel 2 11/16". Both TT-30 and WTT-30 jacks can be mounted in combination or interchangeably with "TT-Switch" and "TT Lamp-Jax" on Series 1600 panels.

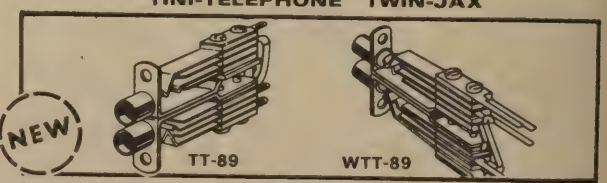
SERIES TT-30

Part No.	Fig.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
TT-31	D	I	TT-251	2	$1.20
TT-32A	D	III	TT-251	2	1.45
TT-32B	C	IV	TT-253	3	1.40
TT-32C	D	XVIII	TT-251	2	1.65
TT-33	D	V	TT-251	2	1.70
TT-33B	C	VIII	TT-253	3	1.70
TT-34A	D	XI	TT-251	2	1.75
TT-34B	C	XII	TT-253	3	1.70
TT-34C	D	XVII	TT-251	2	1.70
TT-35	D	XIII	TT-251	2	2.10
TT-36	C	XIV	TT-253	3	2.10
TT-36A	C	XIV	TT-253	3	2.45
TT-36C	C	XXII	TT-253	3	2.40

SERIES WTT-30

WTT-31	E	I	TT-251	2	1.30
WTT-32A	E	III	TT-251	2	1.55
WTT-32B	E	IV	TT-253	3	1.50
WTT-33	E	V	TT-251	2	1.80
WTT-34B	E	XII	TT-253	3	1.80
WTT-36A	E	XIV	TT-253	3	2.55
WTT-36C	E	XXII	TT-253	3	2.50

"TINI-TELEPHONE" TWIN-JAX



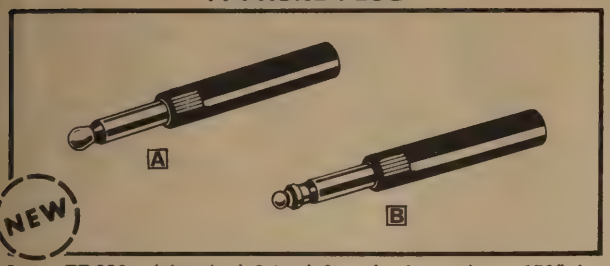
Series "TT Twin-Jax" and "WTT Twin-Jax" are similar in design to the Series "TT-Jax" and "WTT-Jax" single jacks described above, except the 2 frames are welded back-to-back with mtg. holes on 13/16" centers and bushings on 5/16" centers. Twin jacks are designed to be mounted on Series 1700 jack panels. Part No. TT-89 has solder lug terminals; Part No. WTT-89, wire-wrapping terminals. Both mate with TT-Patch Cords, Series TT-120 and TT-140.

Switchcraft Part No. TT-89 ..... U.S.A. List Price **$5.00**
Switchcraft Part No. WTT-89 ..... U.S.A. List Price **5.10**

Trade Discount Applies To List Prices Only
© United Technical Publications

"TT" Plugs, Jacks, Switches

TT-PHONE PLUG



Series TT-250 miniaturized 2- and 3-cond. phone plugs. .173" dia. finger fits all "tini-telephone" jacks—Series TT-30, WTT-30, TT-600 and Part Nos. TT-89 and WTT-89. Also mates with "Unijax". Series TT-250 plugs are used on Series TT-720, 740 patch cords. Handles twist-on and twist-off. Each handle includes a special boss which mates with a groove in the plug body. A 30° clockwise twist locks the handle on the plug body. The knurled area of the handle should be squeezed lightly to unlock. To remove—slide handle forward. Plastic handle; 1½" long x 5/16" dia.

Part No.	Fig.	Conductors	Handle	U.S.A. List Price
TT-251	A	2	Black	$2.20
TT-252	A	2	Red	2.20
TT-253	B	3	Black	3.20
TT-254	B	3	Red	3.20

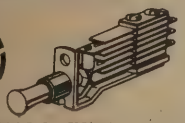
"TT LAMP-JAX"



E Small, space-saving "tini-telephone" lamp-jack. Designed to mount on Series 1600 TT-Jack Panels. Lamp-Jax, one-piece molded housing, has integral heat sink fins. Accepts industry standard T-1 ¾ bi-pin lamps. C TT-Jewel Assembly consists of a colored jewel and a brass sleeve which accepts the bi-pin lamp. Jewel serves as a re-lamping tool for the lamp jack. Lamp jack mounts on the Series TT-Jack Panel Series 1600 with one #3-48, 5/16" long screw (not furnished). Depth behind panel—2 3/16".

Part No.	Fig.	Description	U.S.A. List Price
TT-420	E	Lamp Jack	$1.30
TT-401	C	Jewel—Red	.35
TT-403	C	Jewel—Green	.35
TT-404	C	Jewel—Blue	.35
TT-405	C	Jewel—White	.35
TT-408	C	Jewel—Yellow	.35
TT-413	C	Jewel—Amber	.35
P-2315	D	6 V Bi-Pin Lamp	1.75
P-2316	D	28 V Bi-Pin Lamp	1.95

"TT-SWITCH"



Series TT-300 "tini-telephone" switch. Small, compact. Designed to be mounted in combination or interchangeable with "TT-Jax", "TT Lamp-Jax" on Series 1600 jack panels. Available in momentary (NON-LOCKING) or Push-to-Lock/Pull-to-Release actions. White plastic knob. Special nickel silver springs with welded crossbar palladium contacts rated at 2 amps, 200 watts, non-inductive load. Mounts with No. 3-28 screw (not furnished) in ¼" dia. hole in panels to ⅜" thick. Depth behind panel 2 3/16".

Part No. Non-Locking	Part No. Push-Lock/Pull-Release	Action	Schematic No.	U.S.A. List Price
TT-301	TT-301L	S.P.S.T. n.o.	1-A	$3.25
TT-303	TT-303L	S.P.D.T.	1-C	3.75
TT-306	TT-306L	D.P.D.T.	2-C	4.75
TT-307	TT-307L	3 P.S.T. n.o.	3-A	4.80

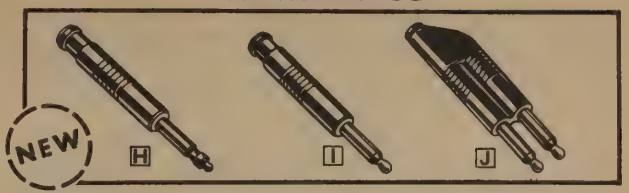
"TINI-TELEPHONE" ACCESSORIES



F TT-Hole Plug—used to close-off unused holes in TT-Jack Panels, Series 1600, 1700. Black plastic with brass sleeve. G Kwik-Change Designation Strip Kits for Series 1600, 1700 TT-Jack Panels. No. TT-501 Kit consists of an extruded aluminum mounting strip, 4 screws, a sheet of five marking strips and a clear plastic designation strip cover.

Part No.	Description	U.S.A. List Price
TT-501	Designation Strip Kit	$3.00
TT-502	Designation Marking Strip Sheet of five strips	.50
TT-503	Clear plastic designation strip cover	1.00
TT-510	TT-Hole Plug	.35

TT-PHONE PLUG



H TT-Phone Plug Terminating Plugs for terminating circuits with a specific load. A precision ½ watt, ±1% resistor is molded into the handle. Resistance value marked on handle. I TT-Phone Plug Dummy Plugs designed to be inserted into "TT-Jax" to actuate shunt and isolated switching circuits. J TT-Phone Plug Looping Plugs for looping or patching adjacent jack circuits. Fingers of twin looping plugs are wired internally. Terminating and Dummy plugs; .173" dia. finger; 1½" L. x 19/64" dia. handle. Looping twin plugs; (2) .173" dia. fingers; 19/64" W. x 1¾" L. handle.

Part No.	Description	U.S.A. List Price
TT-201	2-cond. terminating plug—135 ohms	$3.35
TT-202	2-cond. terminating plug—600 ohms	3.35
TT-203	3-cond. terminating plug—135 ohms	3.75
TT-204	3-cond. terminating plug—600 ohms	3.75
TT-205	2-cond. dummy plug	1.55
TT-206	3-cond. dummy plug	1.95
TT-207	2-cond. looping plug	5.10
TT-208	3-cond. looping plug	6.00

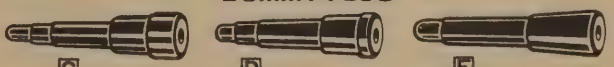
"LAMP-JAX" SWITCHBOARD PANEL TYPE



Quality long frame panel type lamp jacks. No. LT-47, black nylon lamp housing completely insulates lamp from frame. Interchangeable with W.E. Nos. 47A, 47B. Accepts std. lamps and lamp caps, W.E. Nos. 2, 72, etc. No. LT-48, new Ballast Lamp-Jax for use in circuits subjected to increasing temperature and wattage. Steel frame and bushing, Teflon sleeve. Accepts std. telephone lamps or ballast lamp No. 60XA. Both lamp jacks mount in std. Switchcraft jack panels.

Switchcraft Part No. LT-47 ..... U.S.A. List Price **$1.50**
Switchcraft Part No. LT-48 ..... U.S.A. List Price **2.25**

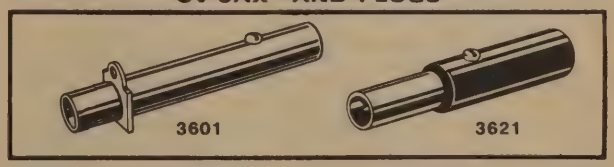
"DUMMY-PLUG"



Low cost, 2- and 3-conductor molded plastic, dummy plugs for use in switchboards, jack panels. Inserts in jack as does a phone plug to switch circuits, but can not couple incoming signals. Can also be used to plug up unused phone jacks to prevent accidental insertion of a phone plug. Series 491, 3-conductor, .207" dia. finger. Series 492, 3-conductor, .250" dia. finger. Series 493, 2-conductor, .250" dia.

Part No.	Fig.	Handle	Typical Mating Jack	U.S.A. List Price
491-01	C	Red	MT-342B	$0.55
491-02	C	Black	MT-342B	.55
491-05	C	White	MT-342B	.55
492-01	D	Red	MT-332B	.55
492-02	D	Black	MT-332B	.55
492-05	D	White	MT-332B	.55
493-01	E	Red	MT-331	.55
493-02	E	Black	MT-331	.55
493-05	E	White	MT-331	.55

"CV-JAX" AND PLUGS



High quality coaxial-video jacks and plugs designed for use in patching high frequency signals, microwave, telemetry and data transmitting applications. Jacks are made for 50 and 70 ohm circuits and use standard RG cables. No. 3601 accepts RG59/U. Mount in single 7/16" hole; Depth behind panel is 2 29/64". No. 3621, terminating plug with 75 ohm ±1% ½ watt resistor; No. 3622, feed through plug; No. 3623 same as 3621 but with tip jack for incircuit testing.

JACKS		PLUGS	
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price
3601	$10.50	3621	$ 5.00
		3622	4.50
		3623	6.05

SWITCHCRAFT® INC.

Phone Plugs

"LITTEL-PLUG" PHONE PLUGS

Small size phone plugs fit standard ¼" phone jacks except °Nos. S-250, S-260, S-280 and S-290 which have a .206" dia. sleeve. °°Nos. C-240, C-245 and C-270 feature an integral cable clamp with screw terminals. †No. R-280 has short sleeve or Revere Recorders. ‡No. 288 has a wide insulator between tip and sleeve for use in a 3-conductor jack to perform a 2-conductor function without shorting. Plugs with solder terminals have built-in cable clamp. Shielded metal handles are nickel plated brass; others are molded of durable plastic; ⅝" long x ½" dia.

TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Terminals	U.S.A. List Price
240	A	11	Black	Screw	$0.95
C-240°°	A	11	Black	Screw	—
245	A	11	Red	Screw	.95
C-245°°	A	11	Red	Screw	—
250	A	11	Black	Solder	.90
255	A	11	Red	Solder	.90
270	B	11	Shielded	Screw	1.35
C-270°°	B	11	Shielded	Screw	—
280	B	11	Shielded	Solder	1.30
288‡	B	11	Shielded	Solder	1.35
S-250	A	S-11	Black	Solder	—
S-280	B	S-11	Shielded	Solder	—
R-280†	B	—	Shielded	Solder	—

THREE-CONDUCTOR TYPE

260	A	12B	Black	Screw	$1.50
S-260°	A	S-12B	Black	Screw	—
267	A	12B	Black	Solder	1.35
269	A	12B	Red	Solder	1.35
290	B	12B	Shielded	Screw	1.75
297	B	12B	Shielded	Solder	1.65

STANDARD 1/4" PHONE PLUGS

Available with phenolic or shielded, nickel plated over brass handle.

TWO-CONDUCTOR TYPE—SCREW TERMINALS

Typical mating jack "Littel-Jax" No. 11. No. 169 features circuit closing device. No. 170 has a two-piece handle with built-in clamp for ¼" cable.

Part No.	Fig.	Handle	Length & Dia.	U.S.A. List Price
40	A	Black	2 1/16 x ¾	$1.00
45	A	Red	2 1/16 x ¾	1.00
70	B	Shielded	2 1/16 x 1 1/16	1.60
160	C	Shielded	1 x 1 1/16	1.30
169	C	Shielded	1 x ¾	2.65
170	D	Shielded	2 1/16 x 1 1/16	2.05

THREE-CONDUCTOR TYPE—SOLDER TERMINALS

Typical mating jack "Littel-Jax" No. 12B. No. 190A has two-piece handle with built-in cable clamp for ¼" cable.

60	A	Black	2 1/16 x 1 1/16	$1.35
90	C	Shielded	1 x 1 1/16	1.70
190	B	Shielded	2 1/16 x 1 1/16	1.95
190A	D	Shielded	2 1/16 x 1 1/16	2.45

"LUG-PLUG" PHONE PLUGS

Low cost, two-conductor phone plugs. Fit all ¼" phone jacks.

No. 385 Plug has a .206" dia. sleeve and mates with S-11 "Littel-Jax." All have solder lug terminals. Handle: Shielded metal or phenolic.

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Length & Dia.	U.S.A. List Price
350	A	11	Black	1⅜ x ½	$0.80
355	A	11	Red	1⅜ x ½	.50
380	—	11	Shielded	1 x ½	1.00

"TINI-PLUG" MINIATURE PHONE PLUGS

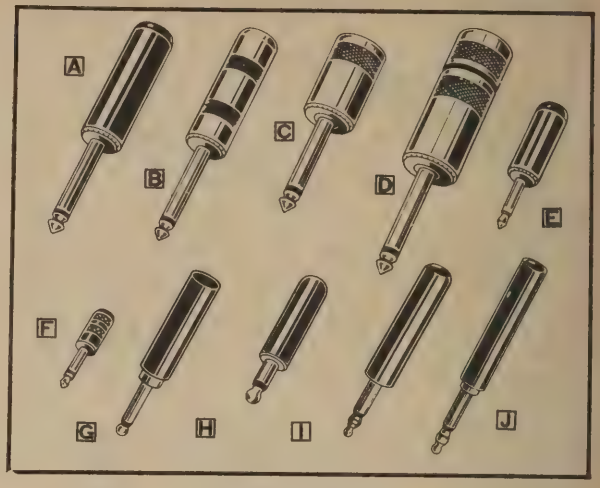
Miniature 2-conductor phone plugs for use with "TINI-JAX" only ⅓ the size of standard phone plugs. Handle 1⅝" overall length, are plastic or brass, nickel plated.

Part No.	Fig.	Terminal	Handle	U.S.A. List Price
740	E	Screw	Black	$0.95
745	E	Screw	Red	.95
750	E	Solder	Black	.90
755	E	Solder	Red	.90
770	E	Screw	Shielded	1.30
780	E	Solder	Shielded	1.25

"MICRO-PLUG"® SUB-MINIATURE PHONE PLUGS

Sub-miniature 2-conductor phone plugs, only 1 1/64" long; ¼" O.D., .097" dia. sleeve. Mate with No. TR-2A. Have screw on handles in black, red or natural anodized aluminum; accommodates cables up to 7/64" dia. All plugs have integral cable clamps.

Part No.	Fig.	Description	U.S.A. List Price
850	F	Black Handle	$0.85
855	F	Red Handle	.85
880	F	Natural Handle	.85



MILITARY TYPE "LITTEL-PLUG" AND "EXTENSION JAX"

Designed to meet exact industrial and military requirements. Plugs are made in accordance with MIL-P-642(A) specifications. One-piece tip rod and one-piece sleeve and plug body provide internal interlock to prevent parts shifting in position. Type 820 Extension Jack meets MIL-J-641A specifications and mates with "Littel-Plug" No. 430. No. 470 has shielded handle; all others plastic: †Red; ‡Black. All plugs have screw terminals.

Part No.	Fig.	Mil-Type No.	Typical Mating Jack	Cond.	U.S.A. List Price
420‡	G	PJ-047B	MT-388	2	$1.75
425†	G	PJ-047R	MT-388	2	1.75
430‡	H	PJ-054B	820	2	1.50
435†	H	PJ-054R	820	2	1.50
440‡	—	PJ-055B	MT-331	2	1.50
445†	—	PJ-055R	MT-331	2	1.50
450‡	H	PJ-540B	820	2	1.50
455†	H	PJ-540R	820	2	1.50
470	—	PJ-055M	MT-331	2	2.10
480‡	I	PJ-068	MT-342B	3	3.60
482†	J	PJ-051R	MT-332B	3	4.00
483‡	J	PJ-051B	MT-332B	3	4.00
484†	J	PJ-309	M-444	3	3.60
820‡	—	JJ-026	430 Plug	2	2.10

Switchcraft Part No. P-1074-1 — Strain Relief Clamp. Nickel Plate Brass. Package of 25 . . . . . U.S.A. List Price **$0.85**

TYPE 410 PLUG AND TYPE 810 JACK

Miniature 2-conductor extension jack and mating plug; often referred to as "Throat Microphone Plug and Jack." Plug is Military Type PJ-291; jack is Type JJ-048. Each is of two-piece molded construction. Plug has solder-cup terminals; jack has solder lugs. After wiring, shells must be cemented and clamped till dry. Overall size (engaged), 2⅝" x 17/32" x ⅜".

Switchcraft Part No. 410 Plug . . . . . U.S.A. List Price **$1.05**
Switchcraft Part No. 810 Jack . . . . . U.S.A. List Price **1.40**

"FLAT-PLUG" PHONE PLUGS



¼" phone plugs featuring flat, space-saving handles. Ideal for applications where conventional plugs would protrude too far. Nos. 220, 225 have adapter clips which make them convenient to clamp standard phone tips to terminals. Shielded flat plugs, Nos. 228 and 238 have nickel plated steel handles; all others have red or black plastic handles. Nos. S-230 and S-235 have .206" dia. sleeve.

TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating Jack	Handle	Terminals	U.S.A. List Price
220	K	11	Black	Screw	$1.40
225	K	11	Red	Screw	1.40
227	K	11	Black	Solder	1.10
228	L	11	Shielded	Solder	1.25
229	K	11	Red	Solder	1.10

THREE-CONDUCTOR TYPE

230	K	12B	Black	Screw	$1.70
S-230	K	S-12B	Black	Screw	2.15
235	K	12B	Red	Screw	1.70
237	K	12B	Black	Solder	1.65
238	L	12B	Shielded	Solder	1.80
239	K	12B	Red	Solder	1.65

Trade Discount Applies To List Prices Only
© United Technical Publications

Q-G® Audio Connectors

SWITCHCRAFT INC.

U.S. Patent No. 3,219,961 Canadian Patent No. 761,114

AUDIO CONNECTORS WITH COMPLETE GROUNDING PROVISIONS!

Switchcraft's "Quick-Ground" connectors feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished through the exclusive "Ground Contactors". Possible loss of insert screw is eliminated by new "Captive Design" Insert Screw. Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Q-G® Series 3, 4 and 5-contact audio connectors, offer 4 and 5-contact versatility when "Ground Terminal" is utilized. Can be used interchangeably with Canon type XLR-3, XLR-4, XLR-5 and Amphenol type 91-850 Series. **°Number of insert contacts or pins must be specified to complete Part Number.**

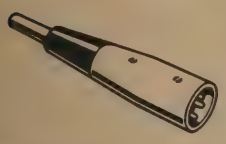
A(°)F CORD PLUGS



Fresh, streamlined design includes rugged, diecast zinc body, satin nickel finish, high-impact resistant thermo-setting plastic socket insert, molded latchlock, dual pressure plates, keyed neoprene relief bushing. Features "Ground Terminal" and "Ground Contactors" offers 4, 5 and 6-contact versatility. Mates with Switchcraft A(°)M and other connectors with similar contact arrangements. Takes 7/32" O.D. cable. Overall length 3 7/32"; dia. 3/4".

Part No.	Insert Contacts	U.S.A. List Price
A3F	3	$2.45
A4F	4	3.05
A5F	5	5.25

A(°)M CORD PLUGS



Has "Captive Design" insert screw, one-piece pin insert assembly easily removable for fast soldering. Polarizing groove. Die-cast zinc shell, satin nickel finish. Mates with Switchcraft A(°)F and other connectors with similar contact arrangements. Brass, silver plated chromate dipped pins to resist tarnishing. Overall length 2 25/32"; dia. 3/4".

Part No.	Insert Pins	U.S.A. List Price
A3M	3	$2.10
A4M	4	2.25
A5M	5	4.25

B(°)M RECEPTACLES



For panel or chassis mounting; locknut accommodates panels up to 1/4" thick. Single hole mounting, can be keyed by using "D" shaped panel hole or S-3519 mounting adapter. Pin insert features "Captive Design" insert screw and "Ground Terminal". Mates with Switchcraft A(°)F and other connectors with similar contact arrangements. Diecast zinc shell, satin nickel finish. Dimensions: Flange 1 7/64" dia.; Barrel 13/16" overall; pin extensions 9/32".

Part No.	Insert Pins	U.S.A. List Price
B3M	3	$3.00
B4M	4	3.15
B5M	5	5.15

B(°)F AUDIO RECEPTACLE



NEW

New panel mount receptacle. Supplied with 1 1/4-18 UNEF spanner nut; mounts in 1 1/4" dia. hole, in panels up to 7/16" thick. Mates with Switchcraft A(°)M, R(°)M, S(°)FM and other connectors with similar pin arrangements. Flange 1 7/16" dia.; Barrel 1 7/16" overall; pin extension 1/4".

Part No.	Insert Contacts	U.S.A. List Price
B3F	3	$5.00
B4F	4	5.25
B5F	5	7.25

C(°)M RECEPTACLES



Mounts on wall, panel or chassis with three .136" dia. mounting holes. High impact thermosetting plastic pin insert. "Captive Design" insert screw, "Ground Terminal". Pins, brass, silver plated, chromate dipped; resists tarnishing. Mates with Switchcraft A(°)F and other connectors with similar contact arrangements. Dimensions: Flange 1 7/16" dia.; Barrel 13/16" overall; pin extensions 9/32".

Part No.	Insert Pins	U.S.A. List Price
C3M	3	$1.60
C4M	4	1.75
C5M	5	3.75

C(°)F RECEPTACLES



For panel or chassis mounting; has socket insert, push-type latch locking device. Flange has three .136" holes for mounting screws. Mates with Switchcraft A(°)M and other connectors with similar contact arrangements. Dimensions: Flange 1 7/16" dia.; Barrel 1 13/16" overall; pin extension 1/4".

Part No.	Insert Contacts	U.S.A. List Price
C3F	3	$3.20
C4F	4	3.35
C5F	5	5.25

D(°)M RECEPTACLES



Narrow, rectangular flange design receptacle for mounting on compact panel or chassis. Mates with Switchcraft A(°)F and other connectors with similar contact arrangements. Dimensions: Flange 7/8" x 1 7/16"; Barrel 13/16" overall; pin extension 9/32".

Part No.	Insert Pins	U.S.A. List Price
D3M	3	$2.00
D4M	4	2.15
D5M	5	3.65

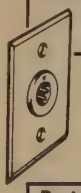
D(°)F RECEPTACLES



Rectangular flange design receptacle permits close mounting on crowded panel or chassis. Features "Captive Design" loss-proof insert screw, positive latch locking device and high impact thermo-setting socket insert. Mates with Switchcraft A(°)M and other connectors with similar contact arrangements. Dimensions: Flange 1 1/16" x 1 7/16"; Barrel 1 13/64" overall; pin extension 1/4".

Part No.	Insert Contacts	U.S.A. List Price
D3F	3	$3.30
D4F	4	3.45
D5F	5	5.35

G(°)M TYPE WALL PLATES



Single gang wall plates with a B(°)M male receptacle. Fits standard electrical outlet box. Wall plates available in brushed stainless steel as standard or brushed brass on special order. Dimensions: Wall Plate 4 1/2" H. x 2 3/4" W.

Part No.	Finish	Insert Pins	U.S.A. List Price
G3MS	Stainless Steel	3	$5.20
G4MS	Stainless Steel	4	5.50

H(°)M TYPE WALL PLATES



Two gang wall plates with two B(°)M male receptacles. Mounts in standard electrical switch box (single). Wall plates available in brushed stainless steel as standard or brushed brass on special order. Dimensions: Wall Plate 4 1/2" H. x 2 3/4" W. Six contacts.

Part No.	Finish	Insert Pins	U.S.A. List Price
H3MS	Stainless Steel	3 ea.	$7.30
H4MS	Stainless Steel	4 ea.	7.90

J(°)F TYPE WALL PLATES



Single gang wall plates with a D(°)F female receptacle. Fits standard electrical outlet box. Wall plates available in brushed stainless steel as standard or brushed brass on special order. Dimensions: 4 1/2" H. x 2 3/4" W.

Part No.	Finish	Insert Contacts	U.S.A. List Price
J3FS	Stainless Steel	3	$5.40
J4FS	Stainless Steel	4	5.70

K(°)F TYPE WALL PLATES



Two gang wall plates with two D(°)F female receptacles. Mounts in standard electrical outlet junction box. Wall plates available in stainless steel as standard or brushed brass on special order. Dimensions: 4 1/2" H. x 2 3/4" W.

Part No.	Finish	Insert Contacts	U.S.A. List Price
K3FS	Stainless Steel	3 ea.	$7.70
K4FS	Stainless Steel	4 ea.	8.30

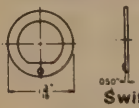
P(°)F PLUG



NEW

Female audio connector mounts directly to a flexible gooseneck and/or microphone stem. Diecast zinc housing has a 5/8-27NS-2B internal thread, 9/16" deep. Mate with all female receptacles with similar pin arrangements. Overall length 2 1/4"; dia. 3/4".

Part No.	Insert Contacts	U.S.A. List Price
P3F	3	$2.40
P4F	4	3.00
P5F	5	5.00

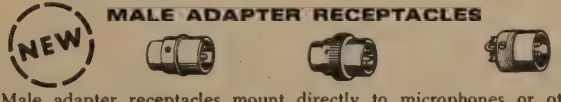


MOUNTING ADAPTER

For use with B3M panel and chassis receptacle. Eliminates necessity of providing a flat "D" shaped hole in panel to prevent turning of receptacle.

Switchcraft Part No. S-3519 . . U.S.A. List Price $0.45

MALE ADAPTER RECEPTACLES

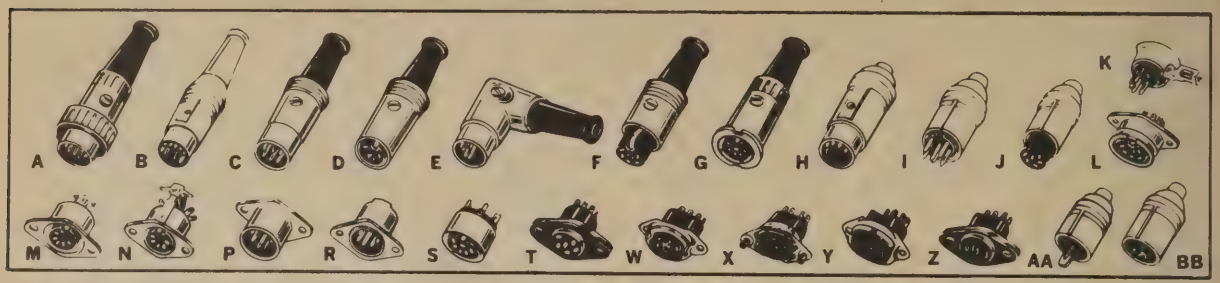


NEW

Male adapter receptacles mount directly to microphones or other equipment. Series L(°)M has plain cylindrical shell, 47/64" dia.; with 3/4" collar. Series L(°)MN has same shell with Knurled coupling nut. Series M(°)M, short cylindrical shell 13/16" L., with 13/16-27 thread.

Part No.	Insert Pins	U.S.A. List Price
L3M	3	$2.50
L4M	4	2.65
L5M	5	3.65
L3MN	3	3.00
L4MN	4	3.15
L5MN	5	4.15
M3M	3	2.75
M4M	4	2.90
M5M	5	3.90

SWITCHCRAFT INC. Preh Audio Connectors



Here is the most complete low-cost family of miniature audio connectors available today. Exact replacements for plugs and receptacles, used on most foreign built tape recorders, radios and dictation equipment. Switchcraft/Preh 2 to 7 contact connectors include male and female plugs and receptacles with bright nickel-plated shells and plastic snap-on shells. Check these outstanding features . . . lock-ring coupling, silver plated contact pins for low contact resistance, contact friction coupling for low mechanical interference noise, exclusive "automatic" grounding and polarization provisions. Thirteen receptacles offer some form of internal switching. Positioning "Ground Key-Rib" or "Ground Contact"—electrically integral with the connector shell—is provided in each plug and receptacle (except those with plastic housings or shells) to ground or shield the connector shell. Designed for low level circuitry, they have unlimited use in commercial, industrial, consumer and military applications.

PLUGS

STRAIGHT CORD PLUGS with 30° Lock Ring

Part No.	Fig.	Description	Pin or Cont. Arr.	U.S.A. List Price
03CL2M	A	2 pins, ins. sw. actuator.	1	$1.75
05CL3M	A	3 pins at 180°	2	1.75
05CL5M	A	5 pins at 180°	5	1.95
09CL4M	A	4 pins at 210°	3	1.85
12CL5M	A	5 pins at 240°	4	1.95

STRAIGHT CORD PLUG with Shielded Barrel

05GM3M	B	3 pins at 180°, Gray	2	1.10
05GM5M	B	5 pins at 180°, Gray	5	1.30
09GM4M	B	4 pins at 210°, Gray	3	1.20
12GM5M	B	5 pins at 240°, Gray	4	1.30
12GM6M	B	6 pins at 240°, Gray	6	1.40
12HN5M	B	5 pins at 240°, Gray	4	1.30
15GM7M	B	7 pins at 270°, Gray	7	1.50

STRAIGHT CORD PLUG with Extended Barrel

03BL2M	C	2 pins, ins. sw. actuator	1	1.65
05BL3M	C	3 pins at 180°	2	1.65
05BL5M	C	5 pins at 180°	5	1.85
09BL4M	C	4 pins at 210°	3	1.75
12BL5M	C	5 pins at 240°	4	1.85
12BL6M	C	6 pins at 240°	6	1.95

STRAIGHT CORD PLUG with Flush Socket Insert

04AL2F	D	2 cont., cl. ckt. sw. Ckt. #4	A	1.65
06AL3F	D	3 contacts at 180°	B	1.65
06AL5F	D	5 contacts at 180°	F	1.85
10AL4F	D	4 contacts at 210°	D	1.75
13AL5F	D	5 contacts at 240°	E	1.85
13AL6F	D	6 contacts at 240°	G	1.95

RIGHT ANGLE CORD PLUG with 8 Position Barrel

03DL2M	E	2 pins, ins. sw. actuator	1	2.00
05DL3M	E	3 pins at 180°	2	2.00
05DL5M	E	5 pins at 180°	5	2.20
09DL4M	E	4 pins at 210°	3	2.10
12DL5M	E	5 pins at 240°	4	2.20

STRAIGHT CORD PLUG with Extended Socket

07FL3F	F	3 contacts at 180°	B	1.60
11FL4F	F	4 contacts at 210°	D	1.70
14FL5F	F	5 contacts at 240°	E	1.80

STRAIGHT CORD PLUG with Lock Flange

06EL3F	G	3 contacts at 180°	B	1.65
06EL5F	G	5 contacts at 180°	F	1.85
10EL4F	G	4 contacts at 210°	D	1.75
13EL5F	G	5 contacts at 210°	E	1.85

STRAIGHT CORD PLUG with Snap-Lock Plastic Shell

05LK3M	H	3 pins at 180°	2	.90
05LK5M	H	5 pins at 180°	5	1.10
09LK4M	H	4 pins at 210°	3	1.00
12LK5M	H	5 pins at 240°	4	1.10

STRAIGHT CORD PLUG with Short Plastic Shell

Part No.	Fig.	Description	Pin or Cont. Arr.	U.S.A. List Price
05QK3M	I	3 pins at 180°	2	$ .60
05QK5M	I	5 pins at 180°	5	.80
09QK4M	I	4 pins at 210°	3	.70
12QK5M	I	5 pins at 240°	4	.80
12QK6M	I	6 pins at 240°	6	.90

STRAIGHT CORD PLUG with Ext. Socket and Shell

07QK3F	J	3 contacts at 180°	B	.60
07QK5F	J	5 contacts at 180°	F	.80
08QK3F	J	3 cont.—180°, 2 blanks	C	.60
11QK4F	J	4 contacts at 210°	D	.70
14QK5F	J	5 contacts at 240°	E	.80
14QK6F	J	6 contacts at 240°	G	.90

RIGHT ANGLE CORD PLUG with Ins. Plastic Shell

05UK3M	K	3 pins at 180°	2	.60
05UK5M	K	5 pins at 180°	5	.80

RECEPTACLE for Lock-Ring Plugs

55HA2F	L	2 cont., clsd. ckt. sw. Ckt. #4	A	1.00
57HA3F	L	3 contacts at 180°	B	1.00
57HA5F	L	5 contacts at 180°	F	1.20
60HA4F	L	4 contacts at 210°	D	1.10
61HA5F	L	5 contacts at 240°	E	1.20

RECEPTACLE for Shielded and Extended Barrel Plugs

55GA2F	M	2 cont. plus clsd. ckt. sw. Ckt. #4	A	.70
57GA3F	M	3 contacts at 180°	B	.70
57GB5F	M	5 contacts at 180°	F	.90
57NC5F	N	5 cont.—180°, P.C. term.	F	.80
58GB3F	M	3 cont.—180°, 2 blanks	B	.75
58NC3F	N	3 cont.—180°, 2 blanks. P.C. term.	C	.60
59GB3F	P	3 cont.—180°, clsd. ckt. sw. Ckt. #5	B	1.30
59GB5F	P	5 cont.—180°, clsd. ckt. sw. Ckt. #5	F	1.50
60GA4F	M	4 contacts at 210°	D	.80
61GA5F	M	5 contacts at 240°	E	.90
61GA6F	M	6 contacts at 240°	G	1.00
62GB7F	M	7 contacts at 270°	H	1.10

RECEPTACLE for Flush and Extended Socket Plugs

56KD2M	R	2 pins, ins. sw. actuator.	1	1.00
57KD3M	R	3 pins at 180°	2	1.00
57KD5M	R	5 pins at 180°	5	1.20
60KD4M	R	4 pins at 210°	3	1.10
61KD5M	R	5 pins at 240°	4	1.20

RECEPTACLE with Recessed Mounting for Extended Socket Plugs

57JD3M	S	3 pins at 180°	2	1.00
60JD4M	S	4 pins at 210°	3	1.10
61JD5M	S	5 pins at 240°	4	1.20

RECEPTACLE for Short and Right Angle Plastic Shell Plugs

Part No.	Fig.	Description	Pin or Cont. Arr.	U.S.A. List Price
57LA3F	T	3 contacts at 180°	C	$ .40
60LA4F	T	4 contacts at 210°	D	.50
61LA5F	T	5 contacts at 240°	E	.60
61LA6F	T	6 contacts at 240°	G	.70

CONTROL AND SWITCHING RECEPTACLES FOR 01QK2M PLUG

Each receptacle includes an elongated center contact for positive polarization. When inserting mating plug, contact is made to terminals 1 and 2. Receptacle's built-in closed-circuit switch is not actuated. Plug may then be turned 180°, without a polarity change, and re-inserted to open switch and make contact to terminal 2. Convertible feature available in Nos. 51DA2F, 52BA2F, 52CA2F and 52DA2F.

RECEPTACLE with Metal Mounting Flange

52DA2F	W	2 cont. clst. ckt. sw. Ckt. #2, Conv't.	J	.65
53DA2F	W	2 contacts	K	.55
54DA2F	W	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.60

RECEPTACLE with Metal Rivet Mounting Flange

52BA2F	X	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.70
53BA2F	X	2 contacts	K	.60
54BA2F	X	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.65

RECEPTACLE with 1-C Circuit

51DA2F	Y	2 cont. Make-break. Ckt. #2. Conv't.	M	.80

RECEPTACLE with Insulated Plastic Body

52CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.60
53CA2F	Z	2 contacts	K	.50
54CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.55

CONTROL AND SWITCHING PLUGS

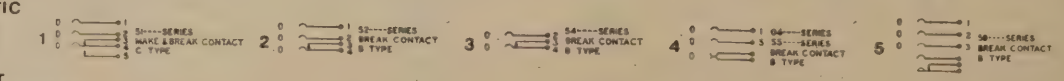
PLUGS with Snap-On Plastic Shells

01QK2M	AA	Male plug. 2 cont.	8	.40
02QK2F	BB	Female plug. 2 cont.	K	.50

PIN ARRANGEMENTS



SCHEMATIC CIRCUITS



CONTACT ARRANGEMENTS

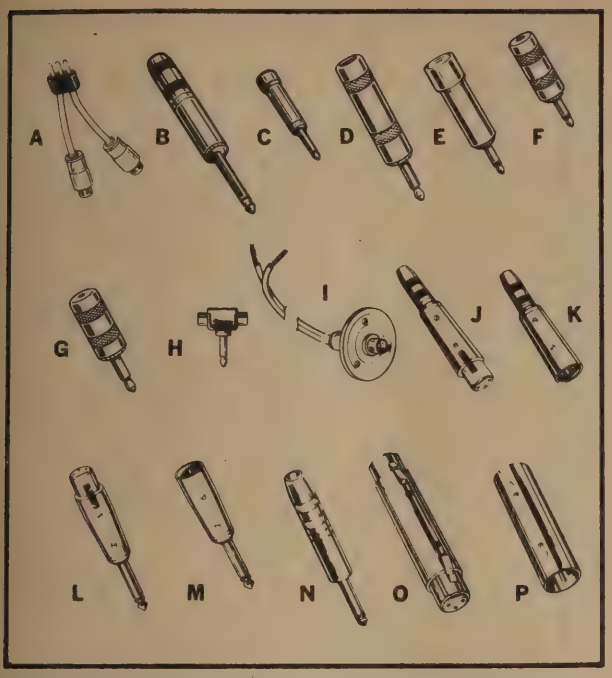


Trade Discount Applies To List Prices Only

© United Technical Publications

Adapters

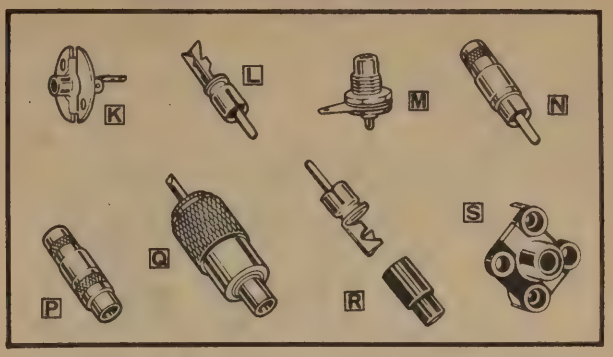
SWITCHCRAFT INC.



Versatile adapters for interconnecting components and cables that do not have mating jacks and/or plugs. Positive mating contacts prevent resistive line-losses. Nos. 369, 374, 375, 376, 377, have shielded, nickel plated brass handles. No. 378, "Tini-Tee," provides dual output jacks for two separate earphones. Allows two to listen at once from a single transistorized radio, tape recorder, etc. Part No. 330B, Special Stereo Adapter, adapts Lear Jet Model HSA-900 tape recorder to RCA, or other stereo units with a three contact in-line socket assembly. Two single conductor color coded phono jack outputs to one 3 pin in-line input. Completely shielded. 4" long.

Part No.	Fig.	Description	U.S.A. List Price
330BP1	A	Two single conductor, color coded phono jack outputs to one 3-pin in-line input. Completely shielded. 4" long.	$2.65
369P1	B	2-cond. Revere/Wollensak phone jack input to a standard 2-cond. phone plug output. Shielded.	2.65
370P1	C	Phono jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output. Shielded.	1.60
374P1	D	Phone jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	2.25
375P1	E	Phono jack input to a 2-cond. "Micro-Plug"® (.097" dia. finger) output.	2.05
376P1	F	"Tini-Jax" input to a 2-cond. "Micro-Plug" (.097" dia. finger) output.	2.05
377P1	G	"Micro-Jax" input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	2.05
378P1	H	"Tini-Tee" Adapter. 2-cond. "Tini-Plug" input to two 2-cond. "Tini-Jax" outputs.	2.65
379P1	I	Speaker enclosure phono jack. Molded flanged phono jack to stripped and tinned leads. 24" cable.	1.60
381	—	Adapter Cable. 11' 2-cond. shielded cable from 3-cond right angle phone plug to "Y" junction. Two single cond. shielded 1' cables from "Y" junction to two 2-cond. phone plugs.	7.35
383P1	J	3 Contact Switchcraft A3F female microphone input to 2-cond. extension phone jack output.	5.00
384P1	K	Three Pin A3M male microphone input to 2-cond. extension phone jack output.	4.50
386P1	L	3 Contact Switchcraft A3F female microphone input to a standard 2-cond. phone plug output.	4.90
387P1	M	3 Pin Switchcraft A3M male microphone input to a std. 2-cond. phone plug output.	4.35
388P1	N	2-cond., .206" dia. finger phone plug input to a 2-cond. ¼" dia. phone jack output. Shielded.	2.90
389P1	O	Coupler. 3-pin audio connector (Switchcraft A3M) at each end. Shielded.	5.15
390P1	P	Coupler. 3-pin male audio connector (Switchcraft A3M) at each end. Shielded.	4.35

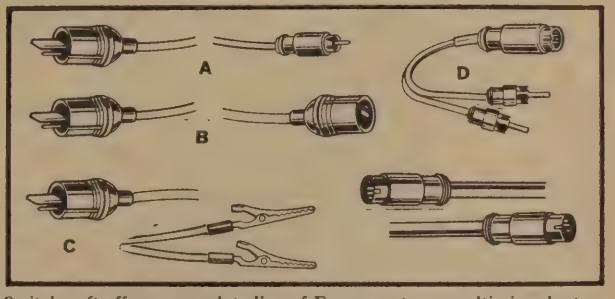
PHONO JACKS AND PLUGS



Low cost 2-cond. jacks and plugs for record players, FM-AM tuners, tape recorders, test equipment, etc. 3501MC has 3/8" O.D. shell and cable clamp. 3501FP for front panel mount in 1/4" hole, in panels up to 1/8" thick. 3501FR for rear panel mount in 3/8" hole, in panels up to 13/64" thick. 3502 has unique cable clamp with 13/32" O.D. shielded removable handle. 3503 ext. jack has shielded removable handle, 13/32" O.D. with cable clamp. 3508 Series, new color coded phono plugs with cable clamp and "snap-on" plastic handles in Red, Black, and White. Series 3511 "4-Leaf Clover" Jax. Molded phono Jack with dual contact surfaces for minimum shunt resistance, greater reliability. Open and closed circuit types. Mate with all Switchcraft phono plugs.

Part No.	Fig.	Description	U.S.A. List Price
3501F	K	Chassis jack	$0.15
3501M	—	Plug, less cable clamp	.10
3501MC	L	Plug with cable clamp	.15
3501FP	M	Chassis jack	.40
3501FR	—	As above, chassis jack	.50
3502	N	Plug	.55
3503	P	Extension jack	.70
3508-1	R	Plug, Red handle	.25
3508-2	R	Plug, Black handle	.25
3508-5	R	Plug, White handle	.25
3511	S	Chassis jack, open circuit	.35
3511A	S	Chassis jack, open circuit, grounded	.35
3512	S	Chassis jack, closed circuit	.40
3512A	S	Chassis jack, closed circuit, grounded	.40

EUROPEAN-TYPE ADAPTERS AND CABLE ASSEMBLIES



Switchcraft offers a complete line of European-type, multi-pin adapters and cable assemblies. These quality cables and adapters are designed to mate with multi-pin inputs and outputs on tape or cassette recorders, amplifiers, speakers, etc.

Part No.	Fig.	Description	U.S.A. List Price
25DK32	A	European-type 2 pin male cord plug to phono plug 6' shielded cable.	$2.25
32ZN36	B	Speaker ext. cable. European-type 2 pin male cord plug to 2-contact female cord plug. 10' parallel cable.	3.00
32ZR36	—	As above, except 15'.	3.40
32ZK86	C	European-type 2 contact female cord plug to 2 alligator clips. 6' parallel cable.	2.35
32ZN86	—	Same as above, except 10'	2.65
33FK25	D	Stereo Hi-Fi Cable. European-type 3 pin (at 180°) male cord plug to 2 color coded phono plugs. 6' parallel cable.	4.25
33FN25	—	Same as above, except 10'.	4.90

Part No.	Description	U.S.A. List Price
35TK35	European type extension cable, 5 pin (180° DIN) connector at each end. Gray shielded cable, 4-cond. 6 ft.	$8.15
35TN35	As above, except 10 ft.	9.75



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

PATCH CORDS, JACK PANELS AND TELEPHONE PLUGS: Audio, Broadcast, Miniature

TRIMM patch cords feature telephone type plugs on cords built to withstand hard use. Two or more conductors of bronze tinsel are covered with numerous layers of insulation and waterproofing. The cords are color coded, shielded (if desired) then covered with a final braid of nylon to assure long service. The nylon is standard black unless a color is specified. Available at a slight extra charge are: Blue (BL), Brown (BR), Green (GR), Red (RD), Slate Gray (GY) and White (WH).



"840" PATCH CORDS

Broadcast type "506" twin plugs at both ends. Conductors are wired to tip and the shield (when used) is connected to the grounded shaft. Commonly supplied with shield attached at one end only. Available without shield (W in code number), or with shield attached at both ends (X in code number). PP indicates the cord has a plug at both ends.

Standard Shielding		"X" Shielding	
840-05-PP	840- 4-PP	840-05X-PP	840- 4X-PP
840- 1-PP	840- 5-PP	840- 1X-PP	840- 5X-PP
840- 2-PP	840- 6-PP	840- 2X-PP	840- 6X-PP
840- 3-PP	840-10-PP	840- 3X-PP	840-10X-PP

Without Shield

840-2W-PP 840-3W-PP



"841" and "851" SPACESAVERS

841 patch cords use two No. 517 triple circuit plugs of special broadcast design. The unique plug tip contour reduces "clicks" in service. Conductors are wired to tip and ring. Shield (if used) is wired to plug shaft. 851 patch cords use two No. 516 triple circuit plugs with standard ball tip construction. Both types commonly have shield connected at one end only.

841 1-PP	841- 6-PP	851- 4-PP
841-2-PP	841-10-PP	851- 5-PP
841-3-PP	851- 1-PP	851- 6-PP
841-4 PP	851- 2-PP	851-10-PP
841-5-PP	851- 3-PP	

"X" Shielding

841-1X-PP 851-1X-PP
841-2X-PP 851-2X-PP

Without Shield

851-2W-PP
851-3W-PP

"866" - "867" MINIATURE PATCH CORDS

Two conductor (866) and three conductor (867) patch cords using new miniature "536" and "537" plugs. Have same high quality construction details and optional features as standard patch cords. Same coding. Contact your distributor for miniature line prices.

866-1-PP	867-1-PP	866- 5-PP	867- 5-PP
866-2-PP	867-2-PP	866-10-PP	867-10-PP



"90" and "91" JACKS

Commonly known as the telephone jack. The "90" series nickel plated bushing fits a ⅜" dia. mounting hole and the jack is held to the panel with a mounting screw. The "91" series has a ⅜" threaded bushing for mounting and has the standard mounting screw hole in addition. Screws or nuts and washers furnished. Cadmium plated frame, nickel silver springs and tinned terminals.

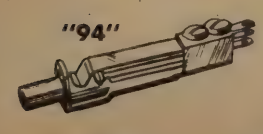
90SN-01	90CSN-14B	91-01	91-09B
90SN-02B	90SN-25	91-02B	91-25
90SN-06B	90SN-26B	91-05B	91-26B
90SN-07B	90SN-27B	91-06B	91-50
90SN-08B	90SN-50	91-07B	91-51B
90SN-09B	90SN-51B		



"92" JACKS

Twin jacks on a single frame used in toll and carrier frequency systems. 92-1009B provides **unbalanced** normal through circuitry while 92-1030B provides **balanced** normal through circuitry between jacks. A single plug inserted into either side of the jack opens circuit up to jack for testing up to that point. Brass bushing as in 92-1009B, or nickel plated as in 92N-1009B. G indicates gold contacts.

92S-1009B	92SN-1009B
92S-1009BG	92SN-1009BG
92S-1030B	92SN-1030B
92S-1030BG	92SN-1030BG
92S-25	92SN-25



"94" MINIATURE JACKS

Uses one half the space of conventional jacks. Fits new 96-700 miniature jack mounting strips. Same high reliability. Cadmium plated steel frame. Molded spring insulation prevents moisture absorption. Welded gold crossbar contacts on nickel silver springs.

94S-01	94S-08B	94S-26B
94S-02B	94S-25	94S-27B
		94S-32B

"96" JACK PANELS



⅝" thick bakelite panel with end brackets, side reinforcing strips and designation strips. Complete with jacks mounted and choice of jack circuits. All jacks insulated from each other. Ordinarily supplied with jack ground lug offset (to reduce wiring time). Straight ground lugs are available to duplicate W.E. jacks. Types 96-71 through 96-77 are three circuit types for No. 516 or 517 plugs. Types 96-01 through 96-07 usually used with No. 506 twin plugs although other standard two-circuit plugs will fit.

Code No.	Rows	No. of Jacks	Jack Type	Jack Mounting Strip Type	Width
96-01	1	24	90LN-02B	96-21	1¾"
96-02	2	48	90LN-02B	96-22	2⅛"
96-03	2	48	90LN-02B	96-23	3½"
96-04	2	48	90LN-02B	96-24	3½"
96-06	1	26	90LN-02B	96-26	1¾"
96-07	2	52	90LN-02B	96-27	1¾"
96-71	1	24	90LN-26B	96-21	1¾"
96-72	2	48	90LN-26B	96-22	2⅛"
96-74	2	48	90LN-26B	96-24	3½"
96-76	1	26	90LN-26B	96-26	1¾"
96-77	2	52	90LN-26B	96-27	1¾"

"96-700" MINIATURE JACK MOUNTING STRIPS

Bakelite panels ⅜" thick, 1¾" wide. Fits standard 19" panel mountings. One or two rows of mounting holes for the installation of one or two rows of miniature jacks, 48 or 52 jacks per row. Standard designation strip is JP-35. Contact your distributor for miniature line prices.

	Rows	Total Jacks	No. Desig. Strips		Rows	Total Jacks	No. Desig. Strips
96-721-1	1	48	1	96-726	1	52	1
96-721-2	2	96	2	96-727	2	104	2

"96" JACK MOUNTING STRIPS — WITHOUT JACKS

Used as a mounting base where non-standard arrangement of jacks, lamps sockets, turn or push keys, and coaxial jacks are combined on one panel. Suppliesd with end brackets, designation strips and side reinforcing strips mounted. Available in numerous other types than those listed.

Code No.	Rows	Jack Holes per Row	Jack Hole Spacing c. to c.	Width	Designation Strip Qty.	Designation Strip Type
96-20	1	12	1⅜	1¾	1	JP-30
96-20-1	1	12	⅝ - 2¼ - ⅝	1¾	1	JP-35
96-21	1	24	⅝ - ¾ - ⅝	1¾	1	JP-30
96-22	2	24	⅝ - ¾ - ⅝	2⅛	1	JP-30
96-23	2	24	⅝ - ¾ - ⅝	3½	1	JP-30
96-24	2	24	⅝ - ¾ - ⅝	3½	2	JP-30
96-25	2	12	1⅜	3½	2	JP-30
96-26	1	26	⅝	1¾	1	JP-34
96-27	2	26	⅝	1¾	2	JP-34
96-28	2	Upper 24 Lower 12	⅝ - ¾ - ⅝	3½	2	JP-35
96-31	1	24	⅝ - ¾ - ⅝	1¾	1	JP-38
96-32	2	24	⅝ - ¾ - ⅝	2⅛	2	JP-33
96-37	2	24	⅝ - ¾ - ⅝	1¾	2	JP-34
*96-38	1	32	⅝	1¾	2	JP-31-3
*96-39	2	32	⅝	1¾	2	JP-31-3
96-40	4	24	⅝ - ¾ - ⅝	3½	3	Special

ALUMINUM JACK MTG. STRIPS— LESS JACKS

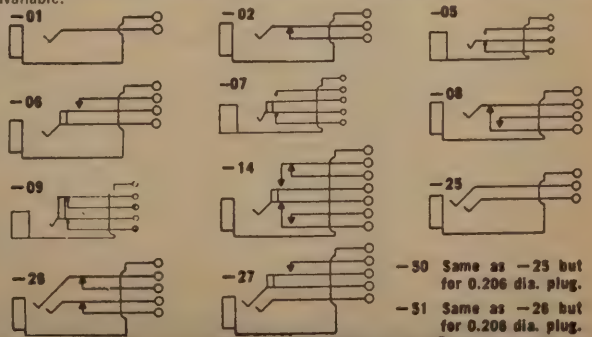
The "99" series features a front aluminum panel 3/16" thick separated from a rear sub-panel ⅛" thick to which the jacks are mounted. Overall thickness of 1/32". Sub-panel forms common ground for jacks. Fits 19" rack. The "99-200" series backs the aluminum front panel with a ¼" bakelite strip to isolate jacks from each other. Total thickness of ⅝".

Code No.	Rows	Jacks/ Row	Jack Hole Spacing c. to c.	Width	Designation Strip Qty.	Designation Strip Type	Notes
99-20	1	12	1⅜"	1¾	1	JP-37	
99-20-1	1	12	⅝ - 2¼ - ⅝	1¾	1	JP-37	
99-21	1	24	⅝ - ¾ - ⅝	1¾	1	JP-37	
99-22	2	24	⅝ - ¾ - ⅝	2⅛	1	JP-30	
99-22-1	2	24	⅝ - ¾ - ⅝	2⅛	2	JP-33	1
99-22-2	2	23	⅝ - ¾ - ⅝	2⅛	2	JP-33	2
99-24	2	24	⅝ - ¾ - ⅝	3½	2	JP-37	1
99-26	1	26	⅝"	1¾	1	JP-34	
99-27	2	26	⅝"	1¾	2	JP-34	1

NOTES 1. Designation strip above top, and below bottom row.
2. Designation strip above each row.

JACK CIRCUIT DIAGRAMS

Standardized coding: The jack series number PLUS a DASH NUMBER to indicate the spring arrangement. This is a limited listing of the many circuits available.



-50 Same as -25 but for 0.206 dia. plug.

-51 Same as -26 but for 0.206 dia. plug.

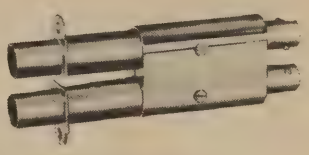
© United Technical Publications

TRIMM INC.

A SELECTED LISTING FROM OVER 250 TRIMM-MANUFACTURED COMPONENTS

COAXIAL JACKS, PLUGS AND PANELS: Video Patch Cords, Hybrid Audio/Visual





COAXIAL JACKS: "89" SERIES

Developed for a wide range of RF applications including video frequencies, carrier and UHF frequencies. Triple layer plating of silver, palladium and hard gold on female contact assures extremely low contact resistance and long wear.

SINGLE JACKS

W.E. Compatible	Cable	RCA Compatible
89-01	RG-58	89-701
89-02	RG-59	89-702
89-05	RG-11	*
89-08	RG-8, 9	*
89-07	RG-54; WE 724 Belden 8281 (Jack similar to WE 477B)	89-707
89-11	RG-187	•
89-14	Amphenol 21-597 & RG-122U (Similar to WE 470B)	89-715
89-15		
89-32	Female BNC	89-732
89-34	Female TNC	89-734

TWIN TYPES — Non-Switching

89-51	RG-58	89-751
89-52	RG-59	89-752
89-57	WE 724 or Belden 8281	*
89-64	Amphenol 21-597 or RG-122	*
89-82S	Single BNC at rear	89-782S
89-207	General T43M	*
89-218	WE 754E, RG-22, General T43	*

TWIN TYPES — Switching

89-102	RG-59	89-802
89-132	BNC at rear	89-832

TERMINATING JACKS

These jacks are used in circuitry in which there is a need to maintain a known load in the circuit. When plug is fully inserted load is automatically disconnected and circuit transferred to plug. Similar to regular single jacks — fitting same cable, etc. (For example: 89-01-40-50 fits RG-58 cable).

W.E. Compatible	Impedance	RCA Compatible
89-01-40-50	50 ohm	89-701-40-50
89-02-40-75	75 ohm	89-702-40-75
89-07-40-75	75 ohm	89-707-40-75
89-32-40-50	50 ohm	89-732-40-50
89-32-40-75	75 ohm	89-732-40-75
89-82S-40-75	75 ohm	89-782S-40-75

COAXIAL PLUGS: "530" SERIES



For use with "89" series jacks. Assembled on cords to form "849" series patch cords. Silver and hard gold plated contact pin assures minimum resistance and long wear.

W.E. Compatible	Cable	RCA Compatible
530-1	RG-58	530-701
530-2	RG-59	530-702
530-6	(Similar to WE 358A) RG-54, Belden 8281, WE 724	530-706
530-15	RG-58	530-715
530-16	RG-59	530-716

COAXIAL ADAPTER PLUGS

530-32	BNC at rear	530-732
530-34	TNC at rear	530-734

TERMINATING and DUMMY PLUGS

W.E. Compatible	Impedance	RCA Compatible
530-41	50 ohm	530-741
530-42	75 ohm	530-742
530-46	50 ohm	530-746
530-47	75 ohm	530-747
530-19	dummy plug (no center contact)	

COAXIAL BRIDGING PLUGS "531" SERIES

A twin coaxial plug (sometimes called a looping plug). Internally wired to connect two adjacent coaxial jacks spaced 5/8" C to C. Two plugs essentially similar to "530" series mounted in a plastic handle-like shell.



W.E. Compatible	Impedance	RCA Compatible
531-1	50 ohm	531-701
531-2*	75 ohm	531-702
531-11**	50 ohm	531-711
531-12**	75 ohm	531-712

*Equivalent to WE 477B.

**With pin tip test jacks (white jack wired to ground and green—50 ohm, or purple—75 ohm jack to center conductor).



COAXIAL PATCH CORDS: "839" SERIES

Used for testing and interfacing between other instruments and coax panels. The cord comes with a male BNC connector on one end and a coax connector on the other.

W.E.	RCA
839-2X-PP	839-2X-700PP
839-6X-PP	839-6X-700PP

COAXIAL PATCH CORDS: "849" SERIES

The following cords use two 530-2 (for WE) or two 530-702 (for RCA) plugs and RG59B/U cable—75 ohm.

W.E.	RCA	W.E.	RCA
849-05X-PP	849-05X-700PP	849-3X58-PP	849-3X58-700PP
849-1X-PP	849-1X-700PP	849-3X-PP	849-3X-700PP
849-105X-PP	849-105X-700PP	849-4X-PP	849-4X-700PP
849-2X-PP	849-2X-700PP	849-6X-PP	849-6X-700PP

The following cords, as above, but with RG-58C/U cable—50 ohm.

W.E.	RCA	W.E.	RCA
849-1X58-PP	849-1X58-700PP	849-3X58-PP	849-2X58-700PP
849-2X58-PP	849-2X58-700PP	849-4X58-PP	849-4X58-700PP

HYBRID PATCH CORDS: "869" SERIES

Audio and Video patch cord. Twin plug contains a coax and a three-circuit telephone plug. On 5/8" centers. Will fit combination panels with "89" series coaxial jacks and "90" series telephone jacks. 75 ohm cable on section (RG-187) and audio is carried by two additional conductors with shield overall (but not common to coax shield).



869-105X-PP 869-2X-PP 869-3X-PP

PARALLELING FITTINGS

Two types are provided — those that parallel several cables or jacks (864 series) and other types called power dividers (869 series) which internally contain passive networks to provide constant impedance. The most common types using BNC connectors are listed below.

864-102		1 input — 2 jacks
864-201		2 inputs — 1 jack
865-102-50	50 ohm	1 input — 2 jacks
865-102-75	75 ohm	1 input — 2 jacks
865-201-50	50 ohm	2 inputs — 1 jack
865-201-75	75 ohm	2 inputs — 1 jack

COAXIAL JACK PANEL ASSEMBLIES

The "89" series coaxial jacks can be mounted on the "96" or "99" series strips in almost any specified configuration. Listed below are some of the more standard types already produced. Consult factory for information regarding price or your special requirements.

W.E.	RCA	Qty/Row	Rows	Jack Type	Jack Mtg. Strip
99-80		12	1	89-32	99-20
	99-780	12	1	89-732	99-20
98-84		24	2	89-02	96-24
	96-784	24	2	89-702	96-24
*96-94-2		24	2	89-02	96-524-2
	*96-794-2	24	2	89-702	96-524-2
96-85		12	2	89-02	96-25
	96-785	12	2	89-702	96-25
*96-95-2		12	2	89-02	96-525-2
	*96-795-2	12	2	89-702	96-525-2
*96-98-2		Top 24 Bottom 12	2	89-02	96-528-2
	*96-798-2	Top 24 Bottom 12	2	89-702	96-528-2

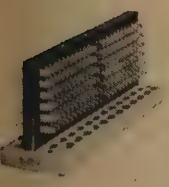
*Denotes sub-chassis with 24 UHF connectors.

© United Technical Publications

TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

TERMINAL BLOCKS, TURN AND PUSH KEYS, LAMP SOCKETS: Related Panel Equipment



TERMINAL BLOCKS

Originally developed for telephone and telegraph exchange use, now are quite generally found in broadcast and microwave relay stations, large instrument systems —wherever very large numbers of circuits need convenient places of termination.

Terminals are of three basic types: standard solder types, wire wrap type, and hybrid wire wrap on one side, solder on the other. All are of 0.040" brass, tinlate plated. Standard solder type available in four different lengths with "butterfly" notched design assuring retention of wire. All blocks having numbering along the top row. Costs as shown are for standard solder lugs.

"421 SERIES"

Molded of black phenolic plastic material, including base. Provides 20 terminals per row, in two banks of ten, with up to ten rows. Base 6 1/16" long x 3" wide. Has steel mounting strip inset in groove in base, with standard mounting dimensions and accommodating #10-32 screws. Interchange with W.E. "L" series, as indicated by ( ) following TRIMM no.

Code No.	No. Rows	No. Term
421C-1	1	20
421C-2	2	40
421C-3 (L34)	3	60
421C-4 (L4A)	4	80
421C-5 (L5A)	5	100
421C-6 (L6A)	6	120
421C-7	7	140
421C-8 (L8A)	8	160
421C-9	9	180
421C-10	10	200

"427" SERIES

Molded of black phenolic plastic material, including base. Provides 26 terminals per row in two banks of 13. Base 8" x 2 5/8" wide. Fits Cook Elec. frames.

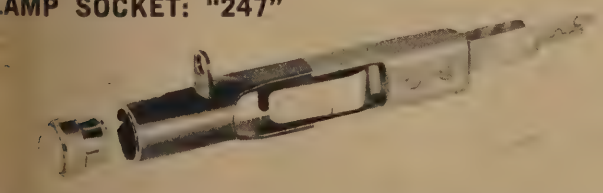
Code No.	No. Rows	No. Term.
427B-1	1	26
427B-2	2	52
427B-3	3	78
427B-4	4	104
427B-5	5	130
427B-6	6	156
427B-7	7	182
427B-8	8	208
427B-9	9	234
427B-10	10	260
427B-11	11	286
427B-12	12	312

OTHER SERIES

Summarized below are terminal arrangements and base dimensions for other types. All bases 5/8" thick phenolic. Available in 1 to 14 rows. Write for additional information.

Series	Term. per Row	Base Dimensions	Notes
421A	20	6 1/16" x 2 5/8"	Eq. to W.E. "M" type.
427D	26	8" x 3 1/16"	

LAMP SOCKET: "247"



Switchboard type lamp socket; intended for use with standard No. 2 switchboard lamps, and to be assembled on to standard 5/8" thick jack mounting strips with 1/4" dia. jack bushing holes. Has lug for #6-32 mounting screw 3/8" off center line. May be mounted 5/8" c. to c. horizontally.

Frame, one piece steel construction. Springs nickel silver insulated from frame and each other with XXXP phenolic laminated spacers. Lamp mounts close to ins of lamp cap, giving maximum illumination.

247 Lamp Socket 47B

"240" GLASS LAMP CAP

Code No.	Color	W.E. Type
240-AY	Lamp Cap White Opalescent	2-AY
240-H	Lamp Cap Red Opalescent	2-H
240-L	Lamp Cap Green Opalescent	2-L
240-U	Lamp Cap Amber	2-U
240-W	Lamp Cap Blue	2-W

PUSH KEYS: "204" - "206"



Long frame push button type key very similar to turn keys. The usual applications for push button type keys are as an impulse switch for relays, or motor starters; buzzer signals, test circuits requiring momentary contact, etc. Mounting, dimensional and contact data, similar to turn keys. Available in non-locking and locking forms. Knob of black plastic material with depressed dimple for finger.

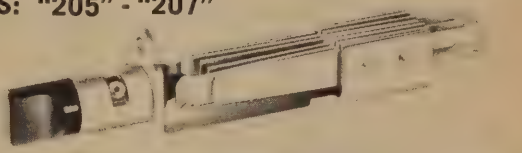
LOCKING TYPE, "204"

204-1A 204-2A

NON-LOCKING TYPE, "206"

Part. No.	Part No.
206-1A	206-2A
206-1B	206-2B
206-1C	206-2C
206-1D	206-3C
	206-4A

TURN KEYS: "205" - "207"



Long frame rotating cam type keys or switches. Intended to be assembled on to standard 5/8" thick jack mounting strips having 3/4" dia. jack bushing holes. Hole for #6-32 screw 3/8" off center provided. Entirely interchangeable with telephone type jacks, and essentially similar to W.E. "552" series. See table below for cross reference.

Knob of molded black nylon, has two flat areas on each side to provide convenience in turning. White filled line on front of knob readily identifies in which of two positions key has been turned.
Requires 2 23/32" depth behind panel.

LOCKING TYPE, "205"

Part No.	Part No.	Part No.	Part No.
205-1A	205-2A	205-3A	205-2A2B
205-1B	205-2B	205-3C	205-1A2C
205-1C	205-2C	205-4A	205-1000
205-1D	205-2D	205-4C	205-1001

NON-LOCKING TYPE, "207"

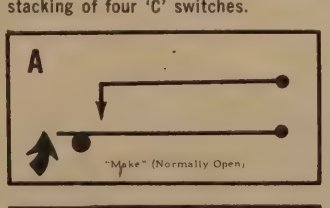
Part-No.	Part No.	Part No.
207-1A	207-1B	207-2C

CROSS REFERENCE W.E. to TRIMM

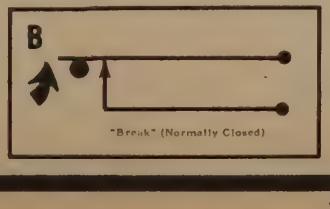
TRIMM Code	W.E. Type	TRIMM Code	W.E. Type
205-2C	552A	205-1000	552E
205-3A	552B	205-1D	552G
205-1001	552C	205-2C1A	552H
205-2B 2C	552D		

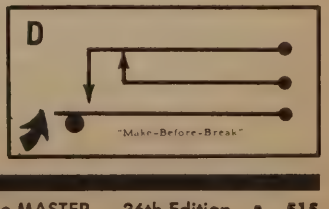
SWITCH DIAGRAMS

Basic switching for Turn Keys and Push Keys is described by these diagrams. Other combinations are available. Coding: The series number of the switch followed by a dash number. 205-4C is then a locking type Turn Key with a stacking of four 'C' switches.









SOLDERLESS TERMINALS

Packaged Four Convenient Ways

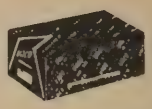
Vaco offers convenient packaging for every type and size of terminal user. All Vaco Paks are shown with stock number, actual size illustration of terminal, and wire and stud size for easy shelf identification.



"D" PAK
(5 Paks to Master Carton). Use prefix "D" when ordering.



"C" PAK
(100 per Pak—5 Paks to Master Carton). Use prefix "C" when ordering.



"MB" PAK
(Contains 1000 of a number.) Use prefix "MB" when ordering.



"V" PAK
For small quantity user.

	Wire Size	Stud Size	Series 10000 — Vaco Single-Grip Terminals and Connectors are one-piece, non-insulated basic type and meet most requirements. Stock No.	Qty. per "D" Pack	Series 20000 — Vaco Hi-Temp Solderless Terminals and Connectors are similar in construction to the basic 10000 Series, except special nickel plating permits use in temperature range up to 650°F. Recommended for use in heating elements, electric dryers, etc. Stock No.	Qty. per "D" Pack	Series 30000 — Similar to 10000 Series except with brazed barrel, providing a seamless connector. Especially recommended for solid strand wire. Stock No.	Qty. per "D" Pack	Series 50000 — Vaco Single-Grip Insulated Terminals, with heavy plastic sleeve, provides insulation from tongue to wire insulation. The sleeve also prevents wire from flexing at the crimp for greater strength. Stock No.	Qty. per "D" Pack	Series 60000 — Similar to 50000 Series except with flared or bell-mouth insulation. Stock No.	Qty. per "D" Pack	Series 90000 — Vaco Double-Grip Insulated Terminals and Connectors have nylon sleeve that extends beyond the tin-plated bronze sleeve to provide complete insulation from tongue to wire. Engineered to meet the most exacting requirements. Stock No.	Qty. per "D" Pack
RING TONGUE	22-18	4	11204	29			31204	★	51204	14	61204	13	91204	★
	22-18	5-6	11205	29	21205	29	31205		51205	14	61205	13	91205	
	22-18	5-6	11206	29			31206		51206	14	61206	13	91206	
	22 18	8	11208	29	21208	29	31208		51208	14	61208	13	91208	
Non-Insulated	22-18	10	11210	29	21210	29	31210		51210	14	61210	13	91210	
	22-18	12-¼	11214	23			31214		51214	13	61214	11	91214	
	22-18	⅜	11238	23			31238		51238	13	61238	11	91238	
	16-14	4	11304	29			31304		51304	14	61304	13	91304	
	16-14	5-6	11305	29	21305	29	31305		51305	14	61305	13	91305	
	16-14	5-6	11306	29			31306		51306	14	61306	13	91306	
	16-14	8	11308	29	21308	29	31308		51308	14	61308	13	91308	
Insulated	16-14	10	11310	29	21310	29	31310		51310	14	61310	13	91310	
	16-14	12-¼	11314	23			31314		51314	13	61314	11	91314	
	16-14	⅜	11338	23			31338		51338	13	61338	11	91338	
	12-10	4-6	11406	23			31406		51406	13	61406	11	91406	
	12-10	8	11408	23			31408		51408	13	61408	11	91408	
	12-10	10	11410	23	21410	★	31410		51410	13	61410	11	91410	
	12-10	12-¼	11414	17			31414		51414	12	61414	9	91414	
	12-10	⅜	11438	17			31438		51438	12	61438	9	91438	
SPADE TONGUE	22-18	4	13204	32			33204		53204	14	63204	13	93204	
	22-18	5-6	13206	32			33206		53206	14	63206	13	93206	
	22-18	8	13208	29			33208		53208	14	63208	13	93208	
Non-Insulated	22-18	10	13210	29			33210		53210	14	63210	13	93210	
	16-14	4-6	13306	29			33306		53306	14	63306	13	93306	
	16-14	8	13308	29			33308		53308	14	63308	13	93308	
	16-14	10	13310	29			33310		53310	14	63310	13	93310	
	12-10	4-6	13406	23			33406		53406	13	63406	11	93406	
	12-10	8	13408	23			33408		53408	13	63408	11	93408	
Insulated	12-10	10	13410	23			33410		53410	13	63410	11	93410	
	22-18	4-6	14206	32					54206	14	64206	13	94206	
HOOK TONGUE	22 18	4-6	15206	29			35206		55206	14	65206	13	95206	
Non-Insulated	22-18	8	15208	29			35208		55208	14	65208	13	95208	
	22-18	10	15210	29			35210		55210	14	65210	13	95210	
	16-14	4-6	15306	29			35306		55306	14	65306	13	95306	
	16 14	8	15308	29			35308		55308	14	65308	13	95308	
	16 14	10	15310	29			35310		55310	14	65310	13	95310	
Insulated	12-10	4-6	15406	23			35406		55406	13	65406	11	95406	
	12-10	8	15408	23			35408		55408	13	65408	11	95408	
	12-10	10	15410	23			35410		55410	13	65410	11	95410	
FLAG TONGUE Non-Insulated	22-18	8-10	16210	29										
	16-14	8-10	16310	29										
	12-10	8 10	16410	25										

★Note: not available in "D" pack.

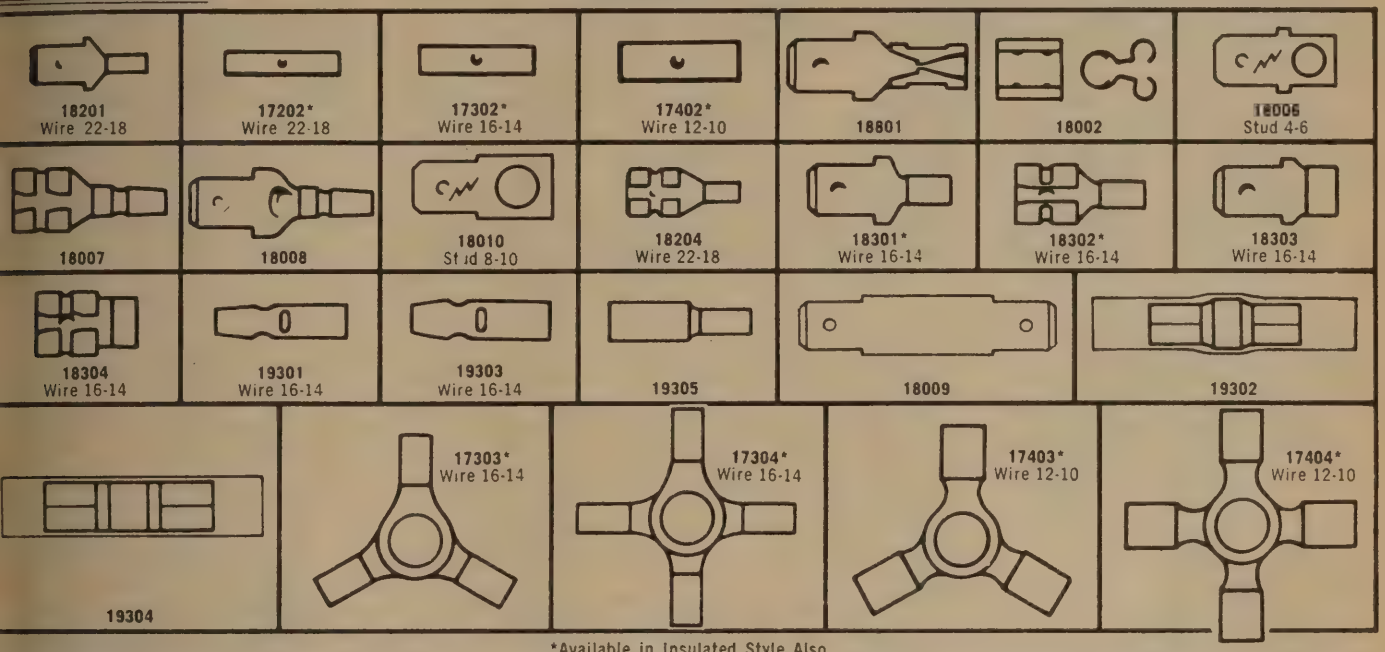
Net

© United Technical Publications

QUICK CONNECTORS

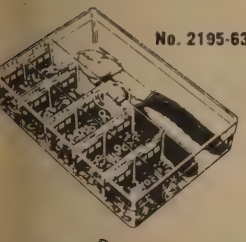
- Use Quick Connect Terminals For Fast Connect and Disconnect Feature
- Insulated and Non-Insulated Styles Available

Illustrations Actual Size

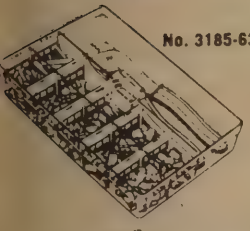


*Available in Insulated Style Also

TERMINAL KITS



No. 2195-63 Service Kit. Kit contains 10 different types of popular electrical, radio and TV single-grip terminals and No. 1963 crimping tool. Terminals included are: 11205, 11206 11210, 11305, 11306, 11310, 14206, 13306, 13310, 15208. **Price.....$10.25**



No. 3185-63 Service Kit. Especially designed for the appliance, automotive and electrical equipment service man. Contains varied assortment of popular quick connect terminals and adapters plus No. 1963 crimping tool. Terminals included are: 18301, 18302, 18303, 18304, 18001, 18002, 18008, 18007, 19301, 19302. **Price.....$10.25**



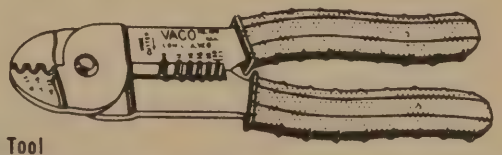
No. 6175-63 Service Kit. Kit contains 10 different types of popular insulated single-grip terminals for electrical, radio and TV plus No. 1963 crimping tool. Terminals included are: 51205, 51206, 51210, 51305, 53206, 53306, 53310, 51306, 51310, 54206.
Price $10.25



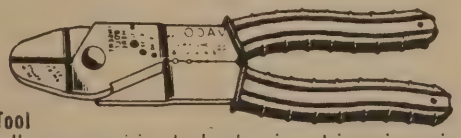
No. 5000-63 Non-Insulated "Cash Register" Assortment. Heavy steel box contains 20 compartmented sections each with supply of 50 single-grip, non-insulated terminals (1000 in all). Complete with identification card in cover for easy selection of any terminal. Size: 13¼"x9¼"x2".
Price each $34.00

No. 4900-63 Insulated "Cash Register" Assortment. Same as No. 5000-63 except assortment contains 500 insulated, single-grip terminals in 20 different types and sizes. Plastic insulation is color-coded for size.
Size: 13¼"x9¼"x2".
Price each $34.00

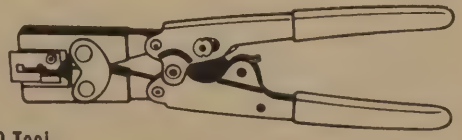
ATTACHING TOOLS



No. 1900 Tool
Features specially designed crimping dies for use on non-insulated type terminals . . . forms cold weld between wire and terminal barrel. Cuts wire, strips wire and crimps terminals 22 to 10 gauge AWG. Plastic comfort grip handles.
Price . . . $4.50



No. 1963 Tool
Patented, all purpose wiring tool cuts wire, strips wire, crimps insulated and non-insulated terminals and slices 6 sizes of bolts (4-40, 5-40, 6-32, 8-32, 10-32, and 10-24). Special features include end positioned wire cutter for reaching into hard-to-get-at places, and new bolt slicing principle that permits less hand pressure for slicing bolts with **no** burrs to file. Plastic comfort grip handles.
Price . . . $5.25



No. T1710 Tool
One tool . . . one die . . . crimps all styles of insulated and non-insulated terminals in wire range from 22-10 gauge AWG. Built-in ratchet with safety release assures uniform crimps every time, and compound lever action from narrow span handles puts "ease in the squeeze." Terminals are quickly positioned for double crimps by special terminal locator. Plastic comfort grip handles.
Price . . . $40.00

WABER — A Subsidiary of SGL INDUSTRIES INC. — WABER


602

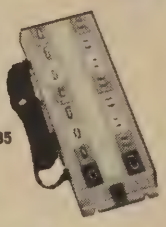

603


605

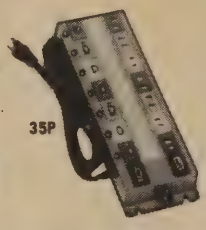

606


608

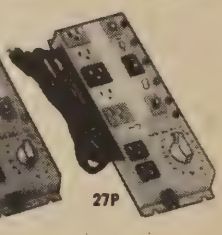

25


35


25P


35P


27


27P

WABER "COMPACTS" PRE-WIRED — READY FOR USE

Compact in size, these sturdy Waber units provide quality "U" ground type outlets in a variety of configurations for schools, labs, or industry. They are particularly useful for OEM applications. Custom variations can be made to meet your specific needs.

- All of the above "U" ground units are grounded electrically, as well as mechanically.
- Variations from any of the above standard units can be made to your specific requirements. Colors can be matched to existing equipment on quantity requirements.

FEATURES

- TOUGH HSJ UL APPROVED CORD-SET
- RATED AT 15A., 130 V. CONTINUOUS DUTY
- SEAMLESS DRAWN STEEL CASE. GRAY FINISH
- SNAP-IN COMPONENTS, FUSES, CIRCUIT BREAKERS UL LISTED
- 8¼ INCH MTG. CTRS. SIZE 8⅝ x 2¼ x 1½
- SHIPPING WEIGHT:
  2 LBS. FOR 6 FOOT CORD-SET MODELS
  3 LBS. FOR 15 FOOT CORD-SET MODELS

Model No.	On-Off Switches	Pilot Lights	Fuse	Circuit Breaker	6 Ft. Cord-Set	15 Ft. Cord-Set	"U" Gr. Outlets	Shipping Wt. Lbs.	Industrial Net Price
602					1		5	2	5.28
602-15						1	5	3	6.38
603	1		1		1		4	2	5.78
603-15	1		1			1	4	3	6.87
603CB	1			1	1		4	2	6.87
603CB-15	1			1		1	4	3	7.97
605	1	1	1		1		3	2	6.56
605-15	1	1	1			1	3	3	7.79
605CB	1	1		1	1		3	2	7.79
605CB-15	1	1		1		1	3	3	8.76
606	2	2	1		1		2	2	6.56
606-15	2	2	1			1	2	3	7.79
606CB	2	2		1	1		2	2	7.79
606CB-15	2	2		1		1	2	3	8.76
608	1	1	1		1		4	2	7.15
608-15	1	1	1			1	4	3	7.85
608CB	1	1		1	1		4	2	7.86
608CB-15	1	1		1		1	4	3	9.36

WABER DELUXE OUTLET BOXES IN SIX COLORFUL MODELS

Waber models 25 & 35 series provide 7 color keyed switch-outlet groups with center write-on strip.

Models 26 & 27 timer models provide settings for up to 12 hours. Model 26 turns power on at end of preset time and Model 27 turns power off.

The P series have a power light for each switch outlet set.

FEATURES

- TOUGH HSJ FINEST QUALITY UL APPROVED CORD-SET
- RATED 15 AMPS 130 VOLTS CONTINUOUS DUTY
- SEAMLESS STEEL CASE IN HANDSOME GRAY FINISH
- ALL SNAP IN COMPONENTS, FUSES, CIRCUIT BREAKERS UL LISTED
- MOUNTING CENTERS 13" x 2⅞"
  SIZE: 13⅜ x 4⅛ x 1½"
- "U" GROUND MODELS ARE ELECTRICALLY GROUNDED

Model No.	On-Off Switches	Pilot Lights	6 Ft. Cord-Sets	15 Ft. Cord-Sets	10 Ft. Cord-Sets	Panel Fuse	Circuit Breaker	2 Wire Outlets	"U" Gr. Outlets	Timer 12 Hour	Shipping Wt. Lbs.	Industrial Net Price
25	8	1	1			1			7		3	17.04
25-15	8	1		1		1			7		4	18.15
25CB	8	1	1				1		7		3	18.15
25CB-15	8	1		1			1		7		4	19.26
25P	8	8	1			1			7		3	19.50
25P-15	8	8		1		1			7		4	20.50
25PCB	8	8	1				1		7		3	20.50
25PCB-15	8	8		1			1		7		4	21.50
26	6	1	1			1			7	1	3	24.00
26-15	6	1		1		1			7	1	4	25.02
26CB	6	1	1				1		7	1	3	25.02
26CB-15	6	1		1			1		7	1	4	26.00
26P	6	6	1			1			7	1	3	28.02
26P-15	6	6		1		1			7	1	4	29.00
26PCB	6	6	1				1		7	1	3	29.00
26PCB-15	6	6		1			1		7	1	4	30.00
27	6	1	1			1			7	1	3	24.00
27-15	6	1		1		1			7	1	4	25.02
27CB	6	1	1				1		7	1	3	25.02
27CB-15	6	1		1			1		7	1	4	26.00
27P	6	6	1			1			7	1	3	28.02
27P-15	6	6		1		1			7	1	4	29.00
27PCB	6	6	1				1		7	1	3	29.00
27PCB-15	6	6		1			1		7	1	4	30.00
35	8	1			1	1		7			3	14.85
35CB	8	1			1		1	7			3	15.95
35P	8	8			1	1		7			3	19.27
35PCB	8	8			1		1	7			3	20.34


15


17


20


24


30


30P


32


32P

EIGHT POPULAR WABER OUTLET BOXES OFFER REAL CONVENIENCE AT LOW COST

FEATURES

- TOUGH UL APPROVED 15 AMP HSJ (3-WIRE) OR HPN (2-WIRE) CORD-SET
- RATED 15A. 130V. CONTINUOUS DUTY
- SEAMLESS DRAWN STEEL CASE IN HANDSOME GRAY FINISH
- ALL SNAP-IN COMPONENTS, FUSES, CIRCUIT BREAKERS UL LISTED
- 12¾" MOUNTING CENTERS
  SIZE: 13⅛ x 2⅜ x 1⅝
- "U" GROUND MODELS HAVE ELECTRICAL WIRED GROUND
- CUSTOM UNIT INQUIRIES INVITED

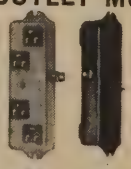
Here are eight Waber Models of proven utility. Models 15 and 17 are in-line units designed for series stringing with an outlet on one end and the cord-set coming out the other. Model 15 is the control unit and Model 17 the slave unit.

Waber Models 20 and 24 have 6 outlets controlled by an "on-off" switch, pilot light, and panel-mounted fuse or circuit breaker. Model 20 is the 2-wire type and Model 24 is the 3-wire "U" ground type.

Waber Models 30 and 32 feature 4 color-coded switch-outlet sets, protected by either a fuse or circuit breaker. Model 30 is the 2-wire type and Model 32 is the 3-wire "U" ground type. Available also with a pilot light for each switch outlet group in the Models 30P and 32P series.

Model No.	On-Off Switches	Pilot Lights	Panel Fuse	Circuit Breaker	6 Ft. Cord-Set	15 Ft. Cord-Set	10 Ft. Cord-Set	2 Wire Outlets	"U" Gr. Outlets	Shipping Wt. Lbs.	Industrial Net Prices
15	1	1	1		1				7	2	9.62
15-15	1	1	1			1			7	3	10.73
15CB	1	1		1	1				7	2	10.73
15CB-15	1	1		1		1			7	3	11.84
17					1				9	2	7.42
17-15						1			9	3	8.54
20	1	1	1				1	6		2	6.20
20CB	1	1		1			1	6		2	7.24
24	1	1	1		1				6	2	9.36
24-15	1	1	1			1			6	3	10.44
24CB	1	1		1	1				6	2	10.44
24CB-15	1	1		1		1			6	3	11.55
30	4		1				1	4		2	6.20
30CB	4			1			1	4		2	7.24
30P	4	4	1				1	4		2	7.50
30PCB	4	4		1			1	4		2	8.52
32	4		1		1				4		9.35
32-15	4		1			1			4		10.44
32CB	4			1	1				4		10.44
32CB-15	4			1		1			4		11.55
32P	4	4	1		1				4		11.55
32P-15	4	4	1			1			4		12.21
32PCB	4	4		1	1				4		12.21
32PCB-15	4	4		1		1			4		13.74

WABER 'U' GROUND WALL OUTLET MODELS





Get four or six "U" ground outlets from one wall outlet. Waber Model 611 is the four outlet unit and Waber Model 19 provides the six "U" ground outlets. Plug in male outlet to wall receptacle and secure mounting ears.

Either of these models is also available with panel mounted fuse or push-to-reset circuit breaker. Overall size of the Model 611 is 8⅝ x 2¼ x 1½ and the Model 19 is 13⅛ x 2⅜ x 1⅝. Shipping weight is 2 pounds.

	Net
Model 611 (fuse)	$4.76
Model 611CB (circuit breaker)	5.75
Model 611B (no fuse or crct. bkr.)	4.25
Model 19 (fuse)	6.75
Model 19CB (circuit breaker)	7.76
Model 19B (no fuse or crct. bkr.)	6.25

Net

© United Technical Publications

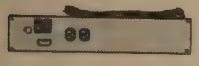
WABER — A Subsidiary of SGL INDUSTRIES INC. — WABER


900


901


903


904


907

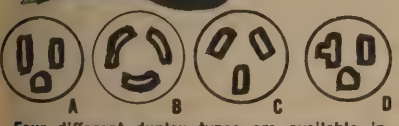

911


914


917

WABER 800 SERIES PROVIDES POPULAR DUPLEXES WITH MATCHING PLUGS




A B C D

Four different duplex types are available in this series including the new 20 Ampere 125 Volt type. Models 804-805-806-807 feature five duplex outlets. Special duplexes available on request.

FEATURES

- TOUGH HSJ FINEST QUALITY UL APPROVED CORD-SET
- RATED 15 AMPS 130 VOLTS CONTINUOUS DUTY. MODELS 803 AND 807 RATED 20 AMPS 125 VOLTS
- SEAMLESS STEEL CASE IN HANDSOME GRAY FINISH
- ALL SNAP-IN COMPONENTS, FUSES. CIRCUIT BREAKERS UL LISTED
- MOUNTING CENTERS 13" x 2⅞" SIZE: 13⅜ x 4⅛ x 1½"
- OUTLETS ELECTRICALLY GROUNDED

Model	On-Off Switch	Pilot Light	Fuse	Circuit Breaker	6 Ft. Cord 15A	15 Ft. Cord 15A	6 Ft. Cord 20A	15 Ft. Cord 20A	"U" Ground	Locking	Crow's Foot	20A-125V	Shipping Wt. Lbs.	Net
800	•	•	•		•				A				3	14.85
800-15	•	•	•			•			A				4	15.95
800CB	•	•		•	•				A				3	15.95
800CB-15	•	•		•		•			A				4	15.65
801	•	•	•		•					B			3	24.50
801-15	•	•	•			•				B			4	25.50
801CB	•	•		•	•					B			3	25.50
801CB-15	•	•		•		•				B			4	26.51
802	•	•	•		•						C		3	34.95
802-15	•	•	•			•					C		4	35.96
802CB	•	•		•	•						C		3	35.96
802CB-15	•	•		•		•					C		4	36.95
803	•	•	•				•					D	5	24.50
803-15	•	•	•					•				D	6	25.50
803CB	•	•		•			•					D	5	25.50
803CB-15	•	•		•				•				D	6	26.51
804-15			•			•			A				5	12.00
805-15			•			•				B			5	21.50
806-15			•			•					C		5	30.00
807-15			•					•				D	6	21.50


920


921

PRE-WIRED WABER OUTLET PANELS MADE TO FIT STANDARD 19" RACKS

Waber pre-wired, ready-to-use, master power controls provide a quick and easy power source for standard relay racks. You have your choice from this great variety of configurations with outlets on the outside, inside, or combinations of both. Choose the Waber pre-wired panel you need from the many standard units shown here.

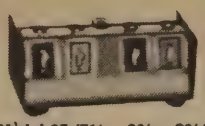
DUST AND SAFETY COVERS AVAILABLE FOR THESE PANELS

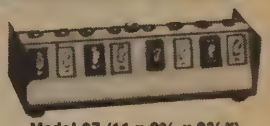
All of the 900 series rack mount outlet boxes are supplied with open backs, with the exception of Model 914. This is supplied with dust cover. Dust and safety covers are available at 4.00 each.

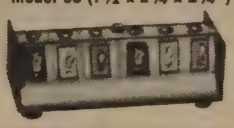
FEATURES

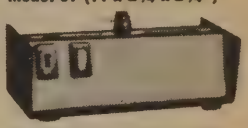
- TOUGH HSJ FINEST QUALITY UL APPROVED CORD-SET
- RATED AT 15 AMPERES 130 VOLTS CONTINUOUS DUTY
- STEEL PANEL IN A HANDSOME GRAY FINISH
- ALL SNAP-IN COMPONENTS, FUSES, CIRCUIT BREAKERS UL LISTED
- ALL OUTLETS ELECTRICALLY GROUNDED

Model	On-Off Switches	Pilot Lights	Panel Fuse	Circuit Breaker	6 Ft. Cord-Set	15 Ft. Cord-Set	Panel Size 1¾ x 19"	Panel Size 3½ x 19"	"U" Gr. Outlets (Front)	"U" Gr. Outlets (Back)	0-150 v Voltmeter	Shipping Wt. (Lbs.)	Industrial Net Price
900	1	1	1			1			1	6			3	12.05
900-15	1	1	1				1		1	6			4	13.14
900CB	1	1		1	1				1	6			3	13.14
900CB-15	1	1		1		1		1	1	6			4	14.24
901	1	1	1		1				1	6		1	3	14.51
901-15	1	1	1				1		1	6		1	4	15.49
901CB	1	1		1	1				1	6		1	3	15.49
901CB-15	1	1		1			1		1	6		1	4	16.50
903	1	1	1			1		1		6			3	12.05
903-15	1	1	1				1	1		6			4	13.14
903CB	1	1		1	1			1		6			3	13.14
903CB-15	1	1		1			1	1		6			4	14.24
904	1	1	1			1			1	2	4		3	14.24
904-15	1	1	1				1		1	2	4		4	15.35
904CB	1	1		1	1				1	2	4		3	15.35
904CB-15	1	1		1			1		1	2	4		4	16.44
907	1	1	1			1			1	2	4	1	3	16.50
907-15	1	1	1				1		1	2	4	1	4	17.51
907CB	1	1		1	1				1	2	4	1	3	17.51
907CB-15	1	1		1			1		1	2	4	1	4	18.50
911	1	1	1			1		1			6		3	14.24
911-15	1	1	1				1	1			6		4	15.35
911CB	1	1		1	1			1			6		3	15.35
911CB-15	1	1		1			1	1			6		4	16.44
914	7	7	1			1			1		6		3	22.00
914-15	7	7	1				1		1		6		4	23.00
914CB	7	7		1	1				1		6		3	23.00
914CB-15	7	7		1			1		1		6		4	24.00
917	7	7	1			1			1		6	1	3	25.45
917-15	7	7	1				1		1		6	1	4	26.45
917CB	7	7		1	1				1		6	1	3	26.45
917CB-15	7	7		1			1		1		6	1	4	27.45
920	7	7	1			1			1	6			3	18.50
920-15	7	7	1				1		1	6			4	19.50
920CB	7	7		1	1				1	6			3	19.50
920CB-15	7	7		1			1		1	6			4	20.50
921	7	7	1			1			1	6		1	3	21.95
921-15	7	7	1				1		1	6		1	4	22.95
921CB	7	7		1	1				1	6		1	3	22.95
921CB-15	7	7		1			1		1	6		1	4	23.95


Model 95 (7½ x 2¾ x 2¾")


Model 97 (11 x 2¾ x 2¾")


Model 96 (9¼ x 2¾ x 2¾")


Model 98 (9¼ x 2¾ x 2¾")

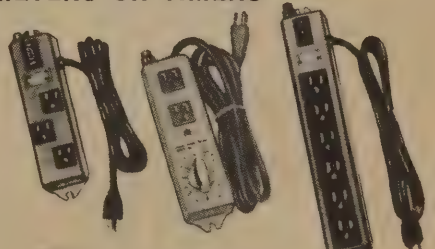
NEW! WABER EXECUTIVE CONSOLES DELUXE DESK TOP - LAB TOP MODELS

Available in 3 different sizes, these models have 4, 6 or 8 "U" ground outlets, each controlled by its own switch and pilot light. The outlets are in the rear of the units.

Model 98 Series offers a master switch and pilot light controlling six "U" ground outlets on the rear panel. All of the above units are rated at 15 A. 130 V.

	Industrial Net
Model 95 (fuse, 6' cord-set)	$14.24
Model 95-15 (fuse, 15' cord-set)	15.35
Model 95CB (circuit breaker, 6' cord-set)	15.35
Model 95CB-15 (circuit breaker, 15' cord-set)	16.44
Model 96 (fuse, 6' cord-set)	17.04
Model 96-15 (fuse, 15' cord-set)	18.15
Model 96CB (circuit breaker, 6' cord-set)	18.15
Model 96CB-15 (circut breaker, 15' cord-set)	19.27
Model 97 (fuse, 6' cord-set)	21.45
Model 97-15 (fuse, 15' cord-set)	22.55
Model 97CB (circuit breaker, 6' cord-set)	22.55
Model 97CB-15 (circuit breaker, 15' cord-set)	23.64
Model 98 (fuse, 6' cord-set)	12.04
Model 98-15 (fuse, 15' cord-set)	13.14
Model 98CB (circuit breaker, 6' cord-set)	13.14
Model 98CB-15 (circuit breaker, 15' cord-set)	14.24

HANDY WABER ELECTRICAL OUTLET BOXES EQUIPPED WITH METERS OR TIMERS


607M 613/614 24M

WABER MODEL 607M OUTLET BOX WITH ILLUMINATED AC VOLTMETER

This outlet box features an "on-off" switch with three "U" ground outlets, with an edge-wise reading 0 to 150 volts AC Voltmeter for continuous line voltage checks. Size: 8⅝ x 2¼ x 1½" with 8¼" mounting centers.

	Net
Model 607M (fuse, 6' cord-set)	$ 8.96
Model 607M-15 (fuse, 15' cord-set)	9.95
Model 607MCB (circuit breaker, 6' cord-set)	9.95
Model 607MCB-15 (circuit breaker, 15' cord-set)	10.95

WABER MODEL 613 AND 614 TIMER MODELS

2 timed outlets are featured in this compact unit with up to 12-hour timer control. Model 613 turns power off at end of preset interval. Model 614 turns power on. Size: 8⅝ x 2¼ x 1½" with 8¼" mounting centers.

	Net
Model 613 (fuse, 6' cord-set)	$13.02
Model 613-15 (fuse, 15' cord-set)	14.00
Model 613CB (circuit breaker, 6' cord-set)	14.00
Model 613CB-15 (circuit breaker, 15' cord-set)	15.00
Model 614 (fuse, 6' cord-set)	13.02
Model 614-15 (fuse, 15' cord-set)	14.00
Model 614CB (circuit breaker, 6' cord-set)	14.00
Model 614CB-15 (circuit breaker, 15' cord-set)	15.00

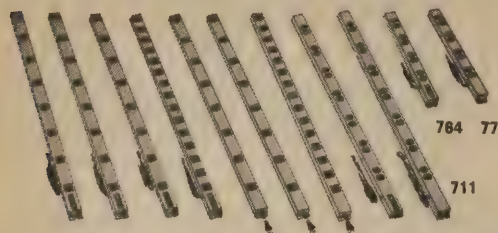
WABER MODEL 24M FEATURES AC VOLTMETER

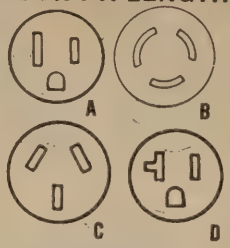
Our popular Model 24 now available with an illuminated voltmeter, provides continuous check of AC line voltage. The illuminated wide angle meter monitors from 0 to 150 AC Volts.

	Net
Model 24M (fuse, 6' cord-set)	$11.96
Model 24M-15 (fuse, 15' cord-set)	12.95
Model 24MCB (circuit breaker, 6' cord-set)	12.95
Model 24MCB-15 (circuit breaker, 15' cord-set)	13.95

WABER — A Subsidiary of SGL INDUSTRIES INC. — WABER

WABER RUGGED HEAVY DUTY ELECTRICAL PRE-WIRED OUTLET BOXES IN CONVENIENT TWO AND FOUR FT. LENGTHS





* Model 704 Series has outlets on the end.

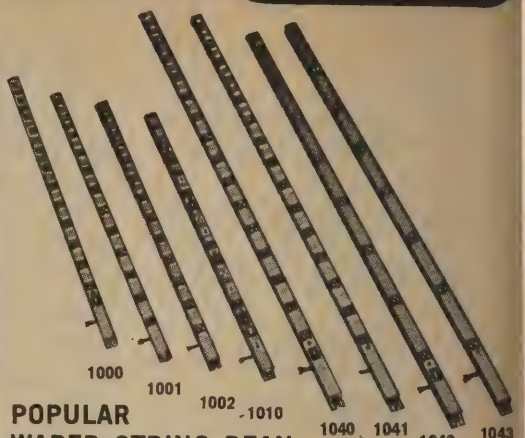
These rugged, versatile units have proven themselves to users in a wide variety of applications. Now veterans of the Waber line, these seamless steel outlet boxes are doing yeoman service in racks, work-benches, production benches and lab tables across the country. No wiring to do . . . just plug in.

Individual Outlet Type Model	On-Off Switch	Pilot Light	6' Cord-Set	15' Cord-Set	Fuse	Circuit Breaker	Type of Outlet	No. of Outlets	0-150 V. Meter	Net
700	•	•	•		•		A	8		16.46
700-15	•	•		•	•		A	8		17.55
700CB	•	•	•			•	A	8		17.55
700CB-15	•	•		•		•	A	8		18.65
703	•	•	•		•		A	8	•	18.50
703-15	•	•		•	•		A	8	•	19.50
703CB	•	•	•			•	A	8	•	19.50
703CB-15	•	•		•		•	A	8	•	20.51
704	•	•	•		•		A	9		17.54
704-15	•	•		•	•		A	9		18.65
704CB	•	•	•			•	A	9		18.65
704CB-15	•	•		•		•	A	9		19.74
705	•	•	•		•		A	15		20.84
705-15	•	•		•	•		A	15		21.95
705CB	•	•	•			•	A	15		21.95
705CB-15	•	•		•		•	A	15		23.04
710			•				A	8		14.25
710-15				•			A	8		15.35
712			•				A	9		15.35
712-15				•			A	9		15.45
715			•				A	15		18.65
715-15				•			A	15		19.74

FEATURES

- TOUGH HSJ FINEST QUALITY UL APPROVED CORD-SET
- SEAMLESS STEEL CASE IN HANDSOME GRAY FINISH
- ALL SNAP-IN COMPONENTS, FUSES, CIRCUIT BREAKERS, UL LISTED
- SHIPPING WEIGHTS: 2 FT. MODELS, 6 FT. CORDS 4 LBS., 15 FT. CORDS 5 LBS.; 4 FT. MODELS, 6 FT. CORDS 6 LBS., 15 FT. CORDS 7 LBS.
- MODELS 764, 765, 766, 767 ARE TWO FT. MODELS WITH 23¾" MOUNTING CENTERS. SIZE IS 24 x 2 x 1½". ALL OTHER MODELS ARE 49 x 2 x 1½" WITH 48¾" MOUNTING CENTERS
- ALL MODELS ARE RATED 15 AMPS, 130 V. EXCEPT MODELS 727, 728, and 766. THESE ARE RATED 20 AMPS, 125 VOLTS
- ALL OUTLETS HAVE MATCHING PLUGS ON CORD-SET

Duplex Style Outlets Model	On-Off Switch	Pilot Light	6' Cord 15A	15' Cord 15A	6' Cord 20A	15' Cord 20A	Fuse	Circuit Breaker	Type of Outlet	No. of Outlets	Net
707	•	•	•				•		A	14	16.33
707-15	•	•		•			•		A	14	18.42
707CB	•	•	•					•	A	14	18.42
707CB-15	•	•		•				•	A	14	19.53
711			•						A	14	15.35
711-15				•					A	14	16.44
720	•	•	•				•		B	14	28.95
720-15	•	•		•			•		B	14	29.96
720CB	•	•	•					•	B	14	29.96
720CB-15	•	•		•				•	B	14	30.95
725			•						B	14	27.50
725-15				•					B	14	28.50
727	•	•			•		•		D	14	28.95
727-15	•	•				•	•		D	14	29.96
727CB	•	•			•			•	D	14	29.96
727CB-15	•	•				•		•	D	14	30.95
728					•				D	14	27.50
728-15						•			D	14	28.50
730	•	•	•				•		C	14	32.96
730-15	•	•		•			•		C	14	33.95
730CB	•	•	•					•	C	14	33.95
730CB-15	•	•		•				•	C	14	34.95
735			•						C	14	31.95
735-15				•					C	14	32.96
764	•	•	•				•		A	8	14.69
764-15	•	•		•			•		A	8	15.78
764CB	•	•	•					•	A	8	15.78
764CB-15	•	•		•				•	A	8	15.49
765	•	•	•				•		B	8	24.50
765-15	•	•		•			•		B	8	25.50
765CB	•	•	•					•	B	8	25.50
765CB-15	•	•		•				•	B	8	26.51
766	•	•			•		•		D	8	24.50
766-15	•	•				•	•		D	8	25.50
766CB	•	•			•			•	D	8	25.50
766CB-15	•	•				•		•	D	8	26.51
770			•						A	8	13.05
770-15				•					A	8	14.19



POPULAR WABER STRING BEAN PRE-WIRED SLIM DESIGN HEAVY DUTY ELECTRICAL OUTLET BOXES

These popular Waber STRING BEAN models offer 8 variations in 2 convenient lengths; 4 ft. and 6 ft. Only 1½" wide x 1⅛" deep these units are specially valuable where space is at a premium.

FEATURES

- Tough UL Approved HSJ Cord-Set
- Seamless steel case in handsome gray finish
- All snap-in components, fuses, circuit breakers UL listed
- Models 1000, 1001, 1002, 1010 have 48¾" mounting centers. Size is 49x1½x1⅛". Models 1040, 1041, 1042, and 1043 have 71¾" mounting centers. Size is 72x1½x1⅛"
- Rated 15 amperes, 130 volts continuous duty

Model	No. of Switches	No. of Pilots	6' Cord	15' Cord	Fuse	Circuit Breaker	"U" Gr. Outlets	4 Ft. Length	6 Ft. Length	Shipping Weight	Net
1000	1	1	1		1		12	•		5	17.54
1000-15	1	1		1	1		12	•		6	18.65
1000CB	1	1	1			1	12	•		5	18.65
1000CB-15	1	1		1		1	12	•		6	19.74
1001			1		1		12	•		5	16.44
1001-15				1	1		12	•		6	17.54
1001CB			1			1	12	•		5	17.54
1001CB-15				1		1	12	•		6	18.65
1002			1				12	•		5	15.35
1002-15				1			12	•		6	16.43
1010	9	9	1		1		8	•		5	19.95
1010-15	9	9		1	1		8	•		6	20.95
1010CB	9	9	1			1	8	•		5	20.95
1010CB-15	9	9		1		1	8	•		6	21.95
1040	1	1	1		1		15		•	6	21.95
1040-15	1	1		1	1		15		•	7	23.04
1040CB	1	1	1			1	15		•	6	23.04
1040CB-15	1	1		1		1	15		•	7	24.14
1041		1	1				15		•	6	18.65
1041-15		1		1			15		•	7	19.74
1042	1	1	1		1		8		•	6	18.65
1042-15	1	1		1	1		8		•	7	19.74
1042CB	1	1	1			1	8		•	6	19.74
1042CB-15	1	1		1		1	8		•	7	20.04
1043		1	1				8		•	6	16.43
1043-15		1		1			8		•	7	17.84

NEW! WABER OUTLET STRIPS WITH CONNECTORS READY TO WIRE IN

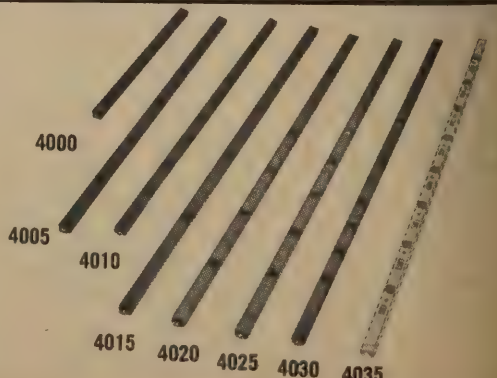
HERE'S HOW IT WORKS . . .

Mounting is easy. Bottom cover is screwed to bench, back wall, or wherever outlet strip is wanted. After connections are made, top cover is mounted to bottom plate with self tappers. Size is 1⅝" wide x 1⅜" deep. Lengths are as shown. Case is of sturdy steel with handsome gray finish. Outlets are "U" ground type and UL listed.

When an outlet strip is to be wired into a fixed installation the Waber Model 4000 Series are ideal for this purpose. Choose from the wide range shown here. Many outlets or few . . . long or short strip . . . the choice is yours.

Model No.	Length Ft.	No. of Outlets	Centers	Shipping Wt.	Net
4000	3	6	6"	4	$ 8.52
4005	5	5	10"	7	9.35
4010	5	10	6"	7	12.11
4015	6	4	14"	7	9.35
4020	6	6	10"	7	10.73
4025	6	8	8"	7	12.11
4030	6	12	5"	7	14.85
4035	6	8*	8"	7	20.34

* Each controlled by its own switch and pilot light



Net

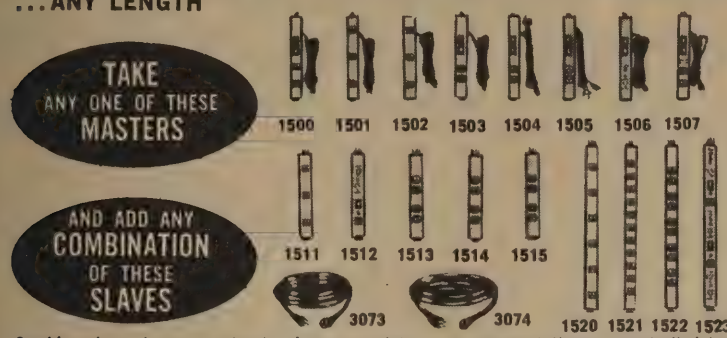
© United Technical Publications

WABER

A Subsidiary of **SGL INDUSTRIES INC.**

WABER

MAKE YOUR OWN COMBINATIONS! WABER "PICK-A-STRIP" LETS YOU MIX 'EM OR MATCH 'EM FOR ANY COMBINATION ...ANY LENGTH



Combine slaves to any master to give you outlets ... as you want them ... controlled by master best for you. Intermix slaves, make any desired length, and space out with Waber extensions, permitting Pick-A-Strip units where you want them. Outlet boxes are completely wired, ready to plug in. Choose exactly what you need.

Sturdy steel construction, finished in gray. Rating 15 amperes, 130 volts continuous duty. Units are 12¾" L x 1 11/16" W x 1½" H with 12¾" mounting centers. The 24" models are 24¾" L x 1 11/16" W x 1½" H with 24¾" mounting centers.

1500 series master units are equipped with finest quality, UL approved HSJ cord-sets.

WABER MASTER UNITS

WABER MODEL 1500 SERIES

This has 2 "U" ground outlets, female connector, on-off switch, pilot light, and choice of fuse or circuit-breaker, 6 or 15 foot cord. U.L. listed cord-set.

	Net
Model 1500 (fuse, 6′ cord-set)	$6.95
Model 1500-15 (fuse, 15′ cord-set)	7.95
Model 1500CB (circuit breaker, 6′ cord-set)	7.95
Model 1500CB-15 (circuit breaker, 15′ cord-set)	8.95

WABER MODEL 1501 SERIES

3 "U" ground outlets and female connector. Fuse or circuit breaker, 6 or 15-foot cord.

	Net
Model 1501 (fuse, 6′ cord-set)	$6.50
Model 1501-15 (fuse, 15′ cord-set)	7.50
Model 1501CB (circuit breaker, 6′ cord-set)	7.50
Model 1501CB-15 (circuit breaker, 15′ cord-set)	8.50

WABER MODEL 1502 SERIES

3 "U" ground outlets and female connector. Outlets only and choice of 6- or 15-foot cord. U.L. listed cord-set.

	Net
Model 1502 (6′ cord-set)	$5.25
Model 1502-15 (15′ cord-set)	6.25

WABER MODEL 1503 SERIES

Features a duplex "U" ground outlet and female connector, on-off switch, pilot light, choice of fuse or circuit breaker, 6 or 15- foot cord. U.L. listed cord-set.

	Net
Model 1503 (fuse, 6′ cord-set)	$6.95
Model 1503-15 (fuse, 15′ cord-set)	7.95
Model 1503CB (circuit breaker, 6′ cord-set)	7.95
Model 1503CB-15 (circuit breaker, 15′ cord-set)	8.95

WABER MODEL 1504 SERIES

Same as 1503 series except duplex outlet is locking type.

	Net
Model 1504 (fuse, 6′ cord-set)	$15.50
Model 1504-15 (fuse, 15′ cord-set)	16.50
Model 1504CB (circuit breaker, 6′ cord-set)	16.50
Model 1504CB-15 (circuit breaker, 15′ cord-set)	17.50

WABER MODEL 1505 SERIES

Same as Model 1503 series except duplex outlet is crow's foot type.

	Net
Model 1505 (fuse, 6′ cord-set)	$15.50
Model 1505-15 (fuse, 15′ cord-set)	16.50
Model 1505CB (circuit breaker, 6′ cord-set)	16.50
Model 1505CB-15 (circuit breaker, 15′ cord-set)	17.50

WABER MODEL 1506 SERIES

Unit has on-off switch, pilot light, "U" ground outlet controlled by own switch, pilot light and female connector. Choice of fuse or circuit breaker, 6 or 15 foot cord.

	Net
Model 1506 (fuse, 6′ cord-set)	$7.50
Model 1506-15 (fuse, 15′ cord-set)	8.50
Model 1506CB (circuit breaker, 6′ cord-set)	8.50
Model 1506CB-15 (circuit breaker, 15′ cord-set)	9.50

WABER MODEL 1507 SERIES

2 "U" ground outlets, on-off switch, pilot light, and a 0 to 150 volt edgewise reading AC voltmeter. Fuse or circuit breaker 6 or 15-foot cord, and female connector.

	Net
Model 1507 (fuse, 6′ cord-set)	$ 8.95
Model 1507-15 (fuse, 15′ cord-set)	9.95
Model 1507CB (circuit breaker, 6′ cord-set)	9.95
Model 1507CB-15 (circuit breaker, 15′ cord-set)	10.95

WABER SLAVE MODELS

Slave models below designed with male connector on one end and "U" ground female connector on other end. Units are plugged one into the other. Connectors are in addition to components listed.

	Net
Model 1511 (3 "U" ground receptacles)	$ 3.75
Model 1512 (2 "U" ground outlets each controlled by its own color coded switch and pilot light)	5.00
Model 1513 (4 "U" ground outlets)	3.75
Model 1514 (4 locking outlets, duplex type)	10.75
Model 1515 (4 crow's foot outlets, duplex type)	10.75

WABER 24 INCH SLAVE MODELS

	Net
Model 1520 (6 "U" ground outlets)	$6.95
Model 1521 (11 "U" ground outlets)	8.50
Model 1522 (10 "U" ground outlets, duplex type)	6.95
Model 1523 (5 "U" ground outlets, each controlled by its own on-off switch and pilot light, color coded)	9.50

WABER EXTENSION CORDS

These quality extension cords are ideal as spacers between slave units or can be used instead of a master unit. These cord-sets are rated at 15 amperes, 130 volts.

	Net
Model 3073 (7′ extension cord)	$3.02
Model 3074 (16′ extension cord)	4.95



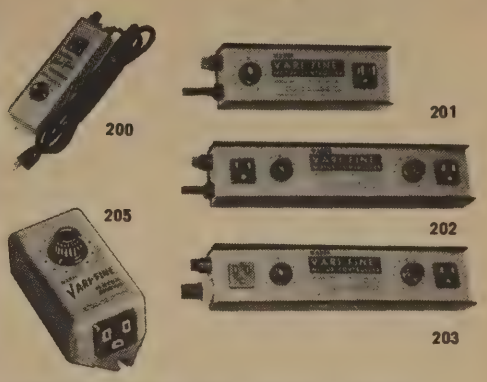
THESE FOUR WABER ELECTRICAL OUTLET BOXES RECESS INTO DESKS AND CABINETS

Waber "Iceberg" made to recess into desks, counters, cabinets, and hi-fi installations of all types.

Four units available. Two have outlets on surface plate, and two have outlets on back with control from face plate. Size of unit is 1½" wide x 10" long x 1½" deep. Mounting hole size is 9½ x 1 13/32". Units with fuse or circuit breaker, 6- or 15-foot cord. Rating 15 amps, 130 volts continuous duty.

Model 1560 has five "U" ground outlets only. Choice of 6- or 15-foot HSJ cord. Model 1561 has three surface mounted "U" ground outlets controlled by switch and pilot. Choice of fuse or circuit breaker, 6- or 15-foot HSJ cord-set. Model 1562 has the switch, and pilot surface mounted with access to three "U" ground outlets from back. Choice of fuse post or circuit breaker, 6- or 15-foot HSJ cord. Model 1563 has four color coded switches, pilot lights and protective device surface mounted, with access to four "U" ground outlets from back. Each outlet controlled by its own switch.

	Net
Model 1560 (6′ cord-set)	$5.75
Model 1560-15 (15′ cord-set)	6.75
Model 1561 (fuse, 6′ cord-set)	6.95
Model 1561-15 (fuse, 15′ cord-set)	7.95
Model 1561CB (6′ cord-set, circuit breaker)	7.95
Model 1561CB-15 (circuit breaker, 15′ cord-set)	8.95
Model 1562 (6′ cord-set, fuse)	6.95
Model 1562-15 (15′ cord-set, fuse)	7.95
Model 1562CB (6′ cord-set, circuit breaker)	$7.95
Model 1562CB-15 (15′ cord-set, circuit breaker)	8.95
Model 1563 (6′ cord-set, fuse)	8.50
Model 1563-15 (15′ cord-set, fuse)	9.50
Model 1563CB (6′ cord-set, circuit breaker)	9.50
Model 1563CB-15 (15′ cord-set, circuit breaker)	10.50



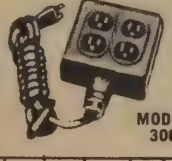
WABER "VARI-FINE" SOLID STATE AC-DC MOTOR SPEED CONTROLLERS

Waber Vari-Fine Controllers are solid state devices for speed and light control, featuring stepless change from zero to maximum. They provide infinite control of motor speed and light intensity, and can be used to vary the speed of AC/DC motors of the universal type. They handle load current up to the maximum rating at 117 volts 60 cps. These units are fused for circuit protection. Compact and portable, Waber Vari-Fine Controllers have many applications in the home, laboratory, school, or factory where the regulation of motor or light is desirable.

	Net
Model 205 (Rated at 5 amperes, 117 volts)	$9.95
Model 200 (Rated at 7 amperes, 117 volts)	14.95
Model 201 (Rated at 12 amperes, 117 volts)	19.95
Model 202 (Twin, rated 7 amperes each side)	26.95
Model 203 (Twin, rated 12 amperes each side)	34.95

SEAMLESS CASTINGS MAKE THESE WABER MODELS IDEAL FOR CHEM LABS

Two duplex outlets, in popular styles, are well protected by the seamless heavy casting. Available with 6- or 15-foot UL approved cord-set. Cords are with matching plugs.

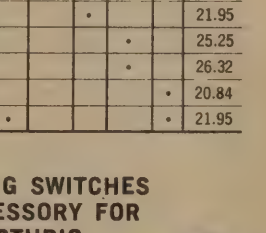


MODEL 300

Model	15A, 6′ Cord-Set	15A, 15′ Cord-Set	20A 6′ Cord	20A, 15′ Cord	"U" Ground	Locking	Crow's Foot	20A, 125V.	Net
300	•				•				$10.94
300-15		•			•				12.07
301	•					•			20.84
301-15		•				•			21.95
302	•						•		25.25
302-15		•					•		26.32
303			•					•	20.84
303-15				•				•	21.95

WABER MODELING SWITCHES EXCELLENT ACCESSORY FOR PHOTOGRAPHIC STUDIO

Photofloods last longer ... lots, lots longer! And it licks the heat problem, too. Flick the switch to "low" and you have the shadows you need to properly position and focus your subject. When you're ready to shoot, flick the switch to "high" and the lights come on at maximum brilliance.

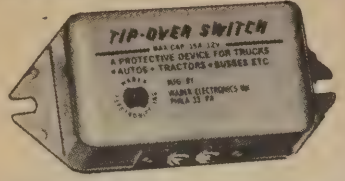


Model 210 (for two bulbs of the same type. Up to 1650 watts, total.)	$5.97
Model 211 (for up to four bulbs of any type. Max. 1650 watts, total.)	10.89

WABER

A Subsidiary of SGL INDUSTRIES INC.

WABER



WABER TIPOVER SWITCH — This unit installs easily in automobiles, trucks, buses, and tractors. The mercury operated switches automatically shut off the motor when the vehicle is tipped past a forty-five degree angle. In addition to minimizing the danger of fire or explosion, this unit is especially valuable in stalling moving blades, wheel and parts found on many farm vehicles. This unit will operate with either 6 or 12 volt ignition systems. Installation is permanent. Nothing to burn out or replace.

3067 .....$6.57 Net

WABER HIGH QUALITY EXTENSION CORDS AND CORD SETS

Need a cord-set or extension cord? Waber offers you various types and lengths from which to choose. Ideal for industrial "work-horse" applications.

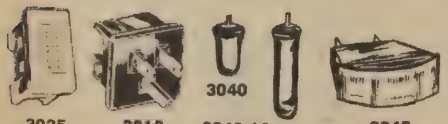


Catalog No.	Description	Length Ft.	Type Cord	Size AWG	Cond.	"A" End	"B" End	Ind. Net
3071	"U" Ground Cord-Set	6	HSJ	16	3	male U	free	$2.48
3072	"U" Ground Cord-Set	15	HSJ	16	3	male U	free	4.62
3073	"U" Ground Extension Cord	7	HSJ	16	3	male U	female U	3.02
3074	"U" Ground Extension Cord	16	HSJ	16	3	male U	female U	4.95
3075	2 Wire Cord-Set	10	HPN	16	2	maleplug	free	1.77
3076	"U" Ground Cord-Set	15	S	12	3	male U	free	6.88
3084	"U" Ground Cord-Set	10	SJO	18	3	male U	free	1.65
3085	20A - 250V Cord-Set	15	S	12	3	maleplug	free	7.14
3086	"U" Ground Cord-Set	6	S	12	3	male U	free	3.84
3087	20A - 125V Cord-Set	6	S	12	3	maleplug	free	3.84
3088	20A - 125V Cord-Set	15	S	12	3	maleplug	free	7.14

WABER REPLACEMENT PARTS AND ELECTRICAL ACCESSORIES



3001 3011 3015 3017 3020



3025 3019 3040 3040-10 3045



3050 3055 3077 3078 3079

SNAP-IN CONVENIENCE OUTLET — Polarized with male, quick connect terminals. UL rated 15 A, 125 V. Takes polarized and non-polarized caps. Mounting Hole 1 1/32" x 21/32".

3001 (Black) .....$.39 Net
3001-W (White) ..... .45 Net
3001-G (Gray) ..... .45 Net
3001-R (Red) ..... .45 Net

SNAP-IN "U" GROUND CONVENIENCE OUTLET — UL Quick connect terminals. Rated 15 A, 125 V. Mounting hole: 1 1/32" x 1 1/32".

3011 (Black) .....$.53 Net
3011-W (White) ..... .60 Net
3011-G (Gray) ..... .60 Net
3011-R (Red) ..... .60 Net

SNAP-IN "U" GROUND CONVENIENCE OUTLET — UL Wire leads or male quick connect terminals with ground lead. Rated 15 A, 125 V. Mounting hole 31/32" x 31/32".

3015 (Black with wire leads) .....$.44 Net
3015-W (White with wire leads) ..... .46 Net
3017 (Black with quick connect terminals) .. .44 Net
3017-W (White with quick connect terminals) .46 Net

SNAP-IN ON-OFF SWITCH — With male quick connect terminals. UL rated 20 A, 125 V. Mounting hole 1 1/32" x 21/32".

3020 (Black) .....$.66 Net
3020-W (White) ..... .72 Net
3020-R (Red) ..... .72 Net
3020-G (Gray) ..... .72 Net

SNAP-IN PILOT-LIGHT — Brilliant nylon lens. Male, quick connect terminals. UL. Strong spring steel mounting clip. Mounting hole 1 1/32" x 21/32". 125 VAC. 125 VAC.

3025 (Black) .....$.78 Net
3025-W (White) ..... .84 Net
3025-R (Red) ..... .84 Net
3025-G (Gray) ..... .84 Net

MALE LOAD PLUGS — UL. With male quick connect terminals. Rated 15 A, 125 V. Mounting hole 31/32" x 31/32". Black body.

3019 .....$.78 Net

MERCURY TILT SWITCHES — Contacts in rugged all steel body. Unequalled durability for all fields including switching of heavy loads and highly inductive circuits. Low contact resistance. All steel body acts as one side of the circuit. Provides practically limitless life where a tilt action is required. Part No. 3040 is rated at 1 A, 115 VAC, and Part No. 3040-10 is rated at 10 A, 115 VAC.

3040 (package of 3) .....$1.65 Net
3040-10 (package of 2) ..... 2.48 Net

EDGEWISE READING AC VOLTMETER KIT — Modern space-saving edgewise reading meter, spring clamp, diode and series resistor. Scale reads from 0 to 150 volts AC. Mounting hole 3/4" x 1 3/4".

3045 .....$4.13 Net

PUSH TO RESET CIRCUIT BREAKER — Protect from overloads with this thermal type circuit breaker. Mounts easily in 7/8" hole. Plunger pops out on overloads. Push in to reset.

3050 (15 Amperes, 125 Volts) .....$1.94 Net
3051 (20 Amperes, 125 Volts) ..... 1.94 Net

2 WIRE TO 3 WIRE ADAPTER — Polarized with "U" ground slot and green grounding lead equipped with convenient spade lug. UL rated 15 A, 125 V. Molded body. Automatically converts any standard 2 wire parallel outlet to a 3 wire "U" ground outlet.

3055 .....$.39 Net

BRIGHT NEON PILOT LIGHTS — These handsome pilot lights, in a compact space saving size, mount easily in a 3/8" diameter hole. Included is a spring clip to lock pilot firmly in place.

3077 (Package of three) .....$1.65 Net

FUSE POST — UL approved. Mounting hole 5/8" dia.

3078 .....$.87 Net

FUSE — UL approved. Heavy duty. 15 Amp rating.

3079 .....$.87 Net

3 GREAT WABER MODELS - SKIN PACKED - CHROME PLATED



MODEL 11 Never before anything so useful, so handy for the home, workshop, or office. This sturdy chrome case features six individual, heavy duty outlets with an on-off master switch and bright pilot light. You get a handy control center for power tools, appliances, or equipment with **positive circuit breaker protection against burnout or overload.**



MODEL 12 Control a piece of equipment or appliance by a flip of a switch! Each of the four individual, heavy duty outlets is controlled by its own on-off switch with contrasting colors for swift, positive identification. You get a handsome control center for power tools, appliances, or equipment with **positive circuit breaker protection against burnout or overload.**



MODEL 601U Now you can have this chrome beauty with "U" ground type outlets. It features a sturdy steel case, 3 individual grounded outlets, with an on-off master switch and bright pilot light. This handy control center can be used in any number of applications with positive "push-to-reset" circuit breaker protection.

WABER MOBILE BENCH DOUBLES AS TABLE OR CARRIER



Use the versatile unit either as a table or as a carrier to transport equipment. It will prove a real asset in many ways.

The framing is of attractive and durable 1-inch square steel tubing finished in bright chorme plate. The table top is constructed of hard board with a formica surface. Size of the top is 24 x 48".

In addiiton, this unit includes an electrical outlet box with 3 "U" ground outlets, on-off switch. pilot light, fuse protection, and a 15-foot U.L. listed cord-set. Rating is 15 amperes, 130 volts, continuous duty. Shipping weights 60 and 75 lbs.

Casters are 5-in. heavy duty rubber, all swiveling. Size 25 W x 48 L x 37" H. Capacity: 600 pounds.

Model LOW-20 .....$120.00
Model LOW-21 (Size 30 W x 60 L x 37" H) 140.00

Net

© United Technical Publications

WABER

A Subsidiary of **SGL INDUSTRIES INC.**

WABER



CHOOSE FROM THESE FOUR WABER LAB-ON-WHEELS SCOPE CARTS

WABER LOW-6

Versatile scope dolly handles big scopes and test equipment with ease. Spacious non-skid deck, inclined at 22°. Welded square tubing combines rigidity with functional design with free access to controls. Capacity 500 pounds. Size: 19¼ W x 29½ L x 36½" H. Shipping Weight 60 lbs. 5 inch casters.
Model LOW-6 .....$89.00 Net

WABER LOW-7

This Scope Cart has ample size to handle a wide range of scope sizes. Moves out easily on its heavy 3-inch rubber wheels and handles beautifully for positioning. Frame is 1-inch square steel tubing finished in beautiful gray Size is 34 H x 19 W x 31" L.
Capacity 500 pounds. Shipping weight 60 lbs.
Model LOW-7 .....$59.50 Net

WABER LOW-8

Here is an unusually good buy in a scope dolly. Just roll it out and put it to work.

The top shelf will take a large variety of instruments and can be adjusted for convenient viewing angle. The sturdy bottom shelf gives you additional capacity. Size is 34 H x 19 W x 31" L and the rubber tired casters are 3 inches in diameter. Capacity 500 pounds. Shipping weight 60 lbs.
Model LOW-8 .....$87.45 Net

WABER LOW-25

You can't buy better value in a scope cart . . . solid steel construction . . . 3 inch swiveling casters . . . adjustable stops to accommodate various size instruments. Size: 30 x 32 x 19". Capacity 500 pounds. Shipping weight 55 pounds.
Model LOW-25 .....$46.74 Net

Each of the above units is equipped with a Waber Outlet Box featuring a fuse post, switch, pilot light, and 3 "U" ground outlets. Rating is 15 amperes, 130 volts. Carts may be obtained with two locking casters. Add $4.50 to the prices shown and specify when ordering.

WABER INSTRUMENT TRANSPORTS MOVE EASILY... MOVE SAFELY

WABER MODEL LOW-11 CARRIER

Sturdy instrument cart provides ample area on a free moving carrier. 4 sturdy shelves are made of durable half-inch plywood laminated with black ribbed non-slip facing.

Construction is of 1-inch square steel tubing beautifully finished in gleaming chrome plate. Two middle shelves are adjustable to desired position.

Casters are 5-inch heavy duty rubber, all swiveling. Shelf size: 21 x 21". 40" H. Cap.: 600 pounds. Shipping weight 92 lbs.
Model LOW-11 .....$110.00 Net

WABER MODEL LOW-12 CARRIER

Highly useful carrier built for service. 4 sturdy shelves are made of half-inch plywood with a thick ribbed non-slip laminated top.

This carrier is well constructed of 1-inch square steel tubing handsomely finished in bright chrome plate. Two middle shelves are adjustable to desired positions.

Casters are 5-inch rubber, all swiveling. Shelf size: 21 x 29". 60" H. Cap.: 600 lbs. Shipping weight 102 lbs.
Model LOW-12 .....$125.00 Net

WABER MODEL LOW-13 CARRIER

Same specifications as LOW-12 above except guard rail on top shelf is the longer dimension.
Model LOW-13 .....$125.00 Net

WABER MODEL LOW-14 CARRIER

This popular 3-shelf model provides easy mobility for your instruments. Shelves are made of half-inch plywood faced with a thick ribbed non-slip laminated top.

Framework is made of 1-inch square steel tubing finished in bright chrome plate.

Casters are 5 inches, all swiveling. Shelf size: 21 x 29". 59" H. Capacity: 600 lbs. Shipping weight 72 lbs.
Model LOW-14 .....$120.00 Net

All of the above carriers are equipped with an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. These carts may be obtained with two locking casters. Add $4.50 to the prices shown and specify when ordering.

WABER TRANSPORTS FOR AUDIO-VISUAL OR LAB USE

WABER MODEL LOW-15 CARRIER

Picture this handy cart in your lab giving mobility to your equipment. The 2 decks are made of half-inch plywood laminated with a heavy ribbed facing.

Constructed of 1-inch square steel tubing finished in bright chrome plate.

Casters are 5 inches, all swiveling. Shelf size: 22 L x 36 W x 36" H. Capacity: 600 pounds. Shipping weight 40 lbs.
Model LOW-15 .....$110.00 Net

WABER MODEL LOW-16 CARRIER

Audio Visual users appreciate this versatile carrier. Both decks are constructed of durable half-inch plywood with a thick ribbed surface.

Framework is decorator 1-inch square steel tubing finished in bright chrome plate.

5-inch casters are of the swiveling type. Shelf size: 18 L x 24 W x 21" H. Capacity: 600 pounds. Shipping weight 37 lbs.
Model LOW-16 .....$80.00 Net

WABER MODEL LOW-17 CARRIER

Schools, Labs, and Audio-Visual users find this a work-horse of carriers. Each of the 2 shelves is made of sturdy half-inch plywood laminated with a heavy duty ribbed non-slip top.

1-inch square steel construction provides support for this carrier and finish is in bright chrome plate.

All 5 inch casters are swiveling type. Shelf size: 21 L x 29 W x 32" H. Capacity 500 pounds. Shipping weight 40 lbs.
Model LOW-17 .....$90.00 Net

WABER MODEL LOW-18 CARRIER

Featuring 3 decks, each of half-inch plywood faced with a ribbed non-slip top, these easy rolling carriers provide many advantages for the school, shop or lab.

Here again construction is 1-inch square steel tubing finished with bright chrome plate.

5-inch casters are swiveling type. Shelf size: 21 L x 29 W x 42" H. Capacity: 600 pounds. Shipping weight 50 lbs.
Model LOW-18 .....$125.00 Net

All of the above carriers are equipped with an outlet box providing 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. These carts may be obtained with two locking casters. Add $4.50 to the prices shown and specify when ordering.

WABER MODEL LOW-3

The WABER "Lab On Wheels" will greatly expand your present work area, rolls effortlessly, and will provide ample space for your instruments, supplies, assemblies, breadboards, prototypes, etc. Provisions are available for mounting a WABER Outlet box (1,000 series) to supply power to the unit.

Shelves are adjustable to make every inch count. Each shelf is covered with tempered hardboard. Size: 28 L x 26 W x 66" H. This unit could prove a real workhorse for the school, lab, or industrial plant. Shipping weight 100 lbs.

Model LOW-3
(less outlet box) $149.00



WABER MODEL LOW-4

This double cantilevered carrier is built to hold greater load capacities with sway-free rigidity, strength and durability. The tremendous area available will accommodate your projects with ease, and provisions for a WABER 1000 series Outlet Box will "power-up" the carrier. When your projects are held-up you can wheel it out of the way and your lab tables are cleared for action. When you're ready to go again, wheel it back in.

Size of the WABER Double Cantilevered Carrier is 48 L x 26 W x 71" H. Tempered hardboard is provided with each of the five shelves, and the shelves are adjustable. Shpg. wt. 120 lbs.

Waber Model LOW-4 (less outlet box) $188.00



WABER MODEL LOW-5

Transport stocks, instruments, assemblies with ease with this low cost WABER Basic Dolly. You can make your own adaptations to serve many purposes in your projects, where mobility would be desirable. Size: 32 L x 18½ W x 37½" H. Here is one of the most versatile and rugged units available to serve the needs of the lab, school or industry. Shipping weight 30 lbs. 5" swiveling casters, 600 lb. capacity. Model LOW-5 .....$48.00 Net



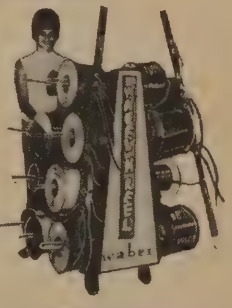
WABER MODEL LOW-28

Beautifully constructed of one inch square steel tubing, this handsome carrier rolls easily on its five inch rubber, swiveling casters. The deck is constructed of half inch plywood faced with a ribbed matting. Size: 19 x 21". This unit has a load capacity of 500 lbs. Shipping weight 25 lbs.
Model LOW-28 .....$27.00 Net



WABER WHEEL 'N' REEL MOBILE WIRE RACK

Here's the answer to your wire handling problems. This new Waber "Wheel 'N' Reel"® Mobile Wire Rack holds up to 20 generous size reels of wire, each one in position to be dispensed easily and effortlessly. Move it into position for cable assemblies; store it out of the way when not in use. Unlike fixed position wire racks, you can take a large assortment of wire to the area where needed. The "Wheel 'N' Reel" will pay for itself in time saved. Sturdy steel construction with handsome grey finish. Shpg. weight 108 lbs. 1900 pound load capacity.
Model LOW-10 .....$153.98 Net



WABER 2 AND 3 SHELF STURDY CARRIERS

All welded construction, ease of movement, ample shelf and load capacity, and a Waber electrical outlet box are all provided in this highly useful mobile carrier.

This unit is made of one inch angle iron welded together in a sturdy transport. The shelves are steel with a retaining lip.



Also included is the Waber outlet box, featuring a fuse post, switch, pilot light, three "U" ground outlets and HSJ cord-set.

Shelf size is 19½ x 29 inches. The unit rides easily on 3" rubber swiveling casters. Capacity is 600 lbs. Shipping weight is 55 lbs.

LOW-29 (3 shelf unit 44" high) .....$63.24 Net
LOW-30 (2 shelf unit 32" high) ..... 46.74 Net

waldom SOLDERLESS TERMINALS AND CONNECTOR

COMPLETE LINE...IN STOCK FOR IMMEDIATE DELIVERY



S TYPE

Basic non-insulated electro-tin plated copper terminal. One-piece construction for maximum strength and conductivity.



T TYPE

All advanced features of S TYPE plus permanently attached rigid vinyl plastic insulating sleeve for increased vibration resistance.



B TYPE

Advantageous features of S TYPE plus the higher tensile strength afforded by BRAZED BARREL construction.



D TYPE

Particularly suitable where high vibration is a factor. S TYPE construction plus seamless annealed electro-tin plated brass sleeve.



N TYPE

All D TYPE features, tin plated brass sleeve plus permanently attached overlapping nylon insulating sleeve.

Insulated terminals color coded: 22-18 Red, 16-14 Blue, 12-10 Yellow, 8 Red, 6 Blue

BASIC TERMINAL CONSTRUCTION DETAILS

Material: Annealed electrolytic copper, electro-tin finish. Modern one-piece design for maximum strength and conductivity. With strength gusset, open end rapid inspection, beveled edge to facilitate wire insertion. Circumferential serrations for maximum contact area and grip. Full 1/4 inch barrel length, wide crimping area, easy location.

Wire ranges 22-18, .032 stock. Wire Ranges 12-10, ,040 stock. Terminals Terminals in 22-18 and 16-14 wire ranges. Are available with 5/32" barrel by adding "S" to front of part desired. Listed by Underwriter Labs., Inc.

FOR CRITICAL APPLICATIONS — D SERIES AND N SERIES TERMINALS

SPADE TONGUE TERMINALS (FIG. A)

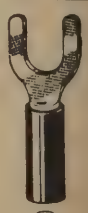
Basic Dimensions				B Type					N Type				
Wire Range	Stud Size	Width	Stud Clearance	Length	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M	Length	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M
22-18	5-6	1 4"	7 32"	5 8"	B-3118	4.05	32.20	24.15	13/16"	N-5118	8.00	64.50	48.40
22-18	10	5 16"	5 16"	3 4"	B-3032	4.05	32.20	24.15	15/16"	N-5032	8.00	64.50	48.40
16-14	5-6	1 4"	7 32"	5 8"	B-3123	4.05	32.20	24.15	13/16"	SN-5123	8.00	64.50	48.40
16-14	10	23 64"	9 32"	3 4"	B-3016	4.05	32.20	24.15	15/16"	SN-5016	8.00	64.50	48.40

FLANGED SPADE TERMINALS (FIG. B)

22-18	5-6	19 64"	7 32"	5 8"	B-3080	4.05	32.20	24.15	13/16"	N-5080	8.00	64.50	48.40

RING TONGUE TERMINALS (FIG. C)

22-18	1-2	7/32"	5/32"	33/64"	B-3099	4.05	32.20	24.15	45/64"	N-5099	8.00	64.50	48.40
22-18	3-4	7/32"	5/32"	33/64"	B-3047	4.05	32.20	24.15	45/64"	N-5047	8.00	64.50	48.40
22-18	5-6	7/32"	5/32"	33/64"	B-3001	4.05	32.20	24.15	45/64"	N-5001	8.00	64.50	48.40
22-18	8	9/32"	1/4"	41/64"	B-3097	4.05	32.20	24.15	53/64"	N-5097	8.00	64.50	48.40
22-18	10	9/32"	1/4"	41/64"	B-3098	4.05	32.20	24.15	53/64"	N-5098	8.00	64.50	48.40
22-18	1/4	15/32"	.400"	57/64"	B-3004	5.65	45.00	33.75	1-5/64"	N-5004	9.95	79.55	59.70
16-14	3-4	11/32"	5/16"	47/64"	B-3095	4.05	32.20	24.15	59/64"	N-5095	8.00	64.50	48.40
16-14	5-6	1/4"	7/32"	19/32"	B-3006	4.05	32.20	24.15	45/64"	SN-5006	8.00	64.50	48.40
16-14	10	5/16"	9/32"	45/64"	B-3008	4.05	32.20	24.15	13/16"	SN-5008	8.00	64.50	48.40
16-14	1/4	15/32"	.400"	57 64"	B-3009	5.65	45.00	33.75	1"	SN-5009	9.95	79.55	59.70
12-10	10	3 8"	5 16"	3 4"	B-3011	5.65	45.00	33.75	1-3/64"	N-5011	9.95	79.55	59.70
12-10	1/4	17/32"	13/32"	59/64"	B-3100	6.80	54.05	40.55	1-7/32"	N-5100	10.20	81.25	60.95
8	10	15/32"	11/32"	61/64"	B-3202	7.70	67.55	57.90					
8	1/4	15/32"	11/32"	61/64"	B-3203	7.70	67.55	57.90					
8	3/8	19/32"	13/32"	1-5/64"	B-3208	10.25	89.80	76.95					
6	10	5/8"	1/2"	1-1/4"	B-3228	11.90	104.05	89.20					
6	1/4	5/8"	1/2"	1-1/4"	B-3229	11.90	104.05	89.20					
6	3/8	5/8"	1/2"	1-1/4"	B-3231	11.90	104.05	89.20					
4	10	21/32"	1/2"	1-5/16"	B-3251	17.05	149.20	127.90					
4	1/4	21/32"	1/2"	1-5/16"	B-3252	17.05	149.20	127.90					
4	3/8	21/32"	1/2"	1-5/16"	B-3254	17.05	149.20	127.90					
2	1/4	5/8"	43/64"	1-17/32"	B-3281	22.85	199.85	171.30					
1/0	1/4	13/16"	5/8"	1-59/64"	B-3307	28.40	249.45	213.80					
2/0	1/4	29/32"	5/8"	1-15/16"	B-3322	36.20	318.15	272.70					


A


B


C


D

HIGH TEMPERATURE TERMINALS - RING TONGUE (FIG. D)

Wire Range	Stud Size	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M
22-16	5-6	S-1165	2.65	18.75	14.70
22-16	8	S-1167	2.65	18.75	14.70
22-16	10	S-1168	2.65	18.75	14.70
16-14	5-6	S-1170	2.90	20.70	16.25
16-14	8	S-1172	2.90	20.70	16.25
16-14	10	S-1173	2.90	20.70	16.25
12-10	10	S-1177	3.85	27.55	21.60

MS TERMINALS AVAILABLE FROM STOCK FOR IMMEDIATE DELIVERY

Only a partial listing of more than 2000 items in the WALDOM line of solderless terminals and connectors. Includes many more sizes and types, including Heavy Duty, Flared Insulation, Military Types, Terminal Block Terminals, Flag Terminals, insulation sleeve and many more. Write for WALDOM CATALOG 7G7.

© United Technical Publications

waldom S TYPE AND T TYPE TERMINALS

SPADE TONGUE TERMINALS (FIG. A)

Basic Dimensions				S Type					T Type				
Wire Range	Stud Size	Width	Stud Clearance	Length	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M	Length	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M
22-18	3-4	1/4"	7/32"	5/8"	S-1116	2.50	17.80	13.90	13/16"	T-2116	5.15	38.00	29.75
22-18	5-6	1/4"	7/32"	5/8"	S-1118	2.50	17.80	13.90	13/16"	T-2118	5.15	38.00	29.75
22-18	5-6	19/64"	7/32"	5/8"	S-1014	2.50	17.80	13.90	13/16"	T-2014	5.15	38.00	29.75
22-18	5-6	5/16"	5/16"	3/4"	S-1029	2.50	17.80	13.90	15/16"	T-2029	5.15	38.00	29.75
22-18	8	19/64"	7/32"	5/8"	S-1030	2.50	17.80	13.90	13/16"	T-2030	5.15	38.00	29.75
22-18	8	5/16"	5/16"	3/4"	S-1031	2.50	17.80	13.90	15/16"	T-2031	5.15	38.00	29.75
22-18	10	5/16"	5/16"	3/4"	S-1032	2.50	17.80	13.90	15/16"	T-2032	5.15	38.00	29.75
16-14	5-6	19/64"	7/32"	5/8"	S-1015*	2.65	18.75	14.70	13/16"	T-2015†	5.15	38.00	29.75
16-14	8	19/64"	7/32"	5/8"	S-1033	2.65	18.75	14.70	13/16"	T-2033	5.15	38.00	29.75
16-14	10	23/64"	9/32"	3/4"	S-1016*	2.65	18.75	14.70	15/16"	T-2016†	5.15	38.00	29.75
12-10	10	3/8"	5/16"	25/32"	S-1017	3.65	26.05	20.40	1-3/32"	T-2017	6.70	49.20	38.45

HOOK TONGUE TERMINALS (FIG. B)

22-18	5-6	5/16"	5/16"	23/32"	S-1018*	2.50	17.80	13.90	29/32"	T-2018	5.15	38.00	29.75
16-14	5-6	23/64"	9/32"	23/32"	S-1038	2.65	18.75	14.70	29/32"	T-2038	5.15	38.00	29.75

FLANGED SPADE TERMINALS (FIG. C)

22-18	5-6	19/64"	7/32"	5/8"	S-1080*	2.50	17.80	13.90	13/16"	T-2080†	5.15	38.00	29.75
22-18	8	19/64"	7/32"	5/8"	S-1081	2.50	17.80	13.90	13/16"	T-2081	5.15	38.00	29.75
22-18	10	3/8"	1/4"	23/32"	S-1582	2.50	17.80	13.90	29/32"	T-2582	5.15	38.00	29.75
16-14	5-6	19/64"	7/32"	5/8"	S-1083	2.65	18.75	14.70	13/16"	T-2083	5.15	38.00	29.75
16-14	8	19/64"	7/32"	5/8"	S-1084	2.65	18.75	14.70	13/16"	T-2084	5.15	38.00	29.75
16-14	10	3/8"	1/4"	23/32"	S-1585	2.65	18.75	14.70	29/32"	T-2585	5.15	38.00	29.75
12-10	10	3/8"	5/16"	3/4"	S-1088	3.65	26.05	20.40	1-1/16"	T-2088	6.70	49.20	38.45

RING TONGUE TERMINALS (FIG. D)

22-18	1-2	7/32"	5/32"	33/64"	S-1099	2.50	17.80	13.90	45/64"	T-2099	5.15	38.00	29.75
22-18	3-4	7/32"	5/32"	33/64"	S-1047	2.50	17.80	13.90	45/64"	T-2047	5.15	38.00	29.75
22-18	5-6	7/32"	5/32"	33/64"	S-1001	2.50	17.80	13.90	45/64"	T-2001	5.15	38.00	29.75
22-18	5-6	9/32"	1/4"	41/64"	S-1002*	2.50	17.80	13.90	53/64"	T-2002†	5.15	38.00	29.75
22-18	8	9/32"	1/4"	41/64"	S-1097	2.50	17.80	13.90	53/64"	T-2097	5.15	38.00	29.75
22-18	8	5/16"	5/16"	23/32"	S-1021	2.50	17.80	13.90	29/32"	T-2021	5.15	38.00	29.75
22-18	10	9/32"	1/4"	41/64"	S-1098	2.50	17.80	13.90	53/64"	T-2098	5.15	38.00	29.75
22-18	10	5/16"	5/16"	23/32"	S-1003*	2.50	17.80	13.90	29/32"	T-2003†	5.15	38.00	29.75
22-18	1/4	15/32"	.400"	57/64"	S-1004	3.45	24.60	19.25	1-5/64"	T-2004	6.70	49.20	38.45
22-18	5/16	15/32"	.400"	57/64"	S-1005	3.45	24.60	19.25	1-5/64"	T-2005	6.70	49.20	38.45
22-18	3/8	9/16"	9/16"	1-7/64"	S-1143	4.50	32.40	25.30	1-19/64"	T-2143	6.70	49.20	38.45
16-14	3-4	1/4"	7/32"	19/32"	S-1048	2.65	18.75	14.70	25/32"	T-2048	5.15	38.00	29.75
16-14	3-4	11/32"	5/16"	47/64"	S-1095	2.65	18.75	14.70	59/64"	T-2095	5.15	38.00	29.75
16-14	5-6	1/4"	7/32"	19/32"	S-1006*	2.65	18.75	14.70	25/32"	T-2006†	5.15	38.00	29.75
16-14	5-6	5/16"	9/32"	45/64"	S-1007	2.65	18.75	14.70	57/64"	T-2007	5.15	38.00	29.75
16-14	8	5/16"	9/32"	45/64"	S-1024	2.65	18.75	14.70	57/64"	T-2024	5.15	38.00	29.75
16-14	10	5/16"	9/32"	45/64"	S-1008*	2.65	18.75	14.70	57/64"	T-2008†	5.15	38.00	29.75
16-14	1/4	15/32"	.400"	57/64"	S-1009	3.45	24.60	19.25	1-5/64"	T-2009	6.70	49.20	38.45
16-14	5/16	15/32"	.400"	57/64"	S-1041	3.45	24.60	19.25	1-5/64"	T-2041	6.70	49.20	38.45
16-14	3/8	9/16"	9/16"	1-7/64"	S-1147	4.50	32.40	25.30	1-19/64"	T-2147	6.70	49.20	38.45
12-10	5-6	3/8"	5/16"	3/4"	S-1049	3.65	26.05	20.40	1-1/16"	T-2049	6.70	49.20	38.45
12-10	8	3/8"	5/16"	3/4"	S-1050	3.65	26.05	20.40	1-1/16"	T-2050	6.70	49.20	38.45
12-10	10	3/8"	5/16"	3/4"	S-1011*	3.65	26.05	20.40	1-1/16"	T-2011†	6.70	49.20	38.45
12-10	1/4	17/32"	13/32"	59/64"	S-1100	4.80	34.45	26.85	1-15/64"	T-2100	7.10	52.15	40.70
12-10	5/16	17/32"	13/32"	59/64"	S-1101	4.80	34.45	26.85	1-15/64"	T-2101	7.10	52.15	40.70
12-10	3/8	19/32"	31/64"	1-1/32"	S-1013	5.30	37.90	29.60	1-11/32"	T-2013	7.85	57.95	45.25

QUICK DISCONNECTS - PUSH-ON TYPE (FIG. E & F)

		Length									
18-14	Male .250"	21/32	S-1089*	2.90	20.65	16.10	27/32	T-2089†	5.55	40.85	31.90
18-14	Female .250"	41/64	SS-1090†	2.90	20.65	16.10	27/32	ST-2090†	5.55	40.85	31.90
18-14	Female .187"	17/32	SS-1187	2.90	20.65	16.10	47/64	ST-2187	5.55	40.85	31.90
18-14	Female .110-.125"	29/64	SS-1186	2.90	20.65	16.10	21/32	ST-2186	5.55	40.85	31.90

SNAP PLUG & RECEPTACLE (FIG. FF)

16-14	Snap Plug	19/32	S-1055	2.40	16.95	13.20	27/32	T-2055	5.15	38.00	29.75
16-14	Plug Receptacle	1-3/8	PR-1426	9.90	71.25	55.40					

BUTT CONNECTORS (FIG. G)

22-18		9/16	S-1019*	2.80	19.75	15.40	15/16	T-2019†	6.10	44.90	35.15
16-14		9/16	S-1020	2.80	19.75	15.40	15/16	T-2020	6.10	44.90	35.15
12-10		9/16	S-1046	4.90	35.10	27.45	1-1/16	T-2046	8.30	61.35	47.90

NYLON INSULATED CLOSED END CONNECTORS (FIG. H)

Wire Range	O.D.	Barrel Length	I.D.	Circular Mil Area	Length	Part No.	100-999 Per C	1000-4999 Per M	5000 Up Per M
22-14	5/16	11/32	1/4	600-5,180	39/64	CE-2214	4.30	30.75	24.05
16-10	7/16	3/8	3/8	2,400-13,000	23/32	CE-1610†	6.30	45.00	35.15

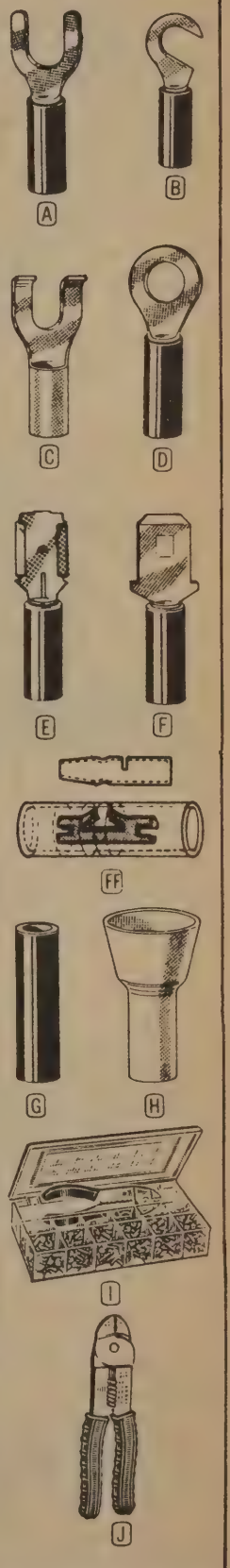
ASSORTMENTS (FIG. I)

Assortment K-170 (Fig. I) - Contains 215 S Type (non-insulated) terminals of types indicated by asterisk (*) in listings above, plus Universal Crimping Tool
Net Each $10.85

Assortment K-180 (Fig. I) - Contains 138 T Type (insulated) terminals of types indicated by daggers (†) in above listings plus Universal Crimping Tool
Net Each $13.90

UNIVERSAL CRIMPING TOOL (FIG. J)

Part No. CT-4070 - Crimps both insulated and non-insulated terminals, wire sizes 22 thru 10. Cuts and strips wire.
Net Each ..... $ 5.95



Only a partial listing of more than 2000 items in the WALDOM line of solderless terminals and connectors. Includes many more sizes and types, including Heavy Duty, Flared Insulation, Military Types, Terminal Block Terminals, Flag Terminals, insulation sleeve and many more. Write for WALDOM CATALOG 7G7.

waldom / molex

NYLON CONNECTORS

WALDOM/MOLEX NYLON connectors are being designed into some of man's most exciting circuitry. For they offer incomparable reliability, versatility and economy. Save time and labor. Provide a better mode of connection than can be obtained by hand soldering. They are being used in countless applications in the business machine, home entertainment, appliance, communications, measurement and instrumentation industries. Solving some of the most demanding circuitry problems. Making connections in some of the toughest environments imaginable. We offer Nylon Miniature Connectors in 1 to 36 circuits and standard connectors from 1 to 15 circuits. They are available with integrally molded mounting ears for ease of panel mounting. To simplify the attachment of individual contacts, WALDOM/MOLEX provides a complete range of manual production and prototype hand tools. Both male and female terminals may be readily extracted and easily replaced using WALDOM/MOLEX extractor tools. These tools permit simple servicing and circuitry variation.

PROVEN IN DESIGN AND PERFORMANCE

• Economy • Reliability • Integrally Molded Panel Mounting Ears • Excellent dielectric strength • Snap-in crimped terminals • Wide variety of circuit combinations • Simplified, fool-proof polarity • Positive lock • U.L. Recognized — CSA listed • Serviceability.

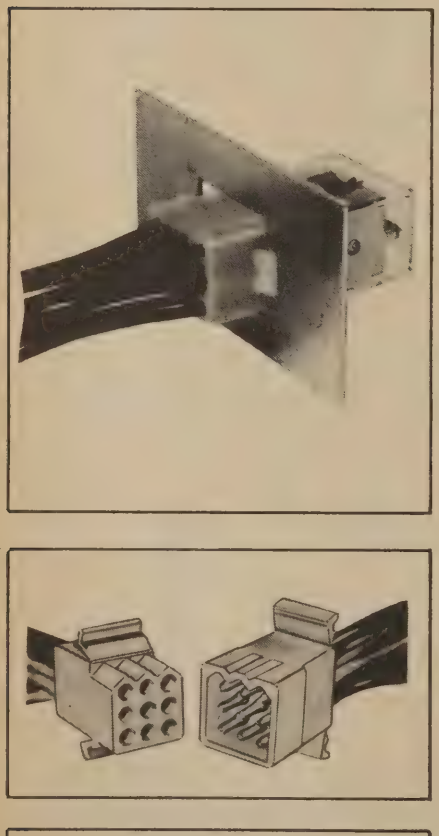
P.C. BOARD CONNECTIONS USING NYLON CONNECTORS

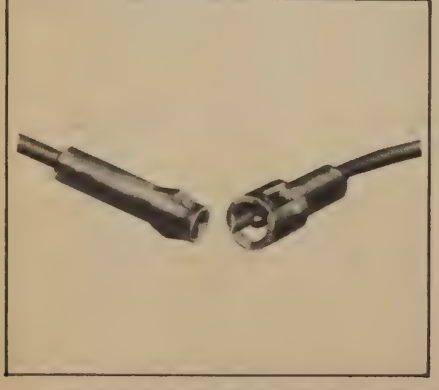
Simplify circuit connections to printed circuit boards with t versatile WALDOM/MOLEX units. They cut installation costs treme dously and also provide better, low resistance detachable connectior Pin terminals snap-lock into housing for dip or fountain solderi to boards. They are available in both male and female to perm either plug or receptacle to be board mounted. Mating plug receptacle terminals are crimped to cable connection and snap-lo securely into housings.

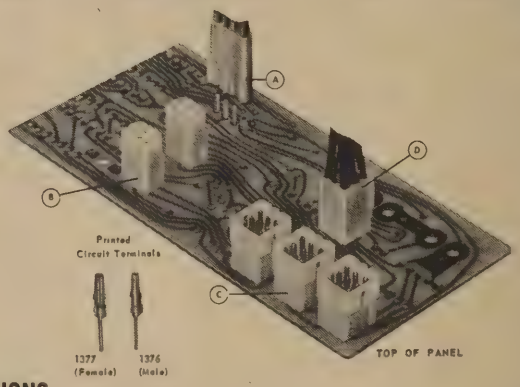
PIN CONNECTIONS

For printed circuit boards using a pin staked terminal — connecto from 1 to 15 circuits can be used. Polarity is obtained by the housir design. Additional polarity is provided by mixed use of male ar female terminals in plug and receptacle units. This also eliminat intermixing units containing the same number of circuits. Single lea connections using female terminals 1189 can also be used wi or without nylon housing.

• Low resistance connections • High contact pressure witho injury to printed circuit • Rugged terminals, completely encase in nylon for further protection • Hundreds of insertions are possib with no deterioration to the printed circuit • Low cost componen and crimped leads in receptacle reduce labor costs • Perfect polari between receptacle and printed circuit.





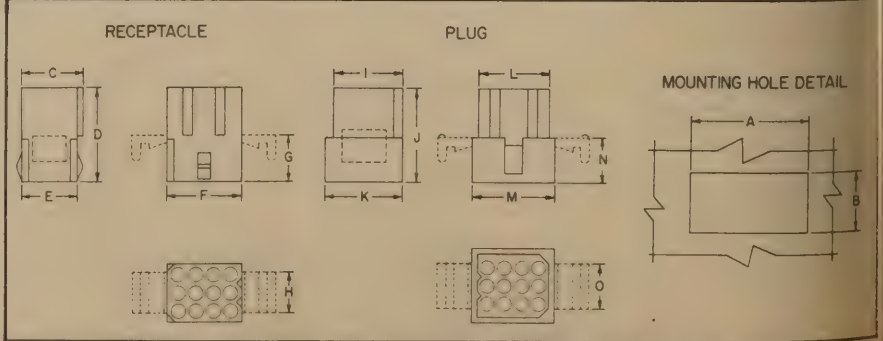


PRODUCT APPLICATIONS

• **AUTOMOTIVE** — Automobiles, Trucks, Trailers, Construction Equipment • **COMMUNICATION EQUIPMENT** — Mobile Comm. Equipment, Telex Printers & Receivers, Telephone Equipment Western Union Equipment, Intercom Equipment. • **COMPUTERS** — Computers, Sorter, Ke Punch, Miscellaneous Computer Equipment, Copy Machine. • **HEATING & COOLING** — Ai Conditioners, Dehumidifiers, Furnaces, Water Heatrs, Wall Heaters • **HOME ENTERTAINMEN UNITS** — Television, Stereo/Record Players, Tape Recorder, Electric Organ, Juke Box, Radio Amplifier. • **HOUSEHOLD APPLIANCES** — Range, Washing Machine, Dryer, Dishwasher, Refrig erator, Freezer, Small Home Appliances, Rotisseries. • **INDUSTRIAL** — Conveyors, Elevators Industrial Control Panels. • **INSTRUMENTATION** — Measuring Equipment, Testing Equipment Other Indicating Instruments. • **MEDICAL ELECTRONICS** — Dental Consoles, X-Ray Equip ment, Surgical Apparatus, Medicine Cabinets. • **MISCELLANEOUS** — Printing Machines Equipment, Motors, Fluorescent Light Fixtures. • **PHOTOGRAPHIC** — Photographic Enlarger & Equipment. • **VENDING MACHINES** — Vending Machines, Coin Launderers & Dry Cleaners Change Machines, Coin Operated Car Washes.

A Four circuit connector to polarized staked pin terminals.
B Receptacle mounted to board with WALDOM/MOLEX printed circuit terminals.
C Plug mounted to board with WALDOM/MOLEX printed circuit terminals.
D Cable connector with WALDOM/MOLEX snap-in, crimped terminals.
E Printed circuit tail terminals.

CONNECTOR DATA



Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

© United Technical Publications

waldom / molex

YLON CONNECTORS

INIATURE .062" CONNECTORS

No. of Cir.	1		3		4		5		6		8		9		12		15		24		36	
	1625-1		1625-3		1625-4		1625-5		1625-6		1649-8		1625-9		1625-12		1625-15		1625-24		1772-36	
	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P
A	N/A	N/A	.265	.318	N/A	N/A	.265	N/A	.552	N/A	.330	N/A	.552	.615	.563	.614	.563	.614	.715	.765	.707	.825
B	N/A	N/A	.650	.754	N/A	N/A	.940	N/A	.505	N/A	1.715	N/A	.650	.752	.795	.903	.934	1.042	1.079	1.182	1.677	1.795
C	.203 Dia.		.203		.203		.203		.484		.310		.531		.531		.531		.640		.859	
D	.781		.781		.781		.781		.781		.781		.781		.781		.781		.750		.781	
E	N/A		.203		.203		.203		.484		.220		.484		.484		.484		.500		.687	
F	N/A		.484		.625		.781		.343		1.500		.484		.625		.765		.920		1.515	
G	N/A		.390		.390		.390		.390		.390		.390		.390		.390		.375		.390	
H	N/A		.187		N/A		.187		.375		.312		.375		.375		.375		.500		.562	
I	.203 Dia.		.203		.203		.203		.484		.225		.531		.531		.531		.640		1.015	
J	.750		.750		.750		.750		.750		.750		.750		.750		.750		.750		.750	
K	.296 Dia.		.281		.296		.296		.578		.312		.578		.578		.593		.750		.812	
L	N/A		.484		.625		.781		.343		1.500		.484		.625		.781		.930		1.640	
M	N/A		.578		.734		.875		.453		1.593		.578		.718		.859		1.031		1.640	
N	N/A		.375		.375		N/A		.375		N/A		.375		.375		.375		.375		.375	
O	N/A		.187		N/A		N/A		N/A		N/A		.375		.375		.350		.500		.625	

TANDARD .093" CONNECTORS

No. of Cir.	1		2		3		4		5		6		9		12		15	
	1619		1545		1396		1490		1653		1261		1292		1360		1375	
	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P
A	N/A	N/A	.705	.800	.840	.933	1.038	1.131	N/A	N/A	.718	.750	.828	.937	1.050	1.155	1.240	1.343
B	N/A	N/A	.312	.375	.312	.375	.312	.375	N/A	N/A	.600	.695	.725	.725	.655	.760	.655	.760
C	.234 Dia.		.250		.234		.236		.234		.632		.625		.640		.632	
D	1.000		1.000		1.031		1.000		1.000		1.031		1.031		1.031		1.031	
E	N/A		.250		.234		.236		.234		.632		.625		.640		.632	
F	N/A		.531		.671		.875		1.062		.437		.671		.870		1.067	
G	N/A		.437		.437		.437		.437		.437		.437		.437		.437	
H	N/A		.250		.234		.236		N/A		.562		.562		.562		.562	
I	.241 Dia.		.250		.234		.250		.250		.734		.634		.634		.632	
J	.968		.968		.968		.968		.968		.968		.968		.968		.968	
K	.358 Dia.		.352		.338		.338		.343		.640		.734		.734		.734	
L	N/A		.531		.671		.859		1.062		.531		.765		.975		1.169	
M	N/A		.640		.773		.968		1.171		.531		.765		.975		1.169	
N	N/A		.421		.421		.421		.421		.421		N/A		.421		.421	
O	N/A		.250		.234		.250		N/A		.562		.562		.562		.562	



STRAIN RELIEF ASSEMBLY
For 15 and 36 circuit miniature connectors
(2 required for plug and receptacle)

Dimensions subject to nominal variation. N/A — Not Applicable.

RDER DATA

ALDOM/MOLEX MINIATURE NYLON CONNECTOR HOUSINGS .062" PIN DIA. — 250 VOLTS PER CIRCUIT

No. of Cirs.	Amps Per Cir.	Std. Package	En. P/N New No. Shown ( )	PLUG CONFIGURATION ONLY: Mounting Ears With	Mounting Ears Without	Per Pkg.	Per C 100-499	Per C 500-999	Per C 1000 Up	RECEPTACLE CONFIGURATION ONLY: Eng. P/N New No. Shown ( )	With Holding Tabs	With Mtg. Ears and Holding Tabs	Per Pkg.	Per C 100-499	Per C 500-999	Per C 1000 Up
1	5	10	1625-1	—	P (03-06-2011)	.95	6.55	4.55	3.50	1625-1	R (03-06-1011)	—	.85	5.65	3.90	3.00
3	5	10	1625-3	P (03-06-2031)	P1 (03-06-2032)	1.65	11.05	8.15	5.85	1625-3	R1 (03-06-1032)	R (03-06-1031)	1.85	12.40	9.15	6.75
4	5	10	1625-4	P (03-06-2041)	P1 (03-06-2042)	3.65	24.60	18.30	12.70	1625-4	R1 (03-06-1042)	R (03-06-1041)	3.60	24.30	18.30	12.50
5	5	5	1625-5	P (03-06-2054)	P1 (03-06-2055)	1.20	16.30	12.10	8.75	1625-5	—	R (03-06-1055)	1.55	21.00	15.35	11.25
6	5	5	1625-6	P (03-06-2062)	P1 (03-06-2061)	1.15	15.70	11.40	8.55	1625-6	—	R (03-06-1061)	1.35	18.25	12.85	9.90
8	5	5	1649-8	—	P (03-06-2081)	.95	13.35	9.30	7.25	1649-8	—	R (03-06-1081)	1.20	16.40	11.40	8.85
9	5	5	1625-9	P (03-06-2091)	P1 (03-06-2092)	1.25	16.90	12.10	9.20	1625-9	R1 (03-06-1092)	R (03-06-1091)	1.40	19.30	13.70	10.50
2	5	5	1625-12	P (03-06-2121)	P1 (03-06-2122)	1.30	17.60	13.00	9.65	1625-12	R1 (03-06-1122)	R (03-06-1121)	1.45	20.20	14.70	11.05
5	5	5	1625-15	P (03-06-2151)	P1 (03-06-2152)	2.10	28.60	20.00	15.50	1625-15	R1 (03-06-1152)	R (03-06-1151)	2.40	32.60	22.70	17.65
4	4	5	1625-24	P (03-06-2241)	P1 (03-06-2242)	3.15	42.40	29.50	22.85	1625-24	R1 (03-06-1242)	R (03-06-1241)	3.30	44.50	30.90	24.00
6	4	5	1772-36	P (03-06-2361)	P1 (03-06-2362)	3.55	48.00	33.30	25.70	1772-36	—	R (03-06-1361) R1 (03-06-1362)†	3.70	50.10	34.70	26.80

ALDOM/MOLEX STANDARD NYLON CONNECTOR HOUSINGS .093" PIN DIA. — 250 VOLTS PER CIRCUIT

No. of Cirs.	Amps Per Cir.	Std. Package	En. P/N New No. Shown ( )	PLUG CONFIGURATION ONLY: Mounting Ears With	Mounting Ears Without	Per Pkg.	Per C 100-499	Per C 500-999	Per C 1000 Up	RECEPTACLE CONFIGURATION ONLY: Eng. P/N New No. Shown ( )	With Holding Tabs	With Mtg. Ears and Holding Tabs	Per Pkg.	Per C 100-499	Per C 500-999	Per C 1000 Up
1	12	10	1619P	—	P (03-09-1011)	.95	6.45	4.45	3.45	1619R	R (03-09-1011)	—	.80	5.55	3.85	2.95
2	12	10	1545P	P (03-09-2021)	P1 (03-09-2022)	1.90	12.50	9.40	6.50	1545R	R1 (03-09-1022)	R (03-09-1021)	1.90	12.70	9.45	6.55
3	12	10	1369P	P (03-09-2031)	P1 (03-09-2032)	1.60	10.95	7.60	5.85	1396R	R1 (03-09-1032)	R (03-09-1031)	1.65	11.05	7.65	5.95
4	9	10	1490P	P (03-09-2041)	P1 (03-09-2042)	2.25	15.30	10.60	8.15	1490R	R1 (03-09-1042)	R (03-09-1041)	2.30	15.60	10.80	8.35
5	9	5	1653P	—	P (03-09-2052)	1.30	17.90	12.55	9.75	1653R	R (03-09-1052)	—	1.65	22.70	16.30	12.30
5	9	5	1261P	P (03-09-2061)	P1 (03-09-2062)	1.45	19.70	13.10	10.05	1261R	R2 (03-09-1063)	R (03-09-1061)	1.45	19.60	13.00	9.80
9	9	5	1292P	P (03-09-2091)	P1 (03-09-2092)	1.55	21.10	14.60	11.30	1292R	R3 (03-09-1094)	R (03-09-1091) R2 (03-09-1093)†	1.65	21.90	14.80	11.50
2	7.5	5	1360P	P1 (03-09-2122)	P (03-09-2121)	1.60	21.45	14.95	11.60	1360R	—	R (03-09-1121) R1 (03-09-1122)†	1.75	24.00	16.70	12.95
5	7.5	5	1375P	P2 (03-09-2152)	*P (03-09-2151)	2.45	33.10	22.90	17.70	1375R	—	R (03-09-1151)	2.80	37.55	26.00	20.00

th Pull Tabs only. † Without Mounting Ears and Holding Tabs

RAIN RELIEF (2 PCS. REQUIRED PER PLUG OR RECEPTACLE)

Eng. P/N	New P/N	Used With	"A" I.D.	Std. Pkg.	Per Pkg.	100-499 Per C	500-Up Per C
SD-1815	15-04-0201	15 Cir. .062"	.230"	10	3.95	26.30	19.50
SD-1864-415	15-04-0202	36 Cir. .062"	.500"	10	4.50	23.10	17.50

ximum Panel Thickness For Mounting Ears:
.062" Series..... .060" (1.5mm)
.093" Series..... .093" (2.4mm)

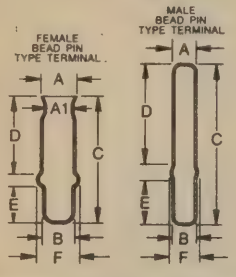
gineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

waldom / molex

TERMINALS





Part	Body Dia. A Outside	Body Dia. A-1 Inside	Staking Dia. B	Overall Length C	Contact Length D	Staking Length E	Bead Dia. F	Bead Terminal Part #
Female Bead-type terminal (mates with 1560 and 1854 Miniature .062 Male Terminal).	.093	.060	.083	.365	.210	.125	.110	M93-102
Male Bead-type terminal (mates with 1561 and 1855 Miniature .062 Female Terminal).	3 varieties	.062	.062	.435	.280	.125	.090	R62-3
		.062	.062	.555	.400	.125	.090	R62-4
		.062	.062	.455	.280	.145	.100	R62-5
Female Bead-type terminal (mates with 1190, 1380 & 1434 Standard .093 Male Terminal).	.118	.089	.093	.420	.234	.14	.150	M118-95A
Male Bead Pin-type terminal (mates with 1189, 1381 & 1433 Standard .093 Female Terminal).	2 varieties	.093	.093	.592	.437	.109	.125	R93-12
		.093	.093	.592	.437	.169	.125	R93-31

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	1000-3999*	4000-11,999*	12,000 Up*	Prototype Hand Tool	Manual Prod. Tool
1189	02-09-1103	F	.093	Crimp	18-14	4.00	25.30	18.75	14.65	HT-1919	HTR-1031-C
1190	02-09-2103	M	.093	Crimp	18-14	4.00	25.30	18.75	14.65	HT-1919	HTR-1031-C
1381	02-09-1118	F	.093	Crimp	24-18	4.00	25.30	18.75	14.65	HT-1919	HTR-1031-C
1380	02-09-2118	M	.093	Crimp	24-18	4.00	25.30	18.75	14.65	HT-1919	HTR-1031-C
1433	02-09-1143	F	.093	Crimp	30-22	4.00	25.30	18.75	14.65	HT-1921	HTR-2262
1434	02-09-2143	M	.093	Crimp	30-22	4.00	25.30	18.75	14.65	HT-1921	HTR-2262
1521ST	02-09-7110	F	.093	Solder	34-14	4.00	25.30	18.75	14.65	—	—
1520ST	02-09-8110	M	.093	Solder	34-14	4.00	25.30	18.75	14.65	—	—

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	1000-4999*	5000-9999*	10,000 Up*	Prototype Hand Tool	Manual Prod. Tool
1377	02-09-1133	F	.093	P. C. Tail	—	3.10	21.45	16.50	13.25	—	—
1376	02-09-2133	M	.093	P. C. Tail	—	3.10	21.45	16.50	13.25	—	—

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	4000-7999*	8,000 Up*	—	Prototype Hand Tool	Manual Prod. Tool
1881-2	02-08-1101	F	.093	Crimp	28-16	4.10	26.00	19.30	—	HT-1919	HTR-1031-C

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	1000-2999*	3000-5999*	6000-11,999*	12,000 Up*	Prototype Hand Tool	Manual Prod. Tool
1561	02-06-1103	F	.062	Crimp	22-18	4.40	37.50	26.20	18.20	12.60	HT-1921	HTR-2262
1560	02-06-2103	M	.062	Crimp	22-18	4.40	37.50	26.20	18.20	12.60	HT-1921	HTR-2262
1855	02-06-1132	F	.062	Crimp	30-22	4.40	37.50	26.20	18.20	12.60	HT-1921	HTR-2262
1854	02-06-2132	M	.062	Crimp	30-22	4.40	37.50	26.20	18.20	12.60	HT-1921	HTR-2262
1803ST	02-06-7101	F	.062	Solder	34-18	4.40	37.50	26.20	18.20	12.60	—	—
1804ST	02-06-8101	M	.062	Solder	34-18	4.40	37.50	26.20	18.20	12.60	—	—

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	4000-7999*	8,000 Up*	—	Prototype Hand Tool	Manual Prod. Tool
1929	02-05-1105	F	.062	Crimp	22-18	3.75	23.50	17.45	—	HT-1921	HTR-2262

Eng. No.	New P/N	Type	Mating Dia.	Style	Wire Range	Per Pkg. †	1000-4999*	5000-9999*	10,000 Up*	Prototype Hand Tool	Manual Prod. Tool
M-93-102	M-93-102	F	.093	Bead Chain	—	1.80	10.40	7.05	6.35	—	—
R-93-12	R-93-12	M	.093	Bead Chain	—	1.80	10.30	7.00	6.30	—	—
R-93-31	R-93-31	M	.093	Bead Chain	—	1.80	10.45	7.20	6.45	—	—
M-118-95A	M-118-95A	F	.093	Bead Chain	—	1.85	10.80	7.45	6.70	—	—
R-62-3	R-62-3	M	.062	Bead Chain	—	1.80	10.70	7.40	6.65	—	—
R-62-4	R-62-4	M	.062	Bead Chain	—	1.85	10.95	7.70	6.90	—	—
R-62-5	R-62-5	M	.062	Bead Chain	—	1.80	10.70	7.40	6.65	—	—

F — Female. M — Male. * Per M. † Standard pkg. — 100 pcs.

Engineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

DESIGNER KITS



Contains parts to assemble male and female connector housings from SINGLE-CIRCUIT to 36-CIRCUIT COMPLETE CONNECTORS. (Total of 56 Connectors.) Includes crimping tool and pin terminal ejector tool.

A must for every creative designer, repairman and experimenter... as modern as today's circuitry. Eliminates need of searching for proper connectors or tools — everything is under one lid. This polarized Nylon Connector Designers Kit comes with all circuit capacities, complete with Male and Female housings, terminals, and crimp tool. Separated in individual compartments, each connector element is numbered and described, enabling you to re-order when running low.

This light-weight, unbreakable kit closes with a snap-lock to avoid spills and mix-ups. Each kit contains a prototype hand crimping tool, specially balanced and weighted for ease of operation. Machined from hardened-steel, this tool provides excellent, uniform crimps every time. It also cuts and strips wire. Each kit also contains a special terminal ejector tool, and detailed crimping instructions permanently affixed and mar-proof.

WALDOM/MOLEX also produces a Designer Kit in the standard series. Similarly, it has all the elements and tools necessary to make up standard connectors in all sizes. (Single circuit to 15 circuits in the standard series.) Total of 45 complete connectors.

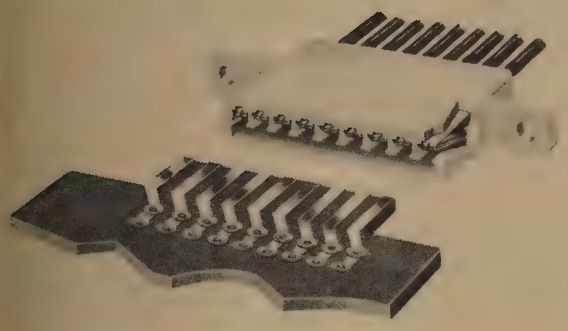
Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

© United Technical Publications

waldom / molex

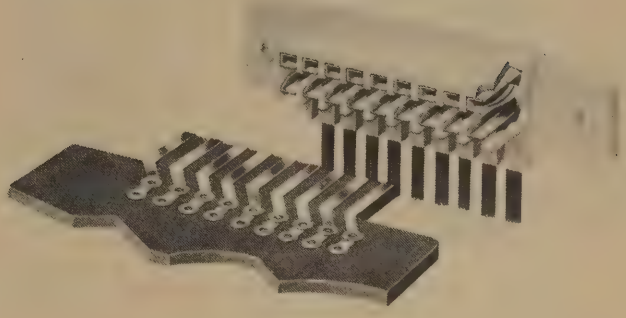
P.C. EDGE CONNECTORS

STRAIGHT-ON



aight-on edge connectors are available in 6 - 9 - 12 - 15 - 18 - 21 - 22 d 24 circuit configurations. Bifurcated terminals provide a really id contact — excellent reliability. Yet you can slip the connector and off, time after time, without any damage to the printed cuit. Use of polarizing key, when necessary, guarantees positive arity. With or without mounting flange, as desired.

RIGHT ANGLE



Right angle edge connectors are available in 6 - 9 - 12 - 15 - 18 - 21 and 22 circuit configurations and offer all the advantages of the "straight-on" series plus the added feature of mounting the printed circuit board at a right angle, requiring minimum space.

Eng. P/N	New P/N	No. of Circuits	Mtg. Flange	A	B	Std. Pkg.	Per Pkg.	100-499 Per C	500-Up Per C
1796-6	09-01-1061	6	No	.966		5	1.75	29.55	21.85
1796-61	09-01-2061	6	Yes		1.392	5	1.75	29.55	21.85
1796-9	09-01-1091	9	No	1.434		5	1.85	30.40	22.50
1796-91	09-01-2091	9	Yes		1.860	5	1.85	30.40	22.50
1796-12	09-01-1121	12	No	1.902		5	1.85	31.20	28.15
1796-121	09-01-2121	12	Yes		2.328	5	1.85	31.20	28.15
1796-15	09-01-1151	15	No	2.370		5	1.90	32.10	23.70
1796-151	09-01-2151	15	Yes		2.796	5	1.90	32.10	23.70
1796-18	09-01-1181	18	No	2.838		5	1.95	33.00	24.40
1796-181	09-01-2181	18	Yes		3.264	5	1.95	33.00	24.40
1796-21	09-01-1211	21	No	3.306		5	2.00	33.80	25.05
1796-211	09-01-2211	21	Yes		3.732	5	2.00	33.80	25.05
1796-22	09-01-1221	22	No	3.462		5	2.05	34.10	25.25
1796-221	09-01-2221	22	Yes		3.888	5	2.05	34.10	25.25
1796-24	09-01-1241	24	No	3.774		5	2.05	34.30	25.40
1796-241	09-01-2241	24	Yes		4.200	5	2.05	34.30	25.40
Polarizing Key — 15-040215						10	.65	5.05	3.95
1800-6	09-02-1061	6*	No	.882		5	2.55	45.40	33.70
1800-61	09-02-2061	6*	Yes		1.472	5	2.55	45.40	33.70
1800-9	09-02-1091	9*	No	1.350		5	2.60	46.20	34.20
1800-91	09-02-2091	9	Yes		1.940	5	2.60	46.20	34.20
1800-12	09-02-1121	12*	No	1.818		5	2.70	47.10	34.95
1800-121	09-02-2121	12*	Yes		2.408	5	2.70	47.10	34.95
1800-15	09-02-1151	15*	No	2.286		5	2.80	47.80	35.40
1800-151	09-02-2151	15	Yes		2.876	5	2.80	47.80	35.40
1800-18	09-02-1181	18*	No	2.754		5	2.90	48.60	36.05
1800-181	09-02-2181	18	Yes		3.344	5	2.90	48.60	36.05
1800-21	09-02-1211	21*	No	3.222		5	3.00	49.40	36.60
1800-211	09-02-2211	21	Yes		3.812	5	3.00	49.40	36.60
1800-22	09-02-1221	22*	No	3.378		5	3.05	49.60	36.70
1800-221	09-02-2221	22	Yes		3.968	5	3.05	49.60	36.70
Polarizing Key — 15-04-0216						10	.85	7.00	5.80

ERMINALS

Eng. P/N	New P/N	Wire Range	Std. Pkg.	Per Pkg.	2500-4999 Per M	5000-9999 Per M	10,000-Up Per M
1797	08-01-0102	18-24	100	4.70	30.30	22.75	18.00
2014	08-01-0108	24-30	100	4.70	30.30	22.75	18.00
1799	08-30-0102	18-24	100	5.65	36.60	27.50	21.75
2089	08-30-0104	24-30	100	5.65	36.60	27.50	21.75

Contact WALDOM for availability.

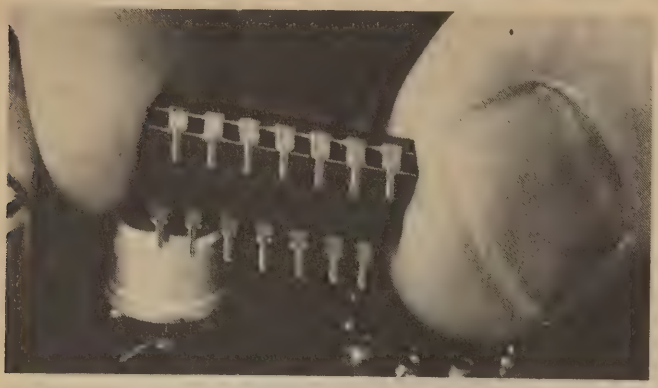
nual Production Crimp Tool — HTR-2262, $75.00 each. Prototype Crimp Tool — HT-1921, $5.95 each. Extraction Tool — HT-1884, $1.75 each.

ngineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

waldom / molex

INTEGRATED CIRCUIT SOLDERCON TERMINALS SOCKET



WALDOM/MOLEX 1938-4 Soldercon terminals advance the state-of-the-art by providing manufacturers with the advantages of plug-in packages for connecting integrated circuits at affordable prices.

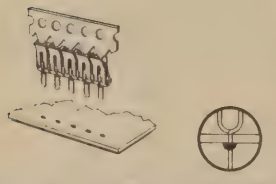
WALDOM/MOLEX 1938-4 Soldercons are available in pre-cut strips to fit your exact I.C. requirements. These terminals provide excellent electrical contact and sturdy mechanical support. Their use speeds assembly, testing and servicing, and gives new flexibility to your entire P.C. assembly. Standard WALDOM/MOLEX Soldercons material — 70/30 spring tempered tin plated brass — .010 thick. Available on special order, gold plated (over nickel) brass, or phosphor-bronze.

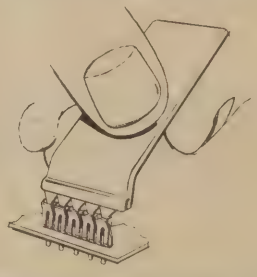
Continuous Length Reels		Price Per Thousand Terminals					
Eng. P/N New P/N 1938-4 (05-30-0001)		2M-9M	10M-24M	25M-49M	50M-74M	75M-Up	
		12.75	9.10	6.67	5.63	4.94	
Cut to Length Strips		**Price per Thousand Strips**					
Eng. P/N New P/N 1938-4-7 (05-30-0007)	Std. Pkg.	50-250	300-1400	1450-3550	3600-7100	7150-10,650	10,7[illegible] Up
7 Terminals per Strip	50	110.70	96.25	70.70	53.69	46.41	41.5
1938-4-8 (05-30-0008)	Std. Pkg.	50-250	300-1200	1250-3100	3150-6200	6250-9350	940[illegible] Up
8 Terminals per Strip	50	117.30	102.00	80.80	61.36	53.04	47.2
1938-4-10 (05-30-0010)	Std. Pkg.	50-250	300-950	1000-2450	2500-4950	5000-7450	750[illegible] Up
10 Terminals per Strip	50	158.15	137.50	101.00	76.70	66.30	59.4
1938-4-12 (05-30-0012)	Std. Pkg.	50-250	300-800	850-2050	2100-4150	4200-6200	625[illegible] Up
12 Terminals per Strip	50	189.75	165.00	121.20	92.04	79.56	71.2
1938-4-14 (05-30-0014)	Std. Pkg.	50-250	300-700	750-1750	1800-3550	3600-5350	5400 Up
14 Terminals per Strip	50	221.40	192.50	141.40	107.38	92.82	83.1

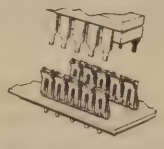
Carrier Break-off Tools

HT-2369-1 for 7-8 Terminals per Strip	$ .90/ea
HT-2369-2 for 10-12 Terminals per Strip	1.15/ea
HT-2369-3 for 14-18 Terminals per Strip	1.25/ea

These integrated Circuit Socket Terminals can be furnished in strips any length desired. For lengths other than listed, contact your distributor, WALDOM direct.







Terminal Specifications

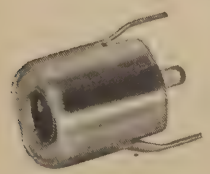
1. Height above board — .180
2. Hole required
   - A. Drilled — .032/.030 diameter
   - B. Punched — .032/030 diameter with .037 diameter maximum breakout
   - C. Plated through — .037/.029 diameter
3. Minimum spacing — .100 on center per row; .200 row spacing
4. Insertion — 1 oz. min. per terminal
5. Withdraw — ¾ oz. min. per termina
6. Lead size range — .007"/.011" x .018"/.030"

PRINTED CIRCUIT PHONO SOCKETS



New — This phono connector is designed to drop into a P.C. board wave soldered — and becomes the receptacle for the male, shielded cable type phono plug. Simplicity — consists of an outer shell, an insulator, and an inner shell. The outer shell designed with tails to go through the P.C. board, allowing maximum spacing between center hole and the tabs of the outer shell — preventing solder bridging. Nylon inner shell ideal for high temperatures encountered in wave soldering. Center hole in P.C. board accommodates various length male phono plugs allowing male pin to protrude through P.C. board.

Conventional type phono plugs and receptacles are also available to complete your requirements.



PHONO SOCKET RECEPTACLE
Per 100 Pieces

Part No.	Std. Pkg.	Per Pkg.	100-499	500-999	1000-Up
A2181 (15-24-0501)	10	2.35	18.80	12.55	10.00

CONVENTIONAL RCA TYPE PHONO PLUG



Use on record players, radios, etc., or wherever emergency connections of experimental nature are required. Pin is 1¼" long, ⅛" diameter. For use with females listed below.

Part No. PP-105-C	
Pkg. of 100	7.70

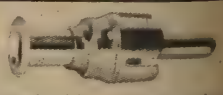
FEMALE SOCKET



Ceramic insert mounted on ⅛" bakelite disc with 1¼" mounting centers. Metal Parts Cadmium Plated.

Part No. PS-105-C	
Pkg. of 100	8.35

DELUXE MALE PHONO PLUG



Has additional barrel which can be crimped over wire insulation to provide strain relief and provides extra FINGER GRIP FOR EASY REMOVAL FROM SOCKET.

Part No. PP-1052-C	
Pkg. of 100	10.70

Engineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

Net

© United Technical Publications

waldom / molex

ICRO SWITCH CONNECTOR AND TERMINALS



WALDOM/MOLEX single and three-circuit series nylon connectors for "micro-type switches." Both series of connectors offer you low cost, and especially the three circuit, a fool proof method of making quick connections on your "micro" type switches. The housings accept our crimp-on, snap-in quick disconnect female terminal type No. 05-06-0302, for 22-14 wire range or 05-06-0403 for 30-22 wire range, which fit a standard 3/16" male tab .020" thick. These female quick disconnect terminals are vastly different than the conventional type female quick disconnects. The insertion force (average 2# per term) is much lower and smoother. Therefore it will not force the switch out of proper adjustment.

THREE CIRCUIT — The single circuit portion is a unique feature of the three-circuit micro switch connector. It is purposely "sprung" to allow easy connections to all micro switch mfgs. as their tab locations do vary slightly.

SINGLE CIRCUIT — The single circuit micro switch connector fits any standard 3/16" .020 switch male tab.

The crimp type terminal is produced of 70/30 pretinned brass .010" thick — and mates with any standard male "quick disconnect" tab 3/16" wide x .020" thick.

Both the nylon connectors and the terminal are U.L. recognized at 10 Amps.

Prototype Crimp Tool — HT-1919 ..... $5.95
Manual Production Crimp Tool — HTR-2090 ..... 75.00
Extraction Tool — HT-1884 ..... ea. 1.75

Recommended for use with Micro-Switches produced by Micro-Switch, Cherry Electric, McGill Electric, Unimax, Potter & Brumfield, Licon, C. C. H., and others.

NGLE CIRCUIT NYLON HOUSING (per 100 units)

Part No.	Std. Pkg.	Per Pkg.	100-499	500-999	1000-Up
2211 (06-02-3011)	10	.80	5.45	3.80	2.95

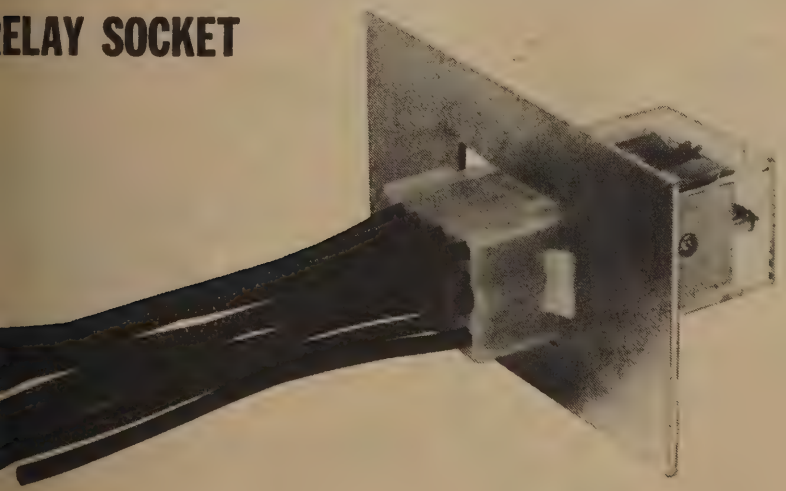
REE CIRCUIT NYLON HOUSING (per 100 units)

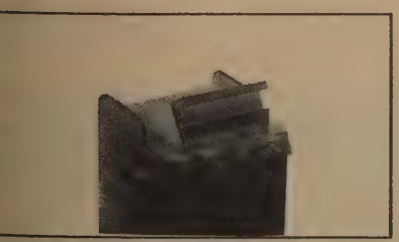
Part No.	Std. Pkg.	Per Pkg.	100-499	500-999	1000-Up
2191 (06-02-3031)	5	1.25	17.30	12.35	9.75

RMINAL

Part No.	Wire Range	Std. Pkg.	Per Pkg.	1500-5999 per M	6000-11,999 per M	12,000-Up per M
2176 (05-06-0302)	22-14	100	5.10	33.00	24.90	19.60
2328 (05-06-0403)	30-22	100	5.10	33.00	24.90	19.60

ELAY SOCKET







Four Pole — Double Throw Relay Socket (14 contact) 120 Volts — 5 Amps per circuit — This nylon relay socket offers a positive, snap-in mounting into the chassis hole — without the use of mounting clips or screws. Specially designed, one side of the socket has a "slide-in slot" while the opposite side has a panel mounting ear. And, it fits into the same chassis hole dimensions currently used by other socket manufacturers. It is inserted into the chassis from the underside, permitting the harness to be completely assembled (terminals applied to both ends of the wire) before mounting into chassis.

The low cost of this socket makes it economically feasible to use as a single or double pole socket.

The terminals are designed for low insertion and extraction force — and when necessary, more than one lead can be assembled into a single terminal. When the terminal is inserted into the relay socket, it is fully insulated — producing a dead back to the socket, eliminating shock hazards and other insulation requirements. With the HT-2215 terminal extraction tool, terminals can be easily removed from the nylon housing should servicing be required. Panel cutout dimensions — 1.015" x .858".

Manual Production Crimp Tool — HTR-2262 ..... $75.00 each
Prototype Crimp Tool — HT-1921 ..... 5.95 each
Extraction Tool — HT-2215 ..... 2.50 each

Recommended for use with relays produced by — Conmar Electric Company, C. P. Clarke and Company, Potter & Brumfield, Sigma Instrument Inc., Guardian Electric Company, Parelco Inc., and others.

LAY SOCKET

Part No.	Type	Std. Pkg.	Per Pkg.	100-499 per C	500-999 per C	1000-Up per C
1852-R (06-02-3141)	with mounting ears	5	2.50	34.40	24.35	19.20
1852-R1 (06-02-3142)	without mounting ears	5	2.50	34.40	24.35	19.20

RMINAL

Part No.	Std. Pkg.	Per Pkg.	1000-2999 per M	3000-11,999 per M	12,000-Up per M
1943 (05-06-0201)	100	4.10	38.00	26.10	18.60

gineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.



POWERHOUSE™ by FEDTRO

deluxe electronic synchro multi-phase AUTO ALARM SYSTEMS

take it from Mickey Mantle†

"FEDTRO...proven sound around the world®"

MODEL BGD-SIREN

world's most advanced and comprehensive deluxe auto siren alarm system exclusively featuring BODYGUARD™

now! protects your life... as well as your car...24 hours a day!

protects your car from theft & pilferage! protects contents, all 4 doors, hood, engine & trunk!



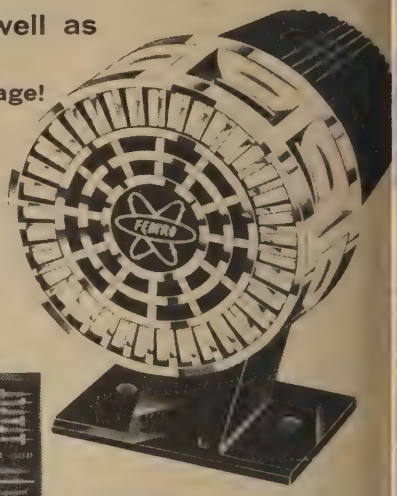
BODYGUARD™ feature protects 2 ways:

when intimidated...molested or attacked: pull the power cable! plunger jerks out of socket! instantly the powerhouse siren blasts the alarm...automatically...piercingly...continuously...and no one can stop it! attackers flee with fear as police alert howls!

in general emergencies, hazards or illness: At your fingertips ...instant safety! Gives you the option of manually sounding and controlling the siren for any emergency, personal hazard or illness. Depress the red button...siren is "on"...release & siren is "off"!

complete with:
1—heavy-duty ruggedized powerhouse™ deluxe siren
6—instamatic™ station sensors
1—body-guard™ protect-o-matic™ remote control
1—protect-o-matic electro-mechanical locking control with 2 keys
1—precision signal-matic™ relay
40 feet of quality installation cable
1—complete set of installation hardware
1—cylinder fuse with in-line cartridge adaptor complete with fuse rated at 5 amps.
2—special hood and trunk mounting brackets
2—instant-mount "warning" emblems





$32.95 *

MODEL ESK-SIREN

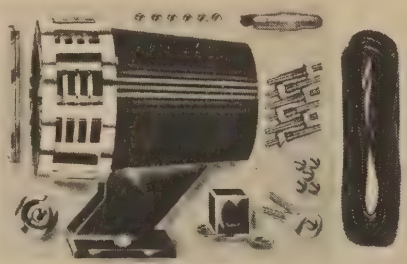
powerhouse deluxe auto siren alarm system

super siren blasts piercing police alert instantly...when anyone opens doors, hood or trunk!

protect against vandalism, pilferage and your car from being stolen. frightens thieves away.

siren continues to blast even if entry point is closed! only your key & you can silence or reset alarm.

complete with:
1—heavy-duty ruggedized powerhouse™ deluxe siren
6—instamatic™ station sensors
1—protect-o-matic™ electro-mechanical locking control with 2 keys



$24.95 *

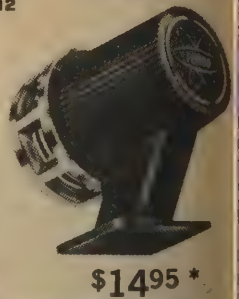
1—precision signal-matic™ relay
40 feet of quality installation cable
2—special hood and trunk mounting brackets
1—cylinder fuse with in-line cartridge adaptor complete with fuse rated at 5 amps.
1—complete set of installation hardware
2—instant-mount "warning" emblems

MODEL IND-SIREN

note: this is not a complete "alarm system." the powerhouse™ super siren can be used as the blasting signal siren for any 12 volt d.c. alarm system.

instantly blasts a powerful, high-frequency, totally penetrating siren alarm, creates a piercing, shrill warning signal...completely blanketing the entire area with a startling all-points police alert. frightens thieves away! custom molded of high-impact pvc...virtually rust-proof, indestructible and impervious to the severest of weather and climatic extremes!

back view of siren shown above



$14.95 *

complete with:
1—heavy-duty ruggedized powerhouse™ deluxe siren
1—cylinder fuse with in-line cartridge adaptor complete with fuse rated at 5 amps.

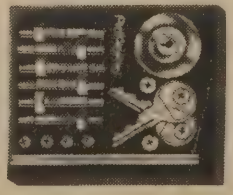
MODEL DYNA-12V

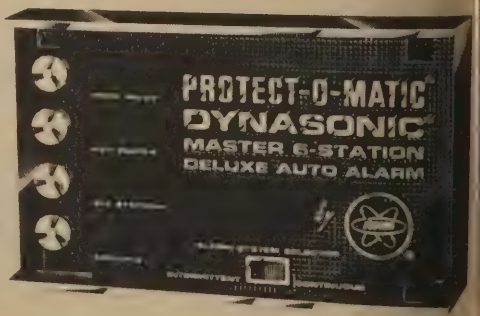
exclusive dynasonic™ protect-o-matic master 6-station deluxe auto alarm system.

blasts your horn instantly when anyone opens your doors, hood or trunk! frightens thieves away!

the "brain center" of your dynasonic system monitors the slightest signal from, or break-in at any of the station sensors! instantly...electro-mechanically...blasts the alarm with an "all-points police alert"! frightens thieves away! only you and your key can silence or reset the alarm! special select-o-matic™ permits your choice of continuous blast or intermittent "whaa-whaa" blasts!

complete with:
1—exclusive dynasonic™ protect-o-matic™ master 6 station control center
6—instamatic™ station sensors
1—protect-o-matic™ electro-mechanical locking control with 2 keys
2—special hood and trunk mounting brackets
30 feet of quality installation cable
1—complete set of installation hardware
2—instant-mount "warning" emblems





$14.95 *

protects your car from theft & pilferage! protects contents, all 4 doors, hood, engine & trunk!

* Suggested selling price may be slightly higher in Western States.

† mickey mantle endorses all Fedtro audio products

see other fedtro products: pages 35, 73, 383

Net

© United Technical Publications

GENERAL TIME

A Talley Industries Company

INDUSTRIAL CONTROLS DIVISION

Full line of...

- **Electromagnetic and electronic timers**
- **Elapsed Time Indicators**

eries DA Time Delay Timers, Rear Mounting



pe DA11. Manually adjustable by knob. Apply herever delay, interval or repeat cycle timing functns are required (repeat cycle requires two units). ternal clutch engages and disengages when motor energized and de-energized. Resets to start positn when power is removed. SPDT switch rated amps. 125 or 250 VAC resistive; solder lug ternals. Min. setting 0 sec. Repeat accuracy ±¾ of % of total time range. 5 watt motor. 120 VAC, Hz. U/L listed. Size: 3⅜" W x 2¹³⁄₁₆" D x 3⅜" H. eight: 1½ lbs.

pe DA21. Same as DA11 but with locknut adjustment to eliminate tampering. hen ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.		MAX. TIME SETTING	MAX. RESET TIME
DA11-036		5.7 sec.	0.25 sec.
DA11-031	DA21-001	14 sec.	1.0 sec.
DA11-032	DA21-002	57 sec.	1.5 sec.
DA11-035	DA21-005	114 sec.	9.0 sec.
DA11-033	DA21-003	4.5 min.	15 sec.
DA11-034	DA21-004	9.5 min.	120 sec.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$18.47	$17.55	$16.62	$15.70	$14.77	$13.85	$12.93

eries BN Adjustable Reset Timers — Built-in Relay

nel or rear mounting; interval or delay timing. Built-in relay, adjustable ne range. Apply to machine tools, production and processing equipment or her operations requiring a compact, dependable unit for direct control of ectrical loads.



N41 (Interval) and BN42 (Delay) Panel Mount al and setting knob with readout of elapsed time pointer in center of knob. SPDT relay rated 10 mps at 125 or 250 VAC. Timing motor rated 5 watts ax. 120 VAC, 60 Hz. Repeat accuracy ±¾ of 1% total time range. Screw terminal block. Size: ⁄16" square x 4⅜" deep; behind panel. Requires ⁄16" dia. mounting hole.



N25 (Interval) and BN22 (Delay) Rear Mount me specifications as BN41 and BN42 except ve chassis or back panel mount. Locknut setting djustment, where only occasional time period anges are required. Size: 3.375" W x 4.202" H 3.750" D.

NEL MOUNTING

MFR'S MODEL NO.		TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
NTERVAL	DELAY	MAX.	MIN.		MAJOR	MINOR
BN41-001	BN42-001	6 sec.	0.3 sec.	0.5 sec.	1 sec.	0.1 sec.
BN41-003	BN42-003	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
BN41-004	BN42-004	30 sec.	1.5 sec.	1.5 sec.	5 sec.	0.5 sec.
BN41-005	BN42-005	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
BN41-006	BN42-006	120 sec.	6.0 sec.	10 sec.	20 sec.	2.0 sec.
BN41-007	BN42-007	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
BN41-008	BN42-008	10 min.	0.4 min.	120 sec.	1 min.	0.2 min.

AR MOUNTING

MFR'S MODEL NO.		TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
NTERVAL	DELAY	MAX.	MIN.		MAJOR	MINOR
BN25-006	BN22-006	5.4 sec.	0.3 sec.	0.5 sec.	1 sec.	0.1 sec.
BN25-001	BN22-001	13.5 sec.	0.7 sec.	0.5 sec.	1 sec.	0.5 sec.
BN25-002	BN22-002	54 sec.	3.0 sec.	1.5 sec.	5 sec.	1.0 sec.
BN25-005	BN22-005	108 sec.	6.0 sec.	2.5 sec.	10 sec.	1.0 sec.
BN25-003	BN22-003	4.5 min.	15 sec.	5.0 sec.	1 min.	5.0 sec.
BN25-004	BN22-004	9.5 min.	30 sec.	120 sec.	1 min.	5.0 sec.

NET EACH, LOTS OF

OUNTING	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
Panel	$31.56	$29.98	$28.40	$26.82	$25.25	$23.67	$22.09
Rear	26.18	24.87	23.56	22.25	20.94	19.64	18.33

Series DP11 Panel Mounting Reset Timer



Adjustable time range by simple pointer knob. Apply wherever delay, interval or repeat cycle timing are needed (repeat cycle requires two timers). Readout of elapsed time by pointer in center of knob. Unit resets to start position when power is removed. SPDT switch rated 10 amps, 125 or 250 VAC resistive. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±1% of total time range. Screw terminals. Size: 3⁵⁄₁₆" square x 3³⁄₃₂" deep, behind panel. Requires 3⅜" dia. mounting hole cut. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.	TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
	MAX.	MIN.		MAJOR	MINOR
DP11-007	6 sec.	0.3 sec.	0.5 sec.	1 sec.	1.0 sec.
DP11-001	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
DP11-006	30 sec.	1.5 sec.	1.5 sec.	5 sec.	0.5 sec.
DP11-002	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
DP11-005	120 sec.	6.0 sec.	10 sec.	20 sec.	2.0 sec.
DP11-003	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
DP11-004	10 min.	0.4 min.	120 sec.	1 min.	0.2 min.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$22.44	$21.32	$20.20	$19.07	$17.95	$16.83	$15.71

Series BJ Push-Button Interval Timer



Dependable, rugged panel-mount timer. Timing interval is initiated by manually setting knob to selected position and manually depressing the push button. For control of mixers, ovens, tumbling and plating equipment, copy machines, photographic equipment, etc. Readout of elapsed time by pointer in center of setting knob. Instant reset to start position automatically. SPDT switch rated 15 amps, 125 or 250 VAC resistive. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±½ of 1% of full scale. Combination spade and solder lugs. Size: 3⁵⁄₁₆" square x 2²³⁄₃₂" deep, behind panel. Requires 3⅜" dia. mounting hole. Weight: 1½ lbs. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.	TIME SETTING		DIAL GRADS.	
	MAX.	MIN.	MAJOR	MINOR
BJ12-004	30 sec.	1.5 sec.	5 sec.	0.5 sec.
BJ12-005	60 sec.	3.0 sec.	10 sec.	1.0 sec.
BJ12-006	120 sec.	6.0 sec.	20 sec.	2.0 sec.
BJ12-007	5 min.	0.2 min.	1 min.	0.1 min.
BJ12-008	10 min.	0.4 min.	1 min.	0.2 min.
BJ12-009	15 min.	0.8 min.	1 min.	0.2 min.
BJ12-010	30 min.	1.5 min.	5 min.	0.5 min.
BJ12-011	60 min.	3.0 min.	10 min.	1.0 min.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$21.04	$19.99	$18.93	$17.89	$16.83	$15.77	$14.73

Series RG21 Repeat Cycle Timers



Cam-actuated, single switch timers for rear mounting. Run continuously, repeating a set cycle of make-break switching operations as long as motor is energized. Also operates a single time cycle. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch rated 20 amps resistive. Timing motor 3.7 watts max., 120 VAC, 60 Hz. Solder lug terminals. 6" leads. U/L listed. Size: 2⁵⁄₁₆" W x 3⅛" H x 2½" D. Weight: 1 lb.

MFR'S MODEL NO.	TIME RANGE	MFR'S MODEL NO.	TIME RANGE
RG21-090	7½ sec.	RG21-095	10 min.
RG21-091	15 sec.	RG21-096	15 min.
RG21-092	30 sec.	RG21-097	30 min.
RG21-093	1 min.	RG21-098	60 min.
RG21-094	5 min.	RG21-099	4 hrs.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$14.26	$13.54	$12.84	$12.12	$11.41	$10.69	$ 9.98

Series AB Hand-Set Interval Timers



Rotation energizes the load and timing motor, which are de-energized on release; when motor drives timer to zero. Setting can be changed during cycle without damage. Mount behind panel, using three equally spaced .180" dia. tapped holes on .562" radius. Setting shaft, ¼" dia. flatted to .156" for ½". Flat is located 180° from "0" time. SPDT switch rated 25 amps at 125 or 250 VAC resistive. Timing motor rated 3.5 watts at 120 VAC, 60 Hz. Spade terminals, ¼". Size, 2½" w. x 3 3/16" d. x 3" h. UL Recognized. Weight 1 lb. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.	TIME RANGE	MFR'S MODEL NO.	TIME RANGE
AB51-001	1 min	AB51-006	2 hrs
AB51-002	6 min	AB51-007	6 hrs
AB51-003	15 min	AB51-008	8 hrs
AB51-004	30 min	AB51-010	12 hrs
AB51-005	60 min	AB51-016	24 hrs

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$ 8.42	$ 8.00	$ 7.58	$ 7.15	$ 6.73	$ 6.31	$ 5.90

ACCESSORIES

Model No. AT5-901—Dial. Net Each.....$1.10
Model No. 55-121—Knob. Net Each.....28

Series RE62 Repeat Cycle Multi-Cam Timers



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Run continuously, repeating set cycles of multiple switching operations as long as motor is energized. Complete unit requires one motor and one or more switch stacks. Spanner wrench included to adjust cams. Two-switch unit size: 2 5/16" H x 3 3/32" W x 3 9/16" D; add 11/16" to depth for each additional switch. When ordering, specify switch stock model number, drive motor type-number, voltage and frequency.

SWITCH STACKS

MODEL NO.	SWITCH	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
RE62-091	2	$13.23	$12.56	$11.91	$11.24	$10.58	$ 9.92	$ 9.26
RE63-092	3	17.67	16.79	16.13	15.03	14.14	13.24	12.38
RE64-093	4	22.11	21.00	19.91	18.80	17.69	16.58	15.49
RE65-094	5	27.02	25.66	24.32	22.97	21.62	20.26	18.92
RE66-095	6	31.46	29.89	28.33	26.74	25.17	23.60	22.03

DRIVE MOTORS — Order one with switch stacks for complete unit.

TYPE	TIME RANGE	TYPE	TIME RANGE
MP10-390	7½ sec.	MP10-395	10 min.
MP10-391	15 sec.	MP10-396	15 min.
MP10-392	30 sec.	MP10-397	30 min.
MP10-393	1 min.	MP10-398	1 hr.
MP10-394	5 min.	MP10-399	4 hrs.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$ 6.88	$ 6.53	$ 6.18	$ 5.84	$ 5.50	$ 5.16	$ 4.81

Hermetically Sealed Military Type Indicator



A very small, lightweight running time meter for wide application in military equipment. Meets Mil specification requirements per Mil-M-7793C and Mil-E-5272C. Life tested over 78,000 hours. Driven by synchronous hysteresis motor. Readout four digits plus tenths. Temperature range —55°C to +85°C. Round case 1¾" square bezel, 2 37/64" deep, barrel diameter 1½", four mounting holes on 1 5/16" centers. 115 volts, 400 Hz. Shock 50g, 11 milliseconds. Vibration to 1000 Hz at 10g. Altitude, sea level to 80,000 feet. Dielectric strength 500 volts, rms 60 Hz for one minute. Mil-Std-Ms-28053-5 solder terminals. Shipping weight: ¾ lb.

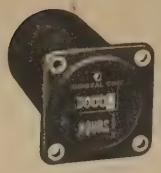
NET EACH, LOTS OF

TYPE	REGISTERS	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
7010-004	hrs. & 10ths	$41.14	$39.08	$37.03	$34.97	$32.91	$30.86	$28.80

Elapsed Time Indicators



EF27



ED



EF13



ER30

Wide variety of meters available for any application where accurate ti readings are required. All are synchronous motor driven. Round, square bez panel mount and rear mount available. Can be resettable or non-resettable, a readout is digital with a range of five figures plus tenths; in hours and tent or minutes and tenths. All units operate at 120 VAC, 60 Hz. Operating ter perature, —12° C to +55° C. Registers hours and tenths unless otherwi noted. U/L Recognized.

MFR'S MODEL NO.*	BEZEL	DEPTH	DIA. OF UNITS	MAX. MOTOR RATING W	LEADS OR TERMINALS
EF13 NR	2⅛" rd.	1 51/64"	2 11/64"	2.5	6" leads
EF27 NR	2⅛" sq.	1 23/32"	2.077"	5.0	6" leads
ED71 NR	1¾" sq.	2 37/64"	1 17/32"	2.5	11¼" leads
ED72 NR	1¾" sq.	2 37/64"	1 17/32"	2.5	Solder
EN30 NR	3" sq.	3 5/16"	1 17/32"	3.7	8-32 studs
ER30 R	3" sq.	3 5/16"	2 22/32"	3.7	8-32 studs
ER35 R	3½" rd.	3 5/16"	2 22/32"	3.7	8-32 studs
EN35 NR	3½" rd.	3 5/16"	2 23/32"	3.7	8-32 studs

*NR indicates non-reset; R, reset type.

NET EACH, LOTS OF

TYPE	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
EF1333†	$10.52	$ 9.99	$ 9.47	$ 8.94	$ 8.42	$ 7.89	$ 7.36
EF1335	10.52	9.99	9.47	8.94	8.42	7.89	7.36
EF2733†	12.39	11.77	11.15	10.53	9.91	9.30	8.67
EF2735	12.39	11.77	11.15	10.53	9.91	9.30	8.67
ED7112	24.54	23.32	22.09	20.87	19.64	18.40	17.18
ED7212	26.65	25.31	23.98	22.65	21.32	19.99	18.66
EN3010†	18.70	17.77	16.83	15.90	14.96	14.03	13.09
EN3012	18.70	17.77	16.83	15.90	14.96	14.03	13.09
EN3510†	18.70	17.77	16.83	15.90	14.96	14.03	13.09
EN3512	18.70	17.77	16.83	15.90	14.96	14.03	13.09
ER3020†	27.12	25.76	24.41	23.05	21.69	20.34	18.99
ER3022	27.12	25.76	24.41	23.05	21.69	20.34	18.99
ER3520†	27.12	25.76	24.41	23.05	21.69	20.34	18.99
ER3522	27.12	25.76	24.41	23.05	21.69	20.34	18.99

†Registers minutes and tenths.

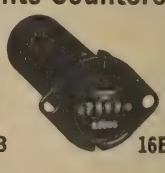
Subminiature Elapsed Time Indicators and Events Counters



95C



95B



16B



B16C

Units conform to MIL-M-7793D standards. MS numbers are referenced below where applicable. Square and round case units with four digit readout and operation indicators. AC units 400 HZ 115 and 26 Volts, nom. Watts .75 DC units 23 to 29 Volts, max. av. power 60 MW. Events counters 23-29 V DC, 1.5 watts max. power consumption, count rate 20 CPS.

MIL. SPEC. REFERENCE	MODEL CODE NUMBER	VOLTS	Hz	MOUNTING	TEMP.* RANGE	DIMENSIONS	WT.
ELAPSED TIME INDICATORS—Square Case—Max. Hrs. 9999							
MS17322-6 MS17322-6A MS27651	95C8CE 95C8CE-50 95C8CE-200	115 V, AC	400	Fixed Flange, ½" Pos.	O A A	.500 ± .015 Square	.75 oz.
MS17322-8 MS17322-8A	95C8A 95C8A-50	115 V, AC	400	No Flange	O A	1.047 L 1.094 L	.50 oz.
MS17322-10	95C8C2	115 V, AC	400	Movable Flange	A	Plus 1/32" Term.	.75 oz.
MS27650-4 NA	25C8CE-200 25C8CE	26 V, AC	400	Fixed Flange, ½" Pos. Any Flange	A		
NA	25C8A	26 V, AC	400	No Flange	A		.50 oz.
ROUND CASE—Max. Hrs. 9999							
MS17322-2 MS17322-2A	95B8CE 95B8CE-50	115 V, AC	400	Fixed Flange, ½" Pos.	O A	.650 Dia. .690 Dia.	1.0 oz.
MS17322-4 MS17322-4A	95B8A 95B8A-50	115 V, AC	400	No Flange	O A	1.760 Max. L	.75 oz.
MS17322-9 NA	95B8C2 25B8CE	115 V, AC 26 V. AC	400 400	Movable Flange Any Flange	A A	Plus ½" Ref. Terminals	1.0 oz.
NA	25B8A	26 V. AC	400	No Flange	A		.75 oz.
MS17321-2 MS17321-4 MS17321-9	16B8CE-70 16B8A-70 16B8C2	28 V	DC	Fixed Flange, ½" Pos. No Flange Movable Flange	—55° C to +100° C	.650 .690 Dia. 2.082 Max. L Plus .312 Term	1.75 oz. 1.50 oz. 1.75 oz.
EVENTS COUNTERS—Square Case—Max. Readout 9999							
NA NA NA	B16C8A B16C8CE B16C8C2	28 V	DC	No Flange Fixed Flange, ½" Pos. Movable Flange	—65° F to +257° F	.500 ± .015 Sq. 1.047 1.094L Plus 1/32" Term.	.75 oz.

Note *A = —65° C +125° C 0 = —55C + 85° C.

MODEL TYPE	NET EACH, LOTS OF						
	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
95C and 25C	$ 53.00	$ 39.00	$ 32.00	$ 25.00	$22.00	$18.00	$16.50
95B and 25B	54.00	40.00	33.00	26.00	23.00	19.00	17.50
16B	155.00	132.00	117.00	103.00	91.00	80.00	72.00
B16C	68.00	53.00	43.00	35.50	30.00	25.00	22.00

Net
© United Technical Publications

Solid State Timers



Rear Mount Type

Plug-in Type



Versatile standard timers meet the broadest range of applications. Plug-in or Rear Mount types; solid state timers for delay, interval, or D.O.D. (delay on de-energization) timing modes. **Features:** Exceptional repeat accuracy; transient protection; eleven time ranges; isolated outputs; AC or DC input; relay or solid state switch; low operating temperature and no first cycle effect. UL and CSA recognized. **Repeat Accuracy:** ±2% of set point under constant voltage and temperature; under 1 second, a constant of ±20 msec applies. **Temperature Range:** +10° C to +55° C ambient. **Size:** Plug-in, 2.50″ w. x .875″ d. x 4.505″ h. (including .625″ h. knob and .580″ plug length) max.; Rear Mount, 3 7/16″ w. x 2 1/32″ d. (plus knob, .625″) x 4 3/8″ h.

Termination

Plug-in Type: 8-pin plug; except Series 2112 w/relay 11-pin plug. **Rear Mount Type:** 8 terminals, delay mode w/relay; 10 terminals, interval or D.O.D. w/relay; 4 terminals, delay mode solid state output; 6 terminals, interval or D.O.D. solid state output.

How To Order

SPECIFY SERIES:

Series 2111 Plug-in Type or Series 2211 Rear Mount Type: DELAY Mode Timer. Delay period starts on application of voltage. At end of set delay, integral relay or solid state switch energizes. When input voltage is removed, the output relay or switch de-energizes and timer resets.

Series 2112 Plug-in Type or Series 2212 Rear Mount Type: INTERVAL or D.O.D. Mode Timer. For these modes, input voltage is supplied to timer always with interval mode, on closure of a momentary or sustained switch, integral relay or solid state switch energizes the load for time period selected; at the end of timing period, the relay or switch de-energizes and load is removed from line. In D.O.D. mode, on closure of a control switch, the output relay or solid state switch energizes; timing period begins when control switch is opened; at end of timed interval, the relay or switch de-energizes.

ADD INPUT SUFFIX: Suffix **-1P** for 117 volts AC/DC, 50/60 Hz and 3.5 watts max.; e.g., 2111-**1P**. Suffix **-1C** for 24 volts AC/DC, 50/60 Hz and 3.5 watts max.; e.g., 2212-**1C**.

ADD OUTPUT SUFFIX: e.g., 2112-1P-**F**.

SUFFIX	TYPE	VOLTS	AMPS & LOAD	CONTACTS
-F	With Relay	117 VAC 117 VAC 28 VDC	10 A resistive; 5 A induct. 2.5 A resistive 10 amps resistive	DPDT
-Y	Solid State	117 to 24* VAC	1 amp inductive or resis.*	SPST

*20 VAC minimum.

ADD TIME RANGE (FINAL) SUFFIX: e.g., 2112-1C-Y-**118**. Minimum reset time, 300 msec for lower third of time band on Type 2111; 100 msec, all others.

SUFFIX	TIME SETTING MAX.	TIME SETTING MIN.	SUFFIX	TIME SETTING MAX.	TIME SETTING MIN.
-001	1 sec	.10 sec	-060	60 sec	3.0 sec
-003	3 sec	.15 sec	-118	3 min	9.0 sec
-005	5 sec	.25 sec	-130	5 min	15.0 sec
-010	10 sec	.50 sec	-160	10 min	60 sec
-015	15 sec	.75 sec	-190	15 min	90 sec
-030	30 sec	1.50 sec			

INDUSTRIAL PRICES

Plug-in Timers

SERIES 2111-1CF—Relay output, 24 V AC/DC, 8-pin plug.

TIME RANGE SUFFIX*	NET EACH, LOTS OF 1-4	5-9	10-24	25-49	50-99	100-249	250 & over
-001 to -118	$22.35	$21.75	$21.20	$20.10	$17.85	$16.75	$15.60
-130	23.30	22.65	22.05	20.90	18.65	17.45	16.30
-160	28.25	27.60	27.05	25.60	23.00	21.85	20.45
-190	29.75	29.10	28.35	26.95	24.40	23.00	21.55

SERIES 2111-1PF—Relay output, 117 V AC/DC, 8-pin plug.

-001 to -118	$22.95	$22.35	$21.80	$20.65	$18.35	$17.20	$16.05
-130	23.95	23.25	22.65	21.45	19.15	17.95	16.75
-160	28.95	28.30	27.70	26.25	23.55	22.40	20.95
-190	30.50	29.80	29.05	27.60	25.00	23.55	22.10

SERIES 2111-1CY—Solid state output, 24 V AC/DC, 8-pin plug.

-001 to -118	$27.30	$26.60	$25.95	$24.55	$21.85	$20.45	$19.10
-130	28.40	27.55	26.85	25.45	22.70	21.30	19.85
-160	33.65	32.90	32.20	30.50	27.35	26.00	24.35
-190	35.45	34.65	33.75	32.05	29.05	27.35	25.70

SERIES 2111-1PY—Solid state output, 117 V AC/DC, 8-pin plug.

-001 to -118	$28.00	$27.25	$26.60	$25.20	$22.40	$21.00	$19.60
-130	29.00	28.15	27.40	25.95	23.15	21.70	20.25
-160	34.35	33.55	32.85	31.15	27.95	26.55	24.85
-190	36.15	35.35	34.45	32.75	29.65	27.95	26.20

SERIES 2112-1CF—Relay output, 24 V AC/DC, 11-pin plug.

-001 to -118	$26.25	$25.50	$24.95	$23.60	$21.00	$19.50	$18.35
-130	27.25	26.40	25.75	24.40	21.80	20.20	19.05
-160	32.60	31.60	30.75	29.20	26.35	24.60	23.20
-190	34.10	33.00	32.05	30.40	27.45	25.60	24.15

SERIES 2112-1PF—Relay output, 117 V AC/DC, 11-pin plug.

-001 to -118	$26.95	$26.20	$25.60	$24.25	$21.55	$20.00	$18.85
-130	27.95	27.10	26.45	25.05	22.35	20.75	19.55
-160	33.35	32.30	31.45	29.85	26.95	25.15	23.75
-190	34.90	33.75	32.80	31.10	28.10	26.20	24.70

SERIES 2112-1CY—Solid state output, 24 V AC/DC, 8-pin plug.

-001 to -118	$31.20	$30.30	$29.60	$28.05	$24.95	$23.15	$21.80
-130	32.30	31.30	30.55	28.95	25.80	23.95	22.60
-160	37.90	36.70	35.75	33.90	30.60	28.55	27.00
-190	39.65	38.35	37.25	35.35	31.90	29.75	28.05

SERIES 2112-1PY—Solid state output, 117 V AC/DC, 8-pin plug.

-001 to -118	$31.90	$31.00	$30.30	$28.70	$25.50	$23.65	$22.30
-130	33.00	32.00	31.20	29.55	26.35	24.50	23.05
-160	38.60	37.40	36.40	34.55	31.20	29.10	27.50
-190	40.40	39.10	38.00	36.00	32.55	30.35	28.60

Rear Mount Timers

SERIES 2211-1CF—Relay output, 24 V AC/DC, 8 terminals.

TIME RANGE SUFFIX*	NET EACH, LOTS OF 1-4	5-9	10-24	25-49	50-99	100-249	250 & over
-001 to -118	$23.00	$22.40	$21.85	$20.70	$18.40	$17.25	$16.10
-130	24.00	23.35	22.70	21.55	19.20	18.00	16.80
-160	29.10	28.45	27.85	26.35	23.70	22.50	21.05
-190	30.65	30.00	29.20	27.75	25.15	23.70	22.20

SERIES 2211-1PF—Relay output, 117 V AC/DC, 8 terminals.

-001 to -118	$23.65	$23.00	$22.45	$21.30	$18.90	$17.70	$16.55
-130	24.70	23.94	23.35	22.10	19.75	18.50	17.25
-160	29.80	29.15	28.55	27.25	24.25	23.05	21.55
-190	31.40	30.70	29.95	28.45	25.75	24.25	22.75

SERIES 2211-1CY—Solid state output, 24 V AC/DC, 4 terminals.

-001 to -118	$28.10	$27.40	$26.70	$25.30	$22.50	$21.10	$19.70
-130	29.25	28.40	27.65	26.20	23.40	21.95	20.45
-160	34.65	33.90	33.15	31.40	27.20	26.80	25.10
-190	36.60	35.70	34.75	33.00	29.95	28.15	26.45

SERIES 2211-1PY—Solid state output, 117 V AC/DC, 4 terminals.

-001 to -118	$28.85	$28.10	$27.40	$25.95	$23.05	$21.65	$20.20
-130	29.85	29.00	28.20	26.70	23.85	22.35	20.85
-160	35.35	34.55	33.80	32.05	28.80	27.35	25.60
-190	37.20	36.40	35.50	33.70	30.55	28.75	27.00

SERIES 2212-1CF—Relay output, 24 V AC/DC, 10 terminals.

-001 to -118	$27.00	$26.25	$25.70	$24.30	$21.60	$20.10	$18.90
-130	28.05	27.20	26.50	25.15	22.45	20.80	19.60
-160	33.55	32.55	31.70	30.10	27.15	25.35	23.90
-190	35.15	34.00	33.00	31.30	28.30	26.35	24.85

SERIES 2212-1PF—Relay output, 117 V AC/DC, 10 terminals.

-001 to -118	$27.75	$27.00	$26.35	$24.95	$22.20	$20.60	$19.40
-130	28.75	27.90	27.25	25.80	23.00	21.35	20.15
-160	34.35	33.25	32.40	30.75	27.75	25.90	24.45
-190	35.95	34.75	33.80	32.05	28.95	27.00	25.45

SERIES 2212-1CY—Solid state output, 24 V AC/DC, 6 terminals.

-001 to -118	$32.15	$31.20	$30.50	$28.90	$25.70	$23.85	$22.45
-130	33.25	32.25	31.45	29.80	26.55	24.65	23.30
-160	39.00	37.80	36.80	34.90	31.50	29.40	27.80
-190	40.80	39.50	38.35	36.40	32.85	30.65	28.85

SERIES 2212-1PY—Solid state output, 117 V AC/DC, 6 terminals.

-001 to -118	$32.85	$31.90	$31.20	$29.55	$26.25	$24.35	$22.95
-130	34.00	32.95	32.15	30.45	27.15	25.25	23.75
-160	39.75	38.50	37.50	35.60	32.10	29.95	28.30
-190	41.60	40.25	39.15	37.10	33.50	31.25	29.45

See time range table for maximum and minimum time settings; and all the ranges and respective times.

Prices Effective Dec. 15, 1971. 871X-71A

240 VAC units available; prices on request.

INDUSTRIAL CONTROLS DIVISION

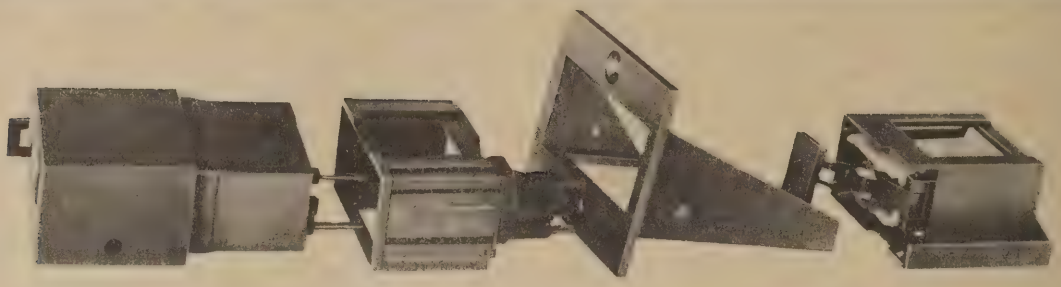
GENERAL TIME

A Talley Industries Company

HECON

Better by Design

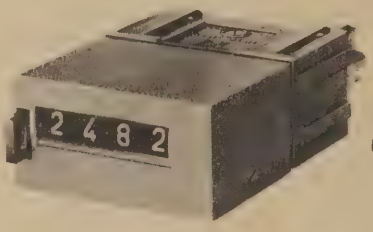
Electromagnetic Counters
HECON CORPORATION



Modular Plug-in Concept

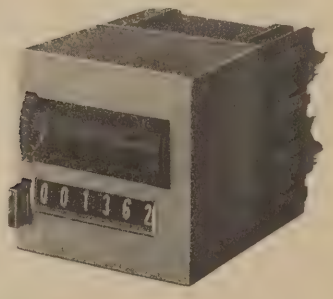


Totalizing Counter 404
Modular plug-in counter, count speeds up to 60 cps, 6 digits, non-reset, manual and electrical reset. Life in excess of 200 MIO operations.

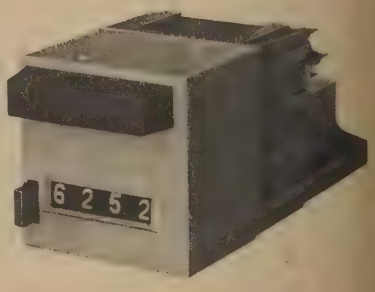


Totalizing Counter 414
Large figure totalizor count speeds up to 40 cps, 4 digits, non-reset, manual & electrical reset. Many standard options.

Predetermining Counter 422
Operates on adding principle, count speeds up to 40 cps, 6 digits, with manual, electrical or automatic reset, preset retained for repetition.

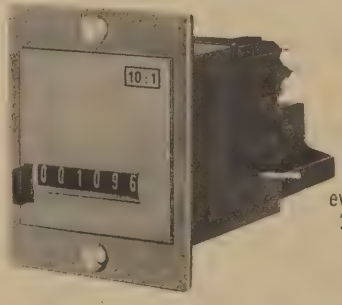


Predetermining Counter 441
Operates on subtracting principle, count speeds up to 40 cps, 4 digits, with easy push button preset optional presignal available.



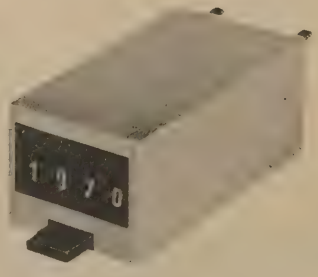


Bi-Directional Counter 431
Accepts positive and negative inputs serially or simultaneously without loss of counts. Count speeds up to 25 cps. Optional zero contact available.



Periodic Output Counter 411
Adding totalizor with built-in wiper contact wheel for periodic output signal, i.e. every 2, 5, 10, 20, 50, 100, 200, 500, 1000 pulses. Count speeds up to 25 cps.

Miniature Counter 856
Compact totalizing counter for limited panel space, 4 digits, count speed up to 20 cps, low power consumption.



Predetermining Counter 850
Rugged industrial counter, easy push-button preset, extremely large figure wheels with push-button and electric reset.



SEE YOUR HECON AUTHORIZED DISTRIBUTOR.

© United Technical Publications

OHMITE OHMITROL solid state power and motor speed controls

EATURES

- CONSERVES SPACE & POWER
- SMALLEST 1 & 2 KW CONTROL
- AC & DC OUTPUT TYPES
- BUILT-IN ON-OFF SWITCH
- ADJUSTABLE CONTROL RANGE
- CHOICE OF COMPONENT & PORTABLE STYLES
- LONG LIFE

SE IT TO CONTROL

WER
DEL PCA: AC Output
- aded pole motors
- rmanent split capacitor tors
- iversal motors
- aters—both resistive and ra-red

MOTOR SPEED
MODEL PCD: DC Output
- Shunt wound motors
- Series wound motors
- Permanent magnet motors
- Magnetic clutches and brakes

Now, for the first time, a Solid State Power Control is available which is adaptable to a wide variety of applications by a simple turn of a screwdriver!

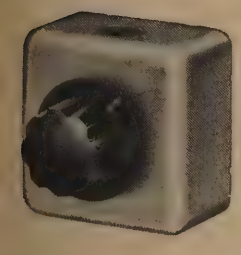
An internal trimmer allows the starting point of the control voltage of the Ohmitrol to be set anywhere within the stated trimmer voltage range. (This adjustment can be preset at the factory at small additional cost).

From the starting point to full line voltage, infinitely smooth control is obtained by means of the control knob. An "on-off" line switch actuated at the counterclockwise end of the control knob rotator is provided on all models.

Ohmite solid state power controls are the smallest 1 or 2 KW controls available and offer the advantages not only of convenient size, but also of power savings, long life and low initial cost.

Two styles are available: the component style for panel mounting in equipment, and the lightweight, self-contained portable style. Portable units are completely self contained with grounded line cord and standard grounded AC receptacle.

Ohmitrol Controls are available with AC output and with two kinds of DC output delivered simultaneously. One kind consists of rectified DC, at approximately full line voltage; the other is the variable or controlled DC. This double output is useful, for example, for controlling shunt wound motors. Two-way terminals at the rear of the controls accept quick-connectors (push-on connectors), or can be soldered.



ig. 1: Component Style* PCA series

not included. Ohmite 5150 recommended.



Fig. 2: Component Style* PCD series

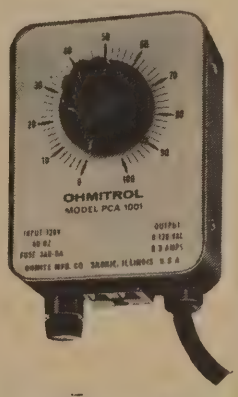


Fig. 3: Portable Style PCA and PCD series

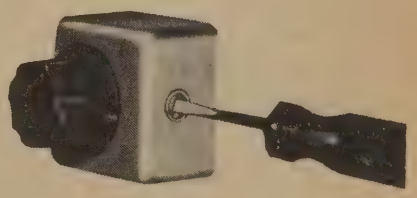
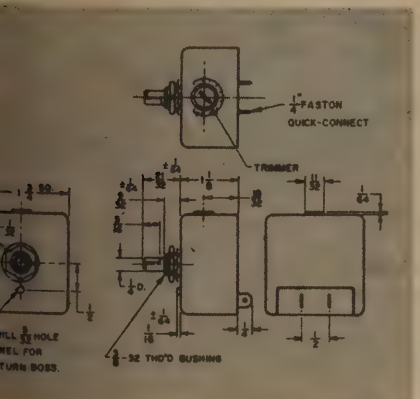


Fig. 5: Adjustment of the integral trimmer sets the starting point of the control voltage within the stated trimmer voltage adjust range.



: Model PCA-Component Style

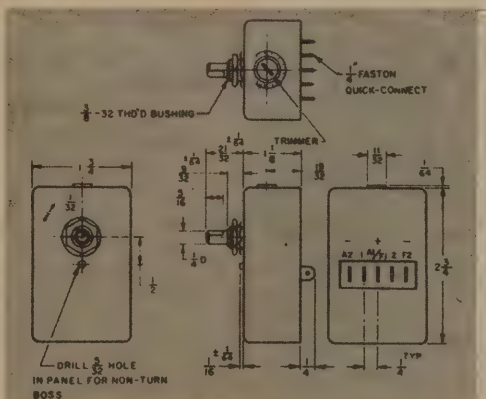


Fig. 10: Model PCD-Component Style

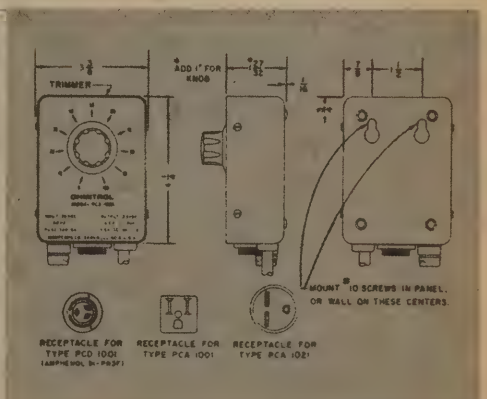


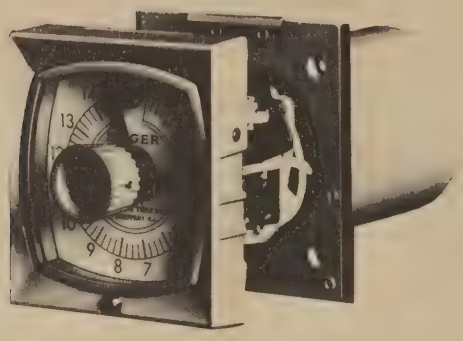
Fig. 11: Models PCA and PCD-Portable

Catalog No.		Input Volts	Freq.	Output Range (Nominal)	Load Capacity Rating (Maximum)	Trimmer Range (Minimum)
Component Style	Portable Style					
PCA-1000	PCA-1001	120 VAC	60 Hz	0-120 VAC.	1 KW, 8.3 Amps AC	0-50 Volts
PCA-1050	—				15 Amps AC	
PCA-1100	PCA-1101		50 Hz		1 KW, 8.3 Amps AC	
PCA-1020	PCA-1021	240 VAC	60 Hz	0-240 VAC	2 KW, 8.3 Amps AC	0-100 Volts
PCA-1120	PCA-1121		50 Hz			
PCD-1000	PCD-1001	120 VAC	60 Hz	0-120 VDC and Full 120 VDC	6.0 Amp DC — Resistive 3.5 Amp DC — Motor Load	10-50 Volts
PCD-1100	PCD-1101		50 Hz			
PCD-1020	PCD-1021	240 VAC	60 Hz	0-240 VDC and Full 240 VDC		20-100 Volts
PCD-1120	PCD-1121		50 Hz			

delay/interval timer

automatic reset / plug-in type

SINGER
INDUSTRIAL TIMER DIV



SERIES **GP**

An automatic reset, synchronous motor driven multi-purpose timing control that incorporates two sets of instantaneous contacts and two sets of delayed contacts. In its simplest application the series GP provides an adjustable time delay between the initiation of current to the timer and the subsequent operation of the timers internal load switches.

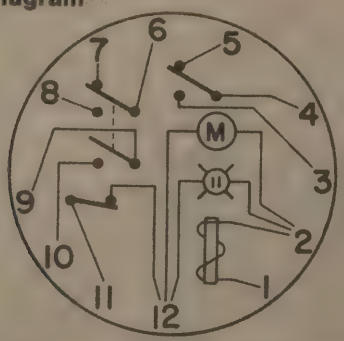
The timer can perform an interval function starting from a momentary switch closure because it is equipped with additional contacts. In this interval function a load is energized at the beginning of the time cycle and turned off at the end or when the timer reaches "zero."

dial, adjustment

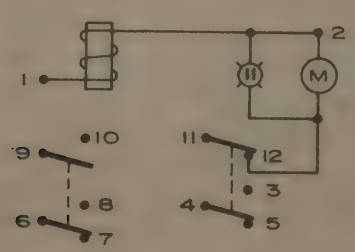
Time settings are made by rotating the knob and black pointer to the desired time setting. In operation a red pointer will move to ZERO, thereby providing a visual indication of elapsed time. When power is removed from clutch of the timer the RED pointer resets to the position of the BLACK pointer, ready for another operation.

All dials, regardless of time cycle have 60 calibrations through 334° of rotation.

terminal diagram



schematic



INSTANTANEOUS CONTACTS DELAYED CONTACTS

Terminal 11-12 opens slightly after 4-5

features

plug-in design

The Series GP is designed for ease of installation and removal. Quick change of time cycle is made simple through the plug-in feature. All time cycles are interchangeable, instantly.

high accuracy

The Series GP features a new and unique concept in instrument clutching. This feature, called a Spider Clutch*, incorporates the high accuracy of infinite engagement clutches with the mechanical integrity of toothed clutches and provides repeat accuracy of ±¼ of 1% of overall time cycle. Reset time is less than ½ second for full scale.

time cycles

Model Number	Dial Division and Minimum Setting	Maximum Setting
GP-6S	1/10 sec.	6 seconds
GP-15S	1/4 sec.	15 seconds
GP-30S	1/2 sec.	30 seconds
GP-60S	1 sec.	60 seconds
GP-3M	3 sec.	3 minutes
GP-5M	5 sec.	5 minutes
GP-15M	15 sec.	15 minutes
GP-30M	30 sec.	30 minutes
GP-60M	60 sec.	60 minutes
GP-3H	180 sec.	3 hours

Note: Longer time cycles available on special order. Please consult factory for available time ranges.

115/60 220/60 — $46.50

pilot light

Neon pilot lamp is built into dial to indicate that timer motor is receiving power.

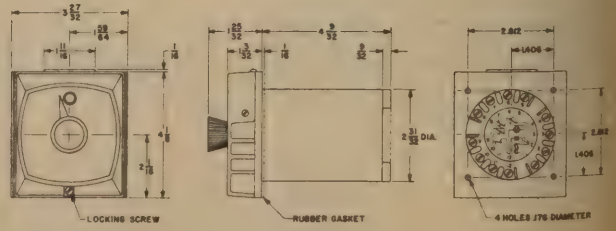
ratings

Load switches are rated at 10 amps non-inductive at 125/250 VAC. Voltage ratings are 120/50, 120/60, 240/50 and 240/60.

weight

2 lbs. 7 oz. including female housing
2 lbs. without housing
*Patent No. 3,378,123.

dimensions



© United Technical Publications

time delay timers

motor driven

hree basic methods are employed to generate a Time Delay: Synronous motor, Thermal Bi-Metal and Electronic. The Series GTD, TD, TD/CTD, H/CH, SF/CSF, TDAB, TDAF and RB generate e Delay function from a synchronous motor. This Delay is created y applying power to the timer motor/clutch circuit with a sustained witch closure (sustained is interpreted as simply being longer in ngth than the desired delay). When the timer receives power it egins a delay period, at the end of which occurs a switch operation. he load switch remains in the operated condition until power is emoved from the timer, at which time the timer automatically resets.

eries H, RB, SF, TD and MTD (6 sec.-30 sec.) utilize a clutch motor nd are wired per Fig. 1. The Series TDAB and TDAF feature an xternal clutch, wiring is per Fig. 2. The external clutch is also used in he Series CH, CSF and CTD, see Fig. 3. The MTD (60 sec.-3 hrs.) provided with an external clutch, wiring per Fig. 4.

he Series RB features 15 amp., non-inductive, at 115/220 VAC, PDT snap action load contacts. All other series are 10 amp., nonductive. Available operating voltages are: 115/60, 115/50, 220/60, 220/50. Consult factory for longer time cycles than listed.

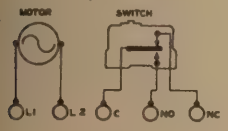


Fig. 1

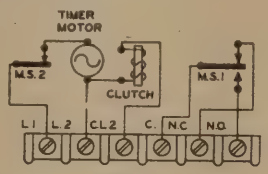


Fig. 2

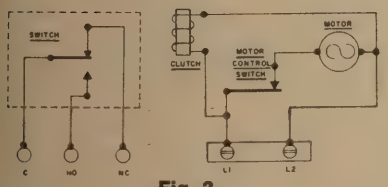


Fig. 3

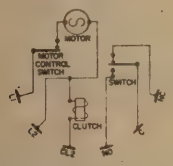
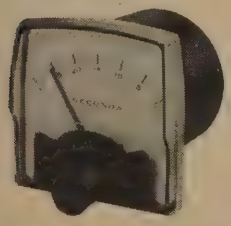


Fig. 4



SERIES MTD*

The Series MTD Time Delay Timer represents a new appearance concept for timing controls. This new timer is designed to match modern panel instruments, so commonly found on the finest automatic machines. The MTD features a rugged plastic face which protects the setting and progress indicators from dust and damage.

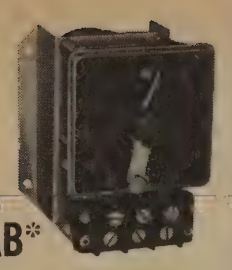
Patent No. 3,516,244.

115/60 — $30.50

Model	Max. Time	Min. Time
MTD-6S	6 seconds	1/10 second
MTD-15S	15 seconds	¼ second
MTD-30S	30 seconds	½ second
*MTD-60S	60 seconds	1 second
*MTD-3M	3 minutes	3 seconds
*MTD-5M	5 minutes	5 seconds
*MTD-15M	15 minutes	15 seconds
*MTD-30M	30 minutes	30 seconds
*MTD-60M	60 minutes	1 minute
*MTD-3H	3 hours	3 minutes

*Models with clutch external to synchronous motor.

*UL Component Recognition.



SERIES TDAB*



SERIES TDAF

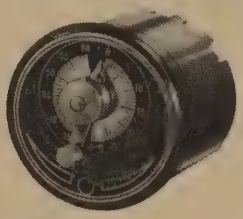
The Series TDAB is a back mounted delay timer featuring an external clutch, designed for the most demanding and accurate applications.

The TDAB is also available in a steel knockout housing. Please specify if required.

The Series TDAF is a panel mounted, automatic reset timer employing the same rugged movement as the TDAB. It is commonly used in applications requiring high repetitive accuracy, fast reset, and heavy usage.

115/60 — $43.00

Model Suffix	Max. Time Cycle	Dial Div.	Model Suffix	Max. Time Cycle	Dial Div.
** 1S	1 sec.	1/60 sec.	** 3M	3 min.	3 sec.
** 3S	3 sec.	1/20 sec.	** 5M	5 min.	5 sec.
** 6S	6 sec.	1/10 sec.	**15M	15 min.	15 sec.
**15S	15 sec.	¼ sec.	**30M	30 min.	30 sec.
**30S	30 sec.	½ sec.	**60M	60 min.	60 sec.
**60S	60 sec.	1 sec.	** 3H	3 hrs.	3 min.



SERIES TD/CTD*

The Series TD is a cased time delay timer which mounts through a 3 3/15" hole in a panel. The timer is secured to the panel with a bracket which mounts to the rear of the timer and clamps the unit to the panel.

115/60 — $30.50

Model Number	Time Cycle	Dial Division
TD-6S	6 sec.	1/10 sec.
TD 15S	15 sec.	¼ sec.
TD-30S	30 sec.	½ sec.
**CTD-1M	60 sec.	1 sec.
**CTD-3M	3 min.	3 sec.
**CTD-5M	5 min.	5 sec.



SERIES SF/CSF*

The Series SF/CSF is one of industry's most versatile compact time delay timers.

The Series SF/CSF is a small, back mounted timer, designed for application where adjustment is infrequent but required.

Model Number	Time Cycle	Dial Division
S F-6S	6 sec.	1/10 sec.
S F-15S	15 sec.	¼ sec.
S F-30S	30 sec.	½ sec.
**CS F-1M	60 sec.	1 sec.
**CS F-3M	3 min.	3 sec.
**CS F-5M	5 min.	5 sec.

115/60 — $23.00



SERIES RB*

The Series RB features an injection molded case of +Noryl SE-1 for complete insulation, dimensional stability and strength. The internal mechanism is totally enclosed.

The RB can be back mounted with brackets supplied. These mounting feet can be removed for applications requiring flush or through the panel mounting.

+Trademark GE Co.

Patent No. 3,427,412. 115/60 — $16.75

Model	Min. Setting	Max. Setting
RB-5.6S	.2S	5.5S
RB-14S	.5S	13.5S
RB-28S	1S	27 S
RB-56S	2S	54 S
RB-84S	3S	82 S
RB-168S	6S	164 S
RB-4.5M	10S	4M 24 S



SERIES H/CH*

The Series H time delay timer is designed for panel mounting with the dial of the timer fastened to the panel with four screws. Wiring is accomplished to a terminal strip at the rear of the unit. 115/60 — $26.50

Model Number	Time Cycle	Dial Division
H-6S	6 sec.	1/10 sec.
H-15S	15 sec.	¼ sec.
H-30S	30 sec.	½ sec.
**CH-1M	60 sec.	1 sec.
**CH-3M	3 min.	3 sec.
**CH-5M	5 min.	5 sec.

interval timers

SINGER

INDUSTRIAL TIMER D

An interval timer closes its load circuit immediately upon its activation.

Methods employed by various units are: electrical pushbutton, remote footswitch, mechanical push button and toggle switch. The circuit is closed (or opened) during the preselected period the timer is running. When this is completed, the load circuit opens and the timer is shut off. Depending upon the individual timer, reset is accomplished automatically or manually.



SERIES PAB (PAF)*

The Series PAB Timer is an extremely accurate timing mechanism built to stand up under the hard usage and demanding standards that modern manufacturing processes require.

Due to the simplicity and reliability of a special clutching mechanism it is possible to offer the Series PAB with a range of timing from the PAB 1S with a 1 second overall range in 1/60 second increments, to the PAB 3H timer with a range of 3 minutes to 3 hours, calibrated in 3 minute steps.

The Series PAF is similar in construction but is panel mounted and supplied less housing.

PAB — 115/60 — $55.00

PAF — 115/60 — $47.50



SERIES RS

The Series RS Interval timer is a manual timer capable of handling a full 20 amp load without the use of external relays. T Series RS is completely enclosed, silent in op ation and has a simple knob for time setti and elapsed time indication. Available in t variety of time cycles shown on chart. Ava able in 115, or 230 volt, 25, 50, 60, or 4 cycle current. (Also 6-30 VDC) 18" col coded leads provided through back of housin Knockout housing available as optional equi ment.

Shipping weight: 2 pounds
in case: 3 pounds

Model	Maximum Time Cycle	Dial Divisio
RS-15M	15 minutes	15 secon
RS-60M	60 minutes	1 minut
RS-3H	3 hours	5 minut
RS-6H	6 hours	10 minut
RS-8H	8 hours	15 minut
RS-12H	12 hours	15 minut
RS-24H	24 hours	30 minut

115/60 — $18.50



SERIES P

The Series P Timer is a multi-purpose interval timer, equipped with an A.C. input cord, built in manual start push button, and two receptacles. The RED receptacle is provided on the side of the case for REMOTE STARTING. The BLACK receptacle receives plug in LOAD circuits. Keyholes are provided in the back of the case for wall mounting. Load contact rating is 15 amps., non-inductive.

Available for 115, 230 volts, 60, 50, or 25 cycles.

Time cycles available from 6 seconds to 5 minutes. Consult factory for longer time cycles.

Overall dimensions: 5"x5"x3"

Shipping weight: 3 pounds

115/60 — $33.00



SERIES M

Series M Timers follow the same description as the Series P except that they are not equipped with a remote start and have a load rating of 10 amps. 115, 230 volts, 60, 50, or 25 cycles and are equipped with an internal clutch motor with a mechanical push-button.

Time cycle: 1 minute in 1 second increments.

Overall dimensions: 5"x5"x3"

Shipping weight: 3 pounds

115/60 — $26.50



SERIES S

The Series S Signaling timer is a multi-purpose process timer that provides an audible signal at the end of either a time interval or a time delay. Two receptacles are provided on the side of the case: a black receptacle for a load or remote signal to operatt at the end of the cycle, and a red receptacle to operate a load circuit during the time cycle. Timer is also equipped with a line cord. Snap action contacts are rated at 10 amps. 115, 230 volts, 60, 50, or 25 cycles.

Overall dimensions: 5"x5"x3"

Shipping weight: 3 pounds

115/60 — $29.00

Model	Maximum Time Cycle	Dial Division
S-1M	1 minute	1 second
S-5M	5 minutes	5 seconds
S-15M	15 minutes	15 seconds
S-30M	30 minutes	30 seconds
S-1H	1 hour	1 minute
S-3H	3 hours	3 minutes

***F suffix indicates flush panel mounting.**

© United Technical Publications



SERIES SAR (F)*

automatic reset signalling

Timer provides an audible signal at the end of a pre-set time cycle. Load receptacles are provided for either a load to be operated during the time cycle or at the end. The time cycle is started by operating the toggle switch, the timer runs to the end of the time cycle at which time SPDT switching action occurs in addition to a loud buzzer sounding, The signal is turned off by operating the toggle switch to off, simultaneously causing the timer to instantly reset to the pre-set time cycle. SPDT load contacts are rated at 10 amperes. Available for 115, 230 volts, 60, 50 or 25 cycles. Overall dimensions are 5" x 5" x 3¾".

The Series SARF provides a six place terminal strip at the rear of the timer for electrical connections. Overall dimensions are 4⅜" x 4⅜" x 4". 115/60 — $39.50

Shipping weight: 3 pounds

Model	Max. Time Cycle	Dial Division	Model
SAR-1M	1 min.	1 sec.	SARF-1M
SAR-5M	5 min.	5 sec.	SARF-5M
SAR-15M	15 min.	15 sec.	SARF-15M
SAR-30M	30 min.	30 sec.	SARF-30M
SAR-1H	1 hr.	1 min.	SARF-1H
SAR-3H	3 hrs.	3 min.	SARF-3H



SERIES PBM

pushbutton start

The Series PBM is an automatic reset, pushbutton operated Interval timer. The unit is panel mounted through a square hole, and secured with four screws. The PBM features extreme repeat accuracy and exceptional long life; both made possible through the use of a positive acting infinite engagement clutch which connects the switch actuator with the heavy duty synchronous motor. The unit also features an attractive plastic faced dial with adjustment knob and start button combined in one assembly. Time interval or progress indication is located in the dial with a moving red pointer.

Overall dimensions: 4⅜" x 4".

Requires 2⅞" square panel cut-out.

115/60 — $22.50

Model	Max. Time Cycle	Dial Division
PBM-6S	6 seconds	1/10 second
PBM-15S	15 seconds	¼ second
PBM-30S	30 seconds	½ second
PBM-60S	60 seconds	1 second
PBM-3M	3 minutes	3 seconds
PBM-5M	5 minutes	5 seconds
PBM-15M	15 minutes	15 seconds
PBM-30M	30 minutes	30 seconds
PBM-60M	60 minutes	60 seconds
PBM-3H	3 hours	3 minutes



SERIES UTF

The series UTF interval timer is a manual set timer of compact design and extreme accuracy. It is designed for panel mounting with the dial of the timer fastened to the panel (maximum thickness 3/32"). The timer makes one circuit and breaks another when it times out. Wiring is accomplished through a terminal strip at the rear of the unit. Load capacity is 10 amperes at 115 VAC resistive load.

Overall dimensions: 3⅛" x 4½"

Requires 2" diameter panel cutout.

115/60 From $24.00

Model	Maximum Time Cycles	Dial Divisions
UTF 15M	15 minutes	¼ sec.
UTF 60M	60 minutes	1 sec.
UTF 15H	15 hours	15 sec.
UTF 60H	60 hours	1 min.



SERIES UTL

The Series UTL is a manual set interval timer and features a large 7" diameter dial with large numerals and hands for easy reading. The UTL will control a circuit both during and after the timed interval. In addition, the unit is equipped with a toggle switch controlled buzzer, enabling the UTL to serve as a signalling timer or count-down clock.

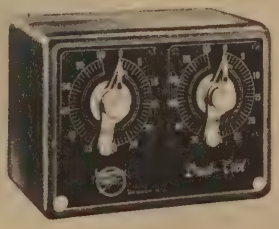
Contact rating — 10 amps., non-inductive at 115 volts A.C.

Available for 115/60 operation. Contact factory for other voltages.

115/60 From $30.00

Model	Maximum Time Cycle	Min. Setting
UTL-60M	60 min.	1 sec.
UTL-15M	15 min.	¼ sec.
UTL-15H	15 hrs.	15 sec.
UTL-60H	60 hrs.	1 min.

recycling timers

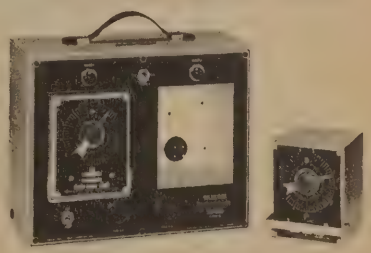


SERIES DUAL-TROL

The Series Dual-Trol is a compact recycling timer that provides two adjustable ON-OFF sequencing switch closures. Electrically, the Dual-Trol continuously closes and opens a SPDT 10 Amp. load switch. The unit consists of 2 TM modules, operating in sequence.

Example: An electric motor is to be life tested by operating it in a ON/OFF sequence of 10 seconds ON, 2 minutes OFF, continuously until failure. This program is controlled by a Dual-Trol equipped with a TM-15S and a TM-3M. The 2 minutes OFF period is controlled by the TM-3M set at 2 minutes, the 10 second ON time is controlled by the TM-15S set at 10 seconds. 115/60 — $94.00

Model	Max. Time Cycles	Dial Divisions
TM-6S	6 sec.	1/10 sec.
TM-15S	15 sec.	1/4 sec.
TM-30S	30 sec.	1/2 sec.
TM-60S	60 sec.	1 sec.
TM-3M	3 min.	3 sec.
TM-5M	5 min.	5 sec.
TM-15M	15 min.	15 sec.
TM-30M	30 min.	30 sec.
TM-60M	60 min.	1 min.
TM-3H	3 hrs.	3 min.



Tandem/Type A

The Tandem Re-cycling Timer is a precise timing device that provides 2 adjustable and continuous time cycles. Any combination of 10 interchangeable timing elements are possible; for example: a 3 hour element and a 6 second element can be combined in the control cabinet and adjusted to provide a load circuit with a 1 second pulse every 3 hours. This cycle will continue in sequence until shut down or re-adjusted.

Control Cabinet . . . Incorporates an external "ON", "OFF" toggle switch, load control switch, pilot lamps, male load plugs, input line cord and element enclosures for two individual timing elements. The load circuit is carried by a SPDT relay, contact rating is 15 amps A.C. non-inductive. Control cabinets are available for 115, or 220 volt/60, 50, or 25 cycles. Cabinet dimensions are 9" x 11½" x 6⅛". Shipping weight of control cabinet is 11 lbs. Each ET element weighs 4 lbs.

Maximum time cycles from 3 seconds to 3 hours. 115/60 — $132.50

programming cam timers.

series RA/RC/CM/MC

SINGER
INDUSTRIAL TIMER DIV.

motors

Heavy duty synchronous motors, U/L and CSA approved. These motors are available in any of thirteen standard speeds. In cases where short time cycles are required of a higher torque motor is used. On the MC-O and RC-O Multi Cam Timers a High Torque motor is standard. These motors are built and guaranteed for long trouble-free performance.

switches

Single pole double throw snap action, U/L and CSA approved, totally enclosed. The switches are mounted on individual brackets, permitting removal of each switch without disassembling the entire switch bank. The switch contacts are rated at 10 amps non-inductive AC.

electrical characteristics

The Cam Timer Series can be supplied for 115 volt or 220 volt AC operation on 25, 50, 60 or 400 cycle frequencies. (As well as 6, 12, 24, & 30 volts DC)

gear rack assemblies

50 standard ratio gear and rack assemblies are stocked for changing overall time cycles on the Cam Timer Series. These assemblies may be changed by removing a 5/40 screw, setting the rack into the recess, and retightening the screw. Refer to chart for particular time cycle and gear rack assembly.

individual cam adjustment (series CM, MC, RC only)

Standard cam construction is such that the ON or OFF periods may be adjusted from 2% to 98% of the total time cycle. Cam adjustment consists of loosening the nut on the face of the plate, rotating the movable cam segment to the percentage of ON or OFF period desired, and then tightening the nut. The cams are made of corrosion resistant aluminum.

timing sequence (MC, RC only)

Each cam is individually mounted on the shaft by means of a heavy duty friction disc which allows easy finger adjustment of timing sequences. Individual positioning of the cam is also made possible without the use of set screws and wrenches, and permits rapid adjustment. On the Series MC and RC Multi Cam models a drum calibrated from 0% to 100% is mounted on each cam, this drum in conjunction with a mounted pointer acts as a guide when setting related programmed sequences; thus providing a reference point for use during the cycle.

ordering information

When ordering a Cam Timer please specify the following information:

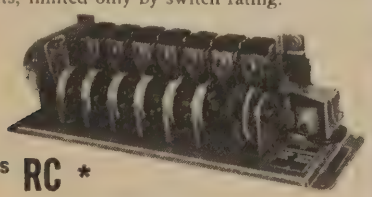
1. Voltage and frequency of motor current.
2. Number of switches desired.
3. Time cycle selected from chart. (refer to motor number plus gear rack number. Example: MC4 Timer with C-12 Gear Rack.)



SERIES **RA** *

** single cycle timer

The Series RA Timer is designed to provide a single timed electrical cycle upon momentary actuation from a remote position. The cam is a circular plate notched at one point in its circumference. Coincident with this notch is a small plate or a pawl. This plate is contoured to the periphery of the cam, and pressed against the cam face by a spring and a stud. Upon actuation, the relay mechanically disengages a lever from the cam notch, simultaneously starting the motor. During the revolution of the cam, the relay lever rides on the circumference of the cam. At the end of the revolution, the pawl guides the lever into the notch, stopping the motor after completing one revolution. The single switch handles the timer motor and the external load circuits, limited only by switch rating.



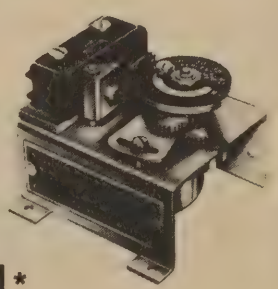
SERIES **RC** *

** single cycle multi-cam timer

The RC Multi Cam Timer is identical to the RA, but operates from 1 to 20 additional circuits. This design enables the user to have all the advantages of the Series MC, plus the single cycle homing control of the RA.

**Patent No. 2,776,009. 115/60 From $42.50

recycling timer

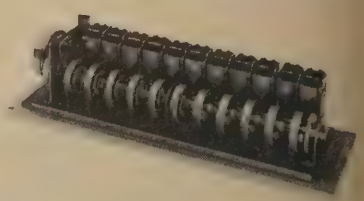


SERIES **CM** *

The Series CM Timer repeats a continuous, adjustable ON and OFF electrical cycle. This timer consists of a heavy duty synchronous motor, adjustable cam, and single pole, double throw snap action switch, assembled on a base mount chasis. The cam is coupled to the motor by means of a simple gear and rack assembly, which can be changed by the user. Standard cam construction is such that the ON-OFF cycle may be adjusted from 2% to 98% of the total time cycle. The cam is calibrated in percentage for quick accurate adjustment. 50 stocked gear and rack assemblies are available for time cycles from 40 cycles (2/3 of a second) to 1 rev. in 72 hours.

115/60 — $20.50

multi-cam recycling timer



SERIES **MC** *

The MC Multi Cam Timer is identical in operation to the CM timer but controls from 2 to 20 circuits. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly. Each cam is independently adjustable for 2% to 98% of the total time cycle. Individual cam adjustability enables the timer to be used as a programming device. The cams can be adjusted in any combination of timed sequences rapidly and easily. Total revolution time is determined by motor speed and the interchangeable gear and rack assembly.

115/60 From $35.50

■ for GEAR RACK CHART see page 6

* UNDERWRITERS LABORATORIES COMPONENT RECOGNITION

© United Technical Publications

programming cam timers concluded

☐ gear rack chart

MODEL	RA 0	RA 1	RA 2	RA 3	RA 4	RA 5	RA 6	RA 7	RA 8	RA 9	RA 10	RA 11	RA 12
MODEL	CM 0	CM 1	CM 2	CM 3	CM 4	CM 5	CM 6	CM 7	CM 8	CM 9	CM 10	CM 11	CM 12
MODEL	MC 0	MC 1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	MC 9	MC 10	MC 11	MC 12
MODEL	RC 0	RC 1	RC 2	RC 3	RC 4	RC 5	RC 6	RC 7	RC 8	RC 9	RC 10	RC 11	RC 12
GEAR RACKS	SEE NOTE 2*												
E-12	40c	4 sec	10 sec	20s	40s	2m	3m20s	10m	20m	40m	2h	3h20m	8h
E-14	46.7c	4.67s	11.67s	23.33s	46.67s	2m20s	3m53s	11m40s	23m20s	46m40s	2h20s	3h53m	9h20m
D-12	48c	4.8s	12s	24s	48s	2m24s	4m	12m	24m	48m	2h24m	4h	9h36m
E-15	50c	5 sec	12.5s	25s	50s	2m30s	4m10s	12m30s	25m	50m	2h30m	4h10m	10h
E-16	53.3c	5.33s	13.33s	26.67s	53.3s	2m40s	4m27s	13m20s	26m40s	53m20s	2h40m	4h27m	10h40m
D-14	56c	5.6s	14s	28s	56s	2m48s	4m40s	14m	28m	56m	2h48m	4h40m	11h12m
C-12	1 sec	6 sec	15s	30s	60s	3m	5m	15m	30m	60m	3h	5h	12h
D-16	64c	6.4s	16s	32s	64s	3m12s	5m20s	16m	32m	64m	3h12m	5h20m	12h48m
E-20	66.7c	6.67s	16.67s	33.33s	66.67s	3m20s	5m33s	16m40s	33m20s	66m40s	3h20m	5h33m	13h20m
C-14	70c	7s	17.5s	35s	70s	3m30s	5m50s	17m30s	35m	70m	3h30m	5h50m	14h
D-18	72c	7.2s	18s	36s	72s	3m36s	6m	18m	36m	72m	3h36m	6h	14h24m
E-22	73.3c	7.33s	18.33s	36.67s	73.33s	3m40s	6m7s	18m20s	36m40s	73m20s	3h40m	6h7m	14h40m
C-15	75c	7.5s	18.75s	37.5s	75s	3m45s	6m15s	18m45s	37m30s	75m	3h45m	6h15m	15h
B-12	80c	8 sec	20s	40s	80s	4m	6m40s	20m	40m	80m	4h	6h40m	16h
E-26	86.7c	8.67s	21.67s	43.33s	86.67s	4m20s	7m13s	21m40s	43m20s	86m40s	4h20m	7h13m	17h20m
D-22	88c	8.8s	22s	44s	88s	4m24s	7m20s	22m	44m	88m	4h24m	7h20m	17h36m
C-18	90c	9 sec	22.5s	45s	90s	4m30s	7m30s	22m30s	45m	90m	4h30m	7h30m	18h
B-14	93.3c	9.33s	23.33s	46.67s	93.33s	4m40s	7m47s	23m20s	46m40s	93m20s	4h40m	7h47m	18h40m
D-24	96c	9.6s	24s	48s	96s	4m48s	8m	24m	48m	96m	4h48m	8h	19h12m
B-15	100c	10 sec	25s	50s	100s	5m	8m20s	25m	50m	100m	5h	8h20m	20h
D-26	104c	10.4s	26s	52s	104s	5m12s	8m40s	26m	52m	104m	5h12m	8h40m	20h48m
B-16	106.7c	10.67s	26.67s	53.33s	106.7s	5m20s	8m54s	26m40s	53m20s	106m40s	5h20m	8h54m	21h20m
C-22	110c	11 sec	27.5s	55s	100s	5m30s	9m10s	27m30s	55m	110m	5h30m	9h10m	22h
D-28	112c	11.2s	28s	56s	112s	5m36s	9m20s	28m	56m	112m	5h36m	9h20m	22h24m
E-34	113.3c	11.33s	28.33s	56.67s	113.3s	5m40s	9m27s	28m20s	56m40s	113m20s	5h40m	9h27m	22h40m
A-12	2 sec	12 sec	30s	60s	2m	6m	10m	30m	60m	2h	6h	10h	24h
D-32	2s8c	12.78s	32s	64s	128s	6m24s	10m40s	32m	64m	2h8m	6h24m	10h40m	25h36m
C-26	2s10c	13 sec	32.5s	65s	130s	6m30s	10m50s	32m30s	65m	2h10m	6h30m	10h50m	26h
B-20	2s12c	13.2s	33.33s	66.67s	133.3s	6m40s	11m7s	33m20s	66m40s	2h13m	6h40m	11h7m	26h40m
D-34	2s16c	13.56s	34s	68s	136s	6m48s	11m20s	34m	68m	2h16m	6h48m	11h20m	27h12m
A-14	2s20c	14 sec	35s	70s	140s	7m	11m40s	35m	70m	2h20m	7h	11h40m	28h
D-36	2s24c	14.4s	36s	72s	144s	7m12s	12m	36m	72m	2h24m	7h12m	12h	28h48m
B-22	2s27c	14.7s	36.67s	73.33s	146.7s	7m20s	12m13s	36m40s	73m20s	2h27m	7h20m	12h13m	29h20m
A-15	2s30c	15 sec	37.5s	75s	150s	7m30s	12m30s	37m30s	75m	2h30m	7h30m	12h30m	30h
A-16	2s40c	16 sec	40s	80s	160s	8m	13m20s	40m	80m	2h40m	8h	13h20m	32h
C-34	2s50c	17 sec	42.5s	85s	170s	8m30s	14m10s	42m30s	85m	2h50m	8h30m	14h10m	34h
B-26	2s52c	17.2s	43.33s	86.67s	173.3s	8m40s	14m27s	43m20s	86m40s	2h53m	8h40m	14h27m	34h40m
A-18	3 sec	18 sec	45s	90s	3m	9m	15m	45m	90m	3h	9h	15h	36h
B-28	3s7c	18.7s	46.67s	93.33s	186.7s	9m20s	15m33s	46m40s	93m20s	3h7m	9h20m	15h33m	37h20m
A-20	3s20c	20 sec	50s	100s	200s	10m	16m40s	50m	100m	3h20m	10h	16h40m	40h
B-32	3s33c	21.3s	53.33s	106.7s	213.4s	10m40s	17m47s	53m20s	106m40s	3h33m	10h40m	17h47m	42h40m
A-22	3s40c	22 sec	55s	110s	220s	11m	18m20s	55m	110m	3h40m	11h	18h20m	44h
B-34	3s47c	22.7s	56.67s	113.3s	226.7s	11m20s	18m53s	56m40s	113m20s	3h47m	11h20m	18h54m	45h20m
A-24	4 sec	24 sec	60s	2m	4m	12m	20m	60m	2h	4h	12h	20h	48h
A-26	3s20c	26 sec	65s	130s	260s	13m	21m40s	65m	2h10m	4h20m	13h	21h40m	52h
A-28	4s40c	28 sec	70s	140s	280s	14m	23m20s	70m	2h20m	4h40m	14h	23h20m	56h
A-30	5 sec	30 sec	75s	150s	5m	15m	25m	75m	2h30m	5h	15h	25h	60h
A-32	5s20c	32 sec	80s	160s	320s	16m	26m40s	80m	2h40m	5h20m	16h	26h40m	64h
A-34	5s40c	34 sec	85s	170s	340s	17m	28m20s	85m	2h50m	5h40m	17h	28h20m	68h
A-36	6 sec	36 sec	90s	3m	6m	18m	30m	90m	3h	6h	18h	30h	72h

c-cycles s-seconds m-minutes h-hours

1. ORDERING INFORMATION—Model number selected from top of gear rack chart, gear rack, number of load switches, voltage and frequency.

   ALTERNATE ORDERING INFORMATION—Required time cycle (one complete rotation of cam shaft), number of load switches, voltage and frequency. Since some time cycles are available in 3 model numbers, the use of the ALTERNATIVE ordering information may expedite delivery by allowing us to ship model in stock with required time cycle.

2. Multi-switch cam timers requiring time cycles in shaded area may require high torque timing motor. This is due to increased torque encountered in rapid time cycles. To determine need of larger motor; multiply required time cycle in seconds by 2/3, the answer will be the maximum number of switches that can be operated with a standard timing motor. EXAMPLE: Time cycle 15 seconds. 2/3 x 15s=10. 10 switches can be operated at 15 seconds with a standard timing motor, more than 10 load switches requires the use of a high torque timing motor.

Price added for Hi-Torque motors:

	Motor Speed	115/220-60 Hz	115/220-50 Hz
#0	1 RPS	$35.50	$60.00
#1	⅙ RPS	$37.50	$60.00

time measurement devices

Running TIME meters and reset time totalizers are designed to record equipment operating time. The running time meter accumulates total time whereas the reset time totalizer can be reset to 0 at any time by means of an external knob.

stop clocks



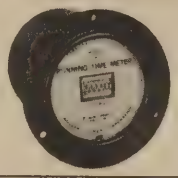
MODELS SC-100 / SC-60

Two models, SC-100 with a range from 1/100 sec. to 60 seconds, and the SC-60 with a range from 1 second to 60 minutes. Both models used to measure time intervals, and can be started from a remote switch closure, (see wiring schematic). Pointer reset accomplished by built-in pushbutton or remote switch closure. Finish, baked enamel on formed steel housing. Available for 115, 220 volts/60 or 50 cycles only. 115/60 — $68.50

model designation chart

Model	Outside Dial	Inside Dial
SC-60	1-60 sec.	1-60 min.
SC-100	.01- 1 sec.	1-60 sec.

running time meters



MODEL C-2 NON RESET TYPE

C-2 . . . Designed to harmonize with other instruments installed on a panel. The C-2 Running Time Meter is completely enclosed, moisture and dust resistant, insuring long life and operating efficiency. Screw terminals are located on the back of the case for wiring.



MODEL C-25 NON RESET TYPE

C-25 . . . The C-25 Running Time Meter follows the same description as the Model C-2 with the exception of its case and mounting provisions. The C-25 matches the C-5 Reset Time Totalizer in appearance and mounting.
115/60 — $20.00

All models available for 115, 220 volts, 60 and 50 cycles. Six models available from 10,000 seconds to 100,000 hours.

models	count	range
C-2, C-25	1/10 hr.	10,000 hrs.
C-2A, C-25A	1 hr.	100,000 hrs.
C-2D, C-25D	1/10 min.	10,000 min.
C-2F, C-25F	1 min.	100,000 min.
C-2G, C-25G	1/10 sec.	10,000 sec.
C-2H, C-25H	1 sec.	100,000 sec.



MODEL C-5 RESET TYPE

C-5 . . . Mounted in a baked black finish steel housing. Reset wheel protrudes slightly out front of dial for thumb reset. Screw terminals on back of unit. Available for 115, 220 volt, 60 and 50 cycles.
115/60 From $42.50

Four ranges available from 10,000 minutes up to 100,000 hours.

model	count	range
C-5	1/10 hr.	10,000 hrs.
C-5A	1 hr.	100,000 hrs.
C-5D	1/10 min.	10,000 min.
C-5F	1 min.	100,000 min.



MODELS C-8, C-8W, D.C. UNIT

The Series C-8 and C-8W Running Time Meters are heavy duty units featuring a rugged pulse wound clock movement. At the heart of this unique movement is a large winding solenoid that is pulsed from snap action contacts. These contacts operate every 40 to 60 seconds when the unit is energized. The unit is sealed against dust and moisture in a steel enclosure. The crystal over the dial is made of shatterproof non-yellowing plastic. The readout of the C-8 is in minutes with a sweep hand, and up to 99999 hours on the odometer. Mounting is by bracket on the Series C-8W or by flange with the C-8. Wiring connections are made on the back of the unit.
12-32 VDC. 12-32 VDC — $19.25

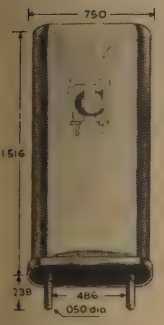
SINGER
INDUSTRIAL TIMER DIV.

V6/71-20

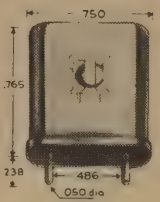
© United Technical Publications

PRICE LIST • Subject to Change without Notice • MINIMUM ORDER $10.00

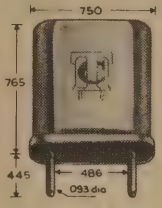
CRYSTEK CRYSTALS... FOR EVERY PURPOSE



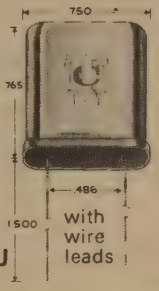
HC13/U
70 KHZ — 200 KHZ (70-99 KHZ is 2.5" in height)



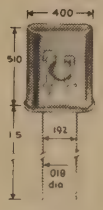
HC6/U



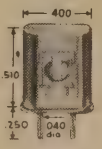
HC17/U



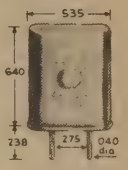
HC6/U with wire leads



HC18/U



HC25/U



HC32/U

TYPE SPECIFICATIONS

1. "General Purpose" Calibration at ambient temperature (25°C) is within .002% of specified frequency.

2. "Standard." This type is adjusted to frequency at room temperature (25°C ±5°C) within ±.002%. The maximum frequency deviation is ±.005% from −55°C to +90°C.

3. "Special" Calibration at room temperature is ±.001%. The maximum frequency deviation is ±.0025% from −55°C to +105°C. The calibration tolerance of ±.001% can only be obtained when definite correlation (load capacity) and drive level are specified.

4. "Oven." This type is specially for "oven" use. Standard "oven" temperatures are 75°C ±5°C and 85°C ±5°C. Calibration tolerance at 75°C or 85°C is held within ±.002% of nominal frequency. Maximum frequency deviation is ±.0005%.

5. "Military Standard" CR Type Crystals for use in Military equipment can be supplied to meet specification MIL-C-3098E.

For information on types not listed contact our Engineering Department

FREQUENCY KHz Fundamental	1. GENERAL PURPOSE Calibration Tolerance ±.002%	2. STANDARD Calibration Tolerance ±.002%	3. SPECIAL Calibration Tolerance ±.001%	4. OVEN 75°C/85°C Calibration Tolerance ±.002%
800 to 1000	$12.00	$14.00	$15.50	$18.00
1000 to 1500	8.50	9.00	11.25	13.50
1500 to 2000	7.50	8.00	10.75	13.00
2000 to 3000	6.00	7.00	10.25	12.50
3000 to 10000	4.50	5.50	8.25	10.50
10000 to 15000	5.00	6.00	9.00	11.50
15000 to 20000	6.00	6.50	8.75	11.00
20000 to 22000	8.00	9.00	11.25	13.50
Overtone - MHz				
10 to 20 3rd	$6.50	$7.00	$ 9.25	$11.50
20 to 50 3rd	6.00	6.50	8.75	11.00
50 to 60 3rd	6.50	7.00	9.25	11.50
60 to 75 5th	7.50	8.00	11.75	14.00
75 to 125 5th	9.00	9.50	13.75	16.00
7th AND 9th OVERTONE PRICE AVAILABLE ON REQUEST				

LOW FREQUENCY KHz	TYPE CUT	STANDARD Calibration Tolerance ±.005%	SPECIAL Calibration Tolerance ±.002%
1 to 20	JT	Prices Available on Request	
15 to 30	NT	$20.00	$22.50
30 to 100	NT	16.25	18.75
80 to 200	MT	24.00	26.50
90 to 170	5°X	12.50	15.00
170 to 400	DT	12.50	15.00
300 to 800	SL	12.50	15.00
500 to 800	CT	12.50	15.00

MONITOR CRYSTALS

Receiver Crystals
3rd Overtone
10 MHz to 60 MHz

$5.00 EACH

For VHF and UHF Monitor Receivers specify receiver manufacturer and model number and desired receive frequency.

CITIZENS BAND CRYSTALS

CB Specials ..... 5.00 ea.
Radio Control Crystals ..... 5.00 ea.
CAP Crystals ..... 5.00 ea.

$2.95 EACH
CLASS D

Note: In-between channel or business frequencies are not standard CB crystals. Specify manufacturer and model number of transceiver plus channel number.

MARINE CRYSTALS

2000 KHz thru 5000 KHz
FOR ALL UNITS
Types: HC6/U and HC17/U Marine

$5.50 EACH

Marine UHF Frequency Available — Contact Factory

AMATEUR CRYSTALS

3501 to 3999 KHz
4667 to 4780 KHz
7000 to 7425 KHz
8001 to 8221 KHz
8334 to 8900 KHz

All ±.01% Tolerance at 25°C.

$2.95 EACH

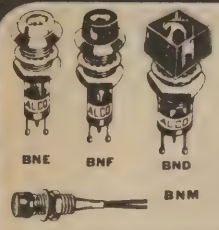
HC6/U • HC17/U • FT243

If you are not using our speedy ZIP Certificates, inquire now . . .

CRYSTEK *Division of Whitehall Electronics*
(Formerly Texas Crystals)

ALCOLITE

DIV. OF ALCO ELECTRONIC PRODUCTS, INC.



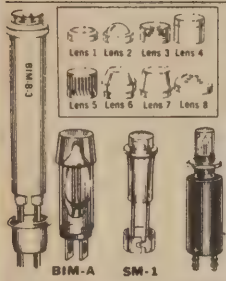
NEON LAMP ASSEMBLIES

Series BNE Neon Assemblies, Compact Lens — protrudes slightly above the panel. Operating voltage: 75 VDC without resistor; for 115 VAC operations use external resistors (150K for standard intensity, 33K for high intensity) not supplied. Temperature range: −10°C to 70°C. Mounts with single 9/16-32 nut. BNE-4R comes with built- n resistor for 115 VAC.

Series BNF Neon Assemblies, Long Lens — Similar to the BNE Series except that the lens system extends a greater distance beyond the panel for a brighter illumination.

Series BND Neon Assemblies, Square Lens — Combines an entirely new look in a space-saving pilot assembly. The BND is available with or without built-in series resistor.
Specify Color: Red, Amber, Clear, White.

Model	Type Description	One-24	25-99	100-199	500-999
BNE-2	Std. Intensity Neon Lite	.59	.39	.35	.29
BNE-3	Hi Intensity Neon Lite	.69	.46	.41	.35
BNE-4R	With Internal Resistor	.79	.53	.48	.40
BNF-2	Std. Intensity Neon Lite	.59	.39	.35	.29
BNF-3	Hi Intensity Neon Lite	.69	.46	.41	.35
BNF-4R	With Internal Resistor	.79	.53	.48	.40
BND-2	Neon Lite Assembly, Std. Int.	.59	.39	.35	.29
BND-2R	Neon Lite Assembly, w/Res.	.69	.46	.41	.35
BND-3	Hi Intensity Neon Lite	.69	.46	.41	.35
BND-3R	Hi Intensity Neon Lite w/Res.	.79	.53	.48	.40
BNM-2R	With Internal Resistor	1.29	.88	.77	.65



SERIES BIM 110V NEON LIGHT INDICATORS

General purpose panel indicators have more versatility than similar models. 8 Lens Styles: Allow a greater variety to choose from. NE2H High Intensity Lamp is incorporated and contains built-in series resistors for 110V operation. Flexible 6" leads. Color of wire: Black, high temperature grade insulation 105°C. Wire size: solid 22 AWG. Polypropylene indicator housing (white) with acrylic lens. Panel mounting hole for 11/32" dia. body.
Specify Color: Red, Amber, Clear.

BIM-1	With Resistor, #1 Lens	.59	.39	.35	.29
BIM-2	With Resistor, #2 Lens	.59	.39	.35	.29
BIM-3	With Resistor, #3 Lens	.59	.39	.35	.29
BIM-4	With Resistor, #4 Lens	.69	.46	.41	.35
BIM-5	With Resistor, #5 Lens	.69	.46	.41	.35
BIM-6	With Resistor, #6 Lens	.69	.46	.41	.35
BIM-7	With Resistor, #7 Lens	.69	.46	.41	.35
BIM-8	With Resistor, #8 Lens	.69	.46	.41	.35

Series BIM-A — truncated cone, single lens style; height of lens is 1/4". Incorporates NE2H high intensity lamp. Acrylic housing, tin-plated solder terminals. For 11/32" dia. panel mounting hole. Retainer included. Specify Color: Red, Amber, Clear.

BIM-A-1	Without Resistor	.69	.46	.41	.35
BIM-A-4	With Resistor for 110 VAC	.79	.53	.48	.40
BIM-R	Metal Retainer for BIM-A	.03	.02	.018	.015

Miniature T-1 1/4 neon. Wire leads. 100K resistor recommended. Approx. 1/2" size. Specify Color: Red, Amber, Clear. SM-1

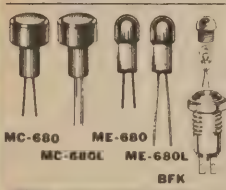
SM-1	Without Resistor for 110VAC	.89	.59	.54	.45

T-1 3/8 neon lamp in black phenolic case, for 1/4" hole, 10" leads. 100K resistor required. See MNE-4 story for lamp description.

PLN-100A	Neon Pilot, Clear	.89	.59	.54	.45
PLN-100B	Neon Pilot, Clear	.89	.59	.54	.45

Miniature, transistorized neon lite operates from low voltage. Mounts in 3/8" hole. Size 2.086". Specify: Red, Amber, Clear.

LVN-ML	4-6 Volt Neon Lite	4.85	3.30	2.91	2.43



INCANDESCENT LAMP ASSEMBLIES

Ultraminiaturized series has cylindrical appearance and fits in 3/16" hole. Has 5V 60 ma rating, 100,000-hr. life. Contains ≠683 T-1 lamp. Mounting ring supplied. ME-680L & MC-680L have solder tin dipped, hi-temp leads, 24 AWG wire.
*Specify Color: Red, Green, Yellow, Blue, White

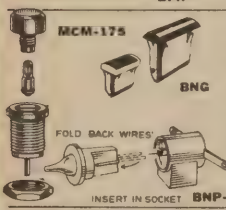
(†)ME-680	With Pin Contacts	.89	.59	.54	.45
(†)ME-680TL	With 6" Insulated Leads	.99	.67	.60	.49
†Specify Color: Red, Green, Amber, Blue, White					
(*)MC-680	With Pin Contacts	.99	.67	.60	.49
(*)MC-680TL	With 6" Insulated Leads	1.09	.73	.66	.54

T-1 ≠680: 5VDC 60 ma, 100,000-hrs. For 1/4" hole, 10" leads.

PL-105	5V Lamp Assembly, Clear	.79	.53	.48	.40
PL-105F	5V Lamp Assembly, Frosted	.85	.57	.51	.43

Lens unscrews, T-1 lamp is exposed. Specify: Red, Green, Blue, Yellow, White. ≠680 lamp 5V @ 60 ma, supplied.

BFK-5	5V Lamp Assembly w/Lamp	1.29	.88	.77	.65



LAMP HOLDERS

Relampable miniature holders have 3/8" dia. lens and small size. MCM-100 has 0.7" length, mounts with 9/16-32 nut. MCM-175 has 1" length, mounts with 3/8-32 nut.
Specify Lens Colors; Red, Green, Amber, Blue, White

MCM-100	Submidget Flange Lamp	.99	.67	.60	.49
Order T-1 lamps separately: 685, 718, 1112, 856 (see below).					
MCM-175	Midget Flange Lamp	.99	.67	.60	.49
Order T-1¾ lamps separately: 815, 381, 330, 382, 327, 387					

NE-2 neon and holder snap together. Ideal for P.C. Less lamp.

BNP-1	White Nylon Holder For NE-2	.18	.12	.108	.09

Simplified, low-cost, snap-type lamp holders for miniature lamps, such as NE-2, etc. 5 different size holders are available, each adaptable to particular panel thickness. Less lamps.
Specify Color: Red, Amber, or Clear

BNG-51	Holder For Neon Lamp	—	—	.09	.08
BNG-52	Holder For Neon Lamp	—	—	.09	.08
BNG-53	Holder For Neon Lamp	—	—	.09	.08
BNG-54	Holder For Neon Lamp	—	—	.09	.08
BNG-55	Holder For Neon Lamp	—	—	.09	.08



BRITE GLOW NEON LAMPS

(T-1 3/4). MNE-4A/-4LA/-4SLA have straight electrodes. MNE-4B has the electrodes bent on the ends. MNE-4SL has metal base to increase light output. 100K resistor required for 115V.

MNE-4A	Short Bare Leads	.45	.30	.27	.23
MNE-4B	Short Bare Leads	.49	.33	.29	.24
MNE-4LA	10" Insulated Leads	.53	.35	.31	.27
MNE-4SLA	10" Insul. Leads, Metal Base	.59	.39	.35	.29

(T-1 1/8). Ignition voltage 75 VAC or 95 VDC. Current should be limited to 800 μA. 150K resistor recommended for 115V.

MNE-3	Short Bare Leads	.59	.46	.41	.35
MNE-3H	Short Bare Leads, Hi Int.	.79	.53	.48	.40

Longer than conventional NE-2. Breakdown: 90 VDC; maintained V: 65 VDC; design current: 1.3 mA.

NE-21I	11 mm Glow, Bare Leads	.39	.27	.24	.20

CARTRIDGE LAMPS

Rugged, long-life cartridge pilot and indicator lamps for standard replacement or original equipment use. Available to order from 3.0 to 48 volts, in eight colors and four lens styles. Aluminum body assures cool operation. Polycarbonate lens may be either transparent or translucent.

TYPE DESIGNATION CODE

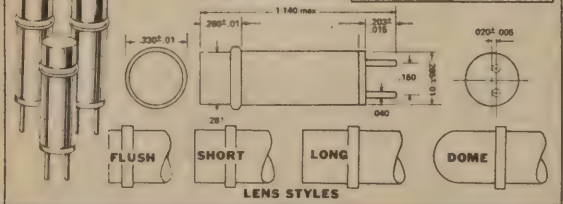
FAMILY — LAMP — LENS

CL — 06V40 — F 2 G

LAMP VOLTS — LAMP MA — LAMP STYLE — COLOR

TRANSPARENT 1
TRANSLUCENT 2

STYLE	COLOR
F — FLUSH	A — AMBER
S — SHORT	B — BLUE
L — LONG	C — CLEAR
D — DOME	G — GREEN
	O — OPAL
	R — RED
	W — WHITE
	Y — YELLOW



SUB MINIATURE INCANDESCENT LAMPS

All lamps meet MIL-L-6363. †±15%

Lamp Model	Fig.	Type	Description	Volts	Amps	MSCP	One-9	10-99	100-499	500-999
680AS15	A	T-1	Wire Terminals	5.0	.060	.032†	1.25	.83	.62	.58
680AS25	A	T-1	Wire Terminals	5.0	.060	.032	.83	.55	.42	.39
683AS15	A	T-1	Wire Terminals	5.0	.060	.053†	1.25	.83	.62	.58
683AS25	A	T-1	Wire Terminals	5.0	.060	.053	.83	.55	.42	.39
713AS15	A	T-1	Wire Terminals	5.0	.075	.088†	1.25	.83	.62	.58
713AS25	A	T-1	Wire Terminals	5.0	.075	.088	.83	.55	.42	.39
715AS15	A	T-1	Wire Terminals	5.0	.115	.147†	1.25	.83	.62	.58
715AS25	A	T-1	Wire Terminals	5.0	.115	.147	.83	.55	.42	.39
RM3-5V30	A	T-1	Wire Terminals	5.0	.030	.030	.88	.59	.44	.41
685	B	T-1	Sub-Midget Flange	5.0	.060	.050	1.44	.96	.72	.67
718	B	T-1	Sub-Midget Flange	5.0	.115	.147	1.38	.92	.69	.64
856	B	T-1	Sub-Midget Flange	28.0	.024	.150	3.06	2.04	1.53	1.43
1112	B	T-1	Sub-Midget Flange	14.0	.065	.150	2.16	1.44	1.08	1.01
2181	C	T-1¾	Wire Terminals	6.3	.200	.40	.79	.52	.39	.37
2182	C	T-1¾	Wire Terminals	14.0	.080	.30	.79	.52	.39	.37
327	D	T-1¾	Midget Flange Base	28.0	.040	.34	.90	.60	.45	.42
330	D	T-1¾	Midget Flange Base	14.0	.080	.50	.96	.64	.48	.45
381	D	T-1¾	Midget Flange Base	6.3	.200	.40	.85	.57	.43	.40
382	D	T-1¾	Midget Flange Base	14.0	.080	.30	.90	.60	.45	.42
387	D	T-1¾	Midget Flange Base	28.0	.040	.30	.95	.63	.47	.44
815	D	T-1¾	Midget Flange Base	5.0	.115	.147	.90	.60	.45	.42
379	E	T-1¾	Midget Grooved Base	6.3	.200	.40	.85	.57	.43	.40
386	E	T-1¾	Midget Grooved Base	14.0	.080	.30	.90	.60	.45	.42
388	E	T-1¾	Midget Grooved Base	28.0	.040	.30	.95	.63	.47	.44
362	F	T-1¾	Midget Screw Base	14.0	.080	.30	.90	.60	.45	.42
378	F	T-1¾	Midget Screw Base	6.3	.200	.40	.85	.57	.43	.40
399	F	T-1¾	Midget Screw Base	28.0	.040	.30	.95	.63	.47	.44

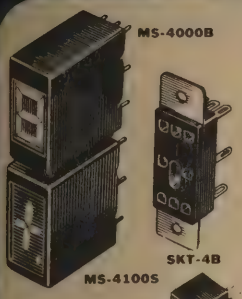
ALCO ELECTRONIC PRODUCTS, INC.

Net

© United Technical Publications

ALCO-DISPLAY

DIV. OF ALCO ELECTRONIC PRODUCTS, INC.



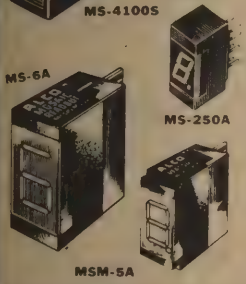
INCANDESCENT READOUT INDICATORS

MS-4000B — 7-segment readout has bright, single plane display allowing wide angle view. Character size: .325" x .600". Case: .552" x 1.18" x 1.18", one-piece black metal matte. Long-life #683 T-1 lamps are separately lit by use of an external decoder-driver. Lamps: 3-5V @ 40-60 ma per segment. Current drain: 420 ma max. (numeral "8"). Power: .24W (min.), 2.1W (max.). Order socket separately.

MS-4100B — as above, but has decimal point and slightly smaller figures, 0-to-9. External dimensions above.

MS-4100S — symbol indicator with + − 1 and decimal, to match either MS-4000B or MS-4100B readout.

MS-250A — smaller version of above, 0-to-9. Socket, plastic housing. Lamps: 2.5V @ 20 ma per segment. Current drain: 40 ma (min.), Consumption: 160 ma (max.), 0.4W (max.).



INCANDESCENT MOSAIC READOUT INDICATORS

MS-6A & MS-14A — single plane 0-to-9 and some alphabet. Decimal points used as colon. Segment bars are closely linked. Figures: .800" high. Body size: .834" w. x 1.750" h. x 2.104" d. Lamp life: 20,000 hrs. Plug-in at rear of case. Supplied less socket, order separately.

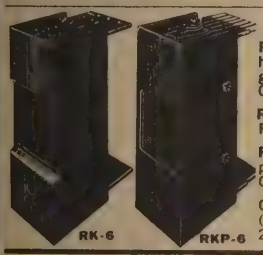
MS-6S & MS-14S — mates with above MS series, but has symbol indicators for +, 1 and figure "one".

MSM-5 — miniature readout is same as above, except smaller. Lamps: 5V @ 60 ma. Figure: .475" h. Body: .475" w. x .985" h. x 1.562" d. Lamp life: 50,000 hrs. Plug-in thru standard 10-terminal PC connector. Supplied less socket, order separately.

MSM-5AL — as above, but has 10" flat cable connection.

MSM-5S — mates with above MSM series, but has symbol indicators for +, 1 and figure "one". Plug-in.

Model	Volt	Description	One-24	25-99	100-499
MS-4000BR	3·5	Num. Red w/o socket	6.45	5.48	4.84
MS-4000BC	3·5	Num. Clear w/o socket	6.45	5.48	4.84
SKT-4B	—	Socket for MS-4000B	.48	.41	.36
MS-4100BR	3·5	Num. Red w/o socket	7.45	6.33	5.59
MS-4100BC	3·5	Num. Clear w/o socket	7.45	6.33	5.59
MS-4100SR	3·5	Symbol Red w/o socket	7.45	6.33	5.59
MS-4100SC	3·5	Symbol Clear w/o socket	7.45	6.33	5.59
SKT-41B	—	Socket for MS-4100	.48	.41	.36
MS-250AR	2.5	Num. Red w/socket	8.25	7.01	6.19
MS-250AC	2.5	Num. Clear w/socket	8.25	7.01	6.19
MS-250SR	2.5	Symbol Red w/socket	8.25	7.01	6.19
MS-250SC	2.5	Symbol Clear w/socket	8.25	7.01	6.19
MS-6A	6.3	0-to-9 & 2 Dec.	8.25	7.01	6.19
MS-14A	14	0-to-9 & 2 Dec.	8.25	7.01	6.19
MS-6S	6.3	Symbol +, −, 1	8.25	7.01	6.19
MS-14S	14	Symbol +, −, 1	8.25	7.01	6.19
MSM-5AL	3·5	Num. 0-to-9 & 1 Dec.	9.95	8.46	7.46
MSM-5A	3·5	Num. 0-to-9 & 1 Dec.	8.25	7.01	6.19
MSM-5S	3·5	Symbol +, −, 1	8.25	7.01	6.19
MS-SKT-R		Right angle Socket For MS	1.55	1.32	1.16
MS-SKT		Socket For MS	1.15	.98	.92
MSM-SK		Socket For MSM	1.15	.98	.92
MS-FLV		Violet Filter For MS	.40	.34	.30
MS-FLR		Red Filter For MS	.40	.34	.30
MS-FLG		Green Filter For MS	.40	.34	.30



INCANDESCENT EDGE-LIT READOUT INDICATORS

RK — 0-9 numeric readout with 1-pc. machined aluminum lamp housing which also serves as heat sink. Solder terminals. Engraved acrylic plates are tightly packed, edge-lit. Numeral size: 0.566" h. Case size 2.56" x 0.78" x 0.83".

RKP — as above, with edge board terminals used with RK-SKT P.C. sockets.

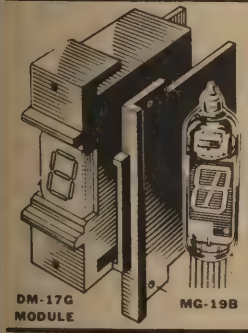
RKF — is larger with 1.06" h. numerals. Uses two lamps per plate for higher light output. Use with RK-SKT P.C. sockets. Case size: 3.30" x 1.19" x 1.19".

Current drain: 6.3V @ 200 ma, 14V @ 80 ma, 24V @ 50 ma (RK, RKP). 6.3V @ 400 ma, 14V @ 160 ma, (RKF). T-1 3/4 20,000-50,000 hr. lamps: #2181-6.3V, #2182-14V, #A-24-24V.

Model	Volt	Description	One-24	25-99	100-499
RK-6*	6.3	0-to-9 & Dec.	8.25	7.01	6.19
RK-14*	14	0-to-9 & Dec.	8.25	7.01	6.19
RK-24*	24	0-to-9 & Dec.	8.75	7.44	6.56
RKF-6*	6.3	0-to-9 & Dec.	15.75	13.39	11.81
RKF-14*	14	0-to-9 & Dec.	15.75	13.39	11.81
RKP-6*	6.3	0-to-9 & Dec.	8.25	7.01	6.19
RKP-14*	14	0-to-9 & Dec.	8.25	7.01	6.19
RKP-24*	24	0-to-9 & Dec.	8.75	7.44	6.56

*Available as Symbol Indicator (+ — Ω V %) at same price. Add suffix S for symbols.

RKA-2-8	Mtg. Bracket RK-RKP	1.65	1.40	1.24
RK-FLV	Violet Filter RK-RKP	.40	.34	.30
RK-SKT	Pr. Sockets RKP-RKF	1.65	1.40	1.24
RK-SKT-C	Pr. Sockets w/Cover RKP-RKF	2.45	2.08	1.84
RKF-FLV	Violet Filter RKF	.50	.43	.38



NEON ELFIN READOUTS

MG-17G — gas-filled, cold cathode, ultra-miniature display indicator 1.220" h. x .385" dia., character height .378". 7-segments display 0-to-9 and one decimal on flat ceramic base plate. For DC and pulsed operations.

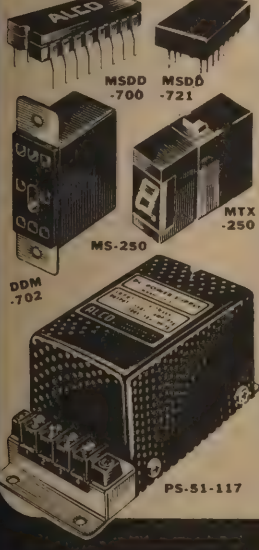
MG-17F — 7-segmented display indicator has 2 decimals. Size 1.6" h. x .385" dia., character height .433".

MG-19B — 9-segmented display indicator has 1 decimal and 2 diagonal cathodes placed in the center of the numeric 8.

ELFIN COMPLETE MODULES

DM-17G — factory-assembled plug-in module includes MG-17G Elfin indicator mounted on P.C. board which contains the decoder-driver and logic. Limiting resistors included. The Elfin tube is front mounted and modules can be stacked together in multiples. End plates available to provide a completed bezel look. -721 and -722 accept 4-line BCD inputs, -723 accepts count input. Optical filter integrates display appearance.

MG-17F	Neon, 7-Seg., 2 Dec.	4.95	4.25	3.75
MG-17G	Neon, 7-Seg., 1 Dec.	4.95	4.25	3.75
MG-19B	Neon, 9-Seg., 1 Dec. Pt.	4.95	4.25	3.75
DM-17G-721	w/Decoder-Driver, Tube	19.75	17.00	15.04
DM-17G-722	w/Dec-Dvr-Memory, Tube	23.00	19.90	17.46
DM-17G-723	w/Dec-Dvr-Counter, Tube	23.35	20.20	17.81
DM-17G-CC	Clock/Colon Module	3.95	3.42	3.05
DM-17G-SM	Over-range/Symbol Module	16.60	13.79	12.81
DM-17G-EP	Finished End Plate (Pr.)	1.80	1.53	1.35
DM-17FL3	Filter for 3 Modules	.90	.78	.68
DM-17FL4	Filter for 4 Modules	1.20	1.02	.90
DM-17FL4-1C	Filter, 4 Mod, 1 Colon	1.40	1.19	1.05
DM-17FL5	Filter for 5 Modules	1.50	1.28	1.13
DM-17FL6	Filter for 6 Modules	1.80	1.53	1.35
DM-17FL6-2C	Filter, 6 Mod, 2 Colon	2.00	1.70	1.50
DM-3S	Pr. Assy Studs for 3 Modules	.30	.256	.226
DM-4S	Pr. Assy Studs for 4 Modules	.30	.256	.226
DM-5S	Pr. Assy Studs for 5 Modules	.30	.256	.226
DM-6S	Pr. Assy Studs for 6 Modules	.30	.256	.226
DM-6SA	Pr. Studs, 6 Mod, 2 Colon	.30	.256	.226



HYBRID BCD-TO-7 SEG. DECODER DRIVERS

MSDD-720 Series — with active low oututs to drive the cathodes of the ELFIN to display numeric characters 0 thru 9. Supply voltage: 7V; Input: 5.0V. Plastic/epoxy package with Dual-In-Line (DIP) configurations.

MSDD-320 Series — 120 mA/Segment; designed to drive the Alco segmented displays MS-4000B, MS-4100B, MS-250A, MS-6, MS-14, MSM-5A, or other devices requiring low voltages and high-current-sinking capabilities. Circuits are T²L and DTL compatible and have uncommitted collector outputs.

MONOLITHIC BCD-TO-7 SEG. DECODER DRIVERS

16-Lead Dual-In-Line packages to drive 7-segment incandescent display devices. **MSDD-700** and **MSDD-701** for use with Alco MS-250A. **MSDD-702** and **MSDD-703** for MS-4000B, MS-4100B, MS-6, MSM-5A.

PLUG-IN DECODER DRIVER MODULES

Packaged module includes decoder-driver and plugs directly into mating readout. **DDM-702** for MS-4100B and **DDM-703** for MS-4000B. **MTX-4000** for MS-4000B and **MTX-250** for MS-250A. Completely assembled. Color coded leads.

PANEL MOUNTING ACCESSORIES

MS-4FB — for MS-4000 or MS-4100 readouts; use up to 5 modular digits. Bezel has top and bottom aluminum extrusion. Assembly comes complete with red filter; use with clear readouts.

LOGIC POWER SUPPLY

5V section is compatible to MSDD-700 Series decoder drivers, and 200 VDC section will fire the ELFIN neon displays.

MSDD-721	BCD-to-7 Seg. Decoder-Driver	9.90	8.65	7.65
MSDD-722	BCD-to-7 Seg. Dec-Dvr w/Mem	13.15	11.52	10.18
MSDD-723	With Decade Counter	13.50	11.82	10.43
MSDD-724	W/Decade Counter, Memory	17.95	15.70	13.86
MSDD-321	Decoder-Driver, 120 mA/Seg.	9.30	8.15	7.20
MSDD-322	W/Memory, 100 mA/Seg.	12.00	10.50	9.25
MSDD-323	W/Decade Counter	12.35	10.80	9.55
MSDD-324	W/Decade Counter, Memory	16.75	14.70	12.95
MSDD-700	30 mA/Seg. w/Dec. Pt.	6.65	6.65	5.15
MSDD-701	30 mA/Seg. w/Ripple Blank	6.65	6.65	5.15
MSDD-702	80 mA/Seg. w/Dec. Pt.	9.00	9.00	6.75
MSDD-703	80 mA/Seg. w/Ripple Blank	9.00	9.00	6.75
DDM-702	Plug-in 80 mA/Seg. w/Dec.	19.95	17.25	14.75
DDM-703	Plug-in 80 mA/Seg. w/Ripple	19.95	17.25	14.75
MTX-4000	Decimal-to-7 Plug-in Decoder	12.85	10.92	9.64
MTX-250	Decimal-to-7 Plug-in Decoder	12.85	10.92	9.64
MS-4FBA	Mounting Module Kit, Natural	4.95	4.25	3.75
MS-4FBB	Mounting Module Kit, Black	4.95	4.25	3.75
MS-4BA	Bezel Only, Natural (pair)	1.25	1.06	.94
MS-4BB	Bezel Only, Black (pair)	1.25	1.06	.94
PS-51-117	Elfin Logic Power Supply	39.95	33.96	29.96

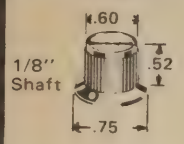
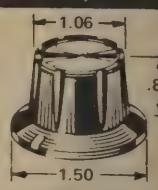
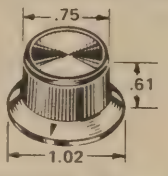
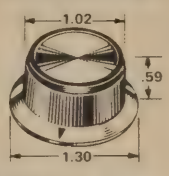
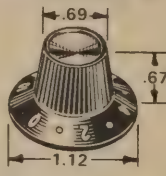
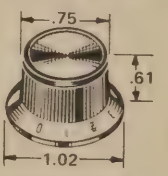
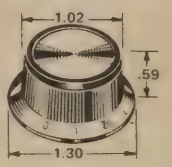
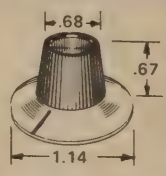
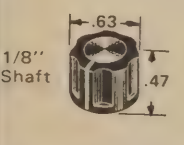
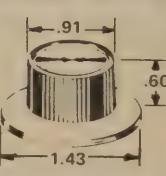
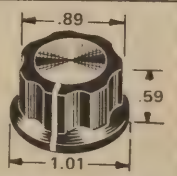
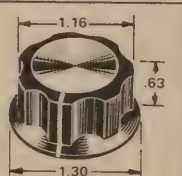
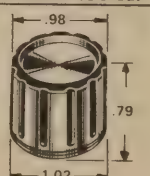
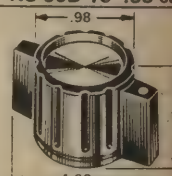
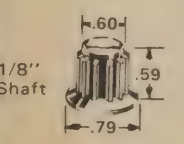
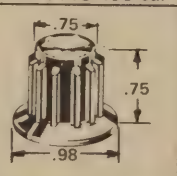
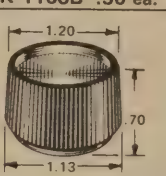
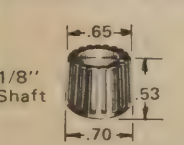
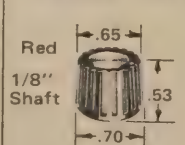
ALCO® ELECTRONIC PRODUCTS, INC.



CONTROL KNOBS

PLASTIC ALCOKNOBS WITH ALUMINUM INLAYS

DISCOUNT SCHEDULE
1–99, NET 100–249, LESS 10% 250–499, LESS 14% 500–999, LESS 20%

 PK-50B-1/8 .25 ea.	 PK-50B .25 ea.	 PK-70B .30 ea.	 PK-90B .35 ea.	 PKB-70B .35 ea.	 PKB-90B .40 ea.
 PKD-60B-1/8 .55 ea.	 PKD-60B .55 ea.	 PKD-70B .60 ea.	 PKD-100B .65 ea.	 PKS-1103B-10 .50	 PKS-1104B .45 ea.
 PKD-60B-10-1/8 .60	 PKD-60B-10 .60 ea.	 PKD-70B-10 .65 ea.	 PKD-100B-10 .70 ea.	 PKS-1106B .50 ea.	 PKS-1105B-10 .55
 PKE-1120B-1/8 .40	 PKE-1120B .40 ea.	 PKE-1119B .50 ea.	 PKE-1121B .85 pr.	 PKS-90B .50 ea.	 PKS-90B-10 .55 ea.
 PKES-1122B-1/8 .45	 PKES-1122B .45 ea.	 PKES-1118 .55 ea.	 PKES-1102B .65 ea.	 PK-1108B .50 ea.	 PKP-194B .65 ea.
 PKA-50B-1/8 .30 ea.	 PKA-50B .30 ea.	 PKA-70B .35 ea.	 PH-15-18 .25 ea.	 PH-14-17 .30 ea.	 PH-13-16 .35 ea.
 PK-1100B-1/8 .35	 PK-1100R-1/8 .35	 PK-1100B .35 ea.	PKP-1109B .60 ea.	PKC-1111B pr. .95 pr	PKC-1111BR pr. .95
PF-165 .30 ea.	PK-175 .60 ea.	PK-1102 .70 ea.	PP-128 .25 ea.	PR-127 .30 ea.	PSR-167-10 .55 ea.

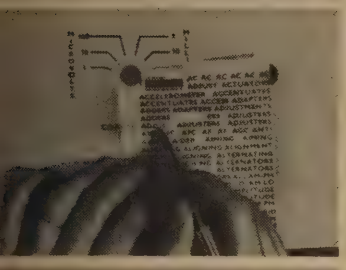
ALCOKNOB DIV. OF ALCO ELECTRONIC PRODUCTS, INC.

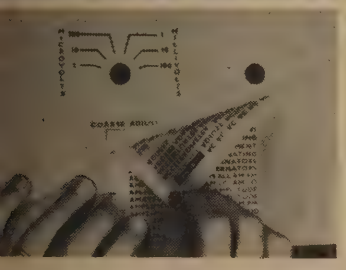
© United Technical Publications

instant lettering

THE REVOLUTIONARY METHOD FOR MARKING ELECTRONIC EQUIPMENT

JUST RUB and it's PRINTED!





Sharp • Clean • Fast

Not a Decal

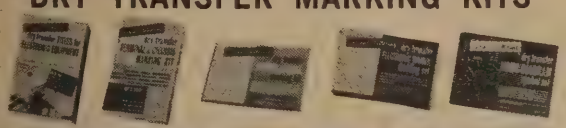
No Water • No Tapes

INSTANT LETTERING® marking kits bring you all the necessary elements for completely marking electronic equipment, prototypes, drawings, etc. in this fast new easy-to-use form. There's even a new drafting symbol kit for better more readable schematics.

Words, letters, numerals, switch patterns, arcs, drafting symbols, etc. are printed on a special transparent carrier film. Rubbing over one of these elements with a ballpoint pen releases it from the carrier film and adheres it to your working surface.

INSTANT LETTERING® words and symbols transfer to almost any surface including glass, plastic, even painted and bare metals. Now you can quickly mark all panels, even especially calibrated two-color nomenclatures, pilot light jewels, sub-assemblies, circuit boards, etc. Reproduction quality **INSTANT LETTERING®** transfers are clean and sharp, leave no background haze or film, make prototypes look like finished production equipment and give all equipment and drawings a professional look.

DRY TRANSFER MARKING KITS



TITLES for ELECTRONIC EQUIPMENT

NEW, REVISED; Now 20% more titles in a new easy-to-read typeface. Researched to give up to 95% of all electronic marking. For labeling, marking, titling all electronic control panels, drawings, prototypes, etc.

No. 9581—Complete Set (black).....**$5.95**
No. 9591—Complete Set (white).....**$5.95**
REFILL SETS—12 sheets per set
No. 9601—Alphabets (black) **$3.00**
No. 9611—Alphabets (white) **$3.00**
No. 9621—Numerals (black) **$3.00**
No. 9631—Numerals (white) **$3.00**

TERMINAL & CHASSIS MARKING KIT

All the necessary letters, letter combinations and numerals for marking chassis, printed circuit and terminal boards, rotating components, etc.

No. 966—Black **$5.95**
No. 967—White **$5.95**

DATAMARK KITS

Low cost dry transfer marking kits designed to provide useful preset words, symbols and alphabets for specific uses.

K58B—Audio, TV & HiFi (black) **$1.50**
K58W—Audio, TV & Hi-Fi (white).....**$1.50**
K59B—Amateur Radio & CB (black)...**$1.50**
K59W—Amateur Radio & CB (white)..**$1.50**
K60B—Experimenter, Home & Intercom (black) **$1.50**
K60W—Experimenter, Home & Intercom (white) **$1.50**
K61B—Test & Industrial Equipment (black) **$1.50**
K61W—Test & Industrial Equipment (white) **$1.50**
K62—Marks & Switch Patterns **$1.50**
K63—Alphabets & Numerals (⅛").....**$1.50**
K64—Alphabets & Numerals (¼").....**$1.50**
K65—Alphabets & Numerals (½").....**$1.50**

METER & DIAL MARKING KIT

Arcs, dial patterns, lines, wedges, graduation lines, switch symbols alphabets and numerals in black, white and red for marking standard and special rotary tap switches, potentiometers and prototype and specially calibrated meter dials. colors provide contrast on scales and switches, simplifying usage of complex instruments.

No. 968—Complete Set **$5.95**
REFILL SHEETS—set of four identical sheets
No. 968R—(specify sheet number)....**$2.00**

ELECTRONIC SYMBOL DRAFTING SET

The quick way to more readable schematics. Contains 40 sheets of electronic symbols plus letters and numerals. Symbols designed to conform with MIL-STD-15-1A. Sheets have heat resistant adhesive for perfect reproduction in any blue- or white-printer. Also included is a complete guide to drawing with dry transfer symbols.

No. 970—Complete Set **$19.15**
REFILL SHEETS—set of four identical sheets
No. 970R—(specify sheet number) ...**$2.00**

LOGIC DIAGRAM SYMBOL SET

NEW! The most modern and effective aid to drawing logic diagrams. Symbols transfer to your drawing in seconds. All you need do is add the connecting leads. Heat resistant adhesive allows perfect reproduction even in diazo and other high speed printers. Symbols conform fully to MIL-STD-806B and ASA-Y32.14.

No. 971—Complete Set **$4.20**
REFILL SHEETS—set of four identical sheets
No. 971R—(specify sheet number)... **$2.00**

PRINTED CIRCUITS

. . . the Dry Transfer Way!

etch resistant instant lettering

DATAMARK

PRINTED CIRCUIT KITS

. . . with Dry Transfer Etch Resist

Our tough dry transfer inks do double duty as etch resists in this new series of kits for making printed circuit boards. Use them to make breadboards, one-of-a-kind prototypes and to handle those small modifications that used to require artwork and photos.

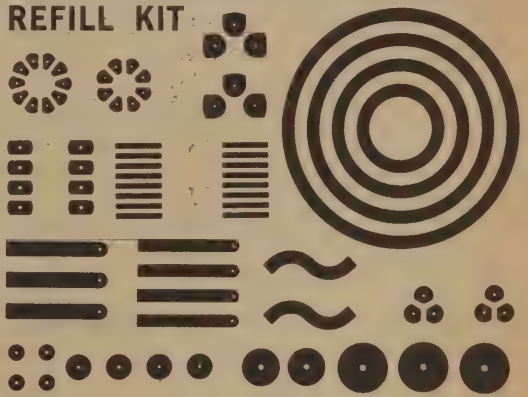
PRINTED CIRCUIT ETCH KIT

Designed with the experimenter and technician in mind, this set includes everything needed to begin etching precision circuit boards.
Contains:

- 4 copper clad phenolic boards
- 8 sheets of assorted etch resist patterns (see ER-2 for more complete description)
- 2 120 in. rolls of etch resist tape (one each in 1/16 in. and 1/32 in. widths.)
- 1/4 lb. concentrated etchant
- A combination storage box and etch tray

ER-1—Complete Set .....**$4.95** Each

DRY TRANSFER ETCH RESIST REFILL KIT



Contains 8 sheets of dry transfer etch resist patterns that include 1/16 in. lines, universal nesting circles, jogs, squeeze-throughs, universal flatpack and dual inline patterns, TO-99 (8 pin) and TO-100 (10 pin) microcircuits as well as TO-5 and plastic transistor pad patterns. Also included are two 120 in. rolls of etch resist tape (one each in 1/32 in. and 1/16 in. widths.) These transfers and tapes will withstand rapid-acting ferric chloride and many other fast-acting chemical etch systems.

ER-2—Etch Resist Refill Kit.....**$2.75** Each

DRY CONCENTRATED ETCHANT REFILL KIT

Concentrated ferric chloride type etchant in a handy vapor-tight ¼ lb. package.

ER-3—Concentrated Etchant Refill Kit .....**$.89 Each**

THE DATAK CORPORATION

It's easy

to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

Thank you!



DIALCO® INDICATOR LIGHTS

DIALIGHT CORPORATION
A NORTH AMERICAN PHILIPS COMPANY
MANUFACTURERS OF VISUAL INDICATORS

(Illustrations are approx. actual size.)

DATALITES® — Ultra-Miniature Indicator Lights

INCANDESCENT Datalites — For use on 1.35V - 28V Circuits

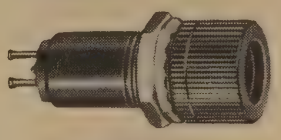


508-8738-504 w/507-3909-1471-600



250-8738-14-504 w/507-3909-1471-600

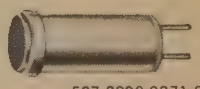
DATALAMP HOLDER



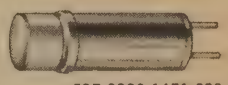
508-8738-504

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508–8738–504	250–8738–14–504

*To obtain Datalmp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 508–9038–504.



507-3909-0371-600



507-3909-1471-600

DATALAMP CARTRIDGES

CATALOG NOS. SHORT CYLINDRICAL+ LENS SHAPE *(TRANSLUCENT)	CATALOG NOS. FLAT + LENS SHAPE * (TRANSLUCENT)	VOLTS	MA.	C.P.**	LIFE HOURS
LONG LIFE—HIGH RELIABILITY					
507–3907–1471–600	507–3907–0371–600	6.3	40	.03	50,000
507–3909–1471–600	507–3909–0371–600	6.3	200	.40	50,000
507–3914–1471–600	507–3914–0371–600	14.0	80	.30	50,000
507–3918–1471–600	507–3918–0371–600	28.0	40	.30	25,000
STANDARD RATINGS					
507–3906–1471–600	507–3906–0371–600	6.0	200	.60	1,000
507–3913–1471–600	507–3913–0371–600	14.0	80	.50	750
507–3917–1471–600	507–3917–0371–600	28.0	40	.34	1,000

* If transparent lens is desired, change "7" in the catalog number to "3". Examples: 507–3909–1431–600; 507–3909–0331–600.

+ Other voltages available on request.

** C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.

Mount in 3/8" Clearance Hole

Incandescent **DATALITE** Indicator Lights consist of:

(1) **Datalamp Cartridges** — a plug-in, replaceable light source, with either short cylindrical or flat lens shape (see chart at right); accommodated by (2) **Datalamp Holders** — with or without collar (see chart above).

Standard Finish: Aluminum, black anodize finish. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from **-5** to **-6**. Example: 508-8738-**6**04.

LENS COLOR: See listing below.

NEON Datalites — For use on 105-125V AC-DC or 110-125V AC Circuits

Mount in 3/8" Clearance Hole

Neon Datalite Indicator Lights consist of: (1) **Datalamp Cartridges** — a plug-in, replaceable light source, with either stovepipe or long cylindrical lens shape — **with or without** built-in current limiting resistor (see recommended resistance values and appropriate code nos. below). (2) accommodated by **Datalamp Holders** of shorter length when cartridge **without** built-in resistor is used; by Datalamp Holders of longer length when cartridges **with** built-in resistor are used. See charts at right for available selections.

Standard Finish: Black anodize. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from **-5** to **-6**.

Example: 508-8745-**6**04.

LENS COLOR: The digit **before** the last dash in the catalog number indicates that the color of the Datalamp Cartridge is RED. When color other than red is desired, change this digit to a figure from the listing below.

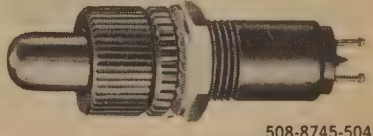
Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Translucent—5; Yellow—6; Clear (Colorless)—7.

Examples: 507-3901-1432-600 (green). 507-4538-1533-610 (yellow amber)

Note: **Blue** or **green** lens colors are not available for use with Neon light sources.

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508–8745–504	250–8745–14–504

*To obtain Datalamp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 508–9045–504.



508-8745-504 w/507-4538-0931-610

NEON DATALAMP CARTRIDGES		
LENS SHAPE	BUILT-IN RESISTOR HIGH BRIGHTNESS	BUILT-IN RESISTOR STANDARD BRIGHTNESS
Stovepipe	507–4538–0931–610	507–4537–0931–640
Long Cylindrical	507–4538–1531–610	507–4537–1531–640



250-8745-14-504 w/507-4538-0931-610

▲ NEON DATALAMP CARTRIDGES		
	WITHOUT BUILT-IN RESISTOR	
LENS SHAPE	HIGH BRIGHTNESS	STANDARD BRIGHTNESS
Stovepipe	507–3836–0931–600	507–3835–0931–600
Long Cylindrical	507–3836–1531–600	507–3835–1531–600

▲ These Datalamp Cartridges are accommodated by Datalamp Holders listed in table for Incandescent Datalites.



507-3836-0931-600 (without built-in resistor)

NEON LAMPS and RESISTOR VALUES					
		Bright Light		Long Life	
Neon Lamp	Volts Applied to Terminals	Resistor and Approx. Life		Resistor and Approx. Life	
Standard Brightness	105–125 AC or DC	56K	3000 hrs.	100K	15,000 hrs.
High Brightness	110–125 AC only	22K	5000 hrs.	33K	25,000 hrs.

Change 2nd digit in code no. suffix as follows: (56K)—640; (22K—610; (100K)—670; (33K)—630; Example: 507–4538–0931–630.



507-4538-1531-610 (with built-in resistor)

REQUEST CATALOG L-160

(Illustrations are approx. actual size.)

DATALITES® — Ultra-Miniature Indicator Lights with Data Caps

REQUEST CAT. L-160 — MOUNT IN 3/8" CLEARANCE HOLE — DIALCO®



250-8738-1471-504

INCANDESCENT

INCANDESCENT ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS		
▲ DATA CAP LENS COLOR	SHORT CYLINDRICAL FOR USE WITH HOT-STAMPED LEGENDS (TRANSLUCENT)	SHORT CYLINDRICAL WITH DIFFUSING RINGS (TRANSPARENT)
Red	250–8738–1471–504	250–8738–3331–504

■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90".
Example: 250–9038–1471–504.

DATALAMP CARTRIDGES

INCANDESCENT DATALAMP CARTRIDGES FOR USE IN DATA CAP ASSEMBLIES				
CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE TRANSPARENT–COLORLESS	VOLTS	MA.	C.P.*	LIFE HOURS
LONG LIFE—HIGH RELIABILITY				
507–3907–1437–600	6.3	40	.03	50,000
507–3909–1437–600	6.3	200	.40	50,000
507–3914–1437–600	14.0	80	.30	50,000
507–3918–1437–600	28.0	40	.30	25,000
STANDARD RATINGS				
507–3906–1437–600	6.0	200	.60	1,000
507–3913–1437–600	14.0	80	.50	750
507–3917–1437–600	28.0	40	.34	1,000

*C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.

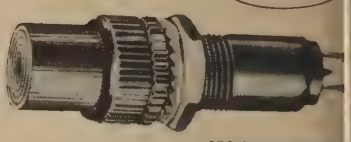
▲LENS COLOR:

To obtain Data Cap (or lens cap) with color other than red, change digit before last dash in catalog number (-1471-) to: Green-2; Amber-3; White Translucent-5; Clear Colorless-7.

Example: 250-8738-1473-504 (Amber)

Note: Blue and Green are not recommended for use with Neon Lamps.

NEON



250-8745-1631-504



250-8745-1531-504

FEATURES

A **DATALITE** Indicator consists of three parts: (a) the main body or **Datalamp Holder** which is adapted for permanent mounting on the panel; (b) the **Datalamp cartridge** which telescopes into the Datalamp Holder and makes electrical contact as the pins enter the receptacle in the holder; and (c) the screw-on **Data Cap.** The Data Cap secures the Datalamp and its lens controls the light emission.

NEON DATALAMP CARTRIDGES		
LAMP BRIGHTNESS	CARTRIDGES WITH BUILT-IN RESISTOR	CARTRIDGES WITH NO RESISTOR
HIGH	507–4538–0937–610	507–3836–0937–600
STANDARD	507–4537–0937–640	507–3835–0937–600

NEON ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS			
DATA CAP LENS SHAPE	▲ LENS COLOR	ACCOMMODATES CARTRIDGES WITH BUILT-IN RESISTOR	ACCOMMODATES CARTRIDGES WITH NO RESISTOR
Long Cylindrical Diffusing Rings	Red	250–8745–1631–504	250–8738–1631–504
Long Cylindrical W/O Diffusing Rings	Red	250–8745–1531–504	250–8738–1531–504

■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90". Example: 250–9038–3331–504.

▲ See LENS COLOR data at left.

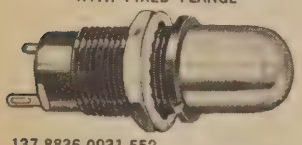
When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

Sub-Min. Indicator Lights for T-2 Bulb with midget flanged base — NEON

C7A (NE–2D)—Standard Brightness
C9A (NE–2J)—High Brightness

TWO TERMINALS — FULLY INSULATED . . . Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE



137-8836-0931-552

With Built-in Resistor

(A patented DIALCO feature— U.S. Pat No. 2,421,321)

Conform to MS25257

Accommodates a T-2 Neon Glow Lamp: C7A (NE-2D) (MS25252) for 105-125 Volts A.C. or D.C.; **for Catalog Numbers see below...C9A (NE-2J)** (High Brightness) for 110-125 Volts — A.C. only.

CATALOG NO. WITHOUT LAMP	MS NO. WITHOUT LAMP	MS NO. WITH LAMP MS25252- C7A (NE-2D)	LENS COLOR
137–8836–0933–552	MS25257–2	MS25257–1	Aviation Yellow
137–8836–0931–552	MS25257–4	MS25257–3	Identification Red
137–8836–0937–552	MS25257–6	MS25257–5	Clear (Colorless)

LIGHT SOURCE: TINY NEON GLOW LAMPS

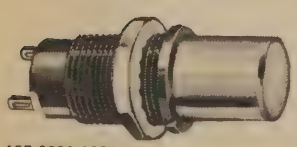


C7A (NE-2D) — Standard Brightness
C9A (NE-2J) — High Brightness

RECOMMENDED RESISTOR VALUES:	
FOR C7A (NE–2D) AT 105–125 VOLTS AC OR DC	
Bright Light	Long Life
■62,000 ohms	100,000 ohms
FOR C9A (NE–2J)–HIGH BRIGHTNESS–AT 110–125 VOLTS AC ONLY	
Bright Light	Long Life
■22,000 ohms	33,000 ohms

■ Standard values of patented built-in resistors; other values optional.

OPTIONAL FEATURES:



137-8836-1531-552

These assemblies are similar in every respect to the MS assemblies (137-8836-0931-552 Series) above, except that they offer **optional** features not covered by MS. Finishes: Standard—black anodize; **optional** — clear anodize. **Lamps — C7A (NE-2D)** (standard brightness) for 105-125 volts A.C. or D.C.; **C9A (NE-2J)** (high brightness) for 110-125 Volts — A.C. only.

LENS COLOR	COMPLETE ASSEMBLIES			
	ACCOMMODATE C7A (NE–2D) LAMP		ACCOMMODATE C9A (NE–2J) LAMP	
	STOVEPIPE	CYLINDRICAL	STOVEPIPE	CYLINDRICAL
Identification Red	137–8836–0931–552	137–8836–1531–552	137–8864–0931–512	137–8864–1531–512
Aviation Yellow	137–8836–0933–552	137–8836–1533–552	137–8864–0933–512	137–8864–1533–512
White	137–8836–0935–552	137–8836–1535–552	137–8864–0935–512	137–8864–1535–512
Light Yellow	137–8836–0936–552	137–8836–1536–552	137–8864–0936–512	137–8864–1536–512
Clear (Colorless)	137–8836–0937–552	137–8836–1537–552	137–8864–0937–512	137–8864–1537–512

WATER-TIGHT NEON INDICATOR LIGHTS with RETAINED O-RING SEALS

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE With Built-in Resistor



181-8836-0931-553

LENS COLOR	COMPLETE ASSEMBLIES		
	WITH BUILT-IN RESISTOR		WITHOUT BUILT-IN RESISTOR
	ACCOMMODATE C7A (NE–2D) LAMP	ACCOMMODATE C9A (NE–2J) LAMP	
Red	181–8836–0931–553	181–8864–0931–513	181–8536–0931–503
Yellow (Amber)	181–8836–0933–553	181–8864–0933–513	181–8536–0933–503
White (Translucent)	181–8836–0935–553	181–8864–0935–513	181–8536–0935–503
Light Yellow	181–8836–0936–553	181–8864–0936–513	181–8536–0936–503
Clear (Colorless)	181–8836–0937–553	181–8864–0937–513	181–8536–0937–503

LENS COLOR: See above left.

© United Technical Publications

DIALCO® INDICATOR LIGHTS

DIALIGHT CORPORATION
A NORTH AMERICAN PHILIPS COMPANY
MANUFACTURERS OF VISUAL INDICATORS

(Illustrations are approx. actual size.)

Sub-Miniature Indicator Lights for T-1¾ Bulbs

With Midget Flanged Base — INCANDESCENT

MOUNT IN 15/32" CLEARANCE HOLE FRONT OR BACK OF PANEL INSERTION WITH MOVABLE FLANGE



101-3830-0931-201

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE



140-8430-1471-201

TYPE MOUNTING	LENS SURFACE	CATALOG NUMBER STOVEPIPE LENS SHAPE	CATALOG NUMBER CYLINDRICAL LENS SHAPE
Front or Back Mtg. in 15/32" Clearance Hole	Transparent	101-3830-0931-201	140-3830-1431-201
	Translucent	101-3830-0971-201	140-3830-1471-201
Front Mtg. in 17/32" Clearance Hole	Transparent	101-5030-0931-201	140-5030-1431-201
	Translucent	101-5030-0971-201	140-5030-1471-201
Front Mtg. in 15/32" Clearance Hole	Transparent	101-8430-0931-201	140-8430-1431-201
	Translucent	101-8430-0971-201	140-8430-1471-201

MOUNT IN 15/32" CLEARANCE HOLE • FRONT OF PANEL INSERTION
WITH FIXED FLANGE • PER MIL-L-3661B



359-8430-0931-502

On 26 May 1969 Revision F canceled Drawing MS25256. This drawing has been superseded by part numbers listed in the table below.

NEW * DIALIGHT CATALOG NO. TO MIL-L-3661 DWG.	CONSISTING OF		LENS DESCRIPTION	
	LAMPHOLDER	LENS	FINISH	COLOR
359-8430-0933-502	LH73/1	LC12YN2	Non-diff.	Aviation Yellow
359-8430-0932-502	LH73/1	LC12GN2	Non-diff.	Identification Green
359-8430-0931-502	LH73/1	LC12RN2	Non-diff.	Identification Red
359-8430-0937-502	LH73/1	LC12CN2	Non-diff.	Colorless
359-8430-0975-502	LH73/1	LC12WT2	Translucent	Aviation White
359-8430-0934-502	LH73/1	LC12BN2	Non-diff.	Aviation Blue

To specify translucent stovepipe or cylindrical; or transparent cylindrical lens cap (not covered by MIL-L-3661B) write for Catalog L-178.

The new MIL-L-3661 number permits ordering either complete assembly or separate lampholder and lens cap.

* The lamp must be ordered separately.

Two Terminals — Fully Insulated

Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

RUGGED CONSTRUCTION

Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached. The use of phenolic material for military specification grade assures permanent isolation from ground. These assemblies are solidly made to withstand usual vibration and corrosion resistance tests.

Order Complete with Lamp. Specify Lamp Number.

MANUFACTURER'S RATINGS (Values given are approx.)

LAMP NO.	VOLTS	AMPERES	HOURS	CANDLE-POWER
▲331	1.35	.06	5,000	.006
▲338	2.7	.06	6,000	.04
▲375	3.0	.015	20,000	.004
*328	6.0	.20	1,000	.63
345	6.0	.04	1,000	.03
349	6.3	.20	5,000	.55
380	6.3	.04	20,000	.02
381	6.3	.20	20,000	.40
▲344	10.0	.014	25,000	.002
367x	10.0	.04	10,000	.08
330	14.0	.08	1,500	.50
382	14.0	.08	15,000	.30
370	18.0	.04	10,000	.15
*327	28.0	.04	4,000	34
**387	28.0	.04	7,000	30

▲ These lamps **only** are for use with transparent lens caps **without** legends.

*Conforms to MS25237. **MS18209 (BuShips)

WATER-TIGHT ASSEMBLIES

Water-tight construction: These Sub-Miniature Lights are completely water-tight on the face of the panel. Water-tightness is achieved by means of **retained O-ring seals.** One **O-ring** is retained within the back of the lens cap, the other behind the flange on the mounting bushing.

MOUNT IN 15/32" CLEARANCE HOLE. FRONT OF PANEL INSERTION WITH FIXED FLANGE



177-8430-0931-503

WATER-TIGHT DIMMERS

On the Dimmer type assembly, a third **O-ring** is mounted within the dimmer cap — so positioned as to assure absolutely no leakage through the dimmer slot. For data, request Catalog L-178.

LENS COLOR	COMPLETE ASSEMBLIES	
	TRANSPARENT COLORS	TRANSLUCENT COLORS
Red	177-8430-0931-503	177-8430-0971-503
Green	177-8430-0932-503	177-8430-0972-503
Yellow (Amber)	177-8430-0933-503	177-8430-0973-503
Blue	177-8430-0934-503	177-8430-0974-503
White (Translucent)	177-8430-0935-503	177-8430-0975-503
Light Yellow	177-8430-0936-503	177-8430-0976-503
Clear (Colorless)	177-8430-0937-503	———

LENS COLOR: The figure before the last dash in the catalog number indicates that the lens is RED. When a color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

RED—1 . . . Green—2 . . . Yellow (Amber)—3 . . . Blue—4 . . .
White Translucent—5 . . . Light Yellow—6 . . . Clear (Colorless)—7.

Example: 101-3830-0932-201 (Green)

Use 1/2" or 3/4" Round or Square Friction-Fit Plastic Lens Caps

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE



183-9730-1471-602

The lens cap is effectively lighted by T-1¾ bulb with midget flanged base, which extends completely into the luminous portion. Fine solid color effects are obtained. The two-part construction permits opaque sides with lighted colored faces.

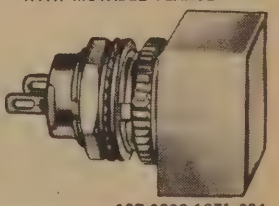
Lens caps may be rotated, permitting legends or cap edges to be easily brought into alignment after installation of the assembly; or they may be keyed, thus permitting them to be pushed into place only in a **predetermined** position.

Unique anti-rotation (locked) construction provides for secure keyed mounting of mounting bushing on panels.

LENS FACE COLOR: See listing — LENS COLOR — above. See lamp listing and range of voltages above.

To obtain ½" caps with non-rotatable feature, change catalog number prefix from: 183 to **186**; 185 to **184**; ¾" caps with rotatable feature: 188 to **191**; 187 to **190**.

MOUNT IN ½" CLEARANCE HOLE FRONT OR BACK OF PANEL INSERTION WITH MOVABLE FLANGE



187-9830-1871-604

WITH 1/2" FRICTION FIT LENS CAP - ROTATABLE

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	183-9730-1471-602	183-9830-1471-604
	Square	185-9730-1871-602	185-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	183-9730-5071-602	183-9830-5071-604
	Square	185-9730-5071-602	185-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	183-9730-5171-602	183-9830-5171-604
	Square	185-9730-5171-602	185-9830-5171-604

WITH 3/4" FRICTION FIT LENS CAP - KEYED (NON-ROTATABLE)

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	188-9730-1471-602	188-9830-1471-604
	Square	187-9730-1871-602	187-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	188-9730-5071-602	188-9830-5071-604
	Square	187-9730-5071-602	187-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	188-9730-5171-602	188-9830-5171-604
	Square	187-9730-5171-602	187-9830-5171-604



Sub-Sub-Miniatures

Series 252-9951-0971

Conforms to Drawing MS25446 2-7 . . . Requires only .193" Panel Mounting Clearance Hole . . . For complete data, refer to Catalog L-168.

Translucent Lens Cap Color	DIALCO Catalog No.	Military Number
Blue	252-9951-0974	MS25446-2
Green	252-9951-0972	MS25446-3
Red	252-9951-0971	MS25446-4

Translucent Color Lens Cap	Catalog No. DIALCO	Number Military
White	252-9951-0975	MS25446-5
Yellow (Amber)	252-9951-0973	MS25446-6
Clear (Transparent)	252-9951-0937	MS25446-7

© United Technical Publications

DIALCO® INDICATOR LIGHTS

DIALIGHT CORPORATION
A NORTH AMERICAN PHILIPS COMPANY
MANUFACTURERS OF VISUAL INDICATORS

(Illustrations are approx. 75% actual size.)
For details, refer to Catalog L-161.

ASSEMBLIES For T-3-1/4 BULB with MIN. BAYONET BASE - INCANDESCENT - 2 to 55 V and T-3 Bulb with Min. Bayonet Base for 120V.

Mount in 11/16" Clearance Hole — *For Front Panel Insertion*

LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
STOVEPIPE	Transparent	95-1310-0931-301	95-0410-0931-301	95-5710-0931-301
	Translucent	95-1310-0971-301	95-0410-0971-301	95-5710-0971-301
STOVEPIPE	Internal Fluting	52-1310-0991-301	52-0410-0991-301	52-5710-0991-301
CYLINDRICAL▲	Transparent	135-1310-1431-301	135-0410-1431-301	135-5710-1431-301
CONVEX *	Unfrosted	81-1310-0131-301	81-0410-0131-301	81-5710-0131-301
	Back Frosted	81-1310-0111-301	81-0410-0111-301	81-5710-0111-301
FLAT *	Back Frosted	81-1310-0211-301	81-0410-0211-301	81-5710-0211-301
	Unfrosted	81-1310-0231-301	81-0410-0231-301	81-5710-0231-301
FLAT▲	Translucent	■81-1310-0351-301	■81-0410-0351-301	■81-5710-0351-301
	Transparent	81-1310-0331-301	81-0410-0331-301	81-5710-0331-301
STOVEPIPE *	Transparent	169-1310-1131-301	169-0410-1131-301	169-5710-1131-301
	Internal Fluting	169-1310-1191-301	169-0410-1191-301	169-5710-1191-301

Recognized under the component program of Underwriters' Laboratories Inc.
75W., 125V


120 MB—(3W.) T-3 Bulb with Miniature Bayonet Base—Incandescent for 120 Volts.


T-3-1/4 Bulb with Miniature Bayonet Base—Incandescent 2 to 55V.

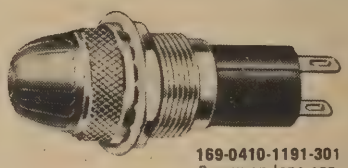
* These assemblies should be specified when lamps **rated over 2 watts** are used.

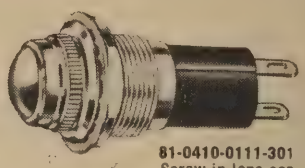
■ Specify **translucent** colors as follows: Red — 0351; Green — 0352; Yellow (Amber) — 0373; Blue — 0374; Light Yellow — 0376. Example: 81-1310-**0374**-301.

▲ **LEGENDS:** Hot-stamped or engraved letters, number or symbols can be supplied **only** on these lenses.

LENS COLOR: The **final figure before the last dash** in the above numbers indicates that the lens has RED color. When color other red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. Red — 1; Green — 2; Yellow Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

NOTE: Blue and green not recommended for use with Neon lamps.


169-0410-1191-301
Screw-on lens cap


81-0410-0111-301
Screw-in lens cap

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

MOUNT IN 11/16" CLEARANCE HOLE from FRONT OF PANEL

ASSEMBLIES with BUILT-IN RESISTORS (U. S. Patent No. 2,421,321)

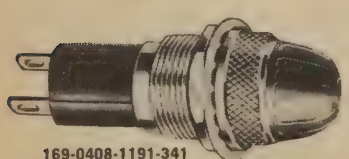
For T-3-1/4 BULB with MIN. BAYONET BASE - NEON

For operation on 105-125V AC-DC . . . 110-125V AC . . . 210-250V AC-DC


B1A (NE-51)
B2A (NE-51H)
(High Bright.)

Recognized under the component program of Underwriters' Laboratories Inc.
75W., 125V
75W., 250V


95-0408-0931-341
Screw-in lens cap


169-0408-1191-341
Screw-on lens cap


135-0408-1431-341
Screw-in lens cap

BUILT-IN RESISTOR VALUES (in ohms) for NEON GLOW LAMPS

B2A (NE-51H)—High Brightness			B1A (NE-51)—Standard Brightness	
Circuit volts applied to terminals	110-125 AC	210-250 AC-DC	Circuit volts applied to terminals	105-125 AC-DC
BRIGHT LIGHT	■ 22,000	68,000	BRIGHT LIGHT	■ 56,000
LONG LAMP LIFE	33,000	100,000	LONG LAMP LIFE	100,000

■ **Standard values of patented built-in resistors.**

LENS HOLDER AND PLASTIC LENS STYLE	LENS FINISH	FOR B2A (NE-51H)—110-125V. AC		FOR B1A (NE-51)—105-125V. AC-DC	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE (Screw-in)	Internal Fluting	52-1363-0991-311	52-0463-0991-311	52-1308-0991-341	52-0408-0991-341
CYLINDRICAL (Screw-in)	Transparent	135-1363-1431-311	135-0463-1431-311	135-1308-1431-341	135-0408-1431-341
FLAT (Screw-in)	Transparent	81-1363-0331-311	81-0463-0331-311	81-1308-0331-341	81-0408-0331-341
STOVEPIPE (Screw-in)	Transparent	95-1363-0931-311	95-0463-0931-311	95-1308-0931-341	95-0408-0931-341
STOVEPIPE (Screw-on)	Internal Fluting +	169-1363-1191-311	169-0463-1191-311	169-1308-1191-341	169-0408-1191-341
	Transparent +	169-1363-1131-311	169-0463-1131-311	169-1308-1131-341	169-0408-1131-341

+ To specify white translucent color, change so much of the catalog number that reads **-1231-** to **-0835-**; from **-1131-** to **-0935-**; from **-1191-** to **-0995-**. Example: 169-1363-**0935**-311.

HOW TO DESIGNATE THE THREE DIGIT CATALOG NUMBER SUFFIX (-XXX)

FINISH	RESISTOR	HARDWARE
-1 white nickel	1 - 22K	1 - brass
-2 black nickel	3 - 33K	3 - water-tight
-3 polished chrome	4 - 56K	on the face
-4 satin chrome	6 - 68K	of the panel.
	7 - 100K	

WATER-TIGHT CONSTRUCTION: The assemblies on this page may be made **water-tight** on the face of the panel. To specify, change the last digit in the catalog number suffix to **3**. Example: 95-1308-0931-**343**.

NOTE: The part numbers given in this catalog indicate **standard** indicator lights. The table at left provides the standard and optional designations for **Finish, Resistor** and **Hardware** where appropriate. Example: 52-1308-1231-**273** (black nickel finish, 100K resistor, water-tight construction). **LENS COLOR:** See listing above.

© United Technical Publications

(Illustrations are approx. 75% actual size.)

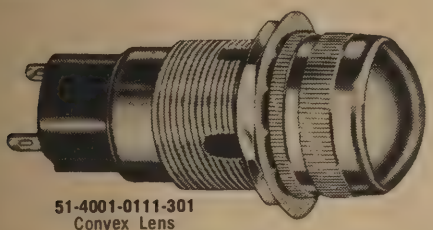
ASSEMBLIES for INCANDESCENT LAMPS

DIALCO®

with Candelabra Screw Base

Mount in 1" Clearance Hole • Range of Voltage 6 to 145V • Refer to Cat. L-161

Recognized under the component program of Underwriters' Laboratories Inc.
75W., 125V



51-4001-0111-301
Convex Lens

Standard Finish — Polished Chrome. To specify **optional finish** change the **first digit** of the catlog number suffix to -2 (black nickel finish) or -4 (satin chrome finish). Example: 51-0901-0231-201.

LENS COLORS: See listing on facing page.

Accommodate S-6 Bulb with Candelabra Screw Base

Similar assemblies are available to accommodate S-6 Bulb with Double Contact Bayonet Base.

LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS (SIDE POSITION)	CATALOG NO. WITH SCREW TERMINALS (PROTRUDING)	CATALOG NO. WITH SOLDER TERMINALS
CONVEX	Unfrosted	51-0901-0131-301	51-3101-0131-301	51-4001-0131-301
	Back Frosted	51-0901-0111-301	51-3101-0111-301	51-4001-0111-301
FLAT	Unfrosted	51-0901-0231-301	51-3101-0231-301	51-4001-0231-301
	Back Frosted	51-0901-0211-301	51-3101-0211-301	51-4001-0211-301
TORPEDO	Unfrosted	80-0901-0531-301	80-3101-0531-301	80-4001-0531-301
	Back Frosted	80-0901-0511-301	80-3101-0511-301	80-4001-0511-301
DOME	Unfrosted	80-0901-1231-301	80-3101-1231-301	80-4001-1231-301
	Back Frosted	80-0901-1211-301	80-3101-1211-301	80-4001-1211-301
TORPEDO FACETED	Unfrosted	80-0901-1331-301	80-3101-1331-301	80-4001-1331-301
FACETED	Unfrosted	51-0901-0431-301	51-3101-0431-301	51-4001-0431-301

• The assemblies in this chart have **screw-on** cap. For similar assemblies with **friction-fit** cap, change catalog number prefix to **31-**.

Example: 31-0901-0131-301.

Assemblies for Incandescent Lamps (**S6 Bulb** with **Candelabra Screw Base**)

LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals in protruding position	CATALOG NO. with SCREW terminals in side position	CATALOG NO. with SOLDERING terminals
FLAT	back frosted	104-3101-0211-403	104-901-0211-403	104-4001-0211-403
TORPEDO	unfrosted	103-3101-0531-403	103-901-0531-403	103-4001-0531-403
	back frosted	103-3101-0511-403	103-901-0511-403	103-4001-0511-403
TORPEDO FACETED	unfrosted	103-3101-1331-403	103-901-1331-403	103-4001-1331-403
DOME	unfrosted	103-3101-1231-403	103-901-1231-403	103-4001-1231-403
	back frosted	103-3101-1211-403	103-901-1211-403	103-4001-1211-403

Recognized under the component program of Underwriters' Laboratories Inc.
75W., 125V

Assemblies for Incandescent Lamps (**S6 Bulb** with **Double Contact Bayonet Base**)

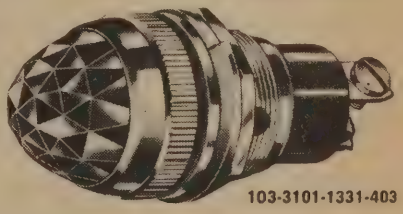
LENS TYPE	LENS SURFACE	CATALOG NO. with MOVABLE SCREW terminals	CATALOG NO. with FIXED SCREW terminals	CATALOG NO. with MOVABLE SOLDER. terminals	CATALOG NO. with FIXED SOLDER. terminals
FLAT	back frosted	104-3502-0211-403	104-3202-0211-403	104-3602-0211-403	104-3402-0211-403
TORPEDO	unfrosted	103-3502-0531-403	103-3202-0531-403	103-3602-0531-403	103-3402-0531-403
	back frosted	103-3502-0511-403	103-3202-0511-403	103-3602-0511-403	103-3402-0511-403
TORPEDO FACETED	unfrosted	103-3502-1331-403	103-3202-1331-403	103-3602-1331-403	103-3402-1331-403
DOME	unfrosted	103-3502-1231-403	103-3202-1231-403	103-3602-1231-403	103-3402-1231-403
	back frosted	103-3502-1211-403	103-3202-1211-403	103-3602-1211-403	103-3402-1211-403

OIL-TIGHT INDICATOR LIGHTS

OIL-TIGHT • WATER-TIGHT • DUST-TIGHT
MOUNT IN 1" CLEARANCE HOLE
With Retained "O" Ring Seal Construction

Rugged, designed for severe vibration conditions. 3 types of Incandescent Lamps may be used: S-6 with Candelabra Screw Base or with Double Contact Bayonet Base; or C-7 bulb with Double Contact Bayonet Base. The latter is designed to withstand severe vibration and shock. Consult factory for data on latter.

Assemblies feature: 3 retained oil-proof elastometer seals (1 gasket and 2 "O" rings); high impact phenolic insulation.



103-3101-1331-403

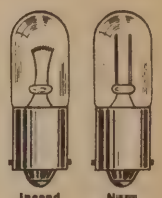
ASSEMBLIES for T-3¼ BULB with MIN. BAYONET BASE
INCANDESCENT or NEON
MOUNT IN 11/16" CLEARANCE HOLE

Dome Lens



123-5710-1231-403

In these Oil-Tight Indicator Lights, a high degree of resistance to shock and vibration is achieved by the use of the rugged *Neon* lamps on 120 and 240 V; and by choosing low voltage *Incandescent* lamps with short filaments, such as No. 44 or No. 1866 for circuits powered by transformers stepping down to 6.3 V.



Incand. — Neon B1A (NE-51) B2A (NE-51H) (High Bright.)

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

Assemblies for the **T-3¼ BULB with Miniature Bayonet Base—INCANDESCENT**

LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals	CATALOG NO. with SOLDER terminals	CATALOG NO. with QUICK CONNECT terminals
DOME	unfrosted	123-1310-1231-403	123-0410-1231-403	123-5710-1231-403
	back frosted	123-1310-1211-403	123-0410-1211-403	123-5710-1211-403
STOVEPIPE	unfrosted	125-1310-1131-403	125-0410-1131-403	125-5710-1131-403
	back frosted	125-1310-1111-403	125-0410-1111-403	125-5710-1111-403
	inside fluted	125-1310-1191-403	125-0410-1191-403	125-5710-1191-403

		ASSEMBLIES FOR USE WITH B2A (NE-51H) NEON GLOW LAMP		
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals (210-250V. AC-DC)	CATALOG NO. with SOLDER terminals (210-250V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (210-250V. AC-DC)
DOME	unfrosted	123-9363-1231-463	123-9463-1231-463	123-5863-1231-463
STOVEPIPE	unfrosted	125-9363-1131-463	125-9463-1131-463	125-5863-1131-463
	inside fluted	125-9363-1191-463	125-9463-1191-463	125-5863-1191-463

Exclusive Features: Assemblies for use with B1A(NE51) Neon Glow Lamps have "built-in" resistors — an exclusive Dialco feature (U.S. Pat. No. 2,421,321). **Options include:** binding screw, soldering or quick connect terminals. 7 lens colors are available; see facing page to specify lens color.

OPTIONAL FINISHES

The part numbers given indicate **standard** satin chrome finish. To specify optional finish, change the first digit in the catalog number suffix to **-2** black nickel finish; or **-3** polished chrome finish. Examples: 103-3502-1231-203; 125-9363-1191-363.

Stovepipe —fluted



125-1310-1191-403

Stovepipe —plain



125-0410-1131-403

		ASSEMBLIES FOR USE WITH B2A (NE-51H) NEON GLOW LAMP			ASSEMBLIES FOR USE WITH B1A (NE-51) NEON GLOW LAMP		
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals (110-125V. AC)	CATALOG NO. with SOLDER terminals (110-125V. AC)	CATALOG NO. with QUICK CONNECT terminals (110-125V. AC)	CATALOG NO. with SCREW terminals (105-125V. AC-DC)	CATALOG NO. with SOLDER terminals (105-125V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (105-125V. AC-DC)
DOME	unfrosted	123-1363-1231-413	123-0463-1231-413	123-5763-1231-413	123-1308-1231-443	123-0408-1231-443	123-5708-1231-443
STOVEPIPE	unfrosted	125-1363-1131-413	125-0463-1131-413	125-5763-1131-413	125-1308-1131-443	125-0408-1131-443	125-5708-1131-443
	inside fluted	125-1363-1191-413	125-0463-1191-413	125-5763-1191-413	125-1308-1191-443	125-0408-1191-443	125-5708-1191-443

Off-the-Shelf guide to pilot lights, switches, voltage testers

Pilot Lights TO ENHANCE YOUR APPLICATION

• Improve any product's appearance • Complement and highlight design • Invite attention • Rugged and long lived • Tamper proof housings • Mount quickly, securely • UL recognized, CSA approved (125V and 250V models).

GLO-DOT MINIATURE NEON PILOT LIGHTS

Lens Color	Stock Models Available		
Red	B2110A1	B2120A1	B2150A1
Clear	B2110A2	—	—
Amber	B2110A3	B2120A3	B2150A3
White	B2110A4	B2120A4	B2150A4

Mounting Hole: 5/16" diameter. Voltage: 105-125 VAC

GLO-DOT SERIES B2990P One-piece lens-body 6, 12 and 28 volt Incandescent pilot lights with plug bezel and low profile lens.

Lens Color	Stock Models Available 6 volt part #	12 volt part #	28 volt part #
Red	B2990P1-6V	B2990P1-12V	B2990P1-28V
Amber	B2990P3-6V	B2990P3-12V	B2990P3-28V
White	B2990P4-6V	B2990P4-12V	B2990P4-28V
Green	B2990P5-6V	B2990P5-12V	B2990P5-28V
Blue	B2990P6-6V	B2990P6-12V	B2990P6-28V
Yellow	B2990P7-6V	B2990P7-12V	B2990P7-28V

Mounting hole: ½" diameter in 1/32 to 3/32" thick panels.

GLO-DOT SERIES B2990D One-piece lens-body 6, 12 and 28 volt incandescent pilot lights.

Lens Color	Stock Models Available 6 volt part #	12 volt part #	28 volt part #
Red	B2990D1-6V	B2990D1-12V	B2990D1-28V
Amber	B2990D3-6V	B2990D3-12V	B2990D3-28V
White	B2990D4-6V	B2990D4-12V	B2990D4-28V
Green	B2990D5-6V	B2990D5-12V	B2990D5-28V
Blue	B2990D6-6V	B2990D6-12V	B2990D6-28V
Yellow	B2990D7-6V	B2990D7-12V	B2990D7-28V

Mounting hole: 5/16" diameter.

SOLID STATE GLO-DOT B2190L SERIES 100,000 hour life. Ideal for solid state and battery operations—low power, low voltage. Built-in rectifier diode, use on AC or DC. Highly reliable, shock and vibration resistant. Mounting hole 5/16" dia.

Lens Color	Stock Models Available 6 volt part #	12 volt part #	28 volt part #
Red	B2190L1-6V	B2190L1-12V	B2190L1-28V



B2110A B2120A B2150A B2990D

B2990P B2190L B2330D

OMNI-GLOW Versatile general purpose neon and incandescent pilot lights. Mounting hole: ½" diameter.

Lens Color	SERIES B1050 Stock Models Available (105-125 VAC.)		
Red	B1050A1	B1050C1	B1050N1
Clear	B1050A2	—	—
Amber	B1050A3	B1050C3	B1050N3
White	B1050A4	B1050C4	B1050N4

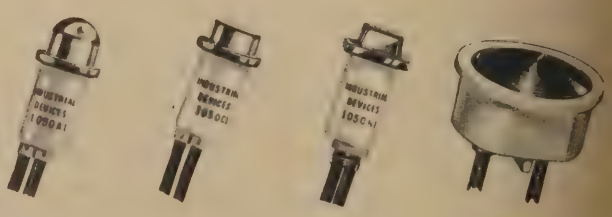
Lens Color	SERIES B1090, B1051 Stock Models Available 6 volt part #	12 volt part #	28 volt part #	250V part #
Red	B1090A1-6V	B1090A1-12V	B1090A1-28V	B1051A1
Clear	—	—	—	B1051A2
Amber	B1090A3-6V	B1090A3-12V	B1090A3-28V	B1051A3
White	B1090A4-6V	B1090A4-12V	B1090A4-28V	B1051A4
Green	B1090A5-6V	B1090A5-12V	B1090A5-28V	—
Blue	B1090A6-6V	B1090A6-12V	B1090A6-28V	—

OMNI-GLOW SERIES B2600 Versatile general purpose neon pilot lights. Mounting hole: ⅞" diameter. Voltage: 105-125 VAC.

Lens Color	SERIES B2620K Stock Models Available
Red	B2620K1
Amber	B2620K3
White	B2620K4

LINE-O-LITE Will snap-fit into panels .055-.070" thick without speednut, other thickness with speednut. Mounting hole:1 9/32"x .395/.400". Voltage: 105-125 VAC.

Lens Color	SERIES B2330D Stock Models Available
Red	B2330D1
Amber	B2330D3
White	B2330D4



B1050A B1051A B1090A B1050C B1050N B2620K

SPECIFICATIONS COMMON TO ALL STOCK MODELS
Leads: 4½" plastic stripped ½". Speednut: Hardened spring steel, rust-resistant finish (except B2990P series).

© United Technical Publications

Mini-Slide Pilot Light Assemblies

Bright, highly visible ■ Long-lived—rated 5000 hours ■ Available mplete with lamps from 6 to 120 volts ■ Variety of colors ■ Utilize niature slide base incandescent lamps ■ Foolproof installation ■ UL cognized, CSA approved

PECIFICATIONS: Model B2800 Series Mounting nut: Nylon, self-lock-g, torque limiting (U.S. Patent 3352194). Mounting Hole: 11/16" Diam-er. Lens: Molded polycarbonate screw in (for easy relamping).

odel B3060 Series Mounting nut: Speednut, hardened spring steel, rust sistant finish. Mounting Hole: ½" Diameter. Lens: Molded polycarbon-e snap-on for easy front panel relamping.



BLACK BEZEL | STAINLESS BEZEL | ROUND LENS | SQUARE LENS

Model B2800 Series

Lens Color	Black Bezel	Stainless Bezel
Red	B2800A1 * v	B2801A1 * v
Clear	B2800A2 * v	B2801A2 * v
Amber	B2800A3 * v	B2801A3 * v
White	B2800A4 * v	B2801A4 * v
Green	B2800A5 * v	B2801A5 * v
Blue	B2800A6 * v	B2801A6 * v
Yellow	B2800A7 * v	B2801A7 * v

Model B3060 Series

Lens Color	Round Lens	Square Lens
Red	B3060C1 * v	B3060D1 * v
Clear	B3060C2 * v	B3060D2 * v
Amber	B3060C3 * v	B3060D3 * v
White	B3060C4 * v	B3060D4 * v
Green	B3060C5 * v	B3060D5 * v
Blue	B3060C6 * v	B3060D6 * v
Yellow	B3060C7 * v	B3060D7 * v

*Important—These units shipped complete with lamp, specify voltage when ordering. See lamps listing below.

Short Slide Base Pilot Lamps"

OR USE WITH MINI-SLIDE

Complete line ■ Rugged-long life

Miniature up to 120 volts ratings to 3 watts

Design Volts	Lamp Number	Design AMPS	Approx. Hrs. Life	Wattage at Design Volts	Rated End Foot Candles
6	6 PSB	.140	5,000	.8	800
12	12 PSB	.170	5,000	2.0	2400
24	24 PSB	.073	5,000	1.7	2200
28	28 PSB	.040	5,000	1.1	1900
48	48 PSB	.053	5,000	2.5	1500
60	60 PSB	.050	5,000	3.0	2400
120	120 PSB	.025	5,000	3.0	1600

witches

UMA SWITCH—PUSH BUTTON SWITCHES Versatile, new lighted on-off ush button control. SPST alternate action push-on, push-off. Lamp: igh brightness neon with built in resistor. Rated at 10 amps, 125 VAC.

ounting hole—½" diameter.



Lens Color	Square Lens	Round Lens
Red	B3300A1	B3300B1
Clear	B3300A2	B3300B2
Amber	B3300A3	B3300B3
White	B3300A4	B3300B4

oltage Testers

Rugged, long-lasting. Completely eliminates conventional (and delicate) meter movements—test lamps ruggedized for toolbox use.



NI-VOLT VOLTMETER Model #B400B
buseproof" voltmeter, sufficiently accurate to licate a 2 or 3 volt drop on 110 volt line. tually burnout proof, unit has wide olication for all equipment whose proper eration requires correct voltage.



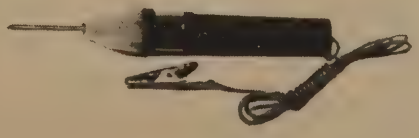
LINE-VOLT TEST LITE Model #B1310
A rugged, compact test light covering the wide range of 55-550 VAC or 90-600 VDC.



HI-VOLT VOLTMETER Model # 500
Covers range from 1,600 to 15,000 volts AC.



VOLT TEST LITE Model #B1300
ompact test light for ready use in many lications.



MINI-TEST Continuity Tester Model #B1330
A rugged, hard working tool perfect for hobbyist and professional service man alike.

INDUSTRIAL DEVICES INC.

Now available from shelf stock...

Over 300 IEE subminiature lamps that cost less and last longer

Now you need only contact your local distributor for any of IEE's extensive selection of subminiature lamps.

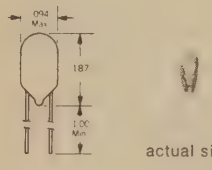
IEE's exclusive hand-mounted Swiss tungsten filaments aged at rated voltage from 24 to 36 hours for filament stabilization and to eliminate random burnouts are the best assurance any lamp manufacturer offers that the lamps you buy will meet or exceed specified life. And, they'll do it with uniform light qualities throughout that life. Every IEE lamp is selected by photometric light meter measurement for accurate MSCP also, so you never worry about whether the lamp in the box will do what it says on the box.

For these performance assurances you pay no premium price, in fact IEE lamp prices are *far below* unaged, non-selected, machine-made lamps.

That's why demand for IEE subminiature lamps is mounting daily. That's why your local distributor now stocks IEE subminiature lamps.

T¾ Lamps

Ideally suited where space is critical. A low cost lamp with up to 100,000 hours life.

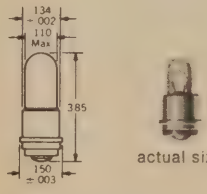


actual size

WIRE TERMINALS

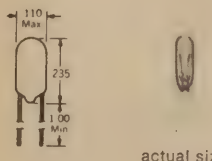
T7/8 Lamps

"All new" size lamp developed by IEE to provide T-1 specifications in reduced space, at an economical price.



actual size

SUB-MIDGET FLANGE

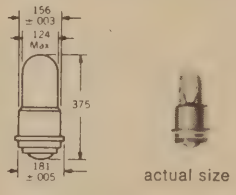


actual size

WIRE TERMINALS

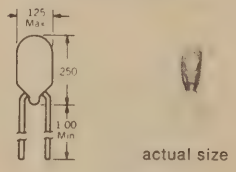
T1 Lamps

Multitude of based and unbased lamps with a variety of dimensions and electrical specifications.



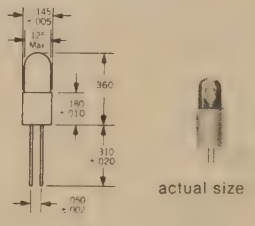
actual size

SUB-MIDGET FLANGE



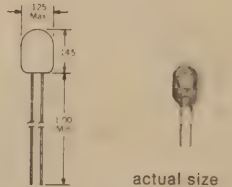
actual size

WIRE TERMINALS



actual size

BI-PIN

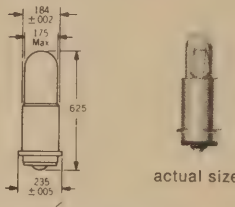


actual size

SHORTIE

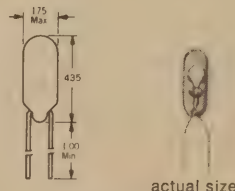
T1¼ Lamps

Multiple brightness ranges in both based and unbased types with average life up to 100,000 hours.



actual size

SUB-MIDGET FLANGE

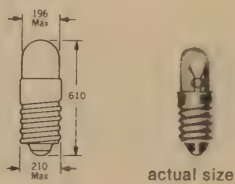


actual size

WIRE TERMINALS

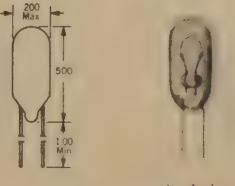
T1½ Lamps

Developed by IEE to provide commercial users with a quality lamp at considerably reduced price.



actual size

SPECIAL SCREW

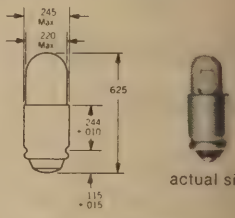


actual size

WIRE TERMINALS

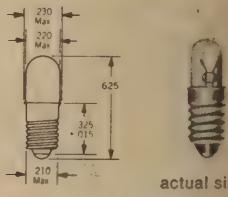
T1¾ Lamps

Extensive selection of general purpose, low cost lamps with 3-5 times industry standard life.



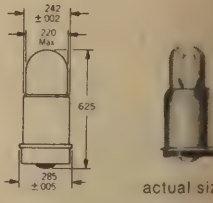
actual size

MIDGET GROOVE



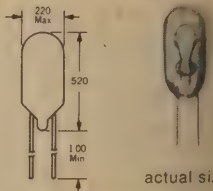
actual size

MIDGET SCREW



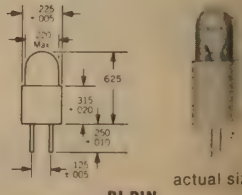
actual size

SUB-MIDGET FLANGE



actual size

WIRE TERMINALS



actual size

BI-PIN

SPECIAL LAMPS

IEE welcomes inquiries on "Special Lamps" required for unique applications. Contact the local representative or distributor in your area.



© United Technical Publications

Leecraft MANUFACTURING CO., INC.

WRITE FOR PRODUCT LIGHTING GUIDE. PROTOTYPE SAMPLES AVAILABLE ON REQUEST.

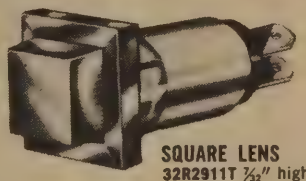
INDICATOR LIGHTS

SNAPLITE INDICATOR LIGHTS

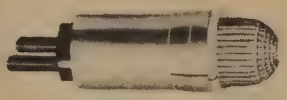
With long-life lamps, high brightness types. Built-in resistors — when neon lamps — to suit applied circuit voltage, provide required lamp life, eliminating replacement need. Features: Snap into place in ½" hole with no additional hardware. Wide variety of lens and housing colors. Tab or solder terminals; or wire leads. AVAILABLE WITH CHROME RINGS. To specify Chrome Rings add R after 1st 2 Digits, i.e., 32-2111 becomes 32R2111.



FLAT CYLINDRICAL LENS
32-2111 3/16" high



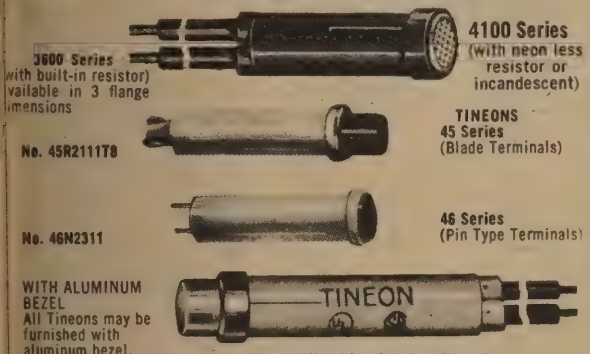
SQUARE LENS
32R2911T 7/32" high



DOME LENS
32-2211 13/32" high

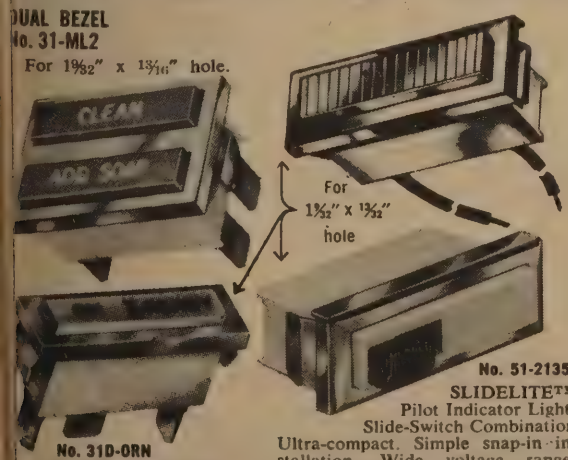
TINEON INDICATOR LIGHTS

Long Life, High Brightness Lamps — Press fit into 5/16" hole — For neon types rated 110-250V — Nylon housing in colors (white standard) — Speed nut furnished — Plastic lens in colors — Legends — Built-in Resistor — Insulated Leads.
All Tineons are available with Incandescent Lamp.



RECTANGULAR INDICATOR LIGHTS

Long Life High Brightness Neon Lamps — Snap into panel securely without additional hardware — Choice of lens colors — Series 3100 has chrome bezel and plastic lens — Series 47 has one-piece plastic lens and body — Complete range of voltages — UL and CSA listed.



Barrier separates light into two separate message areas. Individual or simultaneous operation.

Ultra-compact. Simple snap-in installation. Wide voltage range, choice of lights. May be message stamped. Lens colors: red, amber, clear, white, blue, green, others on request. Leads or terminals. 1 25/64"x 15/32"x 25/32". Rating: 125 V. 6 Amps.

LAMPHOLDERS

MIDGET SCREW

16-00 SERIES SOLDER, TERM.
•
16-200 SERIES WIRE LEADS



16-08

MIDGET GROOVED

25-200 SERIES WIRE LEADS

25-00 SERIES SOLDERING TERMINALS
Used in data processing and automation fields with Lens-End Lamp Nos. 253, 253X, and 261.



25-35

WEDGE BASE

23-00 SERIES | 23-200 SERIES | 24-00 SERIES



23-24 | 23-223 | 24-07A

23-00 SERIES — Molded housing, terminal.
23-200 SERIES — Molded housing with wire leads.
24-00 SERIES — Wafer type terminals.

MINIATURE SCREW

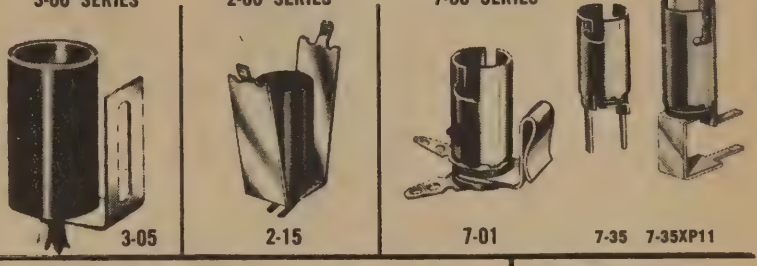
5-00 SERIES SOLDER TERMINALS or WIRE LEADS



5-03

MINIATURE BAYONET

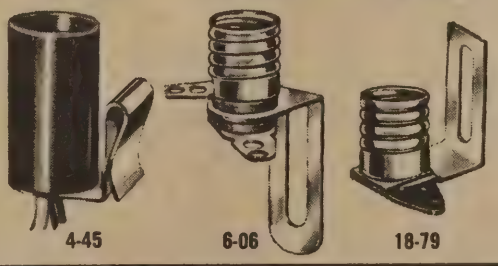
3-00 SERIES | 2-00 SERIES | 7-00 SERIES



3-05 | 2-15 | 7-01 | 7-35 | 7-35XP11

CANDELABRA SCREW

4-00 SERIES | 6-00 SERIES | 18-00 SERIES



4-45 | 6-06 | 18-79

INTERMEDIATE SCREW

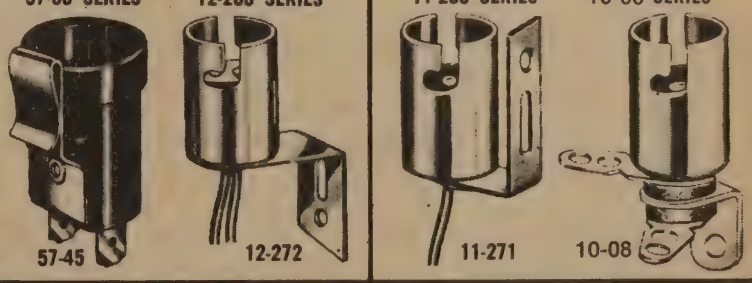
14-00 SERIES



14-71

CANDELABRA BAYONET

DOUBLE CONTACT: 57-00 SERIES, 12-200 SERIES
SINGLE CONTACT: 11-200 SERIES, 10-00 SERIES



57-45 | 12-272 | 11-271 | 10-08

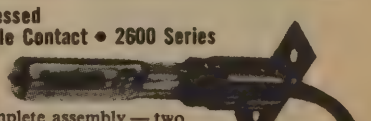
LAMPHOLDERS FOR SINGLE-ENDED and DOUBLE-ENDED QUARTZ IODINE LAMPS

Double Contact • 2200 Series

Positions lamp more accurately, prevents shaking loose from vibration.



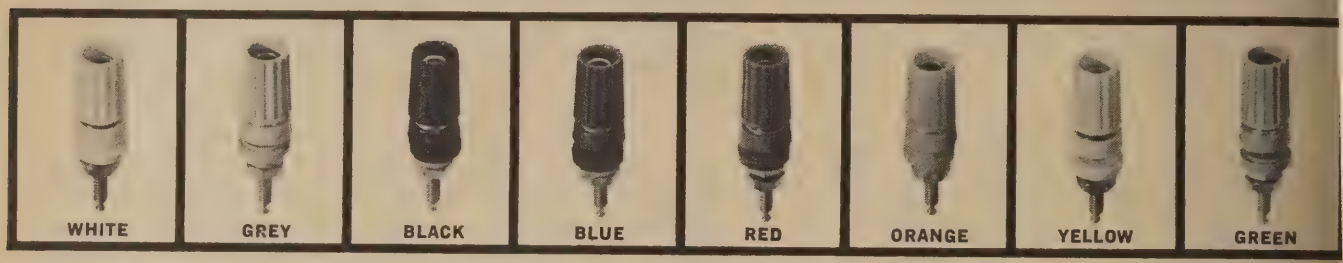
Recessed Single Contact • 2600 Series



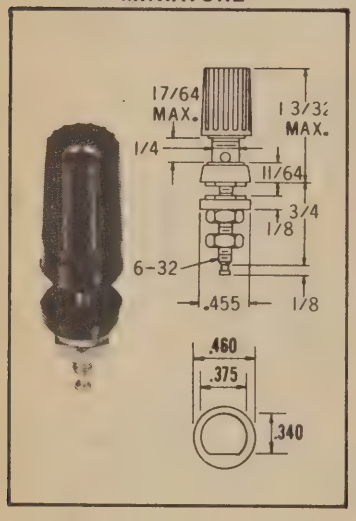
Complete assembly — two holders mounted on common bracket, or separate sockets. Brackets in all lengths.

binding posts

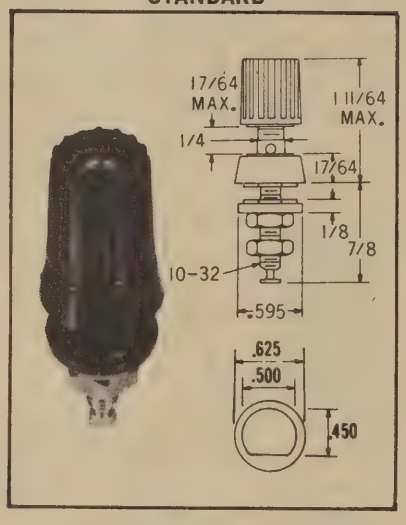
A high quality temporary input terminal for electronic instruments with sensitive and selective measuring capabilities. (See specifications section for voltage, ampere ratings and applicable military specifications.) The fluted design of the Binding Post knob matches any NOBEX control knob series for a co-ordinated front panel. All plastic parts of the assembly are injection molded of polycarbonate resin for excellent insulation resistance and dimensional stability. NOBEX Binding Posts are available eight (8) standard opaque colors with custom colors availab on special order. Series 810 and 820 Binding Posts a stocked with gold plated brass or copper inserts, Series 8 Dual Binding Posts with gold plated brass inserts. The a sembly mounts in a round or "D" flat hole with insulator ar two (2) brass hexagon nuts supplied for panel mountin NOBEX Binding Posts are designed to be compatible with a commonly used methods of connection. NOBEX high quali is assured by a one (1) year factory replacement warrant



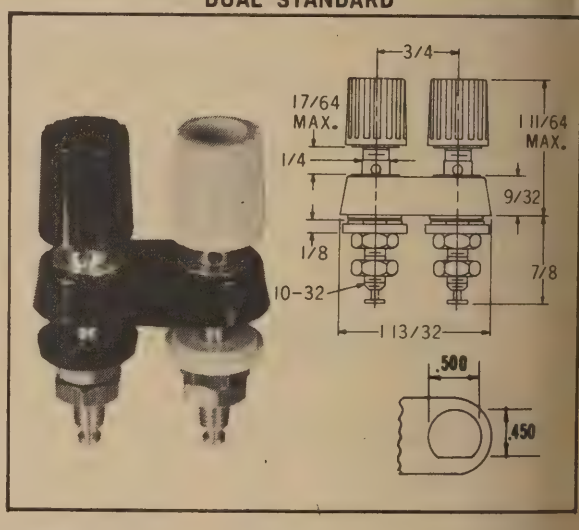
MINIATURE



STANDARD



DUAL STANDARD



ordering information

TYPE	INSERTS	WHITE	GREY	BLACK	BLUE	RED	ORANGE	YELLOW	GREEN
MINIATURE	BRASS	820-25	820-35	820-45	820-55	820-65	820-70	820-75	820-95
	COPPER	825-25	825-35	825-45	825-55	825-65	825-70	825-75	825-95
STANDARD	BRASS	810-25	810-35	810-45	810-55	810-65	810-70	810-75	810-95
	COPPER	815-25	815-35	815-45	815-55	815-65	815-70	815-75	815-95
STANDARD DUAL	BRASS	BLACK/BLACK			BLACK/WHITE			BLACK/RED	
		850-45-45			850-45-25			850-45-65	

specifications

Binding Post Locking Knob, Insulator and Washer

Injection molded of high heat and impact resistant Polycarbonate resin.

Shaft and Inserts

Brass with flash gold plating. Copper, tellurium alloy, flash gold plating.

Mounting Nuts

Brass, finished machined hexagon stock.

Service Rated

Standard Binding Posts are rated at 30 amperes, 1000 volts working. Miniature Binding Posts are rated at 15 amperes, 1000 volts working.

Polycarbonate Plastic exceeds Mil-P-20693, Type IV Military Specifications for nylon compounded parts.

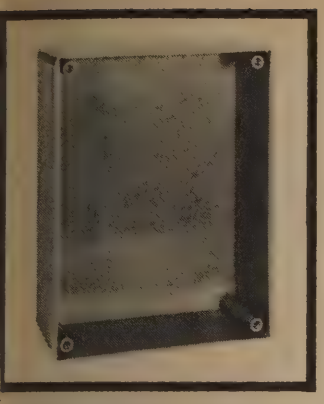
Manufactured in U.S.A.

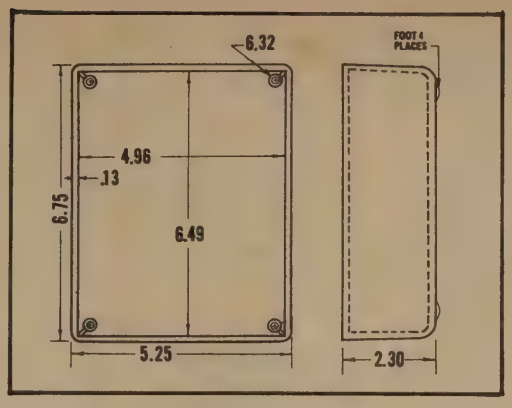
MECHANICAL COMPONENTS

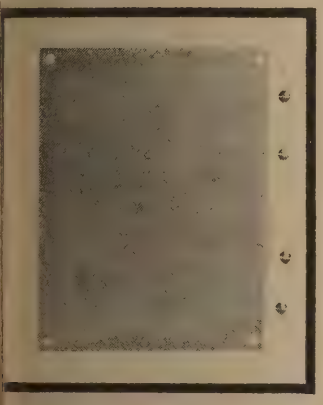
NOBEX DIVISION
GRIFFITH PLASTICS CORPORATION

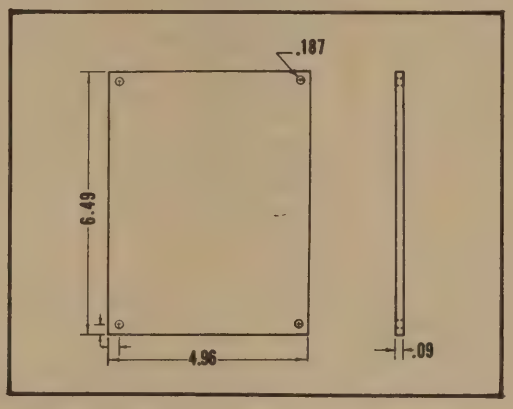
© United Technical Publications

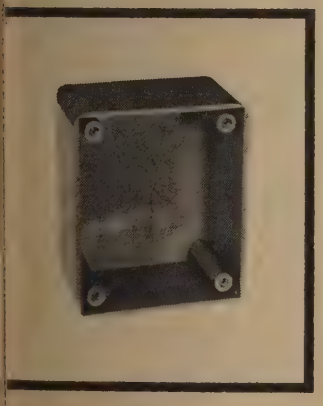
instrument cases

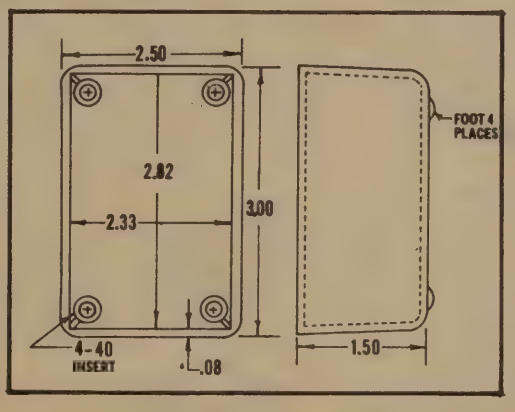


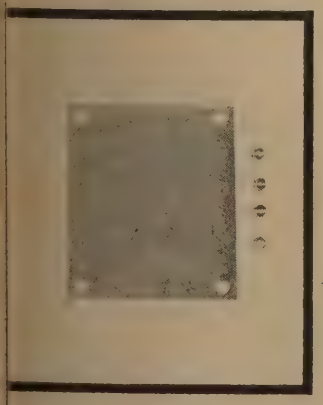


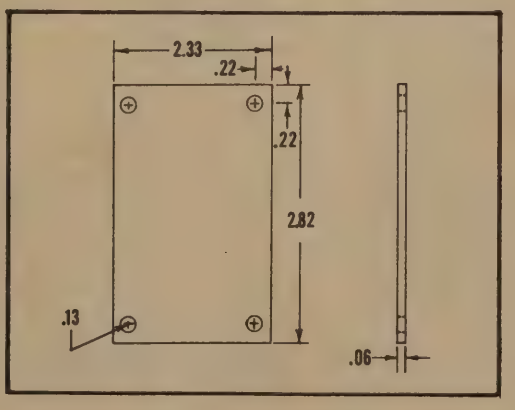


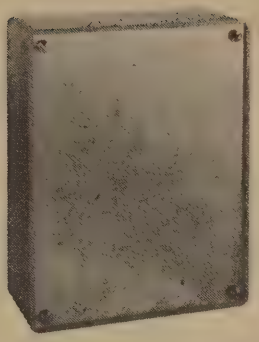












NOBEX manufactures the only line of portable Instrument Cases that are virtually unbreakable under normal use. Series 875 and 895 Instrument Cases are injection molded of tough, impact resistant A.B.S. plastic in a soft semi-gloss finish. The A.B.S. material is easily machined and will not chip, crack, or break during machining operations. NOBEX Instrument Cases are available in a variety of attractive colors for the "Custom Look" in portable electronic equipment. Colors can be custom matched to customer specifications with quantity orders. Mounting bosses are each equipped with a threaded brass insert for reliable panel mounting. NOBEX offers beautiful satin finished, brushed aluminum panels for use with Series 875 and 895 Instrument Cases. Stock panels are cut to size, finished and packaged with protective covering and four (4) panel fastening screws. As with all NOBEX Mechanical Components, Instrument Cases are backed by a one (1) year factory replacement warranty.

ordering information

DESCRIPTION	CATALOG NUMBER
LARGE CASE, GREY	875-35
LARGE CASE, BLACK	875-45
LARGE CASE, TELEPHONE RED	875-60
LARGE COVER	876-C
SMALL CASE, GREY	895-35
SMALL CASE, BLACK	895-45
SMALL CASE, TELEPHONE RED	895-60
SMALL COVER	896-C

Manufactured in U.S.A.

If your Distributor does not stock NOBEX Components, please ask him to order them from the factory for you. NOBEX will give you and your Distributor prompt delivery.

Detailed specifications and ordering information available by requesting Bulletin No. 370

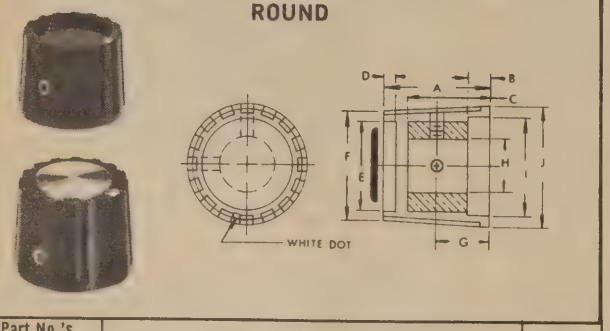
100 and 500 series thermoplastic control knobs, designs patented

NOBEX offers the designer the most comprehensive selection of matching instrument quality control knobs in the industry. This wide variety of sizes and types, many not offered anywhere else, represents an expanding line of products for ever changing electronic industry.

NOBEX firsts include the patented Color Coding Cap syst for use with the 100 Series Knobs. NOBEX is still the o manufacturer to offer a Miniature Series of 1/4" through base diameter knobs. Many items standard with NOE would be expensive "specials" with our competitors.

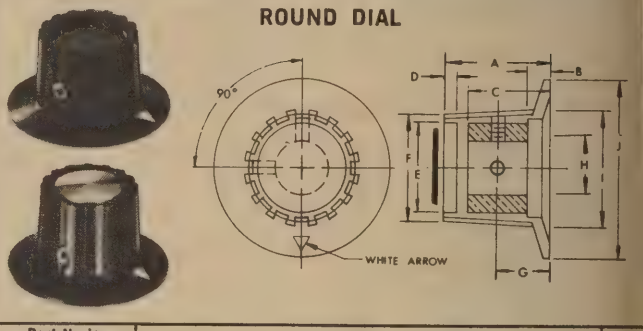
The control knobs shown below are available in the 1 Series (plain top) or in the 500 Series (with decorative a minum cap) from factory and distributor inventories. T drawings and charts to the right of each knob contain sizes and part numbers of the knobs available in each sty Control knobs are stocked with two (2) set screws and sh diameters indicated in the charts.

ROUND



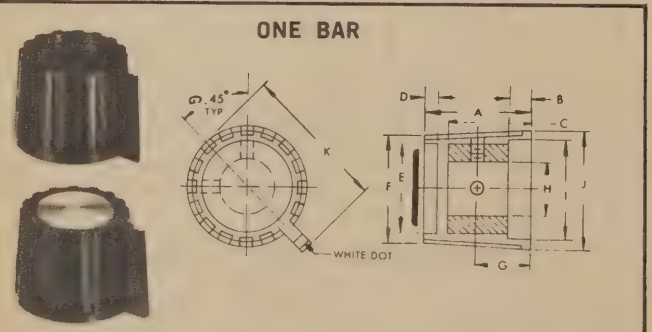
Part No.'s		Dimensions Available										Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	
1-123	1-523	.500	.090	.375	.055	.305	.390	.215	.125	.320	.445	B, G, R
1-103	1-503	.500	.090	.375	.060	.340	.455	.215	.125	.375	.500	B, G, R
1-125	1-525	.500	.090	.375	.060	.400	.520	.215	.125	.435	.565	B, G, R
125	525	.500	.090	.375	.060	.400	.520	.215	.250	.435	.565	B, G, R
1-127	1-527	.500	.090	.375	.060	.460	.575	.215	.125	.510	.620	B, G, R
127	527	.500	.090	.375	.060	.460	.575	.215	.250	.510	.620	B, G, R
1-105	1-505	.630	.090	.500	.060	.560	.725	.250	.125	.620	.785	B, G
105	505	.630	.090	.500	.060	.560	.725	.250	.250	.620	.785	B, G
107	507	.750	.080	.570	.105	.770	.950	.250	.250	.800	1.015	B, G
109	509	.750	.120	.570	.105	.965	1.190	.250	.250	.980	1.260	B, G
111	511	.750	.090	.625	.105	1.200	1.450	.250	.250	1.310	1.515	B, G
115	515	.875	.100	.625	.105	1.870	2.140	.312	.250	1.950	2.220	B, G

ROUND DIAL



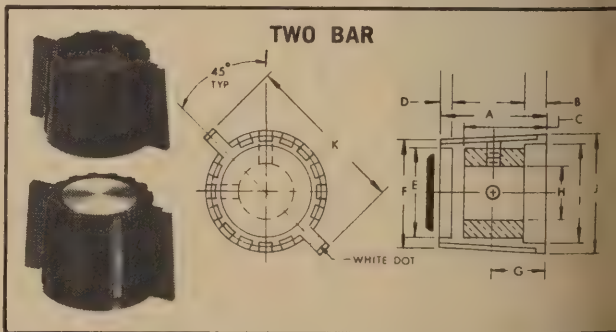
Part No.'s		Dimensions Available											Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	K	
1-123-D	1-523-D	.500	.090	.375	.055	.305	.390	.215	.125	.320	.445	.700	B
1-103-D	1-503-D	.500	.090	.375	.060	.340	.455	.215	.125	.375	.500	.765	B
1-125-D	1-525-D	.500	.090	.375	.060	.400	.520	.215	.125	.435	.565	.820	B
125-D	525-D	.500	.090	.375	.060	.400	.520	.215	.250	.435	.565	.820	B
1-127-D	1-527-D	.500	.090	.375	.060	.460	.575	.215	.125	.510	.620	.940	B
127-D	527-D	.500	.090	.375	.060	.460	.575	.215	.250	.510	.620	.940	B
1-105-D	1-505-D	.630	.090	.500	.060	.560	.725	.250	.125	.620	.785	1.180	B
105-D	505-D	.630	.090	.500	.060	.560	.725	.250	.250	.620	.785	1.180	B
107-D	507-D	.750	.080	.570	.105	.770	.950	.250	.250	.800	1.015	1.500	B
109-D	509-D	.750	.120	.570	.105	.965	1.190	.250	.250	.980	1.260	1.750	B
111-D	511-D	.750	.090	.625	.105	1.200	1.450	.250	.250	1.310	1.515	2.120	B
115-D	515-D	.875	.100	.625	.105	1.870	2.140	.312	.625	.250	1.950	3.010	B

ONE BAR



Part No.'s		Dimensions Available											Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	K	
1-123-1	1-523-1	.500	.090	.375	.055	.305	.390	.215	.125	.320	.445	.480	B, G
1-103-1	1-503-1	.500	.090	.375	.060	.340	.455	.215	.125	.375	.500	.560	B, G
1-125-1	1-525-1	.500	.090	.375	.060	.400	.520	.215	.125	.435	.565	.625	B, G
125-1	525-1	.500	.090	.375	.060	.400	.520	.215	.250	.435	.565	.625	B, G
1-127-1	1-527-1	.500	.090	.375	.060	.460	.575	.215	.125	.510	.620	.710	B, G
127-1	527-1	.500	.090	.375	.060	.460	.575	.215	.250	.510	.620	.710	B, G
1-105-1	1-505-1	.630	.090	.500	.060	.560	.725	.250	.125	.620	.785	.880	B, G
105-1	505-1	.630	.090	.500	.060	.560	.725	.250	.250	.620	.785	.880	B, G
107-1	507-1	.750	.080	.570	.105	.770	.950	.250	.250	.800	1.015	1.150	B, G

TWO BAR



Part No.'s		Dimensions Available											Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	K	
1-124	1-524	.500	.090	.375	.055	.305	.390	.215	.125	.320	.445	.570	B, G
1-104	1-504	.500	.090	.375	.060	.340	.455	.215	.125	.375	.500	.680	B, G
1-126	1-526	.500	.090	.375	.060	.400	.520	.215	.125	.435	.565	.740	B, G
126	526	.500	.090	.375	.060	.400	.520	.215	.250	.435	.565	.740	B, G
1-128	1-528	.500	.090	.375	.060	.460	.575	.215	.125	.510	.620	.850	B, G
128	528	.500	.090	.375	.060	.460	.575	.215	.250	.510	.620	.850	B, G
1-106	1-506	.630	.090	.500	.060	.560	.725	.250	.125	.620	.785	1.030	B, G
106	506	.630	.090	.500	.060	.560	.725	.250	.250	.620	.785	1.030	B, G
108	508	.750	.080	.570	.105	.770	.950	.250	.250	.800	1.015	1.340	B, G
110	510	.750	.120	.570	.105	.965	1.190	.250	.250	.980	1.260	1.620	B, G

MECHANICAL COMPONENTS

Manufactured in U.S.A.

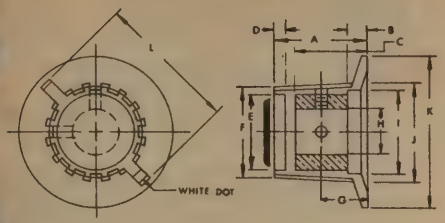
U.S. Patent Nos. 203,933 and 3,313,057

NOBEX DIVISION
GRIFFITH PLASTICS CORPORATION

© United Technical Publications

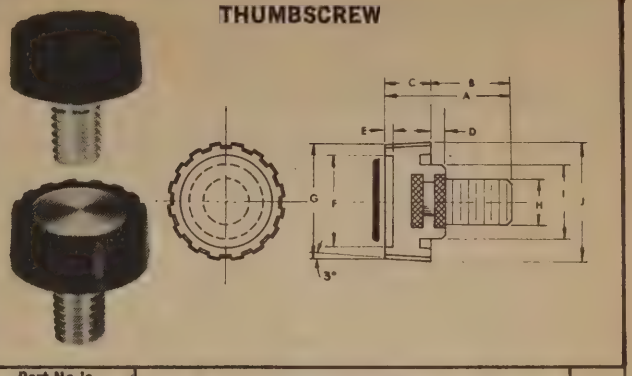
ROUND BAR DIAL





Part No.'s		Dimensions Available												Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	K	L	
1-124-D	1-524-D	.500	.090	.375	.055	.305	.390	.215	.125	.320	.445	.700	.570	B
1-104-D	1-504-D	.500	.090	.375	.060	.340	.455	.215	.125	.375	.500	.765	.680	B
1-126-D	1-526-D	.500	.090	.375	.060	.400	.520	.215	.125	.435	.565	.820	.740	B
126-D	526-D	.500	.090	.375	.060	.400	.520	.215	.250	.435	.565	.820	.740	B
1-128-D	1-528-D	.500	.090	.375	.060	.460	.575	.215	.125	.510	.620	.940	.850	B
128-D	528-D	.500	.090	.375	.060	.460	.575	.215	.250	.510	.620	.940	.850	B
1-106-D	1-506-D	.630	.090	.500	.060	.560	.725	.250	.125	.620	.785	1.180	1.030	B
106-D	506-D	.630	.090	.500	.060	.560	.725	.250	.250	.620	.785	1.180	1.030	B
108-D	508-D	.750	.080	.570	105	.770	.950	.250	.250	.800	1.015	1.500	1.340	B
110-D	510-D	.750	.120	.570	.105	.965	1.190	.250	.250	.980	1.260	1.750	1.620	B

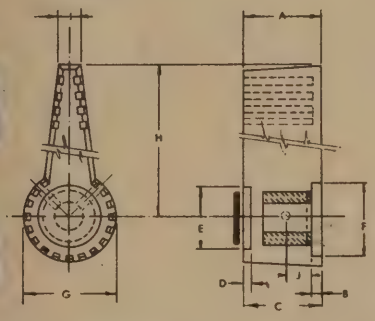
THUMBSCREW



Part No.'s		Dimensions Available										Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	Thread	I	J	
107-TS-18	507-TS-18	1.000	.625	.375	.125	.100	.765	.940	10-32	.510	.985	B
107-TS-25	507-TS-25	1.000	.625	.375	.125	.100	.765	.940	¼-20	.510	.985	B
107-TS-31	507-TS-31	1.000	.625	.375	.125	.100	.765	.940	5/16-18	.510	.985	B
107-TS-37	507-TS-37	1.000	.625	.375	.125	.100	.765	.940	⅜-16	.510	.985	B, G
111-TS-18	511-TS-18	1.000	.625	.375	.125	.100	1.195	1.490	10-32	.625	1.515	B
111-TS-25	511-TS-25	1.000	.625	.375	.125	.100	1.195	1.490	¼-20	.625	1.515	B
111-TS-31	511-TS-31	1.000	.625	.375	.125	.100	1.195	1.490	5/16-18	.625	1.515	B
111-TS-37	511-TS-37	1.000	.625	.375	.125	.100	1.195	1.490	⅜-16	.625	1.515	B, G

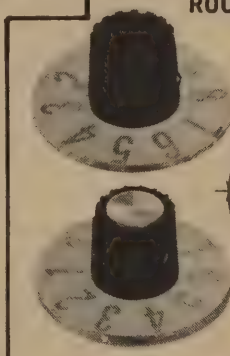
LEVER

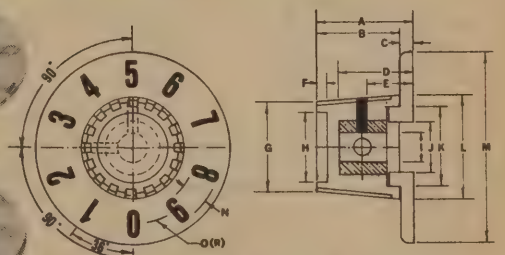




Part No.'s		Dimensions Available										Stock Colors
Plain Top	Alum. Cap	A	B	C	D	E	F	G	H	I	J	
1021	5021	.630	.100	.500	.060	.560	.615	.790	1.125	.280	.250	B, G
1022	5022	.630	.100	.500	.060	.560	.615	.790	2.125	.280	.250	B, G

ROUND NUMBERED CLEAR DIAL

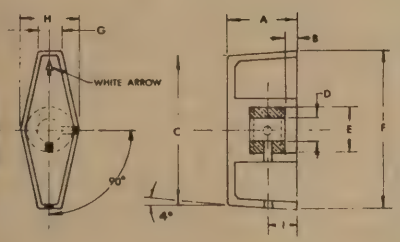




Part No.	Dimensions Available														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
B1-127-CD09	.570	.505	.065	.455	.315	.055	.575	.460	.127	.370	.490	.625	1.410	.250	.500(R)
B127-CD09	570	.505	.065	.455	.315	.055	.575	.460	.252	.370	.490	.625	1.410	.250	.500(R)
B1-105-CD09	.705	.625	.080	.580	.330	.065	.725	.560	.127	.440	.600	.790	1.750	.375	.660(R)
B105-CD09	.705	.625	.080	.580	.330	.065	.725	.560	.252	.440	.600	.790	1.750	.375	.660(R)
B107-CD09	.840	.760	.080	.650	.330	.100	.945	.770	.252	.440	.800	1.020	2.125	.375	.750(R)

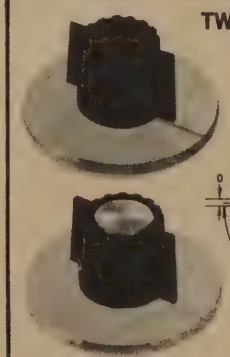
POINTER

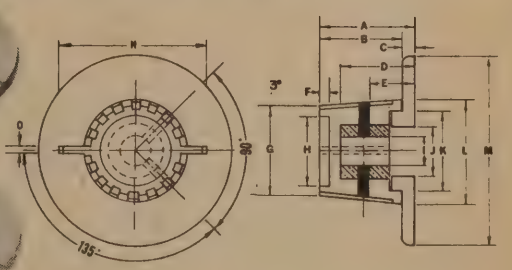




Part No.	Indicator	Dimensions Available									Stock Colors
		A	B	C	D	E	F	G	H	I	
00-U	No Arrow	.750	.130	1.200	.250	.520	1.310	.280	.620	.250	B, G, R
00-1	1 Arrow	.750	.130	1.200	.250	.520	1.310	.280	.620	.250	B, G, R
00-2	2 Arrows	.750	.130	1.200	.250	.520	1.310	.280	.620	.250	B, G, R
01-U	No Arrow	.750	.130	1.615	.250	.520	1.700	.280	.620	.250	B, G, R
01-1	1 Arrow	.750	.130	1.615	.250	.520	1.700	.280	.620	.250	B, G, R
01-2	2 Arrows	.750	.130	1.615	.250	.520	1.700	.280	.620	.250	B, G, R

TWO BAR LINED CLEAR DIAL





Part No.	Dimensions Available														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
B1-128-CDL	.570	.505	.065	.455	.315	.055	.575	.460	.127	.370	.490	.625	1.410	.855	.040
B128-CDL	.570	.505	.065	.455	.315	.055	.575	.460	.252	.370	.490	.625	1.410	.855	.040
B1-105-CDL	.705	.625	.080	.580	.330	.065	.725	.560	.127	.440	.600	.790	1.750	1.040	.050
B105-CDL	.705	.625	.080	.580	.330	.065	.725	.560	.252	.440	.600	.790	1.750	1.040	.050
B107-CDL	.840	.760	.080	.650	.330	.100	.945	.770	.252	.440	.800	1.020	2.125	1.345	.090

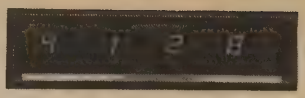
Color Code Designation: B=Black, G=Grey, R=Red

If your Distributor does not stock NOBEX Components, please ask him to order them from the factory for you. NOBEX will give you and your Distributor prompt delivery.

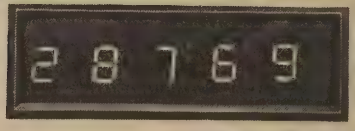
Detailed specifications and ordering information available by requesting Bulletin 300 and 360.

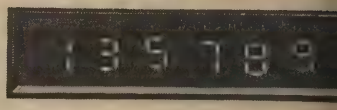
alpha-numeric display bezels

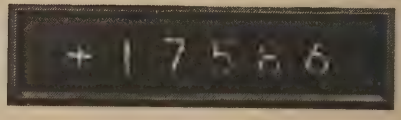
DIGIBEZEL



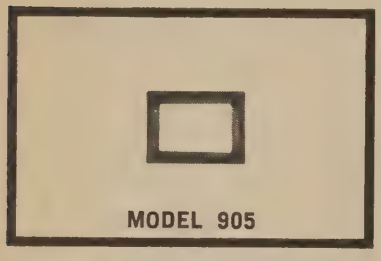


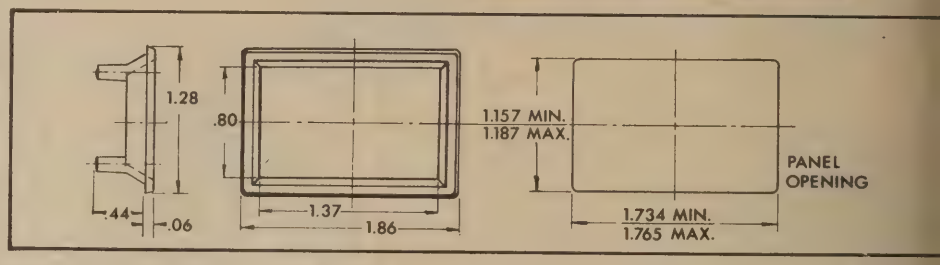


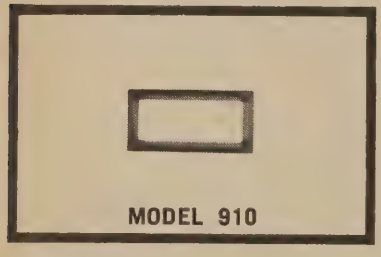


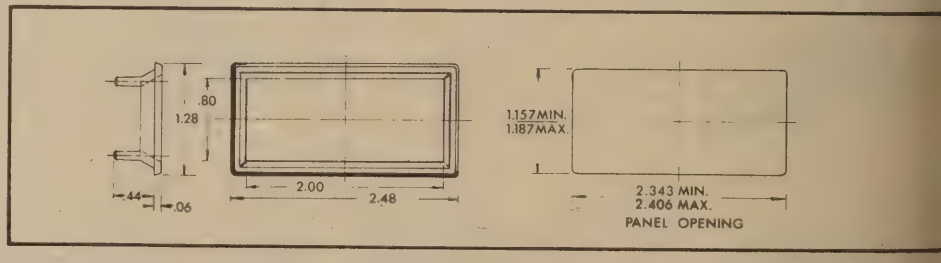


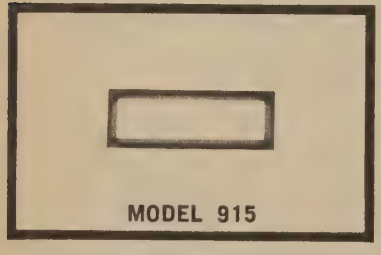
The first and only low cost, easy to assemble standard bezel for alpha-numeric displays. DIGIBEZEL will enhance the front panel lines of instruments and systems incorporating digital displays while providing maximum contrast in high ambient light conditions. DIGIBEZEL is a three piece assembly consisting of a front panel bezel, retaining frame and a circular polarized filter in one of four colors. Rear mounted spring clips eliminate visible mounting hardware. Seven standard sizes accommodate the most commonly used display devices in the industry, including the latest L.E.D. displays.

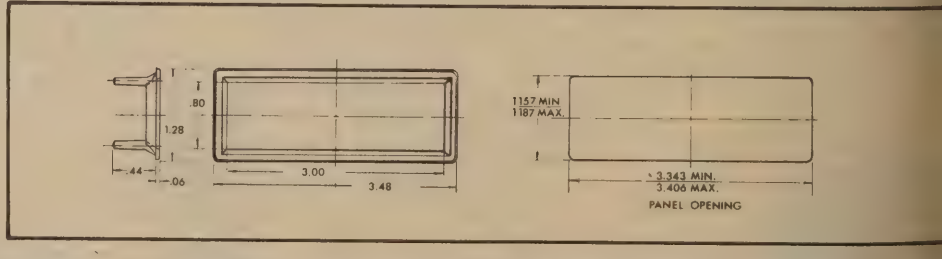


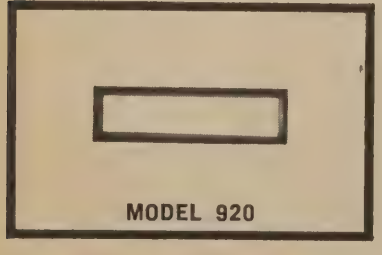


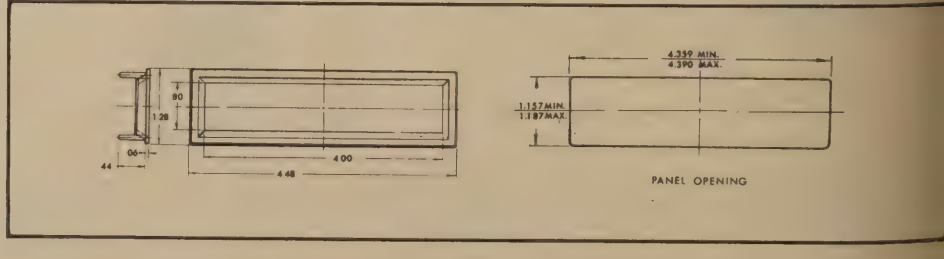


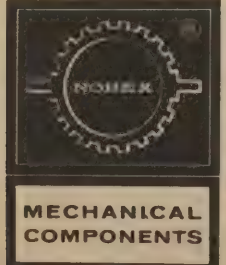








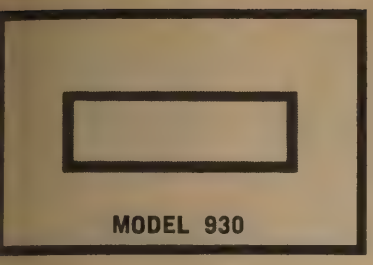


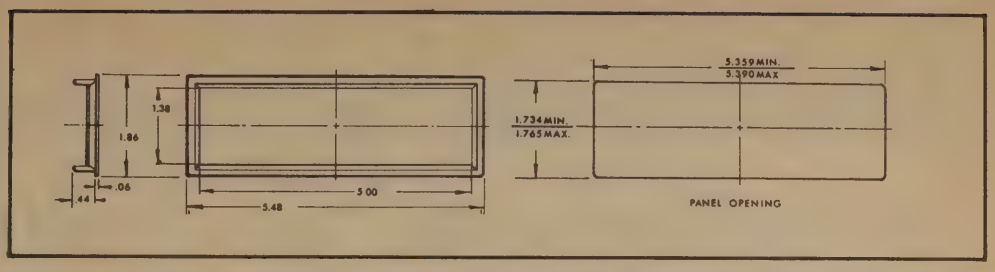


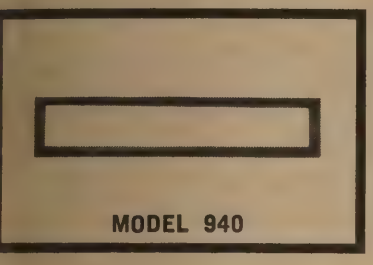
Manufactured in U.S.A.

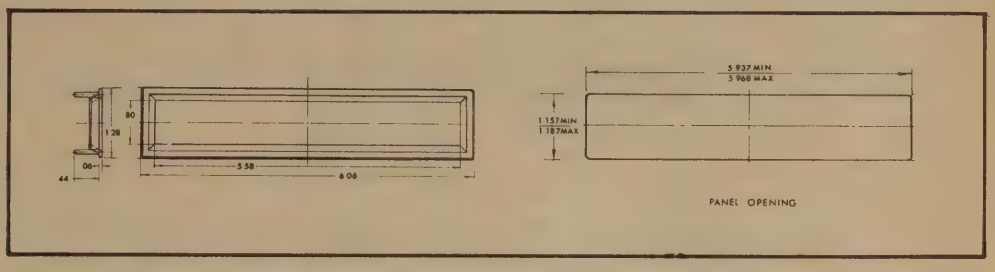
NOBEX DIVISION
GRIFFITH PLASTICS CORPORATION

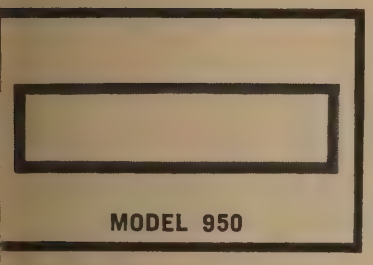
© United Technical Publications

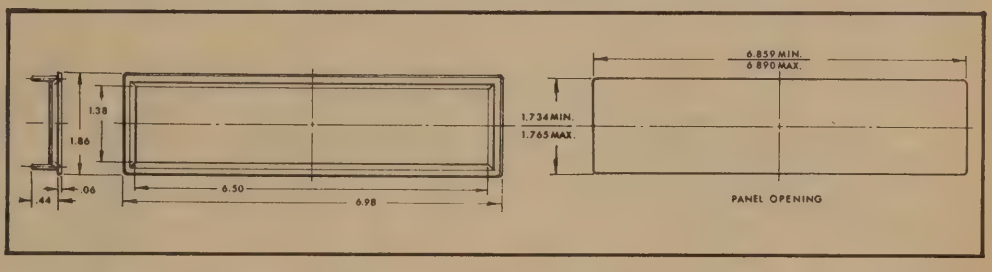




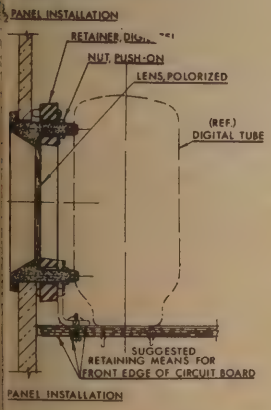






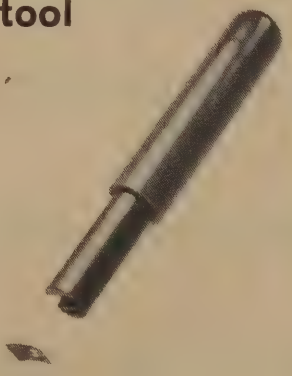


nstallation



DIGIBEZEL is easily installed to the panel of the instrument by placing the back side (with bosses) through the rectangular hole cut into the front panel with "top" and "bottom" markings appropriately located. After the front bezel has been placed in the location the polarized filter is then inserted from the back into the recess provided. The DIGIBEZEL retainer is then placed onto the rear bosses using the correct side for appropriate panel thickness (Side 1 for 3/32", Side 2 for 1/8" thick panel) to secure the filter and bezel to the front panel. All three parts of the assembly are held together and in place by rear mounting spring clips.

mounting tool



An optional mounting tool is available from NOBEX for added convenience with DIGIBEZEL installation. The mounting tool is specifically designed to be used with the spring clip hardware supplied with each DIGIBEZEL assembly. The tool is manufactured of aluminum with an easy grip handle.

pecifications

ezel & Filter Retainer
jection molded of high heat ABS-polycarbonate
ermoplastic resin.

ens Filter
rcular polarized filter laminated acetate sheet.

ounting Clip
pring Steel Black Oxide Finish

ordering information

FILTER COLOR	MODEL 905	MODEL 910	MODEL 915	MODEL 920	MODEL 930	MODEL 940	MODEL 950
NEUTRAL FILTER	905-15	910-15	915-15	920-15	930-15	940-15	950-15
RED FILTER	905-60	910-60	915-60	920-60	930-60	940-60	950-60
AMBER FILTER	905-70	910-70	915-70	920-70	930-70	940-70	950-70
GREEN FILTER	905-90	910-90	915-90	920-90	930-90	940-90	950-90

U.S. Patent No. 3,551,630 Foreign Patents Pending

If your Distributor does not stock NOBEX Components, please ask him to order them from the factory for you. NOBEX will give you and your Distributor prompt delivery.

Detailed specifications and ordering information available by requesting Bulletin 350.

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job

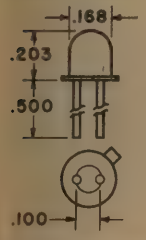


Call your local distributor for all your requirements

SPRAGUE L.E.D. DEVICES

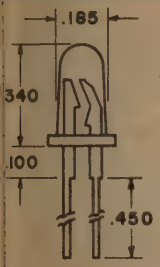
TYPE ED GALLIUM ARSENIDE SEMICONDUCTORS

VISIBLE LIGHT SOURCE ED102



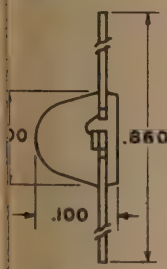
- Exact replacement for Monsanto Type MV2, GE Type SSL3.
- Green visible light for design flexibility.
- Solid-state reliability.
- Low power requirements.
- Compatible with integrated circuits.
- Familiar "B" package on TO-18 header.

PANEL INDICATOR LIGHT ED123



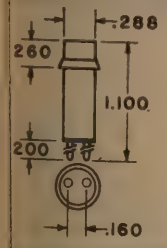
- Exact replacement for Monsanto Type MV5023, Hewlett-Packard Type 5082-4403.
- Red-diffused solid-state lamp.
- Designed for mounting in .062" to .125" panels using a plastic snap-in clip.
- High intensity, wide angle light provides good visibility under normal ambient conditions.
- Maximum power dissipation at 25° C, 140 mW.

VISIBLE LIGHT SOURCE ED150



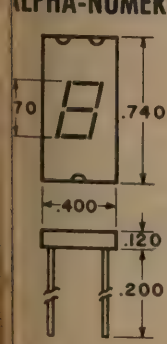
- Exact replacement for Monsanto Type MV50, Motorola Types MLED50, MLED600.
- Low cost, top performance.
- Bright red—750 foot-Lamberts.
- Ideal diagnostic light on printed circuit boards and on panels.
- Compatible with integrated circuits.
- Tiny . . . same size as short-life T3/4 lamp.

CARTRIDGE INDICATOR LIGHT ED191



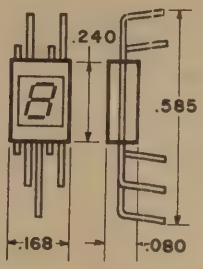
- Exact replacement for Monsanto Type MV9001, Drake lamps, Eldema lamps, Dialco Data-lites, Chicago Min. lamps.
- Long life—10^6 + hours.
- Low power requirements.
- High brightness (red), cool operation.
- Solid-state reliability.

ALPHA-NUMERIC DISPLAY ED201



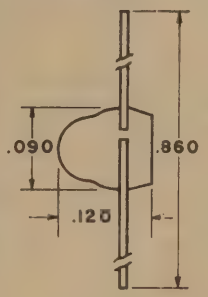
- Exact replacement for Monsanto Type MAN1, Litronix Data-Lite 3, Hewlett-Packard Type 5082-7100, Opcoa Type SLA1.
- High brightness (red) . . . 350 foot-Lamberts.
- Single plane, wide angle viewing.
- 14-pin DIP package.
- Solid-state . . . Long operating life.
- Compatible with integrated circuits.

ALPHA-NUMERIC DISPLAY ED203



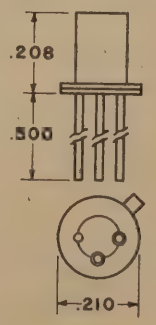
- Exact replacement for Monsanto Type MAN3A, Fairchild Type FND10.
- Bright red, 400 foot-Lamberts.
- Extremely compact (16 digits in 3-inch width).
- Planar monolithic, frame lead construction.
- Shock resistant.
- Compatible with integrated circuits.

INFRARED EMITTER ED360



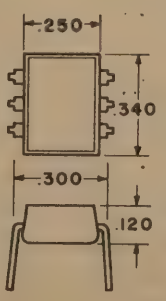
- Exact replacement for Monsanto Type ME60, Motorola Types MLED900, MLED910, TI Types TIL23, TIL24, Optron Type OP100, ENL Types 452, 471.
- Low cost, high reliability, high density packaging.
- Compatible with integrated circuits.
- Easily assembled in linear arrays.
- Card and tape reader sources.
- High on-axis power.

SILICON PLANAR PHOTO SENSOR ED401



- Exact replacement for Monsanto Type MT1, Motorola Type MRD810, Fairchild Types FPF130, FPT100.
- Low leakage current . . . 1 nA.
- Wide spectral response.
- Responsive to GaAs . . . 1.40 mA/mW/cm².
- Standard hermetic seal transistor package for easy handling and mounting.
- Designed for optical switching, encoding, character recognition, etc.

COUPLED PAIR OPTO-ISOLATOR ED702

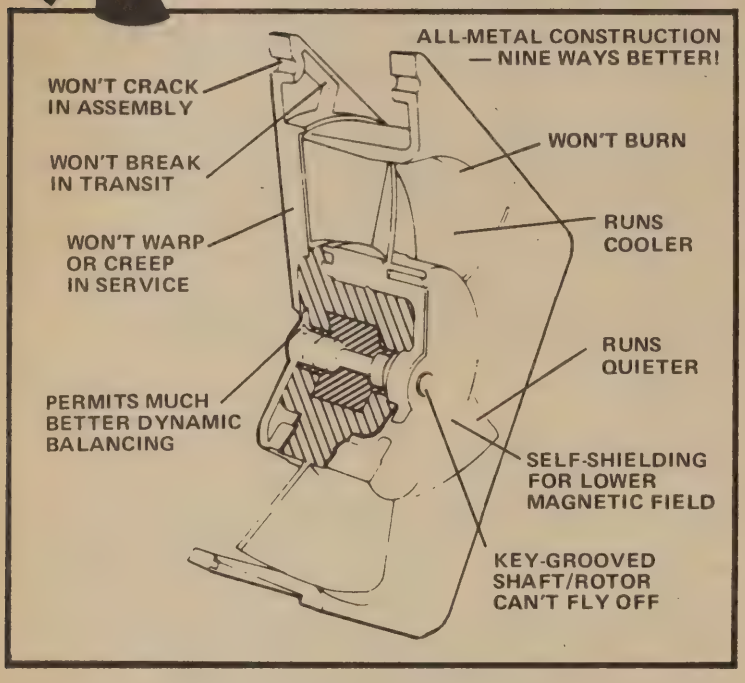


- Exact replacement for Monsanto Type MCT2, GE Type 1526, Litronix Iso-Lite 1, Optron Types OP1020, OP1060, Spectronics Type SC1484, TI Types TIL102, TIL103, TIL107, TIL108, ENL Type 3N903.
- Plastic dual-in-line package.
- High current transfer ratio . . . 35%.
- High isolation resistance . . . 10^{11} ohms.
- Compact, rugged, lightweight.
- Low coupling capacitance . . . 1.3 pF.

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

PAMOTOR DISTINCTLY SUPERIOR



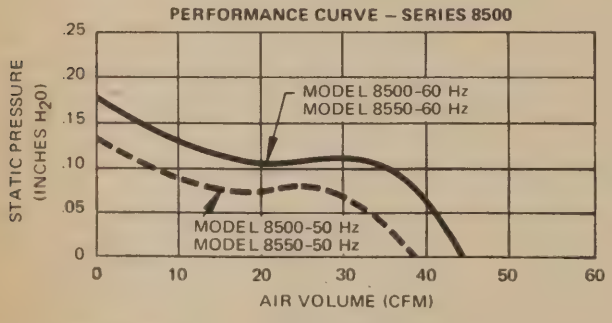
all-metal durability...

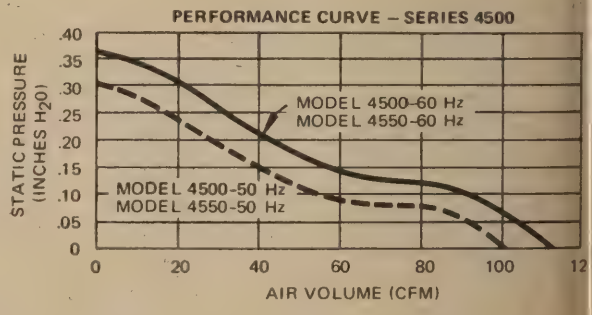

Series 7500

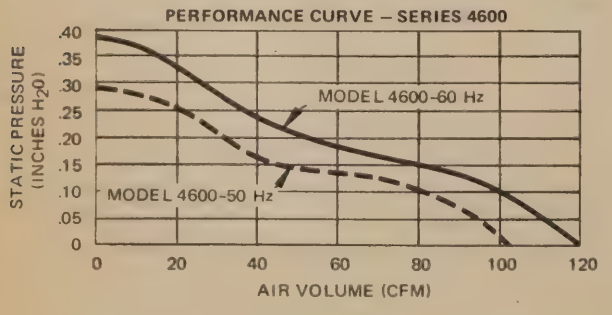

Series 4700

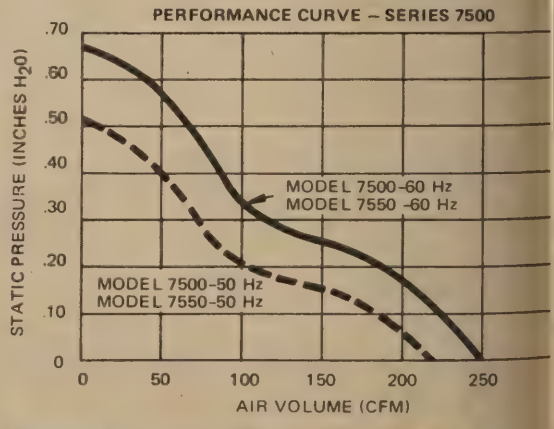
Unequalled reliability! All-metal construction, dimensional uniformity of components, proprietary bearing lubrication systems, and low operating temperature assure immunity to catastrophic failure, minimum noise, permanent resistance to severe ambient conditions, and unbeatable low-cost performance throughout the life of the equipment cooled.

PENTAFLOW™ premium grade fans have a **5-year** warranty!



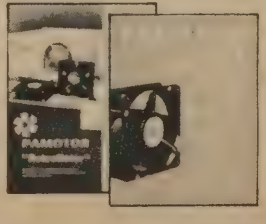


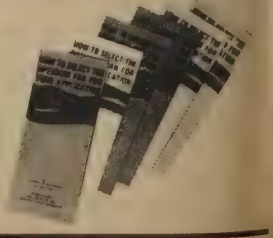




SEND FOR VALUABLE TECHNICAL LITERATURE — FREE

Set of six applications monographs (Nos. 7041-7046) on "How To Select The Optimum Fan For Your Application" contains comprehensive data on the six major factors involved in cooling system design and fan application. **12-page Short Form Catalog** contains performance data and mechanical specifications for the complete PAMOTOR line. **Retrofitter Bulletin** is a complete guide for the replacement of plastic and plastic/metal fans with PAMOTOR all-metal fans.





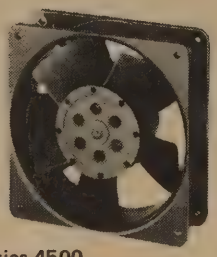
© United Technical Publications

ALL-METAL FANS

...at plastic fan prices



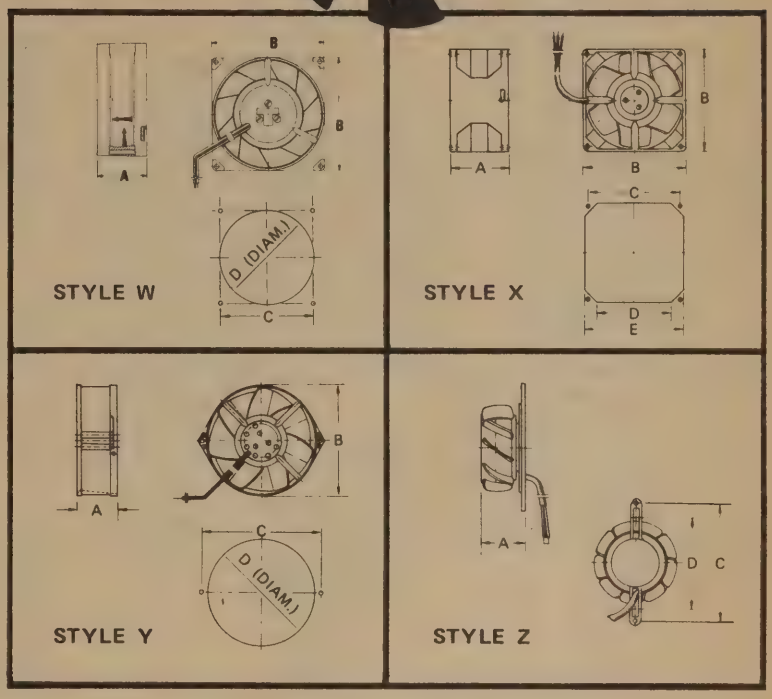
Series 8500



Series 4500

PAMOTOR designs save space — in cut-out area and in depth, across the width of the panel. Easy installation — fan bolts firmly to panel — does not snap in, cannot fall out. Vibration-free — low noise. Replacement of another make of the same class of fan is simple, practical — inexpensive mounting adaptors available if needed.

PENTAFLOW™ premium grade fans available in three series: 8500, 4500, and 4600. Add **P** to Model number.



CFM*	SIL** (dB)	Series (S) or Model (M)	Size (in.)	Style	Dimensions (inches) A	B	C	D	E	Notes
General-Purpose Fans (24 models)†										
43	28.8	8500 (S) P	3-1/8	X	1.50	3.125	2.812	2.00	3.00	Ultra-compact
65	***	3000 (S)	3-1/2	X	2.00	3.50	3.15	2.362	3.307	Adjustable Speed, high air flow.
70	18.0	4800 (M)	4-1/2	X	1.50	4.685	4.126	3.45	4.30	Virtually noiseless. Ideal for Hi Fi, Stereo, TV, Medical & Office Equipment
105	39.6	1500 (S)	4-1/2	W	1.97	4.449	4.126	4.281	---	High performance, low noise, low cost.
115	37.6	4500 (S) P	4-1/2	X	1.50	4.685	4.126	3.45	4.30	Low cost, low noise.
115	43.0	2500 (S)	4-1/2	X	1.97	4.449	4.126	3.45	4.30	Low cost, many uses.
125	43.0	1000 (S)	4-1/2	W	1.97	4.449	4.126	4.281	---	For lab & office equipment, communications, sound, industrial control systems.
120	39.8	4600 (M)	4-1/2	X	1.50	4.685	4.126	3.45	4.30	Higher airflow at back pressures 30% higher than conventional 4-1/2" designs.
130	43.0	2000 (S)	4-1/2	X	1.97	4.449	4.126	3.45	4.30	Highest free air delivery in 4-1/2" designs.
250	40.6	7500 (S) P	6	Y	2.17	5.90	6.375	5.75	---	For large enclosures with high resistance to airflow. Replaces 2 smaller fans or one 7" to 10" conventional design.††
High-Temperature Operation (7 ball-bearing models)†										
43	28.8	8506 (S)	3-1/8	X	1.50	3.125	2.812	2.00	3.00	20,000 hours @ 85°C.
115	37.5	4506 (S)	4-1/2	X	1.50	4.685	4.126	3.45	4.30	20,000 hours @ 85°C.
135	50.0	2110 (M)	4-1/2	X	1.97	4.449	4.126	3.45	4.30	20,000 hours @ 85°C, 400 Hz operation.
250	40.6	7506 (S)	6	Y	2.17	5.90	6.375	5.75	---	20,000 hours @ 85°C.
400 Hz Operation (2 Models)†										
110	50.0	1110 (M)	4-1/2	W	1.97	4.449	4.126	4.281	---	Axial design for airborne equipment.
135	50.0	2110 (M)	4-1/2	X	1.97	4.449	4.126	3.45	4.30	Ball-bearing design for high temperature.
No Venturi Housing (4 Models)†										
35	22	8700 (S)	3	Z	1.45	---	3.98	3.03	---	Save space and weight.
65	37	4700 (S)	4-1/8	Z	1.45	---	5.83	4.409	---	Save space and weight.

CFM — Cubic Feet per Minute **SIL — Speech Interference Level ***Low noise level of Series 3000 varies with fan speed selected.
Ratings shown are at 115V, 60 Hz unless specified otherwise. Most series include fans for 220 V and 50-60 Hz.
Series 7500 will deliver 200 CFM at 0.2" water back-pressure. Flanges available for replacing 7" and 10" designs with these superior fans.

PTIONAL ACCESSORIES: ● efficient multi-yer metal filter ● maximum-air-flow metal screen ith spring-steel holding clips or shock and vibra-on-proof mounting brackets ● easily attached etal finger guards ● durable plug and cord ssembly, 24" long, AWG #18 wire.

71 **PAMOTOR Distributors,** conveniently located throughout the country, stock the complete line of fans shown here. They are backed by a computerized warehouse inventory of over 1 million dollars.

PAMOTOR

ONE OF THE **PURDY** GROUP OF COMPANIES

R. L. DRAKE COMPANY

RADIO COMMUNICATIONS EQUIPMENT

FILTERS TVI MAY BE ELIMINATED WITH THESE UNITS

TV-300-HP
HIGH PASS FILTER

provides more than 40 db attenuation at 52 MC and lower. Protects the TV set from amateur transmitters 6 thru 160 meters.

$4.95



88 TO 108 MHz
FM FILTERS

FM broadcast xmtrs cause much TVI, often blamed on radio amateurs. A Drake TV-300-FMS installed in TV antenna lead will clear up entire FM band; no adjustment. TV-300-FMI adjustable for superior attenuation of one frequency.



TV-300-FMI
Tunable Filter
$4.95



TV-300-FMS
Band Stop
$4.95

DRAKE AMATEUR LOW PASS FILTERS

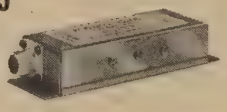
...have four pi sections for sharp cut-off between 6 meters an channel 2, and to attenuate xmtr harmonics falling in any TV channe and the FM band. 52-ohm.

TV-1000-LP
$18.75



rated 1000 watts input, 20(watts on 6 meters. SO-23! connectors built-in.

TV-42-LP
$7.65

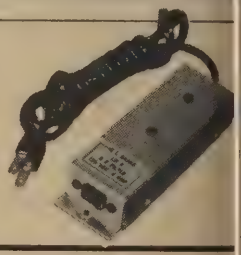


is a four section filter designe with 43.2 MC cut-off and extremel high attenuation in all TV channel for transmitters operating at 3(MHz and lower. Rated 100 watt input. SO-239 connectors built-in

LN-4 LINE FILTER

Isolates transmitter or TV set from RF on power line. Attenuates 500 KHz to over 200 MHz. 125 VAC, 6 amps max.

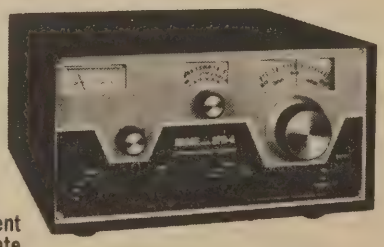
$8.00



RECEIVERS

SPR-4
SOLID-STATE
PROGRAMMABLE
RECEIVER

$499.95 net



Drake engineering and the recent development of the dual gate FET make possible the first no-compromise, solid-state receiver.

Unlike receivers with bipolar transistors which have poor crossmodulation, intermodulation, AGC, and overload performance; the SPR-4 has signal handling capabilities superior to the best tube receiver. In addition, the SPR-4 has all of the advantage of a solid-state design such as low power consumption, mechanical and thermal stability, reliability, etc.

The Spr-4 can be programmed for short wave listening, amateur radio, laboratory, broadcasting, marine radio, etc.

FEATURES:

- Dual gate FET RF amplifier.
- FETs in signal path for low cross modulation and overload.
- FET linear PTO with 1 kHz readout.
- Frequency coverage: 150-500 kHz plus any 23 ranges between .500 and 30 MHz. Each range is 500 kHz wide with large overtravel.
- Normally supplied with xtals for: .5-1.0, 1.0-1.5, 6.0-6.5, 7.0-7.5, 9.5-10.0, 11.5-12.0, 15.0-15.5, 17.5-18.0, and 21.5-22.0 MHz.
- Coverage may easily be changed by adding or changing xtals and range selector dial.
- 4 pole xtal filter in first IF (5645 kHz).
- 4 pole LC filter in second IF (50 kHz).
- 3 bandwidths: 0.4 kHz, 2.4 kHz, and 4.8 kHz for CW, SSB, and AM.
- AVC: Fast attack and slow release for SSB, fast release for AM, fast or slow release for CW.
- Built-in speaker.
- Power: 115 VAC, 220 VAC, or 12 VDC.
- Built-in notch filter.

ACCESSORIES

	NET
• Noise Blanker	$65.00
• 100 MHz Calibrator	20.00
• AL-4 Loop Antenna for .15-1.6 MHz	22.00
• Transceiver Adaptor (T-4XB)	$15.00
• MS-4 Speaker	22.00
• DC Power Cord	5.00
• Extra Crystals per 500 kHz range	5.00

SW-4A
INTERNATIONAL
SHORT WAVE
BROADCAST
RECEIVER

DIRECT FREQUENCY DIALING $299.00



• Ultra-precision tuning dial accuracy • Also accurately tunes standard AM Broadcast • Crystal lattice filter for adjacent station rejection and good audio frequency response • Dual conversion • Solid state AF output gives low distortion good frequency response • S-meter for signal strength indication • Preselector gives superior sensitivity by peaking antenna and RF stages • Crystal H. F. Oscillator for exceptional stability on all ranges • Amplified AVC — gives constant AF output for all signal strengths.

FREQUENCY COVERAGE — .15-.5, .5-1.0, 1.0-1.5, 6.0-6.5, 7.0-7.5, 9.5-10.0, 11.5-12.0, 15.0-15.5, 17.5-18.0, 21.5-22.0, and 25.5-26.0 megacycles with crystals supplied. These frequencies cover European LF, American MF and International SW Broadcast Bands. **SIZE** — 5½" high, 10¾" wide. Cabinet depth 11⅝", overall 12¼". **WEIGHT** — 16 lbs.

ACCESSORIES — **Models MS-4** Speaker **$22.00** and **AL-4** Shielded Directional Loop Antenna for .5-1.5 MC **$22.00. Model AN-5** SW Antenna Kit **$8.80.**

RF WATTMETER

Reads forward and reflected power directly in watts (VSWR from nomogram). Two scales in each direction. **Size:** 5½" H x 3¾" W x 4" D.



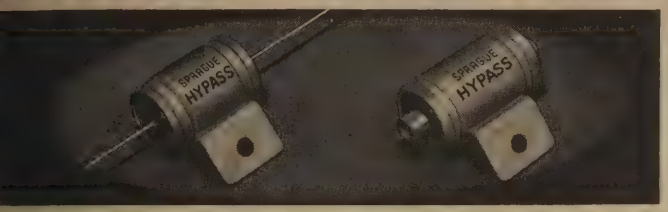
Model	Full Scale	Calibration Accuracy	Price
W-4	200 watts	±(5% of reading +2 watts)	
(1.8-54 MHz)	2000 watts	±(5% of reading +20 watts)	$61.95
WV-4	100 watts	±(5% of reading +1 watt)	
(20-200 MHz)	1000 watts	±(5% of reading +10 watts)	$73.50
CBW	10 watts	±(5% of reading +.1 watt)	$49.50

Net

© United Technical Publications

SPRAGUE FILTERS

HYPASS® CAPACITORS



- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

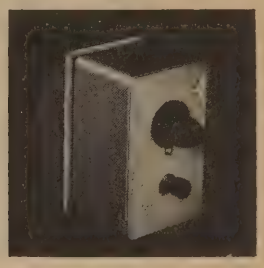
µF	Amps.	WVDC	Dia. x Length	Cat. No.
5	40	50	1 x 1 13/16	*48P18
5	60	50	1 x 1 13/16	48P100
.25	20	200	3/4 x 1 13/16	*48P10
.5	20	200	1 x 1 13/16	*48P14
1	20	250(VAC)	1 1/16 x 1 13/16	*48P9
1	20	400	1 1/16 x 1 13/16	*48P6
1	20	400	1 1/16 x 1 13/16	†80P1
.002	15	600	1/4 x 1 3/8	46P12
.005	15	600	1/4 x 1 5/8	46P8
.01	20	600	7/16 x 1 1/4	47P6
.02	20	600	7/16 x 1 1/2	47P8
1	20	600	1 1/16 x 1 13/16	*48P8
1	20	600	1 1/16 x 1 13/16	*†80P3
.25	20	600	1 x 1 13/16	*48P12
.5	20	600	1 x 2 1/4	*48P16
.005	20	1000	7/16 x 1 1/4	47P12
.01	20	1000	7/16 x 1 1/2	47P13
.005	20	2500	1 x 1 9/16	47P14
.01	20	2500	1 x 1 9/16	47P15
.002	20	5000	1 x 1 9/16	47P16

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

*Has female screw terminals †Bulkhead mounting

TYPE F-400 MIRACLE FILTEROL®





A LINE FILTER THAT REALLY WORKS

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet — Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation — No Unsightly Cord — Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

TYPE IF FILTERS

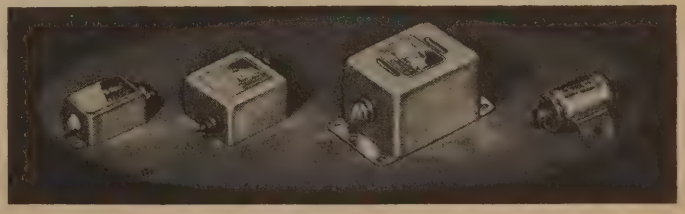


IF-15 IF-11 IF-21 IF-S1 IF-37

-15 — TRIPLE-SECTION FILTER for small motor-operated devices such as ns, drills, etc. designed to prevent shocks from discharge of filter capacitors.
-11 — DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp to 220 volts ac-dc. Also used on high-current arcing devices.
-21 — COMPACT DUAL FILTER for use on fractional horsepower motors th case grounded to motor frame. Also used across line terminals of motors.
-S1 — SINGLE SECTION 2-LEAD FILTER for use across make-and-break ntacts, such as thermostats, circuit breakers, etc.
-37 — 3-SECTION DELTA-CONNECTED FILTER especially designed for orescent fixtures. Also used on governor-type motors.
derwriters' Laboratories, Inc. listed.

t. No.	Volts AC or DC	Dia. x Length
15	220	1 x 2 3/16
11	220	1 3/8 x 5 1/4
21	220	1 x 2 3/16
S1	220	3/4 x 2 1/16
37	220	1 x 2"

FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

Filterol Types 1, 2, and 3 — Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4 — A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4
Filterol 2	10	115	1 1/8 x 2 x 2
Filterol 3	35	115	1 7/8 x 2 7/8 x 3 1/8
Filterol 4	20	115	1" dia. x 1 13/16" long

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

pyright 1971, Sprague Products Company

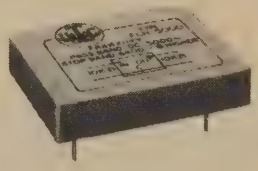
All sizes subject to change without notice.

ELECTRIC WAVE FILTERS

Manufactured and Guaranteed to MIL-F-18327C

NEW UTC "FLATS"* ELECTRIC WAVE FILTERS

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C Specifications



These filters meet today's need for flat component configurations, have excellent attenuation characteristics and are ruggedized to Grade 6, MIL-F-18372C. Straight pin terminals and flat construction make these units ideally suited for printed circuit applications. These filters are hermetically sealed in flat metal cases shielded to reduce hum pickup. FP-A case: 2 x 2 x ½" h., 2.5 oz. FP-B case: 2 x 1½ x ⅜" h., 2 oz.

FHH-200: Flat package high pass filter, source and load 10K ohms. Units are within 1 db up to 300 Hz 3 db ±1 db at 200 Hz, and have an attenuation of at least 40 db at frequencies below 140 Hz. FP-A case. Mil Type: FR6RX33YY1.

FLH-600: Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 450 Hz, 3 db ±1 db at 600 Hz, and have an attenuation of at least 40 db at frequencies above 800 Hz. FP-A case. Mil Type: FR6RX11YY1.

FLH-5000: Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 4.2 kHz, 3 db ±1 db at 5 kHz, and have an attenuation of at least 43 db at frequencies above 6400 Hz. FP-B case. Mil Type: FR6RX11YY1.

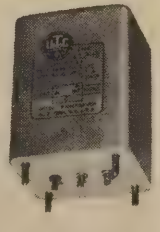
FLL-3500: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 3 kHz, 3 db ±1 db at 3500 Hz, and have an attenuation of at least 40 db at frequencies above 4500 Hz. FP-A case. Mil Type: FR6RX33YY1.

FLL-18000: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 15 kHz, 3 db ±1 db at 18 kHz, and have an attenuation of at least 43 db at frequencies above 23 kHz. FP-A case. Mil Type: FR6RX11YY1.

FLL-50000: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 42 kHz, 3 db ±1 db at 50 kHz, and have an attenuation of at least 43 db above 64 kHz. FP-B case. Mil Type: FR6RX11YY1.

NEW, LLP-10 & LLP-15, STANDARD LOW FREQUENCY LOW PASS FILTER

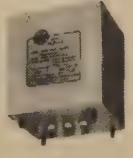
Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C



The LLP-10 low frequency low pass filter has a loss of less than 3 db at 10 Hz and attenuation of more than 40 db at 20 Hz. The LLP-15 low frequency low pass filter has a loss of less than 3 db at 15 Hz and attenuation of more than 40 db at 30 Hz. Both filters have a source and load impedance of 100K ohms. Both are MIL Type FR6RX11FA1. Dim: 2¼ x 2⅝ x 3⅛" h., 1½ lbs.

NEW 400-CYCLE 115 V. LINE FILTERS

Intended for use on 115 v., 400 cps line to eliminate harmonic distortion.



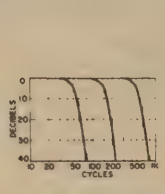
UTC No. PLF-25 — Gives 150 v. output into 500 ohm load with ±1 db, 375-425 Hz. Will attenuate 800 Hz by 30 db; 1200 Hz and higher by at least 50 db. MIL type, **FR4RX11NB1.** Meets MIL-F-18327C. Size 4¾" w x 5⅛" d. x 5½" h. Weight, 10 lbs.

UTC No. PLP-13 — Eliminates harmonic distortion, rejects 60 and 120 Hz, and gives zero phase shift at 400 Hz. Operating into 1000 ohm load, provides 115 v. output at 400 Hz, within ±1 db, 375-425 Hz. Attenuates 800 Hz by 15 db; 1200 Hz by 45 db; above 1200 Hz by at least 35 db; 120 Hz by 20 db; and, 60 Hz by 30 db. MIL type **FR4RX22-LB1**; meets MIL-F-18327C specifications. Size, 3¹¹⁄₁₆" w x 4¾" d. x 4½" h. Weight, 6½ lbs.

FOR FULL LINE OF STANDARD FILTERS, SEE UTC PAGE F-2.

ELECTRIC WAVE FILTERS

NEW STANDARD FILTERS



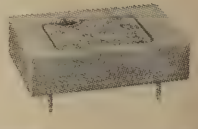
Base .....1¾ x 1¹¹⁄₁₆"
LMI-150 .....1⅝" h., wt. 6 oz.
LMI-50, LML-500, HML-40 .....2½" h., wt. 9 oz.



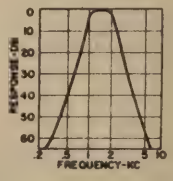
All UTC filters are designed, manufactured and successfully tested to M 18327C environmental requirements. The **LMI-50 & LMI-150** are Low Pass I stage Filters with source and load impedance of 10,000 ohms. Cutoff freq cies: LMI-50 at 50 Hz; LMI-150 at 150 Hz. The **LML-500** is a Low Pass F with a source and load impedance of 500/600 ohms, cutoff frequency is Hz. **HML-40** is a High Pass Filter with a source and load impedance of 500, ohms, cutoff frequency is 40 Hz. **MIL designations:** LMI-50 & LMI FR6RX11YY1; LML-500, FR6RX11YY1; HML-40, FR6RX33YY1.

BROAD BAND FILTER

The **FBH-1** — Flat package Broad Band Pass Filter has a source and load of 10K ohms. Units are within 3 db from 1 kHz to 2 kHz, and have an attenuation of at least 36 db at frequencies below 500 cps and above 4 kHz. FP-C Case. MIL type FR6RX22YY1.



FBH-10 — Same as FBH-1, except less than 3 db from 10 kHz to 20 kHz, attenuation of at least 36 db below 5 kHz and above 40 kHz.

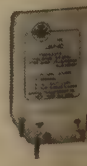




FP-C CASE
Height ½", wt. 2.2

LOW FREQUENCY FILTER (BAND PASS & BAND REJECT)





The **LBP-10** Low Frequency Band Pass Filter has a 10 Hz center frequency. The filter has 4 terminals so that it can be used as a band pass filter with a 10K ohm load or with a high impedance load, and in addition as a band reject filte As a Band Pass Filter, the unit is within 3 db at 9.6 and 10.4 Hz. Attenuation 5 & 20 Hz is at least 30 db with the 10K ohms output load and 35 db wi the 3.3 Megohm load. As a Band Reject Filter, the unit attenuates 10 Hz by minimum of 30 db and varies less than 3 db from DC to 7 Hz, and from 14 to 36 kHz. This filter is MIL type FR6RX22FB1.

For size and weight, see FB, UTC Page T-12 Section 5600.

UNITED® TRANSFORMER CO.

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

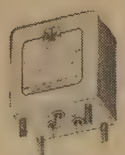
© United Technical Publications

ELECTRIC WAVE FILTERS

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C Specifications.

SPECIAL FREQUENCY FILTERS
INTERMEDIATE FREQUENCIES OTHER THAN THOSE SHOWN.


BM & LM Series


HM Series

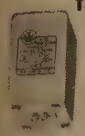
INTERSTAGE AND LINE FILTERS

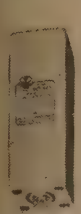
Available in stock frequencies listed below (numerical part of type —number is cutoff frequency in Hz). Compact shielded cases hermetically sealed to MIL-F-18327C specs. BMI, LMI, BML cases: 1¾" x 1 11/16" x 1⅝" h.; wt., 6 oz. HMI, HML, LML cases: 1⅝" x 1 11/16" x 2½" h.; wt., 9 oz. The BMI filters are band pass interstage units designed to operate between a vacuum tube plate (or 10,000 ohms) and a grid. They provide a gain of 2 at center frequency.
BTI units are same as BMI, but 10,000 ohms output.
BML band pass filters, similarly, work into a grid, but have an input impedance of 500/600 ohms. They provide a gain of 9.
HMI filters are high pass interstage units.
LMI filters are low pass interstage units.
HML filters are high pass with input and output impedance of 500/600 ohms.
LML filters are low pass filters with input and output impedance of 500/600 ohms.
LLP low frequency low pass filter, loss of less than 40 db at 20 Hz. Source & load 100K ohms.

UTC Type	UTC Type	UTC Type
BMI-30	BML-1000	LMI-200
BMI-50	BTI-60	LMI-400
BMI-60	BTI-100	LMI-500
BMI-90	BTI-120	LMI-800
BMI-100	HMI-50	LMI-1000
BMI-120	HMI-100	LMI-1500
BMI-150	HMI-200	LMI-2000
BMI-200	HMI-300	LMI-2500
BMI-240	HMI-400	LMI-3000
BMI-300	HMI-500	LMI-4000
BMI-400	HMI-800	LMI-5000
BMI-500	HMI-1000	LMI-10000
BMI-750	HMI-2000	LML-500
BMI-800	HMI-3000	LML-1000
BMI-1000	HML-40	LML-1500
BMI-1500	HML-200	LML-2000
BMI-2000	HML-300	LML-2500
BMI-3000	HML-500	LML-3000
BMI-4000	HML-1000	LML-4000
BMI-5000	LMI-50	LML-8000
BMI-10000	LMI-100	LML-10000
BML-400	LMI-150	LML-12000

IMMEDIATE DELIVERY ON ALL ITEMS
CONTACT YOUR LOCAL DISTRIBUTOR FOR CURRENT PRICES

TELEGRAPH TONE CHANNEL FILTERS


TGT CASE
1½ x 1½ x 2½
Mtg 1⅛ x 1⅛"
Screws 6-32
Weight .....8 oz.


TGR CASE
½ x 1½ x 4¼
tg 1⅛ x 1⅛"
crews 6-32
Veight ....15 oz.

UTC band pass filters for mutiplex transmitting and receiving provide maximum stability in miniature sizes. Stock filters cover all standarc transmit and receive bands. All units employ 7 terminal header matching subminiature 7 pin socket.
TGR (receiving) & TGT (transmitting) filters are 600 ohms in and out. They are down less than 3 db at ± 42.5 Hz from center frequency. TGR units are down more than 30 db at ± 170 Hz. Attenuation is greater than 15 db at adjacent channel crossover.
TGT units are down more than 16 db at ± 170 Hz. Attenuation is greater than 7.5 db at adjacent channel crossover. *All units are MIL type FR6RX-22YY1.*

UTC Type	Center Frequency (Hz)	UTC Type
TGT-425	425	TGR-425
TGT-595	595	TGR-595
TGT-765	765	TGR-765
TGT-935	935	TGR-935
TGT-1105	1105	TGR-1105
TGT-1275	1275	TGR-1275
TGT-1445	1445	TGR-1445
TGT-1615	1615	TGR-1615
TGT-1785	1785	TGR-1785
TGT-1955	1955	TGR-1955
TGT-2125	2125	TGR-2125
TGT-2295	2295	TGR-2295
TGT-2465	2465	TGR-2465
TGT-2635	2635	TGR-2635
TGT-2805	2805	TGR-2805
TGT-2975	2975	TGR-2975
TGT-3145	3145	TGR-3145
TGT-3315	3315	TGR-3315


BPM


HPM & LPM

MINIFILTERS*

These units provide almost the same characteristics as the standard interstage units listed to the left, although extremely miniaturized. Hermetically sealed to MIL-F-18327C specs. B type case: ¾" x ¾" x 1⅛" h.; wt., 1 oz. H and L cases: 1" x 1" x 1⅜" h.; wt., 2¼ oz. Cutoff frequencies in Hz indicated by type number.
BPM units (BAND PASS) have 2:1 gain. Attenuation is approximately 2 db ±3% from center frequency, and 35 db per octave as shown. Input 10,000 ohms, output to grid, tapped for 10,000 ohms to provide for transistor circuits. For tube circuits continuity is on grid side, for transistor use continuity is on input side.
BPH units (BAND PASS) attenuation less than 3 db ±5% from center frequency, and 40 db per octave. Source and load 500 ohms.
HPM units (HIGH PASS) are down less than 6 db at cutoff frequency, and more than 30 db at .67 cutoff frequency, 40 db at .6 cutoff frequency. Input and output 10,000 ohms.
LPM units (LOW PASS) are down less than 6 db at cutoff frequency, and more than 30 db at 1.5 cutoff frequency, 40 db at 1.65 cutoff frequency. Input and output 10,000 ohms.

UTC Type	UTC Type	UTC Type
BPH-50000	BPM-2500	HPM-1500
BPH-100000	BPM-3000	HPM-4000
BPM-400	BPM-3200	LPM-200
BPM-440		LPM-300
BPM-500	BPM-4000	LPM-500
BPM-600	BPM-4800	LPM-1000
BPM-750	BPM-5000	LPM-1500
BPM-800	BPM-6000	LPM-2000
BPM-1000	BPM-6400	LPM-3000
BPM-1200	BPM-8000	LPM-5000
BPM-1500	BPM-10000	LPM-6000
BPM-1600	BPM-20000	LPM-8000
BPM-1800	HPM-500	LPM-10000
BPM-2000	HPM-1000	LPM-15000


TMN-.4 thru TMN-1.7
1 1/16 x 1 3/32 x 2"
Weight 3.5 oz.
TMN-2.3 thru TMW-70
2 3/32 x 2 3/32 x 1 3/16"
Weight 1.2 oz.

TELEMETERING BAND PASS FILTERS


MNF-.4 thru MNF-5.4
1 3/16" Sq. x ½" high
Weight 1 oz.
MNF-7.35 thru MWF-70
2 3/32" Sq. x ½" high
Weight 1/3 oz.

Both TMN and TMW types are designed for 100 K input and output impedance and have an insertion loss of less than 6 db. Four pin hermetic header matches small Winchester socket.
TMN filters are down less than 3 db at ± 7.5% of center frequency. They are down more than 18 db at ± 25% of center frequency. Attenuation is greater than 40 db beyond 1.75 Fc and .58 Fc.
TMW filters are down less than 3 db at ± 15% of center frequency. They are down more than 20 db at ± 50% of center frequency. Attenuation is greater than 40 db beyond 2.5 Fc and .4 Fc.
MNF and MWF (Minifilter) provide same performance as filters described above but are extremely miniaturized. Slanted toward use with transistors. Pin terminals ideally suited for printed circuits.

UTC Type	Center Frequ'cy kHz	Band Width±	UTC Type
TMN- .4	.4	7½%	MNF- .4
TMN- .56	.56	7½%	MNF- .56
TMN- .73	.73	7½%	MNF- .73
TMN- .96	.96	7½%	MNF- .96
TMN-1.3	1.3	7½%	MNF-1.3
TMN-1.7	1.7	7½%	MNF-1.7
TMN-2.3	2.3	7½%	MNF-2.3
TMN-3.0	3.0	7½%	MNF-3.0
TMN-3.9	3.9	7½%	MNF-3.9
TMN-5.4	5.4	7½%	MNF-5.4
TMN-7.35	7.35	7½%	MNF-7.35
TMN-10.5	10.5	7½%	MNF-10.5
TMN-14.5	14.5	7½%	MNF-14.5
TMN-22	22	7½%	MNF-22
TMN-30	30	7½%	MNF-30
TMN-40	40	7½%	MNF-40
TMN-52.5	52.5	7½%	MNF-52.5
TMN-70	70	7½%	MNF-70
TMW-22	22	15%	MWF-22
TMW-30	30	15%	MWF-30
TMW-40	40	15%	MWF-40
TMW-52.5	52.5	15%	MWF-52.5
TMW-70	70	15%	MWF-70

UNITED® TRANSFORMER CO. **TRW®**

UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

DABURN

DABURN electronics & cable corp.

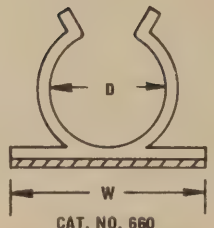
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DABURN FASTENING DEVICES

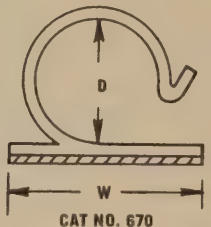
STIK KLIPS™ • TENSION CLIPS • COMPONENT CLIPS • WIRE TIES

DABURN STIK KLIPS™

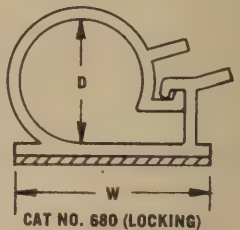
NEW



CAT. NO. 660



CAT NO. 670



CAT NO. 680 (LOCKING)

For fast secure mounting on smooth surfaces. No need to screw, nail or staple in place. Fastens in a flash — just peel off the protective backing and press in place on a clean, dry surface.

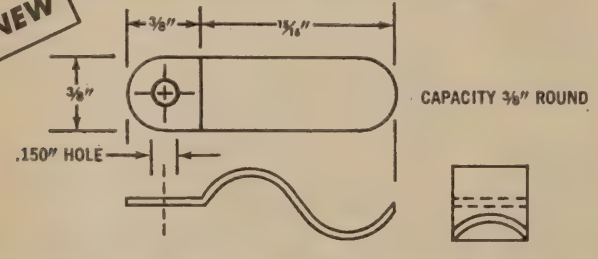
These plastic clips are insulating, strong and elastic. They have many uses, such as keeping telephone wires off the floor, holding wire, cable, tubing, rods, etc. in position.

Material: PVC
Color: Gray
Temp. Range: −10°F to +175°F

DABURN Cat. No.	D	W	Std. Pkg.
660-⅛	⅛"	¾"	100, 1000
660-¼	¼"	¾"	100, 1000
660-⅜	⅜"	¾"	100, 1000
660-½	½"	1"	100, 1000
660-¾	¾"	1"	100, 1000
670-⅛	⅛"	¾"	100, 1000
670-¼	¼"	¾"	100, 1000
670-⅜	⅜"	¾"	100, 1000
670-½	½"	1"	100, 1000
670-¾	¾"	1"	100, 1000
680-¼	¼"	¾"	100, 1000
680-½	½"	1"	100, 1000
680-¾	¾"	1"	100, 1000

DABURN NYLON TENSION CLIPS

NEW



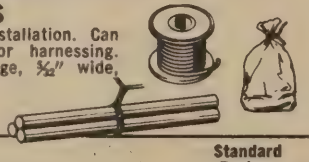
Holds Cable - Wire - Tubing - Pipe - Panels. Many other varied uses. DABURN nylon tension clips are made of strong, durable nylon. They are insulating, non-corrosive and weather resistant. DABURN tension clips are easily fastened, easily removed, strong and elastic.

DABURN CAT. NO.: 641 STD. PKG.: 100, 1000
COLOR: Natural

PLASTIC WIRE TIES

Useful for temporary or permanent installation. Can be adapted for immediate bundling or harnessing. Plastic insulated. Has .016" steel gauge, 5/32" wide, 30 lb. test.

TEMPERATURE: −20°F to +200°F.



DABURN Cat. No.		Standard Package
603	Plastic Wire Ties	100', 500', 1000'

COLORS: White. Blue. Red. Green. Yellow. Additional colors available.

DABURN PUSH BUTTON WIRE TIES

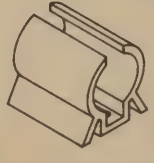


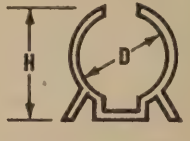
Push button wire ties for harnessing wire. 4½" in length, each tie is adjustable to 30 different diameters. Made of strong polyethylene, it is inert chemically and heat resistant. Breaking strength 45 to 95 lbs. After the tie is placed in hole for anchoring, wires can be replaced or added by loosening tie and pulling tight again. Designed to fit .250" to .265" hole in a .031" to .140" thick panel. Material conforms to Spec. LP590.
Temp. to +200°F

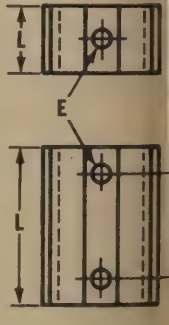
DABURN Cat. No.	(Specify Color)	Standard Package
601-4	Red, Blue, Yellow	100, 1000

LACING CORD AND TAPE, SEE PAGE 26

DABURN COMPONENT CLIPS







Hold and insulate, electrical and electronic components, accessories — spare parts. Holds firmly and still permits fast and easy insertion. Convenient for fastening clips and retainers for transistors, batteries, fuses, capacitors, resistors, lamps, etc. These Daburn clips are made of black vinyl (polyvinylchloride). Has high dielectric strength. Can be mounted with screws, rivets or other fastening means.

MATERIAL: Rigid Vinyl.
TEMPERATURE RANGE: −20° to +165°F.
STANDARD PACKAGE: 100, 1000.

DABURN Stock No.	D Diam.	H Height	L Length	E Diam. of Hole	F Dist. Bet. Holes
600-¼"	¼"	13/32"	½"	3/32"	—
600-5/16"	5/16"	15/32"	½"	3/32"	—
600-⅜"	⅜"	½"	½"	3/32"	—
600-7/16"	7/16"	½"	½"	3/32"	—
600-½"	½"	⅝"	½"	3/32"	—
600-9/16"	9/16"	⅝"	½"	3/32"	—
600-⅝"	⅝"	⅝"	½"	3/32"	—
600-11/16"	11/16"	¾"	½"	5/32"	—
600-¾"	¾"	⅞"	½"	5/32"	—
600-⅞"	⅞"	1"	½"	5/32"	¾"
600-1"	1"	1¼"	1⅛"	5/32"	¾"
600-1⅜"	1⅜"	1 15/32"	1⅛"	5/32"	¾"

FOR ADDITIONAL FASTENING DEVICES, PAGES 25, 26.

© United Technical Publication

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

FASTENINGS, NYLON-FIBRE WASHERS, SPACERS, SCREWS, NUTS, CAPTIVE HARDWARE

DABURN NYLON FASTENINGS ZYTEL 101 MIL-P-20693A



Has outstanding insulation specs. hi-resistance to heat, shock, vibration, chemical. Is light in weight, superior torque streng.h Corrosion resistant, non magnetic. Continuous service temperature to 300° F. All parts made to American thread standards to Class 2A or 2B fit. B18.2 (hex nuts), B18.6 (machine screws), B1.1 (thread specs.).

Daburn No.	Size	Type	Daburn No.	Size	Type
14-40	2-56 x 1/4"	Rd. Hd.	14-48A	6-32 x 1/2"	Bind. Hd.
14-40A	2-56 x 1/4"	Fill. Hd.	14-48B	6-32 x 1/2"	Fill. Hd.
14-40B	2-56 x 1/4"	Bind. Hd.	14-48C	6-32 x 1/2"	Flat. Hd.
14-41	2-56 x 3/8"	Rd. Hd.	14-49	6-32 x 3/4"	Rd. Hd.
14-41A	2-56 x 3/8"	Fill. Hd.	14-49A	6-32 x 3/4"	Fill. Hd.
14-41B	2-56 x 3/8"	Bind. Hd.	14-49B	6-32 x 3/4"	Bind. Hd.
14-42	2-56 x 1/2"	Rd. Hd.	14-50	6-32 x 1"	Rd. Hd.
14-42A	2-56 x 1/2"	Fill. Hd.	14-50C	6-32 x 1"	Flat. Hd.
14-42B	2-56 x 1/2"	Bind. Hd.	14-51	8-32 x 1/4"	Rd. Hd.
14-43	4-40 x 1/4"	Rd. Hd.	14-51A	8-32 x 1/4"	Fill. Hd.
14-43A	4-40 x 1/4"	Fill. Hd.	14-51B	8-32 x 1/4"	Bind. Hd.
14-43B	4-40 x 1/4"	Bind. Hd.	14-52	8-32 x 1/2"	Rd. Hd.
14-44	4-40 x 3/8"	Rd. Hd.	14-52A	8-32 x 1/2"	Fill. Hd.
14-44A	4-40 x 3/8"	Fill Hd.	14-52B	8-32 x 1/2"	Bd. Hd.
14-44B	4-40 x 3/8"	Bind. Hd.	14-52C	8-32 x 1/2"	Flat. Hd.
14-44C	4-40 x 3/8"	Flat Hd.	14-54	8-32 x 5/8"	Rd. Hd.
14-45	4-40 x 1/2"	Rd. Hd.	14-54A	8-32 x 5/8"	Fill. Hd.
14-45A	4-40 x 1/2"	Fill. Hd.	14-55	8-32 x 3/4"	Rd. Hd.
14-45B	4-40 x 1/2"	Bind. Hd.	14-55A	8-32 x 3/4"	Fill. Hd.
14-61	4-40 x 1"	Rd. Hd.	14-55B	8-32 x 3/4"	Bd. Hd.
14-61C	4-40 x 1"	Flat Hd.			
14-46	6-32 x 1/4"	Rd. Hd.	14-56A	8-32 x 1"	Fill. Hd.
14-46A	6-32 x 1/4"	Fill. Hd.	14-56C	8-32 x 1"	Flat. Hd.
14-46B	6-32 x 1/4"	Bind. Hd.	14-57	10-32 x 3/8"	Rd. Hd.
14-46C	6-32 x 1/4"	Flat Hd.	14-58	10-32 x 1/2"	Rd. Hd.
14-47	6-32 x 3/8"	Rd. Hd.	14-58C	10-32 x 1/2"	Flat Hd.
14-47A	6-32 x 3/8"	Bind. Hd.	14-59	10-32 x 5/8"	Rd. Hd.
14-47B	6-32 x 3/8"	Fill. Hd.	14-60	10-32 x 1"	Rd. Hd.
14-47C	6-32 x 3/8"	Flat. Hd.	14-60C	10-32 x 1"	Flat Hd.
14-48	6-32 x 1/2"	Rd. Hd.			

STOCK COLOR: Natural Additional sizes available to order. Std. Pkg.: 100, 1000

DABURN NYLON SHOULDER WASHERS

Natural Nylon Per MIL-P-20693A
Standard Package 1000





Catalog No.	E	Hole Size	D	C	B	A
14-540	.140	6	.375	.093	.031	.237
14-541	.110	4	.250	.062	.031	.187
14-542	.136	6	.250	.093	.031	.187
14-543	.136	6	.312	.093	.031	.187
14-544	.250	1/4"	.500	.068	.028	.312
14-545	.172	8	.375	.093	.031	.246
14-546	.196	10	.375	.093	.031	.308
14-547	.265	17/64"	.500	.097	.031	.365
14-548	.375	3/8"	.750	.093	.031	.500
14-549	.385	3/8"	.625	.093	.031	.500

FIBRE SHOULDER WASHERS

Fibre Material Per NEMA Standard and ASTM • Spec. D-710





Catalog No.	E	Hole Size	D	C	B	A
14-530	.140	6	.375	.093	.031	.237
14-531	.110	4	.250	.062	.031	.187
14-532	.136	6	.250	.093	.031	.187
14-533	.136	6	.312	.093	.031	.187
14-534	.250	1/4"	.500	.068	.028	.312
14-535	.172	8	.375	.093	.031	.308
14-536	.196	10	.375	.093	.031	.308
14-537	.265	17/64"	.500	.097	.031	.365
14-538	.375	3/8"	.750	.093	.031	.500
14-539	.385	3/8"	.625	.093	.031	.500

Standard Package 1000

FLAT FIBRE WASHERS

NEMA STANDARD ASTM SPEC D-710





Cat. No.	Hole Size	I.D.	O.D.	Thick-ness
14-510	6	.136	.250	1/16
14-511	4	.110	.250	1/16
14-512	6	.140	.375	0/16
14-513	8	.172	.375	5/16
14-514	10	.196	.345	1/16
14-515	1/4"	.250	.500	1 1/16
14-516	1/4"	.250	.500	3/32
14-517	5/16"	.312	.500	1/16
14-518	3/8"	.385	.625	1/16
14-519	3/8"	.375	.750	1/16

Standard Package 1000

DABURN NYLON SPACER/BUSHINGS



Wide flanges isolates screw from mounting surface.
Has hi-tensile and torque strength.
COLOR: Natural. MIL-P-20693A. Std. Pkg.: 100, 1000.

Daburn No.	Screw Size I.D.	W	T	H	D
14-79	# 4 (.115")	.235"	3/64"	1/4"	.146"
14-79A	# 6 (.140")	.290"	3/64"	1/4"	.170"
14-79B	# 8 (.173")	.344"	1/16"	3/8"	.205"
14-79C	#10 (.200")	.399"	1/16"	3/8"	.260"
14-79D	1/4" (.260")	.513"	1/16"	3/8"	.312"

DABURN NYLON HEX NUTS



Daburn No.	Size	Daburn No.	Size
14-85	2-56	14-88	8-32
14-86	4-40	14-89	10-32
14-87	6-32	14-90	1/4-20

COLOR: Natural. MIL-P-20693A. Std. Pkg.: 100, 1000

DABURN NYLON FLAT WASHERS

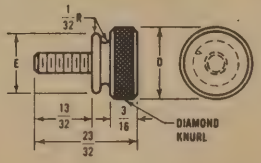


Daburn No.	For Screw Size	I.D.	O.D.	Thickness
14-92	2	7/64"	1/4"	.016"
14-93	4	1/8"	1/4"	.016"
14-94	6	9/64"	5/16"	.031"
14-95	8	.170"	3/8"	.031"
14-96	10	.195"	3/8"	.031"
14-97	1/4	9/32"	5/8"	.063"

COLOR: Natural Std. Pkg.: 100, 1000

CAPTIVE HARDWARE

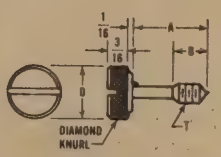
THUMB SCREW



Cat. No.	D	E	Thread
14-501	3/8	5/16	6-32
14-502	3/8	5/16	8-32
14-503	3/8	5/16	10-32
14-504	7/16	3/8	6-32
14-505	7/16	3/8	8-32
14-506	7/16	3/8	10-32
14-507	1/2	7/16	6-32
14-508	1/2	7/16	8-32
14-509	1/2	7/16	10-32

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate per MIL-QQN-290, Type VI. **Std. Pkg. 100**

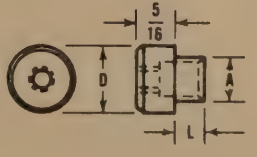
CAPTIVE SCREW



Cat. No.	A	B	D	T	Material
14-555	3/4	5/16	7/16	6-32	Brass
14-555SS	3/4	5/16	7/16	6-32	St. St.
14-556	3/4	3/8	7/16	8-32	Brass
14-556SS	3/4	3/8	7/16	8-32	St. St.
14-557	7/8	3/8	5/8	10-32	Brass
14-557SS	7/8	3/8	7/16	10-32	St. St.
14-558	7/8	3/8	5/8	1/4-20	Brass
14-558SS	7/8	3/8	1/2	1/4-20	St. St.

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate and Polish per MIL-QQN-290, Type VI.
Stainless Steel per QQS-763, Class 7, Type A available. **Std. Pkg. 10**

CAPTIVE BUSHING



Cat. No.	D	A	L	T	Panel Thick-ness
14-560	3/8	5/16	5/32	6-32	1/8
14-561	3/8	5/16	5/32	8-32	1/8
14-562	7/16	13/32	5/32	10-32	1/8
14-563	5/16	13/32	5/32	1/4-20	1/8
14-564	3/8	5/16	7/32	6-32	5/16
14-565	3/8	5/16	7/32	8-32	5/16
14-566	5/16	13/32	7/32	10-32	5/16
14-567	5/16	13/16	7/32	10-32	5/16
14-568	3/8	5/16	5/32	6-32	1/4
14-569	3/8	5/16	5/32	8-32	1/4
14-570	5/16	13/16	5/32	10-32	1/4
14-571	5/16	13/16	5/32	1/4-20	1/4

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate per MIL-QQN-290, Type VI
Available in Stainless Steel, add suffix -S to part number.
SPECIAL SIZES ALSO AVAILABLE. **Std. Pkg. 100**

NOTE: See Sections 2100, 3100 for additional Daburn Hardware Products. Section 6000, for our Insulated Tubing - Wire - Cable — including Heat Shrinkable Tubing.

GC ELECTRONICS

ELECTRONIC HARDWARE

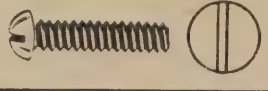
SOLDERING LUGS



Description & Specifications	Fig. No.	GC Part No.	Net Per 100	GC Part No.	Net Per 100
Hole Size #6, Length — 1 3/32"	A1	8466-C	$2.00	8466-M	$15.95
Hole Size #6, Length — 2 3/32"	A	8467-C	3.59	8467-M	28.69
Hole Size #8, Length — 2 3/32"	A	8468-C	3.38	8468-M	27.01
Hole Size #6, Length — 2 1/32"	B	1021-BC	1.35	1021-BM	10.77
Hole Size #8, Length — 5/8"	B	7445-C	1.53	7445-M	12.18
Hole Size #10, Length — 1 1/16"	B	8473-C	1.83	8473-M	17.24
Hole Size #6, Length — 3/4"	C	5703-C	1.14	5703-M	9.09
Hole Size #8, Length — 3/4"	C	5704-C	2.14	5704-M	17.07
Hole Size #10, Length — 1 3/4"	C	5705-C	2.14	5705-M	17.07
Hole Size #6, Length — 1 1/16"	C	1021-CC	1.18	1021-CM	9.38
Hole Size #6, Length — 3/16"	F	1021-FC	1.18	1021-FM	9.38
Hole Size #8, Length — 3/16"	F	7451-C	1.14	7451-M	9.15
Hole Size #6, Length — 7/8"	F	7454-C	1.36	7454-M	12.44
Hole Size #8, Length — 7/8"	H	7455-C	1.18	7455-M	9.25
Hole Size #10, Length — 7/8"	H	7456-C	1.18	7456-M	9.25
Hole Size #10, Length — 1 3/16"	K	7461-C	2.38	7461-M	19.04
Hole Size #6, Length — 5/8"	L	7462-C	1.37	7462-M	10.92
Hole Size #8, Length — 5/8"	L	7463-C	1.37	7463-M	10.92
Hole Size #4, Length — 3/16"	F	5706-C	2.13	5706-M	17.07
Hole Size #6, Length — 1 3/16"	F	5708-C	2.13	5708-M	17.07
Hole Size #6, Length — 1 1/16"	M	7441-C	1.50	7441-M	12.03
Hole Size #8, Length — 1 1/16"	M	7442-C	1.42	7442-M	11.34
Hole Size #10, Length — 1 1/16"	M	1021-AC	1.42	1021-AM	11.34
Solderless TV Line Luge	O	8633-C	2.10	8633-M	16.79
Hole Size #8	AA			7118-MW	13.16
Hole Size #6, Length — 3/16"	BB	7126-C	.98	7126-M	9.80
Hole Size #6	CC	7156-C	1.37	7156-M	10.92
Hole Size #8, Length — 13/16"	CC			7158-MW	10.92
Hole Size #6, Length — 1/2"	FF	7166-C	1.01	7166-M	10.08
Hole Size #10, Length — 1 1/16"	FF	7169-C	1.26	7169-M	10.06
Hole Size #10	HH	7179-C	1.34	7179-M	10.77
Hole Size #10	KK	7189-C	2.15	7189-M	17.21

ROUND HEAD MACHINE SCREWS

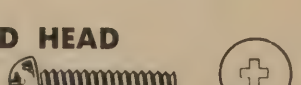
STEEL — NICKEL PLATED



Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
2-56 x 3/16"	8021-CW	$ .55	8021-MW	$ 4.34
2-56 x 1/4"	7130-C	.63	7130-M	5.00
2-56 x 1/2"	7131-C	.63	7131-M	5.11
2-56 x 3/4"	7132-C	.80	7132-M	6.43
3-48 x 3/4"			7124-M	6.02
4-36 x 1/4" Phono Cartridge Mounting Screw	6005-C	.63	6005-M	5.11
4-36 x 1/2"	6006-C	.70	6006-M	5.60
4-40 x 1/4" Phono Cartridge Mounting Screw	6005-AC	.67	6005-AM	5.28
4-40 x 1/2"	6005-BC	.70	6005-BM	5.60
4-40 x 3/8"	5652-C	.74	5652-M	5.88
4-40 x 3/4"	6005-CC	.83	6005-CM	6.57
6-32 x 1/4"	6008-C	.68	6008-M	5.46
6-32 x 3/8"	8063-C	.68	8063-M	5.46
6-32 x 1/2"	6009-C	.79	6009-M	6.30
6-32 x 5/8"	5653-C	.87	5653-M	6.99
6-32 x 3/4"	6010-C	.92	6010-M	7.41
6-32 x 1"	6011-C	1.07	6011-M	8.54
6-32 x 1 1/4"	7141-C	1.30	7141-M	10.35
6-32 x 2"	7148-C	1.93	7148-M	15.39
8-32 x 1/4"	6013-C	.91	6013-M	7.28
8-32 x 3/8"	6014-C	1.00	6014-M	7.98
8-32 x 1/2"	6015-C	1.07	6015-M	8.54
8-32 x 3/4"	6016-C	1.19	6016-M	9.51
8-32 x 1"	6017-C	1.37	6017-M	10.92
8-32 x 1 1/4"	7142-C	1.58	7142-M	12.60
10-32 x 1/2"	6020-C	1.21	6020-M	9.66
10-32 x 3/4"	6021-C	1.46	6021-M	11.61
10-32 x 1"	6022-C	1.60	6022-M	12.74
10-32 x 1 1/2"	7143-C	2.12	7143-M	16.94

PHILLIPS HEAD ROUND HEAD MACHINE SCREWS

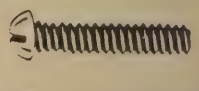
STEEL — NICKEL PLATED



6-32 x 1/4"	8511-C	$1.52	8511-M	$ 9.74
6-32 x 1/2"	8512-C	1.37	8512-M	10.92

ROUND HEAD MACHINE SCREWS

BRASS — NOT PLATED



Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 10
4-40 x 1/4"	5666-C	1.02	5666-M	6
4-40 x 1/2"	5667-C	1.31	5667-M	10
4-40 x 3/4"	5669-C	1.65	5669-M	13
6-32 x 1/4"			8501-M	11
6-32 x 3/8"	5670-C	1.54		
6-32 x 1/2"	8502-C	1.68	8502-M	13
6-32 x 1 1/4"	5672-C	2.80	5672-M	22
6-32 x 2"	5673-C	4.73		
8-32 x 1"	8508-C	3.63		
8-32 x 1 1/4"	5676-C	4.43		
10-32 x 1/2"	5677-C	3.12		
10-32 x 1"	5680-C	4.54	5680-M	29.
10-32 x 1 1/2"	5681-C	6.38	5681-M	40.

BINDING HEAD MACHINE SCREWS

STEEL — NICKEL PLATED



2-56 x 1/4"	7160-C	.65	7160-M	5.1
2-56 x 1/2"	7161-C	.73	7161-M	5.9
4-40 x 1/4"	7170-C	.68	7170-M	5.4
4-40 x 1/2"	7171-C	.70	7171-M	5.6
4-40 x 3/4"	7172-C	.83	7172-M	6.5
6-32 x 3/16"	7151-C	.71	7151-M	5.7
6-32 x 1/4"	7152-C	.68	7152-M	5.4
6-32 x 3/8"	7153-C	.74	7153-M	5.8
6-32 x 1/2"	7118-C	.79	7118-M	6.3
6-32 x 3/4"	7173-C	.92	7173-M	7.4
8-32 x 1/4"	7174-C	.91	7174-M	7.2
8-32 x 5/16"	7158-C	1.00	7158-M	7.9
8-32 x 3/8"	7119-C	1.00	7119-M	7.9
8-32 x 1/2"	7120-C	1.07		
8-32 x 3/4"	7175-C	1.19	7175-M	9.5
10-32 x 1/2"	7176-C	1.21	7176-M	9.6
10-32 x 3/4"	7177-C	1.50	7177-M	11.9

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net

© United Technical Publication

GC ELECTRONICS — ELECTRONIC HARDWARE

BINDING HEAD MACHINE SCREWS



BRASS — NICKEL PLATED

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
4-40 x 1/4"	7170-1-C	1.38	7170-1-M	10.55
4-40 x 1/2"	7171-1-C	1.45	7171-1-M	9.29
6-32 x 3/16"	7151-1-C	1.79	7151-1-M	11.42
6-32 x 1/4"	7152-1-C	1.42	7152-1-M	11.28
6-32 x 3/8"	7153-1-C	1.55	7153-1-M	12.38
6-32 x 1/2"	7118-1-C	1.68	7118-1-M	13.43
6-32 x 3/4"	7173-1-C	2.03	7173-1-M	16.23
8-32 x 1/4"	7174-1-C	2.15	7174-1-M	17.18
8-32 x 3/8"	7119-1-C	2.15	7119-1-M	17.21
8-32 x 1/2"	7120-1-C	2.47	7120-1-M	19.73
8-32 x 3/4"	7175-1-C	3.03	7175-1-M	19.37
10-32 x 1/2"	7176-1-C	3.39	7176-1-M	27.15
10-32 x 3/4"	7177-1-C	4.59	7177-1-M	36.67

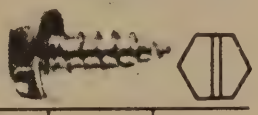
SHEET METAL SCREWS



HEX HEAD — SLOTTED SELF-TAPPING — NICKEL PLATED

#4 x 1/2"	6090-C	1.07	6090-M	8.54
#6 x 1/4"	6091-C	1.12	6091-M	8.96
#6 x 3/8"	6092-C	1.14	6092-M	9.09
#6 x 1/2"	6093-C	1.21	6093-M	9.66
#6 x 3/4"	6094-C	1.30	6094-M	6.83
#8 x 1/4"	8102-C	$1.30	8102-M	$10.35
#8 x 3/8"	6095-C	1.34	6095-M	10.77
#8 x 1/2"	6096-C	1.39	6096-M	11.06
#8 x 1"	6097-C	1.77	6097-M	14.13
#10 x 1/2"	6099-C	1.65	6099-M	13.16
#10 x 3/4"	6100-C	1.80	6100-M	14.41
#8 x 5/8"	5696-C	1.40	5696-M	11.19

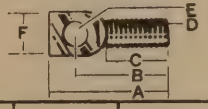
TV BACK COVER SCREWS



CADMIUM PLATED

Assorted	9329-C	.91		
#6 x 5/8", Cadmium Plated	9330-C	.95		
#8 x 3/4", Cadmium Plated	9332-C	1.49		

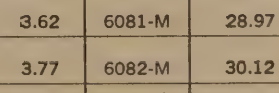
SPADE BOLTS or MOUNTING SCREWS



STEEL — NICKEL PLATED

A—3/4", B—5/8", C—11/32", D—6-32, E—#6, F—1/4"	6081-C	3.62	6081-M	28.97
A—7/8", B—11/16", C—13/32" D—6-32, E—#6, F—1/4"	6082-C	3.77	6082-M	30.12
A—1 3/32", B—15/16", C—7/16", D—8-32, E—#8, F—11/32"	6084-C	8.80	6084-M	70.36

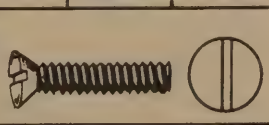
ORNAMENTAL HEAD SCREWS



STEEL — STATUARY BRONZE PLATED

6-32 x 1"	1098-C	1.79	1098-M	14.27

OVAL HEAD RACK AND CABINET SCREWS



STEEL — NICKEL PLATED

6-32 x 1/2"	6540-C	.79	6540-M	6.30
10-32 x 1/2"	8848-C	1.21	8848-M	9.66
10-32 x 5/8"	5693-C	1.31	5693-M	10.50
10-32 x 3/4"	6543-C	1.42	6543-M	11.34

ALLEN HEX SET SCREWS



HARDENED STEEL — HEADLESS

4-40 x 1/4"	7200-C	$6.38	7200-M	$51.08
6-32 x 1/8"	7196-C	6.27	7196-M	40.08
6-32 x 3/16"	7197-C	6.27		
8-32 x 3/16"	7202-C	6.27	7202-M	50.10

HEXAGON NUTS



STEEL — NICKEL PLATED

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
Thread 2-56, Width 3/16", Thickness 1/16"	7225-C	.87	7225-M	6.99
Thread 3-48, Width 3/16", Thickness 1/16"	7226-C	.87	7226-M	6.99
Thread 4-36, Width 1/4", Thickness 3/32"	6041-C	.87	6041-M	6.99
Thread 4-40, Width 1/4", Thickness 3/32"	6041-AC	.87	6041-AM	6.99
Thread 6-32, Width 1/4", Thickness 3/32"	6042-C	.87	6042-M	6.99
Thread 6-32, Width 5/16", Thickness 7/64"	7230-C	.95	7230-M	7.56
Thread 8-32, Width 1/4", Thickness 3/32"	6043-C	.87	6043-M	6.99
Thread 8-32, Width 5/16", Thickness 7/64"	7232-C	.95	7232-M	7.56
Thread 8-32, Width 11/32", Thickness 1/8"	7233-C	.92	7233-M	7.41
Thread 1/4-20, Width 7/16", Thickness 3/16"	7235-C	1.55	7235-M	12.45
Thread 3/8-32, Width 7/16", Thickness 3/32"	6050-AC	1.87	6050-AM	14.97
Thread 7/16-27, Width 5/16", Thickness 1/8"	7238-C	4.20	7238-M	33.59
Thread 15/32-32, Width 5/16", Thickness 5/64"	6050-BC	2.29	6050-BM	18.33
Thread 10-32, Width 5/16", Thickness 7/64"	8810-C	1.23	8810-M	9.80
Thread 4-40, Width 3/16", Thickness 1/16"	8804-C	.84	8804-M	6.72
Thread 2-56, Width 3/16", Thickness 1/16"	7241-C	1.26	7241-M	10.08
Thread 4-40, Width 1/4", Thickness 3/32"	7244-C	1.50	7244-M	9.62
Thread 6-32, Width 1/4", Thickness 3/32"	7245-C	1.49	7245-M	11.90
Thread 6-32, Width 5/16", Thickness 7/64"	5697-C	1.79	5697-M	14.27
Thread 8-32, Width 1/4", Thickness 3/32"	5698-C	1.49	5698-M	9.52
Thread 8-32, Width 5/16", Thickness 7/64"	7248-C	1.79	7248-M	11.42
Thread 10-32, Width 3/8", Thickness 1/8"	7249-C	1.96	7249-M	12.54
Thread 1/4-20, Width 7/16", Thickness 3/16"	5699-C	4.18	5699-M	26.75

MOUNTING NUTS



STEEL — NICKEL PLATED

Thread 3/8-32, Width 5/16", Thickness 3/32", Volume Control Size—Hex	6050-AC	1.87	6050-AM	14.97
Thread 7/16-27, Width 5/16", Thickness 1/8", Pilot Light Size—Hex	7238-C	4.20	7238-M	33.59
Thread 15/32-32, Width 5/16", Thickness 5/64", Toggle Switch Size—Hex	6050-BC	2.29	6050-BM	18.33
Thread 15/32-32, Width 13/32", Thickness 1/16", Round Ring Nut Knurled—Toggle Switch Size	6050-CC	4.41	6050-CM	35.27
Thread 3/8-32, Width 1/2", Thickness 3/32", Volume Control Switch—Hex	8923-C	2.80	8923-M	22.39
Thread 15/32-32, Width 13/32", Thickness 3/32", Round Ring Nut Knurled—Toggle Switch Size	8926-C	5.99		

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

GC ELECTRONICS

ELECTRONIC HARDWARE

RIVETS
NICKEL PLATED



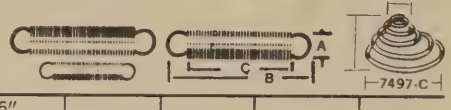
Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
Shank: Dia. .121", Length 1/8"	7286-C	.78	7286-M	7.83
Shank: Dia. .121", Length 3/16"	7288-C	.77	7288-M	6.75
Shank: Dia. .121", Length 1/4"	7290-C	.71	7290-M	7.14

EYELETS
BRASS



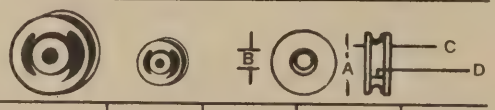
Shank Dia. .087", Length 1/8", Head Dia. .145"	7251-C	.37	7251-M	2.94
Shank Dia. .087", Length 5/32", Head Dia. .145"	7252-C	.49	7252-M	3.92
Shank Dia. .087", Length 7/32", Head Dia. .145"	7253-C	.49	7253-M	3.91
Shank Dia. .123", Length 5/32", Head Dia. .197"	7257-C	.68	7257-M	5.46
Shank Dia. .123", Length 7/32", Head Dia. .195"	7259-C	.55	7259-M	4.34
Shank Dia. .123", Length 9/32", Head Dia. .195"	7261-C	.57	7261-M	5.73
Shank Dia. .182", Length .145", Head Dia. .315"	7269-C	.42	7269-M	3.36

SPRINGS
SPRING STEEL — CADMIUM PLATED



A—1/8", wire size .016", B—1/2", C—1/4"	6450-C	$6.38	6450-M	$51.08
A—1/8", wire size .016", B—1", C—3/4"	6451-C	4.81	6451-M	38.48
A—3/16", wire size .020", B—1", C—5/8"	6452-C	5.37	6452-M	42.97
A—1/4", wire size .026", B—1 1/2", C—1"	6454-C	7.12	6454-M	56.95
A—3/16", wire size .020", B—5/16"	7407-C	13.61	7407-M	108.89

PULLEYS
BRASS



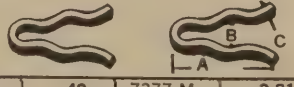
A—3/8", B—.125", C—1/8", D—3/32"	6057-AC	5.88	6057-AM	47.02
A—.620", B—.128", C—.165", D—1/16"	6057-CC	11.88		

FAHNESTOCK CLIPS



A Length 1/2", Width 7/32", Mtg. hole #4, Mtg. wire 16 ga.	6301-C	1.91	6301-M	15.26
B Length 3/4", Width 5/16", Mtg. hole #6, Mtg. wire 14 ga.	6302-C	2.23	6302-M	17.83
C Length 1", Width 3/8", Mtg. hole #8, Mtg. wire 10 ga.	6303-C	3.82	6303-M	30.52
D Length 1 1/2", Width 5/16", Mtg. hole #6, Mtg. wire 10 ga.	6304-C	14.26	6304-M	114.14
E Length 3/4", Width 5/16", Mtg. hole #6, Mtg. wire 14 ga.	6306-C	6.30		

HAIR PIN COTTERS



A—13/32", B—3/32", C—.026"	7377-C	.48	7377-M	3.81
A—1/2", B—5/32", C—.026"	7378-C	.49	7378-M	4.89
A—21/32", B—3/16", C—.032"	7379-C	.63	7379-M	5.04

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000

FUSE CLIPS
Prices per quantity shown on those items



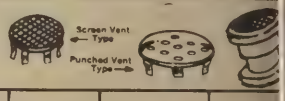
For 1/4" Glass Fuses, Mtg. Hole #6	B	6311-C	2.67	6311-M	21.2
TV Fuse Clip Box of 100	A	8618-C	18.90		
TV Fuse Clip Bag of 24	A	8618	.32		
S-Type Fuse Clip Bag of 20	C	8619	.49		
S-Type Fuse Clip Bag of 200	C	8619-2C	2.72		

SNAP-IN TRIMOUNTS
CADMIUM PLATED



Hole Size 1/8", A—9/32", B—13/64" No. 2	1722-C	$1.22	1722-M	$12.18

SNAP-IN VENTILATING PLUGS



1" dia. Snap-in type punched holes, nickel plated	1709-C	10.30	1709-M	82.43
1" dia. Snap-in type screen vent, steel nickel plated	1708-C	27.15	1708-M	217.19
3/4" dia. eyelet type screen vent, brass not plated	7333-CW	8.51	7333-MW	68.01

SNAP BUTTON HOLE PLUGS
STEEL — NICKEL PLATED



For Hole Size 1/4" A—13/32", B—1/4", C—17/64", D—5/64"	1711-AC	2.84	1711-AM	22.67
For Hole Size 5/16" A—7/16", B—1/4", C—23/64", D—1/16"	1711-BC	3.05	1711-BM	24.35
For Hole Size 3/8" A—17/32", B—3/8", C—25/64", D—5/64"	1711-C	3.22	1711-M	25.75
For Hole Size 1/2" A—21/32", B—17/64", C—17/32", D—5/64"	1712-C	3.91	1712-M	31.21
For Hole Size 5/8" A—51/64", B—9/32", C—41/64", D—5/64"	1713-C	4.20	1713-M	33.59
For Hole Size 3/4" A—15/16", B—19/64", C—49/64", D—3/32"	1714-C	4.34	1714-M	34.87
For Hole Size 7/8". Fits switch box knockout holes	1714-AC	5.88	1714-AM	47.02
For Hole Size 1 1/8" A—1 5/16", B—11/32", C—1 9/64", D—3/32"	1715-BC	7.52	1715-BM	60.18
For Hole Size 1 1/4" A—1 7/16", B—13/16", C—1 17/64", D—3/32"	1715-C	8.20	1715-M	65.64
For Hole Size 1 3/8" A—1 9/16", B—13/32", C—1 13/32", D—3/32"	5700-C	9.04	5700-M	57.89
For Hole Size 1 1/2" A—1 41/64", B—13/32", C—1 17/32", D—3/32"	5702-C	11.92	5702-M	95.30
For Hole Size 1" A—1 3/32", B—19/64", C—1 1/32", D—5/64"	1715-AC	5.68	1715-AM	45.50
For Hole Size 3/16" A—11/32", B—7/64", C—1/32", D—9/32"	7304-C	3.86	7304-MW	29.50

TERMINAL STRIP ASSORTMENT



1 Lug	1781-C	3.43		
2 Lugs	1782-C	3.43		
3 Lugs	1783-C	3.59		
4 Lugs	1784-C	4.96		
5 Lugs	1785-C	5.72		
6 Lugs	1786-C	6.10		
7 Lugs	1787-C	11.04		
8 Lugs	1788-C	12.19		

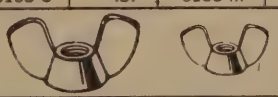
WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

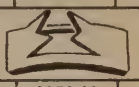
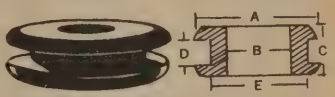
Net

© United Technical Publications

GC ELECTRONICS

ELECTRONIC HARDWARE

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
C-WASHERS & RETAINING RINGS  **CADMIUM PLATED STEEL**				
Shaft dia. 1/4" A—.260", B—.187", C—.062", D—.031"	6184-C	1.40	6184-M	11.19
CUP FINISHING WASHERS  **NICKEL PLATED**				
#6 (7/16" O.D.)	6161-C	.60	6161-M	4.76
#8 (1/2" O.D.)	6162-C	.63	6162-M	5.04
#10 (9/16" O.D.)	6163-C	.71	6163-M	5.73
#12 (5/8" O.D.)				
SPLIT TYPE LOCK WASHERS  **CADMIUM PLATED STEEL**				
Screw Size #4, O.D. 3/16", Thickness 1/32"	6503-C	.74	6503-M	5.88
Screw Size #6, O.D. 13/64", Thickness 1/32"	6504-C	.60	6504-M	4.76
Screw Size #8, O.D. 11/32", Thickness 1/32"	6505-C	.97	6505-M	9.01
Screw Size #10, O.D. 3/16", Thickness 3/64"	6506-C	.68	6506-M	5.46
EXTERNAL LOCK WASHERS  **CADMIUM PLATED STEEL**				
Screw Size #4	7354-C	.56	7354-M	4.47
Screw Size #6	7356-C	.56	7356-M	4.47
Screw Size #8	7358-C	.61	7358-M	4.89
Screw Size #10	7360-C	.61	7360-M	4.89
INTERNAL LOCK WASHERS  **CADMIUM PLATED STEEL**				
Screw Size #2	7322-C	.91	7322-M	7.28
Screw Size #4	7324-C	.58	7324-M	4.62
Screw Size #6, O.D. 9/32"	7326-C	.56	7326-M	4.47
Screw Size #8, O.D. 21/64"	7328-C	.61	7328-M	4.89
Screw Size #10	7330-C	.61	7330-M	4.89
Screw Size 1/4", O.D. 15/32"	7332-C	.81	7332-M	6.44
Screw Size 3/8", O.D. 11/16"	7334-C	1.21	7334-M	9.66
Screw Size 3/8", O.D. 9/16"	7335-C	1.60	7335-M	12.74
Screw Size 15/32", O.D. 19/32"	7338-C	2.00	7338-M	15.95
FLAT METAL WASHERS  **NICKEL PLATED STEEL**				
Screw Size #4, Hole Size 1/8", O.D. 9/32", Thickness 1/32"	6154-C	.58	6154-M	4.62
Screw Size #6, Hole Size 5/32", O.D. 3/8", Thickness 1/32"	6155-C	.58	6155-M	4.62
Screw Size #8, Hole Size 3/16", O.D. 7/16", Thickness 1/32"	6156-C	.63	6156-M	5.04
Screw Size #10, Hole Size 13/64", O.D. 3/8", Thickness 1/32"	7306-C	.60	7306-M	4.76
Screw Size #10, Hole Size 13/64", O.D. 7/16", Thickness 1/32"	7307-C	.60	7307-M	4.76
Screw Size #10, Hole Size 13/64", O.D. 1/2", Thickness .049"	6157-C	.63	6157-M	$ 5.04
Screw Size 1/4", Hole Size 17/64", O.D. 5/8", Thickness 1/16"	6158-C	.87	6158-M	6.99
WING NUTS  **NICKEL PLATED STEEL**				
6-32	6658-C	3.38	6658-M	27.01
KNURLED THUMB NUTS  **BRASS — NICKEL PLATED**				
6-32	6655-C	2.89	6655-M	23.09
8-32	6656-C	2.89	6656-M	23.09
10-32	6657-C	6.33	6657-M	40.53
ACORN NUTS  **SOLID METAL — NICKEL PLATED**				
6-32	6031-C	3.52	6031-M	28.13
8-32	6032-C	3.73	6032-M	29.81
10-32	6033-C	4.76	6033-M	38.05

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
TINNERMAN SPEED NUTS 				
#4	6051-C	.92	6051-M	7.41
#6	6052-C	1.00	6052-M	7.98
#8	6053-C	1.00	6053-M	7.98
CORD STRAIN RELIEFS 				
Rubber Type Fits Standard Line Cord	6675-C	6.70	6675-M	53.60
Plastic Clamping Type For Wire Size: 0.120x0.220 For UL Wire Types: SP1, SPT-1, POSJ, POT Chassis Hole Size: 7/16"	6676-C	4.87	6676-M	38.98
Plastic Clamping Type For Wire Size: 0.15x0.28 thru 0.16x0.30 For UL Wire Types: SP, SPT-2-18/2 SP, SPT-2-16/2 HPN-16, HPN-18 Chassis Hole Size: 1/2"	6677-C	4.87	6677-M	38.98
Plastic Clamping Type For Wire Size: 0.330 thru 0.410 For UL Wire Types: SJ, SJT, SJD-18/3 SJ, SJT, SJD-16/2 SJ, SJT, SJD-16/3 SJ, SJT, SJD-18/4 Chassis Hole Size 5/8"	6678-C	7.38	6678-M	59.04
RUBBER TACK BUMPERS 				
3/8" O.D.	1075-C	2.36	1075-M	18.89
RUBBER FEET SCREW TYPE 				
O.D. 3/8", Height 3/16"	1075-BC	1.68	1075-BM	13.43
O.D. 1/2", Height 1/4"	1075-CC	2.23	1075-CM	17.78
O.D. 5/8", Height 3/16"	1075-FC	3.13	1075-FM	25.05
O.D. 3/4", Height 3/16"	7058-C	3.59	7058-M	28.69
RUBBER GROMMETS 				
A—11/32", B—7/64", C—3/16", D—1/16", E—13/64"	1038-C	$1.35	1038-M	$10.80
A—11/32", B—1/8", C—3/16", D—1/16", E—3/16"	1039-C	1.50	1039-M	12.00
A—11/32", B—1/8", C—3/16", D—1/16", E—1/4"	1041-2C	1.42	1041-2M	11.34
A—7/16", B—3/16", C—7/32", D—1/16", E—3/16"	1041-C	1.62	1041-M	12.87
A—1/2", B—3/16", C—7/32", D—1/16", E—3/16"	1040-C	2.25	1040-M	18.00
A—1/2", B—3/16", C—1/4", D—1/16", E—3/16"	5710-C	4.83	5710-M	38.62
A—1/2", B—1/4", C—5/32", D—1/32", E—3/16"	1044-C	2.24	1044-M	17.86
A—1/2", B—1/4", C—5/16", D—1/8", E—3/8"	7566-C	3.12	7566-M	24.91
A—5/16", B—1/4", C—1/4", D—1/16", E—3/8"	1042-C	2.12	1042-M	16.94
A—5/16", B—3/32", C—1/4", D—1/16", E—3/16"	1045-C	2.85	1045-M	22.80
A—5/8", B—1/4", C—3/8", D—1/8", E—3/8"	5720-C	4.50	5720-M	36.00
A—5/8", B—3/16", C—1/4", D—1/16", E—3/16"	1046-C	4.35	1046-M	34.80
A—5/8", B—3/8", C—1/4", D—1/16", E—1/2"	1043-C	2.42	1043-M	19.31
A—5/8", B—3/8", C—11/32", D—1/16", E—17/32"	1047-C	2.85	1047-M	22.80
A—3/4", B—1/4", C—11/64", D—1/16", E—3/16"	5721-C	3.90	5721-M	31.20
A—3/4", B—5/16", C—11/32", D—3/32", E—15/32"	5715-C	5.00	5715-M	40.00
A—3/4", B—3/8", C—1/2", D—1/8", E—17/32"			1048-M	39.60
A—3/4", B—3/16", C—1/4", D—1/16", E—3/16"	5712-C	6.54	5712-M	52.34
A—13/16", B—1/2", C—3/32", D—1/16", E—5/8"	1043-1C	3.65	1043-1M	29.25

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

© United Technical Publications

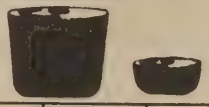
GC ELECTRONICS

ELECTRONIC HARDWARE

RUBBER GROMMETS (cont'd)

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
A—7/8", B—9/16", C—15/64", D—1/16", E—3/4"	5711-C	4.66	5711-M	37.25
A—1 1/16", B—3/8", C—5/16", D—1/16", E—13/16"	7569-C	7.31	7569-M	58.50
A—1 1/16", B—7/16", C—3/16", D—1/16", E—23/32"	5718-C	8.75	5718-M	69.94
A—1 1/16", B—1/2", C—3/16", D—1/16", E—13/16"	5719-C	7.05	5719-M	56.40
A—1 1/16", B—1/2", C—11/32", D—1/8", E—13/16"	5722-C	7.05	5722-M	56.40
A—1 1/8", B—5/8", C—5/16", D—1/16", E—7/8"	5716-C	7.28	5716-M	58.22
A—1 1/8", B—13/16", C—1/4", D—3/64", E—15/16"	5723-C	10.50	5723-M	84.00
A—1 5/16", B—11/16", C—3/8", D—1/16", E—1"	5717-C	14.66	5717-M	117.27
A—2 1/8", B—1 1/2", C—7/16", D—1/16", E—1 3/4"	5724-C	21.90	5724-M	175.20

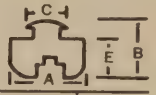
RECESSED BUMPERS



A—3/8", B—1/4", C—3/16", D—1/16", E—1/2", F—3/32"	5780-C	$2.22	5780-M	$17.73
A—5/8", B—1/2", C—1/4", D—1/4", E—5/16", F—5/32"	5781-C	2.56	5781-M	20.39
A—5/8", B—5/8", C—7/16", D—3/16", E—5/16", F—.147"	5783-C	3.47	5783-M	27.72
A—3/4", B—19/64", C—3/16", D—7/64", E—11/32", F—1/8"	5785-C	3.59	5785-M	28.66
A—3/4", B—7/16", C—1/4", D—3/16", E—7/16", F—3/16"	5787-C	3.42	5787-M	27.32
A—13/16", B—5/8", C—7/16", D—3/16", E—7/16", F—7/32"	5789-C	6.67	5789-M	53.31
A—3/8", B—3/16", C—3/32", D—3/32", E—3/16", F—5/64"	5790-C	1.24	5790-M	9.86
A—7/16", B—5/32", C—3/32", D—1/16", E—1/4", F—5/32"	5791-C	1.66	5791-M	13.19
A—1/2", B—1/4", C—1/8", D—1/8", E—1/4", F—1/8"	5792-C	1.79	5792-M	14.26
A—5/8", B—5/16", C—3/16", D—1/8", E—1/4", F—1/8"	5795-C	2.11	5795-M	16.79
A—3/4", B—3/8", C—3/16", D—3/16", E—5/16", F—5/32"	5796-C	3.14	5796-M	25.06
A—13/16", B—1/2", C—1/4", D—1/4", E—5/16", F—5/32"	5798-C	3.92	5798-M	31.32
A—1", B—1", C—5/8", D—3/8", E—5/16", F—5/32"	5799-C	7.95	5799-M	63.57

RUBBER BUTTON BUMPERS





A—3/8", B—7/16", C—3/16", D—5/32"	7596-C	1.81	7596-M	14.42
A—1/2", B—7/16", C—1/4", D—1/4"	7597-C	2.70	7597-M	21.56
A—5/8", B—9/16", C—3/8", D—5/16"	7598-C	4.34	7598-M	34.70

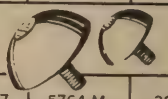
FLAT FIBRE WASHERS



Screw Size #4; I.D. .120"; O.D. 1/4"; Thickness 1/32"	6512-C	.63	6512-M	5.04
Screw Size #6; I.D. 9/64"; O.D. 1/4"; Thickness 1/32"	6513-C	.63	6513-M	5.04
Screw Size #8; I.D. 11/64"; O.D. 3/8"; Thickness 1/32"	6514-C	.63	6514-M	5.04
Screw Size #10; I.D. .196"; O.D. 3/8"; Thickness 1/32"	6515-C	.63	6515-M	5.04
Screw Size 1/4"; I.D. 1/4"; O.D. 1/2"; Thickness 3/64"	6516-C	.68	6516-M	5.46
Screw Size 3/8"; I.D. 25/64"; O.D. 3 3/4"; Thickness 3/64"	6517-C	.99	6517-M	7.83
Screw Size #6; I.D. 9/64"; O.D. 5/16"; Thickness 1/32"	7836-C	.55	7836-M	4.34

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000

RUBBER FEET MACHINE TYPE



A—1/2", B—1/4", C—1/4" Screw Size 8-32	5764-C	4.07	5764-M	32.52
A—5/8", B—5/16", C—1/4" Screw Size 8-32	5765-C	5.06	5765-M	40.38
A—3/4", B—3/8", C—1/4" Screw Size 8-32	5766-C	6.33	5766-M	50.65
A—7/8", B—1/2", C—1/2" Screw Size 10-32	5767-C	7.12	5767-M	56.91
A—1", B—1/2", C—1/2" Screw Size 10-32	5768-C	7.55	5768-M	60.38
A—1 1/8", B—1/2", C—1/2" Screw Size 10-32	5769-C	11.70	5769-M	93.56

RECESSED BUMPERS WITH STEEL WASHER INSERTS



A—5/8", B—1/2", C—1/4", D—1/4", E—5/16", F—5/32"	5782-C	3.71	5782-M	29.59
A—5/8", B—5/8", C—7/16", D—3/16", E—5/16", F—.147"	5784-C	5.12	5784-M	40.92
A—3/4", B—19/64", C—3/16", D—7/64", E—11/32", F—1/8"	5786-C	6.07	5786-M	48.51
A—3/4", B—.716", C—1/4", D—3/16", E—7/16", F—3/16"	5788-C	5.82	5788-M	46.58
A—13/16", B—5/8", C—7/16", D—3/16", E—7/16", F—7/32"	5800-C	9.90	5800-M	79.17
A—1/2", B—1/4", C—1/8", D—1/8", E—1/4", F—1/8"	5793-C	3.07	5793-M	24.52
A—5/8", B—5/16", C—3/16", D—1/8", E—1/4", F—3/16"	5794-C	3.69	5794-M	29.46
A—3/4", B—3/8", C—3/16", D—3/16", E—5/16", F—5/32"	5797-C	5.00	5797-M	39.98
A—1", B—1", C—5/8", D—3/8", E—5/16", F—5/32"	5801-C	10.25	5801-M	81.97

SPRING FRICTION WASHERS

SPRING STEEL

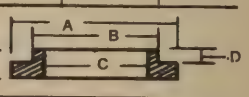




A—5/32" Metal, B—5/8" Thickness .012", C—3/4"	7385-C	2.49	7385-M	19.88
A—3/16" Metal, B—3/8" Thickness .008", C—3/4"	7386-C	2.10	7386-M	16.79
A—3/16" Metal, B—7/8" Thickness .010", C—1/32"	7387-C	2.07	7387-M	16.52
A—17/64" Metal, B—5/16" Thickness .016", C—1/16"	7389-C	2.38	7389-M	19.04
A—1/4" Metal, B—9/16" Thickness .010"			7754-M	9.60

EXTRUDED FIBRE WASHERS





Screw Size #6 A—5/64", B—3/16", C—9/64", D—1/32", E—1/16"	6525-C	1.12	6525-M	8.96
Screw Size #8 A—3/8", B—1/4", C—11/64", D—1/32", E—1/16"	6526-C	1.12	6526-M	8.96
Screw Size #10 A—7/16", B—1/4", C—13/64", D—1/32", E—1/16"	6527-C	1.21	6527-M	9.66
Screw Size 1/4" A—1/2", B—3/8", C—1/4", D—1/32", E—1/16"	6528-C	1.21	6528-M	9.66
Screw Size 3/8" A—5/8", B—7/16", C—3/8", D—1/32", E—1/16"	6529-C	1.26	6529-M	10.08
Screw Size #6 A—5/16", B—3/16", D—9/64", D—1/32", E—3/32"	7856-C	.90	7856-M	8.96
Screw Size #10 A—3/8", B—5/16", C—13/64",. D—1/32", E—3/32"	7860-C	1.21	7860-M	9.66
Screw Size 1/4" A—1/2", B—11/32", C—1/4", D—1/32", E—3/32	7862-C	.97	7862-M	9.66
Screw Size 3/8" A—5/8", B—1/2", C—3/8", D—1/32", E—3/32	7864-C	1.26	7864-M	10.08
Screw Size #8 A—3/8", B—1/2", C—3/8", D—1/32", E—3/32"	7858-C	.90	7858-M	8.96

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

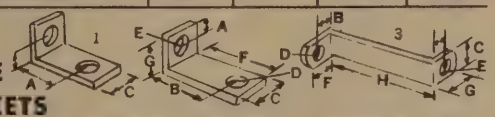
Net

© United Technical Publications

GC ELECTRONICS

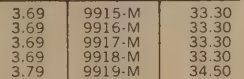
ELECTRONIC HARDWARE

ANGLE BRACKETS



Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
A—1/4", B—3/16", C—9/32", Hole Size #6 Fig. No. 1	6261-C	$1.50	6261-M	$14.61
A—3/8", B—1/4", C—9/32", Hole Size #6 Fig. No. 1	6262-C	1.77	6262-M	14.13
A—1/2", B—7/16", C—3/8", Hole Size #6 Fig. No. 1	6263-C	2.00	6263-M	15.95
Material: brass, cad. plated A—7/32", B—.120", C—11/32", D—1/4", E—1/4", G—13/32" Fig. No. 2	7572-C	1.42	7572-M	11.34
Material: steel, cad. plated A—1/4", B—5/16", C—.144", D—3/8", E—5/8", F—.144", G—23/32" Fig. No. 2	7575-C	2.94	7575-M	23.51
Material: brass, K1 Hole tagged 6-32 A—15/64", B—5/16", C—.144", D—1/4", E—6-32, F—27/64", G—5/8" Fig. No. 3				

NYLON BINDING HEAD MACHINE SCREWS

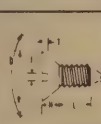




2-56, 1/4"	9915-C	3.69	9915-M	33.30
2-56, 1/2"	9916-C	3.69	9916-M	33.30
4-40, 1/4"	9917-C	3.69	9917-M	33.30
4-40, 1/2"	9918-C	3.69	9918-M	33.30
4-40, 3/4"	9919-C	3.79	9919-M	34.50
6-32, 1/4"	9920-C	3.69	9920-M	33.30
6-32, 3/8"	9921-C	3.79	9921-M	34.50
6-32, 1/2"	9922-C	3.79	9922-M	34.50
6-32, 5/8"	9923-C	3.79	9923-M	34.50
6-32, 3/4"	9924-C	3.79	9924-M	34.50
8-32, 3/8"	9925-C	3.86	9925-M	35.30
8-32, 1/4"	9926-C	3.86	9926-M	35.30
8-32, 3/4"	9927-C	3.86	9927-M	35.30
10-32, 1/2"	9928-C	3.86	9928-M	35.30
10-32, 1"	9929-C	4.02	9929-M	37.30

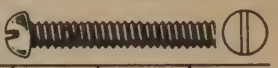
NYLON FLAT HEAD MACHINE SCREWS





4-40, 1/2"	9945-C	3.69	9945-M	33.30
6-32, 3/8"	9946-C	3.79	9946-M	34.50
4-32, 1/2"	9947-C	3.79	9947-M	34.50
6-32, 5/8"	9948-C	3.79	9948-M	34.50
8-32, 1/2"	9949-C	3.86	9949-M	35.30
8-32, 3/4"	9950-C	3.86	9950-M	35.30
10-32, 1/2"	9951-C	4.01	9951-M	37.30
10-32, 1"	9952-C	4.31	9952-M	40.00

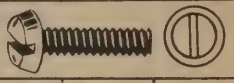
NYLON ROUND HEAD MACHINE SCREWS

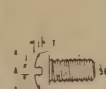




2-56, 1/4"	9900-C	$3.69	9900-M	$33.30
2-56, 1/2"	9901-C	3.69	9901-M	33.30
4-40, 1/4"	9902-C	3.69	9902-M	33.30
4-40, 1/2"	9903-C	3.69	9903-M	33.30
4-40, 3/4"	9904-C	3.79	9904-M	34.50
6-32, 1/4"	9905-C	3.69	9905-M	33.30
6-32, 3/8"	9906-C	3.79	9906-M	34.50
6-32, 1/2"	9907-C	3.79	9907-M	34.50
6-32, 5/8"	9908-C	3.79	9908-M	34.50
6-32, 3/4"	9909-C	3.79	9909-M	34.50
8-32, 3/8"	9910-C	3.86	9910-M	35.30
8-32, 1/2"	9911-C	3.86	9911-M	35.30
8-32, 3/4"	9912-C	3.86	9912-M	35.30
10-32, 1/2"	9913-C	3.86	9913-M	35.30
10-32, 1"	9914-C	4.02	9914-M	37.30

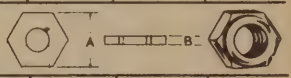
NYLON FILLISTER HEAD MACHINE SCREWS





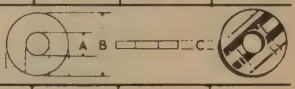
2-56, 1/4"	9930-C	3.69	9930-M	33.30
2-56, 1/2"	9931-C	3.69	9931-M	33.30
4-40, 1/4"	9932-C	3.69	9932-M	33.30
4-40, 1/2"	9933-C	3.69	9933-M	33.30
4-40, 3/4"	9934-C	3.79	9934-M	34.50
6-32, 1/4"	9935-C	3.69	9935-M	33.30
6-32, 3/8"	9936-C	3.79	9936-M	34.50
6-32, 1/2"	9937-C	3.79	9937-M	34.50
6-32, 5/8"	9938-C	3.79	9938-M	34.50
6-32, 3/4"	9939-C	3.79	9939-M	34.50
8-32, 3/8"	9940-C	3.86	9940-M	35.30
8-32, 1/2"	9941-C	3.86	9941-M	35.30
8-32, 3/4"	9942-C	3.86	9942-M	35.30
10-32, 1/2"	9943-C	3.86	9943-M	35.30
10-32, 1"	9944-C	4.02	9944-M	37.30

NYLON HEX NUTS



2-56, A—3/16", B—1/16"	9953-C	6.13	9953-M	57.12
4-40, A—1/4", B—3/32"	9954-C	6.26	9954-M	58.07
6-32, A—5/16", B—7/64"	9955-C	6.37	9955-M	59.33
8-32, A—15/32", B—1/8"	9956-C	6.49	9956-M	60.38
10-32, A—3/8", B—1/8"	9957-C	6.57	9957-M	61.32

NYLON WASHERS



#4, A—.120", B—7/32", C—.050"	9958-C	.70	9958-M	6.51
#6, A—.150", B—3/16", C—.050"	9959-C	.78	9959-M	6.13
#8, A—.170", B—3/8", C—.050"	9960-C	1.04	9960-M	9.45
#10, A—.195", B—7/16", C—.060"	9961-C	1.20	9961-M	11.03

SPACERS

INSULATED BLACK FIBRE

Description & Specifications	GC Part No.	Net Per 100	GC Part No.	Net Per 1000
O.D. 1/4", Length 1/4", For Screw Size 8	6775-C	6.00	6775-M	54.00
O.D. 1/4", Length 3/8", For Screw Size 8	6776-C	6.18	6776-M	56.14
O.D. 1/4", Length 1/2", For Screw Size 8	6777-C	6.00	6777-M	54.00
O.D. 1/4", Length 3/4", For Screw Size 8	6778-C	8.40	6778-M	69.16
O.D. 3/8", Length 1/4", For Screw Size 12	6779-C	6.00	6779-M	54.00
O.D. 3/8", Length 1/2", For Screw Size 12	6780-C	6.88	6780-M	55.06
O.D. 3/8", Length 3/4", For Screw Size 12	6781-C	6.18	6781-M	56.14

ALUMINUM — ROUND TAPPED HOLE

Description & Specifications	GC Part No.	Net Per 100
O.D. .250", Length 1.000", For Screw Size 6-32	13-700-C	18.00
O.D. .250", Length 1.500", For Screw Size 6-32	13-704-C	20.25
O.D. .250", Length 2.000", For Screw Size 6-32	13-708-C	21.75
O.D. .250", Length 2.500", For Screw Size 6-32	13-712-C	24.00

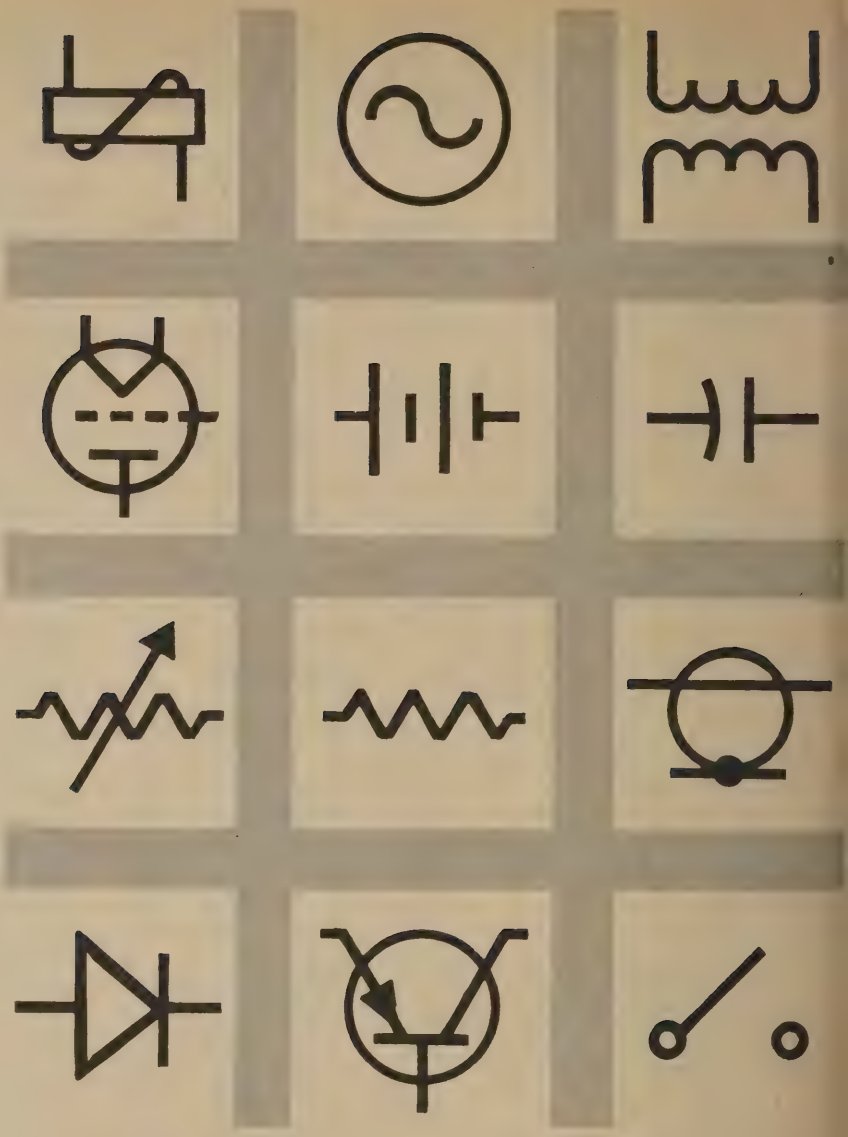
CADMIUM PLATED BRASS — ROUND NON-THREADED

Descriptions & Specifications	GC Part No.	Net Per 100
O.D. 1/4", Length 1/4", For Screw Size 4	13-500-C	3.30
O.D. 1/4", Length 3/8", For Screw Size 4	13-502-C	4.35
O.D. 1/4", Length 1/2", For Screw Size 4	13-504-C	5.28
O.D. 1/4", Length 1", For Screw Size 4	13-508-C	7.20
O.D. 1/4", Length 1/4", For Screw Size 6	13-516-C	3.30
O.D. 1/4", Length 3/8", For Screw Size 6	13-518-C	4.35
O.D. 1/4", Length 1/2", For Screw Size 6	13-520-C	5.28
O.D. 1/4", Length 3/4", For Screw Size 6	13-522-C	6.30
O.D. 1/4", Length 1", For Screw Size 6	13-524-C	7.35
O.D 1/4", Length 1/4", For Screw Size 8	13-532-C	3.30
O.D. 1/4", Length 1/2", For Screw Size 8	13-536-C	5.28
O.D. 1/4", Length 1", For Screw Size 8	13-540-C	7.35
O.D. 3/8", Length 1/4", For Screw Size 10	6769-C	8.40
O.D. 3/8", Length 1/2", For Screw Size 10	6770-C	9.86
O.D. 3/8", Length 3/4", For Screw Size 10	6771-C	12.48

CADMIUM PLATED BRASS — ROUND THREADED

Descriptions & Specifications	GC Part No.	Net Per 100
O.D. 1/4", Length 1/4", For Screw Size 4-40	13-600-C	3.90
O.D. 1/4", Length 3/8", For Screw Size 4-40	13-602-C	4.95
O.D. 1/4", Length 1/2", For Screw Size 4-40	13-604-C	6.00
O.D. 1/4", Length 3/4", For Screw Size 4-40	13-606-C	8.40
O.D. 1/4", Length 1", For Screw Size 4-40	13-608-C	10.40
O.D. 1/4", Length 1/4", For Screw Size 6-32	13-616-C	4.02
O.D. 1/4", Length 3/8", For Screw Size 6-32	13-618-C	4.95
O.D. 1/4", Length 1/2", For Screw Size 6-32	13-620-C	6.00
O.D. 1/4", Length 3/4", For Screw Size 6-32	13-622-C	8.40
O.D. 1/4", Length 1", For Screw Size 6-32	13-624-C	10.40
O.D. 1/4", Length 1/2", For Screw Size 8-32	13-636-C	6.00
O.D. 1/4", Length 3/4", For Screw Size 8-32	13-638-C	8.40
O.D. 1/4", Length 1", For Screw Size 8-32	13-640-C	10.40

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

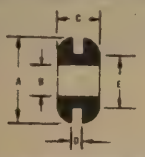
Then...

call your local distributor for fast, reliable service!

russell industries, inc.

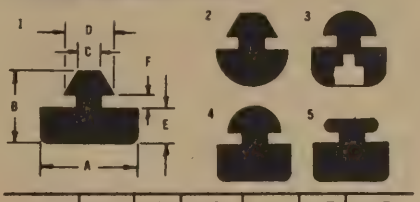
All items except MS-35489 Grommets are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof. All series are listed in ascending order of diameter and height.

GROMMETS



Part No.	A O.D.	B I.D.	C Height	D Groove Width	E Groove Diam.
GOB-2101	1/4	1/8	1/8	1/32	3/16
GOB-2104	11/32	7/64	3/16	1/16	13/64
GOB-2105	11/32	1/8	3/16	1/16	3/16
GOB-210	11/32	1/8	3/16	1/16	1/4
GOB-2158	13/32	3/16	13/64	1/16	3/16
GOB-2157	7/16	1/8	7/32	1/16	3/16
GOB-2156	7/16	3/16	3/16	1/32	3/16
GOB-215	7/16	3/16	7/32	1/16	3/16
GOB-415	7/16	3/16	1/4	3/32	3/16
GOB-2161	7/16	13/64	5/32	1/32	21/64
GOB-2153	15/32	3/64	1/4	1/16	3/16
GOB-2151	15/32	3/64	5/32	1/32	3/16
GOB-2171	1/2	3/16	3/16	1/32	3/8
GOB-2173	1/2	3/16	7/32	1/16	3/16
GOB-217	1/2	3/16	7/32	1/16	3/8
GOB-2171	1/2	1/4	5/32	1/32	3/16
GOB-2191	17/32	7/32	23/64	3/64	11/32
GOB-219	17/32	7/32	13/32	3/32	11/32
GOB-2201	3/16	3/16	3/8	1/8	3/16
GOB-220	3/16	1/4	1/4	1/16	3/8
GOB-221	3/16	5/32	1/4	1/16	3/8
GOB-2211	3/16	5/32	1/4	1/16	13/32
GOB-321	3/16	5/32	5/16	1/8	3/8
GOB-324	5/32	3/16	3/8	1/8	7/16
GOB-2253	3/8	5/32	1/4	3/64	7/16
GOB-2254	3/8	5/32	11/64	3/64	3/16
GOB-2260	5/8	1/4	5/32	1/16	3/8
GOB-2255	5/8	17/64	3/16	1/16	7/16
GOB-2352	5/8	3/16	7/32	1/32	7/16
GOB-2252	5/8	3/16	1/4	1/16	7/16
GOB-225	5/8	3/8	1/4	1/16	3/8
GOB-2258	5/8	3/8	11/32	1/16	17/32
GOB-226	23/32	21/64	3/16	1/16	3/16
GOB-2261	3/4	1/4	11/64	1/16	3/16
GOB-3262	3/4	3/16	3/16	1/16	17/32
GOB-3261	3/4	3/16	3/16	1/16	17/32
GOB-1101-1	3/4	3/8	1/2	1/8	17/32
GOB-1101	3/4	7/16	1/4	1/16	3/16
GOB-230	13/16	1/2	5/32	1/16	5/8
GOB-2274	7/8	3/16	3/16	1/16	5/8
GOB-2272	7/8	3/16	11/32	3/32	11/16
GOB-2271	7/8	3/8	3/16	1/16	5/8
GOB-1102-5	1 1/16	3/16	1/2	3/32	3/4
GOB-1102	1 1/16	1/2	5/16	1/16	13/16
GOB-1102-2	1 1/16	1/2	11/32	1/8	13/16
GOB-2301	1 1/16	11/16	1/4	1/16	13/16
GOB-1103	1 1/8	3/8	5/16	1/16	7/8
GOB-1105	1 1/8	13/16	1/4	3/64	5/16
GOB-1104	2 1/8	1 1/2	7/16	1/16	1 3/4

BUTTON BUMPERS



Part No.	A Max. Diam.	B Hgt.	C Insert Head	D Insert Head Base	E Base Hgt.	F Channel Width
FIG. 1						
BUT-3062	3/8	1/4	1/4	5/16	3/32	3/64
BUT-3061	3/8	5/32	3/16	1/4	1/8	3/64
BUT-4061	3/8	5/16	3/16	1/4	1/8	1/16
BUT-4161	3/8	11/32	3/16	1/4	1/8	3/32
BUT-3063	7/16	1/2	1/4	5/16	3/16	3/64
BUT-3072	1/2	21/64	5/32	3/8	1/8	3/64
BUT-4971	1/2	3/8	3/16	1/4	1/8	1/16
BUT-4171	1/2	7/16	3/16	1/4	3/16	1/16
BUT-4165	1/2	7/16	1/4	5/16	13/64	1/16
BUT-4072	1/2	7/16	13/64	1/4	3/16	1/16
BUT-4081	7/16	1/4	5/32	3/8	1/16	1/16
BUT-1160	3/4	1/2	.480	5/16	1/8	.050
BUT-1161	3/4	5/16	.480	37/64	3/16	.050
BUT-611	7/8	1/2	5/16	13/32	1/4	3/64
FIG. 2						
BUT-4076	1/2	7/16	1/4	5/16	3/16	1/16
BUT-3167	3/16	3/16	3/16	1/4	5/32	1/32
BUT-3064	7/16	13/64	13/64	13/64	5/32	3/64
FIG. 3						
BUT-306	3/8	3/8	3/16	17/64	3/16	.040
BUT-307	1/2	7/16	1/4	17/32	1/4	.040
BUT-407	1/2	7/16	1/4	17/32	1/4	1/16
BUT-317	1/2	1/2	1/4	17/32	1/4	1/8
FIG. 4						
BUT-4068	7/16	17/64	3/16	1/4	3/32	3/64
BUT-3263	7/16	7/16	1/4	5/16	3/16	1/8
FIG. 5						
BUT-4083	5/8	5/32	13/32	17/32	1/8	3/32

MS-35489 GROMMETS

ARMY-NAVY APPROVED AN 931 (Military Standard) SPECIFICATION: MIL-G-3036 GROMMET, ELASTIC, HOT-OIL AND COOLANT RESISTANT MATERIAL

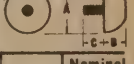
MS #	AN 931 #	I.D.	O.D. Groove	O.D.	Width Groove	Thickness
MS-35489-1	AN 931-3-5	3/16	5/16	7/16	1/16	3/16
MS-35489-6	AN 931-4-7	1/4	7/16	5/8	1/16	3/16
MS-35489-9	AN 931-5-9	5/16	9/16	13/16	1/16	3/16
MS-35489-11	AN 931-6-10	3/8	5/8	7/8	1/16	3/16
MS-35489-13	AN 931-7-11	7/16	11/16	15/16	1/16	3/16
MS-35489-14	AN 931-8-13	1/2	13/16	1 1/16	1/16	3/16
MS-35489-17	AN 931-10-14	5/8	7/8	1 1/8	1/16	3/16
MS-35489-19	AN 931-11-16	11/16	1	1 5/16	1/16	3/8
MS-35489-20	AN 931-12-17	3/4	1 1/16	1 3/8	1/16	3/8
MS-35489-22	AN 931-14-20	7/8	1 1/4	1 5/8	1/16	7/16
MS-35489-23	AN-931-16-22	1	1 3/8	1 3/4	1/16	7/16
MS-35489-35	AN 931-A4-7	1/4	7/16	5/8	1/8	3/16
MS-35489-40	AN 931-A6-10	3/8	5/8	7/8	1/8	3/16
MS-35489-42	AN 931-A7-11	7/16	11/16	15/16	1/8	3/16
MS-35489-43	AN 931-A8-13	1/2	13/16	1 1/16	1/8	3/16
MS-35489-49	AN-931-A12-17	3/4	1 1/16	1 3/8	1/8	3/8

RECESSED BUMPERS

Part No.	A Max. Diam.	B Hgt.	C Screw Head Depth	D Screw Shaft Depth	E Screw Base Opening	F Screw Shaft Width
FIG. 1						
REC-2062	3/8	1/4	3/16	1/16	1/4	5/32
REC-2082	5/8	1/2	1/4	1/4	5/16	5/32
REC-2082S	5/8	1/2	1/4	1/4	5/16	5/32
REC-2084S	3/4	3/8	7/16	3/16	7/16	7/32
REC-2096S	1 5/16	5/8	7/16	3/16	7/16	7/32
FIG. 2						
REC-206	3/8	3/16	3/32	3/32	3/16	3/64
REC-2061	7/16	5/32	3/32	1/16	1/4	5/32
REC-207	1/2	1/4	1/8	1/8	1/4	1/8
REC-207S	1/2	1/4	1/8	1/8	1/4	1/8
REC-2081	5/8	5/16	3/16	1/8	1/4	3/16
REC-2081S	5/8	5/16	3/16	1/8	1/4	3/16
REC-2088	5/8	5/16	3/16	1/8	1/4	1/8
REC-2085	3/4	3/8	3/16	3/16	5/16	5/32
REC-2085S	3/4	3/8	3/16	3/16	5/16	5/32
REC-209	13/16	1/2	1/4	1/4	5/16	5/32
REC-209S	13/16	1/2	1/4	1/4	5/16	5/32
REC-2087	1	1	5/8	3/8	3/4	5/32
REC-2097S	1	1	5/8	3/8	3/16	5/32
REC-2099S	1	1 1/2	5/8	7/8	3/16	5/32
FIG. 3						
REC-2195	13/16	1/4	1/8	1/8	1/2	1/4
FIG. 4						
REC-2087	3/4	5/32	5/32	1/8	1/4	1/8
REC-2095S	13/16	3/8	3/16	3/16	3/8	5/32
REC-2197S	1	1/2	1/4	1/4	3/8	3/16

RECESSED BUMPERS AVAILABLE IN WHITE ON SPECIAL REQUEST.

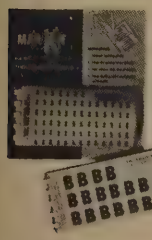
MACHINE BUMPERS

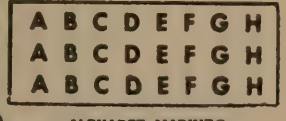


Part No.	A O.D.	B Height	C Screw Length	Screw Size	Nominal Duro-Meter
MAC-51	1/2	1/4	1/4	8-32	75
MAC-62	5/8	5/16	1/4	8-32	75
MAC-75	3/4	3/8	1/4	8-32	75
MAC-87	7/8	1/2	1/2	10-32	75
MAC-100	1	1/2	1/2	10-32	75
MAC-112	1 1/8	1/2	1/2	10-32	75

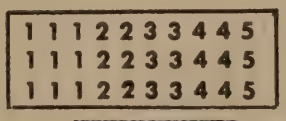
DRI-TRANSFER LETTERING

EACH MARKIT® CONTAINS 27 3" x 8" PAGES IN LOOSE LEAF FORM BOUND WITH PLASTIC SPIRAL RING.





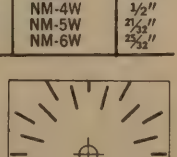
ALPHABET MARKIT®



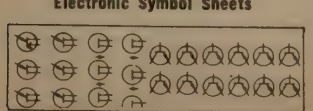
NUMERALS MARKIT®

ALPHABET BLACK	ALPHABET WHITE	NUMERALS BLACK	NUMERALS WHITE	SIZE
AM-1	AM-1W	NM-1	NM-1W	1/8"
AM-2	AM-2W	NM-2	NM-2W	1/4"
AM-3	AM-3W	NM-3	NM-3W	3/8"
AM-4	AM-4W	NM-4	NM-4W	1/2"
AM-5	AM-5W	NM-5	NM-5W	21/32"
AM-6	AM-6W	NM-6	NM-6W	25/32"

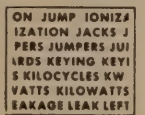
Dial Marking Kit
Contains dial patterns, arc, wedges, lines, dots, switch symbols, graduation lines, lines for rotary tap switches, potentiometers and calibrated meter dials.
DM-1 (14 Pages black — 13 Pages white)



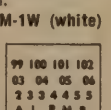
Electronic Symbol Sheets



Electronic Words MarKit®
An electronic glossary with over a thousand words from "AC" to "zooms" in alphabetical order for easy application to control panels, prototypes, drawings, terminal boards, electrical and mechanical components. Size 1/8" high.
EM-1 (black) **EM-1W (white)**



Terminal and Chassis MarKit®
Contains numbers (through 200, 1 through 0 and 01 through 09) plus complete alphabets. All numbers 1/8" high. For application in prototypes and production.
TC-1 (15 Pages black — 12 Pages white)

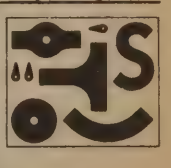


Logic Diagram Symbols MarKit®
Contains flip flops, arrows, arrow heads, time delays, and, nand, or, nor, registers, shift registers, connection dots, Schmidt triggers, single shots.
LD-1 (black)



DST-1 Thermistors, photocells, Zener Diodes, SCR's.
BRS-1 Bridge Rectifiers, Diodes, SCR's.
UNP-1 FET, Unijunction, NPN and PNP Transistors.
RCT-1 Capacitors, Tubes, Resistors, Potentiometers, Varistors.
BFP-1 Plugs, Jacks, Switches, Lights, Fuses.

Printed Circuit Pads MarKit®
Thousands of printed circuit pads: circles (with center hole), teardrops, teardrops (with vanishing point), double end teardrops, double end teardrops (with vanishing points), elbows, elbow (terminal), T-connectors, fillets, ovals.
PC-1 (black)



MARKETCH® ETCHING SOLUTION
Adhere any desired MarKit® symbol to copper surface of printed circuit boards. Burnish thoroughly. Then deposit entire board into etching solution until all exposed copper is completely etched from board. Symbol will remain as it is, unaffected by etching solution. Wash board under running water. Wipe board dry. Then use thinner or fine sandpaper until bright copper is exposed.
PCE-1 — PRICE $3.00
One pint liquid in unbreakable plastic container. Weight approx. 28 oz.

CC-1 Grounds, Shields, Contactors, Connections.
IRM-1 Relays, Contactors, Heaters, Reactors, Rotating Components, Thermal Delay Relays, Industors, Transformers.
LAB-1 Antennas, Amplifiers, Speakers, Mikes, Boxes.
SHEET SIZE — 8½" x 13½" BLACK ONLY

© United Technical Publications

waldom

HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE

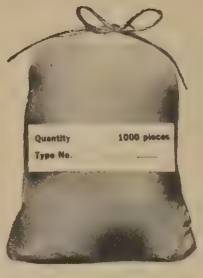
PACKAGED 3 WAYS—TO MEET ALL YOUR REQUIREMENTS



SHOW OFF PACKAGE
All packages are .59 Net. Quantity varies with item. (See listings.)



BLUE-LINE
All packages contain 100 pieces each, unless shown otherwise. Price varies with item. (See listings.)



BULK PACK
Offers greatest economy. Each bag contains 1000 pieces. Price varies with item. (See listings.)

HOW TO ORDER: Simply use correct PART NO. for quantity desired.

ROUND HEAD STEEL MACHINE SCREWS Nickel Plated	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/8"	KF-579	60	F-579-C	.85	F-579-M	5.95	4.55
2-56 x 1/4"	KF-461	60	F-461-C	.65	F-461-M	4.50	3.40
2-56 x 1/2"	KF-462	60	F-462-C	.65	F-462-M	4.90	3.75
2-56 x 3/4"	KF-463	60	F-463-C	.75	F-463-M	5.65	4.35
3-48 x 3/4"	KF-464	60	F-464-C	.75	F-464-M	5.65	4.35
4-36 x 1/4"	KF-465	60	F-465-C	.65	F-465-M	4.90	3.75
4-36 x 3/8"	KF-466	50	F-466-C	.70	F-466-M	5.10	3.90
4-36 x 1/2"	KF-467	50	F-467-C	.70	F-467-M	5.35	4.05
4-36 x 5/8"	KF-580	50	F-580-C	.75	F-580-M	5.70	4.40
4-36 x 3/4"	KF-468	50	F-468-C	.85	F-468-M	6.40	4.85
4-40 x 1/4"	KF-469	50	F-469-C	.65	F-469-M	4.90	3.75
4-40 x 3/8"	KF-581	50	F-581-C	.70	F-581-M	5.10	3.90
4-40 x 1/2"	KF-470	50	F-470-C	.70	F-470-M	5.35	4.05
4-40 x 5/8"	KF-582	50	F-582-C	.75	F-582-M	5.80	4.40
4-40 x 3/4"	KF-471	50	F-471-C	.85	F-471-M	6.40	4.85
6-32 x 1/4"	KF-472	50	F-472-C	.70	F-472-M	5.45	4.15
6-32 x 3/8"	KF-583	45	F-583-C	.75	F-583-M	5.70	4.35
6-32 x 1/2"	KF-473	45	F-473-C	.80	F-473-M	6.20	4.80
6-32 x 5/8"	KF-584	45	F-584-C	.90	F-584-M	6.90	5.30
6-32 x 3/4"	KF-474	45	F-474-C	.95	F-474-M	7.45	5.70
6-32 x 1"	KF-475	45	F-475-C	1.10	F-475-M	8.40	6.50
6-32 x 1-1/4"	KF-476	45	F-476-C	1.30	F-476-M	10.25	7.80
6-32 x 2"	KF-477	30	F-477-C	1.95	F-477-M	15.30	11.65
8-32 x 1/4"	KF-478	45	F-478-C	.90	F-478-M	7.10	5.45
8-32 x 3/8"	KF-479	35	F-479-C	1.00	F-479-M	7.80	5.95
8-32 x 1/2"	KF-480	35	F-480-C	1.10	F-480-M	8.30	6.40
8-32 x 5/8"	KF-585	35	F-585-C	1.15	F-585-M	8.85	6.75
8-32 x 3/4"	KF-481	35	F-481-C	1.20	F-481-M	9.35	7.15
8-32 x 1"	KF-482	30	F-482-C	1.40	F-482-M	10.80	8.25
8-32 x 1-1/4"	KF-483	30	F-483-C	1.60	F-483-M	12.65	9.65
10-32 x 1/2"	KF-484	30	F-484-C	1.25	F-484-M	9.55	7.30
10-32 x 5/8"	KF-586	30	F-586-C	1.35	F-586-M	10.40	8.00
10-32 x 3/4"	KF-485	30	F-485-C	1.45	F-485-M	11.45	8.75
10-32 x 1"	KF-486	25	F-486-C	1.65	F-486-M	12.60	9.65
10-32 x 1-1/2"	KF-487	20	F-487-C	2.15	F-487-M	16.65	12.70
12-24 x 3/4"			F-587-C	1.90	F-587-M	15.50	11.85
12-24 x 1"			F-588-C	2.25	F-588-M	18.55	14.15
12-24 x 1-1/2"			F-589-C	2.95	F-589-M	24.10	18.30
12-24 x 2"			F-590-C	3.45	F-590-M	28.20	21.55
1/4-20 x 1/2"			F-488-C	2.35	F-488-M	18.80	14.35
1/4-20 x 3/4"			F-489-C	2.65	F-489-M	21.50	16.35
1/4-20 x 1"			F-490-C	3.00	F-490-M	24.50	18.65
1/4-20 x 1-1/4"			F-491-C	3.45	F-491-M	27.85	21.20
1/4-20 x 1-374"			F-492-C	4.15	F-492-M	33.75	25.75

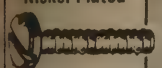
ROUND HEAD BRASS MACHINE SCREWS Nickel Plated	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/4"			F-461B-C	.90	F-461B-M	7.00	5.3
2-56 x 1/2"			F-462B-C	1.05	F-462B-M	8.20	6.2
2-56 x 3/4"			F-463B-C	1.20	F-463B-M	9.70	7.3
3-48 x 3/4"			F-464B-C	1.35	F-464B-M	10.90	8.3
4-36 x 1/4"			F-465B-C	1.05	F-465B-M	8.20	6.20
4-36 x 3/8"			F-466B-C	1.35	F-466B-M	10.30	7.85
4-36 x 1/2"			F-467B-C	1.45	F-467B-M	10.60	8.10
4-36 x 5/8"			F-580B-C	1.55	F-580B-M	11.45	8.75
4-36 x 3/4"			F-468B-C	1.65	F-468B-M	12.50	9.50
4-40 x 1/4"			F-469B-C	1.05	F-469B-M	8.20	6.20
4-40 x 1/2"			F-470B-C	1.35	F-470B-M	10.30	7.85
4-40 x 5/8"			F-582B-C	1.55	F-582B-M	11.45	8.75
4-40 x 3/4"			F-471B-C	1.65	F-471B-M	12.50	9.50
6-32 x 1/4"			F-472B-C	1.40	F-472B-M	11.00	8.35
6-32 x 3/8"			F-583B-C	1.50	F-583B-M	11.70	8.95
6-32 x 1/2"			F-473B-C	1.70	F-473B-M	13.15	10.05
6-32 x 5/8"			F-584B-C	1.95	F-584B-M	14.60	11.15
6-32 x 3/4"			F-474B-C	2.05	F-474B-M	16.25	12.30
6-32 x 1"			F-475B-C	2.40	F-475B-M	19.10	14.60
6-32 x 1-1/4"			F-476B-C	2.80	F-476B-M	22.65	16.80
6-32 x 2"			F-477B-C	4.70	F-477B-M	37.35	28.50
8-32 x 1/4"			F-478B-C	2.20	F-478B-M	16.65	12.70
8-32 x 3/8"			F-479B-C	2.15	F-479B-M	17.05	13.05
8-32 x 1/2"			F-480B-C	2.45	F-480B-M	19.55	14.90
8-32 x 5/8"			F-585B-C	2.85	F-585B-M	22.05	16.90
8-32 x 3/4"			F-481B-C	3.00	F-481B-M	23.85	18.20
8-32 x 1"			F-482B-C	3.60	F-482B-M	28.45	21.65
8-32 x 1-1/4"			F-483B-C	4.20	F-483B-M	33.40	25.45
10-32 x 1/2"			F-484B-C	3.10	F-484B-M	24.75	18.85
10-32 x 5/8"			F-586B-C	3.45	F-586B-M	27.55	21.00
10-32 x 3/4"			F-485B-C	3.80	F-485B-M	29.90	22.85
10-32 x 1"			F-486B-C	4.50	F-486B-M	35.70	27.25
OVAL HEAD STEEL MACHINE SCREWS Nickel Plated							
6-32 x 1/2"	KF-506	45	F-506-C	.80	F-506-M	6.20	4.80
6-32 x 3/4"	KF-507	45	F-507-C	.95	F-507-M	7.45	5.70
8-32 x 3/4"	KF-508	35	F-508-C	1.20	F-508-M	9.35	7.15
10-32 x 1/2"	KF-509	30	F-509-C	1.25	F-509-M	9.55	7.30
10-32 x 3/4"	KF-510	30	F-510-C	1.45	F-510-M	11.45	8.75

Net

© United Technical Publications

PACKAGED HARDWARE (Continued)

BINDER HEAD STEEL MACHINE SCREWS Nickel Plated



	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/8"	KF-591	60	F-591-C	.85	F-591-M	5.95	4.55
2-56 x 1/4"	KF-592	60	F-592-C	.65	F-592-M	4.50	3.40
2-56 x 1/2"	KF-593	60	F-593-C	.65	F-593-M	4.90	3.75
2-56 x 5/8"	KF-594	60	F-594-C	.75	F-594-M	5.60	4.30
4-40 x 1/4"	KF-020	50	F-020-C	.65	F-020-M	4.90	3.75
4-40 x 1/2"	KF-021	50	F-021-C	.70	F-021-M	5.35	4.05
4-40 x 3/4"	KF-022	50	F-022-C	.85	F-022-M	6.40	4.85
6-32 x 3/16"	KF-502	60	F-502-C	.75	F-502-M	5.45	4.20
6-32 x 1/4"	KF-503	50	F-503-C	.70	F-503-M	5.45	4.15
6-32 x 3/8"	KF-504	50	F-504-C	.75	F-504-M	5.70	4.35
6-32 x 1/2"	KF-014	45	F 014-C	.80	F-014-M	6.20	4.80
6-32 x 5/8"	KF-621	45	F-621-C	.90	F-621-M	6.90	5.30
6-32 x 3/4"	KF-015	45	F-015-C	.95	F-015-M	7.45	5.70
8-32 x 1/4"	KF-023	45	F-023-C	.90	F-023-M	7.05	5.40
8-32 x 5/16"	KF-505	45	F-505-C	1.00	F-505-M	7.80	5.95
8-32 x 3/8"	KF-024	35	F-024-C	1.00	F-024-M	7.80	5.95
8-32 x 1/2"	KF-025	35	F-025-C	1.10	F-025-M	8.30	6.40
8-32 x 3/4"	KF-026	35	F-026-C	1.20	F-026-M	9.35	7.15
10-32 x 1/2"	KF-577	30	F-577-C	1.25	F-577-M	9.55	7.30
10-32 x 3/4"	KF-578	30	F-578-C	1.45	F-578-M	11.45	8.75

BINDER HEAD BRASS MACHINE SCREWS Nickel Plated



4-40 x 1/4"			F-020B-C	1.05	F-020B-M	8.20	6.20
4-40 x 1/2"			F-021B-C	1.35	F-021B-M	10.30	7.85
4-40 x 3/4"			F-022B-C	1.65	F-022B-M	12.50	9.50
6-32 x 1/4"			F-503B-C	1.40	F-503B-M	11.00	8.35
6-32 x 3/8"			F-504B-C	1.50	F-504B-M	11.70	8.95
6-32 x 1/2"			F-014B-C	1.70	F-014B-M	13.15	10.05
6-32 x 3/4"			F-015B-C	2.05	F-015B-M	16.10	12.30
8-32 x 1/4"			F-023B-C	2.05	F-023B-M	16.65	12.70
8-32 x 3/8"			F-024B-C	2.15	F-024B-M	17.05	13.05
8-32 x 1/2"			F-025B-C	2.45	F-025B-M	19.55	14.90
8-32 x 3/4"			F-026B-C	3.00	F-026B-M	23.85	18.20

FILLISTER HEAD STEEL MACHINE SCREWS Nickel Plated



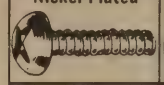
2-56 x 1/4"	KF-606	50	F-606-C	.65	F-606-M	4.50	3.40
2-56 x 1/2"	KF-607	50	F-607-C	.65	F-607-M	4.90	3.75
4-40 x 1/4"	KF-608	50	F-608-C	.65	F-608-M	4.90	3.75
4-40 x 1/2"	KF-609	45	F-609-C	.70	F-609-M	5.35	4.05
4-40 x 3/4"	KF-610	45	F-610-C	.85	F-610-M	6.40	4.85
6-32 x 1/4"	KF-611	45	F-611-C	.70	F-611-M	5.45	4.15
6-32 x 1/2"	KF-612	40	F-612-C	.80	F-612-M	6.20	4.80
6-32 x 3/4"	KF-613	40	F-613-C	.95	F-613-M	7.45	5.70
8-32 x 3/8"	KF-614	35	F-614-C	1.00	F-614-M	7.80	5.95
8-32 x 1/2"	KF-615	35	F-615-C	1.10	F-615-M	8.30	6.40
8-32 x 3/4"	KF-616	35	F-616-C	1.20	F-616-M	9.35	7.15
10-32 x 1/2"	KF-617	30	F-617-C	1.25	F-617-M	9.55	7.30

FLAT HEAD STEEL MACHINE SCREWS Nickel Plated



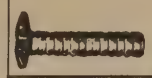
4-40 x 1/4"	KF-622	60	F-622-C	.65	F-622-M	4.90	3.75
4-40 x 3/8"	KF-623	50	F-623-C	.70	F-623-M	5.10	3.90
4-40 x 1/2"	KF-624	50	F-624-C	.70	F-624-M	5.35	4.05
6-32 x 1/4"	KF-625	50	F-625-C	.70	F-625-M	5.45	4.15
6-32 x 3/8"	KF-626	50	F-626-C	.75	F-626-M	5.70	4.35
6-32 x 1/2"	KF-627	45	F-627-C	.80	F-627-M	6.20	4.80
6-32 x 3/4"	KF-628	45	F-628-C	.95	F-628-M	7.45	5.70
8-32 x 3/8"	KF-629	35	F-629-C	1.00	F-629-M	7.80	5.95
8-32 x 1/2"	KF-630	35	F-630-C	1.10	F-630-M	8.30	6.40
8-32 x 3/4"	KF-631	35	F-631-C	1.20	F-631-M	9.35	7.15
10-32 x 1/2"	KF-632	30	F-632-C	1.25	F-632-M	9.55	7.30

PHILLIPS HEAD ROUND STEEL MACHINE SCREWS Nickel Plated



	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
6-32 x 1/4"	KF-494	30	F-494-C	1.55	F-494-M	11.90	9.10
6-32 x 5/16"	KF-018	30	F-018-C	1.55	F-018-M	12.05	9.25
6-32 x 1/2"	KF-495	25	F-495-C	1.40	F-495-M	10.90	8.35
6-32 x 3/4"	KF-496	25	F-496-C	1.60	F-496-M	12.30	9.40
6-32 x 1"	KF-497	25	F-497-C	1.80	F-497-M	13.85	10.55
8-32 x 1/4"	KF-019	25	F-019-C	1.70	F-019-M	13.60	10.35
8-32 x 1/2"	KF-499	25	F-499-C	1.60	F-499-M	12.45	9.45
8-32 x 3/4"	KF-500	20	F-500-C	1.70	F-500-M	13.50	10.30
8-32 x 1"	KF-501	20	F-501-C	1.90	F-501-M	15.40	11.75

ORNAMENTAL HEAD STEEL MACHINE SCREWS Statuary Bronze Plated



6-32 x 3/4"	KF-511	35	F-511-C	1.65	F-511-M	13.35	10.20
6-32 x 1"	KF-512	30	F-512-C	1.80	F-512-M	14.65	11.15
6-32 x 1-1/4"	KF-513	20	F-513-C	2.45	F-513-M	19.95	15.25

HEX STEEL NUTS Nickel Plated



Thrd. Width Thk.							
2-56x3/16x1/16"	KF-554	60	F-554-C	.90	F-554-M	6.90	5.30
3-48x3/16x1/16"	KF-555	60	F-555-C	.90	F-555-M	6.90	5.30
4-36x1/4x3/32"	KF-556	60	F-556-C	.90	F-556-M	6.75	5.25
4-40x1/4x3/32"	KF-557	60	F-557-C	.90	F-557-M	6.75	5.25
6-32x1/4x3/32"	KF-559	60	F-559-C	.90	F-559-M	6.75	5.25
6 32x5/16x7/64"	KF-560	50	F-560-C	.95	F-560-M	7.35	5.65
8-32x1/4x3/32"	KF-561	50	F-561-C	.90	F-561-M	6.75	5.25
8-32x5/16x7/64"	KF-562	50	F-562-C	.95	F-562-M	7.35	5.65
10-32x3/8x1/8"	KF-563	45	F-563-C	1.10	F-563-M	8.70	6.60
12-24x7/16x5/32"	KF-619	35	F-619-C	1.45	F-619-M	11.75	9.00
1/4-20x7/16x3/16"	KF-564	35	F-564-C	1.60	F-564-M	12.45	9.45

HEX BRASS NUTS Nickel Plated



Thrd. Width Thk.							
2-56x3/16x1/16"			F-554B-C	1.25	F-554B-M	10.00	7.65
3-48x3/16x1/18"			F-555B-C	1.15	F-555B-M	9.15	7.00
4-36x1/4x2/32"	KF-556B	50	F-556B-C	1.55	F-556B-M	12.00	9.20
4-40x1/4x3/32"	KF-557B	35	F-557B-C	1.50	F-557B-M	11.90	9.10
6-32x1/4x3/32"	KF-559B	35	F-559B-C	1.50	F-559B-M	11.85	9.10
6-32x5/16x7/64"			F-560B-C	1.80	F-560B-M	14.30	10.90
8-32x1/4x3/32"			F-561B-C	1.50	F-561B-M	11.85	9.10
8-32x5/16x7/64"	KF-562B	20	F-562B-C	1.80	F-562B-M	14.30	10.90
10-32x3/8x1/8"	KF-563B	15	F-563B-C	1.95	F-563B-M	15.70	11.95

VOLUME CONTROL AND TOGGLE SWITCH MOUNTING NUTS Nickel Plated



(For Volume Control)							
3/8-32x1/2x3/32"	KF-565	20	F-565-C	1.90	F-565-M	15.30	11.65
(For Toggle Switch)							
15/32-32x9/16x5/64"	KF-566	15	F-566-C	2.30	F-566-M	18.75	14.30
.475-32x19/32x1/16"	KF-567	*10	F-567-C	4.35	F-567-M	34.60	26.40

*Knurled Ring Nut—Brass Nickel

WING NUTS Nickel Plated



6-32	KF-571	15	F-571-C	3.35	F-571-M	27.80	21.20
8-32	KF-572	15	F-572-C	3.35	F-572-M	27.80	21.20
10-32	KF-573	15	F-573-C	3.35	F-573-M	27.80	21.20

waldom

HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE (Continued)

SLOTTED HEX HEAD SHEET METAL SCREWS (Type A) Nick. Pl.	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
4 x 3/8"	KF-016	50	F-016-C	1.00	F-016-M	8.00	6.05
4 x 1/2"	KF-523	50	F-523-C	1.10	F-523-M	8.55	6.55
6 x 1/4"	KF-524	45	F-524-C	1.15	F-524-M	9.25	7.05
6 x 3/8"	KF-525	35	F-525-C	1.15	F-525-M	9.30	7.10
6 x 1/2"	KF-526	35	F-526-C	1.20	F-526-M	9.90	7.55
6 x 5/8"	KF-595	35	F-595-C	1.25	F-595-M	9.95	7.60
6 x 3/4"	KF-527	30	F-527-C	1.30	F-527-M	10.10	7.70
8 x 1/4"	KF-528	30	F-528-C	1.30	F-528-M	10.10	7.70
8 x 3/8"	KF-529	30	F-529-C	1.35	F-529-M	10.60	8.10
8 x 1/2"	KF-530	30	F-530-C	1.40	F-530-M	10.90	8.35
8 x 5/8"	KF-017	25	F-017-C	1.45	F-017-M	11.15	8.45
8 x 1"	KF-531	20	F-531-C	1.80	F-531-M	14.15	10.80
10 x 3/8"	KF-532	20	F-532-C	1.50	F-532-M	11.90	9.10
10 x 1/2"	KF-533	20	F-533-C	1.65	F-533-M	12.80	9.75
10 x 3/4"	KF-534	15	F-534-C	1.80	F-534-M	14.15	10.80
HEX WASHER HEAD SHEET METAL SCREWS (Type A) Steel-Indented Slotted Head Nickel Plated							
6 x 1/4"	KF-056	35	F-056-C	1.20	F-056-M	9.35	7.10
6 x 3/8"	KF-057	35	F-057-C	1.20	F-057-M	9.90	7.55
6 x 1/2"	KF-050	35	F-050-C	1.30	F-050-M	10.05	7.65
6 x 5/8"	KF-058	30	F-058-C	1.35	F-058-M	10.60	8.10
6 x 3/4"	KF-054	25	F-054-C	1.40	F-054-M	11.15	8.45
8 x 1/4"	KF-051	25	F-051-C	1.40	F-051-M	11.15	8.45
8 x 3/8"	KF-052	25	F-052-C	1.45	F-052-M	11.65	8.90
8 x 1/2"	KF-053	25	F-053-C	1.50	F-053-M	10.80	8.25
8 x 5/8"	KF-055	25	F-055-C	1.55	F-055-M	12.30	9.40
8 x 3/4"	KF-059	25	F-059-C	1.70	F-059-M	13.75	10.50
PAN HEAD SHEET METAL SCREWS (TYPE A) Nickel Plated							
4 x 1/2"	KF-596	45	F-596-C	1.00	F-596-M	8.00	6.05
6 x 1/4"	KF-033	45	F-033-C	1.10	F-033-M	8.55	6.55
6 x 3/8"	KF-597	35	F-597-C	1.10	F-597-M	8.80	6.70
6 x 1/2"	KF-034	35	F-034-C	1.15	F-034-M	9.30	7.10
6 x 3/4"	KF-035	30	F-035-C	1.25	F-035-M	10.00	7.65
8 x 1/4"	KF-036	30	F-036-C	1.25	F-036-M	10.00	7.65
8 x 3/8"	KF-598	30	F-598-C	1.35	F-598-M	10.50	8.00
8 x 1/2"	KF-037	30	F-037-C	1.35	F-037-M	10.60	8.10
8 x 1"	KF-038	25	F-038-C	1.70	F-038-M	13.95	10.60
ROUND HEAD STEEL WOOD SCREWS Nickel Plated							
4 x 1/2"	KF-514	35	F-514-C	1.00	F-514-M	8.00	6.05
4 x 3/4"	KF-515	35	F-515-C	1.15	F-515-M	9.20	7.00
6 x 3/4"	KF-516	30	F-516-C	1.25	F-516-M	9.90	7.55
6 x 1"	KF-517	30	F-517-C	1.55	F-517-M	12.20	9.30
8 x 3/4"	KF-518	25	F-518-C	1.50	F-518-M	11.65	8.90
8 x 1"	KF-047	25	F-047-C	1.70	F-047-M	14.10	10.75
8 x 1-1/4"	KF-519	15	F-519-C	2.05	F-519-M	16.15	12.30
10 x 1-1/2"	KF-520	15	F-520-C	2.75	F-520-M	21.60	16.45
12 x 1-1/2"	KF-521	10	F-521-C	3.45	F-521-M	27.55	21.00
14 x 1-3/4"	KF-522	10	F-522-C	4.85	F-522-M	38.85	29.60
FLAT HEAD STEEL WOOD SCREWS Nickel Plated							
8 x 1/2"	KF-027	35	F-027-C	1.00	F-027-M	8.00	6.05
8 x 1"	KF-048	25	F-048-C	1.75	F-048-M	14.10	10.75
8 x 1-1/4"	KF-032	15	F-032-C	2.05	F-032-M	16.15	12.30
10 x 1-1/2"	KF-044	15	F-044-C	2.75	F-044-M	21.60	16.45
STEEL SPADE BOLT Nickel Plated (7/8", #6)							
6-32 x 5/16"	KF-620	15	F-620-C	1.45	F-620-M	11.60	8.90

FLAT STEEL WASHERS Nickel Plated				SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000	
Screw Size	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag
2	.092	7/32	.018	KMW-400	150	MW-400-C	.55	MW-400-M	4.50
4	.125	9/32	.025	KMW-401	150	MW-401-C	.45	MW-401-M	3.50
6	.150	3/8	.032	KMW-402	150	MW-402-C	.45	MW-402-M	3.50
8	.170	3/8	.032	KMW-403	150	MW-403-C	.45	MW-403-M	3.50
10	.204	7/16	.032	KMW-404	140	MW-404-C	.50	MW-404-M	3.95
1/4	.281	5/8	.050	KMW-408	90	MW-408-C	.90	MW-408-M	6.75
3/8	.392	11/16	.050	KMW-410	60	MW-410-C	.90	MW-410-M	7.15
FLAT BRASS WASHERS Nickel Plated									
2	.092	7/32	.018			MW-400B-C	.60	MW-400B-M	4.70
4	.125	9/32	.025			MW-401B-C	.65	MW-401B-M	4.90
6	.150	3/8	.032			MW-402B-C	.80	MW-402B-M	6.20
8	.170	3/8	.032			MW-403B-C	.80	MW-403B-M	6.20
10	.204	7/16	.032			MW-404B-C	.90	MW-404B-M	6.75
FLAT FIBER WASHERS									
4	.120	1/4	1/32	KFW-374	50	FW-374-C	.55	FW-374-M	4.35
6	.145	1/4	1/32	KFW-375	45	FW-375-C	.55	FW-375-M	4.35
8	3/16	3/8	1/32	KFW-376	45	FW-376-C	.60	FW-376-M	4.70
10	.192	3/8	1/32	KFW-377	45	FW-377-C	.60	FW-377-M	4.70
1/4	.255	1/2	1/32	KFW-378	35	FW-378-C	.65	FW-378-M	4.90
3/8	3/8	5/8	1/32	KFW-379	30	FW-379-C	.95	FW-379-M	7.45
7/16	.440	3/4	1/32	KFW-380	25	FW-380-C	1.05	FW-380-M	8.20
EXTRUDED FIBER WASHERS									
4	1/8	9/32	5/64	KFW-384	35	FW-384-C	1.10	FW-384-M	8.35
6	9/64	5/16	5/64	KFW-385	35	FW-385-C	1.10	FW-385-M	8.35
8	11/64	3/8	3/32	KFW-386	30	FW-386-C	1.10	FW-386-M	8.35
10	13/64	7/16	3/32	KFW-387	30	FW-387-C	1.20	FW-387-M	9.15
1/4	.256	1/2	3/32	KFW-388	30	FW-388-C	1.20	FW-388-M	9.15
3/8	.375	5/8	3/32	KFW-389	30	FW-389-C	1.20	FW-389-M	9.40
STEEL CUP WASHERS Nickel Plated									
6				KCW-6	60	CW-6-C	.65	CW-6-M	5.25
8				KCW-6	60	CW-8-C	.70	CW-8-M	5.65
10				KCW-10	50	CW-10-C	.75	CW-10-M	5.85
STEEL SPLIT LOCK WASHERS Zinc Plated									
#4 Screw				KMW-411	120	MW-411-C	.75	MW-411-M	5.70
#6 Screw				KMW-412	120	MW-412-C	.65	MW-412-M	4.90
#8 Screw				KMW-413	120	MW-413-C	.60	MW-413-M	4.80
#10 Screw				KMW-414	100	MW-414-C	.70	MW-414-M	5.45
#1/4 Screw				KMW-415	75	MW-415-C	1.05	MW-415-M	8.10
METAL CABLE CLAMPS Cadmium Plated									
Mtl. In.	Ht. In.	W. In.	Wire Hold Area						
.020B	7/16	1/4	3/32	KC-201	30	C-201-C	1.00	C-201-M	8.05
.032S	5/8	3/8	10/64	KC-202	30	C-202-C	1.12	C-202-M	9.20
.032S	11/16	3/8	1/4	KC-203	25	C-203-C	1.29	C-203-M	10.55
.032S	15/16	3/8	10/32	KC-204	15	C-204-C	1.43	C-204-M	11.70
SPRING CLIPS Brass, Nickel Plated									
Thick-ness	Ht. In.	W. In.	Mtg. Hole In.						
.016	45/64	7/32	.130	KC-101	20	C-101-C	1.66	C-101-M	13.15
.020	25/32	5/16	.144	KC-102	20	C-102-C	2.20	C-102-M	17.40
.022	1	3/8	.144	KC-103	10	C-103-C	3.23	C-103-M	26.90

Net

© United Technical Publicatio

PACKAGED HARDWARE (Continued)

ACORN NUTS (Nickel Plated Brass)

Size	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
6-32	KF-574	15	F-574-C	3.50	F-574-M	28.55	21.80
8-32	KF-575	15	F-575-C	3.75	F-575-M	30.30	23.15
10-32	KF-576	10	F-576-C	4.50	F-576-M	36.70	27.95

SNAP BUTTON HOLE PLUGS Nickel Plated

Hole Size	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
1/4"	KHP-1	12	HP-1-C	2.70	HP-1-M	21.85	16.65
3/8"	KHP-2	12	HP-2-C	3.05	HP-2-M	24.80	18.90
1/2"	KHP-3	8	HP-3-C	2.95	HP-3-M	23.80	18.15
3/4"	KHP-4	5	HP-4-C (50)*	2.10	HP-4-M	32.75	24.95
1"	KHP-5	5	HP-5-C (25)*	1.45	HP-5-M	43.65	33.30

*Where quantities are shown in brackets ( ) in front of "Pkg. of 100" prices, this quantity, rather than 100 pieces, applies.

RUBBER HEADED TACK BUMPERS

Dia. Hd.	Ht. Hd.	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PARK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
3/8"	1/4"	KB-350	10	B-350-C	2.12	B-350-M	17.45	13.30
5/8"	5/16"	KB-352	7	B-352-C	3.65	B-352-M	29.95	22.85

ANGLE BRACKETS

.032 Thk. Material: Steel (S), Brass (B). Plating: Cadmium (C), Nickel (N), Hot-tin dipped (HT).

Mtl.	Fig.	Hole Size	W	A	B	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
B	C	#6	9/32	13/64	9/32	A-100-C	1.70	A-100-M	13.85	10.55
B	N	#6	3/8	15/64	19/64	A-101-C	2.25	A-101-M	18.05	13.80
B	N	#8	5/16	9/32	9/32	A-102-C	2.25	A-102-M	18.20	13.85
S	HT	#6	3/8	15/32	15/32	A-103-C	1.80	A-103-M	14.35	11.00
S	HT	#8	3/8	7/8	3/8	A-104-C	1.95	A-104-M	15.95	12.15

SPACERS — (Brass & Fibre) — 1/4" O.D.

For use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate #6 or #8 screw.

Length	Unthreaded For #6 Screw Part No.	For #8 Screw Part No.	Price Pkg. of 100	Threaded For #6 Screw Part No.	For #8 Screw Part No.	Price Pkg. of 100
ROUND TYPE (Brass — Cadmium Plated)						
1/4"	RS-614	RS-814	4.75	RST-146	RST-148	4.75
3/8"	RS-638	RS-838	5.30	RST-386	RST-388	6.05
1/2"	RS-612	RS-812	6.40	RST-126	RST-128	7.30
3/4"	RS-634	RS-834	7.65	RST-346	RST-348	8.75
1"	RS-610	RS-810	8.75	RST-106	RST-108	10.00
HEX TYPE (Brass — Cadmium Plated)						
1/4"	HS-614	HS-814	4.40	HST-146	HST-148	5.10
3/8"	HS-638	HS-838	5.65	HST-386	HST-388	6.40
1/2"	HS-612	HS-812	6.80	HST-126	HST-128	7.65
3/4"	HS-634	HS-834	8.20	HST-346	HST-348	9.30
1"	HS-610	HS-810	9.45	HST-106	HST-108	10.40
ROUND TYPE (Fibre)*						
1/4"	FS-614	FS-814	4.75	Not available threaded.		
3/8"	FS-638	FS-838	6.05			
1/2"	FS-612	FS-812	7.30			
3/4"	FS-634	FS-834	8.75			
1"	FS-610	FS-810	10.00			

TERMINAL AND SPADE LUGS

Supplied with hot-tin dipping in brass (B), or copper (C) as specified in Material (Mtl.) column

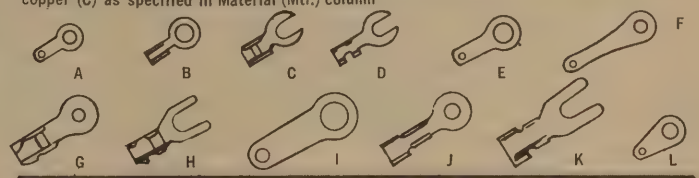


Fig.	Mtl., Thickness	Hole Size	Length In.	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
A	.015C	#2	21/64			T-251-C	1.05	T-251-M	8.45	6.40
A	.020B	#6	1/2	KT-151	60	T-151-C	1.05	T-151-M	8.30	6.40
A	.020B	#8	13/16	KT-152	60	T-152-C	1.10	T-152-M	8.95	6.80
A	.020B	#10	13/16	KT-153	60	T-153-C	1.10	T-153-M	8.95	6.80
B	.020C	#4	9/16			T-226-C	1.25	T-226-M	10.30	7.80
B	.032C	#6	1/2	KT-156	45	T-156-C	1.25	T-156-M	10.30	7.80
B	.020B	#8	21/32			T-227-C	1.25	T-227-M	10.30	7.80
B	.020B	#10	21/32			T-228-C	1.25	T-228-M	10.30	7.80
C	.020B	#8	41/64	KT-157	45	T-157-C	1.10	T-157-M	8.70	6.65
D	.020B	#6	21/32	KT-158	45	T-158-C	1.20	T-158-M	9.65	7.30
D	.020B	#8	21/32	KT-159	45	T-159-C	1.20	T-159-M	9.65	7.30
D	.020B	#10	47/64			T-225-C	1.55	T-225-M	12.15	9.25
E	.015B	#8	47/64	KT-162	45	T-162-C	1.20	T-162-M	9.40	7.15
F	.025B	#6	1	KT-163	45	T-163-C	1.35	T-163-M	10.75	8.20
F	.025B	#8	1	KT-164	45	T-164-C	1.35	T-164-M	10.75	8.20
G	.020C	#6	15/16	KT-166	25	T-166-C	2.20	T-166-M	17.65	13.50
G	.020C	#8	15/16	KT-167	25	T-167-C	2.20	T-167-M	17.65	13.50
G	.020C	#10	15/16	KT-168	25	T-168-C	2.20	T-168-M	17.65	13.50
H	.020B	3/16"	25/32	KT-170	25	T-170-C	1.35	T-170-M	10.75	8.15
I	.020B	#10	1-5/32	KT-173	20	T-173-C	2.20	T-173-M	17.50	13.35
J	.032B	#8	15/16	KT-187	15	T-187-C	3.95	T-187-M	32.10	24.50
J	.032B	#10	15/16	KT-188	10	T-188-C	4.35	T-188-M	35.35	27.05
K	.032B	#8	1	KT-193	10	T-193-C	5.70	T-193-M	46.40	35.40
L	.020B	#6	9/16	KT-154	45	T-154-C	1.20	T-154-M	9.65	7.30
L	.015C	#8	17/32			T-224-C	1.35	T-224-M	10.60	8.10

VINYL GROMMETS

- Exceptional Aging Qualities*
- High Dielectric Properties
- Oil Resistant
- Durometer Hardness 45 1045
- Cost Less Than Rubber
- Will Not Stain Most Surfaces





A	B	C	D	E							
1/8	1/16	11/32	3/16	1/4	KG-401	25	G-401-C	1.10	G-401-M	8.95	6.80
3/16	1/16	7/16	7/32	5/16	KG-402	20	G-402-C	1.25	G-402-M	10.00	7.60
1/4	1/16	9/16	1/4	3/8	KG-403	18	G-403-C	1.65	G-403-M	11.50	8.80
5/16	1/16	5/8	1/4	7/16	KG-404	15	G-404-C	1.75	G-404-M	12.30	9.40
3/8	1/16	5/8	1/4	1/2	KG-405	15	G-405-C	1.75	G-405-M	12.30	9.40
1/2	1/16	13/16	9/32	5/8	KG-406	10	G-406-C*	1.45	G-406-M	21.45	16.35
5/8	1/16	1-1/8	9/32	7/8			G-407-C*	1.45	G-407-M	36.80	28.45
							*(50) **(25)				

These grommets were tested by Underwriters Laboratories in a circulating air oven at 212°F. for seven days with no visible change.

RUBBER GROMMETS

A	B	C	D	E							
1/8	1/16	11/32	3/16	1/4	KG-300	16	G-300-C	1.65	G-300-M	13.10	10.00
5/16	1/16	9/16	3/16	15/32			G-301-C	2.15	G-301-M	17.45	13.30
3/8	1/16	11/32	9/32	1/2	KG-302	10	G-302-C	2.75	G-302-M	22.45	17.10
3/16	1/16	7/16	7/32	5/16	KG-305	14	G-305-C	2.30	G-305-M	18.65	14.20
7/16	3/64	3/4	1/4	19/32			G-307-C*	1.65	G-307-M	24.80	18.90
11/32	1/16	5/8	5/16	15/32	KG-309	8	G-309-C	2.35	G-309-M	19.00	14.45
5/8	1/16	1-1/8	5/16	7/8			G-311-C**	2.00	G-311-M	54.95	41.90
							*(50) **(25)				

RUBBER BUMPERS

Recess Screw Type

For mounting on all types of Electronic Equipment. Prevents vibration and protects surfaces under equipment from being marred.



A	B	C	D	E	BLUE LINE		BULK PACK		
1/2	1/4	5/32	1/4	1/8	B-321-C	2.37	B-321-M	19.45	14.80
3/4	1/4	1/8	1/4	1/8	B-322-C*	1.65	B-322-M	56.25	42.90
5/8	3/8	7/32	1/4	1/8	B-323-C*	1.31	B-323-M	44.80	34.20
3/4	3/8	7/32	1/4	1/8	B-324-C* *(25)	1.84	B-324-M	62.55	47.65

Button Type



A	B	C	D	E	BLUE LINE		BULK PACK		
3/8	3/8	17/64	3/16	.040	B-361-C	1.65	B-361-M	13.30	10.15
1/2	7/16	11/32	1/4	.040	B-362-C	2.43	B-362-M	19.50	14.85
5/8	9/16	15/32	5/16	.040	B-363-C	4.70	B-363-M	37.55	28.70

waldom

HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE (SHAKEPROOF® PRODUCTS)

LIVE-ACTION INTERNAL LOCKWASHERS



Spring-steel cadmium-plated

Bite on both sides, to lock tight, stay tight, where others fail.

Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag
2	1202	.185-.175	.013	KMW-428	70	MW-428-C	.95	MW-428-M	5.70
4	1204	.265-.255	.015	KMW-416	90	MW-416-C	.60	MW-416-M	3.65
6	1206	.288-.278	.018	KMW-417	90	MW-417-C	.60	MW-417-M	3.65
8	1208	.336-.325	.020	KMW-418	80	MW-418-C	.65	MW-418-M	3.80
10	1210	.381-.370	.022	KMW-419	80	MW-419-C	.65	MW-419-M	3.80
1/4	1214	.478-.466	.025	KMW-420	50	MW-420-C	.80	MW-420-M	5.10
3/8	1220	.692-.678	.035	KMW-421	35	MW-421-C	1.20	MW-421-M	9.00

LIVE-ACTION EXTERNAL LOCKWASHERS



Spring-steel, cadmium-plated.

Bite on both sides, to lock tight, stay tight, where others fail.

Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag
4	1104	.255-.245	.015	KMW-422	90	MW-422-C	.60	MW-422-M	3.65
6	1106	.317-.306	.020	KMW-423	90	MW-423-C	.60	MW-423-M	3.65
8	1108	.381-.370	.020	KMW-424	80	MW-424-C	.65	MW-424-M	3.80
10	1110	.406-.395	.022	KMW-425	80	MW-425-C	.65	MW-425-M	3.80
1/4	1114	.506-.494	.025	KMW-426	50	MW-426-C	.80	MW-426-M	5.10
3/8	1120	.695-.680	.035	KMW-427	35	MW-427-C	1.20	MW-427-M	9.00

LOCKING TERMINALS Bronze hot tin-dipped, .018 thickness

Provide the economy and efficiency of a combination wire terminal and Shakeproof® lockwasher.

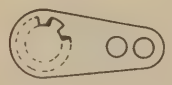
Style 4



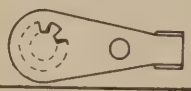
Style 7



Style 9



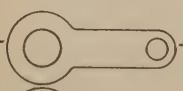
Style 11



Screw Size	Shakeproof® Part No.	Length	Form 1. — 2. ⌐	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag
4	2101-04-00	7/8	1	KT-196	30	T-196-C	1.60	T-196-M	10.75
6	2101-06-00	7/8	1	KT-197	30	T-197-C	1.60	T-197-M	10.75
8	2101-08-00	7/8	1	KT-198	30	T-198-C	1.60	T-198-M	10.75
10	2101-10-00	57/64	1	KT-223	30	T-223-C	1.60	T-223-M	10.85
4	2103-04-00	13/16	2			T-247-C	1.60	T-247-M	10.75
6	2103-06-00	13/16	2			T-248-C	1.60	T-248-M	10.75
8	2103-08-00	13/16	2			T-249-C	1.60	T-249-M	10.75
10	2103-10-00	53/64	2			T-250-C	1.75	T-250-M	11.40
4	2106-04-00	5/8	1			T-229-C	1.50	T-229-M	10.50
6	2106-06-00	5/8	1	KT-194	30	T-194-C	1.50	T-194-M	10.50
8	2106-08-00	5/8	1	KT-195	30	T-195-C	1.50	T-195-M	10.50
4	2102-04-00	23/32	1			T-230-C	1.50	T-230-M	10.50
6	2102-06-00	23/32	1			T-231-C	1.50	T-231-M	10.50
8	2102-08-00	23/32	1			T-232-C	1.50	T-232-M	10.50
4	2104-04-00	5/8	2			T-233-C	1.50	T-233-M	10.50
6	2104-06-00	5/8	2			T-234-C	1.50	T-234-M	10.50
8	2104-08-00	5/8	2			T-235-C	1.50	T-235-M	10.50
10	2104-10-00	41/64	2			T-236-C	1.60	T-236-M	10.85
6	2108-06-00	25/32	1			T-237-C	1.75	T-237-M	11.35
10	2108-10-00	51/64	1			T-238-C	1.80	T-238-M	11.55

PLAIN TERMINALS Brass hot tin-dipped, .018 thickness

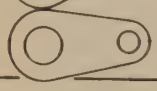
Style 1



Style 4



Style 7



Screw Size	Shakeproof® Part No.	Length	Form 1. — 2. ⌐	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag
4	2522-04-00	21/32	1			T-239-C	.95	T-239-M	6.75
6	2522-06-00	21/32	1			T-240-C	.95	T-240-M	6.75
6	2501-06-00	7/8	1			T-241-C	1.00	T-241-M	7.20
8	2501-08-00	7/8	1			T-242-C	1.00	T-242-M	7.20
10	2501-10-00	57/64	1			T-243-C	1.00	T-243-M	7.20
6	2506-06-00	5/8	1			T-244-C	1.00	T-244-M	7.20
8	2506-08-00	5/8	1			T-245-C	1.00	T-245-M	7.20
10	2506-10-00	5/8	1			T-246-C	1.00	T-246-M	7.20

EXTERNAL LOCKWASHER KEPS®—STANDARD SIZES



American Standard Machine Screw Nut Series, Nut, SAE20 steel; Washer, spring steel, cadmium-plated. Lockwasher and nut are pre-assembled. Reusable, free-spinning, they drive easily, cut assembly time, lock securely.

Diameter and Thread	Shakeproof® Part No.	Across Flats	Nut Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
4-40	511-041800-00	1/4	3/32			511-041800-00-C	3.20	511-041800-00-M	23.25	18.85
6-32	511-061800-00	5/16	7/64			511-061800-00-C	2.55	511-061800-00-M	18.45	14.90
8-32	511-081800-00	11/32	1/8			511-081800-00-C	2.60	511-081800-00-M	18.85	15.40
10-32	511-101800-50	3/8	1/8			511-101800-50-C	2.75	511-101800-50-M	19.80	16.15
1/4-20	511-251800-00	7/16	3/16			511-251800-00-C	3.45	511-251800-00-M	24.95	20.35

*TRADEMAR

Net

© United Technical Publication

FREQUENCY METERS

OVER 25 YEARS OF CONTINUOUS PRODUCTION

VIBRATING REED METERS

The AERO Instrument Facility of Arnoux Corporation produces over 1000 different types and styles of Vibrating Reed Frequency Meters, with a proved history of usage spanning over 25 years. Unsurpassed for high performance and quality construction, all AERO Frequency Meters provide the inherent advantages of great accuracy (with 0.3% at 72°F, and within 0.1% on special order); long term stability (±75 ppm per degree F. from -60° to +180°); low power consumption; self-checking characteristics; high reliability; and extreme ruggedness. No adjustments are ever required on Vibrating Reed Frequency Meters. AERO meters are available with . . . . .

- **1.5 inch to 3.5 inch Round Cases**
- **Bakelite and Metal Construction**
- **Hermetic Sealing**
- **1 Reed to 11 Reeds**
- **Center Frequencies from 20 Hz to 400 Hz**
- **Voltages from 24 Vrms to 220 Vrms**
- **Running Time Indicators**
- **Combination Meters**

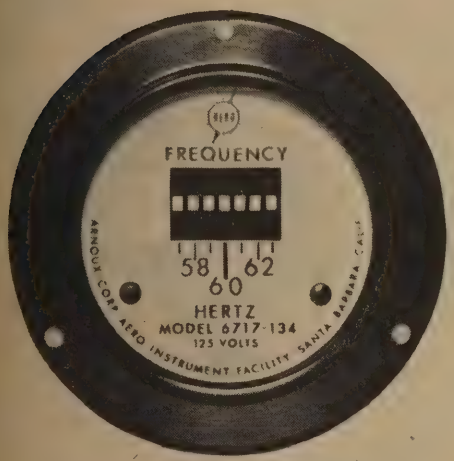


3.5 Inch Full View Meters

MODEL* NO.	CENTER FREQUENCY	FREQUENCY RANGE	NUMBER OF REEDS	REED INTERVAL	PRICE PER UNIT 1-24	25-49	50-99
2810.183	[50 Hz / 60 Hz]	48 to 52 Hz / 58 to 62 Hz	10	1 Cycle	30.75	20.60	16.91
4059-183	400 Hz	380 to 420 Hz	9	5 Cycles	34.80	23.32	19.14
5D31-183	50 Hz	47.5 to 52.5 Hz	11	½ Cycle	30.60	20.50	16.83
5717-183	50 Hz	47 to 53 Hz	7	1 Cycle	28.55	19.13	15.70
6D31-183	60 Hz	57.5 to 62.5 Hz	11	½ Cycle	30.60	20.50	16.83
6511-183	60 Hz	55 to 65 Hz	11	1 Cycle	30.60	20.50	16.83
6717-183	60 Hz	57 to 63 Hz	7	1 Cycle	28.55	19.13	15.70
6815-183	60 Hz	58 to 62 Hz	5	1 Cycle	26.90	18.02	14.79

Mounting Data. Three equally-spaced mounting studs (No. 8-32) are permanently affixed to rear of meter face panel, on 3.16" diameter (single studs at top center). Meter case requires 2.18" diameter hole. Total depth from rear of face panel is 2.50", including two No. 10-32 electrical connection studs. Meter face panel is 3.50" square and approximately 0.4" deep.

*Model numbers specify non-hermetically sealed metal cases; 0.3% accuracy; standard voltage of 117 Vrms; and input resistance of 10,000 ohms.



3.5 Inch Round Meters

MODEL* NO.	CENTER FREQUENCY	FREQUENCY RANGE	NUMBER OF REEDS	REED INTERVAL	PRICE PER UNIT 1-24	25-49	50-99
2810-134	[50 Hz / 60 Hz]	48 to 52 Hz / 58 to 62 Hz	10	1 Cycle	27.75	18.59	15.26
4059-134	400 Hz	380 to 420 Hz	9	5 Cycles	31.80	21.31	17.49
5D31-134	50 Hz	47.5 to 52.5 Hz	11	½ Cycle	27.60	18.49	15.18
5717-134	50 Hz	47 to 53 Hz	7	1 Cycle	25.55	17.12	14.05
6D31-134	60 Hz	57.5 to 62.5 Hz	11	½ Cycle	27.60	18.49	15.18
6511-134	60 Hz	55 to 65 Hz	11	1 Cycle	27.60	18.49	15.18
6717-134	60 Hz	57 to 63 Hz	7	1 Cycle	25.55	17.12	14.05
6815-134	60 Hz	58 to 62 Hz	5	1 Cycle	23.90	16.01	13.14

Mounting Data. Three equally-spaced mounting holes are through meter face panel on 3.16" diameter (single hole at top center). Holes accept No. 8-32 mounting hardware (supplied). Meter case requires 2.69" diameter hole. Total depth from rear of face panel is 2.31", including two No. 6-32 electrical connection studs. Meter face panel is 3.50" diameter and approximately 0.2" deep.

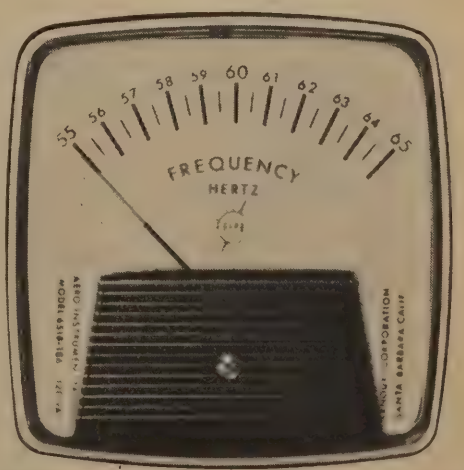
*Model numbers specify non-hermetically sealed bakelite cases; 0.3% accuracy; standard voltage of 117 Vrms; and input resistance of 10,000 ohms.

POINTER TYPE METERS

AERO's new line of Pointer-Type Meters feature advanced microminiature circuits for performing frequency-to-DC conversion with remarkable linearity and stability. These circuit innovations have now made pointer-type meters both economical and practical for production. Pointer-Type Meters are presently available in three frequency ranges, with accuracy and stability as great as 0.3 Hz in the 45 to 65 Hz ranges. The input voltage for all units is 115 ±15Vac, with power consumption approximately 2 watts. Operating temperature range is 0° to 150° F.

MODEL NO.	FREQUENCY RANGE	ACCURACY & STABILITY	PRICE PER UNIT 1-24	25-49	50-99
557P-183	45-55 Hz	0.3 Hz	48.50	32.50	26.68
657P-183	55-65 Hz	0.3 Hz	48.50	32.50	26.68
407P-183	380-420 Hz	2.0 Hz	48.50	32.50	26.68

Mounting Data
(Same as for 3.5 Inch Full View Meters. See above.)



Write for Our Catalog for Complete Data on Other Models and Styles of Aero Frequency Meters

All prices are net, FOB Factory, 8-1-71, subject to change. Larger quantity prices on request.

AERO INSTRUMENT FACILITY OF ARNOUX CORPORATION

AMPROBE INSTRUMENT®
DIVISION OF SOS CONSOLIDATED INC

Their compactness, versatility and wide range of measuring capability have made these units the most widely used clamp-on instruments available. Applications include checking running currents, balancing circuits, checking for overloads, checking voltage and with models noted checking resistance and continuity.

AMPROBE® ROTARY SCALE MODELS





G Case

A Case



Feature multi-range capability for greater measurement flexibility and reading accuracy. Fit either hand comfortably, permitting one hand operation of jaw trigger, pointer lock and rotary scale selector. Pointer lock "freezes" pointer at reading. Only selected voltage or current scale (plus ohmmeter scale on units with ohmmeter) is visible at one time in the unbreakable, magnifying window. Accuracy ±3% F.S.

MODEL	VOLTS, AC	RANGES AMPS, AC	PRICE
RS-1A	0-150/600	0-6/15/40/100	$51.85
RS-2A	0-150/300	0-6/15/40/100	51.85
RS-3A	0-150/300/600	0-6/15/40/100/300	64.85
RS-300A	0-150/300/600	0-6/15/40/100/300	60.85

RS-3A OHMMETER RANGE: 25 Ohms Mid-Scale

Price includes Extendo-Lead Pack VLK-311R and special "A" Case with space for Amprobe Energizer A-45L.

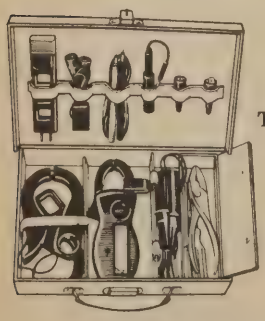
MODEL	VOLTS, AC	RANGES AMPS, AC	PRICE
RS-1	0-150/600	0-6/15/40/100	$46.85
RS-2	0-150/300	0-6/15/40/100	46.85
RS-3	0-150/300/600	0-6/15/40/100/300	59.85
*RS-3 400 Hz	0-150/300/600	0-6/15/40/100/300	83.50
RS-300	0-150/300/600	0-6/15/40/100/300	55.85
RS-1000	0-150/300/600	0-15/40/100/300/1000	79.85
RS-1007	0-150/300/750	0-15/40/100/300/1000	79.85

Models RS-3, RS-3 400 Hz, RS-1000 and RS-1007 OHMMETER RANGE: 25 Ohms Mid-Scale

Price includes "G" carrying case (RS-1000 and RS-1007 include "E" case) and Test Leads VL-11R.

*Model RS-3 400 Hz—Calibrated for 400 Hz (cycles) for Use in Aircraft and Maritime Industries.

AMPROBE® TEST MASTER KITS



TM-43A

TM-63



Choice of models lets you select the "electrical test shop in a kit" to meet your specific testing requirements. All kits (except TM-60) are built around the famous model RS-3A with Extendo-Leads. Measure voltage up to 600 VAC. Check low currents on a 0-0.6 ampere range or high currents up to 1200 amps by using A45-L Energizer or A50-1 Deca Tran. Model PSA-1 in the TM-43A permits you to determine phase sequence of three phase circuits. The good-looking, rugged, compact cases are truly the sign of the professional.

CONTAINS:	RS-3A	Extendo Leads	PSA-1	Energizer	Deca Tran	A Case	U Case	Price
TM-33A	one	one	—	one	one	—	one	$106.50
TM-43A	one	one	one	one	one	—	one	117.85
TM-60	—	one	—	one	—	one	—	17.35
TM-63	one	one	—	one	—	one	—	71.85

AMPROBE® JUNIOR MODELS



Junior models are the economical way:
- to get started in electrical testing
- to have a spare instrument
- to equip a number of servicemen

These pocket-size instruments are available in a variety of voltage, current and resistance range combinations. This permits you to select the model that will satisfy your immediate job requirements. Readings are taken on a calibrated scale. Accuracy ±3% F.S. Junior model instruments are smaller and weigh less than most popular voltage testers. Handy "B" Case with space for Extendo-Leads VLK-355R and Energizer A45-L is available for all Junior models.

YTO MODEL

2 current ranges, 2 voltage ranges, 25 ohms mid-scale.
Price w/VL-55R test leads **$35.85.**

MODEL	AMPS, AC	VOLTS, AC
YTO525/100	0-25/100	0-150/600

YT MODELS

2 current ranges, 2 voltage ranges.
Price w/VL-55R test leads **$30.85.**

MODEL	AMPS, AC	VOLTS, AC
YT10/25	0-10/25	0-150/300
YT25/100	0-25/100	0-150/300
YT525/100	0-25/100	0-150/600

YTB MODELS



Versatile YT Jr. and Extendo-Lead Pack VLK-355R in handy "B" case, with space for Energizer A-45L. **Price $36.85.**

MODEL	AMPS, AC	VOLTS, AC
YTB10/25	0-10/25	0-150/300
YTB25/100	0-25/100	0-150/300

YO MODELS

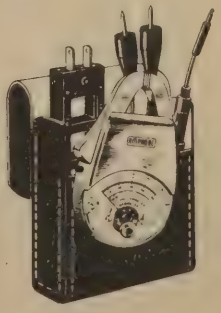
1 current range, 2 voltage ranges, 25 ohms mid-scale.
Price w/VL-55R test leads **$30.85.**

MODEL	AMPS, AC	VOLTS, AC
YO "525"	0-25	0-150/600
YO "550"	0-50	0-150/600
YO "500"	0-100	0-150/600

Y MODELS

1 current range, 2 current ranges.
Price w/VL-55R test leads **$25.85.**

MODEL	AMPS, AC	VOLTS, AC
Y25	0-25	0-125/250
Y500	0-100	0-150/600
Y550	0-50	0-150/600



AMPROBE® JUNIOR TEST MASTER KITS

The Junior Test-Master Kits combine one of the popular YO Models and the A45-L Energizer in a compact case. Energizer multiplies current measuring sensitivity by five or ten times for precise readings on small appliances and fractional h.p. motors. Measure current, voltage and resistance. Price: **$41.85.**

MODEL	2 VOLTAGE RANGES	AMMETER RANGES (full scale) BASIC INST.
TM-YO "525"	0-150/600	0-25
TM-YO "550"	0-150/600	0-50
TM-YO "500"	0-150/600	0-100

OHMMETER RANGE: 25 Ohms Mid-Scale

All prices, specifications and models are subject to change without notice.

Net

© United Technical Publications

AMPROBE INSTRUMENT®
DIVISION OF SOS CONSOLIDATED INC.

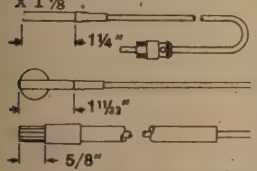
AMPROBE® FASTEMP® THERMOMETERS



Dual range, battery powered thermometer measures temperatures in seconds. Tapered shape fits either hand comfortably. Accommodates 3 probes that can be checked in quick succession by means of a selector switch. "Press to Read" button extends battery life—"locks in" for continuous readings. Range overlap permits monitoring of fluctuating temperature in that area without frequent switching of ranges. Supplied with one Universal Probe model RBT-12 for non-corrosive gaseous, liquid and surface temperatures. Also available are Immersion and Air Probes and a carrying case that permits use of Thermometer while in the case. Up to 3 probes can be stored in case.

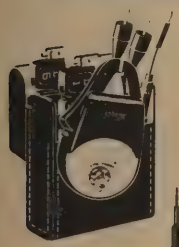
MODEL	RANGES		PRICE
T-150	−50° to +50°F:	+40° to +150°F	$44.85
T-150C	−45° to +10°C:	+6° to +65°C	44.85
T-151	+10° to +110°F:	+100° to +250°F	44.85
T-151C	−12° to +43°C:	+38° to +120°C	44.85

Accuracy ±2% of span. Weighs only 10 ozs. 4 13/16" x 2 11/16" x 1 7/8".



RBT-11	Immersion Probe	$8.95
RBT-12	Universal Probe	8.95
RBT-13	Air Probe	8.95
FTC	Carrying Case	9.85
915	Set of 4 "AA" batteries	.80

AMPROBE® JUNIOR LINE PROBE



Unique, versatile...traces up to 10 circuits at one time, measures voltage and current without interrupting service, checks for continuity. Complete with all required accessories including carrying case. **Price $45.85.**

MODEL	VOLTS, AC	AMPS, AC
ALP550	0-150/600	0-50

AMPROBE® VOLTPROBE® VOLTAGE TESTER



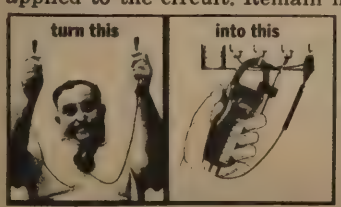
Unique design makes VOLTPROBE virtually the ONLY Votage Tester that FITS IN A SHIRT POCKET. Voltage levels are shown "Thermometer Style" by a series of LIT windows corresponding to each voltage level. Visual readout ends guesswork and wrong interpretation. Operates over a frequency range of 25 to 800 cycles. Model VT-100 indicates AC and DC (including polarity). Model VT-124 indicates AC including 24 and 48 volts. Model VC carrying case optional at extra cost.

MODEL NO.	RANGES VOLTS, AC	VOLTS, DC	PRICE
VT-100	115/220/277/440/550	115/220/400/600/750	$9.50
VT-124	24/48/115/220/277/440/550	None	14.85

Helpful accessories for Amprobe instruments

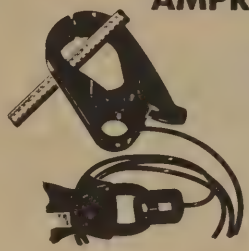
AMPROBE® ALL WEATHER EXTENDO LEADS

Extendo leads give you a "Third Hand" for easier, safer and faster voltage readings. No more wishing for someone or something to hold the instrument while test probes are applied to the circuit. Remain flexible to −10°F.



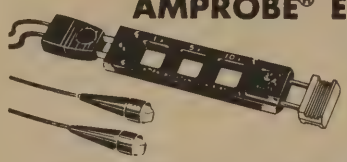
Furnished with jaw adaptor, extension probe leads, and insulated alligator clips. Model VLK-311R for all AMPROBE RS models, except RS-1000 and RS-1007. Model VLK-355R for all AMPROBE Juniors. **Price $4.65.**

AMPROBE® DECA-TRAN

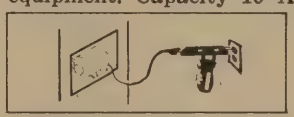


The Model A-50-1 Deca-Tran can be used with any AMPROBE model to extend the current ranges 10 times up to 1200 amps maximum, intermittent duty, 600 amps continuous duty. With 2′ Line Cord for remote readings. Accommodates round conductors—2 1/16" (5.33 cm) in diameter and bus bar 3/4" (1.80 cm) x 2½" (6.35 cm). With carrying case. **Price $34.85.**

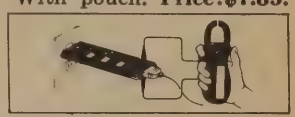
AMPROBE® ENERGIZER



Model A-45L increases the current measuring sensitivity of the instrument by five or ten times. Permits taking of voltage readings at outlet under load. Can be used for current measurements of permanently wired equipment. Capacity 10 Amps. With pouch. **Price:$7.85.**



EFFECTIVELY "SPLITS" DOUBLE CONDUCTOR LINE CORDS FOR QUICK READING AT OUTLET.



PERMITS LINE VOLTAGE MEASUREMENT AT OUTLET UNDER ACTUAL LOAD CONDITIONS.

AMPROBE® PHASE SEQUENCE ADAPTOR



When used in conjunction with any AMPROBE snap-around model (or other voltmeter with appropriate AC range), the model PSA-1 Phase Sequence Adaptor permits you to determine phase sequence of electrical equipment using three phase lines up to 550 volts. With Case. **Price: $15.85.**

AMPROBE® VOLTAGE MULTIPLIER LEAD

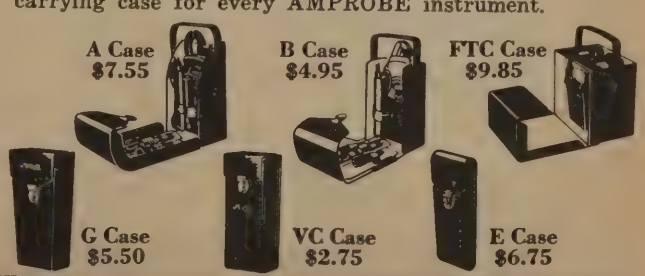
High voltage multiplier lead permits readings up to 750 volts AC on all RS models with 0-150 volt scale. Cat. No. VL-750R. **Price: $3.95.**

AMPROBE® STAT-CLEAN

Anti-static cleaning kit for cleaning window on AMPROBE recorders and clamp-on instruments. Static charge can build up on an instrument affecting accuracy. The SCK-100 Cleaning Kit reduces or eliminates static charge. **Price: $1.50.**

AMPROBE® CARRYING CASES

AMPROBE cases are sturdy, light weight, compact and are designed for easy access to the instruments and accessories they hold. Any AMPROBE case can be ordered separately. Shown are cases for RS instruments, Juniors, VOLTPROBE, and TM-63 Test Master Kit. There is a handy carrying case for every AMPROBE instrument.

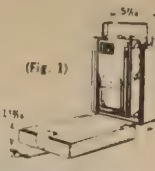


AMPROBE INSTRUMENT® / SERVICE & INDUSTRIAL RECORDERS

DIVISION OF SOS CONSOLIDATED INC

PORTABLE-CASED RECORDERS

Supplied with permanently attached motor line cord and one roll each of necessary strip charts. Meter line cord, extensions, adaptors, transducers, etc. supplied when indicated. Time-sharing recorders are similar except that they have flat lid and storage compartment in the back of case. Overall size is 7⅜"h x 6¾"w x 5⅛"d.



(Fig. 1)

FLUSH-MOUNTING RECORDERS

Supplied with one roll each of necessary strip charts and mounting hardware. Transducers, probes, etc. supplied when indicated. Motor leads not furnished.



(Fig. 2)

Recommended Panel Opening Size: 3⅛"x6⅛"

* Indicates the availability of this model in flush-mount version. Ranges and Specifications same as Portable cased models. See fig. 2 for configuration. First prefix letter "L" of model number indicates Portable Cased. Prefix letter "F" indicates Flush-Mounting.

TIME-SHARING RECORDERS

Sequentially record up to 3 variables **on the same chart** permitting easier comparison and faster pinpointing of trouble.
Models LAV21 and LAA3 record variables in controlled sequences which result in a different dot pattern for each variable permitting easy identification of each trace.
Model LT8200 sequentially records 2 different temperatures (eg. refrigerator/freezer) and 1 Event (compressor On/Off). Event is sensed by clamp-on current transducer for 4-300 amps. Currents of less than 4 amps must be multiplied using A45-L Energizer available separately.

Model No.	Description	Range	Price
LAA3	Records 3 AC Currents on same chart. With matched transducers.	0-15/60/150/300 Amps AC	$249.85
LAV21	Records AC Voltage and Current on same chart. With matched transducer.	0-15/60/150/300 Amps AC 0-150/300/600 VAC	214.85
LT8200	Records 2 Temperatures, 1 On/Off Event on same chart.	−40°F to +60°F −40°C to +15°C 4-300 Amps AC	224.85

AC VOLTMETERS

Model No.	Description	Range	Price
LAV2X*	Dual Range, Expanded Scale	95-130/190-260 Volts AC	$109.85
LAV3X*	Three Range, Expanded Scale	95-130/190-260/380-520 Volts AC	130.85
LAV4X*	Dual Range, Expanded Scale 220 volt, 50 cycles only	165-245/330-490 Volts AC	114.85
LAV8600*	Three Range, 1380Ω/V	0-150/300/600 Volts AC	114.85

AC AMMETERS (See Model LAA3 under Time-sharing listing)

LAA81*	With A-70FL Transducer	0-10/50/250/500 Amps AC	120.85
LAA82*	With A-60FL Transducer	0-5/25/100/250 Amps AC	115.85
LAA1500*	With A-50FL Transducer	0-800/1500 Amps AC	149.85
LAA830*	For use with external current transformer 2VA (Not supplied)	0-5 Amps AC Scale: 0-150/300/600	113.85
LAA840*		0-5 Amps AC Scale: 0-200/400/800	113.85
LAA850*		0-5 Amps AC Scale: 0-100/250/500	113.85

AC VOLT/AMMETERS (See Model LAV21 under Time-sharing listing)

LAVA81*	With A-70FL Transducer	Volts: 95-130; 190-260 Amps: 0-10/50/250/500	164.85
LAVA82*	With A-60FL Transducer	Volts: 95-130; 190-260 Amps: 0-5/25/100/250	159.85
LAVA83*	With A-70FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-10/50/250/500	180.85
LAVA84*	With A-60FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-5/25/100/250	175.85
LAVA85*	With A-75FL Transducer 220 volt, 50 cycles only	Volts: 165-245/330-490 Amps: 0-10/50/250/500	165.85
LAVA86*	With A-65FL Transducer 220 volt, 50 cycles only	Volts: 165-245/330-490 Amps. 0-5/25/100/250	160.85
LAVA87	With A-70FL Transducer	Volts: 0-150/300/600 Amps: 0-10/50/250/500	168.85

THERMOMETERS (See Model LT8200 under Time-sharing listing)

LT8100*	Dual Range with FL-RBT-1 Probe	−50° to +100°F +50° to +250°F	125.85
LT8101*	Dual Range with FL-RBT-1 Probe	−45° to +40°C +10° to +120°C	125.85
LT8650	Incremental Recorder	50°F Span Probes Not Included	148.85
RBT-5	Probe for LT8650	−50° to 0°F	20.50
RBT-6	Probe for LT8650	0° to +50°F	20.50
RBT-7	Probe for LT8650	+50° to +100°F	20.50
RBT-8	Probe for LT8650	+100° to +150°F	20.50
RBT-9	Probe for LT8650	+150° to +200°F	20.50
RBT-10	Probe for LT8650	+200° to +250°F	20.50

DC MICROAMMETERS

LDC850*	Resistance: 900Ω	0-50ua DC	109.85
LDC8100*	Resistance: 500Ω	0-100ua DC	101.85
LDC8500*	Resistance: 50Ω	0-500ua DC	95.85

DC MILLIAMMETERS

LDB81*	Resistance: 36Ω	0-1 ma DC	95.85

DC AMMETERS

For use with 50 mv shunts. Furnished with calibrated (0.065Ω) five foot leads.

LDM830*	DC Millivoltmeter.	0-50 mv DC, 30 Div. Scale	101.85
LDM840*	Resistance: 50Ω	0-50 mv DC, 40 Div. Scale	101.85
LDM850*		0-50 mv DC, 50 Div. Scale	101.85

PYROMETERS Not supplied with Thermocouples.

LP8400*	Three Range Pyrometer. (External Resistance: 3.50Ω) Uses Iron-Constantan Type J Thermocouples.	0° to 400°F 0° to 800°F 0° to 1200°F	159.85
LP8601*	(External Resistance: Adjustable up to 10.5 Ohms approx.) Uses Iron-Constantan Type J Thermocouples.	0° to 600°F	159.85
LP81001*	(External Resistance: Adjustable up to 25 Ohms approx.) Uses Iron-Constantan Type J Thermocouples.	0° to 1000°F 0° to 530°C	159.85
LP82001*	(External Resistance: Adjustable up to 40 Ohms approx.) Uses Chromel Alumel Type K Thermocouples.	0° to 2000°F 0° to 1080°C	159.85

EVENTS RECORDERS

Designed to monitor and document from one to 10 separate operations.

LEV10*	Events Recorder, 10 channel operation.	130.85
LDL10	DIRECT-O-LOG® Recorder. Features 10 self-clearing channel selector buttons with lights.	185.85

DC VOLTMETERS

LDV8600*	Three Range 0-150/300/600 Volts DC 20,000Ω/v	114.85

AMPROBE® RECORDER STRIP CHARTS

Individually packaged 30' chart rolls packed six (6) to a box. Sold in multiple of six (6) only. Price $1.95 per roll except where indicated *$1.70.

Cat. No.	Description/Markings	For Use With Model No.
300SVA	0-150/300/600	LAV21, LAA3
835X3A*	95-130/190-260/380-520 Volts AC	L/FAV2X, 3X L/FAVA81, 82, 83, 84
830AV600*	0-150/300/600 Volts AC	LAV8600, FAV8600, LAVA87
840X2	165-245/330-490 Volts AC	L/FAV4X, L/FAVA85, 86
300SVA	0-150/300/600	LAV21
850A*	0-5/25/100/250 Amps AC	L/FAA81, 82 L/FAVA81, 82, 83, 84, 85, 86, 87
800AA*	0-800 Amps AC	LAA1500, FAA1500
1500AA*	0-1500 Amps AC	LAA1500, FAA1500
830AA	30 Div. for AC Amps 0-150/300/600/1200	LAA830, FAA830
840AA	40 Div. for AC Amps 0-200/400/800	LAA840, FAA840
850AA	50 Div. for AC Amps 0-100/250/500	LAA850, FAA850
850D	50 Div. for DC variables, (Millivolts, Milliamperes, Microamps). 0-1/5/25; 25-0-25	L/FDM850, L/FDB81 L/FDC850, 8100, 8500
8400	40 Div. for DC variables, (Millivolts, Milliamperes, Microamps). 0-20/40/80; 20-0-20	LDM840, FDM840
8300	30 Div. for DC variables, (Millivolts, Volts, Milliamperes, Microamps). 0-15/30/60; 15-0-15	LDM830, FDM830 LDV8600, FDV8600
601F	0° to 600°F	LP8601, FP8601
840F	0° to 400/800/1200°F	LP8400, FP8400
850F1&2	0° to 1000°F 0° to 2000°F	L/FP8100, 8200 L/FP81001, 82001
856C1	0° to 530°C	L/FP81001, 81000
857C2	0° to 1080°C	L/FP82001, 82000
4060	−40° to +60°F	LT8200
4015C	−40° to +15°C	LT8200
823T1*	−50° to +100°F	LT8100, FT8100
833T2*	+50° to +250°F	LT8100, FT8100
828T3	−45° to +40°C	LT8101, FT8101
822T4	+10° to 120°C	LT8101, FT8101
850T6*	Marked in six 50° spans: −50° to +250°F	LT8650
EV10	Marked from 0 to 10	LEV10, FEV10, LDL10

SPECIFICATIONS

Strip Chart Size: 2½" wide x 30' long.

Standard Chart Speeds: 1 inch or 12 inches per hour. (Other chart speeds available except for Time-sharing models.) Unless otherwise specified 12 inches per hour chart speed will be shipped.

Impression Rate: Once every 5 seconds at 12 inches per hour. Once every 1 minute at 1 inch per hour.

Power Requirements: 115v AC. 60 cycles, 2.5 Watts. Other frequencies and voltages including 12 volts DC available at extra charge.

Accuracy:
DC Microammeter, Milliammeter and Millivoltmeter: ±2% FS. AC† and DC Voltmeters: ±3% on other than expanded scales. AC Ammeters: All models EXCEPT LAA/FAA-1500: ±3% on current recorders using transducer furnished,† ±5% if using transducer other than furnished.† Other transducers cannot be used with LAA3 or LAV21.

LAA/FAA-1500: ±4% using transducer furnished which has the same serial number as the recorder.† Other transducers cannot be used.

Expanded Range AC Voltmeters: ±1.25% FS.† Pyrometers: ±3% FS.

Model LT8100:
−50 to + 20°F: ±4°F
+20 to +100°F: ±3°F
+50 to +250°F: ±5°F

Model LT8650: ±1.5°F

Model LT8101:
−45 to − 10°C: ±2°C
−10 to + 40°C: ±1.5°C
+10 to +120°C: ±2.5°C

Model LT8200:
−20 to +40°F: ±2°F
−29 to + 4°C: ±1.1°C
At other points ±3°F, ±1.7°C

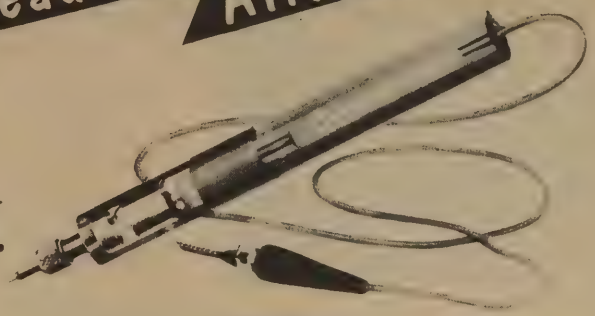
† On sinusoidal wave form

Net
© United Technical Publications

Tracks 'em Down Dead or Alive

ONLY THE VERSATILE DESCO* Circuitracer*

GIVES YOU A 3-IN-1 ELECTRICAL TEST LABORATORY



MODEL CT1-1
Weighs only 2½ ozs. LIST $5.95

Satisfaction Unconditionally Guaranteed

DON'T SEND A MAN TO DO A BOY'S JOB!

Are the technicians in your laboratories and shops using expensive meters and instruments for sample continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster and easier than expensive, bulky meters.

CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

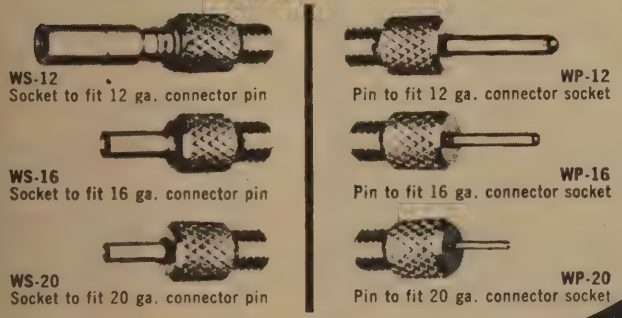
SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS. An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

*T.M. Reg.

The CIRCUITRACER is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits AND high voltage live circuits. It is made of the finest materials available and is designed for long life.

DESCO TEST PROBE ADAPTERS

ORDER DESCO CIRCUITRACER* MODEL CT2-2 OR CT2-1 FOR USE WITH THESE FITTINGS



WS-12 Socket to fit 12 ga. connector pin
WP-12 Pin to fit 12 ga. connector socket
WS-16 Socket to fit 16 ga. connector pin
WP-16 Pin to fit 16 ga. connector socket
WS-20 Socket to fit 20 ga. connector pin
WP-20 Pin to fit 20 ga. connector socket

FITTINGS $1.00 EA.

INSURE CONNECTOR RELIABILITY

Manual probing of harness connectors while circuit testing can damage connectors and impair reliability. Desco Test Probe Adapters were developed to provide a test fitting identical to the pins and sockets in "AN" connectors being tested. They make the same electrical and mechanical contact as the mating connector, and insure against scratching, bending and warping.

The adapters are made in three sizes to fit connectors using #12, #16 and #20 wire gauges. The sockets are gold plated copper with a brass sheath which retains a berylium copper spring. The pins are stainless steel to insure long life. All are made to rigid MIL-SPECS. The adapters will fit Desco Jumper Wires and the Desco Circuitracer* Tester interchangeably.

THE ULTRA LOW CURRENT Trantracer*

A SAFE, FAST, INEXPENSIVE "GO" — "NO GO" TESTER OF ULTRA LOW CURRENT SENSITIVE CIRCUITS

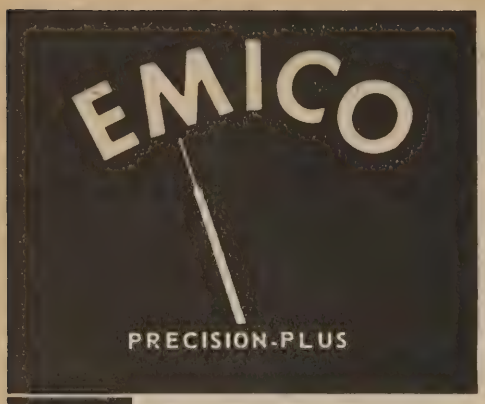
MODEL TR200 LIST $12.75

The Trantracer* checks continuity by sending less than 50 micro amperes through the circuits to prevent damage to solid state junctions and micro watt sensitive elements. Continuity is established as Go — No Go through circuit resistances of up to 400,000 ohms.

Maximum voltage applied to very high resistance circuits is 2 volts, low resistance circuits normally see millivolts and micro amperes.

*T.M. Reg.

DESCO MFG. CO.



PRECISION

the Recognized Leader . . .

ELECTRO-MECHANICAL INSTRUMENT DIV. VLN CORP.

PRICE LIST

PRICES — Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.

DC AMMETERS

Range	Approximate Resist. Ohms	MODEL NF2C Catalog Number	MODEL RF2C Catalog Number	MODEL RF2C Dealer's Net Price	MODEL RF2¼C Catalog Number	MODEL RF2¼C Dealer's Net Price	Skin Pack-Add "S" to Catalog No.	MODEL 13 Catalog Number	MODEL 13 Dealer's Net Price
0-1	.15	2101	2201	$2.85	2301	$3.15	$3.30		
0-3	.032	2101A	2201A	2.85	2301A	3.15	3.30		
0-5	.016	2102	2202	2.85	2302	3.15	3.30	2402	$3.30
0-10	.00115	2103	2203	2.85	2303	3.15	3.30	2403	3.30
0-15	.00115	2103A	2203A	2.85	2303A	3.15	3.30	2403A	3.30
0-20	.00115	2104	2204	2.85	2304	3.15	3.30		
0-25	.00115	2104A	2204A	2.85	2304A	3.15	3.30		
0-30	.00115	2105	2205	2.85	2305	3.15	3.30	2405	3.30
0-60	.000116	2106A	2206A	3.55	2306A	3.65	3.80		
1-0-1	.08	2109	2209	2.85	2309	3.15	3.30		
3-0-3	.00115	2110	2210	2.85	2310	3.15	3.30		
6-0-6	.00115	2111	2211	2.85	2311	3.15	3.30		
10-0-10	.00115	2112	2212	2.85	2312	3.15	3.30		
15-0-15	.00115	2113	2213	2.85	2313	3.15	3.30		
20-0-20	.00115	2114	2214	2.85	2314	3.15	3.30	2414	3.30
30-0-30	.00115	2115	2215	2.85	2315	3.15	3.30	2415	3.30
75-0-75	.000116	2116A	2216A	4.00	2316A	4.25	4.40		

DC MILLIAMMETERS

0-1	850	2120	2220	4.40	2320	4.60	4.75	2420	4.40
0-3	425	2121	2221	3.55	2321	3.75	3.90		
0-5	925	2125	2225	3.30	2325	3.45	3.60	2425	3.55
0-10	300	2126	2226	3.15	2326	3.30	3.45	2426	3.40
0-20	95	2127	2227	2.95	2327	3.05	3.20	2427	3.30
0-25	65	2227A	2227A	2.95	2327A	3.05	3.20		
0-30	37	2228	2228	2.95	2328	3.05	3.20	2428	3.30
0-50	14.5	2129	2229	2.95	2329	3.05	3.20	2429	3.30
0-100	7.0	2130	2230	2.95	2330	3.05	3.20	2430	3.30
0-150	1.8	2130A	2230A	2.95	2330A	3.05	3.20	2430A	3.30
0-200	1.5	2130B	2230B	2.95	2330B	3.05	3.20	2430B	3.30
0.300	.61	2131	2231	2.95	2331	3.05	3.20	2431	3.30
0-500	.21	2132	2232	2.95	2332	3.05	3.20	2432	3.30

DC VOLTMETERS (High Resistance)

0-10	1050	2140	2240	$3.55	2340	$3.90	$4.05		
0-30	2800	2141	2241	3.55	2341	3.90	4.05		
0-50	4000	2142	2242	3.85	2342	4.25	4.40		
0-150	28000	2143	2243	3.95	2343	4.35	4.50		
0-300	55000	2144	2244	4.05	2344	4.50	4.65		

DC VOLTMETERS (Low Resistance)

0-1	33	2134	2234	2.95	2334	3.05	3.20		
0-3	100	2135	2235	2.95	2335	3.05	3.20	2435	3.30
3-0-3	30	2136	2236	2.95	2336	3.05	3.20		
0-5	140	2136A	2236A	2.95	2336A	3.05	3.20		
0-8	225	2136B	2236B	2.95	2336B	3.05	3.20		
0-10	280	2137	2237	2.95	2337	3.05	3.20	2437	3.30
0-15	450	2137A	2237A	2.95	2337A	3.05	3.20	2437A	3.30
0-20	600	2137B	2237B	2.95	2337B	3.05	3.20	2437B	3.30
0-30	1000	2137C	2237C	2.95	2337C	3.05	3.20	2437C	3.30
0-50	1400	2138	2238	2.95	2338	3.05	3.20	2438	3.30

AC AMMETER

0-1	.365	6101	6201	4.20	6301	4.25	4.40		
0-3	.078	6102	6202	4.20	6302	4.25	4.40		
0-5	.023	6103	6203	4.20	6303	4.25	4.40	6403	4.50
0-10	.013	6104	6204	4.20	6304	4.25	4.40		

AC MILLIAMMETER

0-25	750	6125	6225	4.20	6325	4.25	4.40		
0-50	175	6126	6226	4.20	6326	4.25	4.40		
0-100	58	6127	6227	4.20	6327	4.25	4.40		
0-250	12	6128	6228	4.20	6328	4.25	4.40		
0-500	1.75	6129	6229	4.20	6329	4.25	4.40	6429	4.50

AC VOLTMETER

0-5	50	6135	6235	4.20	6335	4.25	4.40		
0-10	175	6136	6236	4.20	6336	4.25	4.40		
0-15	300	6137	6237	4.20	6337	4.25	4.40	6437	4.50
0-25	920	6137A	6237A	4.20	6337A	4.25	4.40		
0-50	1800	6138	6238	4.20	6338	4.25	4.40		
0-150	9530	6139	6239	4.80	6339	5.00	5.15	6439	5.05
0-300	32000	6140	6240	5.35	6340	5.50	5.65	6440	5.35

A/C Voltage Tester — Boxed — $4.85 Skin Packed — $5.00

Net

© United Technical Publications

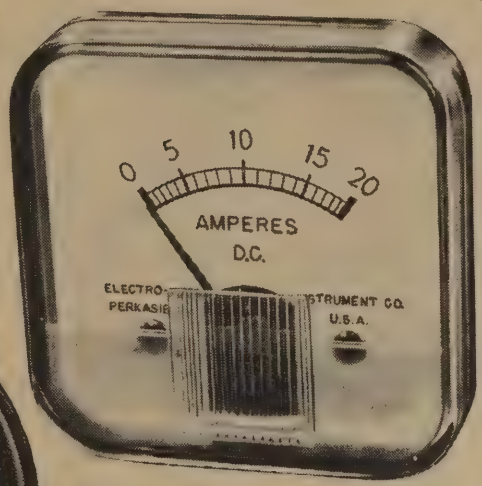
METERS

in Precision Products

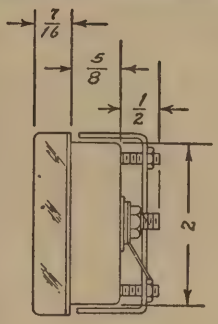
EMICO
PRECISION-PLUS

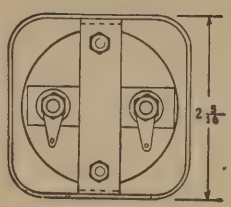


MODEL 13
Edge Reading Type



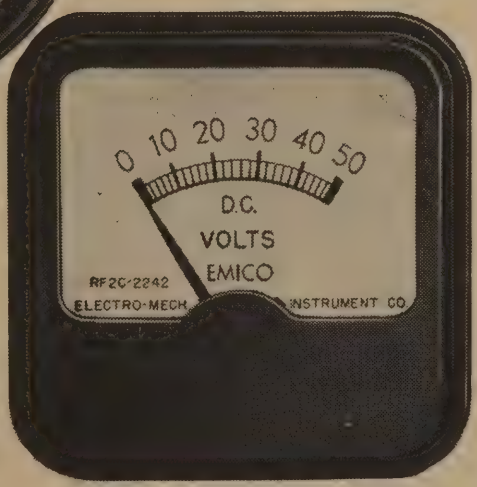
MODEL RF2¼C



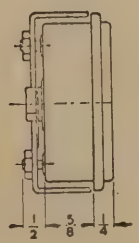


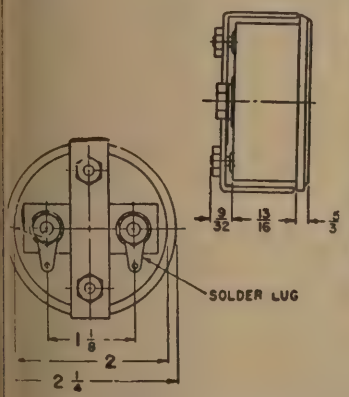


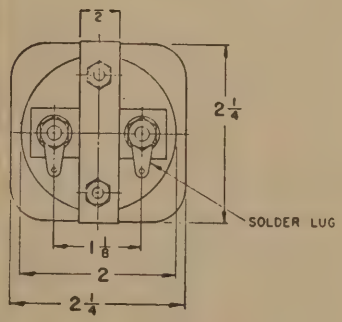
MODEL NF2C



MODEL RF2C







Precision instruments engineered for

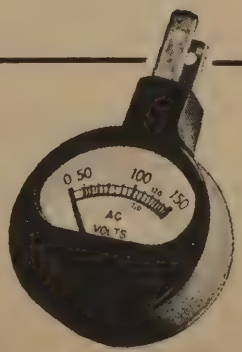
- accuracy
- long life
- economy

ELECTRO-MECHANICAL INSTRUMENT DIV. VLN CORP.

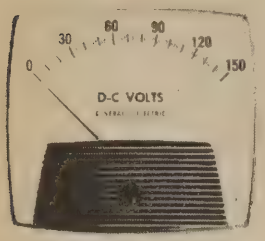
EMICO A.C. Voltage Tester

Accurate, precision mechanism plug-in type with damped meter movement. Convenient 90° swivel prongs for ease of reading from any position.

Dealer's Net $4.85



PANEL METERS



BIG LOOK¶

Handsome, easy-to-read meters in two styles for all panel and control applications. All DC meters have self-shielded movement with pivot and jewel or taut-band suspension. Taut-band designs give great resistance to shock and increased sensitivity. Zener-diode, expanded-scale voltmeters available for improved narrow-range accuracy on 3½" and 4½" sizes. Snap-on, snap-off covers on meters. All types meet ASA Specification C-39.1.

Accuracy: ±2% FS, all DC and AC iron vane; ±3% FS, AC rectifier type (with 60-cycle sine wave at 25° C); ±0.5% of midspan, expanded-scale types. **Overload:** 20% momentary and sustained, voltmeters; 10 times rated current for 10 consecutive intervals of ½-sec. with 1-min. interval between successive applications, momentary; 20% for 8 hours, sustained, ammeters. **Scale:** Pivot and jewel, 90° rotation; taut-band, 100°.

Insulation: 2600 V rms hi-pot for all but 1½" models (1600 V rms). **Response Time:** Meet or exceed ASA requirements; 3 sec. max. for microammeters; 2 sec. max. all other DC ratings; 2.5 sec. max. AC ratings. **Damping:** 40% max. overshoot; 2.5 min. damping factor. **Burden:** 5 amps, 0.5 VA, 0.5 power factor for AC ammeter; unity power factor, AC voltmeter.



HORIZON LINE¶

BIG LOOK PANEL METERS

Accurate, qick reading with wide, border-to-border scales; free from shadows. Most popular meter design with low-profile, easy-to-read sense. Aluminum frame holds reflections to a minimum. Big, bold numerals over cleanly marked divisions for fast reading. Tapered pointers assure high accuracy. Taut-band suspension provided on all models except 1½" size. Standard 2½" and 3½" models come with sealed cases to protect against hair, dust, chemicals or other foreign particles. Shelf-shielded DC mechanisms; snap-on, snap-off covers.

Meter Size	Type	Scale Length: Pivot Jewel	Scale Length: Taut-band	Max. Meter Dimensions, Inches: Face Size H. x W.	Cutout O.D.	Back* Depth	Front* Depth
1½"	188	1.400"	.....	1.750 x 1.750	1.530	1.230	0.375
2½"	152	2.100"	2.300"	2.702 x 2.702	2.195	2.002	0.478
3½"	162	2.900"	3.200"	3.512 x 3.512	2.786	2.002	0.478
4½"	171	3.930"	4.360"	4.408 x 4.846	2.786	1.965	0.573

¶Trade-mark of General Electric Co. *Back-of-panel and front of panel, respectively.

HORIZON LINE PANEL METERS

Distinctive, low profile design for sophisticated styling. Best readabili with swept-back windows to deflect light from line of sight. Both 3½" a 4½" meters may be mounted semi-flush or back-of-panel, recessed wi face silhouetted by half-bezel frame to conserve space and impro readability. DC types have core-magnet d'Arsonval movement with piv and jewel, or taut-band suspensions; self-shielded for use on any pan Zener-diode, expanded-scale voltmeters available. Snap-on, snap-off cove supplied on 4½" size.

G. E. No.1012K11702 Bezel For flush mtg. 2½" size Sugg. Net ea, 1-9 **$1.**
G. E. No.1012K11700 Bezel For flush mtg. 3½" size Sugg. Net ea, 1-9 **1.**
G. E. No.1012K11701 Bezel For flush mtg. 4½" size Sugg. Net ea, 1-9 **1.**

Meter Size and Type	Scale Length: Pivot Jewel	Scale Length: Taut-band	Max. Meter Dimensions, Inches: Face Size H. x W.	Cutout O.D.	Back* Depth	Front Depth
2½" NO. 157	2.013"	2.284"	2.256 x 2.892	2.031	2.048	0.54
3½" NO. 167	2.725"	3.060"	3.006 x 3.756	2.781	1.963	0.74
4½" NO. 178	3.502"	3.800"	3.756 x 4.632	2.781	1.963	0.83

*Back-of-panel and front-of-panel, respectively.

DC VOLTMETERS

ZERO-LEFT, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Prefix: 50-188 011§	2½" DW-91 Prefix: 50-152 011§	3½" DO-91 Prefix: 50-162 011§	4½" DO-92 Prefix: 50-171 011§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 011§	3½" No. 167 Prefix: 50-167 011§	4½" No. 178 Prefix: 50-178 011§
0-1	50		LALA	$20.88	$20.88	$22.62	$24.36	$20.88	$22.62	$24.36
0-1.5	75†		LCLC	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-3	60		LJLJ	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-5	50		LSLS	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-8	40		MJMJ	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-10	50		MTMT	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-15	75†	1000	NDND	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-30	60	ohms	NLNL	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-50	50	per	NTNT	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-80	40	volt	PDPD	20.88	20.88	22.62	24.36	20.88	22.62	24.36
0-100	50		PKPK	20.88	20.88	22.62	26.10	20.88	22.62	26.10
0-150	75†		PZPZ	20.88	20.88	22.62	26.10	20.88	22.62	26.10
0-200	40		RLRL	20.88	20.88	22.62	26.10	20.88	22.62	26.10
0-250	50		RSRS	20.88	20.88	22.62	26.10	20.88	22.62	26.10
0-300	60		RXRX	22.62	22.62	23.49	26.97	22.62	23.49	26.97
0-500	50		SFSF	.....	.....	24.36	27.84	.....	24.36	27.84
0-600	60		SJSJ	.....	.....	24.36	27.84	.....	24.36	27.84
				50-188 111§	50-152 111§	50-162 111§	50-171 111§	50-157 111§	50-167 111§	50-178 111§
0-500*	50	125	FASF	20.01	20.01	.....	.....	20.01	.....	.....
0-600*	60	125	FASJ	20.01	20.01	.....	.....	20.01	.....	.....
0-750*	75†	125	FASM	20.01	20.01	20.88	23.49	20.01	20.88	23.49

ZERO-CENTER, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Prefix: 50-188 012§	2½" DW-91 Prefix: 50-152 012§	3½" DO-91 Prefix: 50-162 012§	4½" DO-92 Prefix: 50-171 012§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 012§	3½" No. 167 Prefix: 50-167 012§	4½" No. 178 Prefix: 50-178 012§
5-0-5	50		LSLS	$20.88	$20.88	$22.62	$24.36	$20.88	$22.62	$24.36
10-0-10	40		MTMT	20.88	20.88	22.62	24.36	20.88	22.62	24.36
30-0-30	60	1000	NLNL	20.88	20.88	22.62	24.36	20.88	22.62	24.36
50-0-50	50	ohms	NTNT	20.88	20.88	22.62	24.36	20.88	22.62	24.36
80-0-80	40	per	PDPD	20.88	20.88	22.62	24.36	20.88	22.62	24.36
150-0-150	60	volt	PZPZ	20.88	20.88	22.62	26.10	20.88	22.62	26.10
300-0-300	60		RXRX	22.62	22.62	23.49	26.97	22.62	23.49	26.97
500-0-500	50		SFSF	.....	.....	24.36	27.84	.....	24.36	27.84
600-0-600	60		SJSJ	.....	.....	24.36	27.84	.....	24.36	27.84
				50-188 112§	50-152 112§	50-162 112§	50-171 112§	50-157 112§	50-167 112§	50-178 112§
500-0-500*	50	64	FASF	20.01	20.01	.....	.....	20.01	.....	.....
600-0-600*	60	64	FASJ	20.01	20.01	.....	.....	20.01	.....	.....
750-0-750*	60	64	FASM	20.01	20.01	20.88	23.49	20.01	20.88	23.49

EXPANDED-SCALE, SELF CONTAINED

Zener-diode type. Accuracy ±0.5% of mid-span.

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Not Available	2½" DW-91 Not Available	3½" DO-91 Prefix: 50-162 091§	4½" DO-92 Prefix: 50-171 091§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Not Available	3½" No. 167 Prefix: 50-167 091§	4½" No. 178 Prefix: 50-178 091§
24-30	60	100	NNNN	.....	.....	$60.90	$64.38	.....	$60.90	$64.38
110-130	40	ohms/	PNPN	.....	.....	60.90	64.38	.....	60.90	64.38
220-260	40	volt	RTRT	.....	.....	60.90	64.38	.....	60.90	64.38

*Not self contained, for use with external resistor, not supplied; rated 0-1 mADC (or 1-0-1 mADC, center scale types).

†75 divisions on all 3½" and 4½" meters; 30 divisions on 2½" and 1½".

§When ordering show complete number, prefix plus suffix; example: **50-157 012 LSLS** for 5-0-5 self contained 2½" HORIZON LINE DC voltmeter.

Net

© United Technical Publicatio

PANEL METERS

DC MICROAMMETERS

ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-20	40	3400	CFCF	$35.67	$35.67	$36.54	.....	$35.67	$36.54	.....
0-50	50	1600	CYCY	27.84	27.84	29.58	$33.06	27.84	29.58	$33.06
0-100	50	1525	DRDR	23.49	23.49	24.36	27.84	23.49	24.36	27.84
0-200	40	690	EAEA	20.88	20.88	22.62	26.10	20.88	22.62	26.10
0-500	50	220	EMEM	20.01	20.01	20.88	23.49	20.01	20.88	23.49

ZERO-LEFT, TAUT-BAND TYPE

ut-band suspension is also available in other DC ratings; prices on request.

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Not Available	2½" DW-91 Prefix: 50-156 111§	3½" DO-91 Prefix: 50-166 111§	4½" DO-92 Prefix: 50-173 111§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-192 111§	3½" No. 167 Prefix: 50-193 111§	4½" No. 178 Prefix: 50-194 111§
0-20	40	3400	CFCF	.....	$39.15	$40.02	$43.50	$39.15	$40.02	$43.50
0-50	50	2600	CYCY	.....	31.32	33.06	36.54	31.32	33.06	36.54
0-100	50	1170	DRDR	.....	26.97	27.84	31.32	26.97	27.84	31.32

ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
20-0-20	40	3330	CFCF	$31.32	$31.32	$33.06	.....	$31.32	$33.06	.....
50-0-50	50	1525	CYCY	23.49	23.49	24.36	$27.84	23.49	24.36	$27.84
00-0-100	40	690	DRDR	20.88	20.88	22.62	26.10	20.88	22.62	26.10
200-0-200	40	221	EAEA	20.01	20.01	20.88	24.36	20.01	20.88	24.36
500-0-500	50	64	EMEM	20.01	20.01	20.88	23.49	20.01	20.88	23.49

DC MILLIAMMETERS

ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	64	FAFA	$20.01	$20.01	$20.88	$23.49	$20.01	$20.88	$23.49
0-1.5	75†	64	FDFD	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-3	60	2.5	FNFN	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-5	50	2.5	FXFX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-10	50	1.8	GZGZ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-20	40	1.5	HFHF	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-25	50	2.0	HJHJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-30	60	1.67	HMHM	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-50	50	1.00	HYHY	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-80	40	0.62	JJJJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-100	50	0.50	JRJR	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-150	75†	0.33	JXJX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-200	40	0.25	KAKA	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-250	50	0.20	KDKD	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-300	60	0.167	KGKG	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-500	50	0.100	KMKM	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-800	40	0.062	KWKW	20.01	20.01	20.88	23.49	20.01	20.88	23.49

ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	64	FAFA	$20.01	$20.01	$20.88	$23.49	$20.01	$20.88	$23.49
3-0 3	60	2.6	FNFN	20.01	20.01	20.88	23.49	20.01	20.88	23.49
5-0-5	50	1.8	FXFX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
10-0-10	40	1.5	GZGZ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
20 0-20	40	1.25	HFHF	20.01	20.01	20.88	23.49	20.01	20.88	23.49
25-0-25	50	1.0	HJHJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
30-0-30	60	0.83	HMHM	20.01	20.01	20.88	23.49	20.01	20.88	23.49
50-0-50	50	0.50	HYHY	20.01	20.01	20.88	23.49	20.01	20.88	23.49
00-0-100	40	0.25	JRJR	20.01	20.01	20.88	23.49	20.01	20.88	23.49
50-0-150	60	0.167	JXJX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
00-0-200	40	0.125	KAKA	20.01	20.01	20.88	23.49	20.01	20.88	23.49
250-0-250	50	0.100	KDKD	20.01	20.01	20.88	23.49	20.01	20.88	23.49
300-0-300	60	0.083	KGKG	20.01	20.01	20.88	23.49	20.01	20.88	23.49
500-0-500	50	0.050	KMKM	20.01	20.01	20.88	23.49	20.01	20.88	23.49

DC AMMETERS

ZERO-LEFT, SELF-CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	.0500	LALA	$20.01	$20.01	$20.88	$23.49	$20.01	$20.88	$23.49
0-1.5	75†	.0333	LCLC	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-2	40	.0250	LELE	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-3	60	.0167	LJLJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-5	50	.0100	LSLS	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-10	50	.0050	MTMT	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-15	75†	.0033	NDND	.....	20.01	20.88	23.09	20.01	20.88	23.09
0-20	40	.0025	NGNG	.....	20.01	20.88	23.09	20.01	20.88	23.09
0-30	60	.00167	NLNL	.....	20.01	20.88	23.09	20.01	20.88	23.09
0-50	50	.00100	NTNT	.....	.....	20.88	23.49	.....	20.88	23.49

5 divisions on 3½" and 4½" sizes; 30 divisions on 1½" and 2½" sizes.
hen ordering show complete number, prefix plus suffix; example: **50-188 111 LALA**
or BIG LOOK 1½" DW-90 zero-left, self-contained DC ammeter with 0-1 scale.
rade-mark of General Electric Co.

GENERAL ELECTRIC

PANEL METERS

DC AMMETERS (CONT'D)

ZERO-LEFT, SHUNT-RATED

For use with 2-way shunt-lead resistance .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 121§	2½" DW-91 Prefix: 50-152 121§	3½" DO-91 Prefix: 50-162 121§	4½" DO-92 Prefix: 50-171 121§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 121§	3½" No. 167 Prefix: 50-167 121§	4½" No. 178 Prefix: 50-178 121§
0-20	40		ECNG	$20.01	$20.01	$20.88	.....	$20.01	$20.88	$23.49
0-30	60		ECNL	20.01	20.01	20.88	.....	20.01	20.88	23.49
0-50	50		ECNT	20.01	20.01	20.88	$23.49	20.01	20.88	23.49
0-75	75†		ECPB	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-100	50		ECPK	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-150	75†	50 mV	ECPZ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-200	40	shunt-	ECRL	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-250	50	rated	ECRS	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-300	60	12.5	ECRX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-400	40	ohms	ECSC	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-500	50		ECSF	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-600	60		ECSJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-800	40		ECSN	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-1000	50		ECVA	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-1500	75†		ECVC	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-2000	40		ECVE	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-20	40		GBNG	20.01	20.01	20.88	.....	20.01	20.88	23.49
0-40	40		GBNP	20.01	20.01	20.88	.....	20.01	20.88	23.49
0-50	50		GBNT	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-75	75†		GBPB	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-100	50		GBPK	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-150	75†	100 mV	GBPZ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-200	40	shunt-	GBRL	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-250	50	rated	GBRS	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-300	60	25	GBRX	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-400	40	ohms	GBSC	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-500	50		GBSF	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-600	60		GBSJ	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-800	40		GBSN	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-1000	50		GBVA	20.01	20.01	20.88	23.49	20.01	20.88	23.49
0-2000	40		GBVE	20.01	20.01	20.88	23.49	20.01	20.88	23.49

ZERO-CENTER, SELF CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	.0500	LALA	$20.01	$20.01	$20.88	$23.49	$20.01	$20.88	$23.49
2-0-2	40	.0250	LELE	20.01	20.01	20.88	23.49	20.01	20.88	23.49
5-0-5	50	.010	LSLS	20.01	20.01	20.88	23.49	20.01	20.88	23.49
10-0-10	40	.0050	MTMT	20.01	20.01	20.88	23.49	20.01	20.88	23.49
15-0-15	60	.0033	NDND	.....	20.01	20.88	23.49	20.01	20.88	23.49
20-0-20	40	.0025	NGNG	.....	20.01	20.88	23.49	20.01	20.88	23.49
30-0-30	60	.00167	NLNL	.....	20.01	20.88	23.49	20.01	20.88	23.49
50-0-50	50	.00100	NTNT	.....	.....	20.88	23.49	20.01	20.88	23.49

ZERO-CENTER, 50 mV SHUNT-RATED

For use with 2-way shunt-lead resistance of .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Prefix: 50-188 122§	2½" DW-91 Prefix: 50-152 122§	3½" DO-91 Prefix: 50-162 122§	4½" DO-92 Prefix: 50-171 122§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 122§	3½" No. 167 Prefix: 50-167 122§	4½" No. 178 Prefix: 50-178 122§
20-0-20	40		ECNG	$20.01	.....	.....	.....	.....	.....	.....
50-0-50	50	25	ECNT	20.01	$20.01	$20.88	$23.49	$20.01	$20.88	$23.49
75-0-75	60	ohms	ECPB	20.01	20.01	20.88	23.49	20.01	20.88	23.49
100-0-100	40		ECPK	20.01	20.01	20.88	23.49	20.01	20.88	23.49
150-0-150	60		ECPZ	20.01	20.01	20.88	23.49	20.01	20.88	23.49

AC VOLTMETERS

SELF CONTAINED, IRON VANE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031§	3½" AO-91 Prefix: 50-162 031§	4½" AO-92 Prefix: 50-171 031§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 031§	3½" No. 167 Prefix: 50-167 031§	4½" No. 178 Prefix: 50-178 031§
0-3	60	11.1	LJLJ	.....	$19.14	$20.01	$23.49	$19.14	$20.01	$23.49
0-5	50‡	29	LSLS	.....	19.14	20.01	23.49	19.14	20.01	23.49
0-10	50	110	MTMT	.....	19.14	20.01	23.49	19.14	20.01	23.49
0-15	75†	251	NDND	.....	19.14	20.01	23.49	19.14	20.01	23.49
0-30	60	779	NLNL	.....	19.14	20.01	23.49	19.14	20.01	23.49
0-50	50	2,500	NTNT	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-150	75†	15,000	PZPZ	.....	20.88	22.62	26.10	20.88	22.62	26.10
0-300	60	70,260	RXRX	.....	23.49	24.36	27.84	23.49	24.36	27.84
0-500	50	117,260	SFSF	.....	.....	30.45	33.93	.....	30.45	33.93
0-600	60	140,000	SJSJ	.....	.....	30.45	33.93	.....	30.45	33.93

SELF CONTAINED, 400 CYCLES

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 061§	3½" AO-91 Prefix: 50-162 061§	4½" AO-92 Prefix: 50-171 061§	HORIZON LINE Suggested Net Each, 1-9 2½" No. 157 Prefix: 50-157 061§	3½" No. 167 Prefix: 50-167 061§	4½" No. 178 Prefix: 50-178 061§
0-150	75†	15,000	PZPZ	.....	$20.88	$22.62	$26.10	$20.88	$22.62	$26.10
0-300	60	70,260	RXRX	.....	23.49	24.36	27.84	23.49	24.36	27.84

†75 divisions, 3½" and 4½" sizes; 30 divisions, 1½" and 2½" sizes.

‡50 divisions, 3½" and 4½" sizes; 25 divisions, 2½" size.

§**When ordering show complete number, prefix plus suffix**; example: **50-171 031 LJLJ** for 4½" BIG LOOK 0-3 voltmeter.

¶Trade-mark of General Electric Co.

© United Technical Publications

PANEL METERS

AC VOLTMETERS (CONT'D)

TRANSFORMER-RATED, 0-150 VOLTS

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031§	3½" AO-91 Prefix: 50-162 031§	4½" AO-92 Prefix: 50-171 031§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 031§	3½" No. 167 Prefix: 50-167 031§	4½" No. 178 Prefix: 50-178 031§
0-600	60	15,000	PZSJ	.....	$20.88	$22.62	$26.10	$20.88	$22.62	$26.10
0-750	75†	15,000	PZSM	.....	20.88	22.62	26.10	20.88	22.62	26.10
0-3000	60	15,000	PZVJ	.....	20.88	22.62	26.10	20.88	22.62	26.10

SELF CONTAINED, RECTIFIER TYPE

Accuracy ±3% (60-cycle sine wave, 25°C).

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Prefix: 50-188 051§	2½" AW-91 Prefix: 50-152 051§	3½" AO-91 Prefix: 50-162 051§	4½" AO-92 Prefix: 50-171 051§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 051§	3½" No. 167 Prefix: 50-167 051§	4½" No. 178 Prefix: 50-178 051§
0-10	50		MTMT	$26.97	$26.97	$27.84	$31.32	$26.97	$27.84	$31.32
0-15	75†		NDND	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-20	40		NGNG	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-25	50		NJNJ	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-30	60	1000	NLNL	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-50	50	ohms	NTNT	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-80	40	per	PDPD	26.97	26.97	27.84	31.32	26.97	27.84	31.32
0-100	50	volt	PKPK	27.84	27.84	29.58	33.06	27.84	29.58	33.06
0-150	75†		PZPZ	27.84	27.84	29.58	33.06	27.84	29.58	33.06
0-200	40		RLRL	.....	.....	29.58	33.06	.....	29.58	33.06
0-250	50		RSRS	.....	.....	29.58	33.06	.....	29.58	33.06
0-300	60		RXRX	.....	.....	30.45	33.93	.....	30.45	33.93

Accuracy ±0.5% of mid-span.

EXPANDED SCALE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	Not Available	Not Available	Prefix: 50-162 071§	Prefix: 50-171 071§	Not Available	Prefix: 50-167 071§	Prefix: 50-178 071§
110-130	40	100	PNPN	.....	.....	$60.90	$64.38	.....	$60.90	$64.38
105-125	40	ohms/V	PTPT	.....	.....	60.90	64.38	.....	60.90	64.38

AC AMMETERS (SELF CONTAINED, 25-400 CYCLES)

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 141§	3½" AO-91 Prefix: 50-162 141§	4½" AO-92 Prefix: 50-171 141§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 141§	3½" No. 167 Prefix: 50-167 141§	4½" No. 178 Prefix: 50-178 141§
0-1	50	0.16	LALA	.....	$20.01	$20.83	$20.88	$20.01	$20.88	$24.36
0-3	60	0.015	LJLJ	.....	20.01	20.83	20.88	20.01	20.88	24.36
0-5	50‡	0.007	LSLS	.....	20.01	20.83	20.88	20.01	20.88	24.36
0-8	40	0.003	MJMJ	.....	20.01	20.83	20.88	20.01	20.88	24.36
0-10	50	0.0024	MTMT	.....	20.01	20.83	20.88	20.01	20.88	24.36
0-15	75†	0.0016	NDND	.....	20.01	20.83	20.88	20.01	20.88	24.36
0-20	40	0.001	NGNG	.....	20.88■	22.62■	26.10■	20.88■	22.62■	26.10■
0-30	60	0.0006	NLNL	.....	20.88■	22.62■	26.10■	20.88■	22.62■	26.10■
0-50*	50	0.0004	NTNT	.....	.....	24.36■	27.84■	.....	24.36■	27.84■
0-80*	.....	0.0004	PDPD	.....	.....	27.84■	31.32■	.....	27.84■	31.32■

TRANSFORMER-RATED, 0-5 AMPERES, 25-400 CYCLES

0-10	50		LSM1	.....	$20.01	$20.88	$24.36	$20.01	$20.88	$24.36
0-15	75†		LSND	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-20	40		LSNG	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-30	60		LSNL	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-40	40		LSNP	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-50	50		LSNT	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-75	75†		LSPB	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-80	40		LSPD	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-100	50		LSPK	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-150	75†		LSPZ	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-200	40	0.007	LSRL	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-300	60		LSRX	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-400	40		LSSC	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-500	50		LSSF	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-600	60		LSSJ	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-800	40		LSSN	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-1000	50		LSVA	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-1200	60		LSVB	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-1500	75†		LSVC	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-2000	40		LSVE	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-3000	60		LSVJ	.....	20.01	20.88	24.36	20.01	20.88	24.36

AC MILLIAMMETERS (SELF CONTAINED, 25-400 CYCLES)

0-10 mA	50	2158	GZGZ	.....	$20.01	$20.88	$24.36	$20.01	$20.88	$24.36
0-25 mA	50	341	HJHJ	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-50 mA	50	84	HYHY	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-100 mA	50	21	JRJR	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-200 mA	40	4.1	KAKA	.....	20.01	20.88	24.36	20.01	20.88	24.36
0-500 mA	50	0.7	KMKM	.....	20.01	20.88	24.36	20.01	20.88	24.36

AC MILLIAMMETERS AND MICROAMMETERS (RECTIFIER TYPE)

Accuracy ±3% (60-cycle sine wave, 25°C).

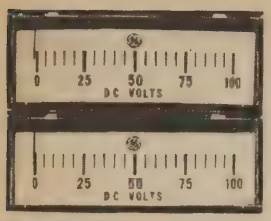
Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK Suggested Net Each, 1-9: 1½" DW-90 Prefix: 50-188 151§	2½" AW-91 Prefix: 50-152 151§	3½" AO-91 Prefix: 50-162 151§	4½" AO-92 Prefix: 50-171 151§	HORIZON LINE Suggested Net Each, 1-9: 2½" No. 157 Prefix: 50-157 151§	3½" No. 167 Prefix: 50-167 151§	4½" No. 178 Prefix: 50-178 151§
0-1 mA	50	570	FAFA	$26.10	$26.10	$26.97	$30.45	$26.10	$26.97	$30.45
0-1.5 mA	75†	375	FDFD	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-2 mA	40	325	FGFG	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-3 mA	60	197	FNFN	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-5 mA	50	139	FXFX	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-10 mA	50	90	GZGZ	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-20 mA	40	62	HFHF	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-500 μA	50	985	EMEM	26.10	26.10	26.97	30.45	26.10	26.97	30.45
0-800 μA	40	655	EWEW	26.10	26.10	26.97	30.45	26.10	26.97	30.45

†75 divisions, except 30 on 1½" and 2½" sizes.
‡50 divisions, except 25 on 2½" size.
When ordering show complete number, prefix plus suffix; example: **50-171 151 EMEM**
*for μA 4" BIG LOOK AC ammeter.
Trade-mark of General Electric Co.

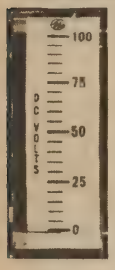
Do not have sealed terminal studs.
■ With external magnetic shield assembled to meter base.

GENERAL ELECTRIC

PANEL METERS



NEW 185 SERIES EDGEWISE METERS



Slim, miniature design can be mounted individually or in space-saving clusters. Choice of horizontal or vertical placement. Flush sides assure tight, case-to-case stacking without mechanism bulge. Magnetically shielded to prevent interaction between meters; no need for special calibration. Optional bezel and mounting brackets available for one, two or three-unit stacking. Meet applicable portions of ASA C-39.1. **Accuracy:** ±2% of full scale, DC meters; ±3% with 60-cycle sine wave at 25°C, AC rectifier-type meters. **Overload:** 20% momentary and sustained, voltmeter; 1000% momentary and 20% sustained, ammeter. **Insulation:** 1800 V rms hi-pot. **Scale:** 1.785" long, 53° rotation. **Response Time and Damping:** Meet or exceed ASA requirements. Response time 3 sec. max., μA meters; 2 sec. max., all other DC ratings; 2.5 sec. max., AC ratings. Damping 40% max. overshoot; damping factor, 2.5 minimum. **Size:** 0.92" w. x 2.258" lg. x 3.44" D., overall. Bezel 1.255" w. x 3.005" lg., single; 2.155" w., double; 3.055" w., triple-unit mounting.

DC VOLTMETERS (SELF CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left* Number	Vertical Zero-Bottom* Number	Sugg. Net Each, 1-9
0-10		50-185 011 MTMT	50-185 013 MTMT	$22.62
0-15		50-185 011 NDND	50-185 013 NDND	22.62
0-30	1000	50-185 011 NLNL	50-185 013 NLNL	22.62
0-50	ohms/	50-185 011 NTNT	50-185 013 NTNT	22.62
0-100	volt	50-185 011 PKPK	50-185 013 PKPK	22.62
0-150		50-185 011 PZPZ	50-185 013 PZPZ	22.62
0-300		50-185 011 RXRX	50-185 013 RXRX	23.49
15-0-15	2000	50-185 012 NDND	50-185 014 NDND	22.62
50-0-50	ohms/	50-185 012 NTNT	50-185 014 NTNT	22.62
150-0-150	volt	50-185 012 PZPZ	50-185 014 PZPZ	23.49

DC VOLTMETERS (FOR EXTERNAL RESISTORS)

Rated 0-1 mA for use with external resistor, not supplied.

0-500	40	50-185 171 FASF	50-185 173 FASF	$20.88
0-600	40	50-185 171 FASJ	50-185 173 FASJ	20.88
0-750	40	50-185-171 FASM	50-185 173 FASM	20.88

DC MICROAMMETERS (SELF CONTAINED)

0-20	2030	50-185 111 CFCF	50-185 113 CFCF	$36.5.
0-50	1625	50-185 111 CYCY	50-185 113 CYCY	29.58
0-100	1350	50-185 111 DRDR	50-185 113 DRDR	24.36
0-500	200	50-185 111 EMEM	50-185 113 EMEM	20.88
50-0-50	1350	50-185 112 CYCY	50-185 114 CYCY	24.36
500-0-500	40	50-185 112 EMEM	50-185 114 EMEM	20.88

DC MILLIAMMETERS (SELF CONTAINED)

0-1	40	50-185 111 FAFA	50-185 113 FAFA	$20.88
0-5	2.0	50-185 111 FXFX	50-185 113 FXFX	20.88
0-10	1.0	50-185 111 GZGZ	50-185 113 GZGZ	20.88
0-20	0.5	50-185 111 HFHF	50-185 113 HFHF	20.88
0-50	1.0	50-185 111 HYHY	50-185 113 HYHY	20.88
0-100	0.5	50-185 111 JRJR	50-185 113 JRJR	20.88
0-300	0.167	50-185 111 KGKG	50-185 113 KGKG	20.88
0-500	0.099	50-185 111 KMKM	50-185 113 KMKM	20.88
5-0-5	1.0	50-185 112 FXFX	50-185 114 FXFX	20.88
10-0-10	0.5	50-185 112 GZGZ	50-185 114 GZGZ	20.88
50-0-50	0.5	50-185 112 HYHY	50-185 114 HYHY	20.88
500-0-500	0.049	50-185 112 KMKM	50-185 113 KMKM	20.88

DC AMMETERS (SELF CONTAINED)

0-1	0.049	50-185 111 LALA	50-185 113 LALA	$20.88
0-5	0.0099	50-185 111 LSLS	50-185 113 LSLS	20.88
0-10	0.0049	50-185 111 MTMT	50-185 113 MTMT	20.88
5-0-5	0.0049	50-185 112 LSLS	50-185 114 LSLS	20.88

DC AMMETERS (50 mV SHUNT-RATED)

Shunt not supplied. Calibrated for use with 2-way shunt-lead resistance of 0.065 ohm.

0-20	12.5	50-185 121 ECNG	50-185 123 ECNG	$20.88
0-50	12.5	50-185 121 ECNT	50-185 123 ECNT	20.88
0-300	12.5	50-185 121 ECRX	50-185 123 ECRX	20.88
0-500	12.5	50-185 121 ECSF	50-185 123 ECSF	20.88

AC RECTIFIER TYPE INSTRUMENTS

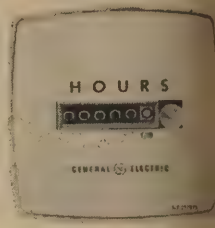
Self-contained with linear scale. Accuracy, ±3%.

0-10 V		50-185 051 MTMT	50-185 053 MTMT	$27.89
0-15 V		50-185 051 NDND	50-185 053 NDND	27.89
0-30 V	1000	50-185 051 NLNL	50-185 053 NLNL	27.89
0-50 V	ohms/	50-185 051 NTNT	50-185 053 NTNT	27.89
0-100 V	volt	50-185 051 PKPK	50-185 053 PKPK	29.58
0-150 V		50-185 051 PZPZ	50-185 053 PZPZ	29.58
0-50 μA	985	50-185 151 EMEM	50-185 153 EMEM	26.97
0-1 mA	570	50-185 151 FAFA	50-185 153 FAFA	26.97
0-5 mA	139	50-185 151 FXFX	50-185 153 FXFX	26.97
0-10 mA	90	50-185 151 GZGZ	50-185 153 GZGZ	26.97
0-20 mA	62	50-185 151 HFHF	50-185 153 HFHF	26.97

*Zero-center as listed.

¶ Trade-mark of General Electric Co.

TYPE 236 BIG LOOK¶ ELAPSED TIME METERS



Offers distinctive appearance and excellent readability; designed to match ammeters and voltmeters with "Big Look" styling. Models are available for every time-measuring application. Both 2½" and 3½" sizes for panel mounting, plus 2½" size for use with conduit type case or portable stand. All panel mounted timers meet requirements of ASA specification C39.1 for four-stud mounting. Available in reset and non-reset types, measuring either minutes or hours. Types listed are 60 cps operation, for 50 cps, add **$2.49** to price shown. For 208-volt type specify model desired and add **$1.66** to price shown for 240-volt model.

NONRESET TYPE — COMMERCIAL CASE

G.E. Model Number Minutes	G.E. Model Number Hours	Size In.	Voltage VAC	Sugg. Ne Each, 1-9
50-236401AAAA1	50-236402AAAA1	2½	120	$25.73
50-236401ABAA1	50-236402ABAA1	2½	240	26.56
50-236401ACAA1	50-236402ACAA1	2½	480	28.22
50-236301AAAA1	50-236302AAAA1	3½	120	25.73
50-236301ABAA1	50-236302ABAA1	3½	240	26.56
50-236301ACAA1	50-236302ACAA1	3½	480	28.22

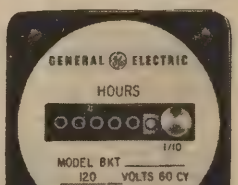
SEALED CASE

50-236421AAAA1	50-236422AAAA1	2½	120	$29.05
50-236421ABAA1	50-236422ABAA1	2½	240	29.88
50-236421ACAA1	50-236422ACAA1	2½	480	31.54
50-236321AAAA1	50-236322AAAA1	3½	120	29.05
50-236321ABAA1	50-236322ABAA1	3½	240	29.88
50-236321ACAA1	50-236322ACAA1	3½	480	31.54

RESET KNOB TYPE — COMMERCIAL CASE

50-236411AAAA1	50-236412AAAA1	2½	120	$34.86
50-236411ABAA1	50-236412ABAA1	2½	240	35.69
50-236411ACAA1	50-236412ACAA1	2½	480	37.35
50-236311AAAA1	50-236312AAAA1	3½	120	34.86
50-236311ABAA1	50-236312ABAA1	3½	240	35.69
50-236311ACAA1	50-236132ACAA1	3½	480	37.35

TYPE KT-11 TIME METERS



Ideal indicator for proper servicing and preventive maintenance in industry or for indicating component life. Available in 2½" and 3½" sizes, round or square cases, for flush mounting on panel board or in equipment case. Diecast zinc bezel with aluminized dial face. Wide temperature operating range with 6-digit register. Extra large counter numbers white on black background for excellent readability. Last digit in contrasting color to indicate tenths. Bezel and plastic case provide dust-resistant enclosure for mechanism. Available with or without reset knob. Meet ASA panel mounting specifications. For 60 cps operation. For 50 cps operation, add **$2.49** to price shown.

NON-RESET TYPE — ROUND CASE

G.E. Model Number Minutes	G.E. Model Number Hours	Size In.	Voltage VAC	Sugg. Net Each, 1-9
50-235011AAAA1	50-235012AAAA1	2½	120	$29.05
50-235011ABAA1	50-235012ABAA1	2½	240	29.88
50-235011ACAA1	50-235012ACAA1	2½	480	31.54
50-235091AAAA1	50-235092AAAA1	3½	120	29.05
50-235091ABAA1	50-235092ABAA1	3½	240	29.88
50-235091ACAA1	50-235092ACAA1	3½	480	31.54

SQUARE CASE

50-235051AAAA1	50-235052AAAA1	2½	120	$29.05
50-235051ABAA1	50-235052ABAA1	2½	240	29.88
50-235051ACAA1	50-235052ACAA1	2½	480	31.54
50-235131AAAA1	50-235132AAAA1	3½	120	29.05
50-235131ABAA1	50-235132ABAA1	3½	240	29.88
50-235131ACAA1	50-235132ACAA1	3½	480	31.54

RESET KNOB TYPE — ROUND CASE

50-235021AAAA1	50-235022AAAA1	2½	120	$38.18
50-235021ABAA1	50-125022ABAA1	2½	240	39.01
50-235021ACAA1	50-235022ACAA1	2½	480	40.67
50-235101AAAA1	50-235102AAAA1	3½	120	38.18
50-235101ABAA1	50-235102ABAA1	3½	240	39.01
50-235101ACAA1	50-235102ACAA1	3½	480	40.67

SQUARE CASE

50-235061AAAA1	50-235062AAAA1	2½	120	$38.18
50-235061ABAA1	50-235062ABAA1	2½	240	39.01
50-235061ACAA1	50-235062ACAA1	2½	480	40.67
50-235141AAAA1	50-235142AAAA1	3½	120	38.18
50-235141ABAA1	50-235142ABAA1	3½	240	39.01
50-235141ACAA1	50-235142ACAA1	3½	480	40.67

Net

© United Technical Publications

METER RELAYS

TYPE 195 AND 196 METER RELAYS



TYPE 195

New General Electric Meter Relays feature a **solid-state, light-sensitive switch** for optimum control simplicity and reliability. This switch controls the load relay directly; no amplifiers, no pointer contacts . . . no mechanical interference with meter movement. Pointer travel is unrestricted across the entire scale . . . you get **continuous indication** above and below the setpoints! Control action is dependable and repeatable over entire range!

Unique **piggy-back control modules** on 3½-inch and 4½-inch models, eliminate mounting and wiring of separate components . . . speed up and simplify installation. Control mounts directly on rear of indicator; no soldering, no complicated connections . . . just plug-in and they're mated! Control module may be removed without interrupting measurement circuit.

Other features include **ON-OFF** (automatic reset) **or Alarm** (manual reset) **Control . . . 120-volt A-C Operation!** No special power supply needed . . . **Long Lamp Life!** Conservatively estimated at 5 years . . . **Fail-safe Operation.**



TYPE 196

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	Sugg. Net Each, 1-9 (With Single Set-point)†		
C VOLTMETERS, ZERO-CENTER			
or use with external resistors. (Resistors ot included.)			
500-0-500 Volts	$131.37	.....	.....
600-0-600 Volts	131.37	.....	.....
750-0-750 Volts	131.37	$127.02	$129.63
C MICROAMMETERS, ZERO-LEFT			
20 ua	$144.42	.....	.....
50 ua	140.07	$134.85	$138.33
100 ua	134.85	130.50	133.98
200 ua	133.11	127.89	131.37
500 ua	131.37	127.02	129.63
C MICROAMMETERS, ZERO-CENTER			
50-0-50 ua	$134.85	$130.50	$133.98
100-0-100 ua	133.11	127.89	131.37
200-0-200 ua	131.37	127.02	129.63
500-0-500 ua	131.37	127.02	129.63
C MILLIAMMETERS, ZERO-LEFT			
1 Ma	$131.37	$127.02	$129.63
1.5 Ma	131.37	127.02	129.63
3 Ma	131.37	127.02	129.63
5 Ma	131.37	127.02	129.63
10 Ma	131.37	127.02	129.63
20 Ma	131.37	127.02	129.63
25 Ma	131.37	127.02	129.63
30 Ma	131.37	127.02	129.63
50 Ma	131.37	127.02	129.63
80 Ma	131.37	127.02	129.63
100 Ma	131.37	127.02	129.63
150 Ma	131.37	127.02	129.63
200 Ma	131.37	127.02	129.63
250 Ma	131.37	127.02	129.63
300 Ma	131.37	127.02	129.63
500 Ma	131.37	127.02	129.63
800 Ma	131.37	127.02	129.63
C VOLTMETERS, ZERO-LEFT			
1.0 Volts	$133.11	$127.89	$130.50
1.5 Volts	133.11	127.89	130.50
3 Volts	133.11	127.89	130.50
5 Volts	133.11	127.89	130.50
8 Volts	133.11	127.89	130.50
10 Volts	133.11	127.89	130.50
15 Volts	133.11	127.89	130.50
30 Volts	133.11	127.89	130.50
50 Volts	133.11	127.89	130.50
80 Volts	133.11	127.89	130.50
100 Volts	133.11	127.89	131.37
150 Volts	133.11	127.89	131.37
200 Volts	133.11	127.89	131.37
250 Volts	133.11	127.89	131.37
300 Volts	133.98	129.63	133.11
500 Volts	.....	130.50	133.98
600 Volts	.....	130.50	133.98
C VOLTMETERS, ZERO-LEFT			
r use with external resistors. (Resistors t included.)			
500 Volts	$131.37	.....	.....
600 Volts	131.37	.....	.....
750 Volts	131.37	$127.02	$129.63
C VOLTMETERS, ZERO-CENTER			
5-0-5 Volts	$133.11	$127.89	$130.50
10-0-10 Volts	133.11	127.89	130.50
30-0-30 Volts	133.11	127.89	130.50
50-0-50 Volts	133.11	127.89	130.50
80-0-80 Volts	133.11	127.89	130.50
50-0-150 Volts	133.11	127.89	131.37
00-0-300 Volts	133.98	129.63	133.11
00-0-500 Volts	.....	130.50	133.98
00-0-600 Volts	.....	130.50	133.98

wo and one-half-inch meter relays are available in Type 195 styling only, and include unting bracket and six-foot plug-in lead — accessory kit 1012K10G701.

rices listed are for meter relays with single set-point For double set-point, add $29.58 to price shown.

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	Sugg. Net Each, 1-9 (With Single Set-point)†		
D-C MILLIAMMETERS, ZERO-CENTER			
1-0-1 Ma	$131.37	$127.02	$129.63
3-0-3 Ma	131.37	127.02	129.63
5-0-5 Ma	131.37	127.02	129.63
10-0-10 Ma	131.37	127.02	129.63
20-0-20 Ma	131.37	127.02	129.63
25-0-25 Ma	131.37	127.02	129.63
30-0-30 Ma	131.37	127.02	129.63
50-0-50 Ma	131.37	127.02	129.63
100-0-100 Ma	131.37	127.02	129.63
150-0-150 Ma	131.37	127.02	129.63
200-0-200 Ma	131.37	127.02	129.63
250-0-250 Ma	131.37	127.02	129.63
300-0-300 Ma	131.37	127.02	129.63
500-0-500 Ma	131.37	127.02	129.63
D-C AMMETERS, ZERO-LEFT			
1 Amp	$131.37	$127.02	$129.63
1.5 Amp	131.37	127.02	129.63
2 Amp	131.37	127.02	129.63
3 Amp	131.37	127.02	129.63
5 Amp	131.37	127.02	129.63
10 Amp	131.37	127.02	129.63
15 Amp	131.37	127.02	129.63
20 Amp	131.37	127.02	129.63
30 Amp	131.37	127.02	129.63
50 Amp	131.37	127.02	129.63
D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads **not** included)			
20 Amp	$131.37	$127.02	.....
30 Amp	131.37	127.02	.....
50 Amp	131.37	127.02	$129.63
75 Amp	131.37	127.02	129.63
100 Amp	131.37	127.02	129.63
150 Amp	131.37	127.02	129.63
200 Amp	131.37	127.02	129.63
250 Amp	131.37	127.02	129.63
300 Amp	131.37	127.02	129.63
400 Amp	131.37	127.02	129.63
500 Amp	131.37	127.02	129.63
600 Amp	131.37	127.02	129.63
800 Amp	131.37	127.02	129.63
1 KA	131.37	127.02	129.63
1.5 KA	131.37	127.02	129.63
2.0 Ka	131.37	127.02	129.63
D-C AMMETERS, 100-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads **not** included)			
20 Amp	$131.37	$127.02	$129.63
40 Amp	131.37	127.02	129.63
50 Amp	131.37	127.02	129.63
75 Amp	131.37	127.02	129.63
100 Amp	131.37	127.02	129.63
150 Amp	131.37	127.02	129.63
200 Amp	131.37	127.02	129.63
250 Amp	131.37	127.02	129.63
300 Amp	131.37	127.02	129.63
400 Amp	131.37	127.02	129.63
500 Amp	131.37	127.02	129.63
600 Amp	131.37	127.02	129.63
800 Amp	131.37	127.02	129.63
1 Ka	131.37	127.02	129.63
2 Ka	131.37	127.02	129.63
D-C AMMETERS, ZERO-CENTER			
1-0-1 Amp	$131.37	$127.02	$129.63
2-0-2 Amp	131.37	127.02	129.63
5-0-5 Amp	131.37	127.02	129.63
10-0-10 Amp	131.37	127.02	129.63
15-0-15 Amp	131.37	127.02	129.63
20-0-20 Amp	131.37	127.02	129.63
30-0-30 Amp	131.37	127.02	129.63
50-0-50 Amp	.....	127.02	129.63

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	Sugg. Net Each, 1-9 (With Single Set-point)†		
D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-CENTER (Shunt & leads **not** included)			
50-0-50 Amp	$131.37	$127.02	$129.63
75-0-75 Amp	131.37	127.02	129.63
100-0-100 Amp	131.37	127.02	129.63
150-0-150 Amp	131.37	127.02	129.63
A-C VOLTMETERS, RECTIFIER-TYPE			
10 Volts	$138.33	$133.98	$137.46
15 Volts	138.33	133.98	137.46
20 Volts	138.33	133.98	137.46
25 Volts	138.33	133.98	137.46
30 Volts	138.33	133.98	137.46
50 Volts	138.33	133.98	137.46
80 Volts	138.33	133.98	137.46
100 Volts	140.07	134.85	138.33
150 Volts	140.07	134.85	138.33
200 Volts	.....	134.85	138.33
250 Volts	.....	136.59	140.07
300 Volts	.....	136.59	140.07
A-C MICROAMMETERS, RECTIFIER-TYPE			
500 ua	$137.46	$133.11	$136.59
800 ua	137.46	133.11	136.59
A-C MILLIAMMETERS, RECTIFIER-TYPE			
1 Ma	$137.46	$133.11	$136.59
1.5 Ma	137.46	133.11	136.59
2 Ma	137.46	133.11	136.59
3 Ma	137.46	133.11	136.59
5 Ma	137.46	133.11	136.59
10 Ma	137.46	133.11	136.59
20 Ma	137.46	133.11	136.59
A-C AMMETERS, RECTIFIER-TYPE (Rectifier-type milliammeter with external 5A/20 ma transformer **included**)			
Combined Rating 5 Amp	$151.38	$147.03	$150.51
TRANSFORMER-RATED AMMETERS (Same as above except scales marked as follows:)			
10 Amp	$151.38	$147.03	$150.51
15 Amp	151.38	147.03	150.51
20 Amp	151.38	147.03	150.51
30 Amp	151.38	147.03	150.51
40 Amp	151.38	147.03	150.51
50 Amp	151.38	147.03	150.51
75 Amp	151.38	147.03	150.51
80 Amp	151.38	147.03	150.51
100 Amp	151.38	147.03	150.51
150 Amp	151.38	147.03	150.51
200 Amp	151.38	147.03	150.51
300 Amp	151.38	147.03	150.51
400 Amp	151.38	147.03	150.51
500 Amp	151.38	147.03	150.51
600 Amp	151.38	147.03	150.51
800 Amp	151.38	147.03	150.51
1 Ka	151.38	147.03	150.51
1.2 Ka	151.38	147.03	150.51
1.5 Ka	151.38	147.03	150.51
2.0 Ka	151.38	147.03	150.51
3.0 Ka	151.38	147.03	150.51

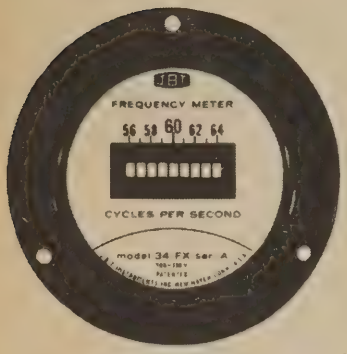
GENERAL ELECTRIC

J-B-T

32nd Year

VIBRATING REED FREQUENCY METERS

J-B-T INSTRUMENTS, INC.



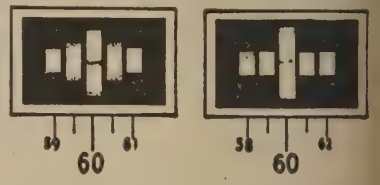
MODEL 34-FX-ser. A, a popular 9 reed meter, shown half actual size.

• **USES, Commercial and Military** — J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, television, and radar service, on engine-generator sets and standby equipment, in laboratories, in many types of aviation and electronic equipment, on panel and control boards, in inspection setups, and in high-cycle power sources — wherever constant or known frequency is important to accurate and efficient operation of equipment. Superior performance for commercial and military applications is assured by more than 30 years of continuous experience and know-how covering the design and complete manufacturing of hundreds of thousands of these instruments in our Connecticut plant. Current production incorporates several innovations covered by recent J-B-T patents.

• **ADVANTAGES** — At reference temperature of 77°F most models have guaranteed accuracy of 0.3% or better of the frequency being measured, but the tables that follow indicate that certain models may be ordered with accuracy of ±0.1%. Accuracy on interrupted DC may be somewhat less. High fatigue strength provides a safety factor for continuous operation. Temperature compensations are not required as frequency change per °F is only .0075%, negative. For example, a 50°F temperature rise causes a 60 cps reed to read only 0.2 cps lower than at reference temperature.

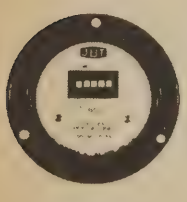
• **OPERATING PRINCIPLE** — The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to the frequency shown on the dial. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

• **RESPONSE PATTERNS** — Breadth of actuation differs with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right. In general, the lower the frequency the greater the amplitude, the higher the frequency the less the amplitude. Thus a 25 cycle reed normally will have substantially greater amplitude than a 400 cycle or a 1000 cycle reed.

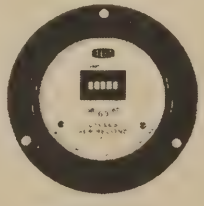


• **STABILITY** — All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

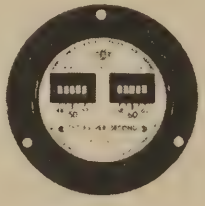
• **TRUST THE METER** — If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter. Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are meticulously calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.



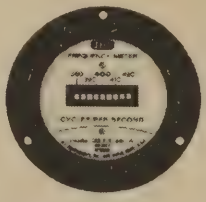
MODEL 21-FX, 5 reeds, matches other 2½" panel instruments.



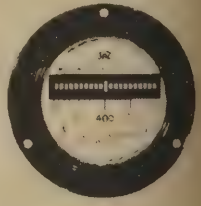
MODEL 31-FX, 5 reeds, standard. For appearance when operating, see "RESPONSE PATTERNS," above.



MODEL 30-FX, 5 reeds in each of two frequency ranges.



MODEL 33-FX-ser. A, 9 reeds for measuring frequency of high-cycle power sources.



MODEL 36-FX-21, 21 reeds for close reading over 380-420 cycle band Shown operating at 400 cy.

3½" and 2½" ROUND MOLDED CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Standard Voltage	Ohms Per Volt‡	Power Consumed Watts‡	Accuracy # ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
*30-FX	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	$32.00
30-FX-18	46-54 & 56-64	18	1	100-130	180	0.7	0.3	3½"	SK-154	Line 5	52.30
*31-FX	58-62**	5	1	100-130	120	1.0	0.3	3½"	SK-50	Line 5	27.40
*31-FX-7	57-63	7	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	30.00
*33-FX	380-420	9	5	100-130	130	0.7	0.3	3½"	SK-156	Line 5	39.50
33-FX-11	360-440***	11	***	100-130	130	0.7	0.3	3½"	SK-156	Line 5	41.90
*34-FX	56-64	9	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	31.60
*34-FX-Z	58-62	9	½	100-130	140	0.9	0.2	3½"	SK-154	Line 5	33.60
34-FX-11	55-65	11	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	34.25
34-FX-Z-11	57.5-62.5	11	½	100-130	140	0.9	0.2	3½"	SK-154	Line 5	37.25
34-FX-21	45-65	21	1	100-130	180	0.7	0.3	3½"	SK-154	Line 5	44.60
36-FX-21	380-420	21	2	28	40	0.4	0.3†	3½"	SK-156	Line 5	49.25
*36-FX-21-115	380-420	21	2	100-130	130	0.7	0.3†	3½"	SK-156	Line 5	49.60
21-FX	58-62**	5	1	100-130	525	0.25	0.3	2½"	MD-20	Line 2	26.25
21-FX	116-124	5	2	100-130	525	0.7	0.3	2½"	MD-20	Line 2	29.30
23-FX	380-420	5	10	100-130	175	0.52	0.3	2½"	MD-20	Line 2	31.90
23-FX-54	390-410	5	5	100-130	175	0.52	0.3	2½"	MD-20	Line 2	31.90

†Accuracy of 0.1% at reference temperature available at necessarily higher cost. Quotation on request.
*Most popular models — normally stocked.
**Also available 48-52 or 59-63, but furnished 58-62 unless otherwise specified.
***360-370-380-390-395-400-405-410-420-430-440
‡Approximate values; reflect minor changes based on most recent design.
#At reference temperature, see paragraph "ADVANTAGES."

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

© United Technical Publications

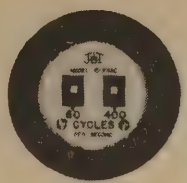
VIBRATING REED FREQUENCY METERS

J-B-T INSTRUMENTS, INC.

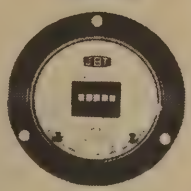
32nd Year

SEALED FREQUENCY METERS

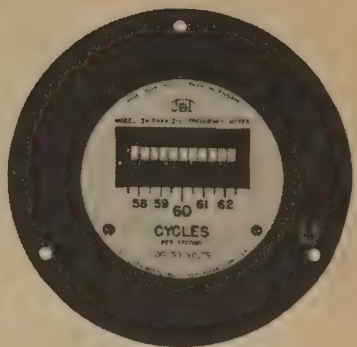
FHXX TYPE Sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters. While JAN-I-6, MIL-M-6B, and MIL-M-10304B (Type MR36) do not refer specifically to frequency indicators, the FHXX series uses the front mounting dimensions of these specifications, and meets or exceeds the sealing requirements, and for 3½" meters, electrical requirements, including 3000 volt breakdown. (1½" and 2½" meters meet 1000 volt breakdown.‡‡) Electrical characteristics and accuracy are the same as for corresponding F models without the HXX designation. Sampling procedure includes a test in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. Available in 3½", 2½" and 1½" cases. For dimensions, see Table, Lines 1, 3 and 8. Standard voltage is 100-130.



MODEL 15-FHAC, 1½"; widely used as frequency standard for cathode follower circuit.



MODEL 21-FHXX, 2½"; 5 reeds, cased to match other 2½" panel meters.



MODEL 34-FHXX-Z-11, shown half size. Accuracy, ±0.2%

3½", 2½" AND 1½" SEALED ROUND METAL CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Standard Voltage	Ohms Per Volt‡	Power Consumed, Watts‡	Accuracy # ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
30-FHXX	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	$37.80
30-FHXX-14	47-53 & 57-63	14	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	42.50
*31-FHXX	58-62	5	1	100-130	120	1.0	0.3	3½"	SK-51	Line 8	33.50
*31-FHXX-7	57-63	7	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	36.00
*33-FHXX	380-420	9	5	100-130	130	0.7	0.3	3½"	SK-155	Line 8	45.00
33-FHXX-11-LL	360-440	11**	**	100-130	130	0.7	0.3	3½"	SK-165	Line 8	56.00
*34-FHXX	56-64	9	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	37.50
34-FHXX-11	55-65	11	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	39.90
34-FHXX-Z-11	57.5-62.5	11	½	100-130	140	0.9	0.2	3½"	SK-153	Line 8	41.80
36-FHXX-21	380-420	21	2	28	40	0.4	0.3†	3½"	SK-155	Line 8	55.75
*36-FHXX-21-115	380-420	21	2	100-130	130	0.7	0.3†	3½"	SK-155	Line 8	57.10
21-FHXX	58-62	5	1	100-130	525	0.25	0.3	2½"	SK-67	Line 3	38.50
*23-FHXX	380-420	5	10	100-130	125	0.55	0.3	2½"	SK-67	Line 3	43.90
*15-FHAC ‡‡	60 & 400	2	—	8-10	270	0.04	0.5	1½"	SK-39	Line 1	22.50
15-FH-54	390-410	5	5	100-130	115	1.25	0.3	1½"	SK-55	Line 1	28.50
15-FH-56	58-62	5	1	100-130	540	0.25	0.3	1½"	SK-55	Line 1	23.60
*15-FH-400	380-420	5	10	100-130	115	1.25	0.3	1½"	SK-55	Line 1	27.90

‡‡Model 15-FHAC meets 800 volt breakdown.

3¼" ROUND METAL CASE REED METERS (NOT SEALED)

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Standard Voltage	Ohms Per Volt	Power Consumed, Watts	Accuracy # ± %	Case	Dwg. No.	Table of Dimens.	Price Net, Each
*30-F	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3¼"	MD-40	Line 4	35.25
31-F	58-62	5	1	100-130	115	1.0	0.3	3¼"	MD-40	Line 4	29.25
33-F	380-420	9	5	100-130	130	1.0	0.3	3¼"	MD-40	Line 4	40.75
*34-F	56-64	9	1	100-130	140	0.9	0.3	3¼"	MD-40	Line 4	33.25
34-F-Z	58-62	9	½	100-130	140	0.9	0.2	3¼"	MD-40	Line 4	35.20

*Most popular models — normally stocked.

**360-370-380-390-395-400-405-410-420-430-440

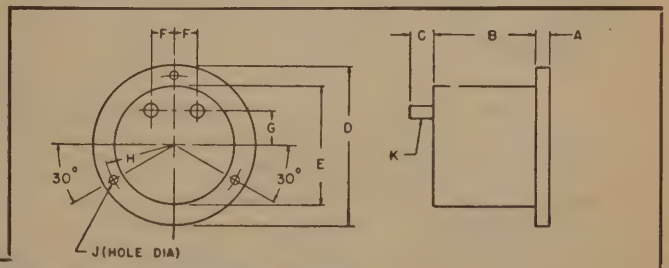
†Accuracy of ±0.1% at reference temperature available at necessarily higher cost. Quotation on request.

‡Approximate values; reflect minor changes based on most recent design.

#At reference temperature, see paragraph "ADVANTAGES."

REVISED DIAL APPEARANCE

Shipments during the life of this catalog may include meters with dials somewhat different from those pictured here. Dials are being steadily modified to use the revised trademark as adopted during J-B-T's Silver Anniversary Year. Many 3½" frequency meters also are carrying the designation Series A after the model number (as in the 34-FX-ser. A on preceding page). Such instruments have additional ruggedness and sensitivity, and unusually uniform amplitude over the entire span of the meter. However Series A are otherwise interchangeable as to mounting dimensions and circuit characteristics with other meters bearing the same model number.



FREQUENCY METERS AND FREQUENCY — TIME METERS, TABLE OF DIMENSIONS, INCHES

	Model	MIL-M-6B* Mounting	A	B	C	D	E	F	G	H	J	K	Terminal Description
Line 1	15-FH Series	—	3/32†	1 1/16	3/8	2 3/32 ‡	1 1/2	3/8	3/8	0.875	0.125	Solder, 1/16" dia. hole	
Line 2	21-FX and 23-FX Series	MR24, MR25	13/64	1 3/8	23/32	2 11/16	2 5/32	7/16	9/16	1.220	0.116	10-32 NF-2A studs	
Line 3	21-FHXX, 23-FHXX Series	MR26**	3/32†	1 27/32	11/16	2 11/16 ‡	2 1/8	1/2	1/2	1.220	0.125	Solder, 3/32 dia. hole	
Line 4	30-F to 34-F Series	—	1/64	2 3/32	23/32	3 1/4	2 9/16	7/16	7/8	1.453	0.150	10-32 NF-2A studs	
Line 5	30-FX to 36-FX Series	MR34, MR35	1 1/64	2	23/32	3 1/2	2 11/16	7/16	7/8	1.580	0.150	10-32 NF-2A studs	
Line 6	31-FE Series	—	1/64	3 7/8	23/32	3 1/4	2 9/16	7/16	7/8	1.453	0.150	10-32 NF-2A studs	
Line 7	31-FEX-1 Series	MR34, MR35	5/32	3 7/8	23/32	3 1/2	2 9/16	7/16	7/8	1.580	1.150	10-32 NF-2A studs	
Line 8	30-FHXX to 36-FHXX Series	MR36**	3/32†	2 1/4	5/8	3 1/2 ‡	2 11/16	1/2	3/4	1.580	0.150	Solder, 3/32 dia. hole	

*Also JAN-I-6 and ASA C39.1-1951 Mounting

**Also MIL-M-10304B Mounting

†Not including neoprene cushioning gasket supplied with meter, but with detachable flange.

‡Including detachable flange.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

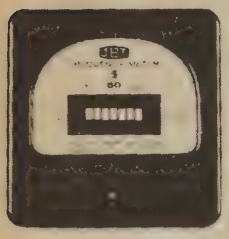
J-B-T

32nd Year

VIBRATING REED FREQUENCY METERS

J-B-T INSTRUMENTS, INC.

3" SQUARE-CASED FREQUENCY METERS



FS SERIES. Matching other 3" x 3" meters on a panel with square black molded cases, these meters are otherwise the same as the FX Series. For instance, 33-FS is the same as 33-FX except for the case. See Table of Dimensions, Line 10.

33-FS, 380-420 cps, 9 reeds, 3" square molded case **$40.60**

34-FS, 56-64 cps, 9 reeds, 3" square molded case **$32.70**

PORTABLE FREQ. TESTERS



FP SERIES, METAL OR MOLDED CASE. Accuracy of ±0.3% meets the exacting test requirements of aviation, signal, and communication equipment. **M-Types** use anodized gray aluminum case, 6⅜" long x 4" wide x 3-9/32" deep. Leads permanently attached. See Print SK-63-10. With pertinent name plate, **33-FP-9M** is known as **TS-328 A/U. L-Types,** sturdy molded case within top grain leather carrying case 6-3/32" x 4¼" x 2¾"; 4' leads with 5" test picks and banana plugs.

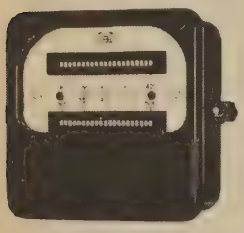
33-FP-9M, (illustrated) 380-420 cy., 9 reeds, 100-130 volts, 130 ohms per volt, 1.0 watts power consumption; coml. quality and packing . **$54.60**

34-FP-9M, 56-64 cy., 9 reeds, 100-130 volts, 140 ohms per volt, 0.9 watt power consumption, coml. quality and packing **$46.75**

33-FP-9L, 380-420 cy., 9 reeds, 100-130 volts **$52.50**

34-FP-9L, 56-64 cy., 9 reeds, 100-130 volts **$44.90**

42- AND 50-REED 400 CYCLE INDICATORS



MODEL 41-FX-42 and **41-FX-50.** Both are widely used in commercial and military testing especially in aviation-electronic trouble-shooting. Model 41-FX-42 (supersedes Model 41-FX) has two banks of 21 reeds: one for 300-500 cps in 10 cycle steps, and for vernier effect, one for 380-420 cps in 2 cycle steps. Model 41-FX-50 has two banks of 25 reeds giving a continuous coverage from 355-600 cps in 5 cycle steps. Black molded case, flush front is 4-3/64" x 4-3/64" x 2-17/32" deep behind panel over studs. **Power consumption is .45 watts at 30 volts, 2.7 watts at 115 volts, and 5.0 watts at 200 volts.** For 41-FX-42, see Print MD-38-11; for 41-FX-50, Print SK-79.

41-FX-42, 100-130 volts only **$137.95**

41-FX-42, 3 voltages: 200-240; 115; and 30; 4 studs (without switch) **$154.40**

41-FX-50, 3 voltages: 200-240; 115; and 30; 4 studs (without switch) **$198.50**

RUGGEDIZED AND ILLUMINATED METERS

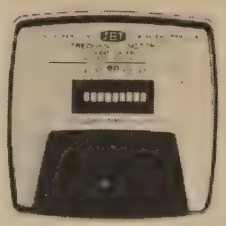
Model with "RUG" — Sealed vibrating reed frequency meters and sealed elapsed time meters are available, when so ordered, to the intent of MIL-M-10304B, covering ruggedization of other kinds of meters, and usually are specified only for extra-severe shock and vibration.

LL Construction — Requirements for lighted meter dials have led to illuminating the 3½" FHXX Series of sealed meters. Light from a source behind the panel is admitted through a sealed window built into the meter case. Inquiries are invited.

400 CYCLES, IN 1 CYCLE STEPS; 800 CYCLES

Among the variations which J-B-T produces on special order, are 21-reed, 390-410 cycles in 3½" case; and 11-reed; 780-820 cycles with 4-cycle increments. Quotations on request.

New FB SERIES FREQUENCY METERS to Match "Big Look" Panel Meters



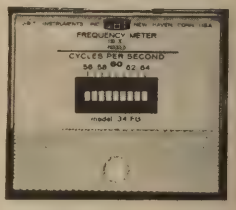
SERIES FB METERS. Newest Match Makers, combine the GE "Big Look" case design with the time-tested accuracy of J-B-T vibrating reed frequency meters, at realistic prices. Typical 3½" models for 100-130 volts follow and others are cataloged in Bulletin B-419. Line 11 in Table of Dimensions below gives mounting details. Groupings of 5 to 21 reeds and voltages of 28 to 230 are available on order. For further details: 60 cycle models, Drawing SK-182 (A); 400 cycle, Drawing SK-183 (A).

30-FB, 10 reeds, dual range, 48-52 and 58-62 cps **$34.70**

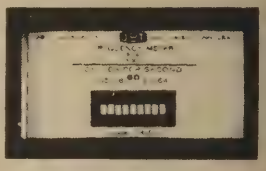
33-FB, 9 reeds, 380-420 cps **41.80**

34-FB, 9 reeds, 56-64 cps **34.30**

New FG SERIES for Modern Design; Picture Window Frame Optional



MODEL 34-FG for standard flush-type mounting (match makers) →



Same model with 13A-234 molded half-bezel

FG FREQUENCY METERS. The sparkling clear-plastic front and bright textured metal insert below the dial add zest to any panel. FG meters not only match the 3½" wide x 3" high front of the New EG elapsed time meters on the next page, but are interchangeable as to mounting with Triplett and other brands of panel meters. Standard voltage is 100-130 volts; accuracy and electrical characteristics equal corresponding FX frequency meters in the table on preceding page. For example, Model 30-FG differs from Model 30-FX only in the case. FG mounting details appear in line 9 of the Table of Dimensions below and in Prints SK-160 and SK-164. For picture window mounting diagram, use the half-bezel adapter sketched on the next page. Listed below are typical 3½" FG models and others are cataloged in Bulletin G-109. Groupings of 5 to 21 reeds and voltages of 28 to 230 are available on order. Inquiries are invited on a 2½" FG series.

30-FG, 48-52 and 58-62 cps, 10 reeds **$34.10**

33-FG, 380-420 cps, 9 reeds ... **41.20**

34-FG, (illus.) 56-64 cps, 9 reeds **33.90**

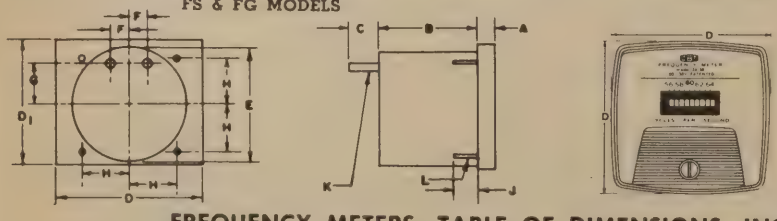
13A-234, Half-bezel adapter, separate black **molded** frame and hardware for picture window appearance on any 3½" FG or EG meter **$2.75**

13A-239 Half-bezel adapter, separate black **metal** frame particularly recommended for all 3½" FG frequency meters and EG elapsed time meters; with hardware **$2.75**

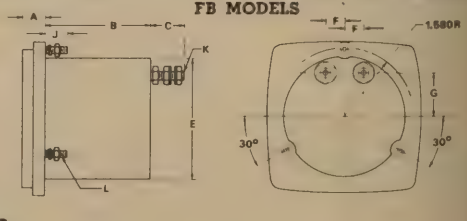
NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made for the purpose of using at two or more voltages, not additional phases.

FS & FG MODELS



FB MODELS



FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

Model	A	B	C	D	D_1	E	F	G	H	J	K	L
Line 9 **30-FG to 36-FG**	13/32	2 11/32	23/32	3½	3*	2¾	7/16	1	1⅛	5/16	10-32NF-2A	4-40NC-2A
Line 10 **30-FS to 36-FS**	¼	2 3/64	23/32	3	3	2¾	7/16	⅞	1⅛	5/16	10-32NF-2A	4-40NC-2A
Line 11 **30-FB to 36-FB**	15/32	2 11/32	23/32	3½	—	2¾	7/16	1	—	½	10-32NF-2A	6-32NC-2A

*Centerline of FG meter barrel is 1.558" below top of case and 1.442" above bottom of case.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

Net

© United Technical Publications

ELAPSED TIME & FREQUENCY TIME METERS

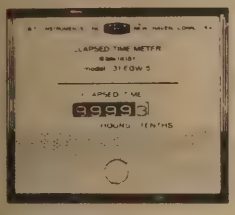
J-B-T INSTRUMENTS, INC.

J-B-T 32nd Year

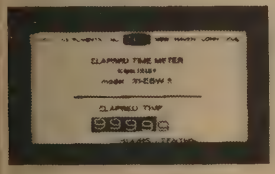
• USES AND ADVANTAGES OF ELAPSED (OR RUNNING) TIME METERS

To record operating time of AC electrical and electronic equipment, these self-starting synchronous instruments normally register in 1/10th hour steps to 9,999.9 or 99,999.9 hours, then automatically reset. They are widely used for tube life, TV equipment, punch presses, conveyors, oil burners, ground support equipment, maintenance schedules, etc. J-B-T engineers recommend the AC type of elapsed time meter for superior accuracy, especially where voltage or ambient temperature vary widely.

New EG SERIES for High Visibility; Modern Picture Window Optional



MODEL 31-EGW-5 for standard flush type mounting.



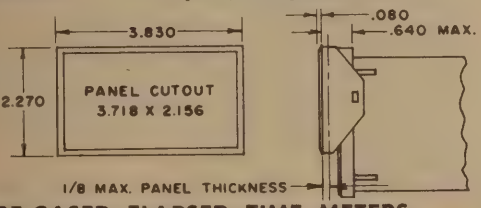
Same model with 13A-239 metal half-bezel.

EG ELAPSED TIME METERS. These are designed to give a bright, jewel-like look to panels when used alone, in multiples, or in conjunction with other instruments such as the matching new FG series of frequency meters. A gleaming textured metal shroud below the dial and a clear-plastic case front 3½" wide x 3" high give high visibility to the numeral read out. Dimensions are same as line 9 for FG meters on opposite page. For optional picture window frame effect, on panel area 3.83" wide x 2.27" high, add preferred 13A-239 metal, or 13A-234 molded half-bezel adapter. (See panel cut-out and mounting detail drawing below.) The quiet, sturdy motors and extensively field-tested mechanisms of other J-B-T elapsed time meters are used in the EG series. Two models are catalogued. Other voltages, frequencies, numerals and 2½" EG Series will be quoted.

31-EGW-5, (illus. at top) 5 wide digits, 0-9,999.9 hours, 60 cps, 110-125 volts .. **$22.60**

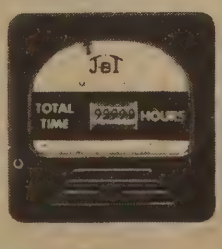
31-EGW 6 wide digits, 0-99,-999.9 hours, 60 cps, 110-125 volts **$23.10**

13A-239 and 13A-234 half-bezel adapters, see opposite page.



Panel dimensions for picture window mounting of FG and EG meters.

3" SQUARE-CASED ELAPSED TIME METERS



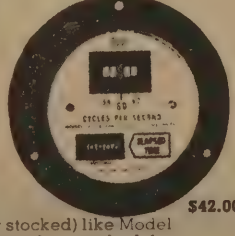
MODEL 31-ES. The square black molded case matches the appearance of other 3"x3" panel meters including **FS** series of frequency meters described on the preceding page. Unlike line 10 of the table shown there, depth behind panel (b) is 2$^{27}/_{32}$", and terminals are located on horizontal center line, each spaced ½" from center (G). Variations can be made for 99,999 hours (suffix U), 230 volts, matte finish or 50 cycles. Now supplied with tenths in red on white, and units in white on black.

31-ES, 60 cy., 110-125 volts, 0-9,999.9 hours **$19.75**

CLEAR PLASTIC ELAPSED TIME METERS

EPL TYPE. See Print SK-102 (C) for 2½" rectangular Model 21-EPL and SK-108 (C) for 3½" rectangular Model 31-EPL. Both types are made to order. The EG Series above is recommended for new designs.

ELAPSED TIME — FREQUENCY METERS



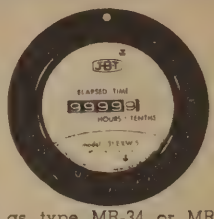
31-FE SERIES. Conserves panel space and centralizes information by combining elapsed time meter with frequency reeds. A separate exciting coil for the reeds achieves close control of reed amplitude and frequency. Reads 0-9,999.9 hours and 58-62 cy. with 5 reeds, at 100-130 volts; self starting. Tenths, red on white; other numerals, white on black. Black metal case with front mounting per Table of Dimensions, line 6. Power consumption, 4.7 watts. For variations with 7, 9, or 11 reeds, not regularly stocked, such as Model 34-FE, see print SK-45 (D).

31-FE, 3¼" metal case 4-19/32" deep **$42.00**

31-FEX-1, (per print SK-44 Rev. F—not regularly stocked) like Model 31-FE, except with 3½" metal flange permanently attached for MIL-M-6B front mounting per line 7, Table of Dimensions **$43.75**

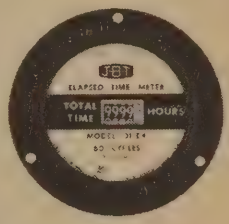
BASIC 3½" ELAPSED TIME METERS

New 5-DIGIT WIDE NUMERAL ELAPSED TIME METERS



MODEL 31-EXW-5. Newest in the J-B-T line of elapsed time meters is Model 31-EXW-5 with 5 wide, easy to read numerals. This model is particularly recommended for **new** equipment because, with superior visibility, rugged construction and attractive price, it is expected to supplant the 31-EX. The meter registers to 9,999.9 hours and automatically resets. Tenths are shown in red on white, units in white on black. Model 31-EXW-5 is interchangeable electrically and mechanically with both 31-EX (below) and 31-EXW shown below. Mounting, which is the same as type MR-34 or MR-35 to MIL-M-6B, also JAN-I-6, and terminal location are per print SK-125 Rev. C.

31-EXW-5, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts **$18.25**



Model 31-EX. This instrument has been the most widely used of any J-B-T elapsed time meters and continues to be available where parts lists or production runs call for style of numeral and dial appearance, as illustrated. The black molded case, which mounts according to Print SK-80 Rev. E, is interchangeable with the new wide-numeral meters, 5-digit 31-EXW-5 and 6-digit 31-EXW.

31-EX, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts **$19.10**

31-EX-200, same except 200-240 volts. (Not regularly stocked) **$20.25**

ELAPSED TIME METERS — Tenths of Minutes

MODEL 31-EXM, 60 cycles, 110-125 volts, reading 0-9,999.9 **minutes;** for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red on white, minutes in white on black numerals otherwise identical with 31-EX **$24.15**

6-DIGIT WIDE-NUMERAL ELAPSED TIME METERS



MODEL 31-EXW. One of the most easily-read and most versatile of J-B-T elapsed time meters is Model 31-EXW, illustrated. Easy-to-read, wide numerals register to 99,999.9 hours then automatically reset. Distinctive contemporary dial shows tenths in red on white and units in white on black. This model is interchangeable, electrically and mechanically with Models 31-EXW-5 and 31-EX. The black molded case is also interchangeable with all 3½" FX types of frequency meter. Print SK-125 Rev. E gives mounting information.

31-EXW, 6-digits, 0-99,999.9 hours, 60 cy., 110-125 volts **$19.50**

3½" SEALED ELAPSED TIME METERS — 60 Cycles



MODEL 31-EHXX. Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction with flat glass front and 3½" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearances match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1,000 volts, R.M.S. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically resets. Tenths indicator is red on white, all others in white on black. Mount according to SK-85, Rev. C.

31-EHXX, 60 cy., 110-125 volts **$25.00**

3½" SEALED ELAPSED TIME METERS — 400 Cycles



MODEL 33-EHXX. This stable, self-starting 400-cycle elapsed time meter is extensively used for preventive maintenance and for reliability testing and checking in a wide variety of equipment. The instrument is entirely enclosed in a 3½" flanged case, glass-to-metal sealed construction with separable flange; heavy-duty solder terminals; flat glass front. 1/10 hours are shown in red on white, all other numerals white on black. The external appearance matches FHXX frequency meter series. For dimensional details see SK-61, Rev. B.

33-EHXX, 400 cy., 0-9,999.9 hours, 1/10 hour steps, 110-125 volts **$107.00**

2½" SEALED ELAPSED TIME METERS

MODEL 21-EHXX. A full size counter reading 9,999.9 hours in 1/10 hour steps and a rugged self-starting synchronous motor are built into this 2½" sealed meter. Its front mounting dimensions are the same as Type MR26 electrical indicating instruments in MIL-M-6B. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68, Rev. G. (2½" 400-cycle meter, **Model 23-EHXX** also is made on special order per Print SK-178.)

21-EHXX, 60 cy., 110-125 volts **$34.00**

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

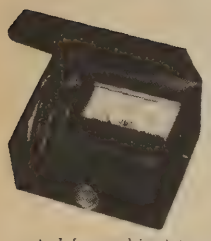
J-B-T®

32nd Year

TEMPERATURE TESTERS AND ACCESSORIES

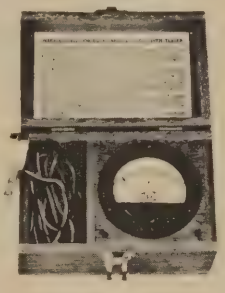
J-B-T INSTRUMENTS, INC.

FOR APPLIANCE SERVICING, QUALITY INSPECTION, AND LABORATORY SET-UPS

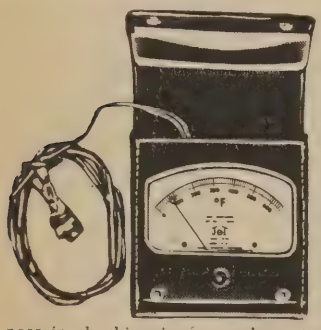


OVEN OR HEAT CHAMBER TESTERS

MODEL 23-JP-1. This new edition of a long-time favorite portable indicating pyrometer saves time and furnishes reliable information in temperature testing. For instance, when servicing and setting thermostats, the 23-JP-1 continuously reads appliance temperatures as they change. The 0-650°F. dial, with 2.48" scale arc has 10° divisions, readable to 3°. The pocket-sized, scuff-resistant, black vinyl carrying case measures 4½"x2⅞"x4¼". Characteristic of more expensive pyrometers, this model is automatically compensated for ambient temperature. Thus, the Tester eliminates calculations, avoids likelihood of serious error, as temperature changes inside the instrument itself, and gives reliable direct readings. Supplied with attached SA-116, 5½' calibrated thermocouple, clip, and convection shield **$33.00**

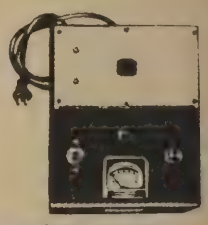


MODEL 32-JP-3. This time-tested model has an instrument-type carrying case of natural finished mahogany 6⅛" x 3⅞" x 4½" over hardware. The glass-covered indicator shows 0-650°F. range in 10° divisions readable to 2½° on a 2⅜" scale arc. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is a valuable feature whether the tester is used for service work, sales demonstrations, or inspection. Attached SA-116, 5½' thermocouple, clip for affixing to grill and convection shield included **$36.00**



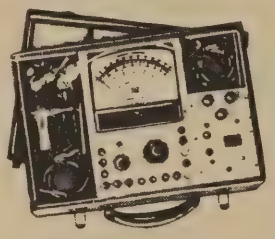
MODEL 32-JP-7. This model is recommended as the most versatile and easiest to read of this J-B-T series. The 0-650°F. scale is more than 4" long. Automatic compensation for ambient temperature is included, so that temperatures are read directly and without calculations. The 32-JP-7 also provides color-coded external binding posts. These permit quick attachment or interchanging of various J-B-T thermocouples placed in one or more of the heat zones to be checked. An SA-116 5½' thermocouple with attachment clip and convection shield is supplied and is left attached when the tester is carried. For maximum usefulness in checking irons, washers, toasters, clothes dryers, etc., use appropriate accessory thermocouples. Tester price includes stitched Ever ready case, 5" wide x 5½" high x 2¾" deep, of sturdy, scuff resistant black vinyl. **$40.00**

IRON TESTER



MODEL 32-JIT. Self-contained bench-type tester; checks all makes of irons; measures thermostat temperatures; shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal base; overall size 10" x 12" x 5½", scale 0-650°F, 15 amp fuse. 6' cord, 110 volt, 50-60 cycles. **$42.50**

MULTI-PURPOSE TESTER

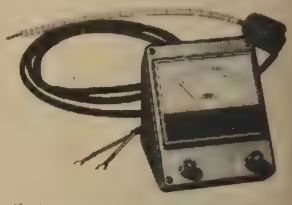


MODEL 61-JRT. A 9 in-1 tester to speed accurate temperature adjustment and electrical analysis of ranges, refrigerators, test apparatus, etc. Rapidly reads four cold zones —100°F, +80°F. up to 14' distant; two heat zones 0-600°F. up to 5½' distant; one voltage range 0-300 AC; and, with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case, 15½" x 10-3/16" x 4¾". Two color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flashlight cell replaceable. Temperature accuracy ±2% of full scale; rectified AC readings ±5%. Accessories as listed may be added for testing appliances. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, electrical leads, and AS-TR-2 built-in transformer. **$142.00**

MODEL 61-JRT (LESS TRANSFORMER). Same unit, same scales except no reading in amperes; AS-TR-2 transformer omitted. **$126.00**

AS-TR-2 Transformers for use with Model 61-JRT to provide readings of two current ranges: 0-30 and 0-60 amp. AC **$19.00**

HEAT INDICATORS



MODEL 32-JG PYROMETER IN SN-10 STAND. Mounted in sloping front black unbreakable molded stand, 4¼"h. x 4¼"d. x 3⅞"w., with 5-way binding posts. Automatically compensated for ambient temperature. Medium resistance system, damped for quick reading on 3.16" scale, assures ruggedness and pointer stability. For ±2% accuracy, use only the type and resistance of thermocouple provided; if extra length — coil it -- to maintain calibration. For convenience, an extra thermocouple and lead are suggested.

MODEL 32-JG IN SN-10 STAND (Supersedes SN-3 and SN-7 Stands)§

0°-650°F-350°C, includes SA-91, SA-84, and CB-1 ..... **$39.00**

0°-1200°F-650°C, includes SA-87, SA-82, and CB-1 ..... **$39.00**

0°-2000°F-1100°C, includes SA-87, SA-82, and CB-1 ..... **$39.00**

MODEL 32-JG IN SN-11 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. 0°-650°F including SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible leads and thermocouple **$43.00**

§For certain applications, metal stand, SN-7 with Model 32-J pyrometer is preferred; quotation on request.

TEMPERATURE TESTER ACCESSORIES

Model No.	Range F°	CONDUCTORS Length	Wire Gage Size	Positive	Negative	Typically Used With	Construction	Price
LEAD WIRES†								
SA-82	194°	6'	14 Ga. Stranded	Red-Copper	Yellow-Const.	32-J in SN-7; 32-JG in SN-10; 60-JP; 60-JPS 70-J	Compensating Lead for use with chromel-alumel thermocouples; flexible duplex with moisture and flameproof outer braid.	$3.30
SA-83	194°	26'	14 Ga. Stranded	Red-Copper	Yellow-Const.			10.50
SA-84	392°	6'	14 Ga. Stranded	White-Iron*	Red-Const.	32-J in SN-7; 32-JG in SN-10 or SN-11; 70-J	Extension lead for use with iron-constantan thermocouples; flexible duplex with moisture and flame-proof outer braid.	3.30
SA-85	392°	26'	14 Ga. Stranded	White-Iron*	Red-Const.			6.00
THERMOCOUPLES†								
AS-TH-1	0-1200	30"	20 Ga. Solid	Iron-Black*	Const.-Yellow	31-JPP; 31-JPP-C	Welded inside seamless steel tube ¼" O.D. for immersion in molten metal.	On Appl.
IT-1	0-650	—	—	—	—	32-JP-7; 61-JRT	Accessory Iron Tester, same as 32-JIT except there is no meter.	20.00
SA-86	0-650	7'	20 Solid	Iron-Black*	Const.-Yellow	32-JG in SN-11; 60-JP; 60-JPS	General purpose combination thermocouple and lead.	2.50
SA-87	0-1200, 0-2000	12"	14 Solid	Chromel	Alumel	32-J in SN-7; 32-JG in SN-10	For high temperatures, insulated and protected with 2-hole ceramic beads; fits ⅛" hole.	3.75
SA-88	0-1200, 0-2000	24"	14 Solid	Chromel	Alumel	60-JP; 60-JPS		4.75
SA-91	0-650, 0-1200	12"	14 Solid	Iron-Black*	Const.-Yellow	32-J in SN-7; 32-JG in SN-10	For intermediate temperatures, insulated and protected with 2-hole ceramic beads; fits ⅛" hole.	3.50
SA-92	0-650, 0-1200	24"	14 Solid	Iron-Black*	Const.-Yellow	70-J		4.25
SA-113	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Disc-type junction for attachment flush to surface.	6.75
SA-114	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Needle-type junction for soft material or crevices.	6.50
SA-115	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Ball-type, all-purpose junction. (asbestos-insulated twisted pair)	6.25
SA-116	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Connection shield & clip for attachment. (asbestos-insulated twisted pair)	5.00 #
SA-175	0-650	5½'	22 Ga Solid	Iron-Black*	Const.-Yellow	23-JP-1, 32-JP-3; 32-JP-7 60-JRT, 61-JRT	Ball-type tip, for roasters, waffle irons, etc. (asbestos-insulated twisted pair)	2.75
SA-176	0-650	5½'	22 Ga Solid	Iron-Black*	Const Yellow		Disc type tip, for toasters, etc (asbestos-insulated twisted pair)	3.50
SA-188	0-650	5½'	22 Ga Solid	Iron-Black*	Const.-Yellow		Copper tube enclosed tip, for automatic washers, etc. (asbestos-insulated twisted pair)	5.00
SA-199	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Shield and clip, duplex nonfraying glass braid, for frequent use above 400°F.	6.00 #
SA-300	0-650	5'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Spring type in transite tip with handle, for rapid reading of surfaces.	8.00
SA-304	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Disc-type junction for attachment flush to surface. (asbestos-insulated twisted pair)	6.00
SA-305	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Needle-type junction for soft material or crevices. (asbestos-insulated twisted pair)	6.00
SA-306	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Ball-type, all-purpose junction. (asbestos-insulated twisted pair)	5.75
RESISTANCE BULBS								
SA-142	—100 to +160	14'	Polyethylene Ribbon Lead	No Polarity		60-JRT only	Thin, flat, copper clad bulb 3x⅜x¼"; with polyethylene ribbon lead. Doors of appliances may be closed without damaging it.	7.00
SA-162	—100 to +160	14'				61-JRT		7.00
SA-190**	—100 to +160	8'				Custom		6.85
SA-308	—100 to +160	8'				Custom		6.00
SA-309	—100 to +160	8'				Custom	Thin, fast-responding, plastic-sheathed bulb.	5.00
CONNECTOR BLOCKS								
CB-1	0-2000	1¼"lg. x 1⅜" Dia.		As marked	As marked	All ceramic bead type thermocouples	Lava block, includes heavy brass connectors for low contact resistance.	2.25

NOTE: *Iron constantan is RP1080 calibration. **Has plug terminals; all other accessories have spade terminals.
†For best results thermocouples and leads should be as stated on instrument dials. #Price includes two in standard package.

J-B-T INSTRUMENTS, INC. Electrical Instruments, Testers, Switches and Other Components

For other J-B-T Products, see Sec. 5100

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

© United Technical Publications



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

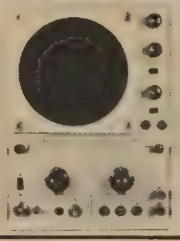
Leader INSTRUMENTS CORP.

PREFERRED FOR QUALITY, ACCURACY AND ECONOMY BY SERVICE ENGINEERS AND TECHNICIANS, EVERYWHERE.



LCG-384

Mini-portable battery operated **Color Bar Generator.** Solid state with digital binary system. Uses four 1.5V cells; has 8 basic patterns; 2 push button selectable frequencies and temp. change protection. Acces sories, carry case, batteries, incl. AC adaptable **$109.50**



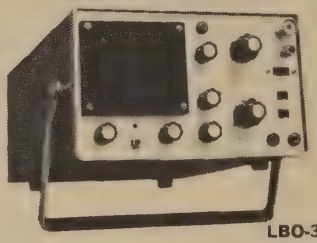
LBO-501

Our 5" Solid State **Triggered Scope** with calibrated vertical input and time base. Offers 20MVp-p/cm with a DC to 10MHz bandwidth. Triggered sweep range is from 0.2µsec/cm to 0.2sec/cm. Has lighted graticule, square wave calibration and tilt stand. Most important is the Lab Grade performance that signifies "Leader". **$339.50**



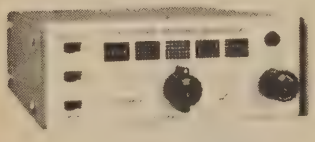
LCG-388

The ultimate in pattern stability thru digital accuracy — this **Color Bar Generator** features: Lab Grade performance, digital binary frequency divider, 15 patterns, two switch selectable channels; regulated DC power supply and ambient temp. comp. For in-shop or field use. Accessories incl. **$159.50**



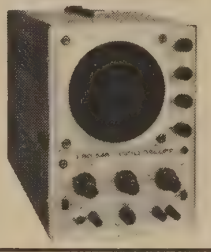
LBO-301

The only 3" **Portable Triggered Scope** available with vertical and horizontal calibration. Yes, it's solid state with unmatched sensitivity. Bandwidth is DC to 7MHz and there's a new, easy-to-use horizontal panel. Featured are 5X mag. and sweep time of 0.2µsec. to 50ms/DIV in fifteen ranges. A new Leader achievement, it's compact and reliable. **$334.50**



LCG-389

Economy and stability at home or away . . . here is a Leader **Color Bar Generator** that fits into any tube caddy and has our binary frequency divider. Operation is not affected by temp. change. Patterns include gated rainbow, dots, crosshatch, horiz. and vert. lines. Carry case and gun-killers incl. **$99.**



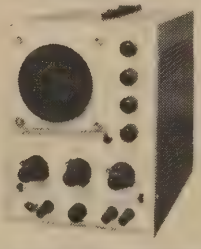
LBO-54B

Here's outstanding operational stability and sensitivity in a 5" **Oscilloscope/Vectorscope** with calibrated vertical input; 10MVp-p/cm sensitivity; DC to 10MHz bandwidth; plus high linearity sweep range and automatic synch. DC coupled with push-pull amplifiers for distortion-free displays. **$249.50**



LCG-390

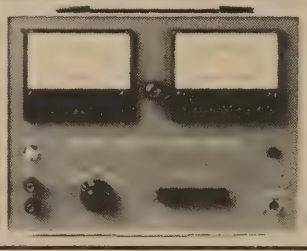
Dependability is the word for this **Color Bar Generator!** Complete with crystal-controlled oscillators, P.C. board construction and digital clock dividers. Patterns include gated rainbow; R-Y, B-Y and —(R-Y); dots, crosshatch and single cross. Fits into caddy and has built-in gun killer. Carry case incl. **$119.50**



LBO-32B

A handy, easy-to-use 3" **Wideband Scope** (7MHz) that is ideal for field and general use. Features FET input stages and DC coupled transistorized amplifiers — push-pull for low distortion. Has a special TV signal display sweep circuit position. Combines high performance with great economy. **$189.50**

Seeing is Believing



LFM-36A

Measure **Wow, Flutter and drift,** simultaneously, with this solid state direct reading instrument. For tape recorders & other devices. Has separate meters for measuring each function. Accuracy is ±5% of full scale value. Signal frequency is 3KHz. Compact, rugged, for bench or assembly work. **$550.**



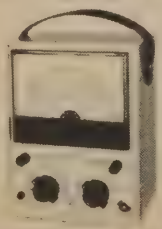
LV-76B

A highly stable, extremely sensitive **Vacuum Tube Voltmeter** with 11 megohm impedance for minimizing loading effects. The input, AC or DC, may be changed by switching rather than lead changing. The AC range is to 4MHz. One probe performs all measurements. **$59.50**



LMV-87A

Use this solid state **AC Millivolt Meter** for testing sensitive audio and video equipment. Measures AC voltages from 1MV to 300V over a wide range; checks for phono output, hum and noise of phono cartridges and tape heads. It's wideband preamplifier boosts scope sensitivity. Features 10MΩ input impedance. **$124.**



LV-77

This general purpose **FET Multimeter** is equipped with Field Effect Transistors for high impedance and solid state stability. Light and portable, it has an AC/DC power supply; easy-to-read scale and is packaged in a rugged, attractive functional case. Excellent for application everywhere. **$89.50**

Leader INSTRUMENTS CORP.

AMERICA'S FASTEST GROWING LINE OF TEST INSTRUMENTS

Net

© United Technical Publications

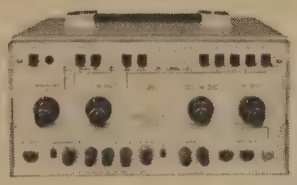
Leader
INSTRUMENTS CORP.

FROM SCOPES TO GENERATORS TO CRT CHECKERS AND REJUVENATORS... LEADER IS THE UNCHALLENGED FIRST.



LFC-943

A battery-powered **TV Field Strength Meter,** all solid state, and offering "hands-free" operation. Incorporates a precision decade attenuator, level indicator, and combination dB/MV scale; plus regulated battery DC voltage. Equipped with earphone for audible signal check. **$375.**



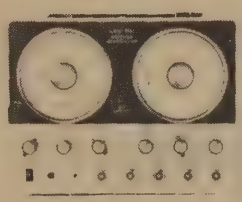
LSW-330

A highly accurate and ultra-stable post-injection **Sweep-Marker Generator** unmatched for color TV service. Provides all sweep and marker signals for chroma, video & sound IF, circuit alignment. Has two selectable RF channels plus automatic limit control for constant amplitude. 10.7MHz sweep extends use with FM-IF. Compact, lightweight. **$399.50**



LTC-902

A battery-powered, in-circuit **Tracer/Checker** for transistor checking. Excellent for field work. Determines Beta and Iceo of transistors plus diode quality. Also functions as a signal tracer for RF and AF applications. Convenient DC voltage and current ranges add to its utility. **$99.50**



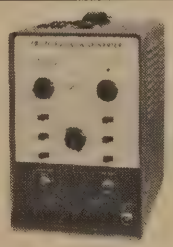
LSW-250

A new, solid state, **Sweep/Marker Generator** for testing TV and FM circuits in conjunction with any scope. Frequency range covers 2-260MHz, continuously adjustable with 0 to 20MHz, max. adjustable sweep width. Has highly accurate post-injection marking with provision for external signal input. Access. incl. **$299.50**



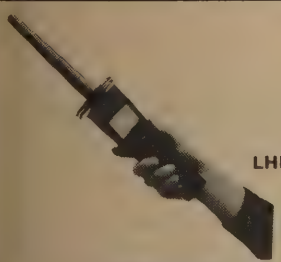
LCT-910

This **CRT Tester/Rejuvenator** offers a quick and reliable means of checking color and B&W without removing tube from the chassis. It has an easy-to-read meter scale, compares color gun emission and grid cut-off characteristics, and repairs shorts, opens and leakage between elements. Rejuvenates tubes to proper emission and brightness. **$129.50**



LSG-230

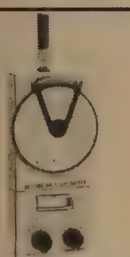
The **FM Multiplex Signal Generator** for quick, easy servicing of audio equipment. Generates RF and IF marker signals and composites. Tests FM balance and separation and is also a sweep marker for 10.7MHz FM and IF alignments. Continuously adjustable freq. range 75 to 110MHz; 3V output, approx. **$175.**



LHM-80

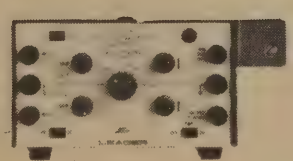
Measure up to 30KV with this **CRT Test Probe.** Never needs batteries, warm-up or external power. With built-in voltmeter safety divider and high impact molded body. Has 20,000Ω/V sensitivity and a full scale accuracy of ±3%. Ground wire and heavy duty field clip included. **$19.95**

Instruments to Believe In



LDM-810

Determine resonant frequency of LC networks in TV and radio circuits with this useful **Grid Dip Meter.** Equipped with 6 coils to cover 2-250MHz range and a modulation monitoring earphone. AC operative; use for aligning receivers, adjusting wave traps, and finding parasitic oscillations. **$44.50**



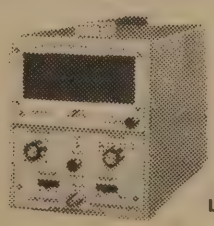
LS-5

A **Solid State Electronic Switch** to extend use of any single trace scope to dual trace. Compares voltages, waveforms, amplitudes, etc. Has "instant-on" and triggers scope for fast and stable synch. Special built-on mounting bracket for any scope. Offers 4 switching frequencies, 2 channel inputs and freq. resp. is DC to 300KHz; 2Hz to 200KHz in AC. **$69.95**



LSG-15

A solid state **Wideband, RF Signal Generator,** for all around use. Features accurately calibrated frequency dial plus FET's. Has an internal 400Hz modulation source; 120KHz to 130MHz; to 390MHz on harmonics. Functions as a marker-generator for checking RF and IF stages in TV and FM receivers. Accessories incl. **$79.50**



LDC-820

A compact, 4 digit **Display Frequency Counter** for use to 12.5MHz. Automatic trigger level control assures input signal stability and noise immunity. An optional plug-in unit to extend the LDC-820 to 5 digit display is also available. With accessories.



LAG-25

All new, solid state **Sine/Square Wave Generator,** 20-Hz to 200KHz range in four decades. Has low distortion sine wave and fast rise square wave for testing sensitive audio equipment. Generates a complex wave output for I-M checks and can synchronize frequency from external source. **$99.50**

Leader
INSTRUMENTS CORP.
AMERICA'S FASTEST GROWING LINE
OF TEST INSTRUMENTS

Volt-Ohm-Milliammeter

Type WV-38A

RCA

Test Equipment and Accessories



$66.00*

Features

- **Measures ohms, DC volts, AC volts, direct current, audio signals in dB units**
- **39 total ranges of measurement; easy to read 2-color meter scales**
- **Special 0.25- and 1.0-volt DC ranges**
- **Meter movement protected against burnout**
- **Full-scale accuracy ±3% on DC volts and current; ±5% on AC volts**
- **Fuse protection for ohms divider network**
- **2-color markings on front-panel for simplified operation**
- **Large 5-inch meter with 50 ua sensitivity**
- **Polarity Reversal Switch**
- **20,000 ohms/volt DC input resistance**

Description

The RCA WV-38A Volt-Ohm-Milliammeter is a rugged, accurate, and extremely versatile instrument designed for service calls, industrial applications, and all-around shop and lab use. The extra-low 0.25 and 1.0 volt DC ranges are specially useful for servicing all types of low-voltage circuits. The wide range current scales are of value in adjusting color TV receivers, TV cameras, and power-supply drains. The ohms scale can be used for trouble-shooting all types of circuits and electronic parts. The special dB scales are ideal for high fidelity and broadcast-audio tests.

A convenient function switch is provided with AC, +DC, and —DC positions. The +DC and —DC positions of this switch reverse the polarity of the test leads — a feature that is als helpful in checking the front-to-back resistance ration of electrolytic capacitors and many types of semiconductor devic

Two special silicon diodes are used to protect the meter movement against burnout due to accidental overload. A fus protects the precision multiplier in the ohms network.

The WV-38A is completely portable, requiring no external power source. Five internal batteries (not provided) are used the ohms function (4 penlight cells and 1 "D" flashlight cell).

Specifications

DC Voltmeter (at full scale):
- Ranges .....0 to .25, 1.0, 2.5, 10, 50, 250, 1000, 5000 V
- Input Resistance .....20,000 Ω/V
- Accuracy.....±3%

AC Voltmeter (at full scale):
- Ranges .....0 to 2.5, 10, 50, 250, 1000, 5000 V
- Input Resistance .....5000 Ω/V
- Accuracy.....±5%

Frequency response (reference 1000 Hz) flat within 0.5 dB from 10 Hz to 50 kHz on the 2.5, 10, and 50 V ranges.

DC Current (at full scale):
- Ranges .....0 to 50 uA, 1 mA, 10 mA, 100 mA, 500 mA, 10 A
- Insertion Loss .....0.25 V
- Accuracy.....±3%

Ohms:
- Ranges .....RX 1, RX 100, RX 10,000
- ±3 of pointer position for exact value

AF Output (at full scale):
- Ranges .....0 to 2.5, 10, 50, 250

An internally connected 0.1 μF DC blocking capacitor permits output measurements in presence of DC voltages.

Decibel Levels (Zero dB is 1 mW in 600 Ω) .....—20 to +50

Dimensions

Height 5⅞", Width 5¼", Depth 3⅛", Weight 3½ lbs.

Equipment Supplied

Red test lead and probe, Slip-on Alligator Clip and Red Insul ing Boot, Black Test Lead with Alligator Clip and Black Insul ing Boot, Instruction Book. (Batteries not supplied.)

Accessories Available

WG-297 High Voltage Probe, less resistor, WG-210 900 Resistor for H.V. Probe (10 x multiplier for 5000 V. rang WG-211 495 mΩ Resistor for H.V. Probe (100 x multipli for 250 V. range), WG-352A RF Diode, WG-270A Vinyl Carryi Case (includes convenient storage compartment for test lead

* Optional User Price

© United Technical Publicatio

VoltOhmyst®

Type WV-77E

RCA

Test Equipment and Accessories



$66.00*

Features

- **Seven overlapping measurement ranges for:**
  - **Ohms — 0.2 ohm to 1000 megohms**
  - **DC volts — 0.02-volt to 1500-volts**
  - **RMS AC volts — 0.1-volt to 1500-volts**
  - **Peak-to-peak AC volts — 0.2-volt to 4200-volts measured on separate red scales**
- **Zero-center DC volts**
- **Burn-out proof meter circuit**
- **Precision-ohms-measurement network fused against accidental burnout**
- **Separate low-voltage AC scale for accuracy**
- **Color-coded scales, switch settings**
- **Pilot light**

escription

e RCA VoltOhmyst® WV-77E is designed to measure AC rms e-wave voltages from 0.1 volt to 1500 volts, DC voltages m 0.02 volt to 1500 volts, peak-to-peak voltages from 0.2 volt 4000 volts, and resistance values from 0.2 ohm to 1000 egohms. The AC voltmeter portion of the WV-77E features electron tube as a full-wave signal rectifier. The meter ading in AC-voltage measurements is a function of the full ak-to-peak value of the measured waveform. The WV-77E s a high input impedance on all DC- and AC-voltage nges. This high input impedance allows the use of the WV-77E circuits where instruments with a lower input impedance uld result in loading of the circuit under test, and a resultant or in reading the operating voltage.

The VoltOhmyst utilizes a push-pull balanced DC-bridge circuit with the meter in the plate circuit. This circuit affords excellent linearity of response, good stability, and very high input impedance.

Additional features of the WV-77E include provision for zero-center indication, useful in discriminator and bias measurements; separate scales for low AC-voltage measurements to assure accurate readings; a circuit design which allows measurement of AC in the presence of DC; a separate DC probe with a 1-megohm resistor which minimizes capacitance-loading effects; and electronic protection against meter burn-out. In addition, the resistors in the resistance divider network are protected by a separate fuse.

pecifications

rformance figures are for line voltage of 120 volts, 60 Hz

C Voltmeter:
- Range ..... 0 to 1.5, 5, 15, 50, 150, 500, 1500 V
- Input Resistance with DC Probe (1 mΩ inside probe)
  - All Ranges ..... 11 mΩ
  - Accuracy ..... ±3% of full scale

C Voltmeter:
- Ranges
  - RMS Values of Sine Waves .. 0 to 1.5 volts on separate scale; 0 to 5, 15, 50, 150, 500, 1500 V
  - Peak-to-Peak Values of Sine Waves ..... 0 to 4 volts on separate scale; 0 to 14, 40, 140, 400, 1400, 4000 V
- Accuracy ..... ±5% of full scale
- Frequency Response ..... ±5% 40 Hz to 5 MHz
  On 1.5, 5, 15 rms, or 4, 14, 40, p-p ranges

aximum Input Voltages:
- When Instrument is set up to measure DC:
  - DC ..... 1500 V
  - DC plus AC (peak) ..... 1800 V
- When Instrument is set up to measure AC:
  - Maximum AC (rms) ..... 1500 V
  - Maximum AC (peak-to-peak) ..... 4000 V
  - NOTE: When AC is being measured, no more than 400 volts DC shall be present in circuit being tested.

Power Supply
- Voltage Rating ..... 105 to 125 V
- Frequency Rating ..... 50 to 60 Hz

Battery:
- 1.5-volt "C" cell ..... RCA-VSO35A or equiv.

Dimensions
Height 7¾", Width 5⅝", Depth 4¾", Weight 5 lbs.

Equipment Supplied
1 DC Probe and Cable, 1 AC-Ohms Probe and Cable, 1 Ground Cable, 1 Instruction Book.

Accessories Available
WG-297 High Voltage Probe, WG-206 Multiplier Resistor for use with WG-297, WG-351A Demodulator Probe, WG-270A Vinyl Carrying Case (includes convenient storage compartment for test leads).

*** Optional User Price**

Senior VoltOhmyst®

Type WV-98C

RCA Test Equipment and Accessories



$99.00*

Features

- **Seven resistance ranges — measures 0.2 ohm to 1000 megohms**
- **Eight DC-voltage ranges — measures 0.01 volt to 1500 volts**
- **0.5 DC-volt scale for transistor circuits**
- **Seven AC ranges — measures 0.05 to 1500 rms volts**
- **Measures peak-to-peak sine, complex waveforms to 4200 volts**
- **Response to 3 MHz**
- **200-microampere meter**
- **Big, readable, 6½" color-coded meter with mirrored scale**
- **Combination, shielded DC/AC/OHMS probe with switch**

Description

The RCA WV-98C incorporates all the time-tested VoltOhmyst features in a deluxe precision instrument with countless uses in audio, radio, TV, and industrial servicing applications. Accurate, dependable, and extremely versatile, it will measure resistance, DC volts, and both rms and peak-to-peak values of sine waves and complex waves.

An input resistance of 11 megohms on all DC-voltage ranges reduces loading of the test circuit.

The WV-98C has convenient mid-scale values of 10, 100, 1000, 10,000 and 100,000 ohms, and 1 and 10 megohms.

All measurements are made with a single-unit probe, the WG-299E DC/AC-OHMS Probe and Cable. The probe is quickly adapted to either DC measurements or AC and resistance measurements by means of a built-in switch.

Included, also, are a zero-center scale, two separate scales for low-voltage AC measurements; a pilot light; and circuit design which permits measurements of the ac component of a DC voltage or the DC component of an AC signal.

Specifications

At line voltage of 120 V, 60 Hz

DC Voltmeter:
- Range ..... 0 to .5, 1.5, 15, 50, 150, 500, 1500 V
- Input Resistance All Ranges ..... 11 mΩ
- Over-all Accuracy ..... ±3% of full scale

AC Voltmeter:
- Ranges:
  - RMS Values of Sine-Waves ..... 0 to 1.5, 5, 15, 50, 150, 500, 1500 V
  - Peak-to-peak Values of Sine-Waves and Complex Waves ..... 0 to 4, 14, 42, 140, 420, 1400, 4200 V
  - Overall Accuracy ..... ±3% of full scale
    (Accuracy of rms ranges based on use of sine-wave signals having less than 0.5% total harmonic content)
  - Frequency Response
    (1.5, 5, 0, and 15 V AC Ranges ..... ±1 dB
    30 Hz to 3 MHz

Ohmmeter:
- Ranges, Seven ..... 0 to 1000 mΩ

Power Supply:
- 110-130 V, 50-60 Hz
- Power Consumption (Approx.) 6 W; Battery 1 RCA VSO36 1½ V "D" cell.

Dimensions

Height 6½", Width 7", Depth 3¾", Weight 6 lbs.

Equipment Supplied

DC/AC-OHMS Probe and Cable (Type WG-299E), 1.5-volt Battery (Type VSO36), Slip-on Alligator Clip, Insulator, Instruction Book.

Accessories Available

WG-301A Crystal-Diode slip-on probe for measuring RF from 50 kHz to 250 MHz; WG-411A High-Voltage slip-on probe for measuring up to 50,000 DC volts; WG-206 Multiplier Resistor.

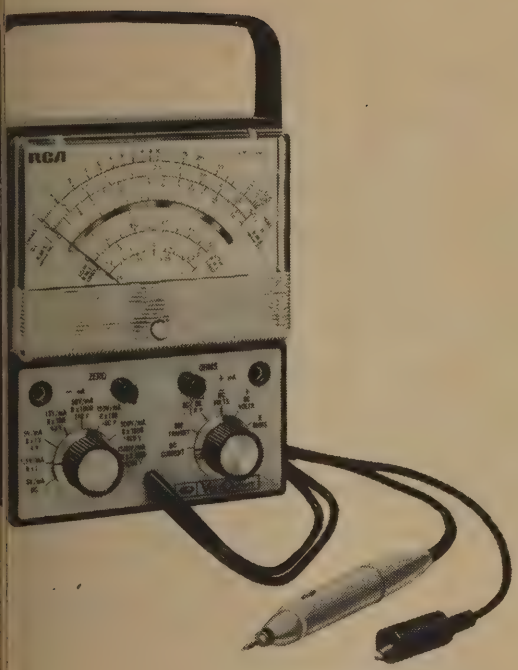
*** Optional User Price**

© United Technical Publications

Solid-State, Battery-Operated VoltOhmyst®

Type WV-500B

RCA Test Equipment and Accessories



$95.00*

Features

- **Excellent stability**
- **Measures from 2 microamperes to 1.5 Amperes in 8 ranges**
- **Measures from 0.2 ohm to 1000 megohms in 7 ranges**
- **Measures from 0.02 volt to 1500 volts in 8 ranges**
- **Measures from 0.1 to 1500 rms AC volts in 7 ranges plus peak-to-peak voltages of complex waveforms**
- **11 megohm resistance on all DC ranges**
- **Supplied with DC/AC Ohms probe with shielded input cable**
- **Mirror scale meter—movement electrically protected against burnout**

scription

WV-500B VoltOhmyst is a solid-state, battery-operated tronic voltmeter. The instrument measured DC voltages from to 1500 volts, DC current from 2 microamperes to 1500 amperes, AC (rms) voltages from 0.1 to 1500 volts, AC -to-peak voltages from 0.5 volts to 4200 volts, and stance values from 0.2 ohms to 1000 megohms.

even overlapping ranges are provided for AC rms and stance measurements, and eight ranges are provided for oltage and current measurement. Accuracy for the DC AC rms functions is ±3% (of full scale reading).

e WV-500B has an input resistance of 11 megohms on all anges to prevent overloading the circuit under test.

pecial solid-state circuitry is used in the WV-500B to assure stable, drift-free operation with minimum effect due to temperature variation. Advantages of solid-state construction include the elimination of warm-up time and a reduction in zero-shift that can occur in tube-operated voltmeters.

Since the WV-500B is battery-operated, the measuring circuit is completely isolated from the ac power line. The instrument can be used to make measurements on equipment with high ground potentials, an important feature in many industrial and laboratory applications.

Additional features include zero-centering of the meter pointer, and a circuit design that permits measurement of the ac component of an ac signal. The meter movement of the WV-500B is electrically protected against burnout.

ecifications

Voltmeter:
- anges ..... 0 to .5, 1.5, 5, 15, 50, 150, 500, 1500 V
- put Resistance
  - All Ranges ..... 11 mΩ
- ccuracy ..... ±3% of full scale

Voltmeter:
- anges:
  - rms Values of Sine-Waves ..... 0 to 1.5, 5, 15, 50, 150 500, 1500 V
- eak-to-Peak Values of Sine Waves and Complex Waves ..... 0 to 14, 42, 140, 420, 1400, 4200 V
- ccuracy ..... ±3% of full scale
  - Accuracy of rms ranges based on use of sine wave signals having ess than ½ of 1.0% total harmonic content.)
- requency Response (1.5 and 5.0 V AC Ranges) ..... ±1 dB 30 Hz to 3 MHz

Current:
- anges ..... 0 to .5, 1.5, 5, 15, 50, 150, 500 and 1500 mA
- ccuracy ..... ±3%

Ohmmeter:
- Ranges, Seven ..... 0 to 1000 mΩ

Batteries:
- Ohms ..... 1 1.5 volt "C" cell RCA VSO35A or equivalent
- Metering Circuit ..... 3 9 volt batteries (RCA VS323 or equivalent)

Dimensions

Height 6⅞", Width 5¼", Depth 3⅛", Weight 3½ lbs.

Equipment Supplied

DC/AC Ohms Probe and Cable WG-410B, Slip-On Alligator Clip, 2 current leads 1 RCA VSO35A Battery, 3 RCA VS323 Batteries, Instruction Book.

Accessories Available

WG-301A Crystal-Diode slip-on probe for measuring RF from 50 kHz to 250 MHz; WG-411A High-Voltage slip-on probe for measuring up to 50,000 DC volts; WG-206 Multiplier Resistor.

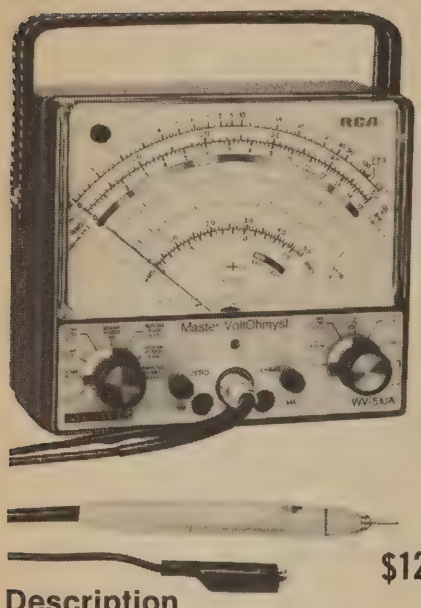
* Optional User Price

Solid-State, Battery/AC Operated Master VoltOhmyst®

Type WV-510A

RCA

Test Equipment and Accessories



$128.00*

Features

- **Excellent stability**
- **Battery or AC operation**
- **Measures from 0.01 milliampere to 1.5 amperes in 7 ranges**
- **Measures from 0.2 ohms to 1000 megohms in 7 ranges**
- **Measures from 0.01 volt to 1500 volts DC in 8 ranges**
- **Measures from 0.2 to 1500 rms AC volts in 7 ranges**
- **Measures peak-to-peak voltages of complex waveforms fro 0.5 to 4200 volts in 7 ranges**
- **21-megohm resistance on all DC ranges**
- **Supplied with DC/AC Ohms probe with flexible shielded input cable (BNC connector), and current test loads.**
- **Mirror scale meter—movement electrically protected against burnout**

Description

The RCA WV-510A Master VoltOhmyst is a high-quality, solid-state electronic voltmeter especially designed for stable, drift-free operation. The instrument can be operated either from internal batteries (not included) or from a 120-volt AC power line. On battery operation, the power cord can be removed for complete portability. The many features of this VoltOhmyst make it ideally suited to service, industrial, and laboratory applications.

The WV-510A measures DC voltage from 0.01 to 1500 volts, direct current from 0.01 milliamperes to 1.5 amperes, AC voltage from 0.2 to 1500 volts, AC peak-to-peak voltage of complex waveforms from 0.5 to 4200 volts, and resistance values from 0.2 ohms to 1000 megohms.

Seven overlapping ranges are provided for AC, resistance, and current measurements, and eight ranges are provided fo DC voltage measurement. Accuracy for all voltage and curren functions is ±3% of full-scale reading.

The solid-state measuring circuit in the WV-510A feature excellent zero stability and linearity. Current drain is very low assuring long battery life. Accuracy is maintained throughou the usable life of the batteries. A convenient battery test func tion is provided.

An input resistance of 21 megohms on all DC ranges permit accurate test results on even the most critical low impedanc circuits.

The Master VoltOhmyst has a large, easy-to-read, two-colo meter. A mirror scale is included to prevent inaccurate reading due to parallax.

Specifications

DC Voltmeter
- Ranges ..... 0 to .5, 1.5, 5, 15, 50, 150, 500, 1500 V
- Input Resistance (With switch on WG-401A set to "DC"):
  - All Ranges ..... 21 MΩ
  - Accuracy* ..... ±3% of full scale reading

DC Current
- Ranges ..... 0 to .5, 1.5, 5, 15, 50, 500, and 1500 mA
- Accuracy* ..... ±3% of full scale reading

AC Voltmeter
- Ranges:
  - RMS ..... 0 to 1.5, 5, 15, 50, 150, 500, and 1500 V
  - Peak-to-Peak ..... 0 to 14, 42, 140, 420, 1400, 4200 V
- Accuracy* ..... ±3% of full scale reading
  (Accuracy of rms ranges based on use of sine wave signals having less than ½ of 1.0% total harmonic content.)

Input Resistance and Capacitance
(With WG-401A switch set to "AC-OHMS"):
- 1.5, 5, 50, 150 V Ranges ..... 0.83 MΩ, shunted by 70 pF
- 500 V Range ..... 1.3 MΩ, shunted by 60 pF
- 1500 V Range ..... 1.5 MΩ, shunted by 60 pF

Frequency Response
- (at 1.5 and 5.0 V AC) ..... ±1 dB 30 Hz to 3 MHz

Maximum Input Voltages
- DC Voltages with no ac voltage present: ..... 1500 V
- AC Voltages with no dc voltage present:
  - RMS for Sine Waves ..... 1500 V
  - Peak-to-Peak for Complex Waves ..... 2000 V
  - Peak-to-Peak for Sine Waves ..... 4200 V
- Combined AC and DC Voltages:
  - Sum of DC Voltage and AC Peak Voltage ..... 2000 V

Ohmmeter
- Ranges, Seven ..... 0 to 1000 M
- Accuracy* ..... ±3% of center scale readin

Meter Movement
- DC Current for Full-Scale Deflection ..... 200 u

Power Required
- AC Operation:
  - Voltage† 110-135
  - Frequency ..... 50/60 H
  - Power Consumption ..... less than 5 W
- Battery Operation: ..... four 9 volt batteries
  RCA VS323 or equiv. (NEDA 1604
  (Not included
- Ohms Circuit ..... one 1.5 volt "D" ce
  RCA VS036 or equiv

Dimensions (less handle)
- Height 6⅞", Width 5¼", Depth 3⅛"
- Weight (With batteries) 3½ lbs.

Equipment supplied
- DC/AC-OHMS Probe and Cable (Type WG-401A) with BNC connector, Slip-On Alligator Clip, 2 Current Leads, 1 RCA VS036 Battery, Instruction Book.

Accessories available
- WG-301A Crystal-Diode Slip-On Probe for measuring RF from 50 kHz to 250 MHz; WG-411A High-Voltage Slip-On Probe for measuring up to 50,000 V DC, WG-436A Multiplier Resistor

*On battery operation, batteries must test good.

†Instrument can be rewired to operate from 240 V AC. See instruction book

*** Optional User Price**

© United Technical Publication

Volt-Ohm-Milliammeters

Types WV-516A, WV-517A, WV-518A, WV-519A, WV-520A

RCA

Test Equipment and Accessories

FEATURES

- **Meter movements protected against burnout**
- **Precision resistors for all ranges**
- **Attractively styled in dark blue cases**
- **3-color meter scales**



Extremely high-sensitivity DC: 100 K ohms/volt, AC: 10 K ohms/volt. Has three-color aluminum panel and three-color meter with mirror scale. Measures DC voltages from 10 mV to 1500 V in eight ranges, AC voltages (rms) from .01 to 1500 V in six ranges; DC current from .05 μA to 5 A in six ranges; resistance from .5 ohms to 20 megohms in four ranges; and decibels from −20 to +55.5 dB in five ranges.

Accuracy: DC ±3% AC ±4%
Supplied complete with test leads and two 1.5 volt batteries.
Dimensions: 5¼" x 7½" x 2⅜"
Shipping Weight: 3 lbs.

WV-520A
$48.00*



Three-color aluminum panel; three-color meter with mirror scale. Has DC polarity switch. High-sensitivity, DC: 50 K ohms/volt, AC: 10 K ohms/volt. Measures DC voltages from 5 mV to 1200 V in eight ranges, AC voltages (rms) from .01 to 1200 V in six ranges; DC current from 5 μA to 6 A in five ranges; resistance from 1 ohm to 100 megohms in four ranges; and decibels from −20 to +57 dB in five ranges.

Accuracy: DC ±3% AC ±4%
Supplied complete with test leads and one 22.5 V and two 1.5 V batteries.
Dimensions: 4¼" x 6⅜" x 1⅞"
Shipping Weight: 2 lbs.

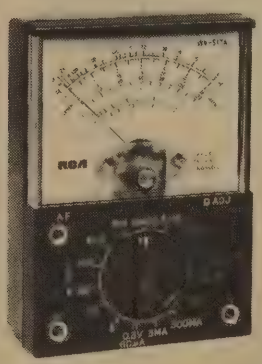
WV-519A
$36.00*



WV-516A

npact, lightweight, nomical — measures DC or rms volts from 0.1 to 0 V in four ranges; current from 10 μA to mA in three ranges; stance from 2 ohms to K ohms in two ranges. -jack connectors used for functions and ranges. ee-color meter scales.

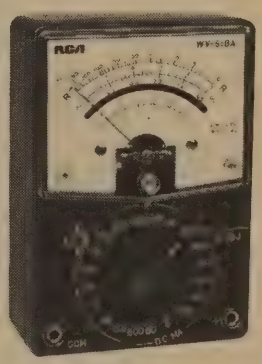
uracy: DC ±3% AC ±4%
plied complete with test leads 1.5 volt battery
sitivity: AC/DC 2000 ohms/volt
ensions: 2¾" x 4⅝" x 1⅜".
pping Weight: 1 lb. **$9.95***



WV-517A

Has convenient panel switch for selection of all functions and ranges; measures DC voltages from .01 to 600 volts in four ranges; AC voltages (rms) from 0.2 to 600 V in four ranges; DC current from 10 μA to 300 mA in three ranges; resistance from 1 ohm to 5 megohms in three ranges; and decibels from −20 dB to +37 dB. Three-color meter scales.

Accuracy: DC ±3% AC ±4%
Sensitivity: DC: 20 K ohms/volt
AC: 10 K ohms/volt
Supplied complete with test leads and two 1.5 volt batteries.
Dimensions: 4¾" x 3¼" x 1⅛"
Shipping Weight: 1 lb. **$18.00***



WV-518A

Special feature — panel mounted fuse to protect ohms-divider resistors. Has three-color meter with mirror scale. Measures DC voltages from .01 to 500 V in four ranges, AC voltages (rms) from .05 to 500 V in four ranges; DC current from 10 μA to 500 mA in four ranges; resistance from 1 ohm to 2 megohms.

Accuracy: DC ±3% AC ±4%
Sensitivity: DC: 20 K ohms/volt
AC: 10 K ohms/volt
Supplied complete with test leads and two 1.5 volt batteries.
Dimensions: 5⅛" x 3½" x 1⅞"
Shipping Weight: 1½ lbs. **$28.50***

* Optional User Price

Power Line Monitor

Type WV-120A and WV-503A

RCA

Test Equipment and Accessories



$20.00* WV-503A



$20.00* WV-120A

Features

- **Expanded 2-color scale — from 100 to 140 volts (WV-120A) and 200 to 280 volts (WV-503A)**
- **High accuracy — ±2% center scale; ±3% at both ends**
- **True rms reading — moving vane type meter gives accurate rms readings, even when line voltage is not pure sine wave**
- **Fast meter action — reveals "bounces" and fluctuations in line voltage**
- **Wide frequency range — From 25 Hz to 400 Hz**
- **Large numerals, large pointer, large scale — provides easy readability from distance of 10 feet or more**
- **Convenient wall mounting — holes are provided in rear of case for easy wall mounting**

Description

The RCA WV-120A and WV-503A Power-Line Monitors are designed for use by industries, laboratories, and radio-TV and appliance repair shops where it is important to know the power-line voltage at all times. These instruments provide a continuous, accurate indication of the AC line voltage at a glance, without the inconvenience of handling probes and switches or the necessity of selecting one of several scales to determine the proper meter reading.

Usd in conjunction with a variable isolation transformer, an RCA Power Line Monitor is a valuable aid in selecting line voltages for such applications as TV servicing, test instrument calibration, and the operation of electronic equipment that requires a known line-voltage supply.

The RCA WV-120A and WV-503A Power-Line Monitors provide a continuous, accurate indication of the AC line voltage at a glance.

Both instruments can be used on AC power-line sources with frequencies of 25 Hz to 400 Hz. They feature accuracy of ±2% at 120 and 240 volts, ±3% at scale ends. The meter has a special expanded scale with large, easy-to-read voltage designations. Also, the tip of the meter pointer is made wide enough to be seen clearly at a considerable distance from th instruments. As a convenient means of reference, the nominal AC line-voltage standard of 120 or 240 volts is printe in red.

The meter movement is a moving-vane type. This type of meter indicates rms values even when the waveform of the power-supply voltage is distorted. (Peak reading and peak-to-peak reading AC voltage measuring circuits, such as used in conventional VTVM's are calibrated on the basis of pure sine-wave voltages, and such meters do NOT indicate the true rms value of distorted waveforms.) The meter movement is only slightly damped and therefore has fa response. This feature is highly desirable because it permits the meter to indicate the presence of line-voltage "bounce" or fluctuations.

Specifications

Frequency Range	25 Hz to 400 Hz
Input Voltage Range	100 to 400 V (WV-120A) 200 to 280 V (WV-503A)
Meter Accuracy	±2% at center scale, ±3% at both end
Dimensions	
Height 3 15/16", Width 5", Depth 3¼", Weight 1½ lbs.	

* Optional User Price

© United Technical Publicatio

Super-Portable 3-Inch Oscilloscope

Type WO-33A

RCA

Test Equipment and Accessories



$180.00*

Features

- **Flat response to 5.5 MHz handles 3.58 MHz color TV signals with ease**
- **Exceptional sensitivity — .003 rms volt-per-inch for working with extremely low-level input signals**
- **Built-in calibration circuit and graph screen for direct reading of peak-to-peak voltages — as easily as with a VTVM**
- **Frequency compensated 3-to-1 vertical attenuators**
- **Supplied with shielded direct/low capacitance probe and cable**

scription

RCA Super-Portable 3-Inch Oscilloscope will help you solve ally any electronics servicing problem you may encounter e or outside the shop. The low cost and high performance e RCA WO-33A have made it popular as a monitor and le-shooting 'scope in black-and-white and color TV dcasting studios, and in professional service shops. gh gain and exceptional bandwidth make this instrument for general servicing and alignment work in black-white and color TV trouble-shooting, signal tracing, and surement; for audio high-fidelity and stereo work; for pes of sweep alignment; and in all types of computer ndustrial applications.

novel feature of the WO-33A is the Vertical Input Attenuator h automatically switches the amplifier from Wide Band to Narrow Band when in the three highest gain positions.

A phase control is provided for varying the phase of the internal sweep voltage when the "LINE" position of the H/SWEEP SEL control is used, enabling the WO-33A to be phased with an external line-frequency sweep oscillator.

The WO-33A is equipped with a specially designed, single-unit Direct/Low-Capacitance probe and cable (WG-349A). When the Low-Capacitance input is used a special high-impedance circuit in the probe is connected in series with the test point and the 'scope, reducing circuit-loading effects and permitting the WO-33A to be used in circuits which would not function properly if loaded down by a conventional oscilloscope.

ecifications

Performance figures are for a line voltage of 117 V, 60 Hz.

uency Response:
rtical Amplifier:
Wide-Band Positions (5.5 Hz to 5.5 MHz) ..flat within —3 dB
High-Sensitivity positions:
20 Hz to 150 kMz .....flat within —3 dB
3 Hz to 1.5 MHz .....flat within —6 dB
rizontal Amplifier (3.5 Hz to 350 kHz) .....flat within —6 dB

ction Sensitivity: Vertical Amplifier	(Wide-Band) position		(High-Sensitivity) position		
	rms	p-p	rms	p-p	
V INPUT connector	0.10	0.3	.003	0.01	V/in
th WG-349A (Direct)	0.10	0.3	.003	0.01	V/in
th WG-349A (Low-Cap)	1.0	3.0	.03	0.1	V/in
rizontal Amplifier (at H INPUT terminal)			0.9	rms	V/in

e Time (Vertical Amplifier)
Wide Band MHz Positions .....0.1 μs

Resistance and Capacitance:
tical Amplifier:
At V INPUT Connector .....1 mΩ shunted by approx. 50 pF
With WG-349A
(Direct) .....1 mΩ shunted by approx. 90 pF
(Low-Cap) .....10 mΩ shunted by approx. 10 pF
Horizontal Amplifier (at H INPUT terminal) .....10 mΩ
EXT SYNC Input Terminal .....250 KΩ to 55 KΩ
Sweep Oscillator:
Frequency Range (continuously adjustable) 15 Hz to 75 kHz
Sync ..... External, Positive and Negative Internal
Maximum AC Input Voltage (at Lo-Cap Probe):
(In presence of 400 V dc) .....600 p-p V
Phase-Control Range ..... 0 to 160 degrees
Power Requirements:
Voltage .....105-125 V, 50-60 Hz
Average Power Consumption .....50 W

Dimensions

Height 8¾", Width 6½", Depth 10¼", Weight 14 lbs.

Equipment Supplied

WG-349A Direct/Low Capacitance Probe and Cable

Accessories Available

WG-350A Demodulator Probe for RF application from 500 kHz to 250 MHz; WG-271A Adaptor for using WG-300B Direct/Low-Capacitance Probe; WG-300B Direct/Low Capacitance Probe and Cable.

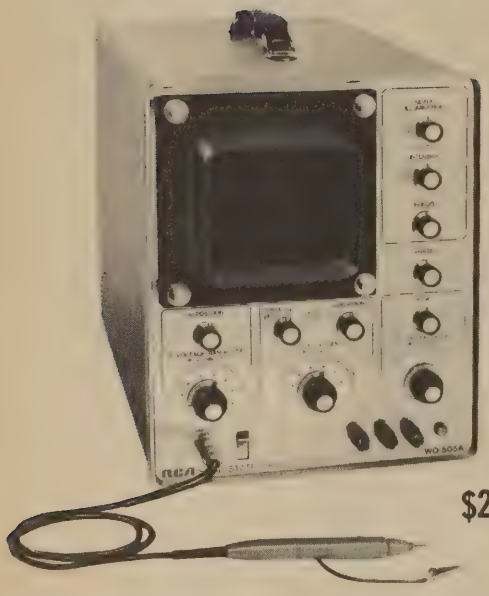
*** Optional User Price**

5 Inch Solid-State Oscilloscope

Type WO-505A

RCA

Test Equipment and Accessories



$299.00*

Features

- All solid-state circuitry
- Flat-face 5" CRT
- Return-trace blanking
- Illuminated graph screen calibrated directly in volts
- Provision for connection to vertical deflection plates of CRT
- Regulated power supply prevents trace bounce; excellent stability
- Camera mounting studs
- DC vertical amplifier; DC/AC input
- High-frequency horizontal sweep; solid lock in on 5-MHz
- Useable response to 8 MHz
- Preset TV "V" and "H" frequencies for instant lock in
- Phase control
- Trace polarity reversal switch
- Built in square wave signal for calibrating P-P voltage measurements
- BNC "V" input connector
- High Sensitivity (.05 V range)

Description

The WO-505A is a solid-state, high-performance oscilloscope designed for general purpose use. Features such as a flat-face cathode-ray tube, return-trace blanking, illuminated graph screen, and camera mounting studs make this oscilloscope ideally suited to industrial, laboratory, and servicing applications.

Frequency response of the vertical amplifier is flat, ±1 dB, from DC to 5 MHz, and is usable up to 10 MHz. The oscilloscope has exceptionally high gain of 15 millivolts peak-to-peak per inch on the high-sensitivity range.

The sweep frequency is adjustable up to 1 MHz in 6 ranges, permitting lock-in of signals up to 10 MHz. The level of sync signal applied to the sweep oscillator is adjustable, so that synchronization is stable throughout the sweep range. Pre-set TV V and H sweep positions are provided for convenient television servicing. These positions insure automatic lock-in on vertical and horizontal sync and blanking pulses. A separat phase control varies the phase of the sweep voltage when th "LINE" position of the sync or H amplifier switch is used. Thi control is used in TV alignment for phasing the oscilloscop sweep with the output of a sweep generator.

The vertical input attenuator and the graph screen ar calibrated directly in volts so that the WO-505A can be use as a visual voltmeter. An internal calibrated voltage source i provided.

Terminals are located on the back of the case for direc connection through internal capacitors to the vertical deflectio plates of the cathode-ray tube. This feature makes it possibl to observe rf waveforms with frequencies higher than th bandwidth of the vertical amplifier.

The power supply of the WO-505A is regulated, preventin trace bounce due to line voltage fluctuations.

Specifications

Note: Performance figures are for a line voltage of 120 V, 60 Hz.

Frequency Response
- Vertical Amplifier
  - DC function ..... DC to 5 MHz, ±1 dB useable to 8 MHz
  - AC function ..... 5 Hz to 5 MHz, ±1 dB useable 5 Hz to 8 MHz
- Horizontal Amplifier ..... 3.5 Hz to 2 MHz

Deflection Sensitivity
- Vertical Amplifier
  - Direct Probe ....15 mV P-P per inch
  - Lo-Cap Probe ..... 150 mV P-P per inch
- Horizontal Amplifier ..... 0.4 V P-P per inch
- Vertical Deflection Plate Terminals .. 40 V P-P per inch

Rise Time
- Vertical Amplifier ....0.1 μS

Input Resistance and Capacitance
- Vertical Amplifier
  - At V INPUT connector ....1 MΩ shunted by 25 pF
  - With probe on "direct" .... 1 MΩ shunted by 75 pF
  - With probe on "Lo-Cap" .... 10 MΩ shunted by 14 pF
- Horizontal Amplifier .... 1 MΩ shunted by 20 pF
- Sunc Input Terminal ..... 1 MΩ shunted by 20 pF

Sweep Oscillator
- Frequency Range .....10 Hz to 1 MH
- Preset Positions .....30 Hz (TV V 7875 Hz (TV H
- Maximum AC Input Voltage ..... 600 V P- (in presence of 400 V DC
- Phase Control Range.....0 to 18
- Z-Axis Input
  - Minimum input voltage for blanking.....12 V rm
  - Frequency Response .....3 Hz-500 kH
- Power Requirements
  - Voltage 105-130
  - Frequency .....50-60 H
  - Average Power Consumption 30
- DIMENSIONS: Height 11⅜ in., Length 15½ in., Width 9 in., Weight 25 lbs.
- Equipment Supplied: WG-400A Direct/Low Capacitance Probe and Cable, Alligat Clip, Clip Insulator, Instruction Book.
- Accessories Available
  - WG 302A RF-IF-VF Signal Tracing Probe for RF applicatio from 500 kHz to 250 MHz.
  - WG-354A Capacitance-Type Voltage-Divider Slip-On Prob for use with WG-400A to extend the range so that signal puls amplitudes up to 5,000 Volts can be observed.

© United Technical Publication

RF Signal Generator with Sweep Features

Type WR-50B

RCA

Test Equipment and Accessories



$75.00*

Features

- **Continuous coverage 85 kHz to 40 MHz in 6 overlapping ranges**
- **Built-in crystal calibrating oscillator circuit with front panel crystal socket**
- **Internal 400 Hz audio oscillator**
- **Sweep output at 10.7 MHz and 455 kHz with return trace blanking for sweep alignment of radio receivers**
- **Permanently attached shielded RF output cable with built-in DC blocking capacitors**
- **Modulation level control**
- **Two-step RF attenuator switch plus a continuously variable attenuator control**
- **Additional switch for further attenuation of the crystal oscillator output**
- **Audio output level control**
- **Easy-to-read dial scale**

scription

RCA WR-50B RF Signal Generator is a highly versatile, ly portable test instrument designed for use in the shop or e field for general television and radio servicing and applications.

e unit is particularly well suited for such applications as ment and signal tracing of AM, FM, High-Fidelity and ens' Band receivers, alignment of low-frequency IF fiers in television receivers, and signal tracing and trouble- ing in nearly all sections of television receivers.

e 455 kHz and 10.7 MHz sweep positions make the WR-50B cularly useful for sweep alignment of both AM and FM vers, especially since the introduction of several new M transistor radios in which sweep alignment of both its is recommended.

e variable oscillator covers the fundamental frequencies from 85 kHz to 40 MHz in six ranges. For higher frequencies, harmonics of the high range can be used. A vernier tuning control permits precise setting of the output frequency. The RF output can be modulated with the internal 400 Hz oscillator, or with an external audia signal. The modulation level is adjustable.

A two-position attenuator switch, together with a variable attenuator control provide complete adjustment of the RF ouput level.

The crystal oscillator circuit in the WR-50B enables the instrument to be used as a crystal calibrator. A convenient crystal socket is provided on the panel. This crystal oscillator can be used as a frequency calibration reference for the variable oscillator, or can be used directly as a crystal-controlled signal source.

cifications

rmance figure with line voltage at 120 volts, 60 Hz)

p Output:
5 kHz and 10.1 MHz, center-frequencies
eep width approximately 10% of center frequency

ble Oscillator:
Ranges (fundamental frequencies) ..... 85 kHz to 40 MHz
utput (all ranges)[1] ..... 0.05 V rms (minimum)
alibration Accuracy ..... ±2%
al Modulating Frequency ..... Approx. 400 Hz
nt Modulation ..... Adjustable up to 30%
Output ..... At least 8 V rms across 15 kΩ load
nal Modulation ..... Modulating frequency, 15 kHz max.

Crystal Oscillator[2]
Maximum Output ..... 0.02 V rms
Internal Mod. Percentage ..... Approx. 20%
Frequency Range ..... 100 kHz to 15 MHz (Fundamental)

Attenuator
VFO and Sweep Output ..... 2-step 10-to-1 attenuator swich with potentiometer for fine adjustment
Crystal Oscillator Output .. Additional 7-to-1 attenuator switch

Power Supply
Voltage Rating ..... 105-130 V 50/60 Hz
Power Consumption ..... 15 W

Dimensions
Height 7¾", Width 5⅜", Depth 4¾", Weight 5 lbs.

[1]Open-circuit value
[2]Varies with crystal cut and activity.

* Optional User Price

Sine/Square-Wave Audio Signal Generator

Type WA-44C

RCA

Test Equipment and Accessories



$99.00*

Features

- **Sine-wave or square-wave output from 20 Hz to 200,000 H**
- **High output voltages — 8 volts rms or more with rated loa**
- **Separate 60 Hz output for intermodulation distortion measurements**
- **10-to-1 step attenuator and continuously adjustable outpu control**
- **Durable, attractive brushed aluminum dial with etched lettering, and sturdy metal cabinet**

Description

Precision engineered and factory calibrated, the RCA WA-44C Sine/Square-Wave Audio Signal Generator is a compact, high-quality instrument designed for use in audio, high-fidelity and general electronic applications as well as in electronics training, demonstrations, and laboratory work. Covering a range from 20 Hz to 200,000 Hz, the WA-44C is also useful in testing ultra sonic equipment.

Application for this versatile instrument include measuring frequency response of amplifiers determining resonant frequencies of loudspeakers, tuning loud-speaker enclosures, finding input and output impedances, determining values of unknown inductors and capacitors, and measuring intermodulation distortion.

Operation of the WA-44C is straightforward. The desire frequency is selected by means of the continuous, single-s frequency dial, together with the appropriate multiplier indicated on the "FREQ RANGE" switch. The type of wave the amplitude are selected by means of the "SINE-SQUARE" attenuator switch. The output voltages can be adjusted furth with the continuously adjustable "OUTPUT" control. A separate output at line frequency is also provided, and output voltage is adjustable up to 6 volts.

Specifications

Note: Performance figures are for a line voltage of 117 V, 60 Hz.

Frequency Range ..... 20 Hz to 200 kHz

Amplitude Variation of Output Voltage:
(30 Hz to 100 kHz) ..... ±1.5 dB

Frequency Stability:
(105 to 125 volts AC line) ..... ±2%

Dial Calibration Accuracy:
(20 Hz to 20 kHz) ..... ±5%

Sine Wave:
Output Voltage:
(*100 KΩ and 75 pF load) ..... 8 rms V or more

Maximum Total Harmonic Distortion:
(30 Hz to 15 kHz) 0
Maximum Hum:
(Percent of rated output voltage) ..... Less than 0.

Square Wave:
Output Voltage:
(*100 KΩ and 75 pF load) ..... 10 p-p V or m

Power Supply:
Voltage ..... 105-125 V, 50-6
Power Consumption ..... Approx. 4

Dimensions:
Height 7", Width 10 11/16", Depth 6⅛", Weight 10½ lbs.

*A lower impedance may decrease the output voltage and slightly incr distortion.

*** Optional User Price**

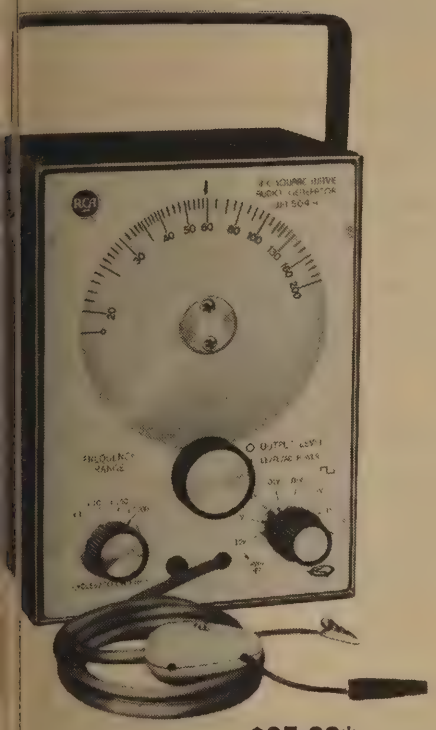
© United Technical Publicati

Transistorized Sine/Square Wave Audio Signal Generator

Type WA-504A

RCA

Test Equipment and Accessories



$95.00*

Features

- **All solid-state — including MOSFET oscillator stage**
- **Switch selection of sine-wave or square-wave output**
- **Wide frequency range — 20 Hz to 200,000 Hz**
- **High output voltages — 10 volts rms or more with rated load**
- **Low distortion — 0.25% or less over the audio frequency range**
- **Essentially flat output voltage — ±1.5 dB from 30 Hz to 100,000 Hz**
- **Attached, shielded output cable**
- **10-to-1 step attenuator and continuously adjustable output control**

scription

ision engineered and factory calibrated, the RCA WA-504A sistorized Sine/Square-Wave Audio Signal Generator ompact, high-quality instrument designed for use in audio, fidelity and general electronic applications as well as ectronic training, demonstrations, and laboratory work. ring a range from 20 Hz to 200,000 Hz, the WA-504A o useful in testing ultrasonic equipment.
plications for this versatile instrument include the surement of frequency response characteristics of ifiers, determining resonant frequencies of loudspeakers, g loudspeaker enclosures, finding input and output dances, determining values of unknown inductors and citors, and determining the frequency or speed of vibrating tating objects. The WA-504A facilitates the testing and servicing of any equipment employing audio or ultrasonic signals.

The RCA WA-504A Sine/Square Wave Audio Generator provides a tunable sine or square wave audio-frequency signal ideally suited for service, industrial, and educational applications. The frequency range extends from 20 Hz to 200,000 Hz.

New solid-state circuit design using six transistors, including an MOS transistor, and two diodes produces a stable signal with an amplitude variation not exceeding ±1.5 dB from 30 Hz. Total harmonic distortion of the sine wave is less than 0.25% from 30 Hz to 15,000 Hz.

The generator has an attached shielded output cable.

ecifications

rmance figures for line voltage of 120 V, 60 Hz

eral

uency Range ..... 20 Hz to 200 kHz (four ranges)
itude Variation of Output Voltage
) Hz to 100 kHz) ..... ±1.5 dB
uency Stability (105 to 130 volts AC line) ..... ±0.5%
Calibration Accuracy (20 Hz to 20 kHz) ..... ±5%, or 2 Hz, whichever is greater

Wave

ut Voltage (100kΩ,75 pF load) ..... 10 V rms or more
mum Total Harmonic Distortion
) Hz to 15 kHz) 0.25%

Square Wave

Rise and Fall Time (Maximum output) ..... less than 1.0 μs
Maximum Tilt ..... less than 5.0%
Output Voltage ..... 10 V p-p or more

Power Supply

Voltage 105-130 V, 50-60 Hz, Average Power Consumption Approx. 8 watts.

Dimensions

Height 7¾", Width 5⅜", Depth 4¾", Weight 3 lbs.

*** Optional User Price**

Stereo FM Signal Simulator

Type WR-52A

RCA Test Equipment and Accessories



Features

- **RF output — connects to receiver antenna terminals**
- **100 NHz carrier, tuneable**
- **Choice of FM signals — Left Stereo, Right Stereo, Monau FM, internal test and 60 Hz FM sweep**
- **FM stereo deviation adjustable from 0 to 75 kHz**
- **RF Output attenuator**
- **RF Deviation Meter**
- **Composite Stereo Output**
- **Choice of Left Stereo and Right Stereo signals**
- **Crystal-Controlled 19 kHz Subcarrier**
- **7 Sine Wave Frequencies**

Description

The WR-52A Stereo FM Signal Simulator is designed to generate the signals necessary for service, alignment and maintenance of Mono and Stereo FM receivers and multiplex adaptors. In addition to its value as a service instrument, the three low-distortion sine-wave frequencies, the crystal controlled 19 kHz and 38 kHz frequencies, the adjustable 100 MHz carrier make the WR-52A an extremely useful test instrument for FM broadcasters and manufacturers of stereo FM equipment.

A meter is included on the instrument to indicate the RF deviation of the FM signal from 0-75 kHz (75 kHz deviation represents a modulation level of 100%).

Separate color-coded scales are provided for stereo and mono. A calibration mark is also provided on the meter for convenient and accurate adjustments of the 19 kHz subcarrier level.

The RCA WR-52A Stereo FM Signal Simulator provides the following signals:

- Composite stereo output signal for either left or right channel.
- FM stereo output for either left or right channel. The 100 MHz FM carrier is adjustable to permit selection of a quiet point in the FM band. The RF deviation is adjustable from 0 to 75 kHz.
- Monaural FM output. A switch is provided to disable the 19 kHz oscillator for low-distortion mono FM output.
- 100 MHz sweep output to check receiver RF/IF alignment. Sweep rate is 60 Hz. Sweep width is adjustable from 0 to more than 750 kHz.
- Audio output signals of 400 Hz, 1000 Hz, and 5 kHz.
- Crystal-controlled 19 kHz and 38 kHz signals for multiplex circuit adjustment.
- 67 kHz and 72 kHz output signals for SCA trap circuit adjustments.
- Special Internal Test output to check phase adjustment of WR-52A stereo signal.

The left and right composite stereo signals, left and right stereo signals, and mono FM signals can be modulated with the internal 400 Hz, 1000 Hz, or 5 kHz frequencies. Binding posts are provided so that other AF modulating signals can be applied from an external source. A control is provided for attenuating the level of the RF output.

The WR-52A comes complete with two connecting cables. A direct unterminated cable is for use with the composite stereo signal and audio signal outputs, and a terminated cable for RF output to a 75 ohm or 300 ohm receiver antenna input.

Specifications

RF Signal Output:
- Carrier ..... 100 MHz
  Center Frequency adjustable ±800 kHz
- Subcarrier ..... 19 kHz*
- FM Modulation ..... Left stereo signal, Right stereo signal, Internal Test (L + R subcarrier modulation), Monaural FM
- Deviation ..... Adjustable 0 to 75 kHz
- Sweep Signal
  - Center Frequency ..... 100 MHz
  - Rate ..... 60 Hz
  - Sweep Width ..... Adjustable 0 to more than 750 kHz
- RF Output Voltage ..... Adjustable up to 0.1 V, rms (approx.)

Composite Signal:
- Output ..... Left stereo signal, Right stereo signal, Internal Test (L + R subcarrier modulation), 400 Hz, 1 kHz, 5 kHz, 19 kHz*
- Audio Output ..... 38 kHz*, 67 kHz, 72 k
- Percent distortion of 400 Hz, 1 kHz, and 5 kHz Frequencies ..... Less than 2
- Composite Signal/Audio Output Level ..... Adjustable from 0 at least 9 V p-p, open circu
  Output source impedance approx. 500

Power Supply:
- Voltage ..... 115 to 125 V, 60
- Power Consumption 40

Dimensions

Width 13½", Height 10", Depth 8", Weight 12¾ lbs.

Equipment Supplied

Direct Output Cable, RF Output Cable (terminated), Instructi Book.

*19 kHz and 38 kHz signals are crystal-controlled. Accuracy within ±2 H

*** Optional User Price**

© United Technical Publicatio

Mini Chro-Bar Solid-State Color-Bar Generator

Type WR-508A

RCA

Test Equipment and Accessories

atures

ovides color bar, dot, crosshatch, d blank raster patterns

l solid-state circuitry, including IC's

ttern signals, RF output frequency, and lor subcarrier all crystal-controlled

mpact size—lightweight

ttery operated. Convenient slide-out battery mpartment, AC adapter available

lid patterns—no flicker. Three special ttern adjust controls on rear panel for sy reset, if required



$75.00*

scription

small size and light weight of the RCA WR-508A MINI O-BAR Generator make the unit ideal for portable use. instrument is battery operated, using a single 4.5 volt -life alkaline battery. A slide-out compartment is located ne rear panel for convenient battery replacement. An ssory AC adapter, the WG-425A, is available separately perating the generator from a standard 120-volt, z power line outlet.

ew crystal-controlled solid-state circuitry, including grated-circuit devices, is especially designed to provide le patterns with no flicker. Special pattern adjustment rols are provided on the rear panel. If the circuit should ire readjustment, these controls can be reset quickly and y using only a properly operating TV receiver.

en color bars are provided simultaneously in the color attern, including R-Y, B-Y, G-Y, I and Q signals, spaced at 30 degree phase intervals. This pattern is for use in checking color phase and matrixing circuits, and adjusting the automatic frequency phase control (AFPC). Narrow brightness pulses are added at the edges of each color bar to aid in checking the color "fit" or registration of the brightness and color signals.

The dot pattern is used primarily in convergence adjustment. The pre-shoot and over-shoot areas (small black edging preceding and following each dot) can be used to estimate the overall quality of the receiver alignment. The cross hatch pattern is for use in adjusting linearity in both black and white and color receivers, and as an alternate pattern for adjusting convergence. Consisting of a fixed number of vertical and horizontal lines, this pattern can also be used to check receiver overscan adjustment. The blank raster function is useful for both purity and color temperature adjustment.

ecifications

signals crystal-controlled)

Carrier.....picture carrier 61.25 MHz (ch. 3)

ut Voltage.....10,000 micro-volts approx.

zontal Sync.....15804 Hz

r Subcarrier.....3,563.741 kHz, ±20 cycles, keyed at 189 kHz

ut Impedance.....approximately 300 ohms

Test Patterns.....color bars (variable chroma level)
dots
cross hatch
blank raster

Battery.....unit powered by one 4.5-volt alkaline battery, RCA VS1149 or equiv.

Dimensions
Width 6½"; Height 3"; Depth 4"; Weight 19.5 oz.

*** Optional User Price**

TV Sweep Chanalyst

Type WR-514A

RCA Test Equipment and Accessories



$380.00*

Features

- **Fundamental sweep output on all VHF TV channels**
- **Video and IF sweep output for IF amplifiers, video, chroma circuits**
- **New ChromAlign chroma sweep signal**
- **Seven crystal IF markers for checking IF picture, so video, and color bandpass**
- **Built-in solid-state marker-adder for clean displays. Di tion-free sweep/marker displays**
- **High, flat sweep output voltage at least 10 MHz wide on channels**
- **On-off blanking control**
- **Balanced, 300-ohm RF output from low-leakage pistor tenuator**
- **Sweep output on FM band from 88 to 108 MHz**

Description

The WR-514A TV Sweep Chanalyst has the combined features of a sweep generator, marker generator, and marker adder. RF, IF, video and ChromAlign output sweep signals permit alignment of VHF tuners, IF amplifiers, video amplifiers, and color bandpass amplifiers.

Seven crystal-controlled, IF markers are provided to identify points on the sweep curve. Marker frequencies are 4.5 MHz, 41.25 MHz, 41.67 MHz, 42.17 MHz, 42.67 MHz, 45.75 MHz, and 47.25 MHz. If desired, an external marker generator can be used to provide markers at other frequencies. A "spare" marker function can be used to provide another marker at any frequency from 39 to 50 MHz when a crystal of the desired frequency is inserted. This system of adding the markers prevents distortion of the sweep curve caused by marker overload. The marker signals are also available directly through a panel connector. Audio modulation can be applied to the signals when the signal is used separately for applications such as trap alignment

RCA's special ChromAlign chroma sweep signal, combining a 45.75 MHz carrier and an IF sweep signal is provided for aligning color bandpass amplifiers. Both the sweep level and carrier level are adjustable, so that the circuit can be aligned at the signal levels specified in the receiver manufacturer's service data.

RF sweep output is provided for each of the 12 VHF vision channels. The sweep width of the RF, IF, and v sweep signal is continuously adjustable.

Output voltage of all sweep signals at the maximum se of the attenuator is at least 0.1 volt RMS. Maximum vari of output amplitude is 0.1 dB/MHz over any 10 MHz po of the sweep signal, assuring an accurate display of ci bandpass characteristics.

The WR-514A also provides FM sweep output from 8 108 MHz in two ranges. The sweep width is adjustable u 20 MHz. A sweep signal in the 10.7 MHz FM IF range is available. Markers in this frequency range can be applied u an external RF signal generator.

Return-trace blanking is included in the WR-514A to pro a zero-reference line during alignment. A trace reverse sw is provided for selection of horizontal sweep direction so frequency markers are in proper sequence as illustrated i service manuals

A switch is also provided for bypassing the demodula signal amplifier, connecting the signal directly to the osc scope. This permits the vertical gain of the sweep trace be calibrated.

Specifications

(Measured at 120 V, 60 Hz line)

Sweep Output Frequency
- TV Channels ..... 2 through 13
- IF/Video ..... approx. 50 kHz-50 MHz
- FM ..... 88-108 MHz
- ChromAlign Chroma Sweep Signal ..... 45.75 MHz crystal-controlled carrier with IF sweep signal

Marker Frequencies 4.5 MHz sound IF; 41.25 MHz sound carrier; 41.67 MHz chroma bandpass; 42.17 MHz color subcarrier; 42.67 MHz chroma bandpass; 45.75 MHz picture carrier; 47.25 MHz adjacent sound.

39-50 MHz spare (internal crystal must be added)

External Marker Input Frequencies ..... from 1 MHz to 250 MHz (from separate source)

AF Modulation ..... approx. 400 Hz

Maximum Output Voltage
- TV, IF/Video, FM ..... 0.1 V or more

Attenuator Range
- RF/IF/Video 60

Maximum Variation of Output Voltage
- All TV Channels ..... 0.1 dB/MHz o any 10 MHz por of sweep ran

Sweep Width (continuously adjustable)
- TV Channels, IF/Video and FM ..... greater than 10 M

Output Cable Terminations
- RF Output Cable ..... 300 ohms balan
- IF Video-Adapter ..... 75 oh

Equipment Supplied
- 1 RF Output Cable, type WG-426A;
- 3 Direct Cables, type WG-427A;
- 1 Connector Adapter, type WG-428A;
- 1 VF/IF 75-ohm Adapter, type WG-429A;
- 2 Direct Cable Adapters, type WG-430A.

Dimensions:
- Width 13⅝"; Height 10"; Depth 7".

Weight (approx.) ..... 17 lbs.

*** Optional User Price**

Net

© United Technical Publicat

Crystal-Calibrated Marker Generator

Type WR-99A

RCA

Test Equipment and Accessories



$275.00*

Features

- **Continuous tuning, 19 to 260 MHz in 8 ranges**
- **Matched-impedance pad-type attenuator**
- **Highly stable, fundamental output — no beat frequencies or harmonics used**
- **Provision for external marker crystals or LC circuits**
- **Separate crystal check points at 1 MHz or 10 MHz intervals provide accurate calibrating beats throughout entire frequency range**
- **Internal modulation frequencies — 1 MHz or 10 MHz, 4.5 MHz, a combination of 4.5 MHz and 600 Hz, and 600 Hz**
- **Most-used television IF and RF frequencies specially marked on dial scale**
- **Dual sound-and-picture-carrier markers**

escription

e RCA WR-99A Crystal-Calibrated Marker Generator nbines in one compact instrument the functions of a ltiple-marker generator, crystal calibrator and a heterodyne quency meter. Featuring extreme accuracy and stability r a wide frequency range, the WR-99A is ideal for servicing i aligning color and black-and-white TV receivers, mmunications and other equipment operating in the quency range of 19 to 260 MHz.

Vhen used as a heterodyne frequency meter, the frequency an unknown signal can be quickly measured by feeding ito the instrument and reading the frequency directly from dial.

The WR-99A includes crystal-controlled 10 MHz and 1 MHz illators for calibrated accuracy. The VFO frequency as well he frequency of an external signal may then be checked ainst internal calibrating beats at 1 or 10 MHz intervals oughout the tuning range.

A switch-type attenuator in the WR-99A provides attenuation in continuous steps over a range of 60 dB on all frequencies. Double shielding of the oscillator reduces leakage to well below the full attenuated signal; permitting control of marker amplitude right down to the noise level of TV receivers. A special coaxial cable is provided with the unit for coupling into the test circuit.

The VFO signal also may be modulated internally with both 4.5 MHz and 600 Hz, a useful feature for adjustment and alignment of sound-IF amplifiers and detectors. The 4.5 MHz signal produces dual sound and picture markers; the 600 Hz modulation will produce a horizontal-bar pattern when the output signal is set to the frequency of the picture carrier or picture intermediate frequency. The 4.5 MHz output signal may be modulated with 600 Hz for visual alignment of the detector.

ecifications

Output Frequencies (fundamentals)	19-260 MHz (8 ranges)
stal-Controlled	1 MHz 4.5 MHz 10 MHz
put Voltages: FO Ranges	At least 0.1 V rms
put Cable Impedance	90 Ω
MHz Crystal Calibrator: ccuracy	±0.01%
Number of 10-MHz Check Points	242
Hz Calibrator: ccuracy	±0.01%
Number of 1-MHz Check Points	24
4.5 MHz Crystal Oscillator: Accuracy	±0.02%
Internal Modulation	1, 10, 4.5 MHz and 600 Hz

Power Supply

Voltage 105-125 V, Frequency 50-60 Hz, Power Consumption 45 W.

Dimensions

Height 10″, Width 13½″, Depth 7″, Weight 17 lbs.

Equipment Supplied

1 Output cable, 1 red and 1 black phone tip, instruction book.

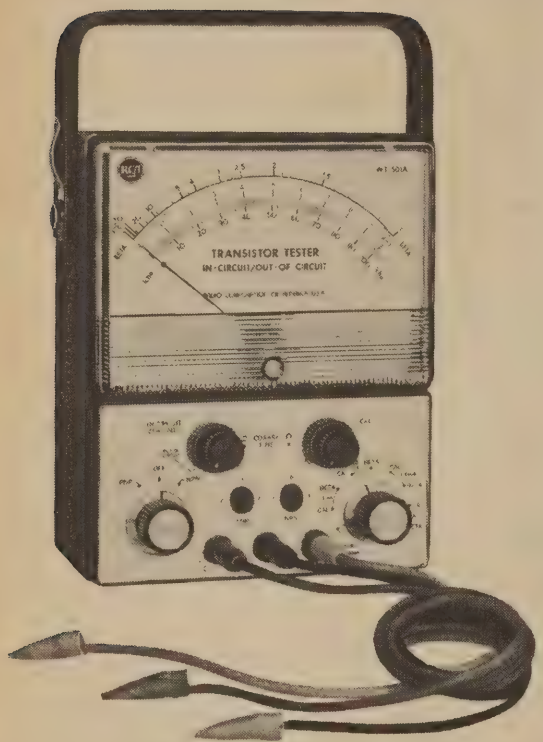
*** Optional User Price**

In-Circuit/Out-of-Circuit Transistor Tester

Type WT-501A

RCA

Test Equipment and Accessories



$68.00*

Features

- **Battery Operated — completely portable**
- **Tests both high-power and low-power transistors**
- **Measures NPN and PNP Transistors (Icbo), (Iceo), and D Seta**
- **Adjustable collector current permits most transistors to t tested at their rated current level**
- **Front panel NPN and PNP sockets for convenient matchi in complementary symmetry applications**
- **Reliable in-circuit testing of transistor current gain**
- **Includes zero control to cancel the effect of leakage on in-circuit current gain reading**
- **Tests relative front-to-back ratio of diodes at appropriate current levels**
- **Mirrored scale**

Description

Completely portable and requiring no external power source, RCA's WT-501A tests transistors both in-circuit and out-of-circuit, tests both low and high-power transitors, and has both NPN and PNP sockets to allow convenient transistor matching for complementary symmetry applications. Three color-coded test leads are provided for in-circuit testing. Special low-impedance circuitry assures reliable in-circuit testing.

The instrument is designed to test transistor for dc beta from 1 to 1000, collector-to-base leakage (Icbo) as low as two-microamperes, and collector-to-emitter leakage (Iceo) from 20 microamperes to one-ampere. Collector current is adjustable from 20 microamperes to one-ampere in four ranges, permitting most transistors to be tested at their rated current level.

Power transistors can be tested with Ic up to one-ampere. A DC forward current transfer ratio curve can be plotted. The instrument can also test the relative in-circuit DC current gain of a transistor.

A 100 microampere meter movement is used in the measuring circuits for the various test functions, and precision resistors are used to insure accurate test results. Normal maintenance includes only replacing the batteries as neccessary.

The WT-501A is also a convenient instrument for making a check of the relative front-to-back ratio of diodes. An important feature is the ability to check the diode at an appropriate current level.

Specifications

DC Beta (hFE)
Range ..... 1 to 1000
Accuracy ..... ±5%
Collector Current (Ic) ..... 100 uA to 1 Amp. in four ranges
Collector-to-Base Leakage (Icbo) ..... 0 to 100 uA
Collector-to-Emitter (Iceo) ..... 0 to 1 Amp
Battery Voltage .....two 1½ V "D" cells, RCA VSO36 or equiv

Dimensions
Height 6⅞", Width 5¼", Depth 3⅛", Weight 2¾ lbs.

*** Optional User Price**

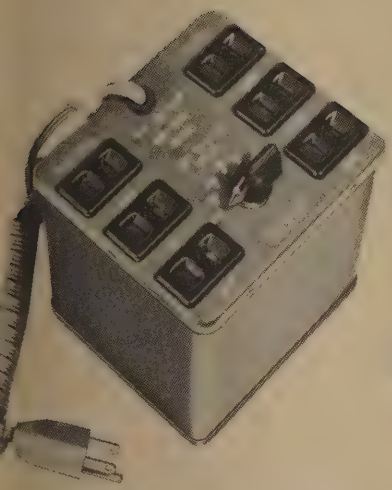
© United Technical Publication

TV Isotap Isolation and Autotransformers

Type WP-26A and WP-25A

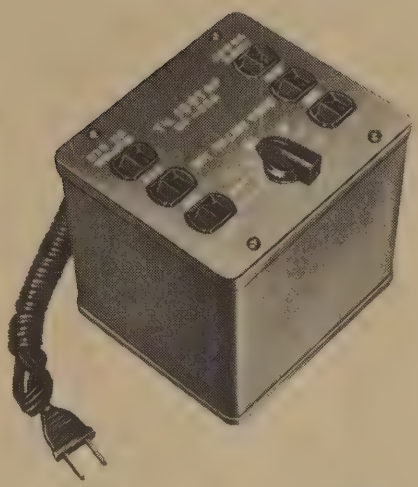
RCA

Test Equipment and Accessories



WP-26A

$42.00*



WP-25A

$32.00*

Features

- **Provides instant high-low-medium line-voltage testing**
- **Speeds up servicing . . . cuts down costly returns**
- **Minimizes shock hazards . . . prevents damage to test equipment**
- **Delivers 500 volt-amperes from autotransformer winding; 400-volt amperes from isolated secondary winding. (A less expensive model, WP-25A, is also available. It delivers 275 volt-amperes max. from isolated secondary winding)**
- **Heavy duty rotary switch adjusts primary to match line voltage over range of 105 to 130 volts in 5-volt steps**

scription

RCA WP-26A and WP-25A Isotaps are designed for use as r an adjustable isolation transformer or as an adjustable ransformer to facilitate testing and trouble-shooting of and television receivers, and other electronic equipment. ren-position selector switch permits adjustment of the p in five-volt steps to operate from any 50 to 60 Hz supply- voltage from 105 to 130 volts. Output voltages of oximately 105, 115 and 130 volts are provided throughout the supply-line voltage range.

Three outlets, marked DIRECT, are connected to the autotransformer or primary winding, and three outlets, marked ISOLATED, are connected to the secondary winding.

The three receptacles marked ISOLATED provide isolation from the supply-line for any connected equipment, minimizing shock hazard usually associated with the chassis, and other exposed parts of transformerless equipment.

ecifications

(All voltages with ±5%)*

ly Line:

itage range ..... 105-130 V

equency ..... 50-60 Hz

ut Voltages

CT receptacles (with 500 max. VA load and selector set to ue of supply-line voltage):

W ..... 105 V

ED ..... 115 V

GH ..... 130 V

ATED receptacle (with resistive load of 400 max. VA and ector set to value of supply-line voltage):

W ..... 105 V

MED ..... 115 V

HIGH ..... 130 V

Load Rating:

	WP-26A	WP-25A
Continuous operation:		
DIRECT receptacles	500 VA max.	500 VA max.
ISOLATED receptacles	400 VA max.	275 VA max.
Intermittent operation:		
DIRECT receptacles	750 VA max.	750 VA max.
ISOLATED receptacles	450 VA max.	450 VA max.

Dimensions

Height 5¾", Width 5", Depth 4⅜".

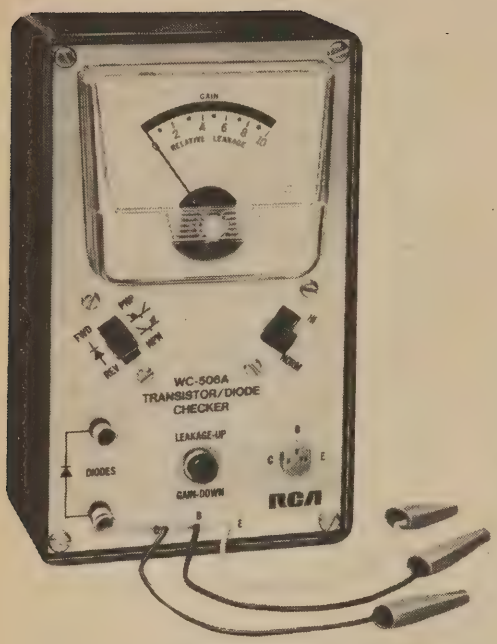
Weight ..... 15 lbs. 12 lbs.

*** Optional User Price**

Transistor/Diode Checker & Resistance-Capacitance Circuit Box

Type WC-506A WG-412A, anr WG-412A(K)

RCA **Test Equipment and Accessories**



WG-506A

$18.00*

Features

- **Fast relative gain and leakage measurements of NPN and PNP transistors**
- **Forward and reverse diode-current checks**
- **Panel socket and test leads for out-of-circuit measurements**
- **Battery operated**
- **Small, compact, inexpensive**
- **Panel switch for high-and-low leakage transistors**
- **Quick-connect diode test terminals**

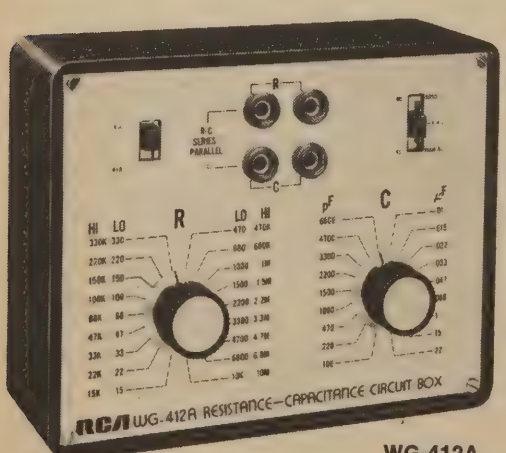
Description

The RCA WC-506A is a compact, battery-operated instrument especially design to provide a quick, simple check of relative gain and leakage levels of out-of-circuit transistors. All measurements are indicated on an easy-to-read meter wit an single red/green scale.

Both NPN and PNP transistors can be checked on the WC-506A. A panel switch is provided to adapt the circuit to accommodate checking high-leakage transistors, such as most germanium power types. The checker includes a transistor socket, and color-coded test leads.

The relative front-to-back current ratios of diodes can also be checked on the WC-506A. Special spring terminals for connecting diodes are located on the panel

The WC-506A weighs 14 ounces and measures 3¾ inches x 6¼ inches x 2 inches. Power is supplied by two 1.5 volt penlite batteries (not included). The unit is contained in a sturdy bakelite case.



WG-412A

$30.00*

Features

- **Available in wired (WG-412A) or kit form (WG-412A(K))**
- **36 resistors in standard values from 15 ohms to 10 megohms (1 watt power rating, tolerance ±10%)**
- **18 capacitors from 100 pF to 0.22 uF (600V rating, tolerance ±10%)**
- **Simplified switching for separate R or C, or series or parallel RC**
- **Standard ¾" terminal-jacks — accommodates dual banana-plug**
- **Complete with plug-in test leads and alligator-clip connectors**

Description

The RCA WG-412A provides a convenient selection of standard resistors and capacitor values available either separately or in series or parallel RC combinations. The unit includes 36 resistors ranging in value from 15 ohms to 10 megohms and 18 capacitors from 100 picofarads to .22 microfarads.

Some uses of the R-C Circuit Box include component substitution in servicing and circuit design applications and establishing R-C circuits for checking impedance, reactance, and frequency characteristics. The unit is also useful for classroom applications to demonstrate Ohm's Law, capacitive reactance, and other circuit effects caused by introducing various resistance and capacitance combinations.

The RC Circuit Box is provided with plug-in test leads with convenient alligator clip connectors (WG-413A). The unit measures 6⅞ inches by 5⅜ inches by 2⅜ inches and weighs approximately one pound, 12 ounces.

*** Optional User Price**

© United Technical Publications

It's easy

to order from this catalog.

When ordering products shown in this catalog or writing for additional information, be sure to specify:

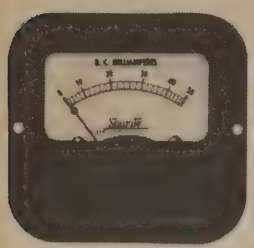
1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion and expedite delivery.

Thank you!



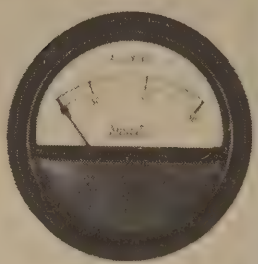
Shurite® PANEL METERS



MODEL 950 SERIES
(metal case)
ZERO ADJUSTER
OPTIONAL ON DC



MODEL 350 SERIES
(crystal clear front)
EDGEWISE METER



MODEL 550 SERIES
(metal case)
RIMLESS ROUND TYPE



MODEL 850 (actual size) ZERO ADJUSTER OPTION

- Manufactured in SHURITE'S new Connecticut plant, these meters are attractive, rugged, dependable indicators with accuracy well within ±5%, and the ability to duplicate readings. DC meters are polarized-vane solenoid type (moving-magnet or bridge-type construction where indicated); AC meters are double-vane repulsion type with jeweled bearing. The jewel construction costs more to build, but it pays off in continuing accuracy during a longer useful life. Models 550 and 950 fit 2-5/32" hole; Model 850 fits 2-5/32" to 2-1/32" hole.

FEATURES

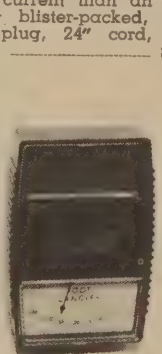
GUARANTEE: One year to user if returned to factory prepaid with 50c handling charge . . . **ALL METAL DIALS** — age and moisture resistant . . . **HIGH RATIO TORQUE-TO-WEIGHT** — gives fast pointer response . . . **VISCOSITY DAMPING** — effectively damps pointer overtravel . . . **CLEAR-PLASTIC 850 CASE** — crystal-clear, high-temperature, high-impact polystyrene case brings light to longest scale arc in its field; case back same material except black . . . **WIDE SELECTION** — Shurite offers the broadest line of standard meters in the economy-priced field. Distributor stocks are backed by an extensive factory inventory.

NEW AUTO BATTERY CONDITION TESTER



STOCK NO. 4153 — Four-color dial shows condition of 12 volt battery for starting and running, also charging rate of generator as too low or too high. May be left connected permanently, if desired, as it draws less current than an auto clock. Attractively blister-packed, with cigarette lighter plug, 24" cord, and mounting material **$4.95**

LIGHTING LEVEL INDICATOR



STOCK NO. 7902-FC — Simply place this pocket-size meter (molded case 3¼"x 2⅛"x1⅛") on bench, desk, or other work surface and read illumination value in foot candles on a 300-fc scale. Shielded to minimize the effect of external magnetic influences. Developed for utilities in Edison Electric Institute for training in providing suitable lighting. Individually boxed **$9.75**



COLD-ZONE TESTER MODERATELY PRICED

STOCK NO. 8380-RT — Place the thin, flat resistance bulb inside a refrigerator, deep freezer, air conditioner or other cooling equipment, close the door on the polyethylene ribbon lead, allow the bulb temperature to stabilize, and get a direct reading from —40 to +120°F. Saves time, builds customer confidence. Red pointer; 2⅛" scale arc, readable to ±2°; accuracy well within commercially accepted standards of ±5° (±3%). For further details, ask for Bulletin CT-1. Tester comes in gray vinyl case 5" x 5" x 4½", complete with 8 ft. Model SA-309 thin, fast responding bulb and 7½ volt standard battery **$24.00**

AC-DC LINE VOLTAGE TESTER



Stock No. 5406-LT — Plug-in to read line voltage, then demonstrate voltage drop or inadequate wiring by plugging in TV set, iron, toaster, washer, air-conditioner, shop equipment, etc. Features of this handy tester: a) attached plug receptacle permits continuous reading while loads are changed; b) reads to 150 volts AC or DC; c) cord allows convenient angle for reading; d) jewel bearing construction provides continuing accuracy **$5.20**

VU, S, and FIELD STRENGTH METERS

VU METERS — Reed volume levels in audio transmission circuits scale —20 to +3 VU, red and black. AC rectifier type; pointer n mally at —20 VU; 1400 ohms ±5% int. res. See Bulletin VUS-70 application circuitry. High-temperature clear-plastic cases.
STOCK NO. 8801Z—850 Series, zero adjuster included; as illustrated **$5.**
STOCK NO. 3801—Edgewise case, zero adjuster not available .... **$5.**

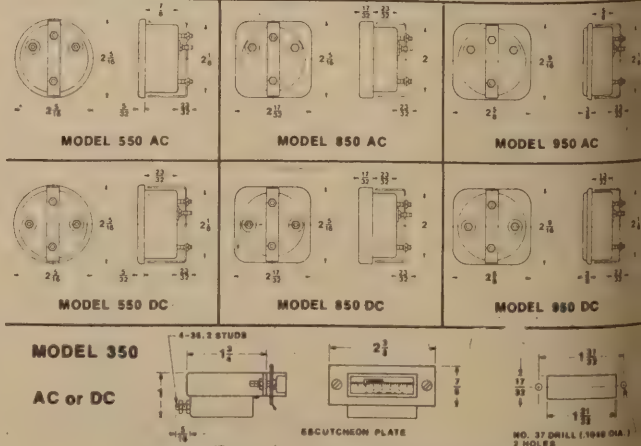
S METERS — To measure relative signal strength; black and red sca basic movement 0-5 Ma. DC with 1000 ohms int. res. ±5%; for appli tion notes and circuits, see Bulletin VUS-70. High-temperature cle plastic cases.
STOCK NO. 3333 — 350 Series, 0-40 db, shown above, pointer n mally at 40 ..... **$3.**
STOCK NO. 8333* — 850 Series; 0-60 db, pointer normally at 60.... **$3.**
*For zero adjuster, add 35c to price and Z to stock number.

FIELD STRENGTH METER — When this meter — a variation of D.C. Milliammeter — is built into an elementary circuit (supplied on quest), antenna systems may be easily checked, tuned, phased, matched to transmission lines.
STOCK NO. 8903Z — 850 Series case; top scale marked .1, .5, 1, 2, 3, 5, 7, 10; bottom scale marked 2, 4, 6, 8, 10; zero adjuster include meter only ..... **$4.**

3-HOLE MOUNTING ADAPTER

MODEL 5-A — 2¾" black flange attaches from front, converts Model 5 (round) meter to 3-hole flange type ..... **$0.**

MOUNTING DIMENSIONS



IMPORTANT — HOW TO ORDER

Give (1) Model Number, (2) Range, (3) Stock Number.
ZERO ADJUSTER (Z) 35c extra; see footnotes as to availability.
PANEL CALIBRATION (S) Normally for non-magnetic panels. If ste panel mounting, give thickness and size; add S to stock number.
SEE YOUR DISTRIBUTOR Authorized Shurite distributors carry mo models and can obtain your other needs promptly.

Prices Effective Nov. 1, 1970; F.O.B. Factory; Individually Boxed; (Subject to Change.)

Net

© United Technical Publication

DC MICROAMMETERS

GE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
00**	1000	5902	9902	$4.70	8902	$4.80

r zero adjuster, add 35c to price and Z to stock number.
nsitive type, note internal resistance. DC bridge-type construction.

DC MILLIAMMETERS

GE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
†	1000	5336	9336	$4.25	8336	$4.35
†	500	—	—	—	8335	4.35
	4460	5301	9301	3.55	8301	3.65
	3740	5302	9302	3.25	8302	3.35
0	1380	5303	9303	3.10	8303	3.20
5	600	5304	9304	3.10	8304	3.20
5	230	5305	9305	3.10	8305	3.20
0	58	5306	9306	3.10	8306	3.20
00	14.7	5307	9307	3.10	8307	3.20
50	7.0	5308	9308	3.10	8308	3.20
00	4.7	5309	9309	3.10	8309	3.20
00	1.7	5310	9310	3.10	8310	3.20
00	.84	5311	9311	3.10	8311	3.20
00	.7	5312	9312	3.10	8312	3.20

r zero adjuster add 35c to price and Z to stock number.
dge-type construction; internal magnet design minimizes effects of ernal magnetic forces. Price does not include zero adjuster.

AC MILLIAMMETERS

GE	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0	4800	5607	9607	$4.60	8607	$4.70
5	750	5601	9601	4.60	8601	4.70
0	150	5602	9602	4.60	8602	4.70
00	37	5603	9603	4.60	8603	4.70
50	5.4	5604	9604	4.60	8604	4.70
00	1.34	5605	9605	4.60	8605	4.70

ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.
r zero adjuster add 35c to price and Z to stock number.

DC AMMETERS

GE ps	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
	.105	5201	9201	$3.10	8201	$3.20
	.02 Max.	5202	9202	3.10	8202	3.20
	.02 Max.	5203	9203	3.10	8203	3.20
	.02 Max.	5204	9204	3.10	8204	3.20
0	.02 Max.	5205	9205	3.10	8205	3.20
5	.02 Max.	5206	9206	3.10	8206	3.20
5	.02 Max.	5207	9207	3.50	8207	3.60
0	.02 Max.	5208	9208	3.50	8208	3.60
-3	.02 Max.	5210	9210	3.20	—	—
-5	.022	5211	9211	3.20	—	—
-6	.02 Max.	5212	9212	3.20	—	—
0-10	.02 Max.	5213	9213	3.50	8213	3.60
0-20	.02 Max.	5214	9214	3.50	8214	3.60
0-30	.02 Max.	5215	9215	3.50	8215	3.60
0-50	.02 Max.	5216	9216	3.70	8216	3.80

r zero adjuster add 35c to price and Z to stock number.

AC AMMETERS

GE ps	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
	.42 Max.	5501	9501	$4.40	8501	$4.50
	.072 Max.	5502	9502	4.40	8502	4.50
	.041 Max.	5503	9503	4.40	8503	4.50
0	.02 Max.	5504	9504	4.40	8504	4.50
5	.02 Max.	5508	9508	4.40	8508	4.50
0	.02 Max.	5505	9505	4.50	8505	4.60
0	.02 Max.	5506	9506	4.75	8506	4.85
0	.02 Max.	—	—	—	8507	5.00

ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.
r zero adjuster, add 35c to price and Z to stock number.

RESISTANCE METERS

NGE ms	Volts	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
000	4.5**	5701	9701	$3.50	8701	$3.60

r zero adjuster, add 35c to price and Z to stock number.
quires 3 flashlight cells for resistance readings but does not re- ire resistor for voltage readings.

SHURITE METERS

DC VOLTMETERS

RANGE Volts	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	10	5101	9101	$3.10	—	—
0-3	93	5102	9102	3.10	8102	$3.20
3-0-3	250	5103	9103	3.10	—	—
0-5	300	5104	9104	3.10	8104	3.20
0-6	390	5105	9105	3.10	—	—
0-8	600	5106	9106	3.10	8106	3.20
0-10	880	5107	9107	3.10	8107	3.20
0-15	2370	5108	9108	3.10	8108	3.20
0-20	3500	5121	9121	3.10	8121	3.20
0-25	1420	5109	9109	3.30	8109	3.40
0-25H**	5000	5110	9110	3.55	8110	3.65
0-50	2920	5122	9122	3.20	8122	3.30
0-50H**	10000	5111	9111	3.80	8111	3.90
0-75	4280	5112	9112	3.30	—	—
0-100	5740	5113	9113	3.30	—	—
0-100H**	20000	5114	9114	3.80	—	—
0-150	8500	5115	9115	3.50	8115	3.60
0-150H**	30000	5116	9116	3.80	8116	3.90
0-300H**†	60000	5117	9117	4.00	8117	4.10
0-500H**†	100000	5118	9118	4.15	8118	4.25

*For zero adjuster add 35c to price and Z to stock number.
**H denotes high resistance.
†Supplied with external resistors.

AC VOLTMETERS

RANGE Volts	RESIST. Approx. Ohms/ Volt	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-4	11	5401	9401	$4.50	—	—
0-6	15.8	5402	9402	4.50	—	—
0-10	27	5403	9403	4.50	8403	$4.60
0-15	35	5404	9404	4.50	8404	4.60
0-20	44	5413	9413	4.50	8413	4.60
0-25	53	5412	9412	4.50	8412	4.60
0-50	96	5405	9405	4.50	8405	4.60
0-150	100	5406	9406	4.70	8406	4.80
0-300**	100	5407	9407	4.95	8407	5.05
0-500**	100	5414	9414	5.55	8414	5.65

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850.
*For zero adjuster add 35c to price and Z to stock number.
**Supplied with external resistors.

EDGEWISE METERS — MODEL 350 SERIES

High-temperature crystal polystyrene front adds beauty to panel designs and 1.2" scale length offers easy reading. Uses less than half the panel space of other Shurite meters. Horizontal mounting; weight under 2 ozs.; accuracy well within ±5%; black escutcheon plate supplied. Case back normally black; available in light-transmitting frosted polystyrene on special order.

RANGE	Approx. Typical RESIST. (ohms)	Stock No.	Net Each
DC MILLIAMMETERS			
0-1*	500	3300	$4.20
0-5*	100	3302	3.60
0-10*	50	3303	3.60
0-25*	20	3305	3.60
0-50*	10	3306	3.60
0-100*	5	3307	3.60
0-200*	2.5	3309	3.60
0-300*	1.7	3310	3.60
0-500*	1	3312	3.60
DC AMMETERS			
0-3*	.02 Max.	3202	3.60
0-10*	.02 Max.	3205	3.60
0-15*	.02 Max.	3206	3.60
10-0-10*	.02 Max.	3213	3.70
DC VOLTMETERS			
0-5*	1000	3104	3.70
0-10*	2000	3107	3.70
0-15*	3000	3108	3.70
AC VOLTMETERS			
0-15*	1200	3404	4.60
0-150*	48000	3406	4.80
VU Meter —20 +3 VU*	1400	3801	5.25
S Meter 0-40 db*	1000	3333	3.90

*Bridge-type construction; internal magnet design minimizes effects of external magnetic forces.

POCKET TYPE METERS

Please ask for General Catalog 100 which describes 13 types of battery testers (pocket meters). Their stock numbers begin with the digit 4. Typical is **Stock No. 4151,** 0-7 DC volts, approx. res. 670 ohms **$3.80**

Prices Effective Nov. 1, 1970; F.O.B. Factory; Individually Boxed; (Subject to Change.)

Simpson

WIDE-VUE PANEL METERS

CALIBRATION — All DC Wide-Vue meters listed below have the Simpson self-shielded move (calibration not affected by stray magnetic fields or magnetic mounting). All AC Wide-Vue meters the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use o through 800 Hz. All AC Voltmeters are calibrated for use on 25 through 125 Hz. Calibration at freque up to 800 Hz can be made. Contact your local Distributor for prices.

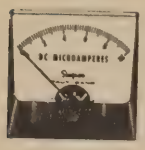
SPECIFICATIONS

Size	Type and Model Number: DC	AC: Rectifier	AC: Iron Vane	RF	Watt	Accuracy	Scale Length	Pointer
1½"	1212, 1212T	1214	—	—	—	DC; RF; AC Iron Vane; Wattmeters* ±2%	1.50" (38.1 mm)	Lance, Bla
2½"	1227, 1227T	1247	1257	—	—		2.30" (58.4 mm)	Spade, Black
3½"	1327, 1327T	1347	1357	1337	—		3.14" (79.7 mm)	
4½"	1329, 1329T	1349	1359	1339	1379	AC Rectifier Meters ±3%	3.93" (100.0 mm)	
8"	728T	—	—	—	—		6.9" (174.2 mm)	

*Compensated Wattmeters ±3%.



1½" Models



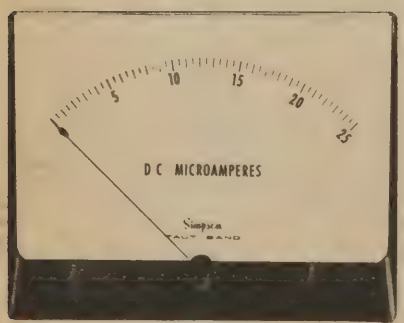
2½" Models



3½" Models



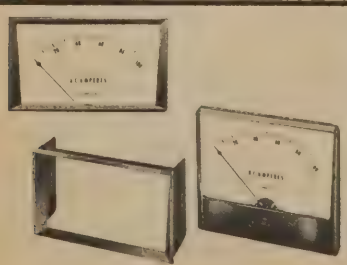
4½" Models



8" Models

Range	Approx. Resistance (ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price	3½" Case Style Cat. No.	3½" Case Style Price	4½" Case Style Cat. No.	4½" Case Style Price
DC VOLTMETERS Self-Shielding Meter Movement									
Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
0-5	1000 ohms per volt	9540	$19.80	9550	$21.15	9720	$21.90	9870	$24.00
0-8		—	—	—	—	9730	21.90	9880	24.00
0-10		9541	19.80	9560	21.15	9740	21.90	9890	24.00
0-15		9542	19.80	9570	21.15	9750	21.90	9900	24.00
0-25		9543	19.80	9580	21.15	9760	21.90	9910	24.00
0-30		9544	19.80	9590	21.15	9770	21.90	9920	24.00
0-50		9545	19.80	9600	21.15	9780	21.90	9930	24.00
0-100		9546	19.80	9610	21.15	9790	21.90	9940	24.00
0-150		9547	19.80	9620	21.15	9800	21.90	9950	24.00
0-200		—	—	9622	21.15	9810	21.90	9960	24.00
0 250		—	—	9623	21.15	9820	21.90	9970	24.00
0-300		—	—	9630	21.15	9830	21.90	9980	24.00
0-300	2000 ohms per volt	9548	19.80	—	—	—	—	—	—
0-500		9549*	24.60	9640	21.90	9840	22.95	9990	24.75
0-750		—	—	9650*	26.70	9850	22.95	10000	24.75
0-1000		—	—	9660*	27.45	9860*	28.35	10010*	30.30
DC AMMETERS Self-Shielding Meter Movement									
Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
0.1	.050	2431	$19.80	2440	$20.25	2640	$21.15	2820	$22.95
0-1.5	.033	—	—	2450	20.25	2650	21.15	2830	22.95
0-2	.025	2432	19.80	2460	20.25	2660	21.15	2840	22.95
0-3	.0166	2433	19.80	2470	20.25	2670	21.15	2850	22.95
0-5	.010	2434	19.80	2480	20.25	2680	21.15	2860	22.95
0-10	.005	2435	19.80	2490	20.25	2690	21.15	2870	22.95
0-15	.0033	2436†	19.80	2500	20.25	2700	21.15	2880	22.95
0-25	.0020	2437†	19.80	2510	20.25	2710	21.15	2890	22.95
0-30	.0017	—	—	2520	20.25	2720	21.15	2900	22.95
0-50	.001	2438†	19.80	2530†	20.25	2730	21.15	2910	22.95
0-100	10.0	—	—	2540†	20.25	2740†	21.15	2920†	22.95
0-150	10.0	—	—	2550†	20.25	2750†	21.15	2930†	22.95
0-200	10.0	—	—	2552†	20.25	2760†	21.15	2940†	22.95
0-300	10.0	—	—	2554†	20.25	2770†	21.15	2950†	22.95
0-500	10.0	—	—	—	—	2780†	21.15	2960†	22.95
15-0-15	.0033	—	—	—	—	2790	22.35	—	—
30-0-30	.0017	—	—	—	—	2800	22.35	—	—
50-0-50	.001	—	—	—	—	2810	22.35	—	—

*External Multipliers, Model 183, are furnished on 1½" DC meters 500 volts or higher; on 2½" DC meters 750 vo or higher; and on 3½" and 4½" DC meters 1000 volts or higher. All others are self-contained.
†1½" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to used with external shunts. 2½", 3½" and 4½" DC ammeters are self-contained through 50 amps. Higher range ammeters are 50 MV meters to be used with external shunts. Shunt listings are on page 18.



WIDE-VUE MOUNTING BEZEL AND ILLUMINATION KITS

For that modern, streamlined appearance — Mounting Bezels, made for wide-vue panel meters and int changeable with flush and recess type meters of many popular styles. Designed for behind panel mountii on material thickness of 1/8" to 3/16". Groove and flange style construction. Each bezel of die cast metal has an attractive black enamel satin finish and is supplied with mounting hardware and template.

Bezel Mount Kit consists of bezel brackets and screws and installation instructions. Dimensions on page 5.

WIDE VUE BEZEL KITS

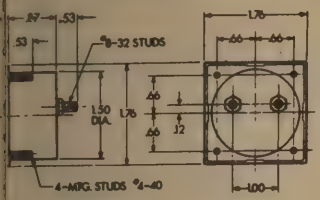
Meter Size	For Models	Part No.	Price
3½"	1327, 1337, 1347, 1357	1253	$2.40
4½"	1329, 1339, 1349 1359, 1379	1123	2.40
	Illumination Kit	1165	2.25

© United Technical Publicatio

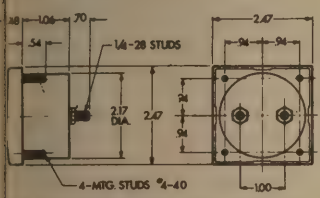
Simpson

WIDE-VUE PANEL METERS

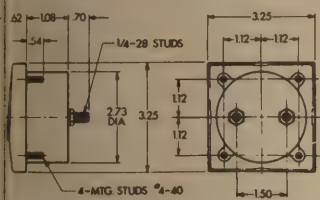
1½", 2½", 3½", 4½", 8" WIDE-VUE PANEL METERS



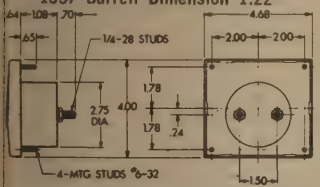
1½" Models 1212, 1212T, 1214



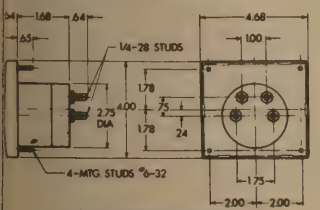
½" Mod. 1227, 1227T, 1237, 1247, 1257
*1257 Barrel Dimension 1.15



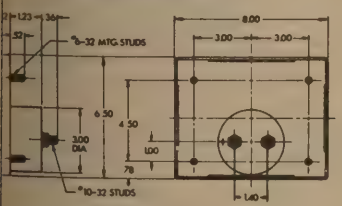
½" Mod. 1327, 1327T, 1337, 1347, 1357
* 1357 Barrell Dimension 1.22



½" Mod. 1329, 1329T, 1339, 1349, 1359
*1359 Barrel Dimension 1.20



4½" Model 1379



8" Model 728T

Range	Approx. Resistance (ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price	3½" Case Style Cat. No.	3½" Case Style Price	4½" Case Style Cat. No.	4½" Case Style Price
DC MILLIAMMETERS Self-Shielding Meter Movement									
0-1	43	6163	$18.90	6175	$19.95	6310	$20.55	6470	$21.90
0-3	2.0	—	—	6180	19.95	6320	20.55	6480	21.90
0-5	2.0 (20†)	6164	18.90	6190	19.95	6330	20.55	6490	21.90
0-10	10.0 (2.2†)	6165	18.90	6200	19.95	6340	20.55	6495	21.90
0-15	6.6 (2.2†)	6166	18.90	6210	19.95	6350	20.55	6502	21.90
0-20	5.0	—	—	6215	19.95	6360	20.55	6524	21.90
0-25	4.0 (6.0†)	6167	19.80	6220	20.25	6370	21.15	6530	22.95
0-50	2.0 (3.0†)	6168	19.80	6230	20.25	6380	21.15	6540	22.95
0-100	1.0 (1.5†)	6169	19.80	6240	20.25	6390	21.15	6550	22.95
0-150	.66 (1.0†)	6170	19.80	6250	20.25	6400	21.15	6560	22.95
0-200	.50 (.75†)	6171	19.80	6260	20.25	6410	21.15	6570	22.95
0-250	.40 (.60†)	6172	19.80	6270	20.25	6420	21.15	6580	22.95
0-300	.33 (.50†)	6173	19.80	6280	20.25	6430	21.15	6590	22.95
0-500	.20 (.30†)	6174	19.80	6290	20.25	6440	21.15	6600	22.95
0-750	.13	—	—	—	—	6450	21.15	6610	22.95
0-1000	.05	—	—	6292	20.25	6460	21.15	6620	22.95

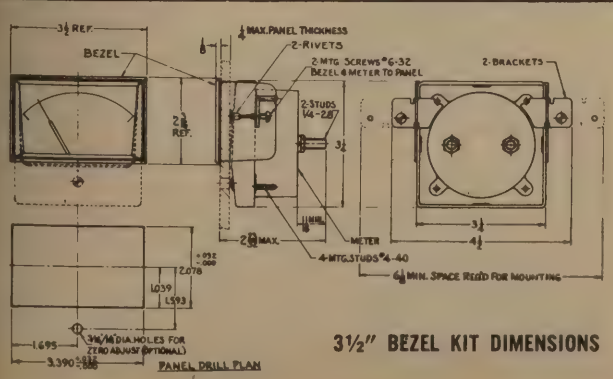
Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
DC MICROAMMETERS Self-Shielding Meter Movement									
0-50	1800 (5500†)	4294	$24.75	4310	$25.65	4380	$26.10	4480	$28.20
0-100	1800	4295	22.05	4320	22.95	4390	24.00	4490	26.70
0-200	1100	4296	20.10	4330	20.85	4400	21.90	4500	24.00
0-500	90 (190†)	4297	19.80	4340	20.55	4410	21.60	4510	23.40
25-0-25	1800 (5500†)	4298	24.90	—	—	4420	26.40	4520	28.35
50-0-50	1800	4302	22.35	4350	23.40	4430	24.00	4530	26.85
100-0-100	1100	4300	20.25	4351	21.15	4440	22.05	4540	24.30
500-0-500	43	4301	19.20	4352	20.10	4450	20.85	4550	22.05

†Resistances of Model 1212 shown in ( ).

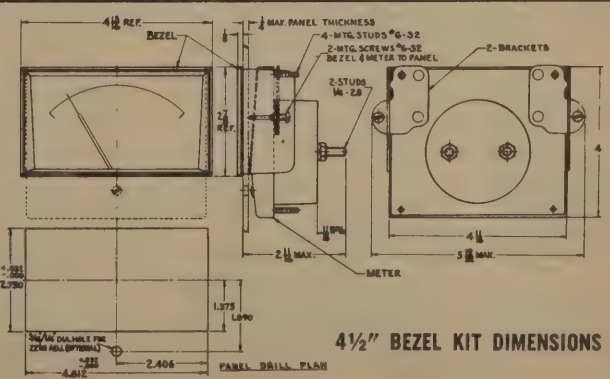
Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
DC MILLIVOLTMETERS Self-Shielding Meter Movement									
0-50	10	7005	$19.80	7010	$20.25	7020	$21.15	7030	$22.95
50-0-50	20	—	—	—	—	7021	21.15	7031	22.95

Range	Approx. Resistance (ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price	3½" Case Style Cat. No.	3½" Case Style Price	4½" Case Style Cat. No.	4½" Case Style Price	8" Case Style Cat. No.	8" Case Style Price
TAUT BAND DC MICROAMMETERS Self-Shielding Meter Movement											
0-5	5750	—	—	—	—	4358††	$48.60	4458††	$51.60	—	—
0-10	4900	—	—	4303	$39.00	4350	23.40	4459	46.20	—	—
0-15	1960 (5000†)	4601	$37.20	4304	35.40	4361	38.25	4461	41.70	—	—
0-25	1960 (5780‡)	4602	34.65	4306	33.60	4371	37.05	4471	40.20	11200	$46.35
0-50	960 (1600‡)	4603	27.15	4311	26.40	4381	28.35	4481	30.45	11201	40.80
0-100	500	4604	24.30	4321	24.00	4391	26.10	4491	28.80	11203	39.45
0-200	234	4605	22.50	4331	22.50	4401	24.60	4501	27.15	—	—

††High flux annular taut band meter movement. DC MILLIAMMETER 0-1 mA: 11210 35.40
† Resistances of Model 1212T shown in ( ).
‡ Resistances of Model 728T shown in ( ).



3½" BEZEL KIT DIMENSIONS



4½" BEZEL KIT DIMENSIONS

Simpson WIDE-VUE PANEL METERS

1½", 2½", 3½", 4½" WIDE-VUE PANEL METERS

RF AMMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (ohms)	1½" Case Styles Cat.No.	Price	2½" Case Styles Cat.No.	Price	3½" Case Styles Cat.No.	Price	4½" Case Styles Cat.No.	Price
0-1	.343	—	—	—	—	2970	$24.30	3050	$27.75
0-1.5	.200	—	—	—	—	2980	24.30	3060	27.75
0-2	.120	—	—	—	—	2990	24.30	3070	27.75
0-2.5	.10	—	—	—	—	3000	24.30	3080	27.75
0-3	.08	—	—	—	—	3010	24.30	3090	27.75
0-5	.045	—	—	—	—	3020	24.30	3100	27.75
0-8	.031	—	—	—	—	3030	24.30	3110	27.75
0-10	.023	—	—	—	—	3040	24.30	3120	27.75

RF MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1337		Model 1339	
0-500	.63	5362	$28.65	5364	$32.40

AC VOLTMETERS RECTIFIER TYPE Self-Shielding Meter Movement

Range	Approx. Ω	Model 1214		Model 1247		Model 1347		Model 1349	
0-5	2000 ohms per volt	10011	$27.15	10015	$25.20	10020	$28.80	10090	$31.95
0-10		10012	27.15	10016	25.20	10030	28.80	10100	31.95
0-15		—	—	—	—	10040	28.80	10110	31.95
0-50		—	—	—	—	10050	28.80	10120	31.95
0-150		10013	25.80	10017	24.00	10060	28.80	10130	31.95
0-300		10014	25.80	10018	24.00	10070	28.80	10140	31.95

DECIBEL METERS
Zero Power Level: 6 mW into 500 Ω line
Self-Shielding Meter Movement

Range	Approx. Ω	Model 1247		Model 1347		Model 1349	
−10 to +6 dB	5000	3483	$28.20	3485	$30.00	3487	$30.90

VU (Volume Level) METERS†
Reference Level: 1 mW into 600 Ω line
Self-Shielding Meter Movement

Scale	Model 1214		Model 1247		Model 1347		Model 1349	
A—Scale	10472	$30.30	10474	$33.45	10480	$34.20	10490	$37.20
B—Scale	—	—	—	—	10550	34.20	10560	37.20

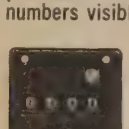
DC GALVANOMETERS Self-Shielding Meter Movement

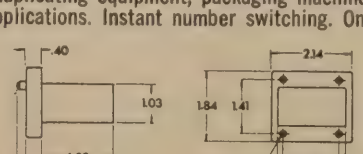
Range	Sensitivity Micro Amperes	Resistance (ohms)	Model 1212		Model 1227		Model 1327		Model 1329	
50-0-50	500-0-500	43	3692	$19.20	3700	$19.95	3730	$19.95	3732	$22.05
50-0-50	75-0-75	1800	3694	20.25	3710	21.60	3720	23.40	3734	25.65

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses percent use of transmitter output and is the standard for broadcast service. Impedance is 3900 Ω @ "0" VU deflection.

SIMPSON ELECTRO-MECHANICAL COUNTERS

For vending machines, duplicating equipment, packaging machinery, and many production line applications. Instant number switching. Only complete numbers visible.





Voltage	Model	Catalog Number	1-9 Price*
117 VAC, 60 Hz	103	12643	$16.80
6 VDC	104	12641	16.80
12 VDC	104	12642	16.80

* QUANTITY PRICES: 10-24, $14.28 ea; 25-49, $13.44 ea; 50-99, $12.60 ea; 100-249, $11.76 ea.

Range	Approx. Impedance (ohms) @ 60 Hz.	2½" Case Style Cat. No.	Price	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257		Model 1357		Model 1359	
0-5	33	—	—	10160	$20.10	10260	$22.
0-10	133	9670	$19.20	10170	20.10	10270	22.
0-15	300	9675	19.20	10180	20.10	10280	22.
0-25	833	9680	19.20	10190	20.10	10290	22.
0-50	3,333	9690	19.20	10200	20.10	10300	22.
0-100	16,666	9695	19.80	10210	20.85	10310	22.
0-150	25,000	9700	20.10	10220	21.60	10320	22.
0-250	41,166	9705	20.10	10230	21.60	10330	22.
0-300	50,000	9710	20.10	10240	21.60	10340	22.
0-500††	83,333	9715	25.65	10250	27.30	10350	29.

AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257		Model 1357		Model 1359	
0-1	.213	2560	$18.15	3130	$19.20	3260	$20.
0-1.5	.105	2570	18.15	3140	19.20	3270	20.
0-2	.065	—	—	3150	19.20	3280	20.
0-3	.028	2575	18.15	3160	19.20	3290	20.
0-5	.008	2580	18.15	3170	19.20	3300	20.
0-10	.004	2590	18.15	3180	19.20	3310	20.
0-15	.0025	2599	18.15	3190	19.20	3320	20.
0-25	.002	2609	18.15	3200	19.95	3330	21.
0-30	.0015	2615	18.15	3205	19.95	3335	21.
0-50	.001	2619	18.15	32.10	19.95	3340	21.
0-75	.008	—	—	3215	21.60	3345	22.
0-100	.008	2622‡	18.15	3220‡	19.20	3350‡	20.
0-150	.008	2624‡	18.15	3230‡	19.20	3360‡	20.
0-200	.008	2626‡	18.15	3240‡	19.20	3370‡	20.
0-300	.008	2627‡	18.15	3250‡	19.20	3380‡	20.

AC MILLIAMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257		Model 1357		Model 1359	
0-10	1,650	6294	$18.15	6625	$19.20	6665	$20.
0-50	80	6295	18.15	6630	19.20	6670	20.
0-100	17.2	6296	18.15	6640	19.20	6680	20.
0-250	3.15	6297	18.15	6650	19.20	6690	20.
0-500	.9	6300	18.15	6660	19.20	6699	20.

WATTMETERS DYNAMOMETER TYPE Single Phase

Range Watts	Range Volts	Max. Amps	Wattmeters calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz. Accuracy ±2% F.S.				Model 1379	
0-75	150	1.0	—	—	—	—	10960	$53.
0-150	150	2.0	—	—	—	—	10970	53.
0-300	150	4.0	—	—	—	—	10975	53.
0-750	150	10.0	—	—	—	—	10990	53.
0-600	300	4.0	—	—	—	—	10980	56.
0-1500	300	10.0	—	—	—	—	11000	56.
0-3000	300	20.0	—	—	—	—	11010	56.

COMPENSATED WATTMETERS

Range Watts	Range Volts	Max. Amps	Accuracy ±3% F.S.				Model 1379	
0-10	300	.175	—	—	—	—	10930	$70.
0-20	300	.400	—	—	—	—	10940	70.
0-30	300	.650	—	—	—	—	10950	70.

††External Multipliers, Model 183, (Featured on page 19) are furnished on meters having a range of 500 volts or higher. All others are self-contained ‡2½" AC ammeters are self-contained through 50 amps. 3½" and 4½" ammeters self-contained through 75 amps and have an impedance of approximately .0005Ω. Higher range AC ammeters are 5 amp meters to be used with external current transformer. See page 18 for current transformer listing

SPECIFICATIONS

RATED SPEED: 1 count per 100 milliseconds (10 counts per second; 600 counts per minute).

MINIMUM PULSE DURATION: 50 milliseconds "on", 50 milliseconds "off".

VOLTAGE INPUT: ±15% of the rated voltage.

POWER CONSUMPTION: 4.2 watts (nominal).

MAXIMUM INDICATION: 9,999.

NUMERALS: White on black, 0.2" high, 0.15" wide.

NUMERAL SWITCHING: Ratchet principle adding one count each time the operating coil is opened. At any given time only whole numbers are visible, for clear readouts.

NUMERAL RESET: Front-panel push-button instantly resets numerals to 0000.

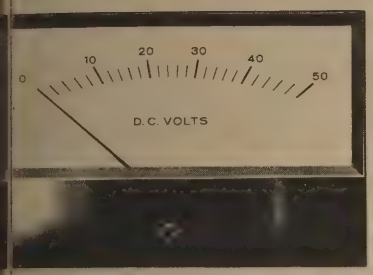
CONSTRUCTION: Bezel of rugged thermosetting materials; black matte finish. Heavy steel frame with a formed aluminum cover.

Net

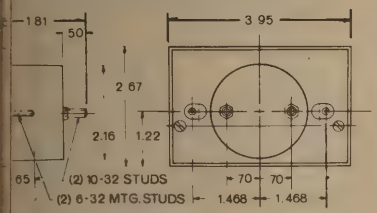
© United Technical Publications

Simpson DESIGNER and BOLD-VUE PANEL METERS

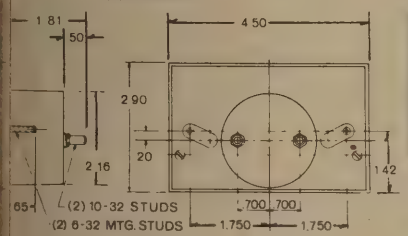
ESIGNER SERIES



- LEAN, UNCLUTTERED LOOK
- AXIMUM READABILITY IN INIMUM HEIGHT



3½" Models



4½" Models

SPECIFICATIONS	Model 523	Model 543	Model 553	Model 524	Model 544	Model 554
SIZE	3½"	3½"	3½"	4½"	4½"	4½"
LENGTH	2.92" (74.2 mm)		2.69" (68.3 mm)	3.25" (82.5 mm)		2.84" (72.1 mm)

All Models: ±2% accuracy, knife edge pointer, black phenolic case with glass window.

DC VOLTMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price
0-5	1000 ohms per volt	15038	$21.90	15108	$24.00
0-10		15039	21.90	15109	24.00
0-15		15040	21.90	15110	24.00
0-30		15042	21.90	15112	24.00
0-50		15044	21.90	15114	24.00
0-100		15045	21.90	15111	24.00
0-150		15046	21.90	15116	24.00

DC AMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 523		Model 524	
0-1	.050	15031	$21.15	15101	$22.95
0-3	.0166	15032	21.15	15102	22.95
0-5	.010	15033	21.15	15103	22.95
0-10	.005	15030	21.15	15100	22.95
0-15	.0033	15034	21.15	15104	22.95
0-25	.0020	15035	21.15	15105	22.95
0-50	.001	15036	21.15	15106	22.95

DC MILLIAMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 523		Model 524	
0-1	43.0	15000	$20.55	15070	$21.90
0-5	2.0	15001	20.55	15076	21.90
0-10	10.0	15002	20.55	15077	21.90
0-50	2.0	15003	21.15	15078	22.95
0-100	1.0	15010	21.15	15080	22.95
0-200	0.5	15004	21.15	15079	22.95
0-300	0.33	15012	21.15	15081	22.95
0-500	0.2	15013	21.15	15082	22.95

VU METERS Self-Shielding

Scale	Model 543		Model 544	
"A" Scale	15064	$34.20	15134	$37.20
"A" Scale, Illuminated	15065	37.65	15135	40.65
"B" Scale, Illuminated	15066	37.65	15136	40.65

DC MICROAMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price
*0-15	1960	15014	$38.25	15092	$41.70
0-25	2100	15015	32.40	15085	35.70
0-50	1800	15017	26.10	15087	28.20
0-100	1800	15019	24.00	15089	26.70
0-200	1100	15021	21.90	15091	24.00
0-500	90	15022	21.60	15093	23.40
25-0-25	1800	15023	21.40	15094	28.35
50-0-50	1800	15025	24.00	15095	26.85
100-0-100	1100	15027	22.05	15097	24.30
500-0-500	43	15024	20.85	15096	22.05

*Taut Band

DC MILLIVOLTMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 523		Model 524	
0-50	10	15048	$20.85	15118	$22.95

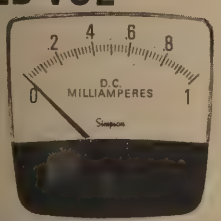
AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Resistance (Ohms)	Model 553		Model 554	
0-150	25,000	15060	$21.60	15130	$22.95
0-250	41,166	15061	21.60	15131	22.95
0-300	50,000	15062	21.60	15132	22.95

AC AMMETERS Iron Vane Type Movement

Range	Approx. Resistance (Ohms)	Model 553		Model 554	
0-1	.213	15049	$19.20	15121	$22.35
0-5	.008	15050	19.20	15120	22.35
010	.004	15052	19.20	15122	22.35
0-15	.0025	15051	19.20	15123	22.35
0-25	.002	15053	19.20	15125	22.35
0-50	.001	15054	19.20	15124	22.35
0-100	.008	15056†	19.20	15127†	22.35
0-150	.008	15057†	19.20	15128†	22.35

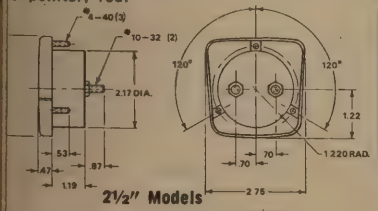
OLD-VUE



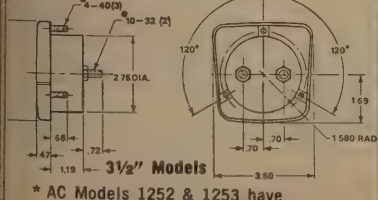
ECIFICATIONS

ize	DC	AC	Scale Length
½"	1222	1252	2.207" (56.1 mm)
½"	1223	1253	3.047" (77.4 mm)

Models: ±2% F.S. accuracy, wide tapered e pointer, red.



2½" Models



3½" Models

* AC Models 1252 & 1253 have stud length of .87".

Range	Approx. Resistance (Ohms)	2½" Case Style Cat. No.	Price	3½" Case Style Cat. No.	Price
0-5	1000 ohms per volt	15465	$21.15	15575	$21.90
0-10		15466	21.15	15577	21.90
0-15		15467	21.15	15578	21.90
0-25		15470	21.15	15580	21.90
0-30		15475	21.15	15581	21.90
0-50		15480	21.15	15583	21.90
0-100		15490	21.15	15585	21.90
0-150		15495	21.15	15587	21.90
0-300		15500	21.15	15590	21.90

DC VOLTMETERS Self-Shielding

DC AMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 1222		Model 1223	
0-1	.050	15401	$20.25	15510	$19.20
0-2	.025	—	—	15515	21.15
0-3	.0166	15403	20.25	15518	21.15
0-5	.010	15405	20.25	15520	19.20
0-10	.005	15410	20.25	15522	19.20
0-15	.0033	15411	20.25	15525	21.15
0-25	.0020	15415	20.25	15530	21.15
0-50	.001	15417	20.25	15535	21.15

DC MILLIAMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 1222		Model 1223	
0-1	43	15420	$19.95	15540	$20.55
0-3	2.0	—	—	15542	20.55
0-5	2.0	15422	19.95	15543	20.55
0-10	10.0	15425	19.95	15545	20.55
0-25	4.0	15427	20.25	15548	21.15
0-50	2	15428	20.25	15550	20.55
0-100	1	15430	20.25	15552	21.15
0-200	.5	15435	20.25	15555	21.15
0-300	.33	15440	20.25	15557	21.15
0-500	0.2	15445	20.25	15558	21.15

Range	Approx. Resistance (Ohms)	2½" Case Style Cat. No.	Price	3½" Case Style Cat. No.	Price
0-50	10	15505	$20.25	15593	$21.15

DC MILLIVOLTMETER Self-Shielding

DC MICROAMMETERS Self-Shielding

Range	Approx. Resistance (Ohms)	Model 1222		Model 1223	
0-50	1800	15450	$25.65	15560	$26.10
0-100	1800	15452	22.95	15562	24.00
0-200	1100	15455	20.85	15563	21.90
0-500	90	15458	20.55	15565	21.60
25-0-25	1800	—	—	15570	26.40
50-0-50	1800	15461	23.40	15571	24.00
100-0-100	1100	15462	21.15	15572	22.05
500-0-500	43	15463	20.10	15573	20.85

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Resistance (Ohms)	Model 1252		Model 1253	
0-150	25,000	15620	$20.10	15660	$21.60
0-250	41,166	15625	20.10	15670	21.60
0-300	50,000	15630	20.10	15675	21.60

AC AMMETERS Iron Vane Type Movement

Range	Approx. Resistance (Ohms)	Model 1252		Model 1253	
0-1	.213	15595	$18.15	15635	$19.20
0-3	.028	15597	18.15	15636	19.20
0-5	.008	15598	16.50	15637	17.40
0-10	.004	15600	16.50	15640	17.40
0-15	.0025	15605	16.50	15642	17.40
0-25	.002	15610	17.25	15645	18.00
0-50	.001	15613	18.90	15648	18.00

Simpson CENTURY PANEL METERS

Introducing Simpson's new panel meter design concept. Now you can have a modern design with rugged phenolic and glass construction.

CALIBRATIONS

All DC meters listed below have the Simpson self-shielded movement (calibration not affected by stray magnetic fields or magnetic mounting). All AC meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25 through 800 Hz. All AC Voltmeters are calibrated for use on 25 through 125 Hz. Calibration at frequencies up to 800 Hz can be made. Contact your local Distributor for prices.

SPECIFICATIONS

Size	Type and Model Number DC	AC Rectifier	AC Iron Vane	RF	Watt	Accuracy (% of full scale) DC; RF; AC Iron Vane; Wattmeters*	Scale Length	Points
1½"	2121	2141	—	—	—	±2% AC Rectifier Meters ±3%	Dimensions shown under illustrations	Knife Edge, Black
2½"	2122	2142	2152	—	—			
3½"	2123	2143	2153	2133	2173			
4½"	2124	2144	2154	2134	2174			

*Compensated Wattmeters ±3%.



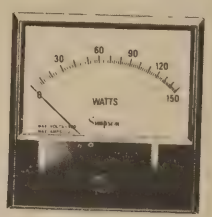
1½" Models

SCALE LENGTH: DC and Rectifier 1.25" (31.7mm). VU Meters 1.23" (31.2mm).



2½" Models

SCALE LENGTH: DC, Rectifier, RF, VU 2.07" (52.6mm). AC Iron Vane 1.86" (47.2mm).



3½" Models

SCALE LENGTH: DC, Rectifier, RF, VU 2.75" (69.8mm). AC Iron Vane, Wattmeters 2.48" (63mm).



4½" Models

SCALE LENGTH: DC, Rectifier, RF 4.09" (103.9mm). AC Iron Vane, Wattmeters 3.68" (93.5mm). VU Meters 3.71" (94.2mm).

DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Resist. (ohms)	1½" Case Style Cat. No.	1½" Price	2½" Case Style Cat. No.	2½" Price	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price
0-5	1000 ohms per volt	17840	$19.80	17445	$21.15	17525	$21.90	17618	$24.00
0-8		—	—	—	—	—	—	17619	24.00
0-10		17842	19.80	17446	21.15	17527	21.90	17620	24.00
0-15		17843	19.80	17447	21.15	17528	21.90	17621	24.00
0-25		17844	19.80	17448	21.15	17529	21.90	17622	24.00
0-30		17845	19.80	17449	21.15	17530	21.90	17623	24.00
0-50		17846	19.80	17450	21.15	17531	21.90	17624	24.00
0-100		17848	19.80	17451	21.15	17532	21.90	17625	24.00
0-150		17849	19.80	17452	21.15	17533	21.90	17626	24.00
0-200		—	—	—	—	17534	21.90	17627	24.00
0-250		—	—	—	—	17535	21.90	—	—
0-300		—	—	17455	21.15	17536	21.90	17629	24.00
0-300	2000 ohms per volt	17850	19.80	—	—	—	—	—	—
0-500		17851	24.60	17456	21.90	17537	22.95	17630	24.75
0-750		—	—	17457	26.70	17538	22.95	17631	24.75
0-1000		volt	—	—	17458	27.45	17539*	28.35	17632*	30.30

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2121		Model 2122		Model 2123		Model 2124	
0-1	.050	17800	$19.80	17400	$20.25	17475	$21.15	17565	$22.95
0-1.5	.033	—	—	17401	20.25	17476	21.15	—	—
0-2	.025	17801	19.80	17402	20.25	17477	21.15	17567	22.95
0-3	.0166	17802	19.80	17403	20.25	17478	21.15	17568	22.95
0-5	.010	17803	19.80	17404	20.25	17479	21.15	17569	22.95
0-10	.005	17805	19.80	17405	20.25	17480	21.15	17570	22.95
0-15	.0033	17806†	19.80	17406	20.25	17481	21.15	17571	22.95
0-25	.0020	17807†	19.80	17407	20.25	17482	21.15	17572	22.95
0-30	.0017	—	—	17408	20.25	17483	21.15	17573	22.95
0-50	.001	17808†	19.80	17409†	20.25	17484	21.15	17574	22.95
0-100	10.0	—	—	17410†	20.25	17485†	21.15	17575†	22.95
0-150	10.0	—	—	—	—	17486†	21.15	17576†	22.95
0-200	10.0	—	—	17412†	20.25	17487†	21.15	17577†	22.95
0-300	10.0	—	—	—	—	17488†	21.15	17578†	22.95
0-500	10.0	—	—	—	—	17489†	21.15	17579†	22.95
15-0-15	.0033	—	—	—	—	17490	22.35	—	—
30-0-30	.0017	—	—	—	—	—	—	—	—

*External Multipliers, Model 183, are furnished on 1½" DC meters 500 volts or higher; on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts or higher. All others are self-contained.

†1½" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2½", 3½" and 4½" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunt listings are on page 18.

TAUT BAND DC MICROAMMETERS Self Shielding

Range	Resist. Approx. (ohms) Ω	2½" Case Style Cat. No.	2½" Price	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price
0-5	5750	—	—	17495††	$48.60	17585††	$51.60
0-10	4900	17415	$40.95	17496	42.75	17586	46.20
0-15	1960	17416	37.20	17497	38.25	17587	41.70
0-25	1960	17417	35.40	17498	37.05	17588	40.20
0-50	960	17419	27.75	17500	28.35	17590	30.45
0-100	500	17421	25.20	17502	26.10	17592	28.80
0-200	234	17423	23.70	—	—	17594	27.15

†† High flux annular taut band movement.

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Resist. (ohms) Ω	1½" Case Style Cat. No.	1½" Price	2½" Case Style Cat. No.	2½" Price	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price
0-1	43	17825	$18.90	17430	$19.95	17510	$20.55	17600	$21.90
0-3	2.0	—	—	17431	19.95	17511	20.55	17601	21.90
0-5	2.0 (20‡)	17826	18.90	17432	19.95	17512	20.55	17602	21.90
0-10	10.0 (2.2‡)	17827	18.90	17433	19.95	17513	20.55	17603	21.90
0-15	6.6 (2.2‡)	17828	18.90	17434	19.95	—	—	17604	—
0-20	5.0	—	—	—	—	17515	20.55	—	—
0-25	4.0 (6.0‡)	17829	19.80	17436	20.25	17516	21.15	17606	22.95
0-50	2.0 (3.0‡)	17830	19.80	17437	20.25	17517	21.15	17607	22.95
0-100	1.0 (1.5‡)	17832	19.80	17438	20.25	17518	21.15	17608	22.95
0-150	.66 (1.0‡)	17833	19.80	17439	20.25	17519	21.15	17609	22.95
0-200	.50 (.75‡)	17834	19.80	17440	20.25	17520	21.15	17610	22.95
0-250	.40 (.60‡)	17835	19.80	17441	20.25	17521	21.15	17611	22.95
0-300	.33 (.50‡)	17836	19.80	17442	20.25	17522	21.15	17612	22.95
0-500	.20 (.30‡)	17837	19.80	17443	20.25	17523	21.15	17613	22.95
0-750	.13	—	—	—	—	17524	21.15	17614	22.95
0-1000	.05	—	—	17444	20.25	—	—	17615	22.95

DC MICROAMMETERS Self-Shielding Meter Movement

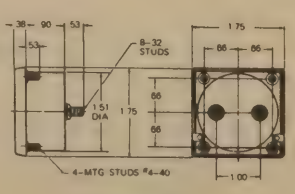
Range	Approx. Ω	Model 2121		Model 2122		Model 2123		Model 2124	
0-50	1800(5500‡)	17815	$24.75	17418	$25.65	17499	$26.10	17589	$28.20
0-100	1800	17816	22.05	17420	22.95	17501	24.00	17591	26.70
0-200	1100	17818	20.10	17422	20.85	17503	21.90	17593	30.00
0-500	90(190‡)	17819	19.80	17424	20.55	17505	21.90	17595	23.40
25-0-25	1800(5500‡)	17820	24.90	—	—	17506	26.40	17596	28.35
50-0-50	1800	17821	22.35	17425	23.40	17507	24.00	17597	26.85
100-0-100	1100	17822	20.25	17426	21.15	17508	22.05	17598	24.30
500-0-500	43	17823	19.20	17427	20.10	17509	20.85	17599	22.05

‡Resistances of Model 2121

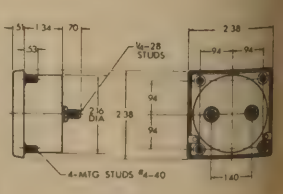
DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (ohms) Ω	2½" Case Style Cat. No.	2½" Price	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price
0-50	10	17472	$20.25	17540	$21.15	17636	$22.95
50-0-50	20	—	—	17541	21.15	17635	22.95

CENTURY SERIES DIMENSIONS 1½", 2½" Models



Model 2121



Model 2122

Net

© United Technical Publications

Simpson CENTURY PANEL METERS

GALVANOMETERS Self-Shielding Meter Movement

Range	Sensitivity μA	Approx. Resistance (ohms)	Model 2122 - 2½" Case Style Cat. No.	Price	Model 2123 - 3½" Case Style Cat. No.	Price
-0-50	500-0-500	43	17470	$19.95	17558	$20.85
-0-50	75-0-75	1800	—	—	17559	23.40

AMMETERS Self-Shielding Meter Movement

nge	Approx. Ω	1½" Case Style Cat. No.	Price	2½" Case Style Cat. No.	Price	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price
	.343	—	—	17905	$22.05	—	—	17650	$27.75
2	.120	—	—	17906	22.05	17552	$24.30	17652	27.75
3	.08	—	—	17907	22.05	17554	24.30	—	—
5	.045	—	—	17908	22.05	17555	24.30	—	—
10	.023	—	—	17909	22.05	17557	24.30	17657	27.75

IBEL METERS
Power Level: 6 mW into 500Ω line
f-Shielding Meter Movement

ange	Approx. Ω			Model 2142		Model 2143		Model 2144	
10 to 6 dB	5000	—	—	17465	$28.20	17549	$30.00	17648	$30.90

(Volume Level) METERS†
erence Level: 1 mW into 600 Ω line
f-Shielding Meter Movement

Scale	Model 2141		Model 2142		Model 2143		Model 2144	
A-Scale	17865	$30.30	17473	$33.45	17560	$34.20	17646	$37.20
B-Scale	—	—	—	—	17561	34.20	17647	37.20

VOLTMETERS Rectifier Type Self-Shielding Meter Movement

nge	Approx. Ω	Model 2141		Model 2142		Model 2143		Model 2144	
5		17855	$27.15	17460	$25.20	17542	$28.80	17640	$31.95
10	2000	17856	27.15	—	—	17543	28.80	17641	31.95
15	ohms	—	—	—	—	17544	28.80	17642	31.95
50	per	—	—	—	—	17545	28.80	17643	31.95
150	volt	17860	27.15	17462	25.20	17546	28.80	17644	31.95
300		17861	27.15	—	—	—	28.80	17645	31.95

VOLTMETERS Iron Vane Type Movement

nge	Approx. Impedance (ohms) @ 60 Hz.			Model 2152		Model 2153		Model 2154	
5	33	—	—	—	—	17725	$20.10	—	—
10	133	—	—	17685	$19.20	17726	20.10	17771	$22.50
15	300	—	—	17686	19.20	17727	20.10	17772	22.50
25	833	—	—	17687	19.20	17728	20.10	17773	22.50
50	3,333	—	—	17688	19.20	17729	20.10	17774	22.50
100	16,666	—	—	—	—	17730	20.85	17775	22.50
150	25,000	—	—	17690	20.10	17731	21.60	17776	22.95
250	41,166	—	—	17691	20.10	17732	21.60	17777	22.95
300	50,000	—	—	17692	20.10	17733	21.60	17778	22.95
500††	83,333	—	—	—	—	17734	27.30	17779	29.25

mpson VU meters meet all the Electrical and Ballistic specifications estab-hed by Bell Laboratories and American Standards Association as required by oadcasting, communication and sound engineers. They are available with ther type A or B scales. Type A scale stresses the level in VU for monitoring re lines. Type B scale stresses percent use of transmitter output and is e standard for broadcast service. Impedance is 3900 @ "0" VU deflection.

Range	Approx. Impedance (ohms) @ 60 Hz.	2½" Case Style Cat. No.	Price	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price

AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 2152		Model 2153		Model 2154	
0-1	.213	17665	$18.15	17695	$19.20	17740	$20.40
0-1.5	.105	17666	18.15	—	—	—	—
0-2	.065	—	—	17697	19.20	17742	20.40
0-3	.028	17667	18.15	17698	19.20	17743	20.40
0-5	.008	17668	18.15	17699	19.20	17744	20.40
0-10	.004	17669	18.15	17700	19.20	17745	20.40
0-15	.0025	17670	18.15	17701	19.20	17746	20.40
0-25	.002	17671	18.90	17702	19.95	17747	21.15
0-30	.0015	17672	18.90	17703	19.95	17748	21.15
0-50	.001	17673	18.90	17704	19.95	17749	21.15
0-75	.008	—	—	17710	19.95	17755	21.55
0-100	.008	17674‡	18.00	17706‡	19.20	17751‡	20.40
0-150	.008	—	—	17707‡	19.20	17752‡	20.40
0-200	.008	—	—	17708‡	19.20	17753‡	20.40
0-300	.008	—	—	17709‡	19.20	17754‡	20.40

AC MILLIAMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 2152		Model 2153		Model 2154	
0-10	1,650	17680	$18.00	—	—	17760	$20.40
0-50	80.	17681	18.00	17716	$19.20	17761	20.40
0-100	17.2	17682	18.00	17717	19.20	17762	20.40
0-250	3.15	17683	18.00	17718	19.20	17763	20.40
0-500	.9	17684	18.00	17719	19.20	17764	20.40

WATTMETERS Dynamometer Type Single Phase

Range	Maximum Volts	Maximum Amps	Wattmeters are calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz. Accuracy ±2% F.S.		Model 2173		Model 2174	
0-75	150	1.0	—	—	17881	$42.75	17896	$53.10
0-150	150	2.0	—	—	17882	42.75	17897	53.10
0-300	150	4.0	—	—	17883	42.75	17898	53.10
0-750	150	10.0	—	—	17885	42.75	17900	53.10
0-600	300	4.0	—	—	17884	46.35	17899	56.70
0-1500	300	10.0	—	—	17886	46.35	17901	56.70
0-3000	300	10.0	—	—	17887	46.35	17902	56.70

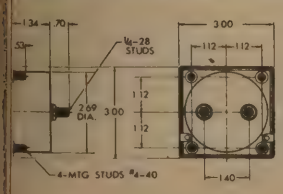
COMPENSATED WATTMETERS

Range	Maximum Volts	Maximum Amps	Accuracy ±3% F.S.		Model 2173		Model 2174	
0-10	300	0.175	—	—	17875	$68.25	17890	$70.95
0-20	300	0.400	—	—	17876	68.25	17891	70.95
0-20	500	0.175	—	—	17877	68.25	17893	70.95
0-30	300	0.650	—	—	17878	68.25	17892	70.95
0-30	500	0.300	—	—	17879	68.25	17894	70.95
0-50	500	0.500	—	—	17880	68.25	17895	70.95

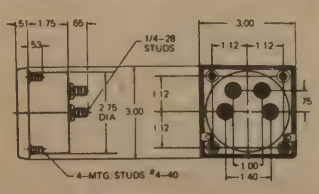
††External Multipliers, Model 183, (Featured on page 23) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.

‡2½" AC ammeters are self-contained through 50 amps. 3½" and 4½" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformer. See page 18 for current transformer listings.

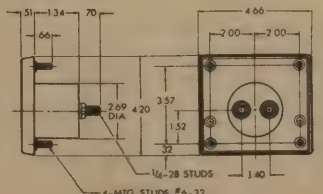
ENTURY SERIES DIMENSIONS — 3½", 4½" Models



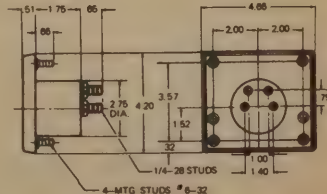
Models: 2123, 2133, 2143, 2153



Model 2173



Models: 2124, 2134, 2144, 2154



Model 2174

Simpson ROUND and RECTANGULAR METERS

2½", 3½", 4½" ROUND and RECTANGULAR STOCK METERS

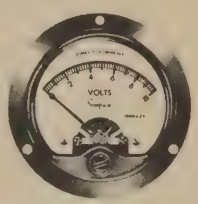
CALIBRATION

All DC meters listed below have the Simpson self-shielding movement. (Calibration not affected by stray magnetic fields or magnetic mounting.) All AC meters have the Simpson Iron Vane type movement. AC Ammeters and Milliammeters are calibrated for use on 25 through 800 Hz. AC Voltmeters are calibrated for use on 25-125 Hz. Calibration at frequencies up through 800 Hz can be made. Contact your local Distributor for prices.

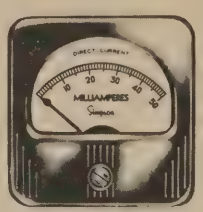
Wattmeters listed below have the Simpson dynamometer movement calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz. Standard wattmeters ±2%, compensated wattmeters ±3%.

SPECIFICATIONS

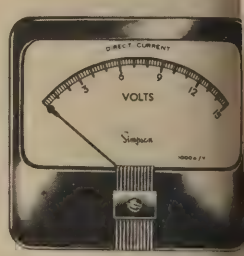
Size	Type and Model Number DC	AC Iron Vane	RF	Watt	Accuracy (% of full scale)	Scale Length	Poin
2½"	125; 125T; 127; 127T	—	135; 137	—	±2% (Compensated Wattmeters ±3%)	1.8" (45.7 mm)	Spad Blac
	—	155; 157	—	175; 177		1.6" (41.1 mm)	
3½"	25; 25T; 27; 27T	—	35; 37	—		2.5" (63.7 mm)	
	—	55; 57	—	75; 77		2.3" (57.4 mm)	
4½"	29; 29T	—	39	—		3.8" (97 mm)	
	—	59	—	79		3.5" (89.0 mm)	



2½" Models 125, 125T, 135, 145, 155, 175
3½" Models 25, 25T, 35, 45, 55, 75



2½" Models 127, 127T, 137, 147, 157, 177
3½" Models 27, 27T, 37, 47, 57, 77



4½" Models 29, 29T, 39, 49, 59,

DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. Nos. 125	127	Price	3½" Case Styles Cat. Nos. 25	27	Price	4½" Case Styles Cat. No. 29	Price
0-1.5	1000 ohms per volt	8850	9020	$21.15	—	7290	$21.90	7620	$24.00
0-3		8860	9030	21.15	7070	7300	21.90	7630	24.00
0-5		8870	9040	21.15	7080	7310	21.90	7640	24.00
0-8		8880	9050	21.15	—	7320	21.90	7650	24.00
0-10		8890	9060	21.15	7100	7330	21.90	7660	24.00
0-15		8900	9080	21.15	7110	7350	21.90	7670	24.00
0-25		8910	9090	21.15	7120	7360	21.90	7680	24.00
0-30		8920	9100	21.15	7130	7370	21.90	7690	24.00
0-50		8930	9110	21.15	7140	7380	21.90	7700	24.00
0-100		8940	9130	21.15	7150	7400	21.90	7710	24.00
0-150		8950	9140	21.15	7160	7410	21.90	7720	24.00
0-200		8960	9160	21.15	7170	7430	21.90	7730	24.00
0-250		8970	9170	21.15	7180	7440	21.90	7740	24.00
0-300		—	9180	21.15	7190	7450	21.90	7750	24.00
0-500	2000 ohms per volt	—	9200	21.90	7200	7470	22.95	7760	24.75
0-750		—	—	—	7210	7490	22.95	7770	24.75
0-1000		—	—	—	7220†	7495†	28.35	7780†	30.30
0-1500		—	—	—	7230†	7520†	28.35	7790†	30.60
0-2000		—	9225†	27.30	7240†	7530†	29.40	7800†	31.20
0-2500		—	—	—	—	7550†	29.85	7810†	31.80
0-3000		—	—	—	7260†	7560†	30.15	7820†	32.10
0-4000		—	—	—	—	—	—	7830†	32.40
0-5000		—	—	—	7280†	7600†	30.90	7840†	33.90

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models 125	127		Models 25	27		Model 29	
0-1	.050	1460	1680	$20.25	0005	0230	$21.15	0450	$22.95
0-1.5	.033	1470	1690	20.25	0020	0240	21.15	0460	22.95
0-2	.025	—	1709	20.25	0030	0250	21.15	0470	22.95
0-3	.0166	1490	1710	20.25	0040	0260	21.15	0480	22.95
0-5	.010	1500	1720	20.25	0050	0270	21.15	0490	22.95
0-10	.005	1510	1730	20.25	0060	0280	21.15	0500	22.95
0-15	.0033	1520	1740	20.25	0070	0290	21.15	0512	22.95
0-25	.0020	1530	1750	20.25	0080	0300	21.15	0520	22.95
0-30	.0017	1540	1760	20.25	0090	0310	21.15	0530	22.95
0-50	.001	1550	1770	20.25	0099	0320	21.15	0540	22.95
0-75	10.0	1560‡	1780‡	20.25	0110‡	0330‡	21.15	0550‡	22.95
0-100	10.0	1570‡	1790‡	20.25	0120‡	0340‡	21.15	0560‡	22.95
0-150	10.0	1580‡	1800‡	20.25	0130‡	0350‡	21.15	0570‡	22.95
0-200	10.0	1590‡	1810‡	20.25	0140‡	0360‡	21.15	0580‡	22.95
0-250	10.0	—	—	—	0151‡	—	21.15	0590‡	22.95
0-300	10.0	1610‡	—	20.25	0160‡	0380‡	21.15	0600‡	22.95
0-500	10.0	1620‡	—	20.25	0170‡	0390‡	21.15	0610‡	22.95
0-750	10.0	—	—	—	0177‡	0400‡	21.15	0620‡	22.95
0-1000	10.0	—	—	—	0188‡	0410‡	21.15	0630‡	22.95
15-0-15	.0033	—	—	—	0200	—	22.35	0640	23.55
30-0-30	.0017	1660	1880	20.55	0210	0430	22.35	0650	23.55
50-0-50	.001	1670	1890	20.55	0220	0440	22.35	0660	23.55

†External Multipliers, Model 183, are furnished on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts and higher. All others are self-contained.
‡DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50 MV) listed above are calibrated for 5 ft. leads and require external shunts. See page 18 for complete listings.

DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. Nos. 125	127	Price	3½" Case Styles Cat. Nos. 25	27	Price	4½" Case Styles Cat. No. 29	Price
0-50	10	6970	6990	$20.25	6910	6930	$21.15	6950	$22.9
0-100	20	—	—	—	—	6940	21.15	6960	22.9

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models 125	127		Models 25	27		Model 29	
0-1	43	5580	5760	$19.95	4610	4790	$20.55	5070	$21.9
0-1.5	43	5590	5780	19.95	4620	4810	20.55	5080	21.9
0-3	20	—	5790	19.95	4630	4820	20.55	5090	21.9
0-5	2.0	5610	5800	19.95	4640	4830	20.55	5100	21.9
0-10	10.0	5620	5810	19.95	4650	4840	20.55	5110	21.9
0-15	6.6	5630	5830	19.95	4660	4860	20.55	5120	21.9
0.20	5.0	—	—	—	4670	4880	20.55	5130	21.9
0.25	4.0	5650	5860	20.25	4680	4890	21.15	5140	22.9
0.50	2.0	5660	5880	20.25	4690	4910	21.15	5150	22.9
0-75	1.3	5670	—	20.25	—	4930	21.15	5160	22.9
0-100	1.0	5680	5910	20.25	4710	4940	21.15	5170	22.9
0-150	.66	5690	5930	20.25	4720	4960	21.15	5180	22.9
0-200	.5	5700	5940	20.25	4730	4980	21.15	5190	22.9
0-250	.4	5710	5960	20.25	4740	5000	21.15	5200	22.9
0-300	.33	5720	5970	20.25	4750	5010	21.15	5210	22.9
0-500	.2	5730	5990	20.25	4760	5030	21.15	5220	22.9
0-750	.13	—	—	—	—	5050	21.15	5230	22.9
0-1000	.05	—	6020	20.25	4780	5060	21.15	5240	22.9

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models 125	127		Models 25	27		Model 29	
0-50	1800	4210	4260	$25.65	3760	3860	$26.00	3960	$28.20
0-100	1800	4220	4270	22.95	3770	3870	24.00	3970	26.70
0-200	1100	4230	4280	20.85	3780	3880	21.90	3980	24.00
0-500	90	4240	4281	20.55	3790	3890	21.60	3990	23.40
25-0-25	1800	4192	4243	26.70	3800	3900	26.40	4000	28.35
50-0-50	1800	4194	4245	23.40	3810	3910	24.00	4010	26.85
100-0-100	1100	4196	4247	21.15	3820	3920	22.05	4020	24.30
500-0-500	43	—	4249	20.10	3830	3930	19.95	4030	28.35

© United Technical Publications

Simpson ROUND and RECTANGULAR METERS

2½", 3½", 4½" ROUND and RECTANGULAR PANEL METERS

AUT BAND DC MICROAMMETERS Self-Shielding

ange	Approx. Impedance (Ohms) @ 60 Hz	2½" Case Styles Cat. Nos.		Price	3½" Case Styles Cat. Nos.		Price	4½" Case Styles Cat. No.	Price
		Models 125T	127T		25T	27T		29T	
5	5750	—	—	—	3738	03838	$48.60	3938	$51.75
10	4900	4197	04246	$40.95	3739	03839	42.75	3939	46.20
15	1960	4199	04248	37.20	3741	03841	38.25	3941	41.70
25	1960	4201	04251	35.40	3751	03851	37.05	3951	40.20
50	960	4211	04261	27.75	3761	03861	28.35	3961	30.45
100	500	4221	04271	25.20	3771	03871	26.10	3971	28.80

AMMETERS Self-Shielding Meter Movement
ternal Thermocouple Type

nge	Approx. Ω	Models 135	137		Models 35	37		Model 39	
1	.343	1901	1980	$22.05	0670	0750	$24.30	0870	$27.75
1.5	.200	1910	2000	22.05	—	0770	24.30	0880	27.75
2	.120	—	2010	22.05	—	0780	24.30	0890	27.75
2.5	.10	1930	—	22.05	—	0800	24.30	0900	27.75
3	.08	1940	2040	22.05	0710	0810	24.30	0910	27.75
5	.045	1950	2060	22.05	0720	0830	24.30	0920	27.75
8	.031	—	2080	22.05	—	0850	24.30	0930	27.75
10	.023	—	2090	22.05	0736	0860	24.30	0940	27.75

MILLIAMMETERS Self-Shielding Meter Movement
ternal Thermocouple Type

nge	Approx. Ω				Models 35	37		Model 39	
115	5.5	—	—	—	5250	5290	$43.80	5330	$45.90
150	4.5	—	—	—	5260	5300	28.65	5340	32.40
250	3.5	—	—	—	5270	5310	28.65	5350	32.40
500	.63	—	—	—	5280	5320	28.65	5360	32.40

ATTMETERS Dynamometer Type Single Phase

nge	Maximum Volts	Amps	Models 175	177		Models 75	77 Accuracy ±2%		Model 79	
75	150	1.0	—	10860	$40.65	10580	10650	$42.75	10720	$53.10
150	150	2.0	10800	10870	40.65	10590	10660	42.75	10730	53.10
300	150	4.0	—	10880	40.65	10600	10670	42.75	10740	53.10
750	150	10.0	10830	10900	40.65	10620	10690	42.75	10760	53.10
600	300	4.0	10820	10890	44.55	10610	10680	46.35	10750	56.70
1500	300	10.0	10840	10910	44.55	—	10700	46.35	10770	56.70
3000	300	20.0	—	10920	44.55	10640	10710	46.35	10780	56.70

MPENSATED WATTMETERS Single Phase

nge	Maximum Volts	Amps				Models 75	77 Accuracy ±3%		Model 79	
10	300	.175	—	—	—	—	10642	$68.25	10712	$70.95
20	300	.400	—	—	—	—	10644	68.25	10714	70.95
20	500	.175	—	—	—	—	10646	68.25	10716	70.95
30	300	.650	—	—	—	—	10645	68.25	10715	70.95
30	500	.300	—	—	—	—	10648	68.25	10718	70.95
50	500	.500	—	—	—	—	10649	68.25	10719	70.95

DC GALVANOMETERS

Scale	Sensitivity Micro-Amps	Res. Ohms	2½" Case Styles Cat. Nos.		Price	3½" Case Styles Cat. Nos.		Price	4½" Case Styles Cat. No.	Price
			Models 125	127		25	27		29	
50-0-50	500-0-500	43	3670	3690	$19.95	3630	3650	$20.85	3654	$22.50
50-0-50	75-0-75	1800	3660	3680	21.60	3620	3640	23.40	3652	25.65

AC VOLTMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models 155	157		Models 55	57		Model 59	
0-1.5	3	—	—	—	—	—	—	8710	$22.50
0-3	12	—	—	—	—	8540	$20.10	8720	22.50
0-5	33	—	9390	$19.20	8410	8550	20.10	8730	22.50
0-10	133	9260	9400	19.20	8420	8566	20.10	8740	22.50
0-15	300	9270	9420	19.20	8430	8580	20.10	8750	22.50
0-25	833	9280	9440	19.20	8440	8599	20.10	8760	22.50
0-50	3,3333	9290	9450	19.20	8450	8610	20.10	8770	22.50
0-100	16,666	—	9460	19.80	8460	8620	20.85	8780	22.50
0-150	25,000	9310	9470	20.10	8470	8630	21.60	8790	22.95
0-250	41,166	9320	9490	20.10	8480	8650	21.60	8800	22.95
0-300	50,000	9330	9500	20.10	8490	8660	21.60	8810	22.95
0-500	83,333	9340‡	9520	25.65	8500‡	8680‡	27.30	8820‡	22.95
0-750	125,000	—	—	—	8510‡	8690‡	27.30	8830‡	31.80
0-1000	166,666	—	—	—	8520‡	8700‡	31.80	8840‡	32.85

AC AMMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models 155	157		Models 55	57		Model 59	
0-1	.213	2100	2270	$18.15	0950	1120	$19.20	1290	$20.40
0-1.5	.105	—	—	—	0960	1130	19.20	1302	20.40
0-2	.065	2120	2290	18.15	0970	1140	19.20	1310	20.40
0-3	.028	2130	2300	18.15	0980	1145	19.20	1320	20.40
0-5	.008	2140	2310	18.15	0990	1160	19.20	1330	20.40
0-10	.004	2150	2320	18.15	1001	1170	19.20	1340	20.40
0-15	.0025	2160	2330	18.15	1010	1180	19.20	1350	20.40
0-25	.002	2170	2340	18.90	1020	1190	19.95	1360	21.15
0-30	.0015	2180	2350	18.90	1030	1200	19.95	1370	21.15
0-50	.001	2190	2360	18.90	1040	1210	19.95	1380	21.15
0-75	.0005	—	—	—	3432	3434	21.60	3436	22.95
0-75	.008	2200†	2370†	18.15	—	—	—	—	—
0-100	.008	2210†	2380†	18.15	1060†	1230†	19.20	1400†	20.40
0-150	.008	2220†	2390†	18.15	1070†	1240†	19.20	1410†	20.40
0-200	.008	—	—	—	1080†	1250†	19.20	1420†	20.40
0-250	.008	2240†	2410†	18.15	1090†	1260†	19.20	1430†	20.40
0-300	.008	—	2420†	18.15	1100†	1270†	19.20	1440†	20.40
0-500	.008	2260†	2422†	18.15	1110†	1280†	19.20	1450†	20.40

AC MILLIAMMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models 155	157		Models 55	57		Model 59	
0-10	1,650	6030	6100	$18.15	—	5440	$19.20	5510	$20.40
0-15	887	—	—	—	5380	5499	19.20	—	20.40
0-25	270	—	—	—	—	5460	19.20	5530	20.40
0-50	80	6060	6130	18.15	5400	5470	19.20	5540	20.40
0-100	17.2	6070	6140	18.15	5410	5480	19.20	5550	20.40
0-250	3.15	6080	6150	18.15	5420	5490	19.20	5560	20.40
0-500	.9	6090	6152	18.15	5430	5500	19.20	5570	20.40

‡External Multipliers, Model 183, (Featured on page 18) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.

†These meters are 5 amp meters with scales as indicated and require external current transformers. See listings on page 18.



odel 2100



Model 2100 Kit

NEW 4½" PORTABLE INSTRUMENT

For Electrical Measurements in Schools, Laboratories and Industrial Firms

Large easy-to-read scale, knife-edge pointer. Self-shielded DC and AC rectifier movements. DC meters have ±2% full scale accuracy. AC meters ±3% full scale accuracy. Four color-coded, multi-range binding posts, one common and three for range selection. Portable Instrument Kit, without meter, available: catalog no. 17949 .....$7.50

RANGES	Catalog No.	Price	RANGES	Catalog No.	Price
			DC VOLTMETERS		
DC AMMETER			0-1.5-3-30 V	17954	$34.80
0-1.5-3-30 Amps	17950	$34.80	0-10-25-100 V	17955	$35.70
DC MILLIAMMETERS			AC VOLTMETERS		
0-1-10-100 MA	17951	$34.80	Rectifier Type		
0-25-50-500 MA	17952	$34.80	0-3-15-150 V	17956	$49.80
DC MICROAMMETER			0-30-150-300 V	17957	$49.80
0-10-50-250 μA	17953	$66.90	0-150-300-600 V	17958	$49.80

Special Ranges Made to Meet Specifications

Simpson ROUND and RECTANGULAR METERS

2½", 3½", 4½" ROUND and RECTANGULAR PANEL METERS

CALIBRATION

All meters have the Simpson self-shielding movement and may be used on either magnetic or non-magnetic panels.

SPECIFICATIONS

Size	Model No.	Type	Accuracy (% of full scale)	Scale Length	Pointer
2½"	145; 147	AC Rectifier and DB, VU Meters	AC Rectifier and DB meters ±3% VU meters per ASA specifications in footnote	1.8" (45.7 mm)	Spade, Black
3½"	45; 47			2.5" (63.7 mm)	
4½"	49; 142			3.8" (97 mm)	

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. No.	Price	3½" Case Styles Cat. No.	Price	4½" Case Style Cat. No.	Price

DECIBEL METERS Self-Shielding Meter
Zero Power Level: 6 mW into 500 Ω line

Range	Approx. Ω	Models 145	147		Models 45	47		Model 49	
−10 to +6 dB	5000 ohms	3470	3480	$28.65	—	3450	$28.80	3460	$31.05

VU (Volume Level) METERS† Self-Shielding
Reference Level: 1 mW into 600 Ω line

Scale				Models 45	47		Model 142	
"A" SCALE; Not Illuminated	—	—	—	10440	10450	$34.20	10460	$37.20
"B" SCALE; Not Illuminated	—	—	—	—	10520	34.20	10530	37.20
"A" SCALE; Illuminated	—	—	—	—	—	—	10470	40.65
"B" SCALE; Illuminated	—	—	—	—	—	—	10570	34.65

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service. Impedance is 3900 Ω at "0" VU deflection.

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. No.	Price	3½" Case Styles Cat. No.	Price	4½" Case Styl Cat. No.	Pric

AC MILLIAMMETERS Rectifier Type Self-Shielding Meter Movemen

Range	Approx. Ω				Models 45	47		Model 49	
0-1	600	—	—	—	6820	6850	$27.75	6880	$30.3
0-2	400	—	—	—	—	6860	27.75	6890	30.3
0-5	200	—	—	—	6840	6870	27.75	6900	30.3

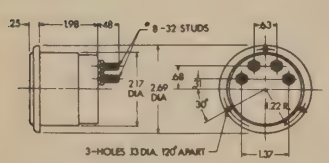
AC MICROAMMETERS
Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω				Models 45	47		Model 49	
0-100	3400	—	—	—	4080	4120	$31.95	4160	$34.05
0-200	2400	—	—	—	—	—	—	4170	30.90
0-300	1800	—	—	—	—	4140	27.75	4180	30.30
0-500	1200	—	—	—	—	4150	27.45	4190	29.85

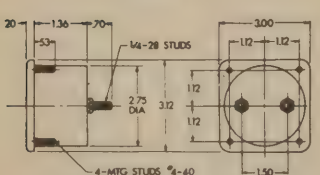
AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω				Models 45	47		Model 49	
0-1	2000 ohms per volt	—	—	—	—	8120	$28.80	8300	$31.95
0-3		—	—	—	—	8130	28.80	8310	31.95
0-5		—	—	—	7960	8140	28.80	8320	31.95
0-10		—	—	—	7970	8150	28.80	8330	31.95
0-15		—	—	—	7980	8160	28.80	8340	31.95
0-50		—	—	—	—	8170	28.80	8350	31.95
0-100		—	—	—	—	8180	28.80	8360	31.95
0-150		—	—	—	8010	8190	28.80	8370	31.95
0-300		—	—	—	8020	8200	28.80	8371	31.95

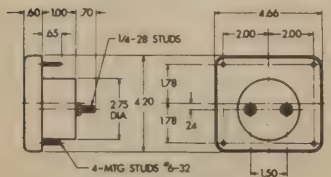
DIMENSIONS in Inches



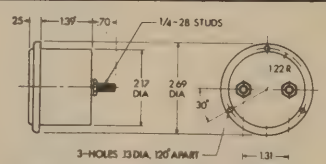
2½" Model 175



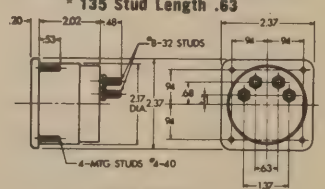
3½" Models 27, 27T, 37, 47, 57
*57 Barrel Length 1.45



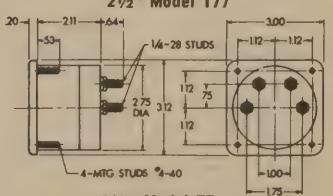
4½" Models 29, 29T, 39, 49, 59
*59 Barrel Length 1.09



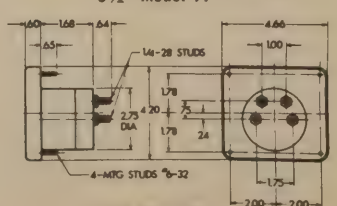
2½" Models 125, 135, 145, 155
* 135 Stud Length .63



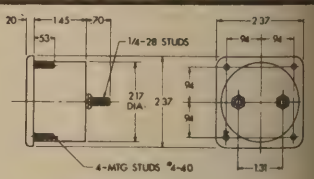
2½" Model 177



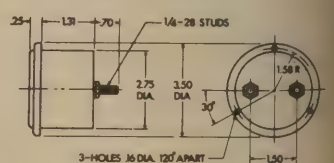
3½" Model 77



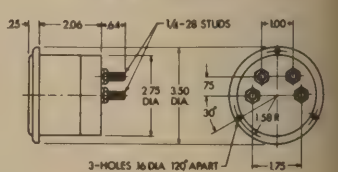
4½" Model 79



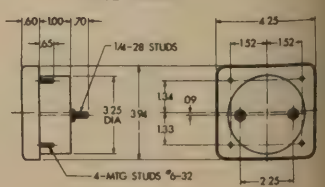
2½" Models 127, 137, 147, 157



3½" Models 25, 25T, 35, 45, 55



3½" Model 75



4½" Model 142

© United Technical Publications

Simpson METAL CASED PANEL METERS

"RUGGED SEAL" 3½", 4½", 4" x 6", SQUARE and RECTANGULAR METERS

MPSON "RUGGED SEAL" PANEL METERS

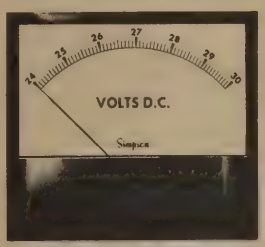
is line of metal cased panel meters is ideal for use in field test uipment or wherever rigorous environmental conditions are encoun- ed. They are completely sealed, commercially ruggedized, glass ndow, metal cased and shielded, not affected by steel panel mounting.

SPECIFICATIONS

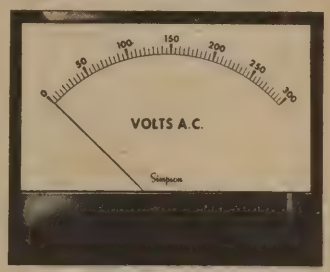
Size	Type and Model Number DC	AC Rectifier	Accuracy (% of full scale)	Scale Length	Pointer
3½"	3323	3343	DC Meters: ±2%	2.74" (70 mm)	Knife-edge Black
4½"	3324	3344	AC Rectifier Meters: ±3%	4.05" (103 mm)	
4" x 6"	3326	3346		4.94" (125 mm)	



3½" Models 3323, 343



4½" Models 3324, 3344



4" x 6" Models 3326, 3346

C VOLTMETERS
elf-Shielding Meter Movement

ange	Approx. Resistance (Ohms)	3½" Case Style Cat. No.	Price	4½" Case Style Cat. No.	Price	4" x 6" Case Style Cat. No.	Price
-1.5	1000 ohms per volt	16000	$24.15	16095	$26.40	16190	$28.80
-10		16005	24.15	16100	26.40	16195	28.80
-15		16010	24.15	16105	26.40	16200	28.80
-25		16015	24.15	16110	26.40	16205	28.80
-50		16020	24.15	16115	26.40	16210	28.80
-100		16025	24.15	16120	26.40	16215	28.80
-300		16030	24.15	16125	26.40	16220	28.80

C MILLIVOLTMETERS
elf-Shielding Meter Movement

ange	Approx. Ω	Model 3323		Model 3324		Model 3326	
-50	10	16062	$24.30	16157	$26.85	16252	$29.40

C AMMETERS
elf-Shielding Meter Movement

ange	Internal Shunt	Model 3323		Model 3324		Model 3326	
-5	Internal Shunt 75 MV Max.	16035	$24.60	16130	$26.70	16225	$29.55
-10		16040	24.60	16135	26.70	16230	29.55

C MILLIAMMETERS
elf-Shielding Meter Movement

ange	Approx. Ω	Model 3323		Model 3324		Model 3326	
-1	80Ω	16045	$23.25	16140	$25.20	16235	$26.85
-100	.5Ω	16050	24.90	16145	26.70	16240	28.05

DC MICROAMMETERS
Self-Shielding Meter Movement

Range	Approx. Ω	Model 3323		Model 3324		Model 3326	
0-50	3000	16055	$31.20	16150	$33.45	16245	$36.45
0-100	1300	16060	28.35	16155	30.45	16250	33.75

AC VOLTMETERS (RECTIFIER TYPE)
Self-Shielding Meter Movement

Range	Approx. Ω	Model 3343		Model 3344		Model 3346	
0-150	1000 ohms per volt	16065	$29.10	16160	$30.75	16255	$33.75
0-300		16070	29.10	16165	30.75	16260	33.75

AC AMMETERS (RECTIFIER TYPE)
Shielded Case Not Affected By Magnetic Mounting

Range	Internal Transformer Burden	Model 3343		Model 3344		Model 3346	
0-1	Internal Transformer Burden 0.5 VA maximum	16075	$36.30	16170	$37.80	16265	$40.95
0-5		16080	36.30	16175	37.80	16270	40.95

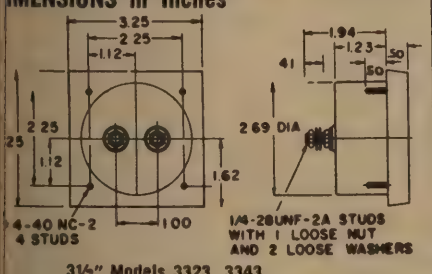
AC MILLIAMMETERS (RECTIFIER TYPE)
Self-Shielding Meter Movement

Range	Approx. Ω	Model 3343		Model 3344		Model 3346	
0-1	600	16085	$28.80	16180	$30.45	16275	$36.30

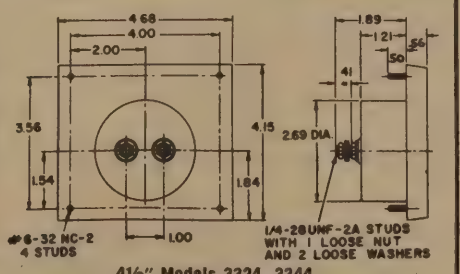
AC MICROAMMETERS (RECTIFIER TYPE)
Self-Shielding Meter Movement

Range	Approx. Ω	Model 3343		Model 3344		Model 3346	
0-100	4000	16090	$30.45	16185	$31.80	16280	$34.50

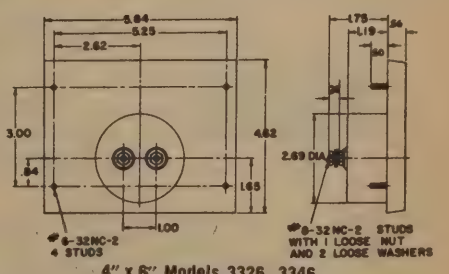
IMENSIONS in Inches



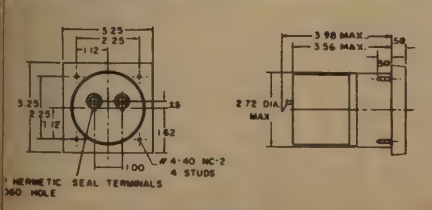
3½" Models 3323, 3343



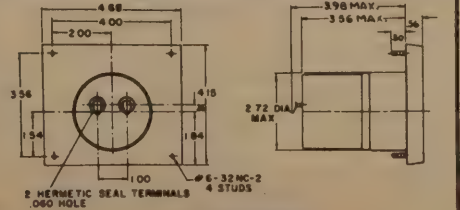
4½" Models 3324, 3344



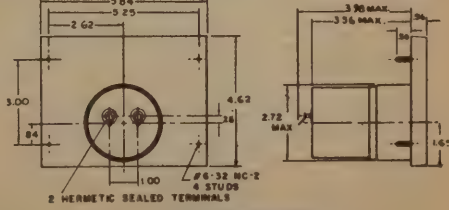
4" x 6" Models 3326, 3346



3½" Model 3383



4½" Model 3384



4" x 6" Model 3386

Simpson SEGMENTAL METERS

SIMPSON AVERAGE SENSING, TRUE RMS AND DC SEGMENTAL METERS

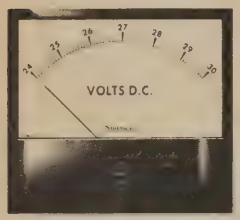
Segmental Voltmeters and frequency meters make it possible to measure very small changes in input conditions. The significant portion of the overall voltage or frequency range is expanded to occupy the full scale length. Thus, only that segment of the range that is important appears.

A.C. segmental voltmeters are available in either average sensing or true R.M.S. sensing units. When working with sine wave currents or when other measurements will be made with average sensing equipment, the average sensing meters are preferred.

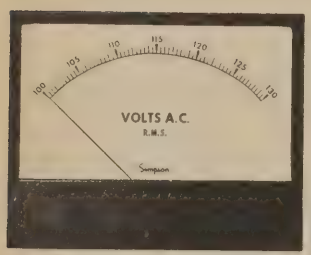
When working with distorted waveforms, as would be encountered in constant voltage transformers, S.C.R. circuits, D.C. to A.C. solid state inverters or similar equipment, the true R.M.S. sensing meter would probably be preferred. In addition to the standard expansions and accuracies shown, special segmental voltmeters can be built on special order.



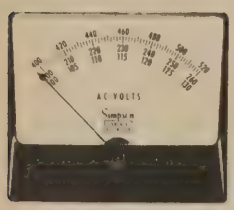
2½" Models 3222, 3282
3½" Models 3223, 3283
4½" Models 3224, 3284



3½" Models 2143, 3323, 3383
4½" Models 2144, 3324, 3384



4" x 6" Models 3326, 3386



4½" Model 1349



4½" Model 49

SPECIFICATIONS

	Wide-Vue, Century, and Phenolic Case Styles		Rugged-Seal and Ruggedized Metal Case Styles				
	Average Sensing AC Segments Voltmeters		RMS Sensing AC Segmental Voltmeters			DC Segmental Voltmeters	Frequency Meters
	Single Range	Multi-Range					
Range	100-130 AC Volts	100-130 / 200-260 / 400-520 AC Volts	100-130 AC Volts	105-125 AC Volts	110-120 AC Volts	—	—
Accuracy (% of Center Scale Value)	±.5%	100-130 ±.5%; 200-260 ±.75%; 400-520 ±.75%	±1.0%	±.5%	±.3%	±.5%	±.25%
Frequency Range	20-2000 Hz	50-1000 Hz	55-550 Hz			—	—
Center Scale Value	115 Volts	115/230/460 Volts	115 Volts	115 Volts	115 Volts	27 Volts	60 Hz 400 Hz
Sensitivity or Power Consumption	.6 to 1.3 VA (Sensitivity decreases as input voltage increases)		50 Ω/V	65 Ω/V	80 Ω/V	100 Ω/V	3 VA Max.
Max. Input Voltage (10 Seconds)	150 Volts RMS	150/300/600 Volts RMS	150 Volts RMS			40 Volts	140 Volts RMS
Square Wave Waveform Influence	11%		2.5%	2.0%	1.0%	—	.1%
Triangular Wave	5%		1.2%	.6%	.3%	—	.1%
Voltage Influence 105-125 Volts	—	—	—	—	—	—	.25%
Movement Type	Self Shielding						
Pointer	Spade, Black		Lance, Black				

ROUND RUGGEDIZED SEGMENTAL PANEL METERS

Round Panel Meters Range	Center Scale Value	Accuracy*	2½" Case Style Cat. No.	2½" Price	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price
AC Voltmeters True RMS			Model 3282		Model 3283		Model 3284	
100-130	115V	1.0%	16285	$97.95	16305	$90.15	16335	$100.20
105-125	115V	0.5%	16290	97.95	16310	90.15	16340	100.20
110-120	115V	0.3%	16295	97.95	16315	90.15	16345	100.20
DC Voltmeters			Model 3222		Model 3223		Model 3224	
24-30	27V	0.5%	16300	$84.00	16320	$76.65	16350	$86.10
Frequency Meters					Model 3283		Model 3284	
380-420 Hz	400 Hz	0.25%	—	—	16330	$213.15	16360	$223.05

SQUARE RUGGED-SEAL SEGMENTAL PANEL METERS

Square Panel Meters Range	Center Scale Value	Accuracy*	3½" Case Style Cat. No.	3½" Price	4½" Case Style Cat. No.	4½" Price	4" x 6" Case Style Cat. No.	4" x 6" Price
AC Voltmeters True RMS			Model 3383		Model 3384		Model 3386	
100-130	115V	1.0%	16365	$82.65	16395	$91.05	16425	$97.35
105-125	115V	0.5%	16370	82.65	16400	91.05	16430	97.35
110-120	115V	0.3%	16375	82.65	16405	91.05	16435	97.35
DC Voltmeters			Model 3323		Model 3324		Model 3326	
24-30	27V	0.5%	16380	$69.00	16410	$77.40	16440	$83.25
Frequency Meters			Model 3383		Model 3384		Model 3380	
380-420 Hz	400 Hz	0.25%	16390	$198.00	16420	$203.70	16450	$209.55

WIDE-VUE, CENTURY and STANDARD SEGMENTAL PANEL METERS — Single, Multi-Range

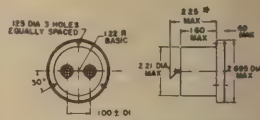
Range	Center Scale Value	Accuracy*	3½" Century Case Style Cat. No.	3½" Century Price	3½" Wide-Vue Case Style Cat. No.	3½" Wide-Vue Price	4½" Century Case Style Cat. No.	4½" Century Price	4½" Wide-Vue Case Style Cat. No.	4½" Wide-Vue Price	4½" Standard Case Style Cat. No.	4½" Standard Price
AC Voltmeters Aver. Sensing			Model 2143		Model 1347		Model 2144		Model 1349		Model 49	
100-130	115V	.5%	17548	$63.00	10152	$63.00	17638	$63.45	10155	$63.30	10151	$63.30
100-130	115V	.5%	—	—	—	—	17639	$78.30	10157‡	$78.30	—	—
200-260	230V	.75%										
400-520	460V	.75%										

* Accuracy is in percent of center scale value.

† Frequency meters are checked @ the center scale frequency @ 25°C and 115 volts sine wave after 30 minute warmup. Accuracy after 1.0 minute warmup is 1.0%. At end scale indications, maximum error will be 0.5%.

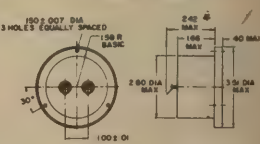
‡ Supplied with external potential transformer.

DIMENSIONS IN INCHES



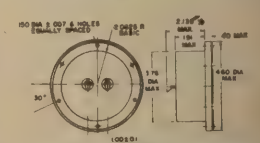
2½" Models 3222, 3282

* Model 3282 barrel dimensions: 3.88", 2.94"



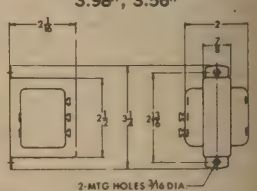
3½" Models 3223, 3283

* Model 3283 barrel dimensions: 4.00", 3.16"



4½" Models 3224, 3284

* Model 3284 barrel dimensions: 3.98", 3.56"



External Potential Transformer

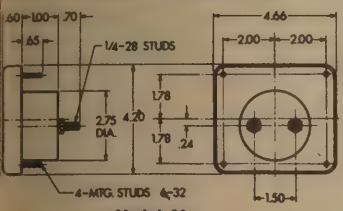
DIMENSIONS OF OTHER MODELS LISTED:

Model 49 — see page 12
Models 1347, 1349 — see page 5
Model 2144 — see page 9
Models 3323, 3324, 3326, 3383, 3384, 3386 — see page 13

© United Technical Publications

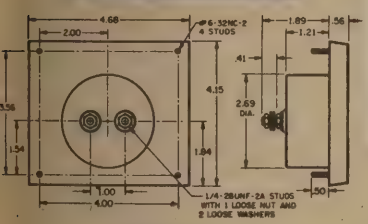
Simpson 4½" PYROMETERS





Model 29





Model 3324

Available in two versions: Standard phenolic Model 29 and Model 3324 Rugged Seal, Metal Cased for extreme conditions. Both models are compensated for ambient temperature changes and include copper circuit compensation. ±2% accuracy.

Each pyrometer is furnished with an external adjustable series resistor to permit use of lower resistance thermocouples in the field.

MODEL 29

Temperature Range °F	Temperature Range °C	Type Thermocouple†	External Resistance Ohms (max.)	Current Sensitivity MA Approx.	Cat. No.	Price
—150 to +250	—100 to +120	I/C	10Ω	.40	21200	$38.25
0 to +300	—20 to +150	I/C	5Ω	.40	21202	38.25
0 to +500	—20 to +260	I/C	10Ω	.35	21204	38.25
0 to +750	—20 to +400	I/C	10Ω	.30	21206	38.25
0 to +1000	—20 to +540	C/A	10Ω	.28	21208	38.25
0 to +1500	—20 to +820	C/A	10Ω	.42	21209	35.55
0 to +2000	—20 to +1200	Pt/Rh‡	10Ω	.43	21210	35.55
0 to +2500	—20 to +1380	Pt/Rh‡	10Ω	.40	21211	35.55

MODEL 3324

—150 to +250	—100 to +120	I/C	10Ω	.40	21201	$52.05
0 to +300	—20 to +150	I/C	5Ω	.40	21203	52.05
0 to +500	—20 to +260	I/C	10Ω	.35	21205	52.05
0 to +750	—20 to +400	I/C	10Ω	.30	21207	52.05
0 to +1000	—20 to +540	C/A	10Ω	.28	21212	52.05
0 to +1500	—20 to +820	C/A	10Ω	.42	21213	49.35
0 to +2000	—20 to +1200	Pt/Rh‡	10Ω	.43	21214	49.35
0 to +2500	—20 to +1380	Pt/Rh‡	10Ω	.40	21215	49.35

† Thermocouple not supplied with Pyrometer. I/C and C/A types are available from stock as accessory items (see page 18).

‡ Platinel II.

6" RECTANGULAR METERS MODELS 1150 and 1150-1

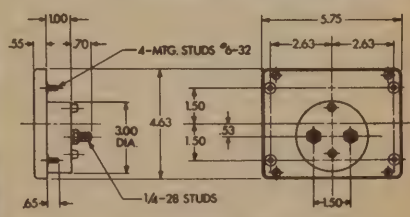
2% and 1%-MIRROR SCALE

CALIBRATION AND DIALS

Both models have the Simpson self-shielding movement which may be used on either magnetic or non-magnetic panels.



6" Model 1150-1



6" Models 1150, 1150-1

SPECIFICATIONS

Size	Model Number	Accuracy	Scale Length	Pointer
6"	1150	±2% of full scale	4.6" (114.8 mm)	Knife-edge, Red
	1150-1	±1% of full scale	4.6" (114.8 mm) Mirrored scale	Knife-edge, Red

DC MICROAMMETERS 1% Mirrored Scale

Range	Approx. Resistance (Ohms)	Model 1150-1 Cat. No.	Price
0-50	5200	4290	$45.60
0-100	2100	4291	43.80
0-200	1100	4292	39.30
0-500	90	4293	38.40

DC MILLIAMMETERS 1% Mirrored Scale

Range	Approx. Ω	Model 1150-1 Cat. No.	Price
0-1	43	6158	$37.20
0-100	1.0	6161	37.20
0-500	.2	6162	37.20

DC MILLIVOLTMETERS 2%

Range	Approx. Ω	Model 1150 Cat. No.	Price
0-50	10	7003	$30.60

DC MICROAMMETERS 2%

Range	Approx. Resistance (Ohms)	Model 1150 Cat. No.	Price
0-15	5500	4282	$46.35
0-25	5500	4283	41.55
0-50	5200	4284	37.80
0-100	2100	4285	36.30
0-200	1100	4286	31.80
0-500	90	4287	30.90

DC MILLIAMMETERS 2%

Range	Approx. Ω	Model 1150 Cat. No.	Price
0-1	43	6153	$29.40
0-10	10	6154	29.40
0-50	2.0	6155	29.40
0-100	1.0	6156	29.40
0-500	.2	6157	29.40

DC AMMETERS 2%

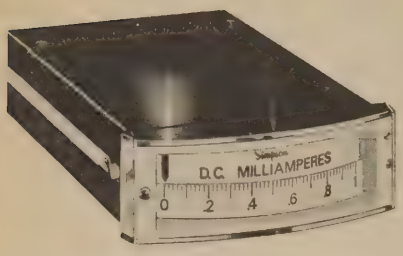
Range	Approx. Ω	Model 1150 Cat. No.	Price
0-1	.050	2424	$30.60
0-5	.010	2425	30.60
0-10	.005	2426	30.60
0-15	.0033	2427	30.60
0-25	.0020	2428	30.60
0-30	.0016	2429	30.60
0-50	.001	2430	30.60

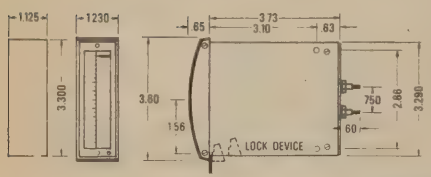
DC VOLTMETERS 2%

Range	Approx. Ω	Model 1150 Cat. No.	Price
0-10		9533	$29.40
0-25	1000	9534	29.40
0-50	ohms	9535	29.40
0-100	per	9536	29.40
0-150	volt	9537	29.40
0-300		9538	29.40
0-500	2000 Ω/V	9539	30.30

Simpson EDGEWISE PANEL METERS

NEW 3½" EDGEWISE PANEL METER



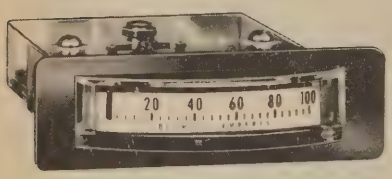


SPECIFICATIONS

- Self shielding 1 5/16" core magnet movement.
- Accuracy at ±2% of full scale
  ±1% available on special order.
- Rectifier type AC units are available up to 5 amps, and segmental voltmeters 100-130 VAC also available.
- Scale length equal to 2.6".
- Zero adjust available from the front (screw on right side).
- Vertical or horizontal mounting . . . please specify.
- Illumination available.
- Lowest available DC current range is 10 microamps and 10 millivolts . . . lowest AC current range is 100 ua.
- Highest self contained range is 10 amps DC, 5 amps AC and 500 volts AC and DC.

RANGES DESCRIPTION MODEL NO. 3623 DC	CATALOG NO.	PRICE
0-25 Microamps DC	16862	$29.85
0-50 Microamps DC	16863	29.55
0-100 Microamps DC	16864	27.30
0-200 Microamps DC	16865	25.50
0-500 Microamps DC	16866	25.20
25-0-25 Microamps DC	16867	29.85
0-1 Milliamps DC	16868	24.90
4-20 Milliamps DC	16869	27.30
0-50 Millivolts DC	16870	25.50
0-25 DC Volts	16873	25.50
0-50 DC Volts	16874	25.50
0-10 Volts DC	16880	25.50
0-15 Volts DC	16881	25.50
MODEL NO. 3643 AC		
0-5 AC Amps, Rectifier	16871	37.50
100-130 Seg. Volts AC	16879	46.50

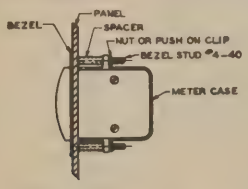
EDGEWISE METERS BARREL TYPE CONSTRUCTION 1½", 2½"

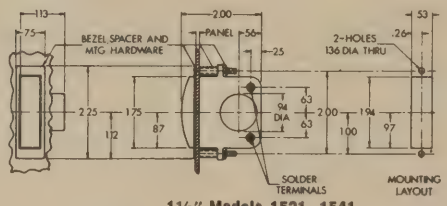


When panel designs call for making every square inch count, or when weight-saving is important, Simpson edgewise meters solve these many design problems. These meters are supplied with complete hardware which includes the bezel and two nuts. Mounting is fast and easy.

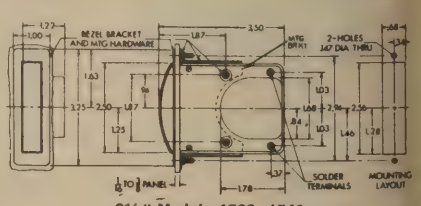
Models	1½" 1521, 1541	2½" 1522, 1542
Accuracy	DC ±2% of full scale; AC rectifier type ±3%	
Movement Type	Self-Shielding Meter Movement	
Scale Length	1.375" (35 mm)	1.875" (47.6 mm)
Pointer	Lance, Red	
Case Construction	Dustproof, molded acrylic	
Terminals	Solder (ammeters — stud type)	

MOUNTING DIAGRAMS 1½" and 2½" SIZES





1½" Models 1521, 1541



2½" Models 1522, 1542

DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (Ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price
0-10	1000 Ω/volt	10354	$19.20	10360	$21.15
0-15	1000 Ω/volt	10355	19.20	10370	21.15
0-25	1000 Ω/volt	10356	19.20	10375	21.15
0-50	1000 Ω/volt	10357	19.20	10380	21.15
0-150	1000 Ω/volt	10358	19.20	10390	21.15
0-500	2000 Ω/volt	10359	19.20	10410	21.45

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-1	20	6811	$18.90	6710	$20.85
0-5	2.5	6812	18.90	6720	20.85
0-10	13.5	6813	18.90	6730	20.85
0-25	5.4	6815	19.80	6740	21.75
0-50	2.7	6816	19.80	6750	21.75
0-100	1.35	6817	19.80	6760	21.75
0-500	.27	6819	19.80	6810	21.75

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-5	.010	—	—	3390	$22.35
0-25	.002	—	—	3420	22.35

DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-50	10	7013	$20.25	7011	$22.35

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-25	3150	4552†	$29.10	4560	$31.20
0-50	1800	4553	25.50	4570	27.30
0-100	1100	4554	22.50	4580	24.60
0-200	290	4555	20.25	4590	22.35
0-500	90	4556	19.80	4600	21.60

VU (Volume Level) METERS — Self-Shielding
Reference Level: 1 mW into 600 Ω line

Scale	Model 1541		Model 1542	
"A" Scale	—	—	10500	$34.65
"B" Scale	—	—	10570	34.65

AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Model 1541		Model 1542	
0-150	1000 Ω/volt	10415	$25.05	10420	$27.00
0-300	1000 Ω/volt	—	—	10430	27.00

†Resistance of Model 1521 0-25 Mics is 5500 Ω.

EDGEWISE FLAT PANEL METERS STACK HORIZONTALLY or VERTICALLY 1½", 2½"

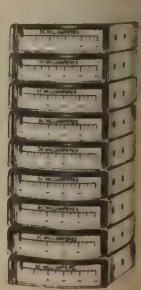
Simpson s new miniature edgewise panel meter has a unique Self-Shielding Core Magnet Movement* that eliminates the protruding barrel which is prevalent in other edgewise meter designs. It lends itself to a design that is sharp, modern, extremely compact and with a meter scale that extends nearly to the full width and height of the meter. An optimum scale display area allows for the use of large, easy-to-read numerals on a horizontal plane.

*Patent Pending SEE RANGES AND DIMENSIONS OPPOSITE

Models	1½" 1921, 1941	2½" 1622, 1642
Accuracy	±2% of full scale; AC Rectifier types ±3%	
Movement Type	Self-Shielding Core Magnet Movement	
Scale Length	1.370" (35.8 mm)	1.85" (47 mm)
Pointer	Lance, Red	
Case Construction	Steel Housing with rustproof finish; plastic window; insulated terminals; dustproof construction	
Terminals	Solder Type	6-32 studs
Dielectric	1500 Volts RMS	
Panel Cut Out	.525" x 1.718"	.562" x 2.312"
Hardware	Removable brackets with clamping screws	Bezel, bracket lockwashers and nuts







© United Technical Publications

Simpson ELAPSED TIME METERS

2½" and 3½" AC and DC MODELS

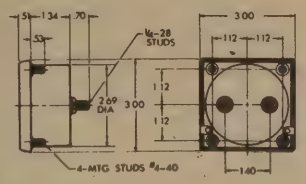
Widely used by research labs, manufacturing plants, and broadcast stations. New Model 2153ET has crisp Century Series case design. Model 108ET has interchangeable round and square front mounting bezels. Model 1357ET has popular Wide-Vue styling. Model 107 has modern appearance, with clear lucite cover. DC Model 106 gives accurate (±2%) time readouts where synchronous AC power is not available. Model 106 withstands ambient temperatures from −40°C to +65°C (−40°F to +149°F).

Models 106 and 107 manufactured in West Germany

NEW

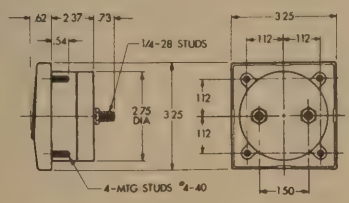


3½" Model 2153ET

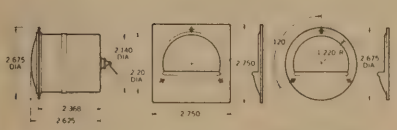




3½ Model 1357ET







2½" AC Model 108ET. Has interchangeable round and square front bezels.

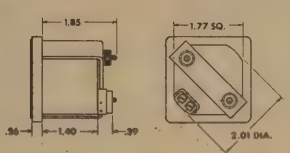
SPECIFICATIONS

Operating Voltage	Maximum Indication (Hours)	Power Consumption	Accuracy	Model Size	Model Number	Catalog Number	Price
6 V DC (+30% to −20%)	99,999	40 mA (max.)	±2%	2½"	106	13530	$21.00
12 V DC (+30% to −20%)	Adapter for 106 screws on one terminal				Adapter*	13535	1.05
24 V DC (+30% to −20%)	Adapter for 106 screws on one terminal				Adapter*	13538	35.60
120 V AC (±10%), 60 Hz	9999.9	2.5 watts	synchronous	2½"	108ET	03585	15.75
120 V AC (±15%), 60 Hz	9,999.99	2 watts	synchronous	2½"	107	13521	26.70
120 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03580	26.70
120 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"††	1357ET	03595	26.70
120 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03590	26.70
120 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"**	2153ET	17720	26.70
240 V AC (±10%), 60 Hz	9999.9	2.5 watts	synchronous	2½"	108ET	03605	15.75
240 V AC (±15%), 60 Hz	9,999.99	2 watts	synchronous	2½"	107	13526	27.00
240 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03600	27.00
240 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03610	27.00
240 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"††	1357ET	03615	27.00
240 V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"**	2153ET	17721	27.00

‡Matches standard model 47 rectangular panel meters.
†Matches standard model 45 round panel meters. ††Matches Wide-Vue panel meters.
*Matches all three-hole mounting models.
**Matches Century Series Panel Meters.

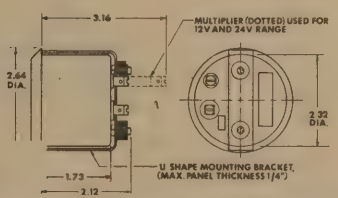


2½" AC Model 107

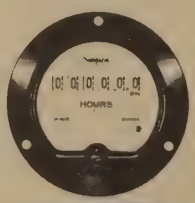




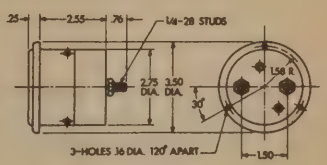
2½" DC Model 106



Models 106 and 107 manufactured in West Germany

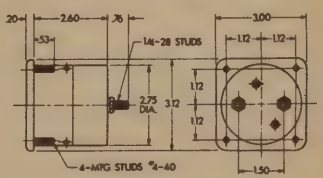


3½" Model 55ET

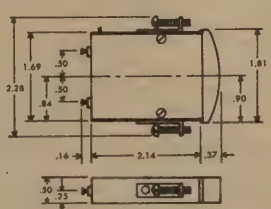


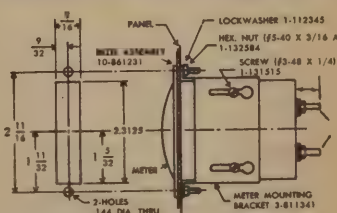


3½" Model 57ET



EDGEWISE PANEL METERS • 1½" and 2½" STACKABLE TYPE • RANGES AND DIMENSIONS





Range	Approx. Resistance (Ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price
DC VOLTMETERS Self-Shielding Meter Movement					
	Approx. Ω	Model 1921		Model 1622	
0-10	5000 Ω/volt	18000	$22.50	18006	$23.85
0-15	5000 Ω/volt	18001	22.50	18007	23.85
0-25	5000 Ω/volt	18002	22.50	18008	23.85
0-50	5000 Ω/volt	18003	22.50	18009	23.85
0-150	5000 Ω/volt	18004	22.50	18010	23.85
0-500	5000 Ω/volt	—	—	18011	24.00
DC MILLIAMMETERS Self-Shielding Meter Movement					
	Approx. Ω	Model 1921		Model 1622	
0-1	18	18012	$22.05	18019	$23.70
0-5	2	18013	22.05	18020	23.70
0-10	5	18014	22.05	18021	23.70
0-25	2	18015	23.25	18022	24.60
0-50	1	18016	23.25	18023	24.60
0-100	.5	18017	23.25	18024	24.60
0-500	.1	18018	23.25	18025	24.60
DC MILLIVOLTMETERS Self-Shielding Meter Movement					
	Approx. Ω	Model 1921		Model 1622	
0-50	20	18028	$23.55	18029	$24.90

Range	Approx. Resistance (Ohms)	1½" Case Style Cat. No.	1½" Case Style Price	2½" Case Style Cat. No.	2½" Case Style Price
DC MICROAMMETERS Self-Shielding Meter Movement					
	Approx. Ω	Model 1921		Model 1622	
0-25	7760	18030	$28.95	18035	$30.15
0-50	2020	18031	28.65	18036	29.85
0-100	1060	18032	25.65	18037	27.15
0-200	310	18033	23.55	18038	24.90
0-500	63	18034	22.95	18039	24.15
AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement					
	Approx. Ω	Model 1941		Model 1642	
0-150	5000 Ω/volt	18042	$28.05	18043	$29.40

Simpson PANEL METER ACCESSORIES

THERMOCOUPLES

Stock thermocouples are iron-constantan, calibrated to 5 or 10 ohms ±1% per table.

Types 21221 and 21224 are iron constantan thermocouple wire in a stainless steel overbraid for rugged service application where flexing or abrasion would cause deterioration of standard thermocouples.

Types 21222 and 21223 are iron-constantan thermocouples with a glass cloth overbraid. These thermocouples are suited for most general purpose use or for permanent mounting in protected sheaths or conduit.

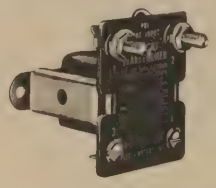
Cat. No.	Type	Resistance	Over-braid*	Length	Gauge	Price
21221	I/C	5 ohms	SS	162″	20	$16.50
21222	I/C	10 ohms	GC	137″	24	5.85
21223	I/C	10 ohms	GC	34″	30	4.90
21224	I/C	10 ohms	SS	325″	20	30.15
21231	C/A	10 ohms	SS	154″	20	18.30
21232	C/A	10 ohms	GC	90″	24	4.05

* SS — Stainless Steel GC — Glass Cloth

THERMOCOUPLE ACCESSORIES

Cat. No.		Price
21230	C/A .42 ohm inconel protection ¼″ x 45″ tube	$13.65
21233	C/A .64 ohm inconel protection 3/16″ x 12″ Disconnect Plug	16.50
21234	10 ohm Extension Wire Kit 43′ (use with 21233)	11.10
21235	10 ohm Extension Wire Kit 17′ (use with 21233)	4.05
21236	Disconnect Jack (use with 21233)	9.45
21237	Compression Fitting SS 3/16″ Dia. (use with 21233)	5.70

CURRENT TRANSFORMERS — FOR USE WITH 0-10 VAC METERS AND CONTROLLERS



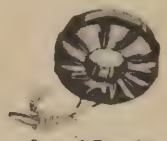
Model 186

Designed for use with 0-10 volt AC meters. Available **from stock**, they convert meter relays to AC current control units. Transformer may be located remotely from indicating meter. Ranges from 0-50 milliamperes up to 0-50 amperes are available for immediate delivery. Frequency Range: 30 Hz. to 5 kHz. Accuracy: ±2%. (May be used with any 0-10 volt, 1000 Ω/volt, or 2000 Ω/volt, AC rectifier type meter.) Not for use in circuits where sustained overloads are possible.

Range	V.A.	Cat. Number	Price
0- 50 mA	0.40	01294	$16.05
0-100 mA	0.50	01295	14.85
0-200 mA	0.37	01296	14.85
0-300 mA	0.48	01303	14.85
0-500 mA	0.53	01304	14.85
0-750 mA	0.37	01307	14.85
0- 1 Amp	0.42	01308	13.35
0- 2 Amp	0.54	01309	13.35
0- 3 Amp	0.66	01311	$13.35
0- 5 Amp	0.75	01312	13.35
0-10 Amp	1.45	01314	13.35
0-15 Amp	1.05	01315	13.35
0-20 Amp	1.04	01316	13.35
0-25 Amp	1.50	01317	13.35
0-30 Amp	1.10	01318	13.35
0-40 Amp	1.09	01319	13.35
0-50 Amp	1.90	01321	13.35

CURRENT TRANSFORMERS — FOR USE WITH AC AMMETERS

Inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.



Current Transformer

Ampere Ranges Primary	Secondary	Part Number	Price
50	5	1293	$28.35
75	5	1306	20.85
100	5	1297	17.25
150	5	1298	15.30
200	5	1299	15.30
250	5	1313	15.30
300	5	1300	17.25
400	5	1305	19.20
500	5	1301	20.85
600	5	2303	20.85
750	5	2459	24.60
1000	5	2304	26.55

EXTERNAL PORTABLE AND SWITCHBOARD SHUNTS — FOR USE WITH DC AMMETERS

These shunts are adjusted for a 50 millivolt drop for use with switchboard and panel ammeters where external shunts are required. Portable shunts have phenolic base and supplied up to 200 amperes. (Prices shown include 5′ leads.) Accuracy ±1%.

PORTABLE SHUNTS

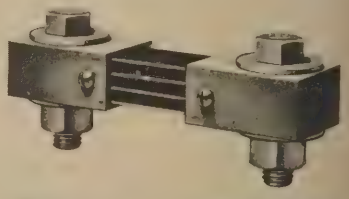
Amps	Part Number	Price
1	6700	$11.70
5	6703	11.70
10	6704	11.70
15	6705	11.70
25	6707	11.70
30	6708	11.70
50	6709	11.70
75	6711	11.70
100	6713	11.70
150	6714	11.70
200	6715	11.70

SWITCHBOARD SHUNTS

Amps	Part Number	Price
100	6500	$11.70
150	6503	12.60
200	6504	12.60
250	6505	12.60
300	6506	12.60
400	6507	15.30
500	6508	18.15
600	6509	21.45
750	6510	27.45
800	6511	29.10
1000	6512	35.40
1200	6513	42.15
1500	6514	52.50
2000	6515	58.35
2500	6516	73.80
3000	6517	87.45
3500	6518	122.25
4000	6519	146.55
4500	6520	160.65
5000	6521	180.60
6000	6522	199.20
7000	6523	239.10



Phenolic base is supplied up to 200 amperes



Switchboard type — 100 through 7000 amps

MODEL 183 MULTIPLIER SERIES

Simpson External Multipliers are available for immediate delivery from your local distributor in the ranges listed below. Other intermediate ranges are available on special order: DC Volts to 5000; AC Volts to 1000. Send your specifications for a quotation.

AC VOLTS — 166 Ohms/Volt

Range	Multiplier Impedance (Ω) at 60 Hz.	Volt. Drop	Meter Volt. Drop	Part No.	Price
0-500	58,333	350	150	8562	$9.15
0-600	75,000	450	150	8563	10.50
0-750	100,000	600	150	8564	11.55
0-1000	141,666	850	150	8565	13.80

DC VOLTS — 2000 Ohms/Volt

Range	Multiplier Resistance Megohms	Meter Sensitivity DC μA	Part No.	Price
0-500	1	500	8552	$7.65
0-750	1.5	500	8553	8.10
0-1000	2	500	8554	8.10
0-1250	2.5	500	8555	8.10
0-1500	3	500	8556	8.55
0-2000	4	500	8557	8.55
0-2500	5	500	8558	8.70
0-3000	6	500	8559	8.70
0-4000	8	500	8560	9.30
0-5000	10	500	8561	10.35



External Multiplier — Model 183
For Usage See Voltmeter Footnotes

© United Technical Publications

Simpson METER RELAYS and CONTROLLERS



RANGES

DESCRIPTION	CATALOG NO.	PRICE
Model No. 3623XA DC		
0-50 Microamps DC SSP	16839	$122.00
0-50 Microamps DC DSP	16840	153.00
0-100 Microamps DC SSP	16841	116.00
0-100 Microamps DC DSP	16842	147.00
0-1 Milliamps DC SSP	16847	110.00
0-1 Milliamps DC DSP	16848	141.00
0-50 Millivolts DC SSP	16849	113.00
0-50 Millivolts DC DSP	16850	144.00

DESCRIPTION	CATALOG NO.	PRICE
Model No. 3643XA AC		
0-5 Amperes AC SSP	16851	$119.00
0-5 Amperes AC DSP	16852	150.00
0-10 Volts AC SSP	16853	116.00
0-10 Volts AC DSP	16854	147.00
0-150 Volts AC SSP	16855	116.00
0-150 Volts AC DSP	16856	147.00

SSP — Single Set Point
DSP — Double Set Point

SPECIFICATIONS

MOVEMENT
Self-shielding core type.
Indicating accuracy: ±2.0% of full scale.
±1.0% on special order.
Maximum sensitivity: 10 DC microamperes.
Minimum thermocouple range: 300°F.

CONTROL POINTS
Single
Knob adjustable 0-100% of full scale.
Double
Low limit adjustable 0-98% of full scale.
High limit adjustable 2-100% of full scale.
Double set point adjusted within 2° of each other.
Control switching within 1.0% of set points.
Control point differential (deadband) less than 0.5% of full scale.

OUTPUT RELAY
SPDT standard for each control point rated.
5 amperes at 115VAC resistive each pole.
Mechanical life of relay: 1,000,000 operations at rated load.
DPDT output optional in automatic mode.

POWER REQUIREMENT
115VAC single phase 50-500 Hz
6VA maximum (double set point units)
4VA maximum (single set point units)

CASE CONSTRUCTION
Polycarbonate frame and window with steel case top and bottom.
Recessed cams for panel mounting.

* See dimensions on page 20

NEW 3½"

• EDGEWISE CONTACTLESS CONTROLLER

This new edgewise controller offers many unusual features not found in an instrument of this size. Its compact design includes: dial illumination, mode indication lamps, plug-in load relays, front of panel mounting, removable knobs for tamper-proof settings, single or double set-points — in 8 stock DC models and 6 stock AC models. A wide variety of other configurations can be provided on special order.

• METAL CASED CONTACTLESS TYPE

Rugged Seal construction withstands rigorous environmental conditions. Maximum reliability design and control, alarms, or limit applications. Photoconductor sensing eliminates all interference with the indicating meter. High gain transistor switch circuit provides accurate switching and a "dead band" of no more than 0.5% of full scale. Fail safe circuitry opens output relays in the event of power failure. Output relays are DPDT, with 10-ampere contacts. New pyrometer types are available for use with I/C or C/A thermocouples. Taut band types are available from stock with 10 μA full scale sensitivity.

• PHENOLIC CASE CONTACTLESS TYPE

Now available with **contactless** control point sensing... the same as used in Simpson's "Rugged Seal" controllers. Contactless operation offers better control accuracy, smaller "dead band," and absolute freedom from interference with the indicating meter. High gain amplifier is all solid-state for maximum reliability.

• PHENOLIC CASE CONTACT TYPE

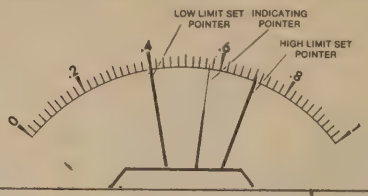
Model 29XA is also available in a contact type design. This type is well suited for general purpose applications where cost and reasonable reliability are primary considerations.

SPECIFICATIONS	CONTACTLESS CONTROLLERS "Rugged Seal" Models 3323XA, 3323TXA, 3324XA, 3324TXA, 3344XA, 3326XA, 3326TXA		CONTACTLESS CONTROLLERS Phenolic Models 29XA, 29TXA, 49XA		CONTACT TYPE Phenolic Model 29XA
CALIBRATION ACCURACY:	±2% of Full Scale				
CONTROL POINT(S):	Single	Double	Single	Double	Double
CONTROL POINT ADJUSTMENT:	0-100% of arc.	Low limit: 0-95% of arc. High limit: 95-100% of arc. Adjustable to within 4° of each other.	0-100% of arc.	Low limit: 0-95% of arc. High limit: 5-100% of arc. Adjustable to within 4° of each other.	
CONTROL POINT SWITCHING:	Within 1% of indication.				Contact "make" within 2% of indication.
CONTROL POINT DIFFERENTIAL:	Difference between "on" and "off" is within 0.5% of Full. Sale.				Make: within 2% F.S. Break: within 10% F.S.
CONTACTS/OUTPUT RELAY:	DPDT relay contacts for each control point. Each set of contacts rated at 10 Amperes, 115 VAC.				Gold Alloy Rated at 10 Milliamperes, 15 VDC.
MOVEMENT:	Self-Shielding Annular				
POWER REQUIRED:	115 VAC, 50 - 500 Hz				
CASE CONSTRUCTION:	Sealed Metal Case, Glass Window		Phenolic Case, Glass Window		

SEE RANGES AND DIMENSIONS ON PAGES 20 & 21

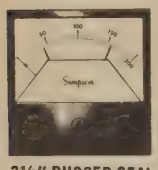
Simpson METER RELAYS and CONTROLLERS

METAL CASED
"RUGGED SEAL" CONTROLLERS
• CONTROL • ALARM • LIMIT

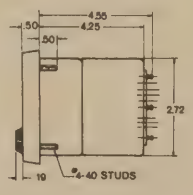


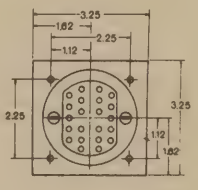
Range	Approx. Resistance (ohms)	Thermo-couple Type	3½" Single Control Point (High Limit) Cat. No.	3½" Single Control Point (High Limit) Price	3½" Double Control Point* Cat. No.	3½" Double Control Point* Price	4½" Single Control Point (High Limit) Cat. No.	4½" Single Control Point (High Limit) Price	4½" Double Control Point* Cat. No.	4½" Double Control Point* Price	4" x 6" Single Control Point (High Limit) Cat. No.	4" x 6" Single Control Point (High Limit) Price	4" x 6" Double Control Point* Cat. No.	4" x 6" Double Control Point* Price
TAUT BAND DC MICROAMPERES			Model 3323TXA (Taut Band)				Model 3324TXA (Taut Band)				Model 3326TXA (Taut Band)			
0-10	5500	—	16606	$134.70	16631	$164.85	16614	$138.00	16639	$168.15	16622	$141.30	16651	$171.45
0-25	3000	—	16604	124.80	16632	154.95	16612	128.10	16640	158.25	16620	131.40	16652	161.55
0-50	2000	—	16602	116.55	16633	146.70	16610	119.85	16641	150.00	16618	123.15	16653	153.30
0-100	570	—	16600	113.10	16634	143.25	16608	116.40	16642	146.55	16616	119.70	16654	149.85
DC MICROAMPERES							Model 3324XA							
0-200	570	—	—	—	—	—	16453	$116.40	16645	$146.55	—	—	—	—
0-500	220	—	—	—	—	—	16454	116.40	16646	146.55	—	—	—	—
DC MILLIAMPERES			Model 3323XA				Model 3324XA				Model 3326XA			
0-1	80	—	16500	$111.90	16637	$142.20	16455	$115.20	16647	$145.50	16540	$118.50	16657	$148.80
DC MILLIVOLTS			Model 3323XA				Model 3324XA				Model 3326XA			
0-50	10	—	16505	$112.20	16638	$142.50	16460	$115.50	16648	$145.80	16545	$118.80	16658	$149.10
AC AMPERES							Model 3344XA							
0-5	.5 VA MAX.	—	—	—	—	—	16465	$127.05	16649	$157.35	—	—	—	—
AC VOLTS							Model 3344XA							
0-10	1000Ω/V.	—	—	—	—	—	16570	$124.35	16650	$154.50	—	—	—	—
0-150	1000Ω/V	—	—	—	—	—	16571	124.35	16572	154.50	—	—	—	—
TEMPERATURE							Model 3324XA							
−75° to + 250°F	5	I/C**	—	—	—	—	16801	$120.00	16807	$156.00	—	—	—	—
0° to + 300°F	5	I/C**	—	—	—	—	16802	120.00	16808	156.00	—	—	—	—
0° to + 500°F	10	I/C**	—	—	—	—	16803	117.00	16809	153.00	—	—	—	—
0° to + 750°F	10	I/C**	—	—	—	—	16804	117.00	16810	153.00	—	—	—	—
0° to +1000°F	10	I/C**	—	—	—	—	16805	117.00	16811	153.00	—	—	—	—
0° to +1500°F	10	C/A**	—	—	—	—	16806	117.00	16812	153.00	—	—	—	—
0° to +2000°F	10	C/A**	—	—	—	—	21278	117.00	21280	153.00	—	—	—	—
0° to +2500°F	10	PT/RH 13%**	—	—	—	—	21279	117.00	21281	153.00	—	—	—	—

*Double control models use external power supply. See dimensions.
**Thermocouple not supplied. See panel instrument accessory page for I/C and C/A type thermocouples.



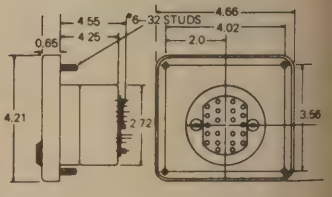
3½" RUGGED SEAL





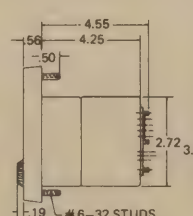


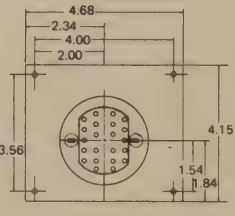
4½" PHENOLIC CASE





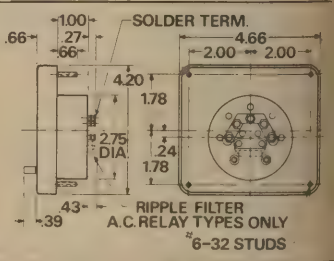
4½" RUGGED SEAL

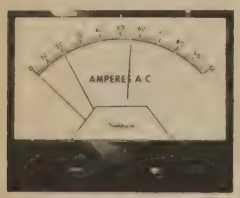




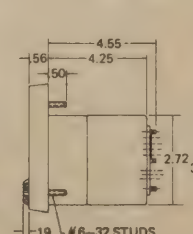


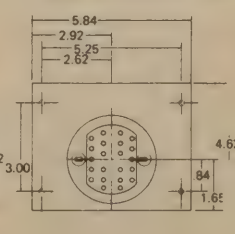
4½" PHENOLIC CASE





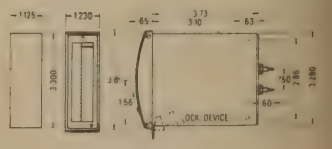
4" x 6" RUGGED SEAL







3½" EDGEWISE



© United Technical Publications

Simpson PHENOLIC CASE CONTROLLERS and METER RELAYS

Range	Approx. Resistantce (Ohms)	4½" CONTACTLESS CONTROLLERS — Single Control Point (High Limit)		Double Control Point*		4½" CONTACT SWITCHING RELAYS — Double Control Point	
TAUT BAND DC MICROAMPERES		Model 29TXA		Model 29TXA			
		Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
0-10	5500	16700	$120.60	16701	$150.75	—	—
0-25	3000	16702	110.70	16703	140.85	—	—
0-50	2000	16704	105.75	16705	135.90	—	—
0-100	570	16706	102.30	16707	132.60	—	—
DC MICROAMPERES		Model 29XA		Model 29XA		Model 29XA	
0-50	5200	—	—	—	—	07032	$61.95
0-100	1800	—	—	—	—	07034	59.25
0-200	570 (1000‡)	16708	$ 99.00	16709	$129.15	07036	55.50
0-500	220 (280‡)	16710	99.00	16711	129.15	07038	54.75
DC MILLIAMPERES		Model 29XA		Model 29XA		Model 29XA	
0-1	80 (140‡)	16712	$ 97.80	16713	$128.10	07040	$53.40
DC MILLIVOLTS		Model 29XA		Model 29XA		Model 29XA	
0-50	10	16714	$ 98.10	16715	$128.40	07050	53.55
AC AMPERES		Model 49XA		Model 49XA			
0-5	0.5 VA MAX.	16716	$109.65	16717	$139.95	—	—
AC VOLTS		Model 49XA		Model 49XA			
0-10	1000Ω/V	16718	$106.95	16719	$137.10	7069	59.25

‡ Resistance in brackets are for **contact** type only.

* Double control **contactless** models use external power supply module (supplied with unit). See dimensions on page 20.

CONTROLLER ACCESSORIES

CURRENT TRANSFORMERS

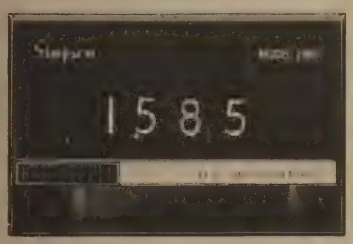
Designed for use with 0-10 volt AC meters. Available **from stock**, they convert meter relays to AC current control units. Transformer may be located remotely from indicating meter. Ranges from 0-50 milliamperes up to 0-50 amperes are available for immediate delivery. Frequency Range: 30 Hz to 5 kHz. Accuracy: ±2%. (May be used with any 0-10 volt, 1000 Ω/volt, or 2000 Ω/volt, AC rectifier type meter.) Not for use in circuits where sustained overloads are possible.

Range	V.A.	Cat. Number	Price
0- 50 mA	0.40	01294	$16.05
0-100 mA	0.50	01295	14.85
0-200 mA	0.37	01296	14.85
0-300 mA	0.48	01303	14.85
0-500 mA	0.53	01304	14.85
0-750 mA	0.37	01307	14.85
0- 1 Amp	0.42	01308	13.35
0- 2 Amp	0.54	01309	13.35
0- 3 Amp	0.66	01311	13.35
0- 5 Amp	0.75	01312	13.35
0-10 Amp	1.45	01314	13.35
0-15 Amp	1.05	01315	13.35
0-20 Amp	1.04	01316	13.35
0-25 Amp	1.50	01317	13.35
0-30 Amp	1.10	01318	13.35
0-40 Amp	1.09	01319	13.35
0-50 Amp	1.90	01321	13.35

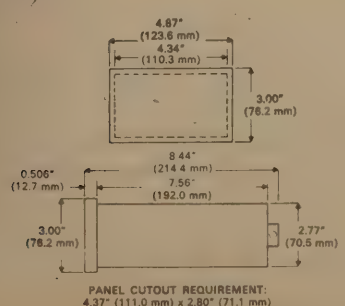
See page 18 for thermocouples and other accessories.

See page 18 for illustrations of Model 186.

Simpson DIGITAL PANEL METER MODEL 2800



- **ACCURATE: ±0.1%, ±1 DIGIT**
- **EASY TO READ NON-BLINKING DISPLAY**
- **STORAGE CIRCUITRY HOLDS NUMBER UNTIL INPUT CHANGES**
- **MODERN COMPACT DESIGN — FRONT PANEL ZERO ADJUSTMENT**



RANGES

DC Voltage Range	Maximum Indication (with Overrange)	Input Impedance	Catalog Number	Price
00.0 — 99.9 mV	199.9 mV	10 kΩ	22950	$210.00
.000 — .999 volts	1.999 volts	100 kΩ	22951	210.00
0.00 — 9.99 volts	19.99 volts	1 MegΩ	22952	210.00
00.0 — 99.9 volts	199.9 volts	1 MegΩ	22953	210.00
000. — 999. volts	1010. volts*	1 MegΩ	22954	210.00

DC Current Range	Maximum Indication (with Overrange)	Voltage Drop	Catalog Number	Price
0.00 — 9.99 μA	19.99 μA	50 mV	22955	$210.00
00.0 — 99.9 μA	199.9 μA	50 mV	22956	210.00
.000 — .999 mA	1.999 mA	50 mV	22957	210.00
0.00 — 9.99 mA	19.99 mA	50 mV	22958	210.00
00.0 — 99.9 mA	199.9 mA	50 mV	22959	210.00

* Overrange limited to 10% on this unit.

SPECIFICATIONS

Accuracy: ±0.1% (F.S.), ±1 digit.

Resolution: 1 part in 1000.

Sample Rate: 5 readings per second, continuous.

Display: Non-blinking, with storage.

Number of Full-Time Readout Digits: 3

Readout Digits: Cold-gas glow tubes, 200,000 hour rated life.

Circuitry: Integrated circuits and solid-state components (except readout tubes).

Overrange: 100%. Number "1" automatically lights to the left of other digits to indicate overrange. When measured value exceeds overrange capacity, the "1" flashes — preventing erroneous readouts.

Underrange: Reverse polarity is automatically indicated by a light to the right of other digits. Linear 15% underrange permits reading negative values. Readout is a complement of actual reading.

Common Mode Rejection: Greater than 90 dB at 60 Hz with 1K-ohm unbalance.

Series Mode Rejection: Greater than 35 dB at 60 Hz.

Ambient Temperature Range: To maintain rated accuracy: +15°C to +35°C.

Power Required: 117 volts, 60 Hz., 9 VA (nominal).

Simpson VOLT OHM MILLIAMMETERS



World Famous 260®

New 260® Series 6 for today's testing needs!

New 260® Series 6 has 150% better resolution of low level circuits with new 0-1 DC volt range. Also features new 0-500 volt AC and DC ranges **plus** new external access battery and fuse compartment. 50 μA movement is self-shielding and shock-resistant — protected from overloads of up to 200,000%! Wide selection of accessories include high voltage probes, carrying cases, and Add-A-Tester adapters.

Supplied complete with test leads (Cat. No. 0115), batteries, and operator's manual. manual.

260-6 ..... **$65.00**

260-6M with mirror scale **67.00**

260-6RT in roll-top safety case **71.00**

260-6MRT with mirror scale and roll-top case **73.00**

ACCESSORIES AVAILABLE*

5kV Safety Probe, for use with any of the above:

DC catalog number 00506 .. **$4.50**

AC catalog number 00505 .. **4.50**

Carrying Cases:

Vinyl .....No. 00805..... **15.50**

Leather .....No. 01818..... **13.50**

Utility .....No. 00549..... **20.00**

PUSH-BUTTON OVERLOAD PROTECTION!



260-6P The Famous CIRCUIT PROTECTED VOM

Virtually 100% protected! Makes burned components, bent pointers, and blown rectifiers a thing of the past. Ideal for use when exploring unfamiliar equipment, especially if no schematic is available. Also popular in schools, or wherever a VOM must be used by inexperienced personnel. No other VOM has all these features:

1. Reset button pops out to indicate overload.
2. Circuits cannot be reset while overload is present.
3. Does not require massive overloads to activate.
4. All ranges protected except those not feasible in a portable instrument (1000 VDC, 10 Amperes DC).

Uses same accessories* as the 260-6, including Add-A-Tester adapters.

260-6P ..... **$ 97.00**

260-6PRT (with roll-top protective case) **103.00**



250 VOM with 50 MILLIVOLT DROP

Makes testing new solid-state circuits easier. All the features of the famous 260® including a 1-ampere fused input, self-shielding varistor protected movement and Adjust-A-Vue handle which folds to use as a stand. Plus modified range coverage and 50 millivolt drop on DC current ranges . . . specifically for solid-state circuits. Taut band movement is shock-proof.

250 ..... **$70.00**

Ever-Redy Vinyl Carrying Case, for above. No. 00805 ..... **15.50**



255 VOM with TEMPERATURE RANGE

Designed by Simpson for a major utility company to meet the specific needs of servicemen in the gas appliance, electrical heating and appliance fields. Has important features of 260® VOM, plus temperature range of +100°F. to +1050°F. Low millivolt drop on DC current ranges for servicing new solid-state controls.

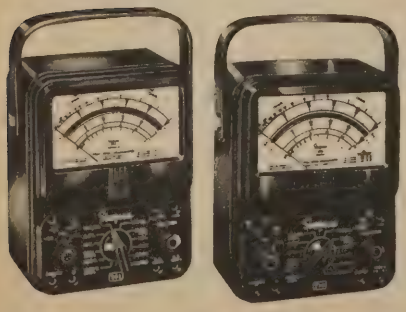
Complete with operator's manual, test leads with prods (No. 00115), 5 foot thermocouple lead (No. 00163), and batteries.

255 ..... **$90.00**

10,000 volt AC High-Voltage Probe Cat. No. 00161 ..... **17.00**

Specially designed Carrying Case for 255. No. 00549 ..... **20.00**

Probe Case, snaps onto above Carrying Case No. 00574 ..... **6.00**



261-2 and 270-4 HIGH ACCURACY VOLT-OHM MILLIAMMETERS

Designed for VOM applications requiring higher accuracies. They have all the features of the 260-5M, including external access battery compartment mirror scale, varistor protected self-shielding movement, and Adjust-A-Vue handle. Special calibration circuits and components, combined with strict manufacturing controls, produce outstanding accuracy. 270-4 has built-in temperature compensation. Both use all 260® accessories*, including plug-in Add-A-Tester® adapters.

261-2 ..... **$73.00**

261-2RT (Roll-top protective case) **79.00**

270-4 ..... **78.00**

270-4RT (Roll-top protective case) **84.00**

Complete with operator's manual, test leads (No. 07500), and batteries.

Ever-Redy Vinyl Carrying Case, for above. No. 00805 ..... **15.50**

* See page 23 for additional accessory listings.

Net

© United Technical Publications

Simpson VOLT OHM MILLIAMMETERS

IN THE 260® FAMILY THERE'S A VOM TO MEET YOUR EXACT NEEDS . . .

SPECIFICATIONS — 20,000Ω/V DC; 5,000Ω/V AC

RANGES	250	255	260-6	260-6M	260-6P	270-4	261-2
DC Volts	0-0.050; 0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-500;-0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-1000	0-1; 0-2.5; 0-10; 0-50; 0-500; 0-1000				0-0.25; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000
AC Volts	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5;0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-500; 0-1000				0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000
DC Microamperes	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)				
DC Milliamperes	0-1; 0-10; 0-100; 0-500 (50 MV Drop)		0-1; 0-10; 0-100; 0-500				
DC Amperes	0-10 (50 MV Drop)	None	0-10 (250 MV Drop)				
AC Amperes	Up to 250 AC Amps with Optional Amp-Clamp Adapter						
DB Scale (1 MW-600Ω)	−20 to +10; −8 to +22; +6 to +36; +20 to +50	None	−20 to +10; −8 to +22; +6 to +36; +20 to +50				
Output Ranges	None	None	0.1 mfd capacitor in series with all AC voltage ranges through 250 volts.				
Resistance Ranges	R x 1 0-2000Ω (12Ω center)	R x 100 0-200KΩ (1200Ω center)				R x 10K 0-20 megΩ (120KΩ center)	
Temperature Range	None	+100°F. to +1050°F.	None				
ACCURACIES:							
0-50 MV; 0-250 MV; 0-1 to 0-1000 V DC	±2% F.S.	±2% F.S.	±2% F.S.			±1.25% F.S.	±1.5% F.S. ★
0-5000 V DC	—	—	—			—	±2.5% F.S.
0-50 Microamperes	±1% F.S.	±1% F.S.	±1.5% F.S.			± .75% F.S.	±1.0% F.S.
0-1 MA to 0-10 A DC	±2% F.S.	±2% F.S.	±2% F.S.			±1.25% F.S.	±1.5% F.S.
R x 1 R x 100, R x 10,000	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0° of Arc			±1.5° of Arc ±1.0° of Arc	±2.0° of Arc ±1.5° of Arc
0-2.5 to 0-1000 V AC	±3% F.S.	±3% F.S.	±3% F.S.			±2.0% F.S.	±3% F.S.
0-5000 VAC	—	—	—			—	±4% F.S.
Movement Type	TAUT BAND Self Shielding Annular						
Temperature Compensated	No	No	No	No	No	Yes	No
Meter Movement Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resetable Circuit Protection	Not	Not	Not	Not	Yes	Not	Not
Mirror Scale	No	No	No	Yes	No	Yes	Yes
Scale Length	4.2 inches						
Dimensions	5¼" x 7" x 3⅛"						
Net Weight	3½ lbs.						
Price	$70.00	$90.00	$65.00	$67.00	$97.00	$78.00	$73.00

† 1 amp. fuse limits maximum current.
★ 261-2 Accuracy 0-2.5 to 0-1000 V DC.

260® VOM ACCESSORIES

HIGH VOLTAGE PROBES

5 kV AC	No. 00506	$ 4.50
5 kV DC	No. 00505	4.50
10 kV DC	No. 00507	17.00
25 kV DC	No. 00508	17.00
50 kV DC	No. 00509	17.00
10 kV AC	No. 00161	17.00

TEST LEADS

Leads, Removable Clips	No. 00115	$3.25
Alligator Clip	No. 07500	3.25
Probe Tip	No. 07538	3.75
Thermocouple (5 ft., for 255)	No. 00163	6.00

CARRYING CASES

Vinyl	No. 00805	$15.50
Leather	No. 01818	13.50
Utility	No. 00549	20.00





NEW AMP-CLAMP

AMP-CLAMP PLUG-IN ADAPTER FOR AC AMPERE MEASUREMENTS

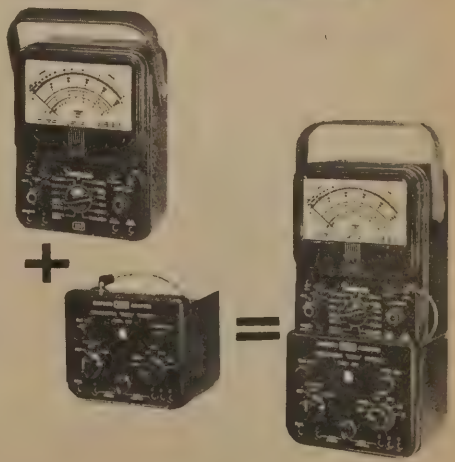
Clamp-on AC ammeter adapter allows measurement to be made without breaking circuit being tested. Simply plugs into 260®, 261, 270, 250 or 255 VOM. Ranges: 0-5, 10, 25, 50, 100, 250 AC Amperes. Readout is on VOMs 0-2.5 VAC scale. May be used with any VOM having 0-2.5, or 0-3 VAC range. When used with 0-3 VAC adapter ranges are from 0-6 to 0-300 AC Amperes. Rugged construction, and easy to use.

Model 150 Cat. No. 00532 complete with 00533 test lead	$30.00
Test Lead, Cat. No. 0533	2.25
Carrying Case No. 00548	8.00

260 ADD-A-TESTER ADAPTERS

MODEL	RANGE	ACCURACY
TRANSISTOR TESTER MODEL 650 — $44.00	BETA: 0-5, 50, 250. Ico: 0-100 μa.	BETA: ±5%* Ico: ±3%*
DC VTVM MODEL 651 — $52.00	VOLTS: 0-0.5, 1.0, 2.5, 10,25, 50, 100, 250, 500 INPUT IMPEDANCE: Greater than 10megΩ on all ranges.	±3% F.S.*
TEMPERATURE TESTER MODEL 652 — $49.00	−50°F to 100°F, 100°F to 250°F. Sensing Element: Thermistor.	±2°F from −30° to +220°F. ±4°F over remainder of range.
AC AMMETER MODEL 653 — $30.00	0-0.25, 1.0, 2.5, 12.5, 25 Amps. Frequency range: 50-3000 cycles.	±3% F.S.
AUDIO WATTMETER MODEL 654 — $34.00	LOAD RANGES: 4, 8, 16, 600 ohms. WATTAGE: 25 watts (8, 600Ω), 50 watts (4, 16Ω) continuous. Intermittent duty: 50 and 100 w.	±10% (±7% with 261 and 270)
MICROVOLT ATTEN. MODEL 655 — $30.00	2.5 to 250,000 microvolts in decade steps. Frequency: DC to 20kc.	±1 DB
BATTERY TESTER MODEL 656 — $30.00	Up to 90 volts.	±3% F.S.*
MILLIOHMMETER MODEL 657 — $54.00	0-0.1 (150 ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.), 1.0 (80 Ma.).	±2% F.S. (±1½% with 261 and 270).
DC AMMETER MODEL 661 — $33.00	DC AMPERES: 0-10, 2.5, 5, 10, 25.	±2% F.S. (±1½% with 261 and 270).

* 1% better accuracy when used with 261 or 270.



Simpson DIGITAL VOLT-OHM-MILLIAMMETER



NEW SIMPSON 460

PORTABLE DIGITAL VOM

460 Complete with instruction manual (less batteries) $395.00
For 220 VAC/50 Hz operation (less batteries) $400.00

UNBEATABLE PORTABILITY and RANGE COVERAGE

Highly accurate, compact, lightweight, multi-use Digital VOM for lab, in field, or general testing. No separate battery pack or power supply needed. Self-contained battery or line operation. Non-blinking 3½ digit display of 26 most used ranges . . . 5 each AC/DC voltages and AC/DC currents . . . 6 resistances . . . with "plus" and "minus" and overrange . . . analog meter readout shows peaks or nulls at a glance. Analog to digital converter uses the dual slope technique. Batteries are automatically recharged whenever unit is line operated.

SPECIFICATIONS

Accuracy: (from +10°C to 40°C) DC Voltage Measurement: ±0.1% of reading ±1 digit. AC Voltage Measurement: ±0.5% of reading ±1 digit, 40 Hz to 10 kHz; 1.0% of reading ±1 digit, 10 kHz to 20 kHz. DC Current Measurement: ±0.2% of reading ±1 digit (exception 1000 MA range which is ±0.5% of reading ±1 digit). AC Current Measurement: ±0.7% of reading ±1 digit (except on 1000 MA range which is ±1.0% of reading ±1 digit).

Resistance Measurement: ±0.5% of reading ±1 digit (except on the 20M ohm range which is ±1% of reading ±1 digit).

Resolution: AC and DC Voltage Measurements: 100 Microvolts. AC and DC Current Measurements: 100 Nanoamps. Resistance Measurements: 0.1 Ohms.

Overrange Capability: Linear to 150% overrange.

Temperature Coefficient: DC Voltage Measurements: (from 0°C to +50°C): ±(0.005% of reading +0.1 digit) 1°C. AC Voltage Measurements: (from 0°C to +50°C) ±(0.05% of reading +0.1 digit) 1°C, 40 Hz to 10 kHz; ±(0.1% of reading +0.2 digits) 1°C, 10 kHz to 20 kHz. Resistance Measurements: (from 0°C to +55°C) ±(.05% of reading +.1 digit) 1°C.

Full Scale Step Response: DC Voltage Measurements: 2 seconds to rated accuracy. AC Voltage Measurements: 5 seconds to rated accuracy. Resistance Measurements: 2 seconds to ohms and K ohms ranges; 6 seconds at 20 M ohms.

Normal Mode Rejection: 35 dB min. with 1 K unbalanced at 60 Hz.

Common Mode Rejection: 80 dB min. with 1 K unbalanced at 60 Hz. In battery operation and not charging, the CMRR is extended.

DC Polarity Selection: Automatic, "+" or "−" indication.

Numeric Display: Non-blinking with storage. Conversion rate: 5 per second. Overrange indicator: Automatic beyond 1999 counts.

Analog Display: 1½" edgewise meter.

Power Requirements: Input: 115 VAC (230 VAC if specified) ±10%. 50 - 60 - 400 Hz. 10 VA Nominal - AC operation only. 15 VA Nominal - Battery charging with unit turned on. 7 VA Nominal - Battery charging unit turned off. **Battery Operation:** Four nickel cadmium "D" size rechargeable batteries 1.25 V, 4 Ampere-Hours. (Batteries not supplied). Operation time with fully charged batteries under constant use - 7 hours. Recharge time - 15 hours nominal. Unit can be operated while the batteries are being recharged.

Operating Temperature: 0°C to +50°C. Reference: 25°C ±1°C.

Weight: (with batteries) 6 lbs., 8 oz. (without batteries) 6 lbs., 4 oz.

Size: (H x W x D) 4¾₄" x 8½" x 7⅞".

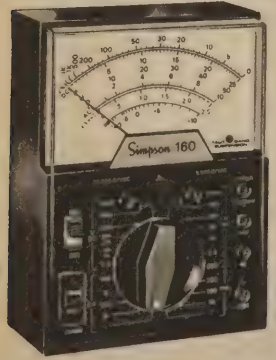
DC Volts: (Mean Sensing, RMS Calibrated)

Range	Maximum Indication	Input Impedance	Overload Protection
200 mV	199.9 mV	100 M ohms	350 V
2 V	1.999 V	1000 M ohms	350 V
20 V	19.99 V	10 M ohms	1000 V
200 V	199.9 V	10 M ohms	1000 V
1000 V	1000 V	10 M ohms	1000 V
AC Volts:			
200 mV	199.9 mV	1 M ohms at 150 PF	250 V
2 V	1.999 V	1 M ohms at 150 PF	250 V
20 V	19.99 V	1 M ohms at 150 PF	600 V
200 V	199.9 V	1 M ohms at 150 PF	600 V
1000 V	600 V	1 M ohms at 150 PF	600 V

DC Amps: Range	Maximum Indication	Voltage Drop	Overload Protection
200 uA	199.9 uA	200 MV	3 Amps
2 MA	1.999 MA	200 MV	3 Amps
20 MA	19.99 uA	200 MV	3 Amps
200 MA	199.9 MA	200 MV	3 Amps
1000 MA	1999 MA	200 MV	3 Amps
AC Amps:			
200 uA	199.9 uA	200 MV	3 Amps
2 MA	1.999 MA	200 MV	3 Amps
20 MA	19.99 MA	200 MV	3 Amps
200 MA	199.9 MA	200 MV	3 Amps
1000 MA	1999 MA	200 MV	3 Amps

Resistance: Range	Maximum Indication	Test Current	Overload Protection
200 ohms	199.9 ohms	2 MA	250 V RMS
2 K ohm	1.999 K ohm	200 uA	250 V RMS
20 K ohm	19.99 K ohm	20 uA	250 V RMS
200 K ohm	199.9 K ohm	20 uA	250 V RMS
1000 K ohm	1999 K ohm	2 uA	250 V RMS
20 M ohm	19.99 M ohm	200 uA	250 V RMS

160 HANDI-VOM VOLT-OHM MILLIAMMETER



Now even better . . . with ±2% DC and ±3% AC accuracy. Just 3¾₄" wide, and a mere 12 ounces in weight, yet the 160 Handi-VOM has the accuracy and sensitivity of a full size VOM. The self-shielding Taut Band movement features outstanding repeatability and freedom from stray magnetic fields. And the movement is varistor protected from even 200,000% overloads. Built for today's VOM needs, including solid-state circuit testing, the 160 has 0-0.25 accurate ohms measurements. Complete with alligator clip test leads and operator's manual.

160 Handi-VOM $55.00
160 Leather Carrying Case #2225 .....$11.00
160 Vacuum Formed Carrying Case #2929 .....$11.00
160 Probe Tip Leads #02055 .....$ 3.50

SPECIFICATIONS	160
Ranges — DC Volts	0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000
AC Volts	0-2.5, 10, 50, 250, 500, 100
DC Microamperes	0-50
DC Milliamperes	0-1, 10, 100, 500
DC Amperes	NONE
AC Milliamperes	NONE
AC Amperes	NONE
DB Scale (1 mW into 600 Ω)	−20 to +10, −8 to +22, +6 to +36, +20 to +50
DC Resistance	R x 1 (30 Ω center), R x 10, R x 100, R x 1k, R x 10k
Accuracy — DC	±2%
AC	±3%
Sensitivity — DC	20,000 Ω/volt
AC	5,000 Ω/volt
Movement Type	Taut Band
Illuminated Scale	NO
Light-Up Continuity Indicator	NO
Scale Length	3.0"
Dimensions (HxWxD)	4¾₄" x 3¾₄" x 1¾"
Net Weight	12 ounces
Price	$55.00

Net

© United Technical Publications

Simpson VOLT-OHM-MILLIAMMETERS

MODEL 202 — ACCU-LOG®— A NEW CONCEPT IN VOMS

The first VOM to give you consistent "percent-of-reading" accuracy . . . anywhere on the readout scale!

ACCU-LOG has a special quasi-logarithmic scale. It gives you "percent-of-reading" accuracy anywhere on the readout scale, yet still allows easy zero adjustment with a linear portion at the low end. There's no need to keep readings at the high end of the scale, or worry about "percent-of-full scale" accuracy limitations. Other features you'll like: two low power ohmmeter ranges, overload protected taut band movement, and a large 7" antiparallax mirror scale.

External battery compartment makes battery changing faster, easier!

VOLTAGE RANGES
DC: 0.03 - 0.33; 0.1 - 1.1; 1 - 11; 10 - 110; 30 - 330; 100 - 1100 volts
AC: 1 - 11; 10 - 110; 30 - 330; 100 - 1100 volts

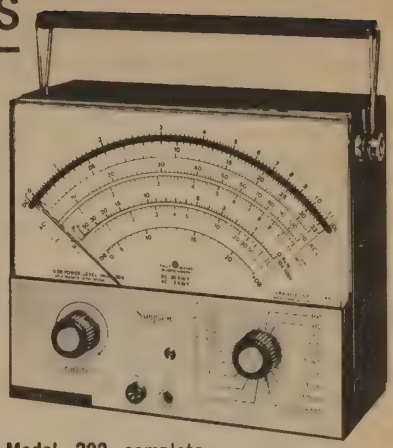
CURRENT RANGES
DC: 0.01 - 0.11; 0.1 - 1.1; 1 - 11; 10 - 110; 100 - 1100 milliamperes

LOW POWER RESISTANCE RANGES
Rx1 (4 ohm center, 2.7 mW maximum load); Rx10 (40 ohm center, 0.27 mW maximum load)

RESISTANCE RANGES
Rx1k (7k-ohm center); Rx10k (70k-ohm center); Rx100k (700k-ohm center)

SENSITIVITY
DC: 20k Ω/V AC: 5k Ω/V

ACCURACY
DC: ±2% of ***reading*** AC: ±3% of ***reading*** Resistance: ±3° of arc



ACCU-LOG Model 202 complete with test leads, batteries, and operator's manual **$100.00**
Carrying Case, Vinyl with Lead Storage Space, Cat. No. 00577.... **$ 17.00**
Carrying Case, Vinyl with Sponge Lining, Cat. No. 01565 ..... **$ 17.00**

7-INCH VOMs



NEW 269-3
EASIER TO READ 7" SCALES

MODEL 269 Series 3
100,000 Ω/V!

Now improved! . . . with a self-shielding Taut Band meter movement that gives better repeatability, plus faster pointer action. This new meter movement is combined with a new mirror scale; and knife-edge pointer, eliminating parallax errors. Large, readable scale is over 6 inches long. Accuracy is ±2% DC and ±3% AC, with new range coverage, too. One switch selects all 27 ranges. Battery replacement is quick and easy with the snap-on compartment. And the new 269-3 is protected from overloads with a replaceable 1.5 Ampere fuse at the input, and a varistor at the meter movement.

Complete with No. 00115 test leads, 4000 volt DC probe extension, and operator's manual.

Model 269-3 ..... **$98.00**

MODEL 263
64-RANGE DUAL-SENSITIVITY VOM
1½% DC ACCURACY

Dual sensitivity Volt-Ohm-Milliammeter has overlapping ranges — let's you place reading at the high end of scale for optimum accuracy. Large 7" scale makes readouts easier, too. Varistor protects the movement from even **200,000 per cent** overloads! 1½ volt alkaline battery assures maximum stability on low ohms range. External battery compartment for easiest replacement. See the chart below for complete specifications.
Complete with No. 00115 test leads, batteries, and operator's manual.

Model 263 ..... **$97.00**

MODEL 262 Series 3

Popular 7" VOM has 34 ranges, movement overload protection, and more. See complete specifications below. Complete with No. 00115 test leads, batteries, and operator's manual.

Model 262-3 ..... **$83.00**

	MODEL 262-3	MODEL 263	MODEL 269-3
RANGES:	20,000 Ω/V DC 5,000 Ω/V AC	20,000 Ω/V DC • 10,000 Ω/V DC 10,000 Ω/V AC • 5,000 Ω/V AC	100,000 Ω/V DC 5,000 Ω/V AC
DC Volts	0-1.6/0-8/0-40/0-160/0-400/ 0-1600/0-4000	0-0.15/0-0.75/0-3/0-7.5/0-30/0-75/0-300/ 0-750/0-3000 @ 20KΩ/V 0-0.3/0-1.5/0-6/0-15/0-60/0-150/0-600/ 0-1500/0-6000 @ 10KΩ/V	0-1.6/0-8/0-40/0-160/0-400/ 0-800/0-1600/0-4000
AC Volts	0-3/0-8/0-40/0-160/0-400/0-800	0-2.5/0-7.5/0-30/0-150/0-750 @ 10kΩ/V 0-5/0-15/0-60/0-300/0-1500 @ 5KΩ/V	0-3/0-8/0-40/0-160/0-400/0-800
DC Microamperes	0-80/0-160	0-75 @ 150 MV; 0-150 @ 300 MV	0-16/0-160
DC Milliamperes	0-1.6/0-16/0-160	0-0.75/0-7.5/0-75/0-750 @ 150 MV; 0-1.5/0-15/0-150 @ 300 MV	0-1.6/0-16/0-160
DC Amperes	0-1.6/0-8	0-7.5 @ 150 MV; 0-1.5/0-15 @ 300 MV	0-1.6/0-8
DB Scale (L1MW-600)	−12 to +45.5 db in four ranges	−20 to +75.5 db in 10 ranges	−12 to +45.5 db in four ranges
Output Ranges	0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	External 0.1 mfd capacitor required where DC is present.
Resistance Ranges	R×1 0-500Ω; R×10 0-5000Ω; R×100 0-50KΩ R×1K 0-500KΩ; R×10K 0-5 megΩ (4.5Ω Center); R×100K 0-50 megΩ	R×1 0-500Ω; R×10 0-5000Ω; R×100 0-50KΩ R×1K 0-500KΩ; R×10K 0-5 megΩ (4.5Ω Center); R×100K 0-50 megΩ	R×1 0-200Ω; R×10 0-20KΩ; R×100 0-200KΩ R×1K 0-2 megΩ; R×10K 0-20 megΩ (12Ω center); R×100K 0-200 megΩ
ACCURACIES: DC Volts	±3%	0-0.15 to 1500 ±1½%; 0-3000 to 6000 ±2½%	0-1.6 to 1600 ±2%; 0-4000 ±3%
AC Volts	±4%	±3%	0.3 to 800 ±3%
DC Current	±3%	±1½%	All Ranges ±2%
R×1	±3° of Arc	±3° of Arc	±3° of Arc
R×10, R×100K	±2½° of Arc	±2½° of Arc	±2½° of Arc
Scale Length	6.2 inches		
Dimensions	6" x 7¼" x 3"		
Net Weight	4 lbs.		

© United Technical Publications

Simpson FET-INPUT VOLT-OHM-MILLIAMMETERS



NEW! MODEL 314 Solid-State FET VOM

- **7 Low Power Ohms Ranges**
- **Current Ranges as low as 10 μA at Full Scale**

For today's circuit designer and tester . . . won't load or burn out IC's and transistorized circuitry. Draws just 70 μW on low power ohms ranges. 10 Megohm input impedance on all voltage ranges plus 10X probe switch for 100 Megohm input. 21 AC and DC ranges. Offers 100 mA and 1 amp measurement ranges, AC and DC. Large 7" mirror scale with knife-edge pointer eliminates parallax errors. External access battery compartment makes battery replacement easy.

Model 314 complete with AC/DC probe, battery, and operator's manual **$150.00**

Ranges: 0-0.05 to 1000 DC V in 10 ranges. 0-0.01 to 1000 AC V in 11 ranges. 0-0.01 to 1000 mA AC and DC in 7 ranges. Rx1 (10 Ω center) to Rx1 Meg in 7 ranges. −40 to +60 dB.

Accuracy: ±2% (FS) DC, ±3% (FS) AC.

Input Impedance: 10 Meg Ω AC and DC (10x probe switch for 100 Meg Ω).

Frequency Response: Flat to 100 kHz.



MODEL 313 Solid-State FET VOM

- **11 Meg Ω DC Input — Battery Operated**

The high impedance of a VTVM in a battery operated instrument! Operates for 300 hours or more on a single set of batteries. FET-input. All voltage ranges fully overload protected. Large, easy-to-read 7" scale. Built-in "battery check" switch. Self-shielding movement.

Model 313 complete with AC/DC probe, batteries, and operator's manual **$125.00**

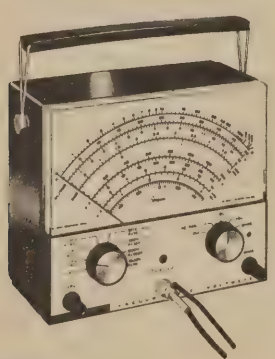
Ranges: 0-0.3 to 1000 V AC and DC in 7 ranges. 0-0.1 to 1000 mA DC in 5 ranges. Rx1 (10 Ω center) to Rx1 Meg in 7 ranges.

Accuracy: ±3% AC and DC.

Input Impedance: 11 Meg Ω DC, 10 Meg Ω AC.

Frequency Response: Flat to 100 kHz (voltage ranges up to 3 volts FS).

ELECTRONIC VOLT-OHMMETERS



MODEL 312 AC/DC VTVM

- **16 Meg Ω DC Input Impedance**

Offers 40% less circuit loading than most conventional VTVMs. Also features large 7" scale with a tracking error of 1% or less and full scale accuracies of ±3% on all AC and DC ranges. Built-in movement overload protection. ½-volt DC range for today's solid-state circuits.

Model 312 for 105/125 V, 50/60 Hz. Complete with AC/DC probe, operator's manual **$95.00**

Model 312 Export, 220 V, 50 Hz **$102.00**

Ranges: 0-0.5 to 1500 DC V in 8 ranges. 0-1.5 to 1500 AC RMS V in 7 ranges. 0-4 to 4000 AC P-P V in 7 ranges. Rx1 (10 Ω center) to Rx1 Meg in 7 ranges.

Accuracy: ±3% (FS) AC and DC.

Input Impedance: 16 Meg Ω DC, 1 Meg Ω AC.

Frequency Response: ±3% from 15 Hz to 3 MHz (useable to 250 MHz with optional RF probe).



MODEL 311-3 AC/DC VTVM

- **22 Meg Ω DC Input**

Supplied complete with AC/DC probe, ground lead, operator's manual. For 117 V, 50/60 Hz.

311-3 .....**$91.00**

Ranges: 0-1.5 to 1500 DC V and AC RMS V in 7 ranges. 0-4 to 4000 AC P-P V in 7 ranges. 0-1.5 to 1500 AF V in 7 ranges. Rx1 (10 Ω center) to Rx1 Meg in 7 ranges.

Accuracy: ±3% (FS) DC, ±5% (FS) AC.

Input Impedance: 22 Meg Ω DC, 2.2 Meg Ω AC.

Frequency Response: Flat to 100 kHz (useable to 250 MHz with optional RF probe).



MODEL 303-2 AC/DC VTVM

- **Rugged Companion to the 260®**

Supplied complete with AC/DC probe, ground lead, operator's manual. For 117 V, 50/60 Hz.

303-2 .....**$92.00**

303-2RT (in roll-top case) **97.00**

303-2 Export, 220 V, 50 Hz **98.00**

303-2RT Export, 220 V, 50 Hz....**104.00**

Ranges: 0-1.2 to 1200 DC V and AC RMS V in 6 ranges. 0-1.2 to 60 AF V in 3 ranges. −20 to +63 dB in 6 ranges. Rx1 (10 Ω center) to Rx1 Meg in 6 ranges.

Accuracy: ±3% (FS) DC, ±5% (FS) AC.

Input Impedance: 10 Meg Ω DC, 275k Ω AC.

Frequency Response: Flat to 100 kHz (useable to 100 MHz with optional RF probe).



MODEL 715 AC VTVM

- **dB Markings for Audio Work**

Supplied complete with shielded input cable, operator's manual. For 115 V, 50/60 Hz.

715 .....**$84.00**

715 Export, 220 V, 50 Hz **91.00**

Ranges: 0-0.01 to 300 AC RMS V in 10 ranges. −52 to +52 dB in 10 ranges (1 mW into 600 Ω = "0" dB).

Input Impedance: 1 Meg Ω.

Accuracy: ±5% (FS).

Frequency Response: ±1 dB from 10 Hz to 400 kHz.

© United Technical Publications

Simpson TEMPERATURE TESTERS

NEW! MODEL 413 "THERMOSCRIPT"

- **Records Temperatures — Unattended for up to 32 days**
- **Uses No Batteries — No Electrical Power**

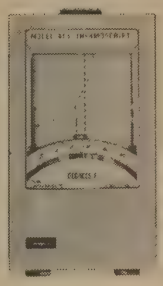
The fool-proof way to monitor temperatures of perishable goods in shipment or storage. Gives a written record for any hour, any day. Precision clock motor drives chart for up to 32 days — can be packed right in shipping crates. Inkless recording system never needs re-fills. The model 413 is also ideal for air balancing specialists and other temperature monitoring applications.

Supplied complete with chart paper, three chart speed gears, protective plastic bag, and operator's manual **$130.00**

Available in 3 range models:

+30° to +150°F	Catalog No. 23310
0° to +120°F	Catalog No. 23312
−30° to + 90°F	Catalog No. 23314

Accuracy: ±1.5% of range span. (Speed accuracy: 1%).
Response Time: 15 minutes for a 50% change, when subjected to a sudden temperature drop.
Chart Speeds: 24, 48, 96 mm-per-day with interchangeable gears (supplied).
Chart Paper: Pressure sensitive.
Sensor: Shock-resistant bi-metal type, internally mounted.



ACCESSORIES

	Cat. No.	Each
Stainless Steel Mounting Bracket	23305	$ 8.00
Carrying Case	23306	10.00

CHART PAPER

	Cat. No.	Per 10 roll Box
+30° to +150°F calibration	23300	$18.00
0° to +120°F calibration	23302	18.00
−30° to + 90°F calibration	23304	18.00

MODELS 385-3L, 388-3L, 389-3L TEMPERATURE TESTERS

PROBES, LEADS & CARRYING CASES

Description	Cat. No.	
Surface Temperature Probe	00790	$10.00
Free Air Temperature Probe	00789	13.00
Additional Thermistor Lead	00010	10.00
30 Ft. Thermistor Lead	00216	11.00
50 Ft. Thermistor Lead	00415	12.00
100 Ft. Thermistor Lead	00416	15.00
150 Ft. Thermistor Lead	00417	19.00
Ever-Redy Leather Carrying Case	08073	12.00

MODEL 385-3L TEMPERATURE METER

Model 385-3L is ideal for those fast, accurate temperature checks from —50°F. to +70°F. Lightweight, portable, fits easily in your hand. Three lead model. Takes temperature readings in three different locations with a simple flick of the selector knob. Standard Model has Fahrenheit scale. Supplied with one No. 00010 15 ft. thermistor lead and operator's manual.

Size: 3"x5⅞"x2½". **Wt.** 1½ lbs. **$45.00**

RANGE & ACCURACY

—50°F. to +70°F.
±1°F. @ Center Scale
±2°F. @ Either End



385-3L

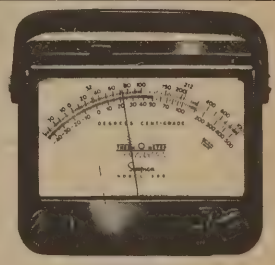
General Purpose Type	00190	$ 9.00
Surface Temperature Probe Type (1000°F. Max.)	00187	12.00
Rugged Service Lead (8 ft.)	00496	10.00
Ever-Redy Vinyl Carrying Case	05262	15.50

MODEL 388-3L THERM-O-METER

Simpson's popular wide range Therm-O-Meter tester measures the temperature of practically anything within —50°F. to +1000°F. Standard model has combination °C. and °F. scale. Sensing Element: Thermocouple (Iron-Constantan). Supplied with internal battery and one 8' general purpose probe No. 00190 and operator's manual. Order additional probes as required.

Size: 7 15/16"x6"x2 15/16". **Weight:** 4 lbs.
Model 388-3L for three probes **$84.00**

—50°F. to +1000°F.
—40°C. to +500°C.
±1½ Scale Divisions



388-3L

Surface Temperature Probe	00790	$10.00
Free Air Temperature Probe	00789	13.00
Additional Thermistor Lead	00010	10.00
30 Ft. Thermistor Lead	00216	11.00
50 Ft. Thermistor Lead	00415	12.00
100 Ft. Thermistor Lead	00416	15.00
150 Ft. Thermistor Lead	00417	19.00
Ever-Redy Vinyl Carrying Case	05262	15.50

MODEL 389-3L
DUAL RANGE THERM-O-METER

Model 389-3L temperature tester, using three leads, makes temperature readings in three different locations at the same time; i.e., in a refrigerator, one lead could be connected to the evaporator plate, another to the wall of the food compartment and the third in the center of the food compartment. Readings are made quickly in 15 to 30 seconds depending on the medium being checked. Supplied with °C. and °F. scale. **Model** 389-3L....**$79.00**

—50°F. to +100°F.
—40°C. to +35°C.
+100°F. to +250°F.
+40°C. to +120°C.
Within ±2°F.



389-3L

Test Prods and Spade Terminals	08379	$ 3.75
Alligator Clips and Spade Terminals	08376	3.25
Ever-Redy Vinyl Carrying Case	08073	12.00

APPLIANCE TESTER
MODEL 387 MILLIVOLTMETER

Make gas unit servicing faster, more accurate. Use Simpson's Millivoltmeter. Simply place the probe across the thermocouple terminals and test for the correct value. Checks Safety Thermocouples on Gas-Fired Units.

• Furnaces • Boilers • Hot Water Heaters
• Heaters • Dryers • Refrigerators

Size: 3"x5⅞"x2½". **Wt.:** 1½ lbs. **$39.00**

0-10, 0-30, 0-100,
0-300, 0-1000 Millivolts
±3% of Full Scale



387

Simpson MICRO-TESTERS


Model 230


Model 240


Model 362


Model 372


Model 378


Model 379


Model 390


Model 392

ALL MICROTESTERS HAVE RUGGED PHENOLIC CASES AND MEASURE APPROXIMATELY 3" x 5⅞" x 2½". WEIGHT: 1½ LBS.

(Microtesters not illustrated are similar in appearance to those shown above.)

MODEL	DESCRIPTION	RANGES	PRICE
230 AC/DC VOM	One of the smallest AC and DC service instruments, yet it contains sufficient ranges to do a complete servicing job. Specifically designed for telephone, teletype and marine use. Excellent troubleshooter. Case, including the front panel, is molded of black phenolic for protection against high voltages.	**1,000 Ohms per Volt AC-DC. Voltage Ranges DC:** 10v; 50v; 250v; 1,000v. **AC:** 10v; 250v; 1,000v. **Current Ranges DC:** 10 ma; 50 ma; 250ma. **Resistance Ranges:** 0-1000Ω, 0-100kΩ **Accuracies:** DC volts ±3% F.S.; AC volts ±4% F.S.; DC resistance ±3° of linear arc from absolute value of resistance measured.	**$45.00** Complete with tests leads No. 08375 and operator's manual
371 AC Voltmeter	Designed primarily for testing line voltages applied to motors, heating equipment and many other industrial applications.	**Ranges:** 0-150, 0-300, 0-600 volts. **Accuracy:** ±3% of full scale.	**$39.00**
376 AC Voltmeter	Rectifier type, 1000 ohms per volt. Useful in circuits where limited current is present. An excellent output meter when used with proper condenser.	**Ranges:** 0-5, 10, 25, 50, 100, 250, 500, 1000 AC volts. **Accuracy:** ±5% of full scale.	**$39.00**
377 DC Voltmeter	Resistance, 1000 ohms per volt. Useful in radio servicing and industrial applications.	**Ranges:** 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 DC volts. **Accuracy:** ±3% of full scale.	**$39.00**
240 AC/DC VOM	The "Hammeter." Specially designed for general application around labs, class room, ham shack, etc. Has voltage ranges of 3000 volts AC or DC to check high voltage on transmitters and receivers.	**1,000 Ohms per Volt AC-DC. Voltage Ranges DC:** 15v; 75v; 300v; 750v; 3,000v. **AC:** 15v; 150v; 750v; 3,000v. **Current Ranges DC:** 15ma; 150ma; 750ma. **Resistance Ranges:** 0-3,000Ω (30Ω center); 0-300KΩ (3KΩ center). **Accuracies:** DC volts ±3% F.S.; AC volts ±4% F.S.; DC resistance ±3° of linear arc from absolute value of resistance measured.	**$45.00** Complete with tests leads No. 08375 and operator's manual
362 Low-Ohmmeter	The two ranges are essentially linear and permit highly accurate readings between 0.1 and 25 ohms. For checking motor armatures; switch and relay contact resistances; shorts between windings and grounds in radio chassis wiring; electrical equipment, etc.	**Ranges:** 0-5, 0-25 ohms. **Accuracy:** ±3% of linear arc length.	**$39.00** Complete with calibrated test leads No. 08376
372 Ohmmeter	Provides wide range of resistance measurements in a small package. .2 ohm to 50 megohms. Ideal for use in schools, on test benches or at inspection facilities.	**Ranges:** 0-500, 0-5000, 0-50,000, 0-500,000 ohms; 0-5, 0-50 megohms. **Center Scale:** 5, 50, 500, 5,000, 50,000, 500,000 ohms. **Accuracy:** ±3° of linear arc length.	**$39.00** Complete with tests leads No. 08375 and operator's manual
375 DC Ammeter	Provides complete range from a fraction of an amp to 25 amps without external shunts. Ideal unit for use with unmetered power supplies.	**Ranges:** 0-1, 2.5, 5, 10, 25 amperes. **Accuracy:** ±3% of full scale.	**$39.00**
370 AC Ammeter	Ideal for checking small motors, line loads, etc., where AC current measurements are required. 60 Hertz. Self-contained current transformer.	**Ranges:** 0-1, 0-2.5, 0-5, 0-10, 0-25 amperes. **Accuracy:** ±5% of full scale.	**$39.00**
373 DC Milliammeter	General purpose tester. Valuable in a number of applications. Provides DC current measurements from .02 to 1000 ma.	**Ranges:** 0-1, 5, 10, 25, 50, 100, 250, 1,000 ma. **Accuracy:** ±3% of full scale.	**$39.00**
378 AC Milliammeter	Five separate ranges. Typical applications are transformer vacuum tube tests. Contains current transformer and indicating instrument in one case.	**Ranges:** 0-5, 25, 100, 250, 1,000 ma. **Accuracy:** ±5% of full scale.	**$39.00**
379 Battery Tester	Provides accurate indications of condition of all standard flashlight, hearing aid (mercury cells), radio batteries.	**Ranges:** 0-1.5, 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0v.	**$39.00** Complete with tests leads No. 08375 and operator's manual
374 DC Microammeter	Can be used with external resistors or multipliers as high sensitivity voltmeter at 20,000 ohms per volt. Can be shorted out of circuit by use of selector knob.	**Ranges:** 0-50, 100, 250, 500, 1,000 microamperes. **Accuracy:** ±3% of full scale.	**$39.00**
390 AC Volt-Amp-Wattmeter	The most popular tester for AC/DC volts, AC amps and AC watts with one meter. Rugged . . . useful for practically any appliance.	**Volts:** 0-150, 300. **Amps:** 0-3, 15. **Watts:** 0-300, 600, 1,500, 3,000. **Accuracy:** ±5% of full scale.	**$70.00** complete with test cord assembly No. 08418 and operator's manual
391 AC-DC Volt-Wattmeters	Simultaneous reading of volts and watts. Has separate meters, built-in cord and plug for connection to line outlet . . . separate switches for range selection.	**3,000 Watts Maximum AC or DC Range** **Volts:** 0-130, 0-260. **Watts:** 0-1,500, 0-3000. **Accuracy:** ±5% of full scale.	**$84.00** Supplied with cord, plug, and operator's manual **Leatherette Carrying Case Part No. 03413 — $12.00**
392 AC-DC Volt-Wattmeters	Simultaneous readings of volts and watts. Has separate meters, built-in cord and plug for connection to line outlet . . . separate switches for range selection.	**5,000 Watts Maximum AC or DC Range** **Volts:** 0-130, -260. **Watts:** 0-1,000, 0-5000. **Accuracy:** ±5% of full scale.	**$69.00** Supplied with cord, plug, and operator's manual **Leatherette Carrying Case Part No. 03413 — $12.00**

Ever-Redy Carrying Case, Part No. 04299 **$10.50** — for all Micro-Testers except Models 391 & 392.

Models 391 & 392 Carrying Case, Part No. 03413 **$12.00.**

All prices are dealers net, subject to change without notice.

© United Technical Publications

Simpson AC CURRENT LEAKAGE TESTER MODEL 229

FOR INDUSTRY • FIELD SERVICE • LAB • PRODUCTION



Small leakage currents can be dangerous! And even when they're not, current above the "threshold of perception" can cause a violent reaction from fear, resulting in serious physical injury.

Simpson's new model 229 is designed to test 120 volt AC appliances and electrical equipment in accordance with the proposed U.S. standard. It approximates the normal perception curve to within ±1.0 dB, and measures currents as small as 5 microamperes.

The 229 is ruggedly built for use on production lines and "in field" servicing. Operation is simple, and all ranges are protected from damage if accidentally subjected to line voltage. It's the ideal instrument for checking the safety of your equipment.

NEW!
Meets proposed U.S. Standards Committee specification (C101.1) for A.C. current leakage tests.

SPECIFICATIONS

RANGES: AC Current: 0-0.3; 1; 3; 10 mA
AC Voltage: 0-150 Volts.
Battery Test: Replace — Good.
RESOLUTION: 5 μA on 0-0.3 mA range.
ACCURACY: ±2% at 60 Hz.
ACCURACY vs. FREQUENCY: Approximates Dalziel's "Percentile 50 Threshold of Perception Curve within ±1.0 dB.*
INPUT IMPEDANCE: 1.5 k-ohms, shunted by a shaping network, on all current ranges.
INPUT RESISTANCE: 500 k-ohms on voltage range.
OVERLOAD PROTECTION: Fully protected up to 150 VAC on all ranges.

* See AIEE Proceedings, Volume 69, Section 0184. The mean value of perception on individuals in test was 1.067 mA at 60 Hz. (Available at major technical libraries.)

MODEL 229 CURRENT LEAKAGE TESTER
Complete with test leads, batteries, and operator's manual $90.00
Carrying Case, Leather, No. 00805 ..... 15.50

Simpson STRIP CHART RECORDERS MODEL 603



Wide selection of ranges. Use inkless pressure sensitive paper. Rugged Taut Band movement is shockproof. Meter also provides continuous readings of the measured value. Four built-in chart speeds are switch selected. Available in AC voltage, AC current, DC voltage, and DC current measuring ranges. Each has a built-in event indicator. Compact for easy panel mounting or portable use. Mounting hardware included.

SPECIFICATIONS

Accuracy of Recording DC range models	±2.5% of Full Scale
AC range models	±4.0% of Full Scale
Event channel response time	10 milliseconds (nominal)
Event Indicator Voltage	115 volts/60 Hz.
Built-in Chart Speeds (Switch Selected)	1½/6/12/18 inches-per-hour (38/152/305/457 mm-per-hour)
Impression Rate	2 seconds
Chart Paper	Pressure Sensitive, 3" wide, 63 feet long.
Take-up Reel	Optional
Motor Drive	Synchronous, 115 volts/60 Hz.
Size	7½" x 4 3/16" x 2 5/32"
Weight	2½ lbs.

RANGES

Catalog Number	Range	Channel Event Voltage	Price
20201	0-50 DC μA	110 VAC	$107.00
20202	0-100 DC μA	110 VAC	102.00
20203	0-250 DC μA	110 VAC	95.00
20205	0-1 DC mA	110 VAC	90.00
20207	0-5 DC mA	110 VAC	97.00
20211	0-50 DC mA	110 VAC	97.00
20215	0-500 DC mA	110 VAC	97.00
20218	0-5 DC Amps	110 VAC	98.00
20219	0-50 DC mV	110 VAC	93.00

RANGES

Catalog Number	Range	Channel Event Voltage	Price
20225	0-15 DC Volts	110 VAC	$97.00
20227	0-50 DC Volts	110 VAC	97.00
20230	0-150 DC Volts	110 VAC	96.00
20250	0-5 AC Amps	110 VAC	120.00
20270	0-5 AC Volts	110 VAC	102.00
20280	0-150 AC Volts	110 VAC	102.00
20285	0-300 AC Volts	110 VAC	104.00
20286	100-130 AC Volts	110 VAC	105.00

CHART PAPER

Calibration	Catalog Number	Price per box of 6 rolls
50 division	20097	$13.55
60 divisions	20099	13.55
75 divisions	20098	13.55

ACCESSORIES

	Catalog Number	Price
Automatic take-up reel	20195	$15.00
Carrying case, vinyl	20196	20.00
Cycle indicator cord	20197	2.50
Power cord	20198	2.50
Test cord set	20199	2.50



Model 466 HANDISCOPE®

Compact, light weight, and rugged. 5" general purpose oscilloscope has vertical deflection sensitivity of 30 mV/inch. Frequency response: 15 Hz to 100 kHz, ±1 dB. 6 dB down at 250 kHz. Usable to 1 MHz. 7⅞" x 12¼" x 16⅛". Weight: 19 lbs.

446 Handiscope® for use on 110 VAC, 50-60 Hz. Complete with test leads and operator's manual $190.00

Dual Voltage 446 Handiscope®. As above, but for 110 or 220 VAC, 50-60 Hz $214.00



Model 458 COLORSCOPE

7" oscilloscope with both wide band (40 mV/inch sensitivity) and narrow band (15 mV/inch sensitivity) operating modes. In wide band operation, frequency response is flat (±1 dB) up to 4.5 MHz. Faithfully displays color burst frequency. Narrow band flat (±2 dB) up to 300 kHz. Weight: 29 lbs.

458 Colorscope, for use on 110 VAC, 50-60 Hz. Complete with operator's manual $420.00

Dual Voltage 458 Colorscope. As above, but for 110 or 220 VAC, 50-60 Hz $430.00
Model 739 Probe Kit (see page 31) ..... $ 50.00

Simpson MULTI-TESTERS

MODEL 256 and 257 CAPACITANCE AND AC CURRENT



Both of these new Simpson VOMs have built-in capacitance and high Megohm ranges! The high voltage necessary for these measurements is supplied from an external source (which can simply be line voltage where AC is required). Overload circuit-breaker protects all ranges except 100 volts and higher. Supplied complete with test leads and operator's manual.

Model 256 ..... **$105.00**

Model 257 ..... **$ 95.00**

Manufactured in Austria

SPECIFICATIONS

MODEL 256 Ranges: DC Volts: 0-0.1, 0.5, 2.5, 10, 25, 100, 250, 500, 1000, 5000. AC Volts: 0-0.5, 2.5, 10, 25, 100, 250, 500, 1000, 5000. DC Microamperes: 0-100. DC Milliamperes: 0-0.5, 2.5, 10, 50. DC Amperes: 0-0.25, 1, 5. AC Milliamperes: 0-0.5, 2.5, 10, 50. AC Amperes: 0-0.25, 1, 5. dB Scale (1 mW into 600 Ω): −34 to −4, −20 to +10, −8 to +22, 0 to +30, +12 to +42, +20 to +50, +26 to +56. DC Resistance: R x 1 (30 Ω center), R x 1 k, R x 10 k, R x 1 Meg.* AC Resistance: R x 1 (1 Meg Ω center)**. Capacitance: 100 pF to 20,000 pF**, 2,000 pF to 5 μF**. Output Ranges: 0.1 μF capacitor in series with AC voltage ranges from 10 thru 250 VAC.

Accuracy: DC ±1.0%, AC ±1.5%. **Sensitivity:** AC 2,000 Ω/V, DC 25,000 Ω/V.

MODEL 257 Ranges: DC Volts: 0-0.1, 0.5, 2.5, 10, 25, 100, 250, 1000, 5000. AC Volts 0-10, 50, 250, 1000. DC Microamperes: 0-10, 50, 250. DC Milliamperes: 0-1, 5, 25, 100. DC Amperes: 0-1. dB Scale (1 mW into 600 Ω): −8 to +22, +6 to +36, +20 to +50. DC Resistance: R x 1 (30 Ω center), R x 1 k, R x 100 k, R x 10 Meg.* AC Resistance: R x 1 Meg (1 Meg Ω center)***. Capacitance: 2,000 pF to 5 μF**. Output Ranges: 0.1 μF capacitor in series with AC voltage ranges from 10 thru 250 VAC.

Accuracy: DC ±1.5%, AC ±2.5%. **Sensitivity:** AC 20,000 ΩV, DC 100,000 ΩV.

MODEL 355 MIDGETESTER®



So small (2¾" x 4½" x 1") it easily slips into your shirt pocket. No wonder the 355 Midgetester® is popular with those who must make basic voltage and resistance measurements "in the field." Complete with test leads and operator's manual.

355 Midgetester® **$50.00**

SPECIFICATIONS

Ranges: DC and AC Volts: 0.3, 12, 60, 200, 1200. DC Resistance: R x 1 (120 Ω center), R x 10, R x 100, R x 1 k. **Accuracy:** DC ±3%. AC ±5%. **Sensitivity:** AC and DC 10,000 Ω/V.

MODEL 208 and 209 AC/DC/VOMs



Both of these Simpson VOMs have **AC Current** ranges built-in. Separate inputs for voltage and current make combined readings easy — using two sets of leads you simply flip the range switch. Other new features: illuminated scale and light-up continuity checker. Complete with one set of test leads, batteries, and operator's manual.

Model 208 ..... **$72.50**

Model 209 ..... **68.00**

Manufactured in West Germany

SPECIFICATIONS

MODEL 208 Ranges: DC Volts: 0-0.6, 3, 12, 60, 300, 600. AC Volts: 0-12, 60, 300, 600. DC Milliamperes: 0-0.6, 30, 120, 600. DC Amperes: 0-3. AC Milliamperes: 0-0.6, 6, 30, 120, 300. AC Amperes: 0-3. DC Resistance: R x 1 (128 Ω center), R x 100. **Accuracy:** DC ±1.5%, AC ±2.5%. **Sensitivity:** AC and DC 10,000 Ω/V.

MODEL 209 Ranges: DC Volts: 0-0.06, 12, 60, 300, 600. AC Volts: 0-12, 60, 300, 600. DC Milliamperes: 0-120, 600. DC Amperes: 0-3, 12. AC Milliamperes: 0-6, 30, 120, 600. AC Amperes: 0-3, 12. DC Resistance: R x 1 (43.9 Ω center), R x 100. **Accuracy:** DC ±1.5%, AC ±2.5%. **Sensitivity:** AC and DC 1,666 Ω/V.

Simpson TEST EQUIPMENT ACCESSORIES



NEW

PROTECTIVE COVER FOR SIMPSON 260® FAMILY OF VOMS

Made of tough, durable, vacuum formed thermoplastic. Fits over the face of your Simpson VOM snugly, firmly — with an easy snap. Protects the face of your VOM from scratches, nicks, cracks. Prevents dust and dirt accumulation and stops accidental damage to switch knobs and buttons . . . helps to maintain the high built-in accuracy of your Simpson VOM.

Catalog Number: 02163, black color, snap-fit cover for all 260 and 270 Series VOMS . . . **only $1.50 each.**

CARRYING CASES

Save you time and protects your instruments. Instruments are always ready for instant testing.



Ever-Redy Carrying Case
For 250, 260, 261, 270, 303
Cat. No. 0805 . . . $15.50



Roll Top Safety Case
For 260, 261, 303, 270
Cat. No. 6192 . . . $13.00



Ever-Redy Carrying Case
For 262, 263, 267, 268, 269, 388-3L, 389-3L
Cat. No. 5262 . . . $15.50



Vacuum Formed
Carrying Case
Cat. No. 2929 . . . $11.00



Sponge Lined
Carrying Case
Cat. No. 1566 . . . $17.00
Cat. No. 1613 . . . $14.00

For Testers	Cat. No.	Price
150 Amp-Clamp Carrying Case	0548	$ 8.00
160 Leather Carrying Case	2225	11.00
160 Vacuum Formed Carrying Case	2929	11.00
208, 209 — Leather	0578	11.00
255 Utility Vinyl	0549	20.00
0549 Snap-on High Voltage Probe Case	0574	6.00
250, 260, 261, 270 — Leather	1818	13.50
250, 260, 261, 270, 303 — Ever-Redy Leather	0805	15.50
Combination 260 and Adapter, Leather Carrying Case	1871	17.50
262, 263, 267, 268, 269, 388-3L, 389-3L Ever-Redy Vinyl	5262	15.50
312, 313 Vinyl	0577	17.00
385-3L — Every-Redy Leather	8073	12.00
391, 392 — Leatherette-Covered	3413	12.00
355 — Ever-Redy Leather	6355	6.00
All Microtesters — Ever-Redy Leather	4299	11.00
All Microtesters — Leatherette-Covered	3011	$9.00
Roll Top Safety Case For 260-2, 9, 10, 880's	6192	12.00
Roll Top Safety Case For 260-6, 270-4	0248	13.00
Roll Top Safety Case For 260-3, -4, -5, -5P, 261, 270	0249	13.00
Roll Top Safety Case For 303	6379	13.00

SPONGE LINED CASES

	Cat. No.	Price
312, 313 Vinyl Case	1565	$17.00
262, 263, 269 Vinyl Case	1613	14.00



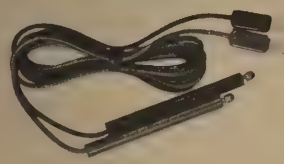
UTILITY CASE FOR 250, 255, 260, 261 AND 270

Ever-Redy Carrying case (Cat. No. 0549) has extra space for accessories and/or tools. Probe case (No. 0574) can be snapped on to this case to accommodate any of the high voltage probes.

© United Technical Publications

Simpson TEST EQUIPMENT ACCESSORIES

TEST LEADS



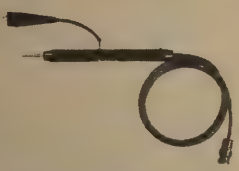




For Testers	Cat. No.	Price
160 Probe tip leads	02055	$3.50
160 Alligator clip leads	01927	3.00
202; 208; 209 Alligator clip leads	07500	3.25
202; 208; 209 Probe tip leads	07538	3.75
202; 208; 209 Combination probe tip leads with removable clips	00115	3.75
230; 240 Alligator clip leads	08375	3.25
230; 240 Probe tip leads	08381	3.75
250; 255 Alligator clip leads	07500	3.25
250; 255 Probe tip leads	07538	3.75
250; 255; 260; 270 Combination probe tip leads removable clips	00115	3.75
256; 257 Combination probe tip leads with removable clips	07541	4.00
260 (series 1, 2 only) Alligator clip leads	08375	3.25
260 (series 1, 2 only) Probe tip leads	08381	3.75
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Alligator clip leads	07500	3.25
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Probe tip leads	07538	3.75
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Combination probe tip leads with removable clips	00115	3.75
260-5, 260-5RT, 260-5M, 260-5MRT, 260-5P, and 260-5PRT all use 260 series 5 leads listed above.		
262 (series 1, 2 only) Combination probe tip leads with removable clips	08463	3.75

For Testers	Cat. No.	Price
263; 267; 268; 269 (series 2, 3 only) Alligator clip leads	07500	$3.25
263; 267; 268; 269 (series 2, 3 only) Probe tip leads	07538	3.75
263; 267; 268; 269 (series 2, 3 only) Combination probe tip leads with removable clips	00115	3.75
269 (series 1 only) Combination probe tip leads with removable clips	08463	3.75
270 Alligator clip leads	07500	3.25
270 Probe tip leads	07538	3.75
270 Combination probe tip leads with removable clips	00115	3.75
303 (series 1 only) Ground lead	00069	2.75
303 (series 2 only); 311 Ground lead	00733	2.75
355 Probe tip leads	08600	3.50
362; 371, 373; 374; 375; 376; 377; 378 Alligator clip leads	08376	3.25
362; 371; 373; 374; 375; 376; 377; 378 Probe tip leads	08379	3.75
383A Test lead assembly	07509	3.75
387 Alligator clip leads	08376	3.25
387 Probe tip leads	08379	3.75
390 Test cord assembly	08418	8.00
466 Input cable	00100	4.50
650 Test lead	07545	2.25
651 Ground lead	00733	2.75
715 Input cable	00100	4.50

HIGH VOLTAGE AND RF PROBES



Typical DC/AC/Ohms Probe
Cat. No. 00150, 00175, 07594

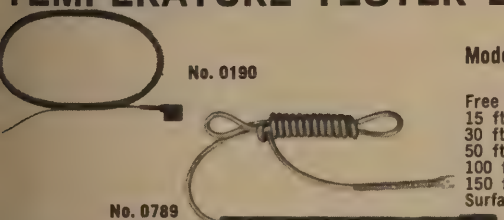


Typical High Voltage Probe
Cat. No. 0507, 0508, 0509, 0510, 0511

For	Voltage/Type	Cat. No.	Price
260 Series 2	25,000v	00007	$17.00
	50,000v	00179	17.00
250, 255, 260 Series 3, 4 4M, 5, 5M, 5P	10,000v DC	00507	17.00
261	25,000v DC	00508	17.00
267	50,000v DC	00509	17.00
270	10,000v AC	00161	17.00
260 Series 6	5,000v DC	00506	4.50
260 Series 6	5,000v AC	00505	4.50
262 Series 1	16,000v	00172	17.00
	40,000v	00180	17.00
262 Series 2	16,000v	00172	17.00
	40,000v	00180	17.00
262 Series 3	16,0000v	00146	17.00
	40,000v	00145	17.00
263	30KV @ 10KΩ/v 15KV @ 10KΩ/v	00158	17.00
269 Series 1	16,000v	00173	17.00
	40,000v	00181	17.00
296 Series 2, 3	16,000v	00119	17.00
	40,000v	00157	17.00

For	Voltage/Type	Cat. No.	Price
303 Series 1	DC Probe	00067	$5.50
	AC Probe	00068	5.50
	High Frequency (RF)	00073	11.75
	30,000v	00074	17.00
303 Series 2	DC/AC/Ohms Probe	00150	11.75
	High Frequency (RF)	00073	11.75
	30,000v	00186	17.00
311 Series 1	DC/AC/Ohms Probe	07594	12.00
	High Frequency (RF)	00731	17.00
	30,000v	00732	17.00
311 Series 2	DC/AC/Ohms Probe	07594	12.00
	High Frequency (RF)	00174	16.00
	30,000v	00732	17.00
311 Series 3	DC/AC/Ohms Probe	00175	12.50
	High Frequency (RF)	00176	16.00
	30,000v	00178	17.00
312	DC/AC/Ohms Probe	00150	11.75
	High Frequency (RF)	00152	11.75
	30,000v	00155	17.00
313	DC/AC/Ohms Probe	00189	12.25
	High Frequency (RF)	00191	11.75
	50,000v	00192	19.00

TEMPERATURE TESTER LEADS AND PROBES



Models 385-3L, 389-3L, 260 — Adapter 652

	Cat. No.	Price
Free Air Temperature Probe	0789	$13.00
15 ft. Thermistor lead	0010	10.00
30 ft. Thermistor lead	0216	11.00
50 ft. Thermistor lead	0415	12.00
100 ft. Thermistor lead	0416	15.00
150 ft. Thermistor lead	0417	19.00
Surface temperature probe	0790	10.00

Models 388, 388-3L, 255

	Cat. No.	Price
388, -3L, Rugged Service Lead (8 ft.)	0496	$10.00
388, -3L General purpose thermocouple	0190	9.00
388, -3L Surface temperature thermocouple (1000° F. Max.)	0187	12.00
255 only, Thermocouple lead (5 ft.)	0183	6.00

OSCILLOSCOPE PROBE KIT



For use with Model 458 Oscilloscope. Includes *low capcity probe, voltage doubler, detector, 100:1 voltage divider and dual direct — resistive. (Isolation.)

Complete with 4 poles, plastic roll, and operator's manual. Cat. No. 0739 ..... $50.00

* For Model 458 only.

	Cat. No.	Price
Voltage Doubler	0740	$18.00
Low Capacitance	0741	18.00
100:1 Voltage Divider	0742	19.00
Direct-Resistive Dual Purpose	0743	15.00

METER SAFE/GUARD



Same protection as built-in new 260-5. Installs in minutes. Complete instructions for 260 series —1, 2, 3, 4. Cat. No. 12621. Complete only $1.95 ea.

ACCESSORY SHUNTS



Used with models 256 and 257 for DC current measurements up to 100 amps full scale. Convenient plug-in design.

Range (F.S.)	Cat. No.	Price
25 DC Amperes	06527	$15.00
50 DC Amperes	06528	15.00
100 DC Amperes	06531	15.00

Simpson INSTRUMENTATION PRODUCTS

DIGITAL INSTRUMENTS

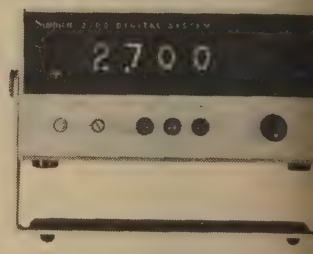
■ 2700 DIGITAL SYSTEM

Integrated circuit design for compactness and reliability. Plug-in function modules are available for DC and AC voltage, DC current, and resistance measurements. Has 4 full-time digits plus automatic overrange and polarity indications.

2700 complete with DC voltage range module, test leads, and operator's manual **$615.00**

SPECIFICATIONS

Ranges (with DC voltage module): 1, 10, 100, 1,000 DC volts.
Accuracy: ±0.05%. ±1 digit.
Input Impedance: 10.2 MegΩ.
Overrange: Linear to 10%.
Polarity Selection: Automatic, with indication.
Response Time: 5 seconds, maximum.
Sampling Rate: Variable, from 200 milliseconds to "hold."
Power Required: 115 or 220 VAC (±10%), 50-60 Hz., at 11.5 watts.



■ OPTIONAL PLUG-IN FUNCTION MODULES

System designed plug-in modules take just seconds to change. New function and ranges are shown on dial plate carried by module.

Resistance Module: 1 kΩ, 10 kΩ, 100 kΩ, 10 MegΩ. Cat. No. 22901 .....**$100.00**

DC Current Module: 1 mA, 10 mA, 100 mA, 1 Amp. Cat. No. 22903 .....**$100.00**

AC Voltage Module: 10, 100, 1000 volts. Cat. No. 22902 .....**$150.00**

SPECIFICATIONS

Accuracy: ±0.05% of reading (except 10 MegΩ range of resistance module: ±1.0% of reading).
Accuracy of 2700 system after interchanging modules: ±0.1% of reading (without recalibration). ±0.05% of reading (with recalibration).



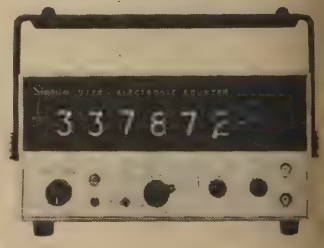
■ *NEW!* 2726 ELECTRONIC COUNTER

New six-digit counter measures frequency from 5 Hz to 32 MHz, plus frequency ratios, time periods, time intervals, and totalization. Front panel "self test" position. Also features new multiple period/ratio measurement and new switch selectable sensitivity control. New ±0.001% accuracy.

2726 complete with probe and operator's manual **$575.00**

SPECIFICATIONS

Ranges:
Average Frequency: 5 Hz to 32 MHz.
Frequency Ratio: 0.001 to 1,999999 x 10^6
Time Interval: 100 μ seconds to 1.999999 x 10^6 seconds.
Time Periods: 100 nanoseconds to 0.2 seconds.
Totalization: 0 to 1.999999 x 10^6 counts.
Accuracy: ±0.001%, ±1 digit.
Input Impedance: 1 Meg Ω on channel "A", 500 k Ω on channel "B".
Time Bases: 7 bases, crystal controlled.
Overrange: Automatic indication.
Power Required: 115 or 230 VAC (±10%), 50-60 Hz, at approximately 20 watts.



■ *NEW!* 2725A ELECTRONIC COUNTER

Same features as the model 2726 shown above, but with 5-digit resolution.

2725A complete with probe and operator's manual **$525.00**

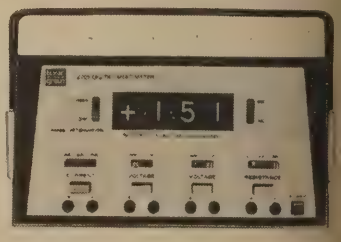
■ 2701 DIGITAL MULTIMETER

Complete digital VOM has AC-DC voltage, AC-DC current, and resistance ranges. Fast and accurate: simply set magnatude switch and press a button. Reading appears as a 3-digit number complete with polarity sign and decimal point. Decimal point automatically switches over three decade ranges. No errors from scale interpolation — even when used by unskilled personnel.

2701 complete with test leads and operator's manual **$835.00**

SPECIFICATIONS

Ranges:
AC/DC mV: 10, 100, 1,000.
AC/DC Volts: 10, 100, 600
AC/DC nA: 1,000
AC/DC uA: 10, 100, 1,000
AC/DC mA: 10, 100, 1,000
Ohms: 100, 1,000
k-Ohms: 10, 100, 1,000
Megohms: 10, 100, 1,000
Accuracy:
DC: ±1.0% of reading.
AC: ±1.5% of reading.
Resistance up to 1,000 kΩ: ±0.5% of reading. (Accuracy on all ranges limited to ±0.2% of full scale).
Power Required: 105-130 VAC, 60 Hz, at 60 watts.



NEW! R-L-C BRIDGE

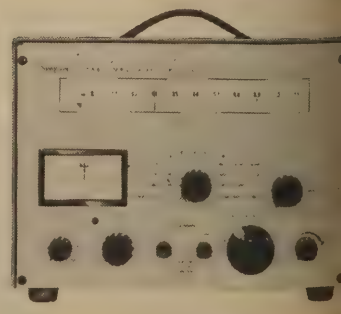
■ MODEL 2785

Multi-purpose bridge measures capacitance, inductance, resistance, and "Q". Powered by two long-life 9-volt batteries, a built-in generator operates at the standard test frequency of 1 kHz. DC is used for all resistance measurements. Long slide-rule dial and sensitive galvanometer make it simple and fast to use.

2785 complete with batteries, test leads and operator's manual **$350.00**

SPECIFICATIONS

Ranges:
0.05Ω to 11 MegΩ in 8 ranges.
0.5 μ-Henrys to 110 Henrys in 8 ranges.
5 p-Farads to 1100 μ-Farads in 8 ranges.
Qx1, tan-d x 0.01, tan-d x 1.
Accuracy:
R, L, C: ±1.0% (except 1Ω, 10 MegΩ, 10 μH, 100H, and 1,000 μF ranges: ±2.5%).
Q: ±5%.
Power Required: Two 9-volt batteries (NEDA type 1603).
Rated Life: 150 hours.

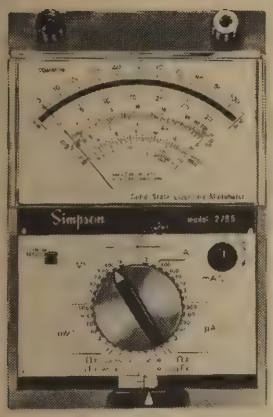


Available from authorized Simpson Instrumentation Products distributors

Net
© United Technical Publication

Simpson PRECISON MULTIMETER—RECORDERS

NEW! 68-RANGE MOS-FET LAB-ACCURACY MULTIMETER



MODEL 2795

New high precision solid-state multimeter has lab accuracy VOM functions **plus** AC current, capacitance, and temperature ranges! Advanced design offers high input impedance, negligible voltage drop, ±1% DC and AC accuracy — all in a portable, battery operated instrument. Built-in circuit breaker protects the entire tester from overloads — works even if batteries are dead — resets with push-button.

Model 2795 .....**$230.00**

SPECIFICATIONS

Accuracy: ±1.0% of full scale, AC and DC.

Ranges:
- AC/DC Voltage: 0-1 mV to 0-1 kV in 13 ranges.
- AC/DC Current: 0-1 μA to 0-3 Amps in 14 ranges.
- Resistance: 10 Ω to 1 Meg Ω (mid-scale values) in 6 ranges.
- Capacitance: 100 μF to 1 nF (mid-scale values) in 6 ranges.
- Temperature: ±18°C and ±180°C from ambient.

Input Impedance: 1 Meg Ω @ 1 Volt (AC and DC).

Voltage Drop: 3 mV @ 1 mA (AC and DC).

Temperature Probe: I/C ≤ 30 Ω thermocouple (optional accessory).

Other Accessories Available

MULTI-RANGE MULTICORDERS



Dependable inkless recording system. Single switch selects range desired, with both range and measured value being recorded. High torque taut band movement cannot develop friction from shock or vibration. Model 604 has 22 ranges. Model 605 has 27 ranges. Both offer recording at less than $10 per range.

Model 604 MULTICORDER **$200.00**
Model 605 MULTICORDER **215.00**

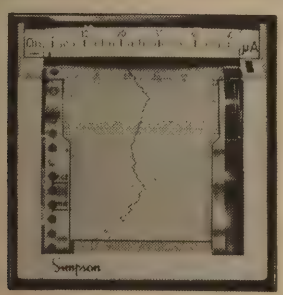
SPECIFICATIONS

Accuracy: ±2.5% of full scale.
Chart Speeds: 1, 3, 12 inches/hr.
Power Required: 115 VAC, 60 Hz.

MODEL 604 RANGES:
(at 20 kΩV DC, 5 kΩV AC sensitivity)
- DC mV: 100, 500
- DC Volts: 2.5, 10, 25, 100, 250, 500
- AC Volts: 10, 25, 100, 250, 500
- DC μA: 50, 250
- DC mA: 1, 5, 25, 100, 250
- DC Amperes: 1
- AC μA: 200

MODEL 605 RANGES:
(at 666 Ω/V AC and DC sensitivity)
- DC mV: 12, 30, 60
- DC Volts: 3, 15, 60, 300, 600
- AC Volts: 6, 30, 150, 300, 600
- DC μA: 600
- DC mA: 1.5, 3, 6, 30, 150
- DC Amperes: 1.2, 6
- AC mA: 3, 15, 60, 300
- AC Amperes: 1.2, 6.

MINIATURE PANEL-MOUNT RECORDERS



- **SINGLE & DUAL CHANNEL**

Record for up to a month without changing chart paper. Inkless recording system never needs refills. Quick-change gearboxes provide chart speeds from 20 to 600 mm/hr. (20/120 mm/hr. supplied with recorder). Compact — mount in just 3¾"-square of panel space. Available in models for recording electrical values, temperature, or event channels.

SPECIFICATIONS

Accuracy: ±1.5% of full scale for electrical values. ±2% for temperature (±3°F. with model 2761 outside of 0-120°F. range).

2755: 10 millisecond response time on event recorder solenoids. Chart speeds to 3600 mm/per hour. 10 channels of information in just 3¾" panel cutout.

Chart Speeds: 20/120 mm/hr. (switch selectable). Gearboxes for other speeds available.

Panel Mounting: Bracket supplied. Requires just one 3.6 x 3.6 inch cutout.

Portable Operation: Carrying handle available.

Paper Take-Up: Built-in. Automatic.

Power Required: 115 VAC, 60 Hz.

DEL 2750 — Electrical Ranges

Range	Terminal Resistance	Catalog No.	Price
10 DC Microamperes	1,500Ω	22000	$167.00
50 DC Microamperes	1,100Ω	22002	153.00
100 DC Microamperes	970Ω	22003	147.50
500 DC Microamperes	280Ω	22004	142.00
1 DC Milliampere	20Ω	22005	140.00
1/0-1 DC Milliampere (Dual Channel)	20Ω	22024	165.00
0.4 . . . 25 DC Millivolts (Adjustable)	>50 MegΩ	22030	250.00
50 DC Millivolts	1,000Ω/v	22008	142.00
5 AC Amperes	†0.014Ω	22113	153.00
150 AC Volts	†1,000Ω/v	22110	148.00
3.5-126.5 AC Volts (Segmental Scale)	†1,000Ω/v	22115	175.00
300 AC Volts	†1,000Ω/v	22116	148.00

†Impedance at 60 Hz

MODELS 2761/2762 — Temperature Ranges

Model 2761 — Range	Cat. No.	Price
−50° to +50°F, +50° to +150°F, +150° to +250°F (3 ranges, switch selectable)	23151	$190.00
Model 2762 — Range		
−40° to +60°F, +50° to +150°F (2 ranges, switch selectable). Dual channel (same range recorded on both channels, 2 inputs).	23152	210.00

MODEL 2755 — Event Channels

Voltage	Power Per Solenoid	Catalog No.	Price
10 Channels, 6 Volts DC	1.2 Watts	22203	$175.00
10 Channels, 12 Volts DC	1.2 Watts	22202	175.00
10 Channels, 24, Volts DC	1.2 Watts	22201	175.00
10 Channels, 115 Volts AC, 60 Hz	2.2 VA	22200	175.00

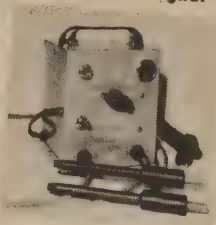
Available from authorized Simpson Instrumentation Products distributors

Insulation Testers

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER Company
TEST WITH CONFIDENCE

High-voltage Insulation Tester
with buzzer signal on breakdowns
. . . grounds
. . . . shorts

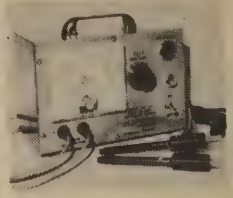


MODEL **101**

Watch what you are doing . . . not the tester

SIX TEST VOLTAGES . . 500 to 2500 V.A.C. PRICED SO YOU CAN AFFORD TO SPOT A FEW ALONG YOUR ASSEMBLY LINES.

Adjustable High-voltage Tester
with buzzer signal on breakdowns
. . . grounds
. . . . shorts

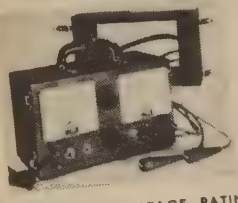


MODEL **106**

Voltmeter shows actual Test Voltage

CONTINUOUSLY VARIABLE TEST VOLTAGE RATINGS TO 10,000 VOLTS AC & DC . . RECOMMENDED FOR BREAKDOWN TESTING AT FINAL ASSEMBLY AND INSPECTION

High-voltage Leakage Tester
checks insulation for . . . leakage
. . . grounds
. . . . . arcing

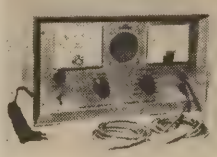


MODEL **122**

16 lb. Portable for lab and field work

VARIABLE VOLTAGE RATINGS TO 5 KV AC & DC. DUAL RANGE LEAKAGE METER 0/100/1000 μa. . . . CAPACITY COMPENSATION. . . MEASURES INSULATION RESISTANCE, CAPACITY, POWER FACTOR.

High-voltage Leakage Tester
audibly signals excess leakage
. . . grounds
. . . . . arcing

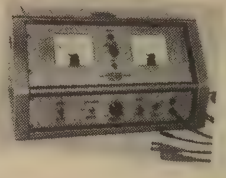


MODEL **103**

Measures Leakage . . . not capacity current

TEST VOLTAGE CONTINUOUSLY VARIABLE ADJUSTABLE LEAKAGE LIMIT. . CAPACITY COMPENSATION ON AC TESTS. . . RATINGS TO 10,000 VOLTS AC & DC. . . . LIMITED ENERGY. . NON-DESTRUCTIVE. . . FOR LAB AND PRODUCTION LINE SERVICE. . . . . .

Automatic H-V Insulation Tester
for precision checking . . . breakdowns
. . . leakage
. . . grounds



MODEL **103-MP**

Automatic Test Cycle

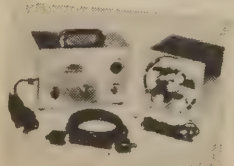
FULLY AUTOMATIC TEST CYCLE. . . CONTROLLED RATE-OF-RISE. . . ADJUSTABLE TEST VOLTAGE, DWELL TIME, & LEAKAGE LIMIT. . . CAPACITY COMPENSATION ON AC TEST. . . FOR PRECISION TEST OF CRITICAL PARTS & ASSEMBLIES. . .

Stroboscopes

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER Company
TEST WITH CONFIDENCE

Inspection Stroboscope
. . . with extra high intensity daylight lamp

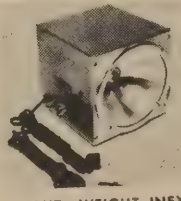


MODEL **167**

0/600 Flashes per Minute

SUPER INTENSITY TRIGGERED FLASH UNIT . . . PUSH-TO-SEE SWITCH. . . . FOR INSPECTION ON-THE-GO UNDER HIGH AMBIENT LIGHT CONDITIONS.

Inspection Stroboscope
. . . . . with high intensity daylight lamp



MODEL **161**

0/2,000 Flashes per Minute

LIGHT WEIGHT INEXPENSIVE TRIGGERED FLASH UNIT. . . . . PUSH-TO-SEE SWITCH. . . . INTENSE WHITE LIGHT FOR INSPECTION ON-THE-GO

MIDGET STROBOSCOPE FLASH HEAD



MODEL **166**

0/10,000 Flashes per Minute

FOR WORK ON MINIATURIZED EQUIPMENT . . . . FOR PRINTING TRADES. . . . FOR BIO-MEDICAL WORK. . ADAPTS TO ANY SLAUGHTER STROBOSCOPE. . .

Universal Stroboscope
. . . with high intensity daylight lamp



MODEL **163**

50/16,000 Flashes per Minute

UNIVERSAL UNIT FOR MOTION STUDY & INSPECTION ON-THE-GO. . . INSTANT STARTING . . . HIGH INTENSITY WHITE LIGHT . . . . TRIGGER EXTERNALLY OR OPERATE FROM INTERNAL OSCILLATOR

Metered Precision Stroboscope
. . . . . with high intensity daylight lamp



MODEL **165**

50/16,000 Flashes per Minute

PRECISION STROBOSCOPE TACHOMETER INSTANT STARTING. . . HIGH INTENSITY WHITE LIGHT. . . OPERATES FROM EXTERNAL CONTACTS OR INTERNAL OSCILLATOR. . EASILY SYNCHRONIZED. . OUTPUT JACKS TO COUPLE SCOPE, ETC. . . .

© United Technical Publication

SPRAGUE TEST EQUIPMENT

TO-6 TEL-OHMIKE® CAPACITOR ANALYZER



The TO-6 TEL-OHMIKE capacitor analyzer is a must for checking all capacitors. It is a moderately priced instrument with laboratory quality and accuracy—the highest accuracy of any instrument of its type available to the service trade!

- **LEAKAGE CURRENT** of electrolytics measured directly on meter. Four ranges; .06, .6, 6, and 60mA. Three ranges of DC voltage (continuously variable within each range) permit testing capacitors at exact rated voltage up to 600 volts.
- **POWER FACTOR** of electrolytics, up to 50% measured by Wien Bridge.
- **METER PROTECTOR** of solid-state design allows severe accidental over-loads without burn-outs.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements. High gain amplifier provides greatly improved sensitivity.
- **PUSH-BUTTONS** color-keyed for instant range selection.
- **MODERN CASE:** Silver-grey hammertone finish, panel is charcoal grey with highly contrasting white designations. Measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 13 pounds.

MODEL TO-6 ..... 115 VAC/50-60 cy
MODEL TO-6S ..... 115-230V/50 cy

Call Your Sprague Distributor for Current Prices

- **CAPACITANCE BRIDGE** measures up to 2000 μF. Five overlapping ranges include exclusive 1 pF to 100 pF range. Special shielded transformer for bridge voltage. Extremely low AC voltage; 1.35 volts for electrolytic capacitors, 2.85 for all others, permits safe testing of all low voltage capacitors.
- **INSULATION RESISTANCE** of papers, ceramics and micas directly read on large meter. No guessing with neon lamps. Dual range—to 10KMΩ@ 30V for low voltage units . . . to 50KMΩ@ 150V for higher voltage components. Fast charge feature speeds testing of high capacitance units.

TEL-OHMIKES FOR RACK MOUNTING

Electrically identical to TO-6 and TO-6S. These models have a standard 19"w. x 10½"h. panel so that it can be mounted in standard relay racks.

MODEL TO-6RM.....115 VAC/50-60 cy
MODEL TO-6SRM.....115-230 V/50 cy

Call Your Sprague Distributor for Current Prices

M-3 MIKE-O-METER® MOTOR CAPACITOR ANALYZER

- **ACCURATELY MEASURES** capacitance and power factor of any motor-starting, motor-running capacitor or any other capacitor within the range of .1 μF to 1000 μF. Uses the highly reliable Wien Bridge method.
- **SIMPLIFIES** capacitor testing for the air conditioning, refrigeration, and electric motor technician.
- **DIRECT READINGS** on highly visible, calibrated scales.
- **MAGIC EYE** tube makes bridge-balancing easy.
- **SAFE OPERATION** is assured by the automatic discharge of the capacitor when test switch is released. The M-3 is transformer operated. Instrument case is isolated from AC line.
- **BUILT FOR SERVICE** and a long dependable life, whether in your shop, or on the job in the field.
- **COMPONENTS IN THE M-3** were selected to provide reliability. Highest quality capacitors and resistors are used. The power transformer is specially treated to resist moisture.
- **ELECTRON TUBES** resistant to shock and vibration were chosen for the M-3. They can be obtained from any electronic parts distributor.
- **ALSO CHECKS** capacitors for open, shorted, or intermittent conditions.
- **SLOPING PANEL** and recessed eye designed to improve visibility, especially when working in lighted areas.
- **STEEL CASE** measures 9 inches high, 6 inches wide and 5¾ inches deep. Has folding metal carrying handle. Weighs only 6 pounds.
- **ATTRACTIVELY FINISHED** in blue hammerloid. Panel is light grey with black markings.



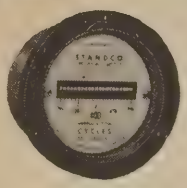
MODEL M-3, 110-125 VAC, 50/60 CYCLES. . . . . .
MODEL M-3S, 110-125/220-230 VAC, 50-60 CYCLES. . . .
PROTECTIVE VINYL COVER, Cat. No. CV-3 . . . . . .

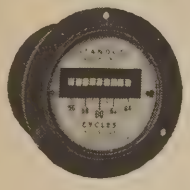
Call Your Sprague Distributor for Current Prices

pyright 1971, Sprague Products Company

STICHT INSTRUMENTS

"STANDCO" VIBRATING REED FREQUENCY METERS





PANEL MOUNTING

3½" Bakelite Case

- Rugged
- Dependable
- Accuracy ±0.5%
- Reeds aged

HERMETICALLY SEALED

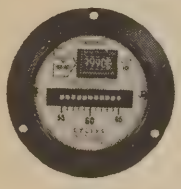
2½" and 3½"

All MIL-Specs. Also Ruggedized Types.

Cat. No.	No. Reeds	Interv. CPS	Range CPS
351	5	1	48-52
352	7	1	47-53
349	9	0.5	48-52
353	11	0.5	47.5-52.5
348	11	1	45-55
356	9	0.5	58-62
357	11	0.5	57.5-62.5
358	21	0.5	55-65
359	5	1	58-62
360	7	1	57-63
361	9	1	56-64
362	11	1	55-65
363	21	1	50-70

Bulletin 806

Cat. No.	No. Reeds	Interv. CPS	Range CPS
DUAL RANGE			
369	5	1	48-52
	5	1	58-62
400 CYCLES			
374	5	10	380-420
380	5	5	390-410
364	9	5	380-420
366	11	4	380-420
365	11	5	375-425
379	11	8	360-440
376	11	2	390-410
375	17	2.5	380-420
378	17	5	360-440
367	21	2	380-420
368	21	4	360-440



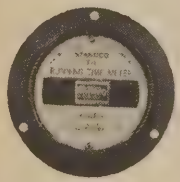
Bulletin 811

"STANDCO" COMBINATION FREQUENCY AND RUNNING TIME METERS

In 3½" flush mounting, round bakelite cases

Cat. No.	Freq. Range	No. of Reeds.	Time Range
TF-362	55-65 CPS	11 Reeds	9999.9 hrs.
TF-356	58-62 CPS	9 Reeds	9999.9 hrs.
TF-360	57-63 CPS	7 Reeds	9999.9 hrs.
TF-359	58-62 CPS	5 Reeds	9999.9 hrs.

"STANDCO" RUNNING TIME METERS



Bulletin 810

ALTERNATING CURRENT

3½" Round Flush		2⅝" Round Flush with U-Clamp
Type T-1	9999.9 hrs.	Type T-45
Type T-3	99,999 hrs.	9999.99 Hours
Type T-4	99,999 min.	
115V, 220V, 440V, 60 or 50 cycles		115 V 60 cycles 230 V 60 cycles



Bulletin 810

AC HERMETICALLY SEALED TYPE

3½" Round Flush		2½" Round Flush	
Type T-1	9999.9 hrs.	Type T-25	9999.9 hrs.
Type T-3	99,999 hrs.	Type T-30	99,999 hrs.
Type T-4	99,999 min.	Type T-35	99,999 min.

115V, 220V, 440V, 60 or 50 cycles



DIRECT CURRENT TYPE T-60

2⅝" Round Flush with U-Clamp

Reading Minutes and Hours to 99999 Hours

Bulletin 9160

Standard 12 volts DC
Specials 6, 24, 36 volts DC



AC MINIATURE TYPE T-40

1⅞" x 1⅞" Square Flush with U-Clamp

Register to 9999.99 Hours

Bulletin 9140

115 V 60 cycles
230 V 60 cycles
24 V 60 cycles



VIBRATION TYPE T-75

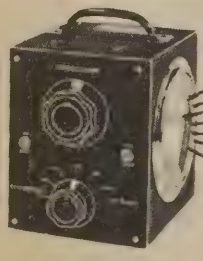
2⅝" Round Flush

Operates without electric power source. Application wherever vibrations occur during operation.

Bulletin 9175

99999 Hours

"STANDCO" TACHOMETERS



HIGH INTENSITY STROBOSCOPE

MODEL 510-AL

STOPS MOTION
MEASURES RPM
without contact

With brilliant daylight flasher unit for maximum readability.
With 4 ranges - 60-15,000 RPM
"Industry's Seeing Eye"

Bulletin 781



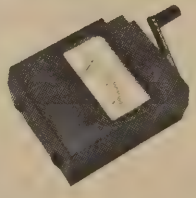
PORTABLE HAND TACHOMETERS

CENTRIFUGAL AND CHRONOMETRIC TYPES

With one, two, three, five or six ranges in one instrument. All speeds 0-100,000 RPM.

Bulletins 735, 750, 751, 756, 765, 790

"MEGOHMER" INSULATION TESTERS





DC GENERATOR (HAND CRANK) TYPES

DWARF MEGOHMER — 500 volts, D.C. — Bulletin 421

Cat. No.	Cat. No.
703 - 0-100 Megohms 0-10,000 Ohms	705 - 0-100 Megohms 0-500 Ohms

STANDARD MEGOHMER MARK II

Multi-Range — Multi-Test Potential

Cat. No.	Test Potential	Insulation Range
718	1000 volts	0-200 megohms
	500 volts	0-100 megohms
	250 volts	0-50 megohms
	100 volts	0-20 megohms
		Continuity Range
		0-100 ohms

Cat. No.	Test Potential	Insulation Range
719	1000 volts	0-2000 megohms
	500 volts	0-1000 megohms
	250 volts	0-500 megohms
		Discharge Continuity Range
		0-20,000 ohms

Bulletin 435

HERMAN H. STICHT COMPANY, INC.

© United Technical Publica

TRIPLETT CORPORATION

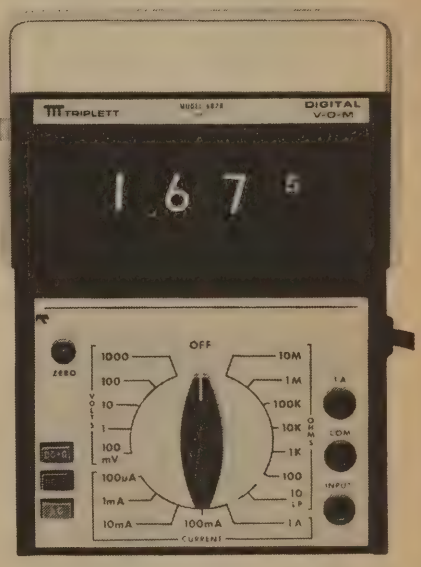
2¾ DIGIT V-O-M

MODEL 6028
(Patent Pending)

1 **2¾ DIGITS — Provides high accuracy with resolution to 500 microvolts.**

2 **10 OHMS TO 10 MEGOHMS FULL SCALE — 7 Ohms ranges with zero adjust to null lead resistance.**

3 **LOW CIRCUIT LOADING — Greater measurement accuracy with 10 megohm input resistance for all AC and DC voltage ranges.**



RANGES

C Volts: 0-100 mV-1-10-100-1,000 V. Input resistance 10 megohms. Accuracy ±0.25% RDG ±½ igit (100 mV-1V) except ±0.35 RDG ±½ digit on 10-100 and 1,000 V ranges.

C Volts: 0-100 mV-1-10-1,000 V. Input impedance 10 megohm. Accuracy ±0.5% RDG ±½ digit xcept ±0.75% RDG ±½ digit on 1,000 V range.

hms: 0-10-100-1k-10k-100k-1M-10M. Maximum voltage across resistor under test is 1V except 100 mV r 10 ohm range. Accuracy ±0.5 RDG ±½ digit except ±1% RDG ±½ digit on 10M range.

C and DC Microamperes: 0-100 at 100 mV.

C and DC Milliamperes: 0-1-10-100 at 100 mV.

C and DC Amperes: 0-1 at 100 mV.

urrent Accuracy: AC ±1% RDG ±½ digit; DC ±0.5% RDG ±½ digit except ±0.75% RDG ±½ git on 1A range.

CONSTRUCTION

ut of Range Indication: All numbers displayed simultaneously.

olarity Indication: Unipolar, soft glow with 0 half digit displayed indicates wrong polarity.

MR: Greater than 80 dB with 1k ohm unbalance at 60 Hz.

MR: Greater than 25 dB at 60 Hz.

ower Requirements: 105-125 V AC, 50/60 Hz, 4 Watts, or optional battery pack.

emperature Operating Range: 0°C-40°C.

ase Dimension: 6½"h x 5⅛"w x 3⅜"d.

eight: Approximately 4 lbs.

odel 6028 Cat. No. G050 ..... **$275.00**

ACCESSORIES

Leather Carrying Case
High Voltage Probe
Rechargeable Battery Pack

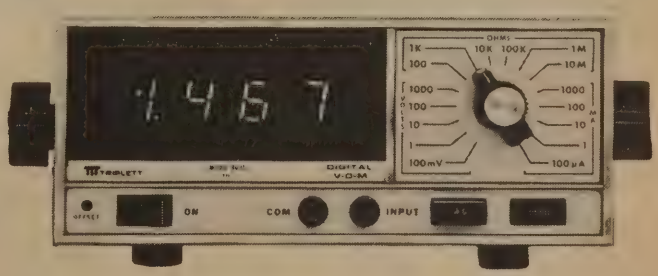
3½ DIGIT V-O-M

MODEL 8035
(Patent Pending)

EASY OPERATION — Single polarized plug for test leads eliminates switching leads when changing functions.

2 **LOW POWER CONSUMPTION — Less internal heating for greater stability and reliability.**

3 **LOW CIRCUIT LOADING — Greater measurement accuracy with 10 megohm input resistance for all AC and DC voltage ranges.**



RANGES

C Volts: 0-100 mv-1-10-100-1,000 V. Input resistance 10 megohms. ccuracy ±0.1% RDG ±1 digit all ranges. Full scale step response is seconds.

C Volts: 0-100 mV-1-10-100-1,000 V. Input impedance 10 megohm, unted by less than 50 pf. Accuracy ±0.2% RDG ±1 digit, 100 mV; 0.3% RDG ±1 digit, 1 V-10 V; ±0.4% RDG ±1 digit, 100 V-1,000 Full scale step response is 3 seconds.

hms: 0-100-1K-10K-100K-1M-10M. Maximum voltage across resistor der test is 199.9 mV all ranges. Accuracy ±0.25% RDG ±1 digit ranges except ±0.5% RDG ±1 digit for 1M and ±2% RDG ±1 git on 10M range.

C and DC Microamperes: 0-100 at 100 mV.

C and DC Milliamperes: 0-1-10-100 at 100 mV.

AC and DC Amperes: 0-1 at 100 mV.

Current Accuracy: AC ±0.5% RDG ±1 digit all ranges; DC ±0.2% RDG ±1 digit all ranges except ±0.4% RDG ±1 digit on 1A range.

CONSTRUCTION

Out of Range Indication: Three least significant digits blank.

Polarity Indication: Auto-polarity for DC functions.

CMR: Greater than 80 dB with 1 kΩ unbalance at 60 Hz.

NMR: Greater than 30 dB at 60 Hz.

Power Requirements: 105-125 V AC, 50/60 Hz, 3 watts.

Temperature Operating Range: 0°C to 45°C.

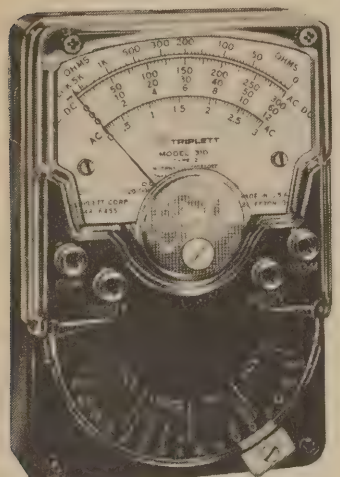
Case Dimensions: 3½"h x 8⅛"w x 10"d.

Weight: Approximately 4½ lbs.

Model 8035 Cat. No. G200 ..... **$385.00**

TRIPLETT CORPORATION

GENERAL MULTI-PURPOSE V-O-Ms



310

Volt-Ohm-Milliammeter MODEL 310 TYPE 2

1. **Hand-size V-O-M with diode overload protection.**
2. **20,000 ohms per volt DC and 5,000 ohms per volt AC.**
3. **Single range switch; provision for clamp-on AC ammeter.**

Self-shielded for checking in strong magnetic fields.
Rugged, high torque, bar-ring instrument.
Unbreakable plastic meter window.
Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand.
Standard sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC.
Spring-backed instrument jewels for rugg ness.
Accuracy 3% DC, 4% AC.

RANGES

DC Volts: 0-3-12-60-300-1,200 (20,000 O per Volt).
AC Volts: 0-3-12-60-300-1,200 (5,000 O per Volt).
Ohms: 0-20k-200k-2MΩ-20MΩ.
DC Microamperes: 0-600 at 250 mV.
DC Milliamperes: 0-6-60-600 at 250 mV.
Case—Molded, black, 2¾" x 4¼" x 1
Batteries: NEDA #910, 220.
Complete with leads, battery and instruct manual. Shipping wt. 2 lbs.
Model 310 Cat. No. 3018 **$46.**



310-C

MODEL 310-C TYPE 3

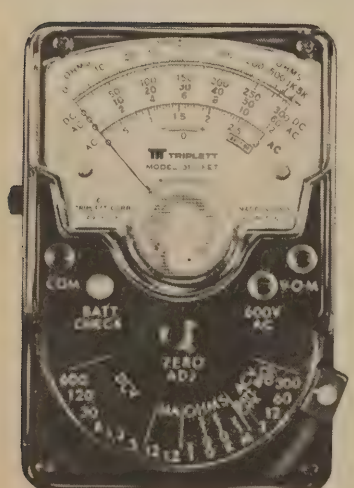
New 310-C is the same as Model 310, above, (except 600 volt ranges replace 1200 volt ranges of model 310) plus the following features: (suspension meter).

1. **Hand-size V-O-M with diode overload-protected suspension movement.**
2. **20,000 ohms per volt DC and 15,0 ohms per volt AC.**
3. **Single range switch minimizes erro DC polarity-reversing switch.**

Model 310-C Cat. No. 3022 **$59.**

ACCESSORIES FOR MODEL 310's

Model 10. Clamp-on AC ammeter	(Model 310, 310FET)	Cat. No. 60-211	**$21.**
Ranges: 0-6-12-30-120-300	(Model 310-C)	Cat. No. 60-210	**$21.**
Model 101. Line Separator Divides 2 conductor cords and increases Model 10 sensitivity 10X and 20X		Cat. No. 60-218	**$ 8.**
Model 311. Long lead to separate Model 10 from 310 unit for easy reading in awkward spots.		Cat. No. 79-161	**$3.**
Model 379. Carrying case for Model 310 and Model 10 in combination		Cat. No. 10-1456	**$ 8.**
Model 369. Carrying case for Model 310's		Cat. No. 10-1258	**$ 4.**
Model 369-S. Carrying case for Model 310's, front opens permitting use of tester in case		Cat. No. 10-1791	**$11.**



310-FET

HANDSIZE FET V-O-M

MODEL 310-FET

1. **Hand-size FET V-O-M with 10 megohm DC input resistance.**
2. **Low voltage range of 300 mV DC; X1 megohm range.**
3. **Single range switch; DC polarity-reversing switch.**

Resistance measurements to 5,000 Megohms. Open Ckt. voltage 1.5V on all ranges. Max. sho ckt. current 30mA. Max. pwr. across device under test 11 mW. Rugged Suspension Movemen Accuracy is ±3% of full scale on DC, and ±4% on AC. ±3% of DC arc on Ohms. High Sens tivity (300 mV fs DC) allows transistor bias measurements. Zero center mark for null measur ments. Polarity reversing switch for DC and ohms.

RANGES

DC Volts: 0-0.3-1.2-6-30-120-600. Input resistance 10 megohms.
AC Volts: 0-3-12-60-300-600 (5,000 Ohms per Volt).
Ohms: 0-5k-500k-50MΩ-5,000MΩ (50 Ohm center scale on low range).
DC Milliamperes: 0-0.12-1.2 at 300 mV.
Case: Molded, black, measures 2¾" x 4¼ x 1⅛". 42" leads.
Battery operated, 7V NEDA #1501, 1½V AS Type N. Battery check on selector switch.
Model 310-FET, complete with leads, instruc tion manual and batteries.
Cat. No. 3027. **$78.**
Model 100-FET Cat. No. 3013 **$115.**

Net
© United Technical Publication

TRIPLETT CORPORATION

GENERAL MULTI-PURPOSE V-O-Ms

olt-Ohm-Milliammeter MODEL 630 TYPE 2



Diode overload-protected V-O-M; single range switch minimizes error.
4 ohmmeter ranges with 4.4 ohms center scale.
Simplified scale—only 4 arcs for all 27 ranges.

pular streamlined tester with long meter scales anged for easy reading. Outstanding resistance nges: low reading .1 ohm, high 100 megs. Fuse ords protection to the resistors in the ohmmeter cuit, especially the X1 setting.
ring-backed instrument jewels for ruggedness. Ac- racy ±2% DC, ±3% AC. Meter movement diode otected against instantaneous overloads.

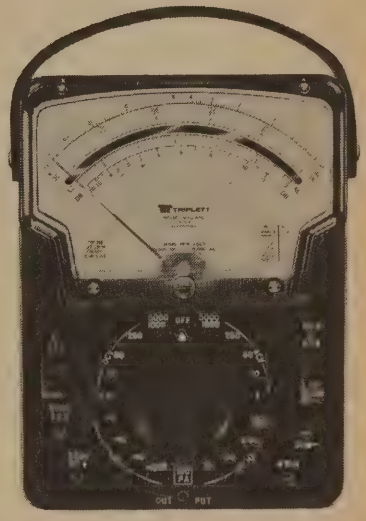
RANGES

Volts: 0-3-12-60-300-1,200-6,000 (20,000 Ohms r Volt).
AC Volts: 0-3-12-60-300-1,200-6,000 (5,000 Ohms per Volt).
Ohms: 0-1k-10k-1MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-60 at 250 mV.
DC Milliamperes: 0-1.2-12-120 at 250 mV.
DC Amperes: 0-12.
Decibels: −20 to +51 ("0" dB at 1 mW on 600 Ohm line).
Output Volts (AC): 0-3-12-60-300 (5,000 Ohms per Volt).

Case—Molded, black, 3-7/32" x 5½" x 7½". Batteries: NEDA #210, 13F.
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630 Cat. No. 3030 **$67.00**

odel 630-A. Laboratory version of Model 630 V-O-M above. Has same ranges and sensitivity but comes uipped with mirror scale, knife-edge pointer, suspension movement and accuracy of ±1½% DC d ±3% AC. **Model 630-A** Cat. No. 3034 **$79.00**

olt-Ohm-Milliammeter MODEL 630-APL TYPE 3



Accuracy 1½% DC and 3% AC; mirrored scale: diode overload-protected suspension movement.
27 range V-O-M with single range switch minimizes error; DC polarity reversing switch.
4 ohmmeter ranges with 4.4 ohms center scale.

laboratory type Volt-Ohm-Milliammeter with mir- red scale and suspension type movement. Greater curacy made possible through the use of special % resistors. Accuracy ±1½% DC, ±3% AC. High nsitivity: 20,000 ohms per volt DC; 5,000 ohms per lt AC. Polarity reversing switch. Tester usable with equencies through 500 KHz.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 (20,000 Ohms per Volt); 0-0.25 at 100 μA.
AC Volts: 0-3-10-50-250-1,000-5,000 (5,000 Ohms per Volt).
Ohms: 0-1k-10k-1MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-100 at 250 mV.
DC Milliamperes: 0-10-100-1,000 at 250 mV.
DC Amperes: 0-10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600 Ohm line).
Output Volts (AC): 0-3-10-50-250 (5,000 Ohms per Volt).

Case: Molded, black, 3-11/32" x 5½" x 7½". Batteries: NEDA #210, 13F.
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630-APL Cat. No. 3038 **$79.00**

odel 630-PL. A general purpose version of Model 630-APL above. Has same ranges and sensitivity but mes without mirror scale, knife-edge pointer and suspension movement and with accuracy of ±2% DC d ±3% AC. **Model 630-PL** Cat. No. 3050 **$67.00**

olt-Ohm-Milliammeter MODEL 630-PLK TYPE 3



Burnout-proof solid-state overload protection.
Single range switch minimizes error; DC polarity-reversing switch.
4 ohmmeter ranges with 4.4 ohms center scale.

ansistorized electronic switching circuit (exclusive atent) guards against accidental burn-outs. Now ou can virtually eliminate bent pointers, burned-out sistors, damaged pivots, overheated springs, urned-out coils, changes in accuracy due to over- eating, in fact nearly any need for repairs. Life transistor circuit battery is nearly that of shelf e. Automatically checked by using X100K ohms nge. Overload protection on meter in addition to ansistorized circuit that protects tester.
ccuracy ±2% on DC, ±3% AC. High sensitivity: 0,000 Ω/V DC; 5,000 Ω/V AC. Shipping weight 5 s.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 (20,000 Ohms per Volt); 0-0.25 at 100 uA.
AC Volts: 0-3-10-50-250-1,000-5,000 (5,000 Ohms per Volt).
Ohms: 0-1k-10k-1MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-100 at 250 mV.
DC Milliamperes: 0-10-100-1,000 at 250 mV.
DC Amperes: 0-10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600 Ohm line).
Output Volts (AC): 0-3-10-50-250 (5,000 Ohms per Volt).

Case: Molded, black, 3-11/32" x 5½" x 7½". Batteries: NEDA #210, 13F.
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630-PLK Cat. No. 3055 **$103.00**

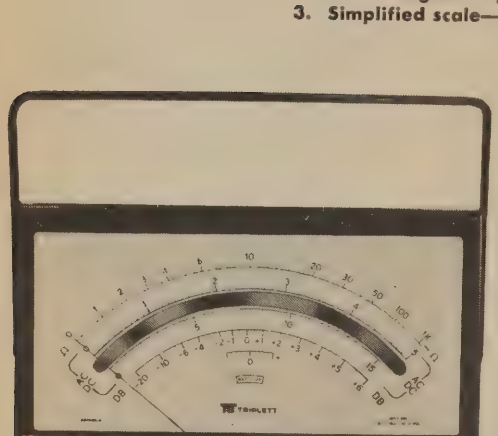
odel 630-APLK. Laboratory version of Model 630-PLK V-O-M above. Has same ranges, sensitivity and burn- ut proof solid-state overload protection but comes equipped with mirror scale, knife-edge pointer, spension movement and accuracy of ±1½% DC and ±3% AC. **Model 630-APLK** Cat. No. 3120 **$116.00**

TRIPLETT CORPORATION

FET V-O-M with LOW POWER OHMS

MODEL 801

1. **Low power ohms—8 ranges with 35 mV power source and 1 ohm center scale.**
2. **High sensitivity—5 mV AC full scale at 10 megohm input impedance; 50 mV DC at 11 megohm input resistance.**
3. **Simplified scale—8" meter with only 4 arcs for all 73 ranges.**



Designed to be one of the most useful instruments in the electronics lab and electr field service, the Model 801 V-O-M offers 73 measurement ranges embracing a very l span of measurements at accuracies to please the most exacting user. Featured ar resistance ranges including 8 low-power ranges applying only 35 mV to the device t test; common AC and DC scales to simplify meter dial; low ranges reading 100 Ohms, V AC, 0.05 V DC and 5 μA AC and DC full scale; rugged 8", 25 μA suspension meter. power resistance ranges are ideal for in-circuit checking of ICs, transistors and other s state components . . . permit measurements without triggering amplifying and semi-con ing devices. Accuracy: ±2% on all DC voltage ranges except 1500 V ±3%; ±3% on a voltage ranges and DC current ranges; ±4% on AC current ranges; ±3% of DC V a all resistance ranges. AC ranges for frequencies from 50 Hz to 50 KHz.

RANGES

DC Volts: 0-0.05-0.15-0.5-1.5-5-15-50-150-500-1,500. Input resistance 11 megohms with 1 megohm series resistor in probe tip. Includes 40 dB 60 Hz rejection.

AC Volts: 0-0.005-0.05-0.15-0.5-1.5-5-15-50-150-500-1,500. Input impedance 10 megohms. Frequency range 50 Hz to 50 kHz. Capacitance at input jack 60 mm fd max.

Ohms—Low-power: 0-100-1k-10k-100k-1MΩ-10MΩ-100M Ω-1,000MΩ (35 mV and 1 Ohm center scale on low range).

Ohms—Conventional: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ-1,000M Ω (1.5V and 10 Ohm center scale on low range).

AC and DC Microamperes: 0-5-15-50-150-500 at 45 mV.

AC and DC Milliamperes: 0-1.5-5-15-50-150-500 at 45 mV.

AC and DC Amperes: 0-1.5 at 45 mV (Optional external shunt for 0-15A measurements).

Decibels: −70 to +66 ("0" dB is equ .775 V).

Case: Molded, black, high-impact mat with metal handle that can be used to port instrument at approximately 25° a etched aluminum panel; 8"x7"x5".

Batteries: 3-4½ V mercury or alkaline 1½ V "D" cell.

Model 801, complete with leads, allig clips, batteries and instruction manual. No. 3071 **$210**

High Voltage Probe 50 KV Cat. No. 292 **$26**

RF Probe 250 MHz/20 V Cat. No. 79- **$10**

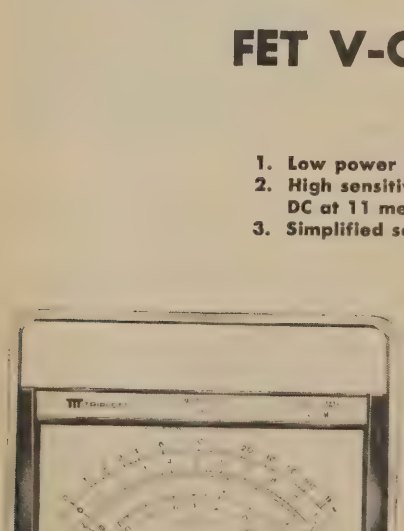
Leather Case Cat. No. 10-2467 **$32**

15 Ampere Shunt Adapter Cat. No. 91-620 **$10**

FET V-O-M with LOW POWER OHMS

MODEL 601

1. **Low power ohms—7 ranges with 75 mV power source.**
2. **High sensitivity—10 mV AC full scale at 10 megohm input impedance; 100 mV DC at 11 megohm input resistance.**
3. **Simplified scale—only 4 arcs for all 53 ranges.**



Single range selector switch, easy to use. Large 4½" Suspension meter movement. Spec Low-Power Ohms circuit has only 0.1 mW of power, permits in-circuit resistance measu ments in solid state circuitry. Simple to read uncluttered dial provides quick readings usi only four scales for all 52 ranges. 11 Megohm input resistance on all voltage ranges. and DC current ranges never before available on a similar unit. Accuracy is ±2% of F Scale on DC, ±3% AC, (Current, ±3% and ±4%).
Usable with frequencies from 50 Hz to 50KHz.

RANGES

DC Volts: 0-0.1-0.3-1-3-10-30-100-300-1,000. Input resistance 11 megohms with 690k series resistor in probe tip. Includes 40 dB 60 Hz rejection.

AC Volts: 0-0.01-0.03-0.1-0.3-1-3-10-30-100-300-1,000. Input impedance 10 megohms. Frequency range 50 Hz to 50 kHz. Capacitance at input jack 60 mm fd max.

Ohms—Low-Power: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ-1,000MΩ (75 mV and 10 Ohm center scale on low range).

Ohms—Conventional: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ-1,000MΩ (1.5V and 10 Ohm center scale on low range).

AC and DC Milliamperes: 0-0.01-0.1-1-10 at 100 mV.

Decibels: −60 to +62 ("0" dB is equal .775V).

Case: Molded, black high impact mater $3\frac{3}{16}$" x 5⅛" x 6½".

Batteries: 10 "AA" cells NEDA #1 Complete with leads, alligator clips, b teries, instruction manual with compl calibration instructions. Shipping weight lbs.

Model 601 Cat. No. 3033 **$166.**

High Voltage Probe, 30 kV, Cat. No. 7 270 **$27.**

RF Probe, 250 MHz/50 V, Cat. No. 79-271 **$10.**

Leather Case, Cat. No. 10-1793 **$16.**

Net

© United Technical Publications

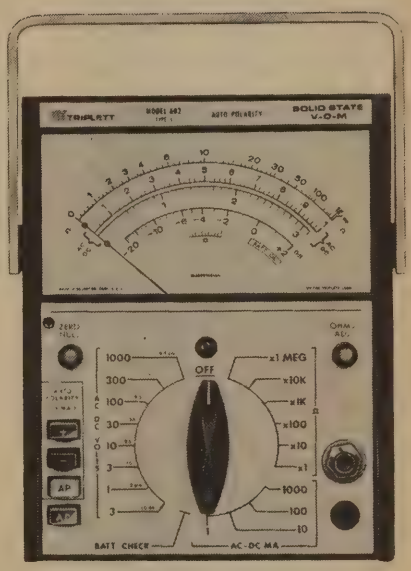
TRIPLETT CORPORATION

FET V-O-M with AUTO-POLARITY

MODEL 602

1. **FET V-O-M with Auto-Polarity—convenient and time saving.**
2. **Low voltage range of 300 mV; 10 megohm AC input impedance and 11 megohm DC input resistance.**
3. **Simplified scale—only 4 arcs for all 38 ranges.**

signed to speed testing by reading upscale regardless of circuit polarity, yet handy push-ttons allow selection and determination of polarity when required. 0.3 V full scale in lowest nge on both AC and DC. Tester offers 38 ranges, but 24 AC/DC ranges are read from only o arcs on 4½" meter to keep dial clean and readable. Input amplifier incorporates a high gree of feedback so both AC and DC meter tracking scales are linear. In Auto-Polarity mode, strument is not adjusted for zero, but for zero or lowest null. This means zero adjustment can made from virtually any angle without introducing a parallax error. 50 μA suspension-type ter movement absorbs shocks and jars that would disable ordinary meters. Accuracy: ±3% all Voltage ranges except 1000V ±4%; ±4% on all current ranges; ±3% of DCV arc on sistance. AC ranges for frequencies from 50 Hz to 50 KHz.



RANGES

C Volts: 0-0.3-1-3-10-30-100-300-1,000. In-ut resistance 11.12 megohms with 1.12 Meg Probe.

C Volts: 0-0.3-1-3-10-30-100-300-1,000. In-ut impedance 10 megohms. Frequency range 0 Hz to 50 kHz.

hms: 0-1k-10k-100k-1MΩ-10MΩ-1,000MΩ (10 hms center scale on low range).

C and DC Milliamperes: 0-1-10-100-1,000 300 mV.

ecibels: −30 to +62 ("0" dB is equal to 776V).

Case: Molded, black, high-impact material with metal handle that can be used to support instrument at approximately 25° angle. 5⅛" x 6½" x 3$\frac{3}{16}$".

Batteries: 2-9V NEDA 1604; 1-1½ V "D" cell.

Model 602, complete with leads, alligator clips, batteries and instruction manual. Cat. No. 3036 **$105.00**

High Voltage Probe 30 KV Cat. No. 79-270 **$27.80**

RF Probe 250 MHz/20V Cat. No. 79-264 **$10.00**

Leather Case Cat. No. 10-1793 **$16.20**

ELECTRONIC VOLT-OMMETER

MODEL 850

1. **8" meter with six scales for easy readability.**
2. **29-range VTVM with 11 megohm DC input resistance.**
3. **Color-coded scales for peak-to-peak measurements.**

mong its outstanding features:
LECTRICAL PROTECTION of meter against urnout. SEPARATE SCALE on easy-view meter r Peak-to-peak readings. SINGLE UNIT PROBE - with built-in switch for AC/DC/OHMS. Line oltage: 115 VAC 50-60 cycles. Ground type lug. Spring-backed instrument jewels for rug-edness.

ccurate within ±3% on AC and DC. Ohms ccurate within ±3% of full scale based on C scale.

RANGES

C Volts: 0-0.5-1.5-15-50-150-500-1,500 (Input sistance 11 megohms).

C RMS Volts: 0-1.5-5-15-50-150-500-1,500 (In-ut impedance minimum 0.83 megohms).

eak-to-Peak Volts: 0-4-14-40-140-400-1,400-,000.

Ohms: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ-1,000MΩ (10 Ohm center scale on low range).

Frequency: 15 Hz to 3 MHz (Optional accessory diode probe for 0-250 MHz measurements).

Case: Molded black case, 7⅝" x 6$\frac{7}{16}$ x 3¾". Carrying handle also can be used to place the tester at 25° angle for ease in reading. Shipping wt. 7 lbs.

Panel: Etched aluminum.

Model 850 Cat. No. 3074 **$103.00**

Model 850 (Foreign — 220V, 50 to 60 Hz.) Cat. No. 3075 **$110.00**

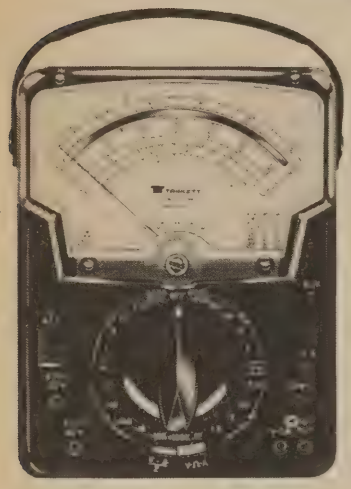
Auxiliary Diode Probe for voltages to 20 volts with frequencies to 250 MHz. Cat. No. 79-215 **$10.00**

High Voltage Probe for DC voltages to 50 KV. Cat. No. 79-196 **$27.83**



TRIPLETT CORPORATION

LABORATORY ACCURACY V-O-Ms



Volt-Ohm-Milliammeter MODEL 630-NS TYPE 2

1. **V-O-M with 200,000 ohms per volt DC and 20,000 ohms per volt AC; accuracy 1½% DC and 3% AC.**
2. **5μA suspension movement with diode overload protection; mirrored scale.**
3. **62 ranges with single range switch and DC polarity-reversing switch.**

The unit is precision designed to give maximum coverage, to withstand accidental overloads and to offer greater reading accuracy. Usable with frequencies through 100 kHz. Accuracy 1½% DC, 3% AC.

RANGES

DC Volts: 0-0.6-3-12-60-300-1,200 (100,000 Ohms per Volt).
0-0.3-1.5-6-30-150-600 (200,000 Ohms per Volt).
0-0.150 at 60 microamperes.
AC Volts: 0-3-12-60-300-1,200 (10,000 Ohms per Volt).
0-1.5-6-30-150-600 (20,000 Ohms per Volts).
Ohms: 0-1k-10k-100k-1MΩ- 10MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-60-600 at 150 mV; 0-5-120 at 300 mV.
DC Milliamperes: 0-6-60-600 at 150 mV; 0-1.2-12-120-1,200 at 300 mV.
DC Amperes: 0-6 at 150 mV; 0-12 at 300 mV.
Decibels: −26 to +51 ("0" dB at 1mW on 600 Ohm line).
Output Volts (AC): 0-3-12-60-300 (10,000 Ohms per Volt).
0-1.5-6-30-150 (20,000 Ohms per Volt).
Case—Molded, black, 3-11/32" x 5½" x 7½". Shipping wt. 5 lbs. Batteries: NEDA #815, 13F.
Model 630-NS Cat. No. 3102 **$122.00**



Volt-Ohm-Milliammeter MODEL 630-NA TYPE 3

Suspension Movement

1. **70-range V-O-M with single range switch and DC polarity-reversing switch.**
2. **Accuracy 1½% DC and 3% AC; mirrored scale.**
3. **Diode overload-protected suspension movement; temperature compensation.**

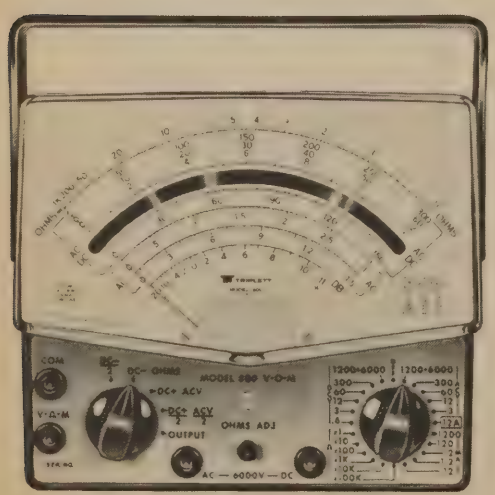
The super deluxe of V-O-Ms. Usable with frequencies through 500 kHz.
Large open front meter easy to read.
Unbreakable window. Mirror scale.
Meter has special diode protection against the most severe overloads. A fuse affords protection to resistors in the ohmmeter circuit (especially the X1 setting) should too high a voltage be applied. Accuracy 1½% DC, 3% AC.

RANGES

DC Volts: 0-0.6-3-12-60-300-1,200-6,000 (10,000 Ohms per Volt).
0-0.3-1.5-6-30-150-600-3,000 (20,000 Ohms per Volt).
0-0.120 at 60 microamperes; 0-0.240 at 120 microamperes.
AC Volts: 0-3-12-60-300-1,200-6,000 (5,000 Ohms per Volt).
0-1.5-6-30-150-600-3,000 (10,000 Ohms per Volt).
Ohms: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-60-600 at 120 mV; 0-120 at 240 mV.
DC Milliamperes: 0-6-60-600 at 120 mV; 0-1.2-12-120-1,200 at 240 mV.
DC Amperes: 0-6 at 120 mV; 0-12 at 240 mV.
Decibels: −26 to +51 ("0" dB at 1 mW on 600 Ohm line).
Output Volts (AC): 0-3-12-60-300 (5,000 Ohms per Volt). 0-1.5-6-30-150 (10,000 Ohms per Volt).
Case—Molded, black, 3-11/32" x 5½" x 7½". Batteries: NEDA #210, 13F.
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630-NA Cat. No. 3042 **$103.00**

DELUXE LAB STYLE

Volt-Ohm-Milliammeter MODEL 800 TYPE 2



1. **8" suspension meter with diode overload protection.**
2. **70-range V-O-M with DC polarity reversing.**
3. **Accuracy 1½% DC and 3% AC; temperature compensation; mirrored scale.**

No other V-O-M offers all the Deluxe features of the Model 800. 3% AC ACCURACY to 1200 volts; mirror and knife-edge pointer to eliminate parallax; USABLE with frequencies to 100 kHz; WIRED CIRCUIT, HIGH FLUX BAR-RING self-shielded magnet; DUAL SENSITIVITY provides extra ranges, DC volts at 20,000 and 10,000 ohms per volt, AC at 10,000 and 5,000 ohms per volt. Shatterproof meter window, molded transparent plastic; fully antistat treated.

RANGES

DC Volts: 0-0.6-3-12-60-300-1,200-6,000 (10,000 Ohms per Volt).
0-0.3-1.5-6-30-150-600-3,000 (20,000 Ohms per Volt).
0-0.120 at 60 microamperes.
AC Volts: 0-3-12-60-300-1,200-6,000 (5,000 Ohms per Volt).
0-1.5-6-30-150-600-3,000 (10,000 Ohms per Volt).
Ohms: 0-1k-10k-100k-1MΩ-10MΩ-100MΩ (4.4 Ohm center scale on low range).
DC Microamperes: 0-60-600 at 120 mV; 0-120 at 240 mV.
DC Milliamperes: 0-6-60-600 at 120 mV; 0-1.2-12-120-1,200 at 240 mV.
DC Amperes: 0-6 at 120 mV; 0-12 at 240 mV.
Decibels: −26 to +51 ("0" dB at 1 mW on 600 Ohm line).
Output Volts (AC): 0-3-12-60-300 (5,000 Ohms per Volt).
0-1.5-6-30-150 (10,000 Ohms per Volt).
Case—Heavy, molded black case, 7½" x 6¼" x 3⅞", with movable handle, which can also serve as a tester stand. Shipping wt. 7 lbs.
Model 800 Cat. No. 3070 **$122.00**

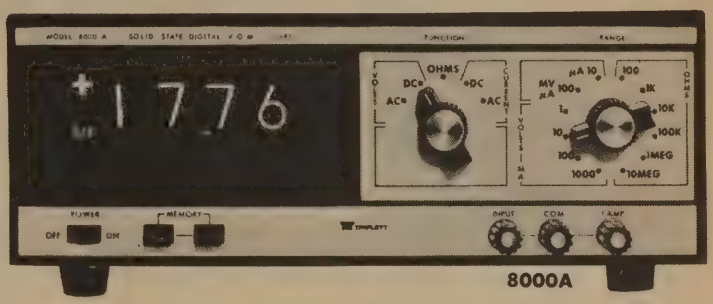
Net
© United Technical Publication

TRIPLETT CORPORATION

LABORATORY ACCURACY V-O-Ms

Digital Volt-Ohm-Milliammeter MODEL 8000A

28-range D-V-O-M with instant-replay memory circuit.
10 megohm AC input impedance and 10 megohm DC input resistance; low voltage range 100 mV AC and DC.
Accuracy 0.1% DC and 0.2% AC to 50% overrange.



8000A

ognizing that the kickback current which occurs in ry other digital V-O-M seriously affects accuracy voltage measurements in high resistance circuits, lett has virtually eliminated that deficiency ough the use of a new circuit (patent pending). result . . . the Model 8000A Digital V-O-M de- rs "true accuracy," up to 50% overrange, test- r-test on any kind of circuit. Also featuring auto- ic zeroing, 38 measurement ranges, protective uitry that prevents damage when up to 1000 V or DC is applied on any voltage range, and an ant replay circuit that displays a previously-stored ding for on-demand comparison with a current ding. Ohmmeter voltage for full-scale measure- t on any range is on 0.1 V DC.

RANGES

Volts: 0-0.1-1-10-100-1,000. Input resistance 10 gohms. Accuracy ±0.1% of reading ±1 digit.

Volts: 0-0.1-1-10-100-1,000. Input impedance 10 gohms. Accuracy ±0.2% of reading ±1 digit ex- t ±0.3% of reading ±1 digit on 100 V range 0.5% at 1000 V.

ms: 0-100-1k-10k-100k-1MΩ-10MΩ. Maximum applied voltage for f.s. reading is 0.1 V DC on any range . . . proportionately less for other than f.s. measurements. Accuracy ±0.2% of reading ±1 digit except ±0.3% of reading ±1 digit on 1MΩ and 10MΩ ranges.

AC and DC Microamperes: 0-10 at 100 mV.

AC and DC Milliamperes: 0-0.1-1-10-100 at 100 mV.

AC and DC Amperes: 0-1 at 100 mV. Current accuracy ±0.2% of reading ±1 digit on DC, ±0.4% of reading ±1 digit on AC.

Case: All-steel case and internal module covers provide strength and electrical shielding. Etched aluminum panel for long wear. Self-contained stand may be used to elevate the panel approximately 25° for easy viewing. Weight is approximately 9¼ pounds.

Power Requirements: 115 ±10 V AC at 50/60 Hz -12 W. 230 ±20 V AC available on request.

Complete with leads, alligator clips and instruction manual with calibration instructions.

Model 8000-A with Memory Cat. No. G150 **$662.00**

Model 8000 without Memory Cat. No. G100 **$604.00**


8000

INDUSTRIAL MAINTENANCE ANALYZER

MODEL 990

1. **Industrial analyzer . . . measures AC/DC Volts, Ohms, AC/DC current, temperature, dB and rpm.**
2. **Burn-out proof, solid-state overload protection; DC polarity-reversing switch.**
3. **V-O-M (AC/DC) complete in one carrying case with all accessories.**

olett's Model 990 Industrial Maintenance Analyzer, offers a truly unique measurement ability. It's a V-O-M/clamp-on ammeter/tachometer/thermometer.

e entire Industrial Maintenance Analyzer includes Triplett's patented burn-out proof Model 900 O-M, Model 10 Clamp-On AC Ammeter Adapter, Model 101 Line Separator, Model 901 chometer-Generator, Temperature Probe, 100A DC Shunt, No. 611 Leads and a rugged carry- case. Model 900 V-O-M accuracy ±2% DC and ±3% AC. Model 901 Tachometer-Generator uracy ±2%. Temperature probe accuracy ±2°F.

RANGES

Volts: 0-2.5-10-50-250-1,000-5,000 (20,000 ms per Volt); 0-0.25 at 100 μA.

Volts: 0-3-10-50-250-1,000-5,000 (5,000 ms per Volt).

ms: 0-1k-10k-1MΩ-100MΩ (4.4 Ohm center le on low range).

Microamperes: 0-100 at 250 mV.

Milliamperes: 0-10-100 at 250 mv; 0-1,000 400 mV.

Amperes: 0-10 at 600 mV; 0-100 at 250 V (accessory shunt).

Amperes: 0-6-12-30-60-120-300 (accessory apter).

Decibels: −20 to +49 ("0" dB at 1 mW on 600 Ohm line).

Output Volts (AC): 0-3-10-50-250 (5,000 Ohms per Volt).

Temperature: −50°F to +100°F; +40°F to +300°F.

RPM: 0-500-5,000.

Model 900 Case: Molded, black, 3 11/32" x 5½" x 7½". Batteries: NEDA #210, 13F.

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 10 lbs.

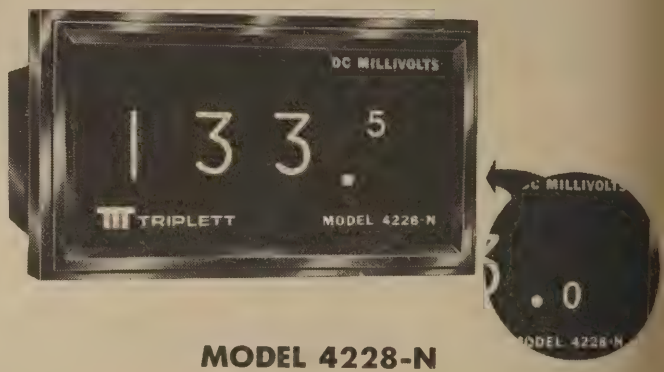
Model 990 Cat. No. 3115 **$221.00**



TRIPLETT CORPORATION

2¾-Digit Panel Meter

1. **2¾ DIGITS . . . Provides double the accuracy, (.25% of reading ± ½ digit) and double the resolution at lower cost.**
2. **INSTANTANEOUS RESPONSE . . . 16 millisecond display rate with 60 times per second sampling rate.**
3. **FOOL PROOF READINGS . . . Numeral display cannot be read if test measurements are beyond range or of negative polarity.**



MODEL 4228-N SPECIFICATIONS

DC VOLTS

Range	Catalog No.	Input Resistance	Max. Voltage
0-199.5 mV	F89-14-01	1 K Ohm	10 V
0-1.995 V	F89-14-02	10 K Ohm	50 V
0-19.95 V	F89-14-03	100 K Ohm	150 V
0-199.5 V	F89-14-04	1 megOhm	500 V
0-1000 V	F89-14-05	10 megOhm	1000 V

DC CURRENT

Range	Catalog No.	Shunt Resistance	Max. Current
0-199.5 uA	F89-14-06	1 K Ohm	10 mA
0-1.995 mA	F89-14-07	100 Ohm	50 mA
0-19.95 mA	F89-14-08	10 Ohm	150 mA
0-199.5 mA	F89-14-09	1 Ohm	500 mA
0-1.995 A	F89-14-10	0.1 Ohm	2.5A

MODEL 4228-N

Model 4228-N With 2¾ digit feature, indicating capabilities to 199.5 an accuracy of 0.25% of reading ± ½ digit.

Suggested Price $140.0

Model 4225-N Available with indicating capabilities to 99.5 and accurac of ±0.5% of reading ± ½ digit, retaining all other features of the Mode 4228-N.

Suggested Price $125.0

Model 4220-N Available with indicating capabilities to 99 and accuracy o ±1% of reading ±1 digit, retaining all other features of Model 4228-N except negative polarity indication.

Suggested Price $110.0

3½-Digit Panel Meter

1. **3½ Digits with AUTO-POLARITY.**
2. **LOW POWER DRAIN — provides low operating temperature and less heat dissipation.**
3. **SINGLE-PLANE, SEVEN-BAR READOUT — for accurate wide-angle readability.**



MODEL 4235-F SPECIFICATIONS

DC VOLTS

Range	Catalog No.	Input Resistance	Max. Voltage
0-19.99 mV	F89-13-01	100 megOhms	100 V
0-199.9 mV	F89-13-02	1000 megOhms	250 V
0-1.999 V	F89-13-03	10 megOhms	250 V
0-19.99 V	F89-13-04	10 megOhms	1000 V
0-199.9 V	F89-13-05	10 megOhms	1000 V
0-1000. V	F89-13-06	10 megOhms	1000 V

DC CURRENT

Range	Catalog No.	Shunt Resistance	Max. Current
0-1.999 uA	F89-13-07	10 K Ohms	2 mA
0-19.99 uA	F89-13-08	10 K Ohms	2 mA
0-199.9 uA	F89-13-09	1 K Ohms	10 mA
0-1.999 mA	F89-13-10	100 Ohms	20 mA
0-19.99 mA	F89-13-11	10 Ohms	100 mA
0-199.9 mA	F89-13-12	1 Ohm	500 mA
0-1.999 A	F89-13-13	0.1 Ohm	2.5 Amps

MODEL 4235-F

Accuracy (Voltage): ±0.1% of reading ±1 Digit.
Accuracy (Current): ±0.15% of reading ±1 Digit.

Model 4235-F Suggested Price $240.00
($265 with BCD Output)

Model 4230-F Available with indicating capabilities to 999 and accuracy of 0.1% of reading ±1 digit, retaining all other features of Model 4235-F except autopolarity. Over-range indicated by blinking numeral display.
Suggested Price $220.00

Net

© United Technical Publications

TRIPLETT CORPORATION

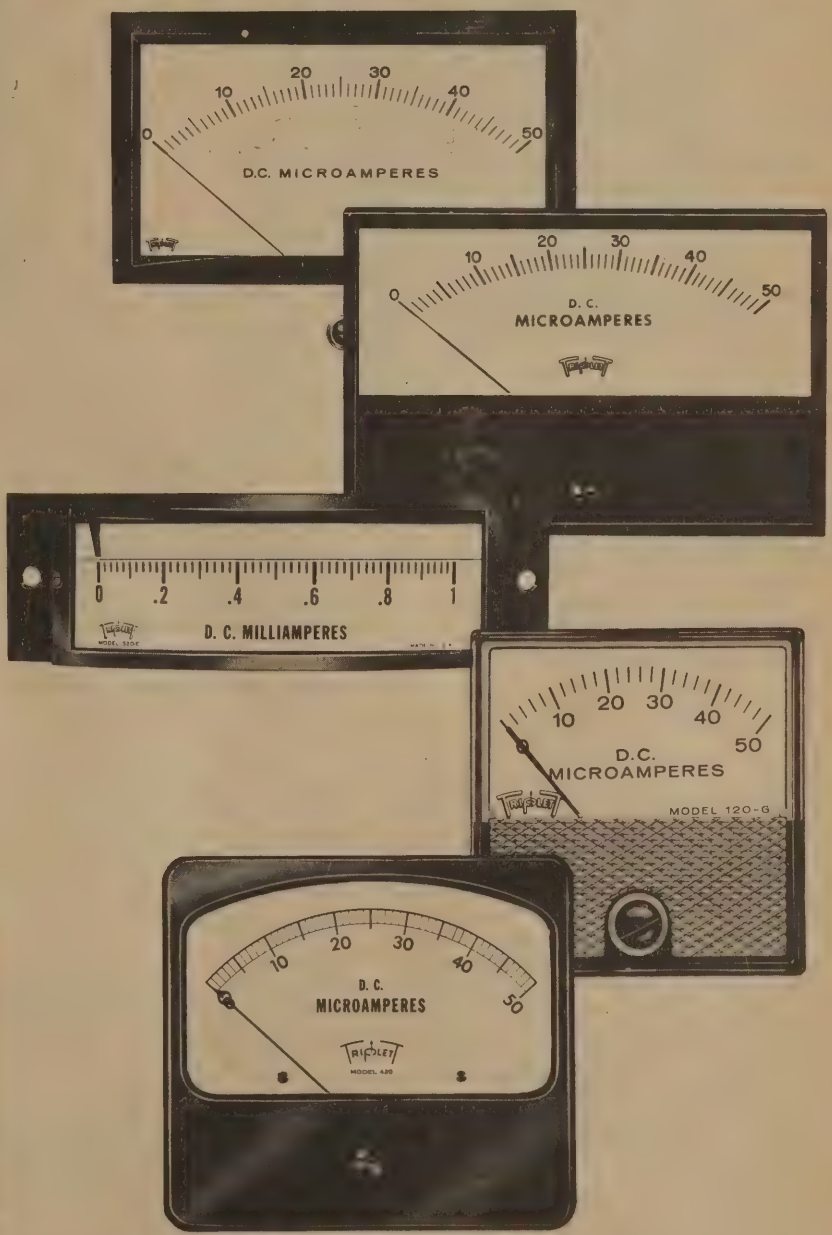
Panel Meters for Every Purpose

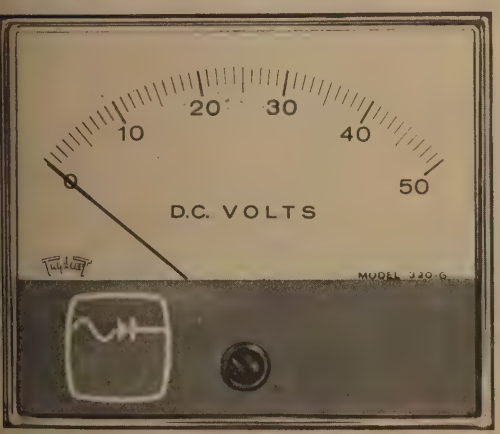
With 1369 different sizes, styles and types of analog panel meters, there's almost certainly one to suit your needs . . . or we'll make special ranges, scales, cases or trim to your specifications. Choose from:

- AC, DC and RF types
- volt, millivolt and VU meters
- amp, milliamp and microamp meters
- null meters, ohmmeters and pyrometers
- pivot and jewel, suspension, iron vane,
- D'Arsonval and electrodynamometer movements

- ½", 1½", 3½", 4½" edgewise types
- 1½", 2½", 3½", 4½", 5½", 6½", 7½", 8½" round, square and rectangular models

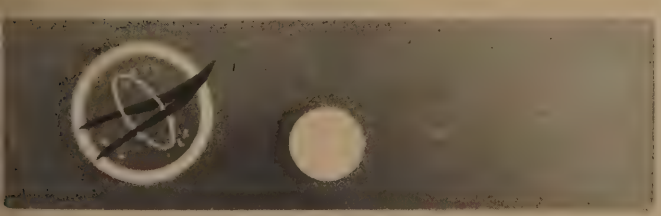
In addition to a large stock of standard models at the Bluffton, Ohio, plant and most Triplett distributors, standard models and specials are available from 40 authorized Sales/Service/Modification Centers throughout the United States and in Canada





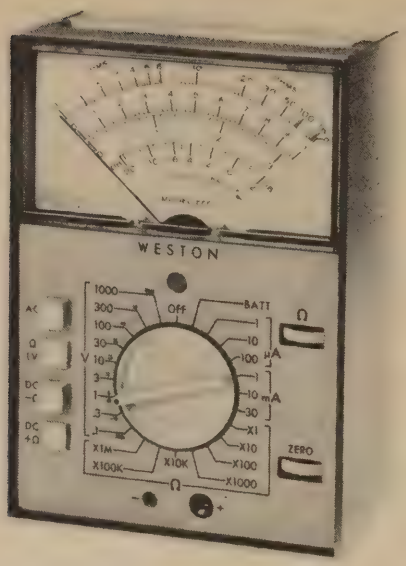
CUSTOM INSERTS

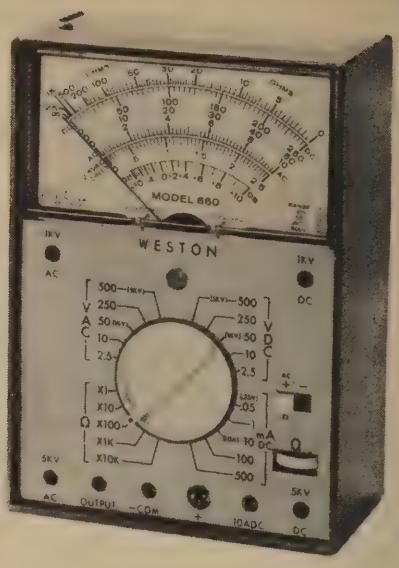
Personalize your G-Series meters with custom inserts. You may put your name, your logo, message or instructions on these inserts if quantities warrant. Special charges will apply.



WESTON INSTRUMENTS, INC.

a Schlumberger company





MODEL 660 VOM

- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Temperature compensated
- Diode-protected meter movement
- Polarity reversal switch
- 1% precision resistors used in all critical circuits
- Special calibrated scales for dB measurement
- Externally replaceable fuse
- Single range switch
- Full range coverage

SPECIFICATIONS

Accuracy: 2% DC (1.5% on 50 ua range) 3% AC. **Sensitivity:** 20,000 ohms/volt DC. 5,000 ohms/volt AC. **Dimensions:** 7″ H x 5″ W x 2¼″ D. **Weight:** Less than 2 lbs. (Batteries included)

RANGES

DC Millivolts: 0-250. DC Volts: 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **AC Volts:** 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **VAC Output** 0-2.5/0-10/0-50/0-250. **DC Microamps:** 0-50. **DC Milliamps:** 0-1/0-10/0-100/0-500. **DC Amps:** 0-10. **Ohms:** RX1 (0-2K) 20Ω center/RX10 (0-20K) 200Ω center/RX100 (0-200K) 2000Ω center/RX1000 (0-2 Meg) 20KΩ center/RX10K (0-20 Meg) 200KΩ center. **dB Scales:** (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56.

MODEL 661 HIGH ACCURACY VOM

- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Mirror scale for greater accuracy
- ½% precision resistors used in all critical circuits
- Temperature compensated
- Diode-protected meter movement
- Polarity reversal switch
- Special calibrated scales for dB measurement
- Externally replaceable fuse
- Full range coverage

SPECIFICATIONS

Accuracy: 1% DC - 2% AC. **Sensitivity:** 20,000 ohms/volt DC. 5,000 ohms/volt AC. **Dimensions:** 7″ H x 5″ W x 2¼″ D. **Weight:** Less than 2 lbs. (Batteries included).

RANGES

DC Millivolts: 0-250. DC Volts: 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **AC Volts:** 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **VAC Output** 0-2.5/0-10/0-50/0-250. **DC Microamps:** 0-50. **DC Milliamps:** 0-1/0-10/0-100/0-500. **DC Amps:** 0-10. **Ohms:** RX1 (0-2K) 20Ω center/RX10 (0-20K) 200Ω center/RX100 (0-200K) 2000Ω center/RX1000 (0-2 Meg) 20KΩ center/RX10K (0-20 Meg) 200KΩ center. **dB Scales:** (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56.

MODEL 662 VOM FULLY OVERLOAD-PROTECTED

- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Resettable overload relay circuit
- 1% precision resistors used in all critical circuits
- Temperature compensated
- Diode-protected meter movement
- Polarity reversal switch
- Externally replaceable fuse
- Special calibrated scales for dB measurement
- Full range coverage

SPECIFICATIONS

Accuracy: 2% DC (1.5% on 50 ua range) 3% AC. **Sensitivity:** 20,000 ohms/volt DC. 5,000 ohms/volt AC. **Dimensions:** 7″ H x 5″ W x 2¼″ D. **Weight:** Less than 2 lbs. (Batteries included)

RANGES

DC Millivolts: 0-250. DC Volts: 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **AC Volts:** 0-2.5/0-10/0-50/0-250/0-500/0-1000/0-5000. **VAC Output** 0-2.5/0-10/0-50/0-250. **DC Microamps:** 0-50. **DC Milliamps:** 0-1/0-10/0-100/0-500. **DC Amps:** 0-10. **Ohms:** RX1 (0-2K) 20Ω center/RX10 (0-20K) 200Ω center/RX100 (0-200K) 2000Ω center/RX1000 (0-2 Meg) 20KΩ center/RX10K (0-20 Meg) 200KΩ center. **dB Scales:** (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56.

MODEL 663 VOM HIGH ACCURACY FULLY OVERLOAD-PROTECTED

- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Resettable overload relay circuit
- Mirror scale for greater accuracy
- ½% precision resistors used in all critical circuits
- Temperature compensated
- Diode-protected meter movement
- Polarity reversal switch
- Special calibrated scales for dB measurement
- Externally replaceable fuse

SPECIFICATIONS

Accuracy: 1% DC - 2% AC. **Sensitivity:** 20,000 ohm volt DC. 5,000 ohms/volt AC. **Dimensions:** 7″ H x 5″ x 2¼″ D. **Weight:** Less than 2 lbs. (Batteries include

RANGES

DC Millivolts: 0-250. DC Volts: 0-2.5/0-10/0-50/250/0-500/0-1000/0-5000. **AC Volts:** 0-2.5/0-10/50/0-250/0-500/0-1000/0-5000. **VAC Output** 0-2.0-10/0-50/0-250. **DC Microamps:** 0-50. **DC Milliamp** 0-1/0-10/0-100/0-500. **DC Amps:** 0-10. **Ohms:** R(0-2K) 20Ω center/RX10 (0-20K) 200Ω center/RX1(0-200K) 2000Ω center/RX1000 (0-2 Meg) 20center/RX10K (0-20 Meg) 200KΩ center. **dB Scale** (1 mw on 600 ohm line) −10 to +10/+2 to +2+16 to +36/+30 to +50/+36 to +56.

MODEL 666 VOM SOLID STATE CIRCUIT TESTER

- Designed for semiconductor circuit troubleshooti
- Ten megohm input impedance
- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Differential pair FET input to high gain integrate circuit operational amplfier
- Diode-protected meter movement
- Input reversal switch
- Temperature compensated
- Frequency compensated
- Quality components used throughout

SPECIFICATIONS

Accuracy: 2% DC volts, 3% AC volts. 3% DC cu rent, 4% AC current. **Sensitivity:** 10 megohm DC 10 megohm (47 pfd) AC, current circuit 100 millivo drop.

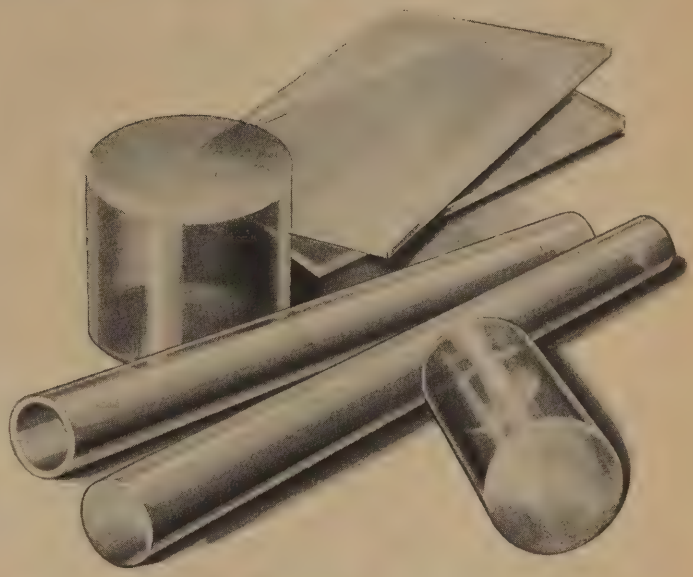
RANGES

DC Millivolts: 0-100/0-300. **DC Volts:** 0-1/0-3/0-10/0-30/0-100/0-300/0-1000. **AC Millivolts:** 0-100/0-300 **AC Volts:** 0-1/0-3/0-10/0-30/0-100/0-300/0-1000 **DC Microamps:** 0-1/0-10/0-100.**DC Milliamps:** 0-1/0-10/0-30. **AC Microamps:** 0-1/0-10/0-100. **AC Milliamps:** 0-1/0-10/0-30.**Ohms:** (7 normal and 7 lo power ranges) RX1/RX10/RX100/RX1K/RX10K/RX100K/RX1Meg. **dB Scales:** −40 to −18/−30 t −8/−20 to +2/−10 to +12/0 to +22/+10 t +32/+30 to +42/40+ to +62.

© United Technical Publication

Polystyrene

ROD TUBING SHEET



r radio and electronic applications, because of its very w loss factor at ultra high frequencies, Polystyrene is e ideal material for insulators, coil forms, shields, etc. has excellent arc resistance, is non-tracking and has lendid insulating properties. Because its water absorp- n is practically zero it has excellent dimensional ability.

POLYSTYRENE ROD — Transparent

AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	Diameter	Net Price 12" lgth.	Net Price 48" lgth.
JB-100	1/8"	$ .03	$ .12
JB-101	3/16"	.07	.28
JB-102	1/4"	.12	.48
JB-103	5/16"	.18	.72
JB-104	3/8"	.26	1.04
JB-106	1/2"	.48	1.92
JB-107	5/8"	.72	2.88
JB-108	3/4"	1.00	4.00
JB-109	7/8"	1.42	5.68
JB-110	1"	1.90	7.60
JB-111	1 1/8"	2.50	10.00
JB-112	1 1/4"	3.00	12.00
JB-113	1 3/8"	3.60	14.40
JB-114	1 1/2"	4.30	17.20
JB-116	1 3/4"	6.00	24.00
JB-118	2"	7.50	30.00

POLYSTYRENE TUBING — Satin Finish

AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	O.D.	I.D.	Net Price 12" lgth.	Net Price 48" lgth.
JB-201	1/4"	1/8"	$ .10	$ .40
JB-202	5/16"	3/16"	.14	.56
JB-203	3/8"	1/4"	.18	.72
JB-205	1/2"	3/8"	.26	1.04
JB-206	5/8"	1/2"	.32	1.28
JB-207	3/4"	5/8"	.40	1.60
JB-208	1"	7/8"	.56	2.24
JB-220	1 1/2"	1 1/4"	1.50	6.00
JB-222	2"	1 3/4"	2.20	8.80

POLYSTYRENE SHEET*

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	$ 4.15
JB-126	3/32"	12" x 12"	4.80
JB-127	1/8"	12" x 12"	5.50
JB-128	3/16"	12" x 12"	7.15
JB-129	1/4"	12" x 12"	8.15
JB-245	1/16"	12" x 24"	7.80
JB-246	3/32"	12" x 24"	9.15
JB-247	1/8"	12" x 24"	10.50
JB-248	3/16"	12" x 24"	13.15
JB-249	1/4"	12" x 24"	15.65
JB-315	1/32"	24" x 24"	9.65
JB-301	1/16"	24" x 24"	11.15
JB-302	3/32"	24" x 24"	13.00
JB-303	1/8"	24" x 24"	14.80
JB-304	3/16"	24" x 24"	18.75
JB-305	1/4"	24" x 24"	23.00
JB-309	3/8"	24" x 24"	31.25
JB-311	1/2"	24" x 24"	38.65
JB-317	5/8"	24" x 24"	50.00
JB-318	3/4"	24" x 24"	69.25
JB-319	1"	24" x 24"	94.15

*Sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

JULIUS BLUM & CO., INC.

DABURN

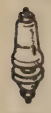
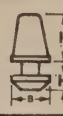
DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

INSULATORS • HARDWARE

Ceramic • Steatite • Standoffs • Feed-thrus • Antenna • Beads • Rods • Screws • Nuts • Washers

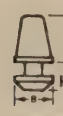
DABURN FEED-THRU INSULATORS

These are quality porcelain insulators smoothly glazed. Heavy nickel plated brass hardware used. Cushion washers supplied.

DABURN No.	Hgt. H	B	H_1	Mounting Hole	H'dwe	Std. Pkg.
10-58	5/8"	13/16"	1/4"	3/16"	6-32	50
10-78	1"	13/16"	5/16"	3/16"	10-32	25
10-125	1 1/4"	7/8"	3/8"	3/16"	10-32	25
10-234	2 3/4"	2"	1"	3/4"	1/4-20	10

CORRUGATED FEED-THRU INSULATOR

These numbers have twice the leakage path of the straight type due to the increased surface area. Brass nickel plated. hardware and cushion washers supplied.

DABURN No.	Hgt. H	B	H_1	Mounting Hole	H'dwe	Std. Pkg.
10-79	1 3/8"	1 1/4"	11/16"	5/16"	10-32	25
10-76	2 3/4"	1 5/8"	1"	3/4"	1/4-20	10
10-52	4 1/2"	2 1/8"	1 1/2"	1"	1/4-20	5

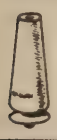
DABURN METAL BASE INSULATORS



Made of hi tensile strength, low absorption ceramic, fully glazed corrugated surface. Provides longer leakage path. Drawn metal bases.

Daburn No.	Hgt. H	B	D	Mtg. Screw	H'dwe	Std. Pkg.
10-67	1 3/8"	1 7/8"x1 5/16"	1 1/2"	2 #8	10-32	25
10-176	2 3/4"	1 3/4"x1 1/4"	1 3/8"	4 #10	1/4-20	10
10-451	4 1/2"	2 1/4"x2 1/4"	1 3/4"	4 #10	1/4-20	5

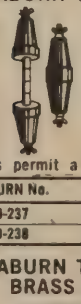
DABURN STEATITE CONE INSULATORS




Steatite cones have smooth glaze white. Come complete with brass nickel plated screws and cushion washers

Daburn No.	Hgt. H	B	B_1	T	Mtg. Hole	Std. Pkg.
10-30	5/8"	5/8"	3/16"	6-32	5/32"	100
10-31	1"	11/16"	1/2"	8-32	3/16"	50
10-32	1 1/2"	7/8"	5/8"	10-32	7/32"	50
10-33	2 3/4"	1 1/4"	3/4"	1/4-20	9/32"	25

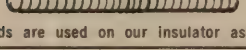
DABURN LEADIN INSULATORS



Sections are each 2 3/4" high hi vitrified porcelain glazed. Comes thru with 2 additional bushings 1/4" and 1/2" long, permitting complete insulation of the threaded rod of any length in multiples of 1/4". Complete with brass nickel plated hardware. Lead and cushion washers permit a water tight seal.

DABURN No.	Description	Std. Pkg.
10-237	10" Rod/Bushings	10
10-238	15" Rod/Bushings	10

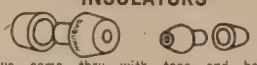
DABURN THREADED RODS — BRASS NICKEL PLATED



These rods are used on our insulator assemblies.

DABURN No.	Length	Thread	Std. Pkg.
14-250	1 5/8"	6-32	1000
14-251	2 1/4"	10-32	1000
14-252	3"	10-32	1000
14-253	3 1/2"	10-32	1000
14-255	5"	1/4-20	1000
14-256	5 1/2"	1/4-20	1000
14-257	11"	1/4-20	1000
14-258	15"	1/4-20	1000

DABURN STEATITE FEED-THRU INSULATORS



Feedthrus come thru with tops and bottoms for chassis, panel, shields, rack mounting. No hardware included. Made of L5 glazed Steatite.

Daburn No.	Hgt. Top	Diam.	Hole Panel	T'kness Panel To	Screw Size Max.	Std. Pkg.
10-204	1/8"	1/2"	5/16"	1/8"	6-32	50
10-205	7/32"	5/8"	7/16"	1/8"	8-32	50
10-206	3/8"	1/2"	1/4"	3/16"	6-32	50
10-207	3/8"	5/8"	3/8"	3/8"	8-32	50
10-208	3/4"	1 1/8"	3/4"	3/8"	10-32	50
10-209	1 5/8"	1 1/4"	1/2"	2"	10-32	50

DABURN FISH SPINE BEADS



Made of L5 Steatite. Suitable for buss and heavy lines insulation. Beads follow bends and curves because of ball and socket style interlocks. Four beads cover approximately 1". 100 will cover 25" of wire. Size: 3/16" O.D. x 1/8" I.D. Beads treated with Dow Corning compound to prevent accumulation of surface moisture.

Daburn No.		Std. Pkg.
10-215	Fish Spine Beads	100, 1000

DABURN AIRPLANE INSULATORS

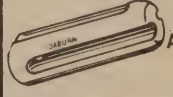
Suitable for mobile and aircraft or guy wire application. compression type strain insulators. Nos. 10-73, 10-74 made of white glazed low absorption porcelain. No. 10-72 made of wet process porcelain.


10-73, 10-74


10-72

Daburn No.	Description	Std. Pkg.
10-73	2" White	100
10-74	1 1/2" White	100
10-72	2 1/4" Lt. Blue	25

DABURN STEATITE AIRPLANE INSULATOR



Compression type Steatite insulator has small wind resistance. Fully glazed.

Daburn No.	Description	Std. Pkg.
10-63	1 1/2" Lgth.; 17/32" Diam. 3/4" Line Spacing	25

DABURN BRASS NICKEL PLATED HARDWARE

MACHINE SCREW — ROUND HEAD

DABURN Cat. No.	Size	Std. Pkg.
14-240	6-32 x 1/4"	1000
14-241	8-32 x 5/16"	1000
14-242	8-32 x 1/2"	1000
14-243	10-32 x 3/8"	1000
14-244	10-32 x 3/4"	1000
14-245	10-32 x 7/8"	1000
14-246	10-32 x 1"	1000

Additional Sizes Available

HEXAGON MACHINE SCREW NUTS

DABURN Cat. No.	Size	Width	Thickness	Std. Pkg.
14-221	4-40	1/4"	7/32"	1000
14-222	6-32	1/4"	7/32"	1000
14-224	8-32	11/32"	1/8"	1000
14-225	10-32	3/8"	1/8"	1000
14-226	1/4-20	7/16"	1/8"	1000

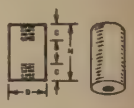
FLAT WASHERS

DABURN Cat. No.	Fits Screw Size	Hole Size	O.D.	Thickness
14-232	6	.145"	3/8"	1/32"
14-233	8	.172"	3/8"	1/32"
14-234	10	.203"	7/16"	1/32"
14-235	1/4-20	.265"	9/16"	1/32"

Standard Package: 1000 — Additional Sizes Available.

DABURN STEATITE STANDOFFS

JAN-I-8 AND JAN-I-10 SPECS.

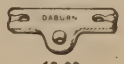


These threaded Steatite pillars are made of L5 glazed Steatite with threaded holes on both sides have one hole mounting.
COLOR: White

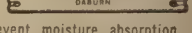
Daburn No.	Conforms to NEW Type	Hgt.	Diam.	L'gth of Thr'd	Thr'd
10-41		1/4"	1/4"	All	6-32
10-41B		3/8"	1/4"	5/32"	6-32
10-41A		1/2"	1/4"	5/32"	6-32
10-44A		3/4"	1/4"	1/4"	6-32
10-45A		1"	1/4"	1/4"	6-32
10-42		3/8"	3/8"	5/32"	6-32
10-42A	NL633W01-004	1/2"	3/8"	5/32"	6-32
10-43A	NL633W01-005	5/8"	3/8"	1/4"	6-32
10-44B	NL633W01-006	3/4"	3/8"	1/4"	6-32
10-45B	NL644W01-008	1"	3/8"	3/8"	6-32
10-46B	NL633W01-010	1 1/4"	3/8"	3/8"	6-32
10-46A	NL633W01-012	1 1/2"	3/8"	3/8"	6-32
10-46C	NL633W01-016	2"	3/8"	3/8"	6-32
10-43		1/2"	1/2"	1/4"	6-32
10-44		3/4"	1/2"	1/4"	6-32
10-45		1"	1/2"	3/8"	6-32
10-46		1 1/2"	1/2"	3/8"	6-32
10-47		2 1/2"	1/2"	3/8"	6-32
10-40	NL633W02-005	5/8"	1/2"	3/16"	8-32
10-40A	NL633W02-006	3/4"	1/2"	1/4"	8-32
10-40B	NL633W02-008	1"	1/2"	3/8"	8-32
10-40C	NL633W02-010	1 1/4"	1/2"	3/8"	8-32
10-40D	NL633W02-012	1 1/2"	1/2"	3/8"	8-32
10-40E	NL633W02-016	2"	1/2"	3/8"	8-32
10-40F	NL633W02-020	2 1/2"	1/2"	3/8"	8-32
10-40G	NL633W02-024	3"	1/2"	3/8"	8-32
10-44C		3/4"	3/4"	1/4"	10-32
10-45C	NL633W03-008	1"	3/4"	3/8"	10-32
10-45D	NL633W03-010	1 1/4"	3/4"	3/8"	10-32
10-45E	NL633W03-012	1 1/2"	3/4"	3/8"	10-32
10-45F	NL633W03-016	2"	3/4"	3/8"	10-32
10-45G	NL633W03-020	2 1/2"	3/4"	3/4"	10-32
10-45H	NL633W03-024	3"	3/4"	3/8"	10-32
10-45S	NL633W03-032	4"	3/4"	3/8"	10-32
10-47B	NL633W04-012	1 1/2"	1"	1/2"	1/4-20
10-47D	NL633W04-016	2"	1"	5/8"	1/4-20
10-47E	NL633W04-020	2 1/2"	1"	5/8"	1/4-20

STD. PKG: 100 except 10-47B, D, E, which are 50.

ANTENNA STRAIN INSULATORS


10-68

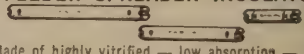

10-69


10-70, 10-71

Porcelain glazed to prevent moisture absorption. All have long leakage path — small cross section strength under continuous tension — white glaze prevents accumulation of dirt and ice.

Daburn No.	Description	Std. Pkg.
10-68	1 1/2" Long Center Ins.	10
10-69	4 1/4" Long	25
10-70	7" Long	10
10-71	12" Long	10

FEEDER SPREADER INSULATORS



Made of highly vitrified — low absorption — hi tensile strength porcelain, with white glaze overall.

Daburn No.	Description	Std. Pkg.
10-62	2" Long Spreader	25
10-64	4" Long Spreader	25
10-65	6" Long Spreader	25

ANTENNA INSULATOR


10-06

Daburn No.	Description	Std. Pkg.
10-06	Porcelain Insulator — White	100

© United Technical Publications

DABURN | **DABURN electronics & cable corp.**
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW OFF-THE-SHELF

DABURN TRANSISTOR HEAT SINKS and RETAINER CLIPS

IMMEDIATE DELIVERY

Transistor heat sinks made with beryllium oxide, which is unique among inorganic materials, insulates electrically like a ceramic, but conducts heat like a metal. Where electrical applications require both dielectric insulation and hi-heat transfer from device to chassis, only beryllium oxide (BeO) can provide a satisfactory solution to design problems. Heat generating devices will operate at higher power levels longer and more reliably, with beryllia cooling.

BERYLLIUM OXIDE HEAT SINKS OFFERS THESE ADVANTAGES:

- Extremely resistant to shocks, vibration and moisture.
- High resistivity — low dielectric loss
- Increased transistor life and output
- Freedom from outgassing, infinite shelf life

PHYSICAL PROPERTIES & DIELECTRIC STRENGTH

GREATER THAN: 300 Volts/MIL
CHEMICAL PURITY: 99+% Beryllium oxide
DENSITY: 2.9 Grams/CC
MELTING POINT: 4650°F
HEAT CAPACITY AT 350°: 0.3 BTU/LB
THERMAL EXPANSION: 3.2 x 10^{-6}/°F
THERMAL CONDUCTIVITY: 140 BTU/FT² HR°F-FT
TRANSVERSE STRENGTH: 25,000 PSI
ELASTIC MODULES: 40 x 10^{6} PSI

FIG. 1


FIG. 2

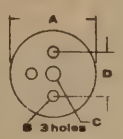

FIG. 3


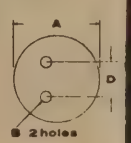
FIG. 4


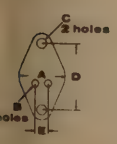
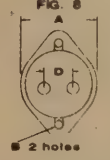
FIG. 6


FIG. 7


FIG. 8


Immediate Delivery from stock. All avaliable "Off the Shelf" in JEDEC-TO, DO and MT Nos. Standard thickness 1/16". Also available in 1/32" thickness

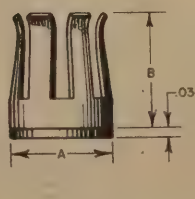
DABURN Cat. No.	Transistor Case Type For Jedec	Fig.	DIMENSIONS "A" Dim.	"B" Dim.	"C Dim.	"D" Dim.	"E" Dim.
DHS-1	MT-1	7	.781±.015	.328±.015	—	—	—
DHS-3	TO-3	4	.980±.010	.165±.010	—	.435±.015	—
DHS-3A	MT-3	7	.625±.005	.320±.005	—	—	—
DHS-3C	TO-3C	8	1.125±.030	.140±.015	—	—	—
(Consists of Round TO Insulator with Glass Epoxy Case)							
DHS-4	DO-4	7	.560±.015	.200±.005	—	—	—
DHS-5	TO-5	1	.437±.015	.054±.005	—	.200±.010	—
DHS-5A	DO-5	7	.812±.015	.270±.005	—	—	—
DHS-5B	MT-5	7	.250±.015	.156±.010	—	—	—
DHS-6	TO-6	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-8	TO-8	1	.600±.030	.062±.015	—	.282±.015	—
DHS-9	TO-9	1	.437±.015	.054±.005	—	.200±.010	—
DHS-10	MT-10	7	.672±.015	.265±.015	—	—	—
DHS-11	TO-11	1	.437±.015	.054±.005	—	.200±.010	—
DHS-12	TO-12	2	.437±.015	.054±.005	—	.200±.005	—
DHS-14	MT-14	7	1.250±.015	.540±.010	—	—	—
DHS-16	TO-16	1	.437±.015	.054±.005	—	.200±.010	—
DHS-18	TO-18	1	.312±.015	.031±.005	—	.100±.010	—
DHS-33	TO-33	2	.437±.015	.054±.010	—	.200±.005	—
DHS-36	TO-36	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-38	TO-38	1	.750±.015	.062±.005	—	.200±.010	—
DHS-39	TO-39	1	.437±.015	.054±.005	—	.200±.010	—
DHS-43	TO-43	2	.437±.015	.054±.010	—	.200±.005	—
DHS-46	TO-46	1	.312±.015	.031±.005	—	.100±.010	—
DHS-66	TO-66	6	.700±.010	.094±.010	.155±.010	.960±.010	.200±.010

STD. PUT-UP: 5, 25, 100.

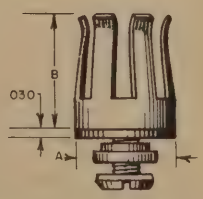
BERYLLIUM OXIDE FOR TRANSISTOR RETAINER CLIPS, HEAT DISSIPATION AND ELECTRICAL INSULATION

TRANSISTOR RETAINERS: Optimum thermal conductivity, with absolute electrical insulation reliability, is offered by spring clip transistor retainers. The retainers provide electrical isolation for the semiconductor by means of a disc of beryllium oxide ceramic brazed to the base of the beryllium copper retainer. Solid ceramic disc, in contrast to a thin insulating coating, is practically immune to loss of insulating value thru cracking, abrasion, chipping or other results of rough treatment in assembly. Heat transfer from the semiconductor to chassis or heat sink is not sacrificed since the high purity BeO has thermal conductivity to that of aluminum metal. Maximum soldering temperature —300°C.

FOR SOLDER MOUNTING



FOR MECHANICAL MOUNTING



DABURN Cat. No.	Mounting Style	Type	"A" O.D.	"B" Length	"C" Screw Size
DTR-01	Solder	TO-5	3/8"	.37"	—
DTR-02	Screw	TO-5	3/8"	.37"	4-40 x 3/16"
DTR-05	Solder	TO-18	.221"	.28"	—
DTR-06	Screw	TO-18	.221"	.28"	2-56 x 3/16"

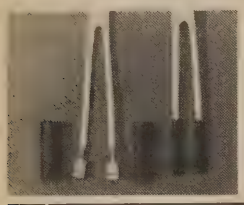
STD. PUT-UP: 5, 25, 100

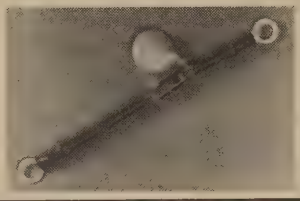
russell industries, inc.

IRRADIATED HEAT SHRINKABLE TUBING (STANDARD PRE-CUT LENGTHS ¼" TO 2")

HUG-P SERIES

HEAT SHRINKABLE/IRRADIATED FLEXIBLE POLYOLEFIN TUBING





SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAGE

Stock Colors: Black, White, Red, Blue, Yellow (all sizes) — self extinguishing. Clear (all sizes) — not flame retarded.

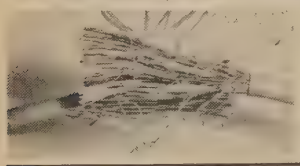
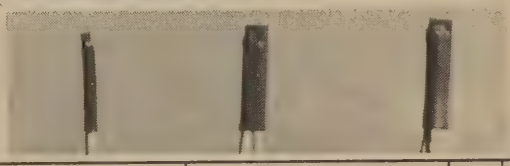
• Ideal for insulation, jacketing, bundling, conductor identification • Is easily marked by conventional hot stamp or ink-wheel marking techniques • Covers the diameter range from .023 to 2 inches with only 12 sizes.

Expanded I.D. Size	Part No.	STANDARD CUT LENGTHS ¼"	⅜"	½"	⅝"	¾"	⅞"	1"	1⅛"	1¼"	1½"	2"	ADD SUFFIX BELOW Black	White	Red	Blue	Yellow	Clear
3/64"	HUG-364	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1/16"	HUG-116	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
3/32"	HUG-332	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1/8"	HUG-18	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
3/16"	HUG-316	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1/4"	HUG-14	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
3/8"	HUG-38	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1/2"	HUG-12	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
3/4"	HUG-34	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1"	HUG-1	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
1½"	HUG-112	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C
2"	HUG-2	-P14	-P38	-P12	-P58	-P34	-P78	-P1	-P118	-P114	-P112	-P2	-K	-W	-R	-X	-Y	-C

I.D. sizes other than those shown are availble on special request. Lengths ather than those shown are available on special request. Marked pieces are available based on quantity and number of lines required on special request.

HUG-E SERIES

HEAT SHRINKABLE/IRRADIATED FLEXIBLE POLYOLEFIN END CAPS

SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAGE

Stock Colors: White, Red, Grey, Brown, Black (each diameter color coded).

• Strong, lightweight, space saving, vibration proof • Insulates dead-end electrical cables, fixtures, connectors and electrical equipment • 5 standard color-coded sizes.

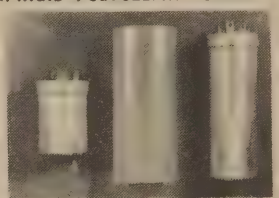
Expanded I.D.[1] Size	Part No.	STANDARD CUT LENGTHS ¾"	1"	1⅛"	$1^{3}/_{10}$"	1½"	Suffix Below Indicates Color For I.D. Size White	Red	Grey	Brown	Black	R'cov. I.D.[2] Size	Nom.[3] R'cov. Wall	Overall Expanded Length[4]	Min.[5] Barrel Length
1/16"	HUG-116	-E34	—	—	—	—	-W	—	—	—	—	.025	.016	.750	.656
1/8"	HUG-18	—	-E1	—	—	—	—	-R	—	—	—	.050	.025	1.000	.810
1/4"	HUG-14	—	—	-E118	—	—	—	—	-G	—	—	.100	.027	1.125	.915
7/20"	HUG-720	—	—	—	-E131	—	—	—	—	-Z	—	.175	.035	1.300	1.000
1/2"	HUG-12	—	—	—	—	-E112	—	—	—	—	-K	.250	.040	1.500	1.075



Both the **HUG P** and **HUG E** series shown above • Exhibit high dielectric strength • Possess excellent chemical and solvent resistance • Do not split when shrunk over sharp or irregularly shaped objects • Operate continuously from −55°C to +135°C — up to 300°C for a short period • Shrink at 135°C (275°F) or above to predetermined sizes.

HUG-C SERIES

HEAT SHRINKABLE/IRRADIATED SEMI-RIGID POLYOLEFIN TUBING

SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAG

Stock Colors: Yellow, White, Blue, Red, Green, Slate, Brown, White (each diameter col coded) — self extinguishing. Clear (all sizes) — not flame-retarded.

• High mechanical strength for strain relief applications and protection of delica components • Is easily marked by conventional hot stamp or ink-wheel marki techniques. • Exhibits high dielectric strength. • Possesses excellent chemical a solvent resistance • Does not split when shrunk over sharp or irregularly shap objects • Shrinks at 135°C (275°F) or above to pretedermined sizes • Covers t diameter range from .023 to 1 inch with only 10 sizes.

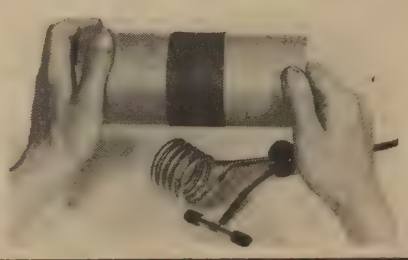
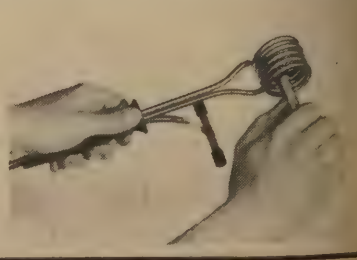
Expanded I.D. Size	Part No.	STANDARD CUT LENGTHS ¼"	⅜"	½"	⅝"	¾"	⅞"	1"	1⅛"	1¼"	1½"	2"	ADD SUFFIX BELOW FOR COLOR DESIRED Yel.	Whi.	Bl.	Red	Grn.	Sla.	Brn.	Whi.	C
3/64"	HUG-364	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	-Y	—	—	—	—	—	—	—	-
1/16"	HUG-116	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	-W	—	—	—	—	—	—	-
3/32"	HUG-332	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	-X	—	—	—	—	—	-
1/8"	HUG-18	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	-R	—	—	—	—	-
3/16"	HUG-316	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	-N	—	—	—	-
1/4"	HUG-14	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	—	-S	—	—	-
3/8"	HUG-38	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	—	—	-Z	—	-
1/2"	HUG-12	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	—	—	—	-W	-
3/4"	HUG-34	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	—	—	—	—	-
1"	HUG-1	-C14	-C38	-C12	-C58	-C34	-C78	-C1	-C118	-C114	-C112	-C2	—	—	—	—	—	—	—	—	-

Lengths other than those shown are available on special request. Marked pieces are available based on quantity and number of lines required on special request.

HUG-TH SERIES

HEAT SHRINKABLE/HEAT TUNNEL

SHRINKS TUBING IN SECONDS TO PROTECT AND INSULATE PARTS & COMPONENTS

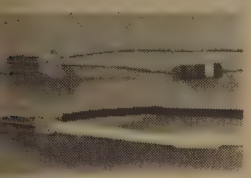



© United Technical Publication

russell industries, inc.

G-V SERIES

AT SHRINKABLE/IRRADIATED FLEXIBLE POLYVINYL CHLORIDE TUBING





RINKS 50% (2:1 RATIO) WITH ONLY % LONGITUDINAL SHRINKAGE

ck Color: Black only (self extinguishing)

High mechanical strength for jacketing of cable harness and insula- n and protection of components • Is easily marked by conventional stamp or ink-wheel marking techniques • Exhibits high dielectric ength • Possesses excellent chemical and solvert resistance oes not split when shrunk over sharp or irregularly shaped objects.

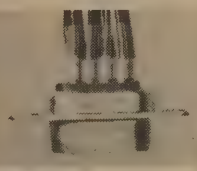
Expanded I.D. Size	Part No.	STANDARD CUT LENGTHS 1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	2"	Color Black
3/64"	HUG-364	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1/16"	HUG-116	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
3/32"	HUG-332	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1/8"	HUG-18	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
3/16"	HUG-316	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1/4"	HUG-14	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
3/8"	HUG-38	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1/2"	HUG-12	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
3/4"	HUG-34	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1"	HUG-1	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
1 1/2"	HUG-112	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K
2"	HUG-2	-V14	-V38	-V12	-V58	-V34	-V78	-V1	-V118	-V114	-V112	-V2	-K

Lengths other than those shown are available on special request. Marked pieces are available based on quantity and number of lines required on special request.

G-K SERIES

AT SHRINKABLE/IRRADIATED SEMI-RIGID HIGH TEMP. POLYVINYLIDENE FLUORIDE TUBING





RINKS 50% (2:1 RATIO) WITH ONLY % LONGITUDINAL SHRINKAGE

ck Color: Clear only (does not support combustion)

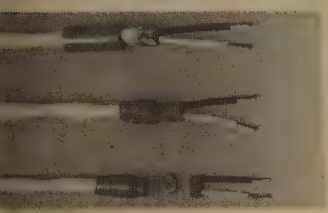
Tough, high strength, semi-rigid material of very high strength with standing resistance to abrasion and cut-through. Ideal for strain ef and protection of delicate components • Is easily marked by nventional hot stamp or ink-wheel marking techniques • Exhibits h dielectric strength • Possesses excellent chemical and solvent istance • Transparent for easy inspection and identification of objects covered • Does not split when shrunk over sharp or irregularly shaped objects • Generates no rosive by-products during heat aging • Shrinks at 175°C (347°F) or above to predetermined sizes • Covers the diameter range from .023 to 1 inch with only 10 sizes.

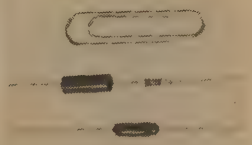
Expanded I.D. Size	Part No.	STANDARD CUT LENGTHS 1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	2"	Color Clear
3/64"	HUG-364	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
1/16"	HUG-116	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
3/32"	HUG-332	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
1/8"	HUG-18	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
3/16"	HUG-316	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
1/4"	HUG-14	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
3/8"	HUG-38	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
1/2"	HUG-12	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
3/4"	HUG-34	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C
1"	HUG-1	-K14	-K38	-K12	-K58	-K34	-K78	-K1	-K118	-K114	-K112	-K2	-C

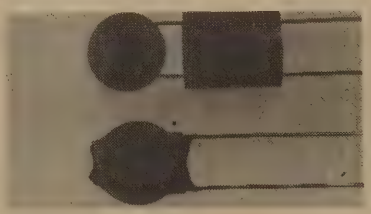
Lengths other than those shown are available on special request. Marked pieces are available based on quantity and number of lines required on special request.

G-S SERIES

AT SHRINKABLE/RIGID DUAL-WALL POLYOLEFIN TUBING WITH MELTABLE INNER WALL









RINKS UP TO 42% WITH ONLY % LONGITUDINAL SHRINKAGE

ck Colors: Brown, Gray, White, Red, Blue, Yellow, Black (each diameter is or coded)

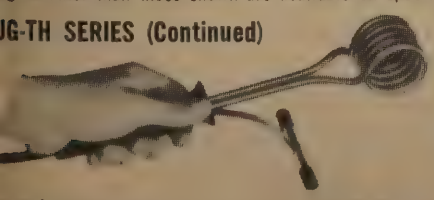
s the ideal encapsulating tubing for delicate components because of its idity, meltable inner wall and its ability to seal out moisture. Upon cooling entire mass becomes a homogeneous molding • Covers the diameter range m .023 to 1 inch with only 8 standard sizes • Exhibits good dielectric ength and low dielectric constant • Possesses excellent chemical and vent resistance • Is easily marked by conventional hot stamp or ink-wheel rking techniques.

Expanded Size I.D.	Inside Diameter Expanded — As supplied (Inches, Min.)	Recovered — After Heating (Inches, Max.)	Recovered Total Wall (Inches)	Nominal Wall Thickness Meltable Wall (Inches)
1/8"	.125	.023	.035	.020
3/16"	.187	.060	.040	.025
1/4"	.250	.080	.042	.027
3/8"	.375	.135	.045	.030
1/2"	.500	.195	.050	.035
3/4"	.750	.313	.060	.040
1"	1.000	.400	.070	.040

Expanded I.D. Size	Part No.	STANDARD CUT LENGTHS 1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	2"	SUFFIX BELOW INDICATES COLOR Brown	Gray	White	Red	Blue	Yellow	Black
1/8"	HUG-18	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	-Z	—	—	—	—	—	—
3/16"	HUG-316	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	-G	—	—	—	—	—
1/4"	HUG-14	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	—	-W	—	—	—	—
3/8"	HUG-38	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	—	—	-R	—	—	—
1/2"	HUG-12	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	—	—	—	-X	—	—
3/4"	HUG-34	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	—	—	—	—	-Y	—
1"	HUG-1	-S14	-S38	-S12	-S58	-S34	-S78	-S1	-S118	-S114	-S112	-S2	—	—	—	—	—	—	-K

ngths other than those shown are available on special request. Marked pieces are available based on quantity and number of lines required on special request.

UG-TH SERIES (Continued)



• Lightweight • Molded handle • Portable • Shrinks tubing up to 1½ inches in diameter and larger • 700°F • 350 Watts • Shrinks tubing in 5 to 7 seconds to 50% of supplied diameter • 3 wire grounded • Spring clip stand permanently affixed • **CAUTION:** Voltages in excess of 110 VAC or rough handling may impair or permanently damage HEAT TUNNEL.

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements



Classic

Motors and Gearmotors

Carter Motor ®

Available up to 1/7 hp. Gearmotors from 1 to 750 rpm, up to 13 in. lbs. torque, continuous duty. Universal and DC shunt models, induction and variable speed types, base or flange mounted. Ball bearing, high quality, die cast construction. Ideal for SCR motor controllers, pumps, lab stirrers, machine drives. 3 5/16" dia., 6 1/16" long. Shaft, 5/16" dia., weight 5 lbs. Ask for "Classic" catalog.

115 V. DC SHUNT MOTORS

4 lead reversible, self ventilated, totally enclosed available

Model	HP	RPM	List
CSA1840A	1/40	1800	$49.50
CSB1830A	1/30	1800	51.00
CSA3628A	1/28	3600	49.50
CSB3620A	1/20	3600	51.00
CSA5020A	1/20	5000	49.50
CSB5015A	1/15	5000	51.00

Other ratings and voltages 12 V. to 115 V. DC available.

115 V. AC/DC UNIVERSAL MOTORS

2 lead — uni-directional, ventilated only

CW Rotation	CCW Rotation	HP	RPM	List
*CUA3620R	*CUA3620A	1/20	3600	$43.00
CUA5025R	CUA5025A	1/25	5000	43.00
CUB7510R	CUB7510A	1/10	7500	45.00
*CUA1010R	CUA1010A	1/10	10000	43.00
*CUB1007R	CUB1007A	1/7	10000	45.00

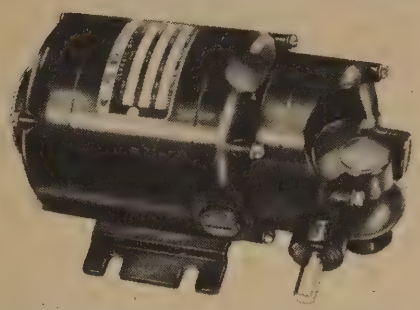
Other ratings and voltages from 12V. to 230 V. DC available.

115 V. CLASSIC PM DC MOTORS

2 lead reversible, base mount totally enclosed

Model	HP	RPM	List
CPA1840E	1/40	1800	$49.50
CPB1830E	1/30	1800	51.00
CPA3628E	1/28	3600	49.50
CPB3620E	1/20	3600	51.00

Other ratings and voltages from 12 V. to 115 V. DC available. *Factory stock model.



Any of the shunt or PM models listed are available for 12 to 115 volt DC. Universal types from 12 to 230 volts. Add $2.00 to list. Motors can be modified promptly at slight extra cost. Make Carter your specialty motor source.

115 V. DC SHUNT GEAR MOTORS

4 lead reversible

3 5/16" dia., 6 1/16" L., Wt. 5 Lbs., 5/16" dia. Shaft

Ventilated	Totally Enclosed	Torque in. lb.	RPM	Gear Reduction	List
CSA066A3	CSA066E3*	6	60	30:1	$66.50
CSA105A3	CSA105E3*	5	100	18:1	66.50
CSA204A3	CSA204E3*	4	200	10:1	66.50
CSA302A3	CSA302E3*	2.5	300	6:1	66.50
CSA402A3	CSA402E3*	2.5	400	6:1	66.50
CSA502A3	CSA502E3*	2.5	500	6:1	66.50
CSA0024A2	CSA0024E2*	4	2	900:1	75.00
CSA0057A2	CSA0057E2*	7	5	324:1	75.00
CSA017A2	CSA017E2*	7	10	180:1	75.00
CSA026A2	CSA026E2*	6	20	100:1	75.00
CSA036A2	CSA036E2*	6	30	60:1	75.00
CSA056A2	CSA056E2*	6	50	36:1	75.00

Other ratings and rotation available up to 500 RPM.

115 V. "CLASSIC" PM DC GEARMOTORS

2 lead reversible, base mount totally enclosed

SINGLE REDUCTION				DOUBLE REDUCTION			
Model	Torque in. lbs.	RPM	List	Code	Torque in. lbs.	RPM	List
CPA066E3	6	60	$66.50	CPA0024E2	4	2	$75.00
CPA105E3	5	100	66.50	CPA017E2	7	10	75.00
CPA204E3	4	200	66.50	CPA036E2	6	30	75.00
SPA402E3	2.5	400	66.50	CPA056E2	6	50	75.00

115 V. AC/DC UNIVERSAL GEAR MOTORS

2 lead — uni-directional

3 5/16" dia., 6 1/16" L., Wt. 4 1/2 Lbs., 5/16" dia. Shaft

Model	Torque in. lbs.	RPM	Rot.	List
CUA203R3	3	200	CCW	$61.00
CUA302R3	2.5	300	CCW	61.00
CUA0051A2	1.0	5	CCW	69.50
CUA024A2	4	20	CCW	69.50
CUA054A2	4	50	CCW	69.50

Other ratings and rotation available up to 750 RPM.

"CLASSIC" HEAVY DUTY GEARMOTOR

Classic gearmotor for outputs up to 13 in. lbs. torque. Universal and DC Shunt Models. Hardened ground steel worms with laminated bakelite gear for long life, quiet operation. 3-5/16" dia., 7-3/8" long with 1/2" dia. shaft. Weight 5-1/2 lbs.

Model	Torque in lbs.	RPM	Rot.	List
115 v. DC Shunt 4 lead reversible				
CSA4512A5	12	45	Rev.	$82.00
CSA1805A5	5	180	Rev.	82.00
115 v. AC/DC Universal 2 lead				
CUA1312A5	12	130	CW	73.50
CUA504A5	4.5	500	CW	73.50

Other ratings and rotation available.



Regent

Motors and Gearmotors

UP TO 22 IN. LBS. TORQUE

Universal and DC Shunt models. Hardened ground steel worm with laminated bakelite gear for long life, quiet operation. 3 7/8" dia. 9 9/16" long with 1/2" dia. shaft. Weight 12 lbs.

GEARMOTORS	Model	Torque in. lbs.	RPM	Rot.	List
115 v. DC Shunt 4 lead reversible	MSB4520A5	20	45	Rev.	$105.00
115 v. DC Shunt 4 lead reversible	MSB1811A5	12	180	Rev.	105.00
115 v. AC/DC Universal 2 lead	MUB5008A5	8	500	CW	102.00
115 v. AC/DC Universal 2 lead	MUB2512A5	12.5	250	CW	102.00

NOTE: Above Classic and Regent models 5000 RPM armature speed or less can be supplied with PM DC Tach Generator mounted to frame for speed reference voltage. Ideal for SCR Feedback Motor Control Applications. Write for details.

115 V. DC SHUNT MOTORS

4 lead reversible

3 7/8" Dia., Wt. 9 3/4 Lbs., 3/8" Dia. Shaft

Face mount listed. Base mount available, same price. Totally enclosed.

Model	HP	RPM	List
MSB1815EF	1/15	1800	$73.00
MSB367EF	1/7	3600	73.00
MSC1812EF	1/12	1800	76.00
MSC366EF	1/6	3600	76.00
MSD188EF	1/8	1800	82.00
MSD364EF	1/4	3600	82.00

Other ratings and rotation available.



115 AC/DC UNIVERSAL MOTORS

3 7/8" Dia., Wt. 9 3/4 Lbs., 3/8" Shaft Dia.

2 lead uni-directional. Ventilated only. Face mount. Base mount available, same price. Reversible available on order.

CLOCKWISE ROTATION				COUNTER CLOCKWISE			
Model	HP	RPM	List	Model	HP	RPM	List
MUB504RF	1/4	5000	$70.00	MUB504AF	1/4	5000	$70.00
MUB1002RF	1/2	10000	70.00	MUB1002AF	1/2	10000	70.00
MUB753RF	1/3	7500	70.00	MUB753AF	1/3	7500	70.00
MUC503RF	1/3	5000	73.00	MUC503AF	1/3	5000	73.00
MUC10058RF	5/8	10000	73.00	MUC10058AF	5/8	10000	73.00
MUD502RF	1/2	5000	79.00	MUD502AF	1/2	5000	79.00
MUD1001RF	1	10000	79.00	MUD1001AF	1	10000	79.00

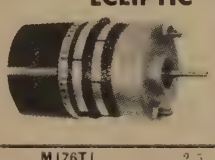


"CLASSIC" PM DC TACH-GENERATORS

A high output DC Tachometer-Generator for slow speed industrial and commercial purposes. Barium ferrite magnet. Couples to motor shaft and to meter for direct readings without belts or gears to step up speed. Requires no batteries, or external excitation. 2 lead reversible. Face or flange mount available. 5/16" dia. shaft. 1% linearity. Up to 15 watts capacity.

Model Number	DC Output per/1000	Mounting	Max. Speed RPM	List
CTA60AA	60 v.	base	3000	$78.00
CTA50AA	50 v.	base	4000	76.00
CTA25AA	25 v.	base	8000	74.00

Built-in capacitor filter assures ripple of less than 3%. Unfiltered models will average 5% or less AC ripple. Other voltages available.



"ECLIPTIC" TACHOMETER GENERATORS

Converts rotation rate into reference voltage for speed indication. Ideal for motor controllers and various industrial applications such as variable speed drives, textile machines, machine tools, etc. Can couple direct to drive motor, requires no belts or gears. 2 lead, reversible. Linearity below 1%. 5 to 20 MA capacity. May be connected to a DC meter calibrated for RPM, FPM, GPH or other measurements. Size 1-3/8" x 2-1/4" plus shaft, .118 dia. 19/32" long.

M176T1	2.5	v. per 1000 RPM	10,000 Max.	$51.00
M176T2	5	v. per 1000 RPM	10,000 Max.	53.00
M176T3	12	v. per 1000 RPM	4,000 Max.	56.00
M176T4	20	v. per 1000 RPM	2,500 Max.	70.00
M176T5	1.25	v. per 1000 RPM	10,000 Max.	51.00
M176T6	10	v. per 1000 RPM	5,000 Max.	56.00

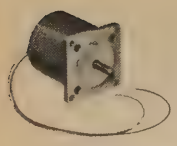
Carter Motor

Carter Motor Company

Carter Motor Company reserves the right to make changes without notice, in materials, specifications, prices, and to discontinue models, without obligation.

© United Technical Publications

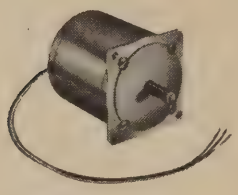
SLO-SYN®



TYPE SS25



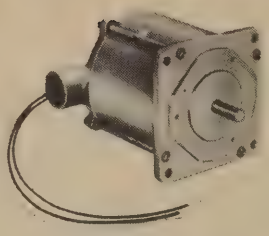
TYPES SS400 & SS402



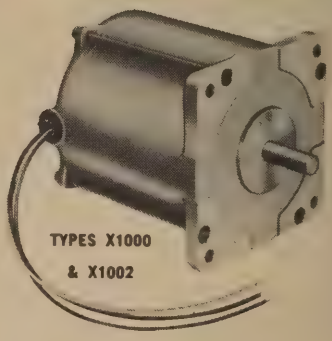
TYPES TS50 & TS52



TYPES SS150 & SS152



TYPES X250 & X252



TYPES X1000 & X1002

AC OPERATION

Standard SLO-SYN Synchronous/Stepping Motors are permanent magnet a-c motors having extremely rapid starting, stopping and reversing characteristics and a slow basic shaft speed of 72 rpm synchronous with a line frequency of 60 hertz. Three-lead types need only a single-pole, three-position switch for complete forward, reverse and "off" control. No excessive inrush current when energized because starting and operating current are nearly identical. Can be completely stalled without overheating and with no harmful effects on components. Starts or stops in less than 5° of shaft rotation; no need for mechanical or electrical braking. When used with an auxiliary high speed motor, the SLO-SYN motor can remain coupled to the load and safely overdriven. Phase shifting resistor and capacitor must be used when operating from a single-phase source but not from two-phase. All standard motors are rated for continuous duty at maximum ambient temperature of 65 °C. All models have Class B insulation.

DC STEPPING

When used for phase switched d-c stepping, 28.8 rpm models take 500 steps per revolution, 72 rpm models take 200 steps per revolution and 200 rpm models take 72 steps per revolution. Accuracy of the steps is ±.09° noncumulative. Three-lead types require a center-tapped d-c supply and single-pole, double-throw switching. Four-lead types require a single-ended power supply and single-pole, double-throw switching. Bifilar models can be used with transistorized switching circuits. Models specifically designed for stepping offer the best characteristics for most applications.

PRECISION STEPPING

For phase switched d-c stepping. These motors make 200 steps per shaft revolution. Each 1.8° step is accurate within ±3% (.06°) noncumulative. With properly designed circuitry incorporating programmed acceleration and deceleration, precision stepping motors can be operated at rates to 5000 steps per second.

RATINGS AND SPECIFICATIONS FOR A-C APPLICATIONS

TYPE	MAXIMUM AMPERES	TORQUE (Oz-In)	MAXIMUM MOMENT OF INERTIA OF A RIGIDLY ATTACHED LOAD (Lb-In²)	PHASE-SHIFTING COMPONENTS* RESISTOR	RESISTOR PART NUMBER	CAPACITOR	CAPACITOR PART NUMBER	APPROXIMATE MOTOR WEIGHT (POUNDS) NET	SHIPPING
120 Volts, 50/60 hertz, 1 Phase, 28.8 RPM at 60 hertz									
LS50§	0.2	40	0.5	1000 ohm ±5%, 10 watt	R-SS52/LS50	1.5 mfd ±6%, 330 VAC	C-LS50	4¾	5¾
120 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz									
TS25 §	0.2	25	0.12	200 ohm ±5%, 25 watt	R-TS25	1.75 mfd ±6%, 330 VAC	C-TS25	2	2½
TS50	0.3	50	0.25	300 ohm ±5%, 25 watt	R-TS50	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	4¾	5¾
120 Volts, 50/60 hertz, 1 Phase, 72 RPM at 60 hertz									
SS25§	0.1	25	0.15	500 ohm ±5%, 5 watt	R-SS25	0.75 mfd ±6%, 330 VAC	C-SS25	1¼	1½
SS50§	0.3	50	0.5	400 ohm ±5%, 25 watt	R-SS50	2.25 mfd ±6%, 330 VAC	C-SS50	3	3½
SS50M†§	0.3	50	0.5	400 ohm ±5%, 25 watt	R-SS50M	2.25 mfd ±6%, 330 VAC	C-SS50M	3	3½
SS150	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS50X/150	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	6½	8
SS150M†	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS150M	3.75 mfd ±6%, 330 VAC	C-SS150M	6½	8
SS250	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	6½	8
SS250M†	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250M	6.5 mfd ±6%, 330 VAC	C-SS250M	6½	8
X250‡	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	7¾	9
SS400	0.6	400	4.5	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	12¼	13¾
X1000‡	3.0	1000	9	65 ohm ±5%, 160 watt	R-X1000	30 mfd ±6%, 330 VAC	C-X1000/1500	31	33
X1500	3.0	1500	12	55 ohm ±5%, 375 watt	R-X1500	30 mfd ±6%, 330 VAC	C-X1000/1500	38	41
240 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz									
TS52	0.2	50	0.25	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	4¾	5¾
240 Volts, 50/60 hertz, 1 Phase, 72 RPM at 60 hertz									
SS52	0.2	50	0.5	1000 ohm ±5%, 10 watt	R-SS52/LS50	0.67 mfd ±6%, 660 VAC	C-SS52	3	3½
SS152	0.2	150	1.5	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	6½	8
SS252	0.4	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	6½	8
X252‡	0.4	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	7¾	9
SS402	0.4	400	4.5	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	12¼	13¾
X1002‡§	1.5	1000	9	250 ohm ±5%, 200 watt	R-X1002	8 mfd ±6%, 660 VAC	C-X1002	31	33

*External resistor and capacitor must be ordered separately. †Militarized. ‡Explosion-proof. §For 60 hertz. Other phase-shifting components required for 50 hertz.

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT

© United Technical Publications

ynchronous / Stepping Motors FOR A-C CONSTANT SPEED • FOR D-C STEPPING

THREE-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS — RATINGS FOR STEPPING APPLICATIONS

MOTOR TYPE	TS25	TS50	TS52	SS25	SS50 SS50M	SS52	SS150 SS150M	SS152	SS250 SS250M X250	SS252 X252	SS400	SS402	X1000	X1002	X1500
D-C VOLTS	60	50	100	80	50	100	35	70	32	64	30	60	11.5	23	10
AMPERES PER WINDING	0.15	0.25	0.13	0.07	0.15	0.08	0.35	0.18	0.50	0.25	0.60	0.30	3.2	1.6	4

FOUR-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

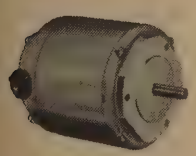
TYPES	D-C INPUT VOLTS PER WINDING	AMPERES PER WINDING
SS25-1014	16	0.35
SS25-1012	40	0.14
SS25-1013	80	0.07
SS50-1012	2.5	3.1
SS50-1011	10	0.75
SS50-1002	25	0.30
SS50-1014	50	0.15
SS150-1007	2	6.3
SS150-1018	7	1.75
SS150-1015	17.5	0.70
SS150-1025	35	0.35
SS250-1010	3	5.3
SS250-1009	8	2.0
SS250-1008	16	1.0
SS250-1007	32	0.50
SS400-1005	15	1.2
SS400-1007	30	0.6
X1000-1005	11.5	3.2
X1000-1008	23	1.6
SS1800-1004	9.5	4.7
SS1800-1005	19	2.4

SLO-SYN PRECISION STEPPING MOTORS RATINGS FOR DC STEPPING APPLICATIONS

TYPES	DC VOLTS	AMPERES PER WINDING
HS25	5.4	1.5
HS50	3	4
HS50L	4.5	3.5
HS55	2	5.4
HS55L	2	6.3

BIFILAR SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

TYPE	D-C VOLTS	AMPERES PER WINDING
TS50-1001	3	4.0
SS25-1002	5.9	0.88
SS25-1001	11.8	0.44
SS25-1011	23.6	0.22
SS50-1010	2	3.3
SS50-1009	5.5	1.3
SS50-1008	8	0.85
SS50-1001	14	0.53
SS50-1007	35	0.21
SS150-1023	1.4	8.5
SS150-1009	2.5	4.0
SS150-1010	10	1.25
SS150-1017	25	0.5
SS250-1006	2.5	5.0
SS250-1027	4.6	3.1
SS250-1002	9	1.55
SS250-1004	22.5	0.61
X250-1003	4.6	3.1
X250-1002	9	1.55
SS400-1021	5.3	3.4
SS400-1002	8.3	2.2
SS400-1006	21.2	0.85
X1000-1002	10	3.6
X1000-1007	25.4	1.42
SS1800-1007	11.5	3.9
SS1800-1002	14.4	3.1
SS1800-1006	23	2.0



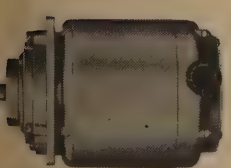
BIFILAR

Used for d-c stepping where use of push-pull circuitry and center-tapped power supply is not possible or where increased torque at high stepping speeds is required.



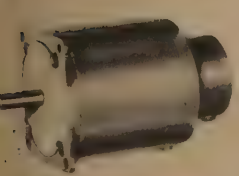
SPECIAL ENVIRONMENT

High Vacuum types for vacuums to 10^{-6} Torr; High Temperature types for temperatures to 130°C; High Radiation types withstand dosage of 3,000 megarads. All available from 50 to 1800 oz-in; High Vacuum 25 oz-in also.



PLANETARY GEAR

Basic 50 and 150 oz-in types and type X250 available with planetary gear assemblies in speeds of 16.6, 3.32, 0.665, 0.133 or 0.027 rpm; 16.6 rpm available in other 250 and on 400 oz-in types.



ENCODER

Consist of a precision stepping motor with an integrally mounted incremental photo encoder. The encoder outputs allow continuous monitoring of motor speed, position and direction of rotation.

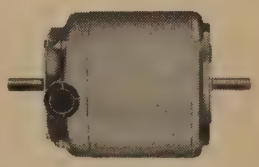
FOUR-LEAD

Designed for d-c stepping to provide the flexibility needed for use with equipment requiring isolated windings with no common connection.



DOUBLE END

Three-lead, bifilar and four-lead types with output shaft at each end of motor available in all listed torque ratings. 50, 150 and 250 oz-in types available also with planetary gear assemblies in 16.6, 3.32, 0.665, 0.133 or 0.027 rpm speeds.



VISCOUS DAMPED

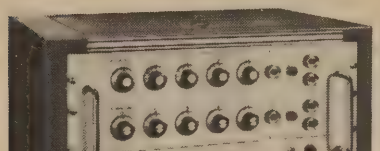
Type HS50D precision stepping motor has a unique fluid system resulting in a step function approaching critical damping. Speed of response and running characteristics are essentially unaffected by the silicone viscous damping fluid. Possesses characteristics of types described under PRECISION STEPPING on facing page.



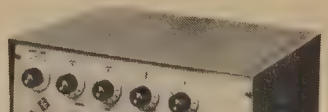
PAGES IN SECTIONS 2100, 4000 AND 5600

© United Technical Publications

SLO-SYN® *Preset Indexers*



TWO-AXIS
TYPE 2SP1800-4



SINGLE-AXIS
TYPE SP1800B-4

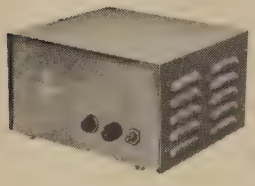


ABSOLUTE
TYPE SA1800-5

Used to control indexing of SLO-SYN bifilar motors. The index angle, or position, can be preset by dial setting on the control panel the number of steps to be driven. Have provision for actuating any external equipment needed to perform related operations. Index, jog and free run can be initiated manually from the control panel or from an external switch. Can be made to cycle automatically with proper external switching. Single- and two-axis models are available with counting ranges to 99,999 steps. Two-axis models provide independent control of two SLO-SYN motors. Speed adjustable from 4 steps/second up to maximum possible with motor used. Optional backlash take-up circuit.

ABSOLUTE PRESET INDEXERS permit either absolute or incremental positioning modes. In the absolute positioning mode, the number set on the controls determines the final position of the motor relative to the starting, or "zero" point. When incremental positioning is used, the motor will move the preselected number of steps each time the INDEX button is pressed. Optional backlash take-up circuit.

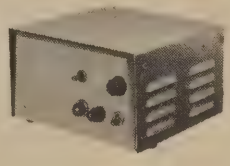
SLO-SYN® *Translator*



TYPE ST1800B

Pulse-to-step converter designed for use with appropriate bifilar SLO-SYN motors converted for incremental stepping. Convert low level signal pulses or square waves into the correct switching sequence needed to step a SLO-SYN motor. Input is 105-125 volts a-c, 1 ampere. Signal input impedance is 500 ohms. Used for programmed positioning, indexing and indicating operations.

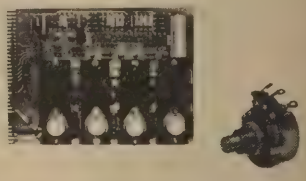
SLO-SYN® *Adjustable Speed Drive*



TYPE ST1800BV

Essentially, SLO-SYN Adjustable Speed Drive type ST1800BV is a translator which includes a built-in oscillator to supply the triggering signals. Oscillator frequency can be adjusted to vary the speed from 4 steps/second up to the maximum permissible with the motor used. Direction of rotation can be controlled either from the front panel or from a remotely located switch.

SLO-SYN® *Translator Module*



TYPE STM1800CV

Plug-in printed circuit boards with logic ca pabilities for stepping SLO-SYN motors Models offered for external triggering onl or with built-in oscillator for either interna or external triggering. Models STM1800 an STM1800V drive bifilar SLO-SYN motors Models STM1800C and STM1800CV drive bifilar and precision stepping motors an provide stepping rates to 2000 steps pe second.

SLO-SYN® *High Speed Drives*

TRANSLATORS

Drive SLO-SYN Precision Stepping motors at rates to 5000 steps per second. An internal oscillator can be adjusted to any desired stepping rate and provides programmed acceleration and deceleration. Translators can also be triggered externally by pulses from tape readers, computers, oscillators, pulse generators and other signal producing equipment.



TYPE HTR105RT

PRESET INDEXERS

Drive SLO-SYN Precision Stepping Motors in indexing and other positioning operations. Acceleration and deceleration circuit rates to 5000 steps per second without missing steps. Can be controlled from the front panel or from a TTL compatible computer link. Backlash take-up circuit is optional.



TYPE HPI 155T

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES IN SECTIONS 2100, 4000 AND 5600

© United Technical Publication

AUTOTRON Photo Controls for every purpose

AUTOTRON, INC.

If you want

up-to-the-minute information

on photo electric controls

for any purpose

send for the

AUTOTRON CATALOG



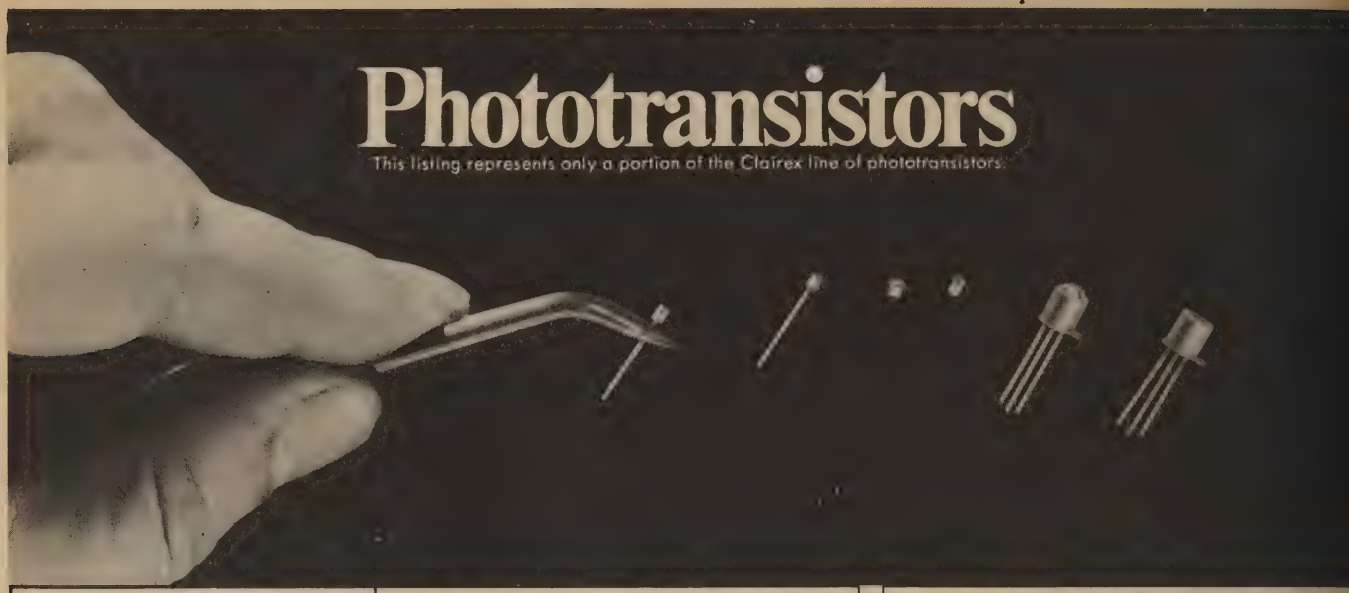
The AUTOTRON Catalog describes Photoelectric Controls for an endless variety of applications including

• automation • counting • packaging • conveyors • cut-off • die protection
• processing • jam-up • registration • measuring • smoke detection • sorting
• fault detection • limit • orientation • positioning • inspection
• tension • traffic control • weighing • winding and others beyond enumeration

Also included in the catalog are

- Application sketches showing how Autotron Photoelectric Controls are used to meet a tremendous range of varied industrial control requirements.
- Hundreds of pre-engineered control-paks in stock for immediate shipment are illustrated, described and priced.
- Self-contained Retro-Reflective ON/OFF and Timing Controls.
- Self-contained photo controls and self-contained light sources.
- Remotely operated photo controls: ON/OFF, Timing, with Timed Output Pulse Width Control, Dual Timing, Solid State Switching and High Speed Counting.
- Remote photo sensing and light source heads including tiny models for small space, sensitive models for long range, many different shapes to meet application requirements, explosion proof models, retro-reflective, specular reflective and fiber optic models.
- Bin Level Photoelectric Controls
- Impak Switch Electronic Controls.
- Liquid Level Electronic Controls.
- Proximity Controls.
- Overload and Underload Electronic Controls.

© United Technical Publications



Phototransistors

This listing represents only a portion of the Clairex line of phototransistors.

Silicon NPN Planar Epitaxial Phototransistors

Maximum Ratings
Maximum Temperatures
Storage Temperature −65°C to + 200°C
Operating Junction Temperature +150°C
Maximum Power Dissipation
Total Dissipation at 25°C, P_T = 250mW derate 2.0mW/°C
Total Dissipation at 100°C, P_T = 100mW

ELECTRICAL CHARACTERISTICS	CLT 2010	CLT 2030	CLT 2130	CLT 2160	CLR 2050	CLR 2060	CLR 2170	CLR 2180
Package or Size ("O.D.)	TO-18	TO-18	TO-18	TO-18	TO-18	TO-18	TO-18	TO-18
Window or Lens	W	W	L	L	W	W	L	L
MAX VOLTAGES (Volts)								
V_{CBO}	80	60	80	60	80	80	80	80
V_{CEO}	50	30	50	30	40	40	40	40
V_{ECO}	5	5	5	5				
V_{EBO}					10	10	10	10
MAX CURRENT I_C ma, Note 3.	200	200	200	200	200	200	200	200
LIGHT CURRENT in ma , Note 1.								
I_L (V_{CE}=5V, H=0.02mW/cm²) min.							0.2	0.4
I_L (V_{CE}=5V, H=0.02mW/cm²) max.							0.5	0.8
I_L (V_{CE}=5V, H=0.2mW/cm²) min.					0.6	1.4	2.0	4.0
I_L (V_{CE}=5V, H=0.2mW/cm²) max.					1.8	4.0		
I_L (V_{CE}=5V, H=2.0mW/cm²) min.					6.0	14.0		
I_L (V_{CE}=5V, H=2.0mW/cm²) max.								
I_L (V_{CE}=5V, H=5.0mW/cm²) min.	0.2	1.0	0.6	4.0				
I_L (V_{CE}=5V, H=5.0mW/cm²) max.	0.6	3.0	1.8	12.0				
I_L (V_{CE}=5V, H=20.0mW/cm²) min.								
I_L (V_{CE}=5V, H=20.0mW/cm²) max.								
DARK CURRENT								
I_D (I_{CEO} @ 25°C) in na, H=O max.	25	25	25	25	50	50	50	50
I_D (I_{CEO} @ 100°C) in μa, H=O max.	25	25	25	25				
BREAK DOWN VOLTAGES (Volts)								
BV_{CEO} I_C=100 μa min.	50	30	50	30	40	40	40	40
BV_{CBO} I_C=100 μa min.	80	60	80	60	80	80	80	80
BV_{EBO} I_E=100μa min.					10	10	10	10
BV_{ECO} I_{EC}=100 μa min.	5	5	5	5				
t_r μsec (I_C=0.5ma, R_L=100 Ω, V_{CC}=5V) Note 2. (Typical)	3	3	3	3	100	100	100	100
t_f μsec (I_C=0.5ma, R_L=100 Ω, V_{CC}=5V) Note 2. (Typical)	3	3	3	3	150	150	150	150
$V_{CE\ (SAT)}$ I_C=10ma, I_B=0.05ma, H=O					1.0	1.0	1.0	1.0
$V_{CE\ (SAT)}$ I_C=10ma, I_B=0.5ma, H=O	0.30	0.30	0.35	0.30				
$V_{CE\ (SAT)}$ I_C=0.4, H=20mW/cm²								

Maximum Ratings
Maximum Temperatures
Storage Temperature −65°C to +180°C
Operating Junction Temperature +150°C
Maximum Power Dissipation
Total Dissipation at 25°C, P_T = 50mW derate 0.5mW/°C
Total Dissipation at 100°C, P_T = 12.5mW

CLT 3020	CLT 3030	CLT 3160	CLT 3170	CLT 4020	CLT 4030	CLT 4160	CLT 4170
.060"	.060"	.060"	.060"	.060"	.060"	.060"	.060"
W	W	L	L	W	W	L	L
50	40	50	40	50	40	50	40
5	5	5	5	5	5	5	5
200	200	200	200	200	200	200	200
0.1	0.25	0.5	2.0	0.1	0.25	0.5	2.0
0.4	1.0	2.0	7.0	0.4	1.0	2.0	7.0
1.2	3.0	7.0		1.2	3.0	7.0	
10	10	10	10	10	10	10	10
50	40	50	40	50	40	50	40
5	5	5	5	5	5	5	5
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Note 1: The light source is a frosted tungsten incandescent lamp at 2854°K. **Note 2:** The light source is a gallium arsenide LED pulsed with a rise and fall time of < 0.3 μsec.
Note 3: Pulsed conditions: 300 μsec., 2% duty cycle

CLAIREX ELECTRONICS

© United Technical Publications

Photoconductive Cells

This listing represents less than half of the Clairex standard and special photocells available. A 16-page design manual is available on request.



Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL5M2	.55 X .18	55K	1:100	250	2000-500[1]
CL602	.25 X .5	1 meg.		300	75
CL702	.36 X .18	1 meg.		300	125
CL902	.21 X .15	1 meg.		250	50

Type 2 CdS (photosensitive material designated by last number in ordering abbreviation, i.e. CL5M2). Peak spectral response 5150 angstroms, bluest response photosensitive material, high stability, lowest temperature error.

CL503	.5 X .5	7.2K	1:10,000	250	500-250[1]
CL5M3	.55 X .18	7.2K		250	2000-500[1]
CL603	.25 X .5	133K		300	75
CL603A	.25 X .5	75K		300	75
CL603AL	.25 X .5	3.5K		170	75
CL703	.36 X .18	133K		300	125
CL703A	.36 X .18	67K		300	125
CL703L	.36 X .18	2.7K		100	125
CL903	.21 X .15	133K		250	50
CL903A	.21 X .15	67K		250	50
CL903L	.21 X .15	6.0K		100	50

Type 3 CdSe, peak spectral response 7350 angstroms, fast response, and very high light-to-dark resistance ratio. Can be used for high speed switching or counting. Sensitive to near infra red. For use with incandescent or neon lamps.

CL504	.5 X .5	1.5K	1:1000	250	500-250[1]
CL5M4	.55 X .18	1.5K		250	2000-500[1]
CL504L	.5 X .5	0.25K		170	500-250[1]
CL5M4L	.55 X .18	0.25K		170	2000-500[1]
CL604	.25 X .5	30K		300	75
CL604L	.25 X .5	1.5K		170	75
CL704	.36 X .18	30K		300	125
CL704L	.36 X .18	0.6K		100	125
CL904	.21 X .15	30K		250	50
CL904L	.21 X .15	2K		100	50

Type 4 CdSe, peak spectral response 6900 angstroms, lowest resistance photocells available. Can be used for "on-off" applications when low resistance is desired. For use with incandescent or neon lamps.

CL505	.5 X .5	9K	1:100	250	500-250[1]
CL5M5	.55 X .18	9K		250	2000-500[1]
CL505L	.5 X .5	1.5K		170	500-250[1]
CL5M5L	.55 X .18	1.5K		170	2000-500[1]
CL605	.25 X .5	166K		300	75
CL605L	.25 X .5	7.5K		170	75
CL705	.36 X .18	166K		300	125
CL705L	.36 X .18	3.3K		100	125
CL905	.21 X .15	166K		250	50
CL905L	.21 X .15	10K		100	50

Type 5 CdS, peak spectral response 5500 angstroms (closely matches the human eye), most stable, lowest memory photocell available. Can be used in light measuring applications and precision low speed switching. For use with incandescent, fluorescent or neon lamps.

CL705HL	.36 X .18	28K	1:1000	100	125
CL905HL	.21 X .15	100K		100	50
CL905HN	.21 X .15	700K		100	50

Type 5H CdS, peak spectral response 5500 angstroms (closely matches the human eye). Combines high speed, stability, linearity, and uniform color temperature response.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL507	.5 X .5	7.2K	1:1000	250	500-250[1]
CL5M7	.55 X .18	7.2K		250	2000-500[1]
CL607	.25 X .5	133K		300	75
CL707	.36 X .18	133K		300	125
CL707L	.36 X .18	2.7K		100	125
CL907	.21 X .15	133K		250	50
CL907N	.21 X .15	66K		100	50

Type 7 CdS, peak spectral response 6150 angstroms, moderate speed and ratio. Can be used in general beam breaking applications. For use with incandescent, neon or fluorescent lamps.

CL707H	.36 X .18	500K	1:1000	300	125
CL707HM	.36 X .18	100K		250	125
CL707HL	.36 X .18	10K		100	125
CL907H	.21 X .15	600K		250	50
CL907HN	.21 X .15	300K		100	50
CL907HL	.21 X .15	24K		100	50

Type 7H CdS Peak Spectral response 6200 angstroms. Very fast decay time coupled with low resistance and high linearity. Ideal for beam breaking applications.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)	Type
CL703/2	.36 X .18	50K	1:10,000	300	125	3 CdSe
CL703L/2	.36 X .18	6.5K	1:10,000	100	125	3 CdSe
CL704/2	.36 X .18	17K	1:1000	300	125	4 CdSe
CL704L/2	.36 X .18	1.5K	1:1000	100	125	4 CdSe
CL705/2	.36 X .18	166K	1:100	300	125	5 CdSe
CL705L/2	.36 X .18	7.5K	1:100	100	125	5 CdS

DUAL ELEMENT

Photocells contain two separate elements with two separate leads and one common lead.



PHOTOMOD®

PHOTOCELL-LAMP ASSEMBLIES

Part No.	Rated Lamp Voltage	Resistance (Max. Ohms) @ Rated Lamp Voltage	Max. Allowable Cell Voltage @ Peak AC
CLM3006A	6	160	120V
CLM4006A	6	55	120V
CLM4012A	12	30	120V
CLM3012A	12	160	120V
CLM5H10A	10	3000	120V
CLM7H16A	16	550	170V
CLM3120A	120	1150	120V
CLM4120A	120	160	120V

FOOTNOTE: [1] With and without heat sink.

CLAIREX ELECTRONICS®

A DIVISION OF CLAIREX CORPORATION

WORNER ELECTRONIC DEVICES

WORNER FOTOLECTRIC CONTROLS

NET PRICES

COMPLETE INSTALLATION INSTRUCTIONS WITH EVERY UNIT

THREE-UNIT CONTROLS



Model 63 Series represents a line of three high speed, precision Amplifiers; each engineered for a highly specialized use.

Each amplifier is designed for amplification of energy developed by one set of Series 33/23 Fotolectric Heads listed below.

Heavy duty construction throughout, size 9¼" x 11½" x 5". Engineered for 110/120v. 50/60 cy. a.c.

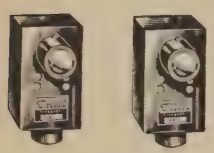
Model 63, the Worner Master Unit, serves most industrial uses. It is generally recommended for supervising fast moving objects and will operate normally up to 750 times a minute.....**Each $157.62**

Model 63-A, equipped with Time Delay Circuit giving delay from 0 to 45 seconds .....**Each $176.82**

Model 63-B, has added amplification to operate on less active change of light .....**Each $190.26**

Model 64. Economy Unit. Operates up to 450 times a minute..**Each $96.69**

WIDE RANGE OF FOTOLECTRIC HEADS



Series 33 Light Sources
Series 23 Photocells

Selection of any of the following seven combinations, with current flow amplified by a choice of any of the above Amplifiers, provides unbeatable control supervision. Units are alike externally.

Model 33 Series Light Sources and Model 23 Series Photocells are heavy duty units. Components are housed in solid metal castings equipped with conduit fitting. Size of case 3" x 3" x 4½".

DIRECTIONAL BEAM for objects over 2" square. Distances listed cover area of supervision (between units).

DISTANCE	LIGHT SOURCE	EACH		PHOTOCELL	EACH
1 to 10 ft.	**Model 33-10**	**$42.15**	use with	**Model 23-10**	**$42.15**
	Made moisture-proof upon order at $7.50 per unit.				
10 to 25 ft.	**Model 33-25w**	**$51.00**	use with	**Model 23-25w**	**$54.30**
	These units are moisture-proof.				

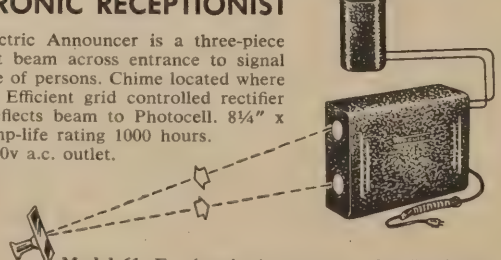
FOR SUPERVISING LARGE OBJECTS UP TO 75 FT.

Model 33-C Light Source and Model 23-C Photocell supervise over an indoor distance over 25 ft. up to 75 ft. from unit to unit. 6¼" x 7" x 4½". Use with any of the above Amplifiers.

Model 33-C.....**Each $51.60**.....use with **Model 23-C**.....**Each $45.66**

THE ELECTRONIC RECEPTIONIST

Model 61 Fotolectric Announcer is a three-piece set. Projects light beam across entrance to signal entry or departure of persons. Chime located where signal is desired. Efficient grid controlled rectifier circuit. Mirror reflects beam to Photocell. 8¼" x 6½" x 3¾". Lamp-life rating 1000 hours. Plugs into 110/120v a.c. outlet.



Model 61. Fotolectric Announces.....**Per Set $61.86**

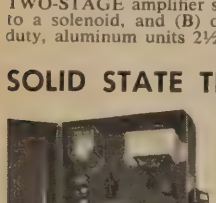
Model 61-T. Fully transistorized. Size 7¾" x 5¾" x 3⅛".....**Per Set 71.28**

SOLID STATE TWO-UNIT FOTOELECTRIC SET

Amplifier, Photocell and Relay are combined in the Receiver unit. Light Source unit is designed with interchangeable optical system for supervising any specified distance up to 25 feet.

TWO-STAGE amplifier system provides: (A) operation direct from the relay to a solenoid, and (B) operation direct to the control of the task. Heavy duty, aluminum units 2½" x 3" x 7½" **Model 108** .....**Per Set $126.60**

SOLID STATE THREE-UNIT FOTOELECTRIC SETS



Model 118 Amplifier 6" x 8" x 5" ..**$111.00**

THREE-STAGE TRANSISTOR AMPLIFIER remotely installed to operate with a choice of Photocell and Light Source combinations according to distances to be handled.

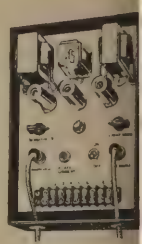
The Amplifier Relay operates at 450 **plus** per minute. Instant-On Feature, no waiting for tubes to warm up. Plug-in relay. D.P.D.T. 5 amp. Inductive per set of contacts. Sensitivity control for photocell input. Light Source control for required amount of light. Send for Model 118 Bulletin with complete descriptions and recommendations for Photocell and Light Source combinations for specific requirements.

AMPLIFIERS FOR MINIATURE HEADS

Model 66/67 Series Amplifiers are available in a choice of four units. For positive and accurate performance, the maximum speed rating of each unit can be regulated provided light projected to the Photocell will have an "on-period" equal to the "off-period" with wiring to Photocell having zero (0) capacity. 110/120v. 50/60 cy. a.c.

Model 67 Amplifier for general applications where fine detection at high speeds is not a factor or Relay is not required to operate in excess of 450 times per minute .....**Each $107.61**

Model 66 Amplifier, operates up to 900 counts a minute. Double-pole, double-throw relay with contact rating 110v. 60 cy. a.c., 10 amp.-non-inductive and 5 amp. inductive. Has light beam intensity control .....**Each $170.40**

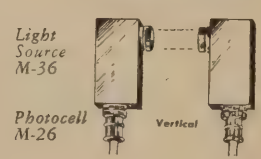


Model 66 Amplifier Door removed to show components.

Model 66-A Amplifier, designed for use with ultra high speed electron decade counters. Accurate counts of light beam interruption or variatio of intensity up to 10,000 counts per minute. Output pulses up to 50 vol d.c. regulated by the sensitivity control.....**Each $183.**

Model 66-T Amplifier, same operating features as Model 66 with adde Time Delay circuit to give regulated time delay from 0 to 45 second Efficient for synchronizing operations.....**Each $205.**

"MINIATURE" FOTOLECTRIC HEADS



For use with Models 66/67 Amplifiers

Machined out of solid aluminum blocks. Light weight, unbreakable, on piece, dependable. Only 1¼" x 2½" x ¾". Unsurpassed for pin-poi detection. Distance to cross-over point 3" to 12". Distance of direction beam up to 8 feet. For desired speed, select Amplifier accordingly. Si foot cable equipped both ends with prong-type connectors having screw band tighteners. For 110/120v. 50/60 cy. a.c.

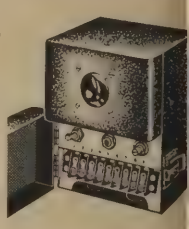
Model M-36 Vertical Light Source.....**$42.**
Model M-26 Vertical Photocell Receiver.....**46.**
Model M-37 Horizontal Light Source.....**42.**
Model M-27 Horizontal Photocell Receiver.....**46.**

TWO-UNIT CONTROL

For Indoor Use



Amplifier includes photocell, relay and components. Efficient for distances from a few inches to 75 ft. For use where Relay is not required to operate over 400 times a minute, such as; counting, sorting large objects; limit switches; start, stop operations; opening doors, etc.

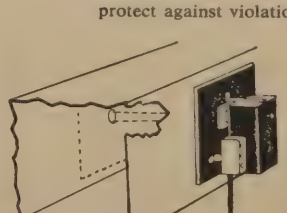


Model 62 R & L "Two-Unit Set".....**Per Set $121.2**

STOP Smoking Smokestacks!

GET into Air-Pollution Business Now!

Control smoke at its source. Insure maximum boiler efficiency, profit by fuel economies, prevent waste, protect against violation of smoke control ordinances.



Automatic Control when light beam projected across duct, detects smoke.

A predetermined density of smok passing through the boiler breachin intercepts the light beam and activate whatever alarm or automatic contr equipment is employed. The Ampl fier Control unit is remotely installe for observation of its jewel ligh which indicate whether correct Ringl man Unit is maintained.

For comprehensive details, pleas address your distributor for "Worne Combustion Control Bulletin".

Prices subject to change without notice.

Net

© United Technical Publication

WORNER ELECTRONIC DEVICES

WORNER FOTOLECTRIC PROTECTION

NET PRICES

COMPLETE INSTALLATION INSTRUCTIONS WITH EVERY UNIT

THE WORNER MASTER CONTROL SYSTEM

MODEL 9000 SERIES



Consists of Model 9000-S Master Control Panel. Can supervise ONE to FOUR Light Source and Photocell detection sets, hereafter referred to as "Fotoelectric Sets".

On separate circuit, the Master Control Panel will also supervise foil tape, door traps and window switch systems. Both circuits operate independently and simultaneously. Sounds continuous alarm (until reset) when either of these detection circuits is opened or wiring of Fotolectric system is tampered with.

This control panel prevents false alarms should power fail or drop momentarily and resets automatically when power is restored. Also operates with any type electrical devices employed by professional burglar alarm companies.

The unit contains Relays which energize alarm circuits. The cabinet size is 7" x 10¼" x 4⅜" and its operation is safeguarded by a pick-proof lock. The unit is installed remotely. Designed for 110/120v. 50/60 cy. a.c.

Illustration shows FOUR Relay plug-in location for 1, 2, 3 and 4 Relays as needed; one Relay for each Fotolectric (detection) Set used. Model 9000-S Master Control Panel is priced "less Relays," as only ONE Relay is automatically supplied with each Model No. 9000 series Fotolectric Set ordered.

Model 9000-S Master Control Panel.....**Each $101.10**

Model	Range	Fotolectric Set	Per Set
9100	100 ft.	Light Source & Photocell.....	$143.94
9150	150 ft.	Light Source & Photocell.....	186.90
9075	75 ft.	Light Source & Photocell.....	179.46
9250	250 ft.	Light Source & Photocell.....	186-99
9500	500 ft.	Light Source & Photocell.....	221.49

MODEL 7000 SERIES

Comprises (light Source and Photocell) Fotolectric Sets that operate in conjunction with burglar alarm companies' central control equipment. The Fotolectric Sets do not interfere with operation of Central Alarm Companies', foil tapes or window traps. For 110/120v. 50/60 cy. a.c. For 24v. 60 cy. use Worner Step-Down Transformer.

Model	Range	Fotolectric Set	Per Set
7100	100 ft.	Light Source & Photocell.....	$143.94
7150	150 ft.	Light Source & Photocell.....	168.90
7075	75 ft.	Light Source & Photocell.....	179.46
7250	250 ft.	Light Source & Photocell.....	186.99
7500	500 ft.	Light Source & Photocell.....	221.49

MODEL 5000 SERIES

There are 2 Models. Each model has Light Source and Photocell units. The Photocell unit of each Model contains all amplifier components. Thus each Model is a Two-Unit alarm set. Each is designed for indoor use and not intended for use with foil systems, etc.

Has on-off switch, phone jack to test plate current, sensitivity control. Lock. Alarm can be turned off or trespass trap reset only by the possessor of the key. For 110/120v. 50/60 cy. a.c.

Model	Range	Fotolectric Set	Per Set
5100	100 ft.	Two-Unit System	$143.94
5150	150 ft.	Two-Unit System	168.90

LIGHT SOURCE & PHOTOCELL SETS

All light beams are infra-red (invisible) light.

Sets for 100 and 150 ft. ranges are for indoor use. Sets for 75, 250, and 500 ft. ranges are for both indoor and outdoor use.

Sets for 75, 150, 250 and 500 ft. ranges have unwanted light rejector for maximum daytime operating efficiency.

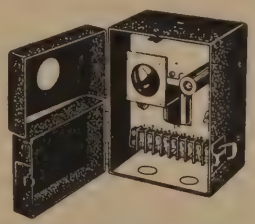
Some cases are similar, but circuits vary greatly.



Light Sources and Photocell Units for 100 ft. Ranges. Models: 9100, 7100, 5100.



Light Sources for 150 ft. Range. Models: 9150, 7150, 5150.



Photocells for 150 ft. Range. Models: 9150, 7150, 5150.



Sets for 75, 250 and 500 foot ranges have hooded weatherproof cases. Photocell cases have locks.

Prices subject to change without notice.

BURGLAR DETECTION UNITS CONCEALED IN THE WALL

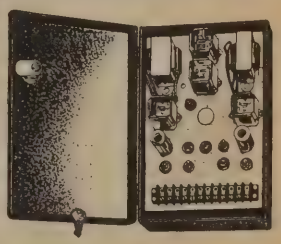


Light Source and Photocell Receiver units concealed behind light-switch-type face plates. Projects invisible light beam ranging up to 30 feet (indoors). Standard size wall plates concealing Fotolectric detection units are high finish stainless steel. Light bulb rated 2000 hours. For guaranteed efficiency Model 81/82 Fotolectric sets must be used only with specially engineered Amplifiers listed below. Complete installation instructions enable any electrician to install.

Model 81 "In-Wall" Light Source.....**Each $35.94**

Model 82 "In-Wall" Photocell Receiver.....**Each 42.00**

AMPLIFIERS FOR ABOVE FOTOLECTRIC SET

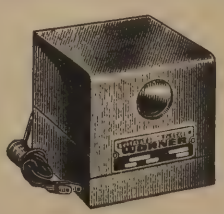


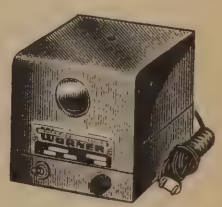
Two specially engineered units for amplifying the energy of the above concealed units.

Circuits with no-voltage control relay prevent false alarms due to line voltage irregularities and will sound alarm if tampered with. Standard alarm continuous, Regulated warning signal "special" upon order. For 110/120v. 60 cy. a.c.

Model 86-1 is a single channel Amplifier Panel that will amplify current flow of one Fotolectric Set.....**Each $147.81**

Model 86-2 is a dual channel Amplifier Panel that will amplify current flow of two Fotolectric Sets, guarding separate areas. Will also supervise one Fotolectric Set, providing for future addition of a second Fotolectric Set **Each $236.31**





TWO-UNIT WORNER WATCHMAN

This Two-Unit Set consists of a Light Source and a Photocell unit that supplies 6-volt energy for activating the alarm circuit.

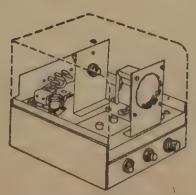
The Light Source is equipped with removable infrared filter providing visible light beam ranging up to 50 feet. The Photocell unit is equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Extraneous light rejector maintains daylight range. Two-piece case construction enables removal of cover without mounting. Identical cases 5" x 5" x 5½" welded steel, mahogany hammerloid finish. For indoor use; 110/120v. 60 cycle a.c.

Model 4000 Two-Unit Watchman (Indoors).....**Per Set $101.88**

Model 4100 Two-Unit Alarm (Weatherproof)...**Per Set 179.46**

SOLID STATE BURGLAR ALARM

Two-Unit Combination. Indoor Use.



Photocell - Amplifier has 2-piece case for convenient installation and servicing.

The Photocell unit supplies 6-volt a.c. energy to activate a 6-volt a.c. alarm, thus providing a Two-Unit alarm set.

Alarm may be sounded at one or more remote locations. Knob control for continuous, limited or reset alarm. Built-in device minimizes unwanted light. Infrared filter provides invisible light beam ranging up to 50 feet. Both Light Source and Photocell units are externally alike. 5" x 5" x 5½". Two-piece hammerloid cases simplify installation and servicing.

Model 8002 R & L, Solid State Burglar Alarm Set **$99.00**

SOLID STATE INVERTERS

All Units are Frequency Stable and have Automatic Frequency Control

Specially Designed to Provide 117 Volt 60 Cycle AC Power for the Operation of Tape Recorders, VTR Equipment, Public Address Systems, TV Sets, Ham Gear, Small Portable Tools and Appliances, Test Instruments, Closed Circuit TV, Scientific Laboratory and Hospital Equipment, Small AC-DC Universal Motors, Fluorescent and Incandescent Lamps from 12 Volt DC Storage Battery Power in Automobiles, Buses, Trucks, Campers, Mobile Homes, Boats, and Aircraft.



Illustrates ATR Model 12U-S2A (275-300 Watts)
Overall Dimensions: 11" x 9" x 4"
Shipping Weight: 17 lbs.



Illustrates ATR Model 12U-S4G (400-450 Watts)
Overall Dimensions: 11" x 9¾" x 5¼"
Shipping Weight: 27 lbs.

ATR Model 12U-S6M (600-650 Watts) not illustrated, similar to illustration above
Overall Dimensions: 11" x 11¼" x 6¾"
Shipping Weight: 34 lbs.

ATR SOLID STATE Inverters are Universal Type Inverters recommended for the applications as listed above plus hundreds more! These Inverters are very well filtered and feature quick starting, frequency stability with varying load and input voltage, rugged heavy-duty construction, reverse polarity protection, and built-in power factor corrector utilizing a simple toggle switch. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation at high efficiency and maximum reliability. All models indicated here are equipped with heavy duty power transistors and plug-in frequency reed for automatic frequency control. These Inverters also come equipped with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is approximately 80%. To figure approximate current consumption from storage battery, divide the rated input wattage of the load being operated by the storage battery voltage, and further divide this answer by .80 which will give the approximate current consumption from the battery based on the actual load being operated. These Inverters are recommended primarily for use with loads having power factors in excess of 70%. Inverters come complete with battery cables ready for operation.

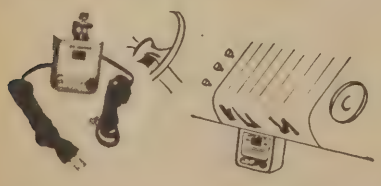
Type	DC Input Volts	AC Output 60 Cycles (Volts)	Output Wattage		Net Price
			Int.	Cont.	
12U-S2A	12	117	300	275	$139.50
*12U-S2A-P	12	117	300	275	139.50
12U-S4G	12	117	450	400	198.45
12U-S6M	12	117	650	600	249.75

"-P" model is equipped with cigarette lighter cord set to plug into dash receptacle. Caution — Do not load beyond 150 watts due to possible damage to cigarette receptacle wiring.

All ATR Inverters are housed in attractively finished brown-hammerloid metal cabinets and are complete with battery cables ready for operation.

For Inverters having larger or smaller output capacities, or for operation on other DC input voltages from 6 volts to 220 volts, please consult available ATR Inverter catalog sheets.

ACCESSORIES



REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto-trunk compartment.
Net Price $12.95



MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated
Net Price $7.50 pr.



EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment; #6 gauge, 15' length.
Net Price $21.75 pr.

Manufactured by

ATR ELECTRONICS, INC.

QUALITY PRODUCTS SINCE 1931

Net

© United Technical Publications

ATR UNIVERSAL INVERTERS

Specially Designed for Operating Standard A.C. Tape Recorder, Television Set, Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

ATR Universal Inverters are actually a combination of 4 Inverter designs in one unit! These Inverters are especially recommended for applications as mentioned above and feature complete RF frequency interference suppression, instant starting, frequency stability, and built-in power factor corrector utilizing a simple toggle switch. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation at high efficiency and maximum reliability. All models indicated are equipped with ATR heavy duty plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulator which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of 75%. To figure approximate current consumption from storage battery, divide the rated input wattage of the recorder (or load) being operated by the storage battery voltage and further divide this answer by .75 which will give the actual current consumption based on the actual load and efficiency. The battery current consumption required for a tape recorder is normally less than that drawn by ordinary automobile headlight(s). These Universal Inverters are recommended only for use with loads having power factors in excess of 70%.



Featured cut above illustrates Model 12U-RHG.

All Units are Frequency Stable and have Automatic Frequency Control.

"—P" models equipped with cigarette lighter cord set to plug into dash receptacle.

All ATR Universal Inverters are housed in attractively finished brown-hammerloid metal cabinets.

Dimensions of Standard (RSF) Model Universal Inverters, 8½" x 9⅞" x 5¼"; shipping weight 22 lbs.

Dimensions of Heavy Duty (RHG) Model Universal Inverters, 6⅞" x 11¼" x 8½"; shipping weight 27 lbs.

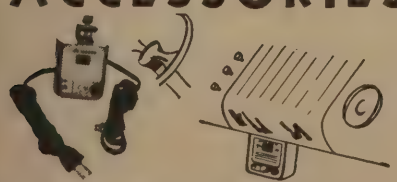
Dimensions of Super Heavy Duty (HSJ) Model Universal Inverters 6½" x 12⅞" x 8½"; shipping weight 37 lbs.

For correct replacement Vibrator, consult Inverter Vibrator Guide.

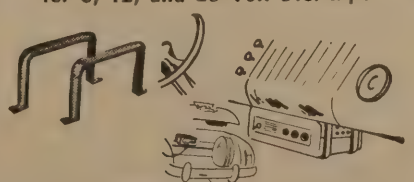
Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt. Int.	Output Watt. Cont.	Shipping Weight	Net Price
6U-RSF	6	110 Volts	100	80	22 lbs.	$87.50
6U-RSF-P	6	110	100	80	22	87.50
6U-RHG	6	110	150	125	27	113.82
6U-HSJ	6	110	175	150	37	145.00
12U-RSF	12	110	150	125	22	69.50
12U-RSF-P	12	110	150	125	22	69.50
12U-RHG	12	110	200	175	27	89.95
12U-HSJ	12	110	250	225	37	119.75
*28U-RSF	28	110	125	100	22	87.50
*28U-RHG	28	110	175	150	27	103.50
*28U-HSJ	28	110	250	200	37	135.00
32U-RSF	32	110	150	100	22	87.50
32U-RHG	32	110	200	180	30	103.50
32U-HSJ	32	110	325	225	37	135.00
50U-RSF	50	110	150	100	22	87.50
50U-RHG	50	110	225	200	27	113.82
110U-RSF	110	110	250	150	22	89.50
110AU-RHG	110	110	325	250	27	89.95
110BU-RHG	110	110	450	350	30	113.82
110U-HSJ	110	110	600	400	37	129.50
220U-RSF	220	110	250	150	22	79.66
220U-RHG	220	110	325	250	27	113.82
220U-HSJ	220	110	500	300	37	135.00

* Recommended for 24 volt battery systems.

ACCESSORIES for 6, 12, and 28 Volt D.C. Input Inverters.



EMOTE CONTROL UNIT — for under-dash ounting permitting installation of Inverter auto-trunk compartment.
Net Price $12.95



MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated
Net Price $7.50 pr.



EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment; #8 gauge, 15′ length.
Net Price $12.50 pr.

Manufactured by

ATR ELECTRONICS, INC.

QUALITY PRODUCTS SINCE 1931

PORTABLE — Plug-in Type
INVERTERS

All Units are Frequency Stable and have Automatic Frequency Control.

Specially Designed for Operating Standard A.C. Dictating Machines, Record Players, Incandescent Lamps, Electric Razors, Electronic Test Equipment, and Other Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, Trains, and D.C. Districts.



Illustrates ATR Mighty Midget (DME) Model Inverter having Cigarette Lighter Plug Attachment.

ATR Portable Inverters are light-weight plug-in units for applications as recommended above. These Inverters feature instant starting, frequency stability, and high efficiency and reliability. Inverters have partial RF filtering which is only suitable for small insensitive type radios. For sensitive radio sets, ATR Universal Inverters, catalog sheet 657U, must be used. The 6 and 12-volt units are equipped with cigarette lighter cord set to plug into dash receptacle; whereas, the other higher input voltage units are equipped with standard two-blade plug-in cord sets. With ATR Inverters the need for special equipment is eliminated. They are designed for quiet, long-life operation. All ATR Models indicated are equipped with ATR plug-in Inverter Vibrators. Models RME and RMF come equipped with a four-point voltage regulator which makes possible the correct output voltage for minimum to maximum loads. The battery current consumption required is normally less than that drawn by one ordinary automobile headlight. The operating efficiency is approximately 75%. To figure battery current consumption see catalog sheet 657U. These Inverters are recommended only for use with loads having power factors in excess of 80% and should be used only for the applications as outlined above and on the reverse side of this sheet. These Portable Inverters are not recommended for tape recorder operation, except as specified in (2) below.



Illustrates ATR Medium (RME and RMF) Model Inverter having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

EASY TO INSTALL
EASY TO OPERATE



Illustrates Under-Dash Mounting for ATR Models RME and RMF.

Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

TYPE	INPUT D.C. VOLTS	A.C. OUTPUT 60 CYCLES	OUTPUT Int.	WATTAGE Cont.	SHIPPING WEIGHT	NET PRICE
6-DME (1)	6	110 Volts	40	30	5 lbs.	$28.50
6C-DME (1)	6/12	110 Volts	40	30	5 lbs.	32.50
6-RMF (2)	6	110 Volts	80	60	12 lbs.	53.15
6C-RMF (2)	6/12	110 Volts	80	60	12 lbs.	59.95
12-DME (1)	12	110 Volts	50	40	5 lbs.	23.98
12T-RME-1 (2) (3)	12	110 Volts	125	110	14 lbs.	49.75
*28-RME (2)	28	110 Volts	100	80	12 lbs.	59.95
32-RME (2)	32	110 Volts	100	80	12 lbs.	59.95
110-RME (2)	110	110 Volts	150	100	12 lbs.	57.50
220-RME	220	110 Volts	150	100	12 lbs.	59.95

* Recommended for 24-Volt Battery Systems.

For Inverters having larger or smaller output capacities, or for operation on other D.C. input voltages, please consult available ATR Inverter catalog sheets.

All models designated above are housed in attractively finished brown-hammertold metal cabinets. Dimensions of Medium (RME and RMF) Model Inverters, 8⅜" x 8" x 3¾"; shipping weight, 12 lbs. Dimensions of Mighty Midget (DME) Model Inverters, 5¼" x 4¾" x 2¾"; shipping weight, 5 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.

(1) These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Soundscriber (with engine of car not running).

(2) Primarily recommended for Dictaphone's Time Master, Gray Audograph and DeJur Stenorette dictating machines, or other similar types. Also, highly recommended for Norelco Tape Recorder Model EL-3516 and Geloso Model G255-S.

(3) THIS INVERTER SPECIALLY DESIGNED AND RECOMMENDED ALSO FOR USE WITH PORTABLE TV SET.

Manufactured by

ATR ELECTRONICS, INC.

QUALITY PRODUCTS SINCE 1931

Net

© United Technical Publications

ATR ELECTRONICS, INC.

INVERTERS, VIBRATORS, "A" ELIMINATORS, ETC.



DC TO AC UNIVERSAL INVERTERS

New, universal inverters for operating 110-v., 60 cycle AC equipment from DC voltages in autos, buses, trucks, boats, trains, planes and DC districts. Designed especially for standard 110-volt AC tape recorders, TV sets, radios, PA systems, electric razors, test equipment, etc. Units are carefully engineered and ruggedly constructed to provide long life operation. All feature complete RF interference suppression and exceptional frequency stability. Have operating efficiency in excess of 75%. Four-point voltage regulator corrects output voltage for minimum and maximum loads, and also helps compensate for input voltages lower or higher than normal. Inverters are recommended for use with loads having power factors in excess of 70%. Built-in toggle switch selects most efficient operation for use with TV sets or tape recorders. Inverters are not recommended for use with large motor driven appliances such as refrigerators, washing machines, etc. All have On-Off switches. Housed in attractive brown hammerloid metal cabinet with convenient leather carrying strap. Sizes: Standard Model RSF, 8½x9⅞x5¼"; Heavy-Duty Model RHG, 6⅞x11¼x 8½"; Extra-Heavy-Duty Model HSJ, 6½x12⅞x8½". With battery clips for instant connection to power source. Models with "P" suffix equipped with adapter cord for use in auto cigarette lighter receptacles. *Recommended for 24 volt battery operation. **Before ordering, check wattage of equipment with which inverter will be used.**

Stock No.	Mfr's Type	DC Input Volts	AC Output 60 Cycles (volts)	Output Watt. Int.	Output Watt. Cont.	Shipping Wt. (Lbs.)	Net Price
	6U-RSF	6	110	100	80	22	$87.50
	6U-RSF-P	6	110	100	80	22	87.50
	6U-RHG	6	110	150	125	27	113.82
	6U-HSJ	6	110	175	150	37	145.00
	12U-RSF	12	110	150	125	22	69.50
	12U-RSF-P	12	110	150	125	22	69.50
	12U-RHG	12	110	200	175	27	89.95
	12U-HSJ	12	110	250	225	37	119.75
	*28U-RSF	28	110	125	100	22	87.50
	*28U-RHG	28	110	175	150	27	103.50
	*28U-HSJ	28	110	250	200	37	135.00
	32U-RSF	32	110	150	100	22	87.50
	32U-RHG	32	110	200	180	30	103.50
	32U-HSJ	32	110	325	225	37	135.00
	50U-RSF	50	110	150	100	22	87.50
	50U-RHG	50	110	225	200	27	113.82
	110U-RSF	110	110	250	150	22	89.50
	110AU-RHG	110	110	325	250	27	89.95
	110BU-RHG	110	110	450	350	30	113.82
	110U-HSJ	110	110	600	400	37	129.50
	220U-RSF	220	110	250	150	22	79.66
	220U-RHG	220	110	325	250	27	113.82
	220U-HSJ	220	110	500	300	37	135.00



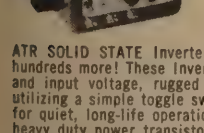
PORTABLE PLUG-IN TYPE INVERTERS

Specially Designed for Operating Standard AC Dictating Machines, Record Players, Incandescent Lamps, Electric Razors, Electronic Test Equipment, and other Small Electrical and Electronic Devices from DC Voltages in Automobiles, Buses, Trucks, Boats, Planes, Trains, and DC Districts.

Lightweight inverters for operating 110 v. AC equipment from DC voltage sources. Feature excellent frequency stability and high efficiency. 6 and 12-volt units plug into cigarette lighter receptacle of any vehicle; others are equipped with standard 2-prong plugs. All are designed especially for use with dictating machines; record players, electric razors, test equipment, etc. Not recommended for large tape recorders and motor driven appliances such as refrigerators, washing machines, etc. Brown Hammerloid case with leather carrying strap. Sizes: DME, 5¼x4¾x2¾"; RME and RMF, 8⅜x8x 3¾". *Recommended for 24-volt operation. **Check wattage rating of equipment before ordering. RMF/RME Model Inverters equipped with voltage regulator.**

Stock No.	Mfr's Type	DC Input Volts	AC Output 60 Cycles (volts)	Output Watt. Int.	Output Watt. Cont.	Shipping Wt. (Lbs.)	Net Price
	6-DME[1]	6	110	40	30	5	$28.50
	6C-DME[1]	6/12	110	40	30	5	32.50
	6-RMF[2]	6	110	80	60	12	53.15
	6C-RMF[2]	6/12	110	80	60	12	59.95
	12-DME[1]	12	110	50	40	5	23.98
	12T-RME-1[2 3]	12	110	125	110	14	49.75
	*28-RME[2]	28	110	100	80	12	59.95
	32-RME[2]	32	110	100	80	12	59.95
	110-RME[2]	110	110	150	100	12	57.50
	220-RME	220	110	150	100	12	59.95

[1] These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Soundscriber (with engine of car not running).
[2] Primarily recommended for Dictaphone's Time Master, DeJur Stenorette, and Gray Audograph dictating machines or other similar types. Also recommended for use with Norelco tape recorder Model EL-3516 and Geloso Model G 255-S Tape Recorder.
[3] **This Inverter specially designed and recommended also for use with portable TV set.**



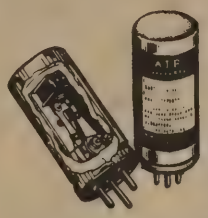
SOLID STATE INVERTERS

Specially Designed to Provide 117 Volt 60 Cycle AC Power for the Operation of Tape Recorders, VTR Equipment, Public Address Systems, TV Sets, Ham Gear, Small Portable Tools and Appliances, Test Instruments, Closed Circuit TV, Scientific Laboratory and Hospital Equipment, Small AC-DC Universal Motors, Fluorescent and Incandescent Lamps from 12 Volt DC Storage Battery Power in Automobiles, Buses, Trucks, Campers, Mobile Homes, Boats, and Aircraft.

ATR SOLID STATE Inverters are Universal Type Inverters recommended for the applications as listed above plus hundreds more! These Inverters are very well filtered and feature quick starting, frequency stability with varying load and input voltage, rugged heavy-duty construction, reverse polarity protection, and built-in power factor corrector utilizing a simple toggle switch. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation at high efficiency and maximum reliability. All models indicated here are equipped with heavy duty power transistors and plug-in frequency reed for automatic frequency control. These Inverters also come equipped with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is approximately 80%. To figure approximate current consumption from storage battery, divide the rated input wattage of the load being operated by the storage battery voltage, and further divide this answer by .80 which will give the approximate current consumption from the battery based on the actual load being operated. These Inverters are recommended primarily for use with loads having power factors in excess of 70%. Inverters come complete with battery cables ready for operation.

Type	DC Input Volts	AC Output 60 Cycles (volts)	Output Wattage Int.	Output Wattage Cont.	Net Price
12U-S2A	12	117	300	275	$139.50
*12U-S2A-P	12	117	300	275	139.50
12U-S4G	12	117	450	400	198.45
12U-S6M	12	117	650	600	249.75

*"-P" model is equipped with cigarette lighter cord set to plug into dash receptacle. Caution — Do not load beyond 150 watts due to possible damage to cigarette receptacle wiring.
All ATR Inverters are housed in attractively finished brown-hammerloid metal cabinets and are complete with battery cables ready for operation.
For Inverters having larger or smaller output capacities, or for operation on other DC input voltages from 6 volts to 220 volts, please consult available ATR Inverter catalog sheets.



VIBRATORS

For All Auto Radio Sets Since 1954 Use One of the ATR Vibrators Listed Below.

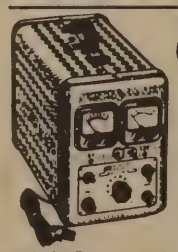
ATR Vibrators Feature:
Ceramic Stack Spacers with Two-Bolt Stack construction.
Instant Starting — as a result of highly efficient magnetic circuit with formed base for more-uniform operation on both high and low voltages.
Large Oversize Tungsten Contacts having Full Wiping Action — for greater reliability and longer life.
Perforated Reed of Highest Quality Swedish Spring Steel.
Highest Precision Construction and Workmanship — practically all parts used are held to within a tolerance of 0.0005 of inch.
Value Plus — as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship. Available in TEN-PAK.

ATR No. 1400 (Bulk), 4-Prong, 6-Volt For All 6-Volt Sets Since 1954.
ATR No. 1843 (Bulk), 3-Prong, 12-Volt For All 12-Volt General Motors Since 1954.
ATR No. 1843 also used in following automobiles: 1956 Ford (Philco), Lincoln (Bendix), and Mercury (Bendix); 1956 Chrysler (Philco); 1955-57 Packard; 1956-57 Plymouth (Philco); 1956 Studebaker (Philco) and 1957 Mercury (Philco).
ATR No. 1840 (Bulk), 4-Prong, 12-Volt For 12-Volt Cars other than GM Since 1954.



SHAV-PAKS

Every man should have this lightweight ATR Inverter in his car for that "Keep Clean-Shaved Look." Will operate standard AC Electric Shavers from your CAR or Boat. Complete with 3 ft. cord set. Plugs into cigarette lighter receptacle. Fuse protected, rugged construction, and attractively housed in grey hammerloid-finish steel case. Size: 4x2⅝x2¾". Ship. wt., 2½ lbs.
Model 6-SPB (6 volt) ..... Net **$18.15**
Model 12-SPB (12 volt) ..... Net **15.67**



"A" BATTERY ELIMINATOR

For Demonstrating and Testing Transistor or Vibrator - Type Auto Radios. Designed for testing DC Electrical Apparatus on regular 110 volt AC lines — equipped with full-wave dry disc-type rectifier, assuring noiseless, interference - free operation. Fully Automatic and Fool-Proof; has voltmeter, ammeter, and 8-position voltage control. Fuse protected and housed in heavy gauge brown hammerloid-finish metal case. 6 ft. cord set included. Size: Model 610C-ELIF, 6½x9½x8½", ship. wt., 22 lbs.; Model 620C-ELIT, 6½x12⅞x8½", ship. wt., 33 lbs.
Ideal as a Power Supply for Model Railroad Trains, Radio Sets, Electro Plating Outfits, and other 6 or 12 Volt, DC Equipment. May also be used as a Battery Charger.
Model 610C-ELIF (6 volt at 10 amps. or 12 volt at 6 amps.) ..... Net **$69.95**
Model 620C-ELIT (6 volt at 20 amps. or 12 volt at 10 amps.) ..... Net **$93.75**



EMERGENCY LIGHTING AND POWER UNIT

Illustrates ATR Emergency Lighting and Power Unit, Model ETS complete with lamps.
Completely Automatic Standby-Power Units Specially Designed to Permit the Instantaneous Continued Operation of Critical Lighting Equipment, PA Systems, Amplifiers, Intercom Systems, Burglar Alarms, Fire Alarms, Synchronous Electric Clocks, Electric Time and Recording Clocks, Incubators, Gas Valves, Telephone and Test Equipment, and Similar Critical Devices in the Event of 115 Volt AC Commercial Power Line Failure. For Use: In Hospitals, Banks, Hotels, Theatres, Factories, Office Buildings, Schools, Homes and Other Areas of Operation.

Type	*Storage Battery Input (volts)	AC Output 60 Cycles (volts)	Output Wattage Int.	Output Wattage Cont.	Net With Lamps
661-ETM	6	110	80	60	$231.75
662-ETS	6	110	100	80	253.50
663-ETH	6	110	150	125	275.50
1232-ETS	12	110	150	125	247.50
1233-ETH	12	110	200	175	267.00
1234-ETJ	12	110	250	225	287.25

For Units Without Lamps Deduct **$37.50** Net.

ALL ATR INVERTERS LISTED ABOVE ARE FREQUENCY STABLE AND HAVE AUTOMATIC FREQUENCY CONTROL

GOULD **BURGESS**®

BURGESS Number	NEDA Number	Description	Volts	Terminal	Overall Dimensions L.	W.	H.	Unit Pkg. Quantity	Weight Unit Pkg. in Lbs.	Suggested Dealer Each	Suggested List Price Each
1-Disp. 24	14F	Flashlight Battery, Size C	1.5	Flashlight	63/64 diam.		1 15/16	24	2.5	$ .195	$ .30
2-Bulk 50	13C	Flashlight Battery, Size D	1.5	Flashlight	1 21/64 diam.		2 3/8	50	10.5	.195	.30
2-Disp. 24	13C	Flashlight Battery, Size D	1.5	Flashlight	1 21/64 diam.		2 3/8	48	10.5	.195	.30
2F	11	Industrial, Electronic "A"	1.5	Socket	2 19/32	1 3/8	4 1/4	1	.75	1.33	1.95
2FH	700	Industrial, Model Ign.	1.5	Binding Post	2 5/8	1 11/32	4 1/8	5	3.5	1.06	1.59
2F2H	703	Industrial, Electronic "A"	3	Binding Post	2 5/8	2 5/8	4 1/16	5	7	2.70	3.95
2F4	1	Special Lighting Battery	6	Socket	4	2 13/16	5 7/16	1	2.5	3.22	4.70
2F8H	—	Alarm Battery	12	Binding Post	8 5/16	2 13/16	5 13/16	1	6.25	4.25	6.35
2G8H	922	Giant Heavy Duty Ign.	12	Binding Post	10 1/2	2 3/4	7 13/32	1	7	5.32	7.95
2MN6-Disp. 12	1604D	Transistor Battery, Heavy Duty	9	Snap Type	1	3 3/4	1 7/8	12	1	.65	.98
2N6	1602	Transistor Battery	9	Snap Type	1 3/8	1 3/8	2 3/4	1	.3	1.50	2.25
2U6-Disp. 12	1604	Transistor Battery	9	Snap Type	1	3 3/4	1 7/8	12	1	.54	.79
4D	—	Industrial, Electronic "A"	1.5	Socket	2 5/8	2 5/8	2 13/16	1	1	2.08	2.99
4F	4	Industrial, Electronic "A"	1.5	Socket	2 5/8	2 5/8	4 3/32	1	1.2	1.15	1.65
4FH	900E	Ignition	1.5	Screw Terminal	2 5/8	2 5/8	4	12	16	1.06	1.59
4F4H	902	Ignition, General Utility	6	Binding Post	8 5/16	2 13/16	5 13/16	1	6.2	4.34	6.50
4F5H	903	Ignition, General Utility	7.5	Binding Post	7 13/16	3 31/32	5 13/16	1	7.5	5.30	7.90
4F6H	904	Ignition, General Utility	9	Binding Post	8 1/2	3 31/32	5 13/16	1	8.5	5.97	8.95
6 Ignition	905	Ignition	1.5	Screw Terminal	2 1/2 diam.		6 5/8	12	25	1.13	1.69
6 Industrial	911	Ignition Battery, Heavy Duty	1.5	Screw Terminal	2 1/2 diam.		6 5/8	12	26.5	1.13	1.69
6 Telephone	906	Telephone Battery	1.5	Spring Clip	2 1/2 diam.		6 5/8	12	26.3	1.13	1.69
7-Disp. 24	24F	Slim Penlight Battery, AAA	1.5	Flashlight	13/32 diam.		1 3/4	24	.4	.1625	.25
13S0	—	Primary Silver Oxide Battery	1.5	Flat	5/16 diam.		13/16	6	.02	.30	.45
41S0	—	Primary Silver Oxide Battery	1.5	Flat	29/64 diam.		5/32	6	.04	.30	.45
76S0	1107A	Primary Silver Oxide Battery	1.5	Flat	29/64 diam.		7/32	6	.04	.50	.75
130-Disp. 12	14	Transistor Battery, Size C	1.5	Flashlight	63/64 diam.		1 15/16	12	1.5	.2225	.35
230-Disp. 12	13	Transistor Battery, Size D	1.5	Flashlight	1 21/64 diam.		2 25/64	12	2.6	.2225	.35
720-Disp. 24	24P	Photo-Flash Battery, Size AAA	1.5	Flashlight	13/32 diam.		1 3/4	24	.4	.195	.30
910-Disp. 24	15F	Penlight Battery, Size AA	1.5	Flashlight	35/64 diam.		1 31/32	24	1	.1625	.25
920-Disp. 24	15P	Photo-Flash Battery, Size AA	1.5	Flashlight	35/64 diam.		1 31/32	24	.8	.195	.30
930-Disp. 24	15	Transistor Battery, Size AA	1.5	Flashlight	35/64 diam.		1 31/32	24	1	.19	.30
2308SC	723	Industrial, Radio "B"	45	Spring Clip	8 3/32	2 31/32	7 1/4	1	7.5	10.62	15.50
2370	712	Industrial, Electronic "C"	4.5	Binding Post	3 15/16	1 3/8	2 7/8	1	.75	2.53	3.70
4156	710	Industrial, Electronic "B"	22.5	Binding Post	3 17/32	2 1/8	2 29/32	1	1	1.88	2.75
5156SC	708	Industrial, Electronic "B"	22.5	Spring Clip	4 7/64	2 3/8	2 55/64	5	8	5.45	7.95
5308	709	Industrial, Electronic "B"	45	Binding Post	4 1/16	2 9/16	5 1/8	1	3	3.77	5.40
5360	714	Industrial, Electronic "C"	4.5	Binding Post	2 13/32	2 7/32	2 21/32	1	.25	1.79	2.70
5540	713	Industrial, Electronic "C"	7.5	Neg. Leads	4	7/8	2 3/4	1	.4	2.50	3.75
10308PI	726	Industrial, Radio "B"	45	Socket	8 1/32	4 1/32	7 3/16	1	11.5	10.62	15.50
10308SC	716	Industrial, Radio "B"	45	Spring Clip	8 1/32	4 1/32	7 3/16	1	12	10.62	15.50
303314	—	Mercury Industrial Battery	16.8	Flat Contact	2 7/8	1 13/16	1 5/16	1	.8	11.20	16.00
AL1-Disp. 6	14A	Alkaline Battery, Size C	1.5	Flat	63/64 diam.		1 15/16	6	1	.52	.80
AL2-Disp. 6	13A	Alkaline Battery, Size D	1.5	Flat	1 21/64 diam.		2 13/32	6	2	.65	1.00
AL7-Disp. 24	24A	Alkaline Battery, Size AAA	1.5	Flat	13/32 diam.		1 3/4	24	.7	.445	.70
AL9-4 Pk.	15A	Alkaline Battery, Size AA	1.5	Flat	17/32 diam.		1 31/32	6†	2	1.82†	2.80†
AL133-Disp. 6	1306A	Alkaline Transistor Battery	4.5	Flat	21/32 diam.		2	6	.5	1.27	1.95
AL912	2200A	Alkaline Battery	18	Flat	2 25/64	2 49/64	1 9/32	1	.02	1.31	1.90
ALN-2 Pk.	910A	Alkaline Battery, Size N	1.5	Flat	3/4 diam.		1 1/8	1†	.05	.78†	1.20†
APX19	1307A	Alkaline Photo Battery	4.5	Snap	21/32 diam.		2 13/32	2	.3	1.27	1.95
APX21	—	Alkaline Photo Battery	4.5	Flat	21/32 diam.		2 1/32	2	.3	1.27	1.95
APX24	1308A	Alkaline Photo Battery	3	Snap	21/32 diam.		2	2	.2	1.14	1.75
APX30	—	Alkaline Photo Battery	3	Flat	15/16 diam.		15/32	6	.3	.98	1.50
APX825-2 Pk.	—	Alkaline Photo Battery	1.5	Flat	29/32 diam.		15/64	12†	.5	.98†	1.50†
B30	207	Industrial, Electronic "B"	45	Socket	4 1/16	2 17/32	5 5/16	2	4.5	7.45	10.60
CD1	—	Nickel Cadmium Battery	1.25	Flat	.460 diam.		.225	1	.01	1.40	2.00
CD2	—	Nickel Cadmium Battery	1.25	Flat	.610 diam.		.236	1	.01	1.06	1.50
CD3	—	Nickel Cadmium Battery	1.25	Flat	.984 diam.		.275	1	.03	1.18	1.70
CD3L	—	Nickel Cadmium Battery	1.25	Solder Lug	.984 diam.		.300	1	.03	1.38	1.95
CD4	—	Nickel Cadmium Battery	1.25	Flat	.984 diam.		.350	1	.03	1.21	1.75
CD4L	—	Nickel Cadmium Battery	1.25	Solder Lug	.984 diam.		.375	1	.03	1.41	2.00
CD5	—	Nickel Cadmium Battery	1.25	Flat	1.700 diam.		.300	1	.03	1.83	2.60
CD5L	—	Nickel Cadmium Battery	1.25	Solder Lug	1.700 diam.		.325	1	.03	1.99	2.85
CD6	—	Nickel Cadmium Battery	1.25	Flashlight	.560 diam.		1.950	1	.05	2.14	3.05
CD6L	—	Nickel Cadmium Battery	1.25	Solder Lug	.560 diam.		2.275	1	.05	2.27	3.25
CD8	—	Nickel Cadmium Battery	1.25	Flat	.984 diam.		.232	1	.02	1.16	1.65
CD8L	—	Nickel Cadmium Battery	1.25	Solder Lug	.984 diam.		.257	1	.75	1.31	1.90
CD9	—	Nickel Cadmium Battery	1.25	Tabs	.550 diam.		3.680	1	.09	4.36	6.25
CD10	—	Nickel Cadmium Battery, Size D	1.25	Flashlight	1.300 diam.		2.425	1	.32	7.13	10.20
CD10L	—	Nickel Cadmium Battery, Size D	1.25	Solder Lug	1.300 diam.		2.775	1	.32	7.26	10.40
CD12	—	Nickel Cadmium Battery, Short C	1.25	Flat	.876 diam.		1.672	1	.11	2.96	4.25
CD12L	—	Nickel Cadmium Battery, Short C	1.25	Solder Lug	.876 diam.		1.672	1	.11	3.10	4.45
CD13	—	Nickel Cadmium Battery, Half D	1.25	Flat	1.273 diam.		1.440	1	.19	6.83	9.75
CD13L	—	Nickel Cadmium Battery, Half D	1.25	Solder Lug	1.273 diam.		1.440	1	.19	6.96	9.95
CD14	—	Nickel Cadmium Battery, Size C	1.25	Flashlight	1.010 diam.		1.945	1	.17	3.90	5.60
CD17L	—	Nickel Cadmium Battery	1.25	Solder Lug	1.308 diam.		3.526	1	.5	10.70	15.25
CD21	—	Nickel Cadmium Battery	6	Lug	1.065 diam.		1.525	1	.75	8.40	12.00
CD22	—	Nickel Cadmium Battery	6	Lug	1.065 diam		1.975	1	.75	8.80	12.60
CD23	—	Nickel Cadmium Battery	6	Lug	1.800 diam.		1.725	1	1	13.32	19.05
CD24	—	Nickel Cadmium Battery	9.6	Snap	1.065 diam.		2.650	1	.75	12.67	18.10
CD25	—	Nickel Cadmium Battery	9.6	Snap	1.065 diam.		3.200	1	.75	12.80	18.25
CD25L	—	Nickel Cadmium Battery	9.6	Lug	1.065 diam.		3.200	1	.75	12.86	18.25
CD26	—	Nickel Cadmium Battery	9.6	Lug	1.800 diam.		2.575	1	1	21.34	30.50
CD27	—	Nickel Cadmium Battery	12	Lug	1.065 diam.		2.925	1	.75	15.17	21.70
CD28	—	Nickel Cadmium Battery	12	Lug	1.065 diam.		3.600	1	.75	16.25	23.25
CD29	—	Nickel Cadmium Battery	12	Lug	1.800 diam.		3.100	1	1.25	25.20	36.15
CD30	—	Nickel Cadmium Battery	6	Flexible Leads	1 1/2	1 1/2	3 13/16	1	1	27.45	39.20
CD31	—	Nickel Cadmium Battery	6	Flexible Leads	3 13/16	1 17/32	3 5/8	1	2.25	32.99	47.25
CD33	—	Nickel Cadmium Battery	6	Binding Post	5 3/8	2 7/8	4 13/16	1	2.5	30.47	43.45
CD107	—	Nickel Cadmium Battery	1.25	Binding Post	1.93	1.67	4.25	1	1.25	15.36	21.95
CD111	—	Nickel Cadmium Battery	1.25	Binding Post	3.56	1.97	4.90	1	3.25	29.48	42.00
CD201	—	Nickel Cadmium Battery	12	Binding Post	5	2	1.813	1	1.25	33.60	48.30
CD207	—	Nickel Cadmium Battery	6	Binding Post	7.031	1.406	2.594	1	1.75	40.71	58.15
CD208	—	Nickel Cadmium Battery	12	Binding Post	7.031	2.813	2.594	1	3.75	74.55	106.55
CD209	—	Nickel Cadmium Battery	12	Binding Post	14.063	1.406	2.594	1	3.75	76.13	108.70
CD211	—	Nickel Cadmium Battery	24	Binding Post	7.031	5.625	2.594	1	7.25	142.80	204.75
C5	9	Electronic, Radio "A"	7.5	Socket	2 7/32	1 15/16	3 1/32	1	.75	1.35	1.90
C6X	1612	Transistor Battery	9	Snap	2 5/16	1 1/32	6 1/16	1	.6	2.40	3.50
D6	1603	Transistor Battery	9	Snap	2 5/16	2	3 5/32	1	1	1.67	2.50
F2BP	701	Industrial, Electronic "A"	3	Binding Post	2 1/32	1 3/8	4 1/32	6	4.1	1.88	2.75
F4BP	915	Lantern Battery	6	Binding Post	2 5/8	2 5/8	4	1	1.4	1.13	1.69
F4M	908	Lantern Battery	6	Spring	2 5/8	2 5/8	4 3/8	12	16.3	1.13	1.69

† Package(s)

Trade Discount Applies To List Prices Only

© United Technical Publications

GOULD BURGESS®

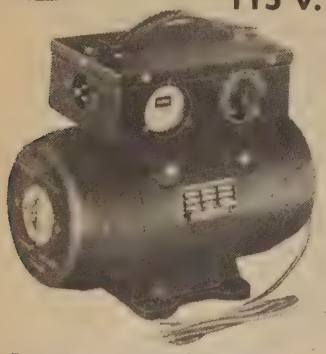
BURGESS Number	NEDA Number	Description	Volts	Terminal	Overall Dimensions L.	W.	H.	Unit Package Quantity	Weight Unit Package in Lbs.	Suggested Dealer Each	Suggested List Price Each
F4PI	6	Electronic, Radio "A"	6	Socket	2 21/32	2 21/32	4 1/8	1	1.5	$ 1.15	$ 1.65
H115R	—	Mercury Battery	6.75	Flat	45/64 diam.		1 23/64	2	.15	2.50	3.75
H126-Disp. 6	1611M	Mercury Battery	8.4	Flat	47/64 diam.		2	6	.5	1.67	2.50
H132R	—	Mercury Battery	2.7	Flat	45/64 diam.		1 5/16	2	.15	1.30	1.95
H133-Disp. 6	1306M	Mercury Transistor Battery	4.2	Flat	21/32 diam.		2	6	.6	1.67	2.50
H133R	—	Mercury Battery	4.05	Flat	21/32 diam.		2	2	.2	1.67	2.50
H134R	—	Mercury Battery	5.04	Flat	45/64 diam.		2 5/8	2	.25	1.97	2.95
H135R	—	Mercury Battery	6.75	Flat	45/64 diam.		3 9/32	2	.3	2.34	3.50
H136R	—	Mercury Battery	8.1	Flat	45/64 diam.		3 15/16	2	.35	2.63	3.95
H146X-Disp. 6	1604M	Mercury Transistor Battery	8.4	Snap	1 1/32	21/32	1 3/4	6	.75	1.30	1.95
H163	1305M	Mercury Battery	4.2	Flat	21/32 diam.		1 5/16	2	.15	1.84	2.75
H163R	—	Mercury Battery	4.05	Flat	21/32 diam.		1 5/16	2	.15	1.83	2.75
H164-Disp. 6	1404M	Mercury Battery	5.6	Flat	21/32 diam.		1 3/4	6	.4	1.67	2.50
H164R	—	Mercury Battery	5.4	Flat	21/32 diam.		1 3/4	2	.2	1.83	2.75
H165	1500M	Mercury Battery	7	Flat	21/32 diam.		2 13/64	2	.2	2.17	3.25
H165R	—	Mercury Battery	6.7	Flat	21/32 diam.		2 13/64	2	.2	2.17	3.25
H169	1901M	Mercury Battery	12.6	Flat	45/64 diam.		3 43/64	1	.17	3.67	5.50
H233	1300M	Mercury Battery	4.2	Flat	1 1/64 diam.		1 31/32	1	.2	3.00	4.50
H286	1600M	Mercury Battery	8.4	Snap	1 diam.		1 15/16	6	.75	1.67	2.50
H289	1810M	Mercury Battery	12.6	Snap	1 diam.		2 25/64	6	1	3.35	5.00
Hg1	1100M	Mercury Battery	1.4	Flat	5/8 diam.		21/32	4	.13	.67	1.00
Hg1R	—	Mercury Battery	1.35	Flat	5/8 diam.		21/32	4	.13	.83	1.25
Hg3R	—	Mercury Battery	1.35	Flat	1 diam.		21/32	4	.3	1.30	1.95
Hg4R	—	Mercury Battery	1.35	Flat	1 13/64 diam.		21/32	4	.45	1.67	2.50
Hg9-4 Pk.	15M	Mercury Transistor Battery	1.4	Flat	17/32 diam.		1 31/32	1†	.3	2.68†	4.00†
Hg12	1101M	Mercury Battery	1.4	Flat	5/8 diam.		2	2	.25	1.14	1.75
Hg12R	—	Mercury Battery	1.35	Flat	5/8 diam.		2	2	.25	1.30	1.95
Hg42R	—	Mercury Battery	1.35	Flat	1 13/64 diam.		2 3/8	1	.5	3.67	5.50
Hg312	—	Mercury Battery	1.4	Flat	5/16 diam.		9/64	6	.03	.27	.40
Hg401-3 Pk.	910M	Mercury Transistor Battery	1.4	Flat	29/64 diam.		1 1/8	1†	.09	2.01†	3.00†
Hg401R	—	Mercury Battery	1.35	Flat	29/64 diam.		1 1/8	2	.05	.83	1.25
Hg502R	—	Mercury Battery	1.35	Flat	17/32 diam.		1 31/32	2	.16	1.17	1.75
Hg625	—	Mercury Battery	1.4	Flat	5/8 diam.		1/4	4	.05	.67	1.00
Hg625R	—	Mercury Battery	1.35	Flat	5/8 diam.		1/4	4	.05	.63	.95
Hg640	1105M	Mercury Battery	1.4	Flat	5/8 diam.		7/16	4	.15	.63	.95
Hg640R	—	Mercury Battery	1.35	Flat	5/8 diam.		7/16	4	.15	.63	.95
Hg675	—	Mercury Battery	1.4	Flat	29/64 diam.		13/64	6	.03	.50	.75
HPX13-B1.4	—	Mercury Photo/Transistor Battery	1.35	Flat	5/8 diam.		1/4	1‡	.05	2.68‡	4.00‡
HPX14	—	Mercury Battery	2.7	Flat	21/32 diam.		5/8	4	.34	1.34	2.00
HPX23	—	Mercury Battery	5.6	Flat	5/8 diam.		49/64	6	.11	.67	1.00
K10	224	Industrial, Electronic "B"	15	Flat	1 1/4	7/8	1 17/32	1	.2	1.67	2.50
K15	225	Industrial, Electronic "B"	22.5	Flat	1 1/4	7/8	2 5/32	1	.2	2.02	2.95
K20	226	Industrial, Electronic "B"	30	Flat	1 1/4	1 5/16	2 23/32	1	.2	2.40	3.50
K30PK	—	Battery/Bulb Kit for Wink-Light	—	—	—	—	—	1	.4	2.37	3.50
K45	203	Electronic, Radio "B"	67.5	Snap	2 1/16	1 5/16	2 1/4	1	.5	2.97	4.25
L6-Disp. 6	1611	Transistor Battery	9	Flat	47/64 diam.		1 31/32	6	.5	.70	1.00
M6	1605	Transistor Battery	9	Snap	1 13/16	1 13/16	2 7/16	1	.4	1.36	1.95
M30	202	Electronic, Radio "B"	45	Socket	3 9/16	1 3/4	5 1/2	1	2	3.27	4.55
NE-Disp. 6	910	Transistor Battery, Size N	1.5	Flashlight	7/16 diam.		1 11/64	6	.25	.095	.15
P6-Disp. 6	1600	Transistor Battery	9	Snap	1 diam.		1 15/16	6	.5	.79	1.19
PM6-Disp. 6	1600D	Transistor Battery	9	Snap	1 diam.		1 15/16	6	.6	.88	1.29
PM8	1810	Transistor Battery	12	Snap	1 diam.		2 7/16	1	.2	1.20	1.75
S461	907	Giant Ignition	6	Binding Post	10 1/2	2 3/4	7 13/32	4	37.5	3.98	5.98
TW1	918	Lantern Battery, Radar Line	6	Binding Post	5 3/8	2 7/8	4 13/16	1	3.2	2.30	3.45
TW1X	918D	Lantern Battery, Radar Line, Heavy Duty	6	Binding Post	5 3/8	2 7/8	4 13/16	1	3.2	2.64	3.95
TW2	926	Lantern Battery, Radar Lite	12	Binding Post	5 3/8	2 7/8	4 13/16	1	3.2	2.30	3.45
U10	208	Industrial, Electronic "B"	15	Flat	1	3/4	1 7/16	1	.1	1.03	1.50
U15	215	Industrial, Electronic "B"	22.5	Flat	1	3/4	1 31/32	1	.1	1.17	1.75
U20	210	Industrial, Electronic "B"	30	Flat	1	3/4	2 17/32	1	.2	1.30	1.95
U30	213	Industrial, Electronic "B"	45	Snap	1 3/32	1 9/32	3 17/32	1	.2	1.88	2.75
U160	729	High Voltage Flash	240	Flat	2 5/16	1 5/16	4 13/32	1	.8	7.20	10.25
U200	722	Industrial, Electronic "B"	300	Pin Jacks	2 3/4	2 9/32	3 7/8	1	1	9.75	14.25
U320	741	High Voltage Flash	510	Flat	2 13/16	1 11/32	5 1/16	1	1.6	13.00	18.50
UX45	217	Electronic, Radio "B"	67.5	Snap	1 7/32	1 1/32	3 31/32	1	.25	3.50	5.00
V45	200C	Electronic, Radio "B"	67.5	Snap	2 3/4	1 11/32	3 43/64	6	4.5	2.91	4.25
V60	204	Electronic, Radio "B"	90	Snap	3 23/32	1 9/32	3 11/16	1	1.3	3.40	4.85
XX15	—	Industrial, Electronic "B"	22.5	Socket	1 11/32	1 5/16	3 7/8	1	.25	3.08	4.50
XX30	201	Electronic, Radio "B"	45	Snap	2 17/32	1 1/32	3 21/32	1	.5	2.45	3.50
XX45	200	Electronic, Radio "B"	67.5	Snap	2 3/4	1 11/32	3 43/64	1	.75	2.70	3.85
XX150	723	High Voltage Flash	225	Pin Jacks	4 1/4	2 5/8	4 1/4	1	2.5	7.67	10.95
Y6	1606	Transistor Battery	9	Snap	3/5	3/5	1 9/10	1	.1	.83	1.20
Y10	220	Industrial, Electronic "B"	15	Flat	1 9/32	1 9/32	1 23/64	1	.1	1.03	1.50
Y15	221	Industrial, Electronic "B"	22.5	Flat	1 9/32	1 9/32	1 31/32	1	.1	1.17	1.75
Y20	223	Industrial, Electronic "B"	30	Flat	1 13/16	1 9/32	1 13/32	1	.1	2.53	3.70
Y20S	222	Industrial, Electronic "B"	30	Flat	1 9/32	1 9/32	2 9/16	1	.1	1.50	2.25
Z4	2	Industrial, Electronic "A"	6	Flat	1 3/16	1 3/16	2 7/32	1	.2	2.65	3.80
Z30	205	Industrial, Electronic "B"	45	Socket	3	2 5/16	4 1/16	1	1.25	4.95	7.25
Z30NX	711	Industrial, Electronic "B"	45	Binding Post	3 1/32	1 7/8	4 19/32	5	7.6	3.42	5.00
Z46HD	914D	Battery For Fluorescent Lanterns	69	Flat	2 1/2	2 1/16	8 1/32	2	6.25	3.83	5.75
163-Disp. 12	—	Tuffy Flashlight — 2 cell, Size D (less batteries)						12	3	.74	1.19
164	—	Dolphin Lantern. Uses No. F4M Battery (less battery)						1	.5	1.97	2.95
165/3 GN	—	Safari Lite Fluorescent Lantern (Green Case) with two 69 Volt Batteries						1	10.7	21.10	33.95
165/3 GY	—	Safari Lite Fluorescent Lantern (Gray Case) with two 69 Volt Batteries						1	10.7	21.10	33.95
263	—	Magnet Industrial Flashlight — 2 cell, Size D (less batteries)						6	2.6	1.45	2.19
363	—	Industrial Flashlight — 2 cell, Size D (less batteries)						6	2.4	1.26	1.89
368	—	Industrial Flashlight — 2 cell, Size D (less batteries)						1	.25	1.33	1.99
453	—	Safety Industrial Flashlight — 2 cell, Size D (less batteries)						1	.5	3.48	5.25
467-Disp. 3	—	Lazer Jr. Flashlight — 2 cell, Size C (less batteries)						3	1	1.79	2.69
563-Disp. 12	—	Penlight — 2 cell, Size AAA (less batteries)						12	1	.91	1.39
567-Disp. 6	—	Lazer Flashlight — 2 cell, Size D (less batteries)						6	3.5	1.79	2.69
663-Disp. 12	—	Penlight — 2 cell, Size AA (less batteries)						12	1	.91	1.39
667-Disp. 6	—	Magnet Lazer Flashlight — 2 cell, Size D (less batteries)						6	4	2.26	3.39
767	—	Lazer Flashlight — 3 cell, Size D (less batteries)						1	.75	2.99	4.49
TW3 Comp.	—	Radar Lite Lantern/with flasher, spot beam with TW1 battery						1	5.1	9.90	15.50
TW4 Comp.	—	Radar Lite Lantern, spot beam with TW1 battery						1	4.75	8.15	19.25
TW6E Comp.	—	Power Failure Operated Lantern, flood beam with TW1 battery						1	6	16.30	23.95
TW7 Comp.	—	Radar Lamp, Chrome Finish with TW1 battery						1	4.2	7.15	10.95
TW10 Comp.	—	Panther Lite Lantern/with flasher, spot beam with TW1 battery						1	5.25	11.80	18.95
TW11 Comp.	—	Radar Lite, bulb reflector Model with TW1 battery						1	4.75	7.20	10.95
TW12 Comp.	—	12 volt Radar Lite with TW2 battery						1	5	8.00	12.95
TW34 Ind.	—	Radar Flash/red lens without battery						1	.75	2.90	4.50

† Package(s) ‡ Card

Custom DC to AC CONVERTERS

115 v. AC 60 HZ Output, 250 to 750 Watts

Carter Motor ®



Dependable rotary power for operating office business machines, professional tap recorders, railroad, mobile and marine radio and radar equipment. Finest constructio Sealed ball bearings require no lubrication. Long life, continuous duty, high efficienc on all models. Only popular models listed here. For 50 Hz output, add $7.50 to li prices. All models 100% power factor. Size: 200 watts, 12⅝" l. x 6¾" w. x 7¼" h 210 and 300 watts, 11⅝" long; 500 watts, 12⅝" long; 750 watts, 13⅞" long.

Frequency Control Models

†Carter Number	DC Input Volts	Amps.	115 AC Watts	List Price
DR1021CP	115	2.5	210	$390.00
DR1050CP	115	7.0	500	450.00
JR1021CP	28	14.0	210	390.00
JR1030CP	28	20	300	400.00
JR1050CP	28	28	500	450.00
ER1021CP	24	16	210	390.00
ER1030CP	24	22	300	400.00
ER1050CP	24	33	500	450.00
BR1021CP	12	29	210	390.00
BR1030CP	12	35	300	400.00
BRS1040CP*	12	56	400	430.00

† Includes meter and control as shown
* One hour duty cycle

Models listed at left have manually operated frequency control and meter to maintain 60 HZ output over a ±10% input voltage variation. All other custom converters from 210 to 750 watt output can be supplied with frequency control at $100.00 additional to list price. Add 3" to height.
Filter available: add $60.00 to list prices. 3" to height. Add $20.00 for built in capacitor filter.



CUSTOM CONVERTER

Carter Number	DC Input Volts	Amps.	115 AC Watts	List Price
KSX1020C5P	230	1.3	200	$360.00
DSX1020C5P	115	2.6	200	350.00
HSX1020C5P	64	5	200	350.00
CSX1020C5P	32	9	200	350.00
K1025CP	230	1.8	250	305.00
K1030CP	230	2.3	300	315.00
K1040CP	230	2.8	400	350.00
K1050CP	230	3.5	500	355.00
K1075CP	230	4.4	750	390.00
D1021CP	115	2.5	210	290.00
D1025CP	115	3.5	250	295.00
D1030CP	115	4.6	300	300.00
D1040CP	115	5.6	400	330.00
D1050CP	115	7	500	350.00
D1075CP	115	8.8	750	380.00
H1025CP	64	7.8	250	295.00
H1030CP	64	8.2	300	300.00
H1040CP	64	10	400	330.00
H1050CP	64	12.5	500	350.00
H1075CP	64	16	750	380.00
W1025CP	48	9	250	295.00
W1030CP	48	10	300	300.00
W1040CP	48	13	400	330.00
W1050CP	48	16	500	350.00
W1075CP	48	22	750	380.00

Carter Number	DC Input Volts	Amps.	115 AC Watts	List Price
C1025CP	32	15	250	$295.00
C1030CP	32	19	300	300.00
C1040CP	32	21	400	330.00
C1050CP	32	25	500	350.00
C1075CP	32	32	750	380.00
J1021CP	28	14	210	290.00
J1025CP	28	19	250	295.00
J1030CP	28	20	300	300.00
J1040CP	28	24	400	330.00
J1050CP	28	28	500	350.00
J1075CP	28	38	750	380.00
E1025CP	24	18	250	295.00
E1030CP	24	22	300	300.00
E1040CP	24	28	400	330.00
E1050CP	24	33	500	350.00
E1075CP	24	44	750	380.00
B1021CP	12	29	210	290.00
B1025CP	12	35	250	295.00
B1030CP	12	45	300	300.00
BS1040CP*	12	56	400	330.00

* One hour duty cycle.
All models listed are for 115 V. AC 60 HZ single phase output. 100% power factor.

STAND-BY LOAD-TRANSFER CONVERTERS



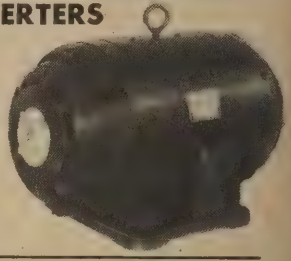
Starts automatically should AC power fail. Shuts off when power restored. Runs from batteries. Operates paging and control circuits for hospitals, schools, utilities, etc. Popular models listed. Other ratings from 200 to 750 watt output. Batteries or trickle charger not supplied.

For stand-by feature on other custom converters listed above, add Y to code number and $90.00 to list price.

Number	DC Input	AC	List
B1030CPY	12 v 22 A	300 w	$390.00
W1050CPY	48 v 16 A	500 w	435.00
D1050CPY	115 v 7 A	500 w	435.00
D1075CPY	115 v 8.8 A	750 w	470.00

230 v. output also available

Monarch 1000 - 1500 - 2000 WATT CONVERTERS



1000, 1500 and 2000 watt 60 HZ AC output, 24 to 230 volt input models. The Monarch series is ideal for heavy-duty industrial service, marine, mine, crane and railroad communications. Slow speed (1800 rpm), long life. 4-pole design; ball bearing equipped. No filter is necessary for most applications. Size: 19" x 11" x 12" high. Three-phase output available, add $60 to list. 24 v. Input at 1500 w. rating. Built-in capacitor filter available, add $30.00 to list.

Carter Number	DC Input Volts	Amps	Watts, AC at 60 HZ, 115 v.	List Price
E10100M	24	68	1000	$775.00
J10150M	28	80	1500	825.00
C10150M	32	69	1500	825.00
D10200M±	115	25	2000	875.00
K10200M±	230	12.5	2000	875.00

± Reduced voltage starters necessary, add $120.00 to list price.

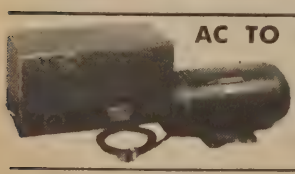


"MARK II" SUPER CONVERTERS

Designed for high PF non-inductive AC loads such as amplifiers, lab and medical equipment, standby emergency lighting, telephone and marine communications. Not damaged by intermittent transients or sudden overloads. Will not operate refrigerators, large AC motors or low PF transformers. Ball bearing, con. duty. Size: 8¼" x 4½" x 5" high. Weight: 13 lbs. (*10¼" long, 4½" wide, 5" high. Weight: 19 lbs.)

Carter Number	DC Inputs Volts	Amps	Watts, AC at 60 HZ, 115 v.	List Price
D1010CB	115	1.7	100	$166.00
D1015CB	115	2.0	150	170.00
B1010CB	12	15	100	158.00
B1015CB	12	23	150	160.00
D1020CB*	115	2.6	200	185.00
B1020CB*	12	30	200	180.00

AC TO AC FREQUENCY CHANGERS



Produces 115 v., 50 or 60 HZ AC output from 25 to 400 HZ input. For operating standard equipment on non-standard frequencies. Standard units are for single phase input and output. Three-phase output available on order. For frequency meter, add $50.00 to list price Non regulated.

Number	Output*	List	Number	Output*	List
FC1025CP	250 w	$800.00	FC10100M	1000 w	$1,500.00
FC1050CP	500 w	800.00	FC10150M	1500 w	1,650.00
FC1075CP	750 w	825.00	FC10200M	2000 w	1,725.00

60 HZ output. 50 HZ available

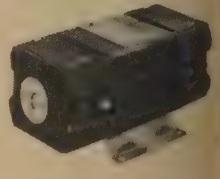
REFRIGERATOR-APPLIANCE MARINE CONVERTERS



Operates standard refrigerators, compressors (up to 1/6 hp only), vacuum cleaners and other appliances from DC; for use aboard commercial and pleasure boats. Converter operates only when power is called for. Has handy AC outlet to run most appliances from DC. Input from 24 to 230 v. DC. Size: 14" x 6¾" x 11" high. Net Weight: 65 lbs. 750 w. con. duty rating. Models from 24 to 230 v. DC input.

Number	Input	List	Number	Input	List
RF34	34 v.	$540.00	RF115	115 v.	$540.00

CARTER DC to AC GENEVERTERS



Compact model for low power marine and industrial applications requiring up to 60 watt 115 v. 60 HZ output. High power factor. Models listed are for 115 v. DC input. Others available for 12, 24, 32 or 48 v. input. Size: 7⅝" x 4¾" x 3½" high. Weight: 10¼ lbs.

Carter Number	DC Input Volts	Amps.	Output Watts	List Price
1020LD	115	.4	20	$104.00
1040LD	115	.6	40	105.00
1060LD	115	.85	60	106.00

"CUSTOM" DYNAMOTORS

For railroad and marine radio-telephone, industrial communications systems, locomotives, telephone emergency standby power, etc. Heavy duty construction. Low rpm speed, small temperature rise assure extra long life. Filter not normally required. Size: 12⅝" x 6-11/16" x 7¼". Weight: 47 lbs.

Number	DC Input	DC Output	Recv.	Trans.	List
KS1220P	236-264 v	12.8 v	5 A	18 A	$380.00
DS1220P	118-132 v	12.8 v	5 A	18 A	370.00
HS1220P	67-74 v	12.8 v	5 A	18 A	370.00
CS1220P	33-37 v	12.8 v	5 A	18 A	370.00
BS2820PV	14 v	28 v		20 A	370.00

Carter Motor

Carter Motor Company reserves the right to make changes without notice, in materials, specifications, prices, and to discontinue models, without obligation.

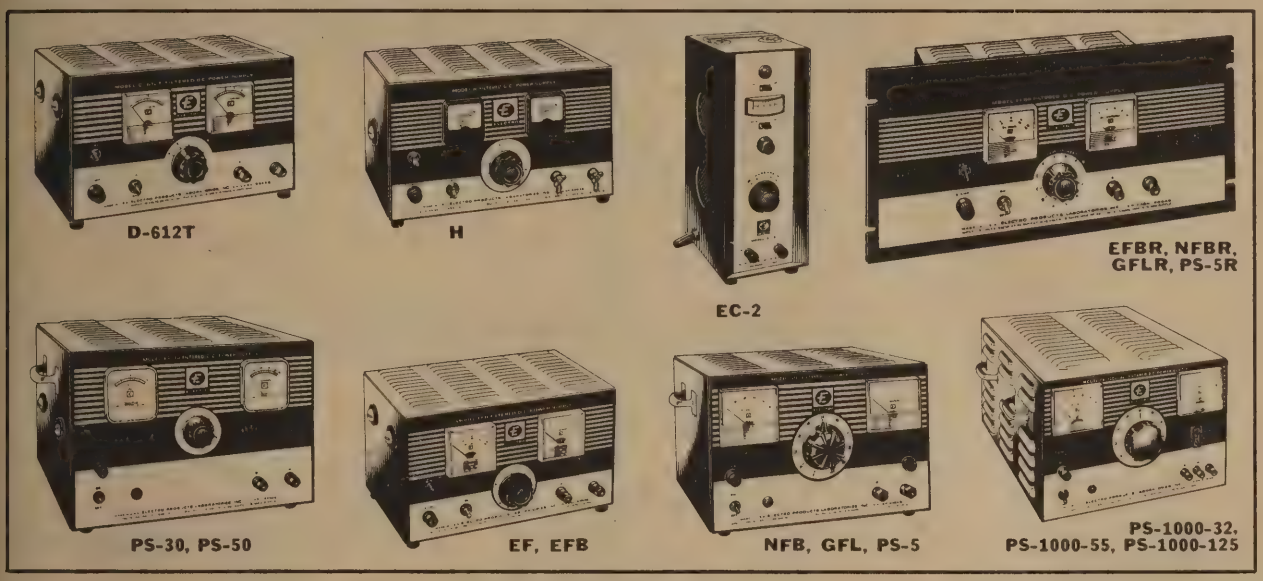
Trade Discount Applies To List Prices Only

© United Technical Publications

Industrial Power Supplies

ELECTRO

Reliable source of filtered DC voltage for commercial, industrial, research, educational and service applications. Smooth action controls and DC meters permit adjustment to exacting requirements. Silicon and selenium rectifiers patented conduction cooling to provide greater output. Special filters improve regulation and hold AC ripple to a minimum. All output ratings, as listed, are extremely conservative. All units equipped with on-off switch, primary fuse, 6 ft. rubber-covered power cord and plug.



GENERAL PURPOSE TYPES

For operating or servicing mobile radio equipment, model trains, school labs, research, etc. Meters ±5% accurate.

Model D-612T—For CB transceivers, battery charging, solenoids, etc., requiring up to 16 VDC. Low ripple. Maximum output for the price. Voltage and current output meters. Input 117 VAC, 60 Hz.

Model H—Heavy-duty, dual range. Replaces storage batteries in labs, thermoelectric power source and other high current, low voltage uses. Both voltage and current output meters. Input 117 VAC, 50/60 Hz.

Model EC-2—Low cost unit for auto, tape, disk and transistor radio servicing, research and development. Continuously variable voltage adjust. Low ripple. Patented conduction cooling. Vertical or horizontal placement. Combination edge-view voltmeter ammeter. Input 117 VAC, 60 Hz.

Model PS-50—Delivers 50 amps continuously. Heavy-duty, adjustable 12-volt unit services autos, aircraft, marine communications gear. Many industrial and educational uses. Low ripple. Eight-position tap switch voltage output selection. Input 117 VAC, 50/60 Hz.

Model PS-30—Same, but delivers 30 amps continuously. Slightly higher ripple.

Electro Model	Output Volts*	Output Amps	Regulation‡ V/A†	Max. Ripple	Meters	DC Imped., Ohms‡	Size, Inches W. x D. x H.	Net Wt., Lbs.	Net Each
D-612T	0–16	0–10	0.44 (3–10 A)	0.5% at 5A,	0–20 V; 0–10 A	0.44 (3–10 A)	12 x 8½ x 7	22	$ 99.50
	0–8	0–10	0.3 (3–10 A)	2% at 10A		0.3 (3–10 A)			
H	12 adj.	0–10	0.23 (3–10 A)	5%	0–20 V; 0–30 A	0.23 (3–10 A)	12 x 8½ x 7	30	130.00
	6 adj.	0–20	0.15 (3–20 A)	5%		0.15 (3–20 A)			
EC-2	0–16	0–5	1.8	0.5%	0–20 V/10 A	1.8	4⅜ x 6½ x 10¾	11	74.50
PS-30	12 adj.	0–30	0.12 (6–30 A)	1%	0–20 V; 0–50 A	0.27	14¼ x 14¼ x 9¾	68	230.00
PS-50	12 adj.	0–50	0.17	0.5%	0–20 V; 0–50 A	0.17	14¼ x 19¼ x 9¾	87	370.00

*Continuously variable unless otherwise noted. †Voltage change for each ampere of output current change. ‡No-load to full-load unless otherwise specified.

INDUSTRIAL TYPES

Voltage output continuously variable. Avalanche characteristics on rectifiers. Meters ±2% accurate.

Model EF—Variable 0-28 or 0-14 volts at 5 amps continuous; 10 amps intermittent. Selenium rectifiers. Input 117 VAC, 60 Hz.

Model EFB—Very low ripple version for transistor work; employs chokes and capacitors in ripple filter. Federal stock number 6130-957-1450. Input 117 VAC, 50/60 Hz.

Model EFBR—Same as EFB, but in standard EIA rack panel.

Model NFB—Heavy-duty, continuously variable output 0-32 V to 15 amps. Very low ripple. Variable autoformer for smooth control. Bridge-type silicon rectifiers. Input 117 VAC, 50/60 Hz.

Model NFBR—Same, but with standard EIA rack panel. Federal stock number 6130-853-3127.

Model GFL—Low cost, semi-regulated, low ripple, higher voltage design. For design and testing DC appliances, phone circuits, relays, etc. Silicon rectifiers; overload protection. Input 117 VAC, 50/60 Hz.

Model GFLR—Same, but with standard EIA rack panel.

Model PS-5—For 48-volt applications, delivers 550 watts of well-filtered DC; continuously variable 0–55 VDC. Silicon rectifiers. Input 117 VAC, 50/60 Hz.

Model PS-5R—Same, but comes with standard EIA rack panel.

Model PS-1000-32—Heavy-duty type for continuous power, low ripple. Variable autoformer for smooth control. Bridge-type silicon rectifiers. Filter circuit uses chokes and capacitors. Output 0–32 VDC at 30 amps. Input 117 VAC, 50/60 Hz.

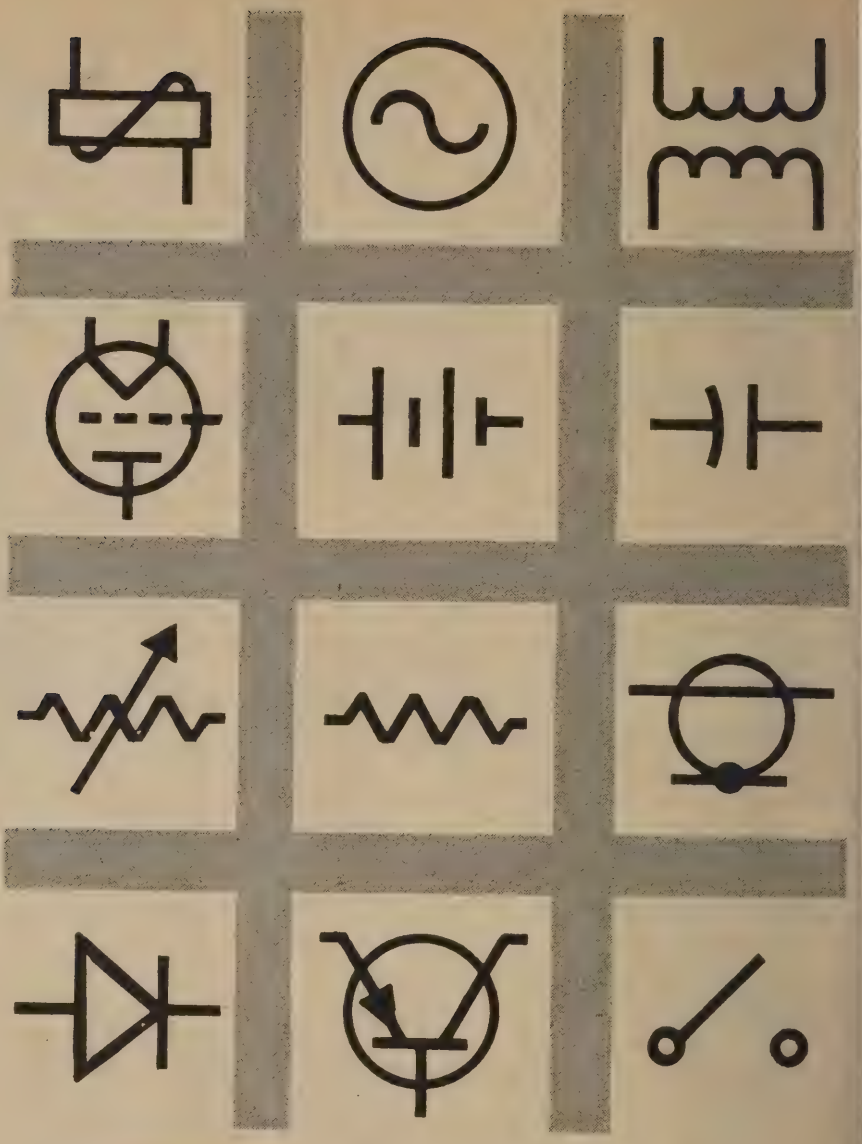
Model PS-1000-55—Same, but 0–55 VDC at 20 amps; improved ripple.

Model PS-1000-125—Same, but 0–125 VDC at 8 amps.

Electro Model	Output Volts*	Output Amps	Regulation‡ V/A†	Max. Ripple	Meters§	DC Imped., Ohms‡	Size, Inches W. x D. x H.	Net Wt., Lbs.	Net Each
EF	0–28	0–6	1.9 (1–5 A)	1.0%	0–50 V; 0–6 A	0.9 (1–5 A)	12 x 8½ x 7	25	$137.50
	0–14	0–6	0.6 (1–5 A)	1.0%		0.6 (1–5 A)			
EFB	0–32	0–4	1.25	0.1%	0–40/20 V;	1.25	12 x 8½ x 7	36	192.50
	0–16	0–8	1.0	0.1%	0–10 A	1.0			
EFBR	0–32	0–4	1.25	0.1%	0–40/20 V,	1.25	19 x 8½ x 8¾	47	225.00
	0–16	0–8	1.0	0.1%	0–10 A	1.0			
GFL	0–125	0–5	1.5	0.5%	0–150 V; 0–5 A	1.5	14¼ x 14¼ x 9¾	88	350.00
GFLR	0–125	0–5	1.5	0.5%	0–150 V; 0–5 A	1.5	19 x 14¼ x 10½	100	385.00
NFB	0–32	0–15	0.4	0.75%	0–50 V; 0–25 A	0.4	14¼ x 14¼ x 9¾	84	310.00
NFBR	0–32	0–15	0.4	0.75%	0–50 V; 0–25 A	0.4	19 x 14¼ x 10½	97	345.00
PS-5	0–55	0–10	0.8	0.5%	0–75 V; 0–15 A	0.8	14¼ x 14¼ x 9¾	70	355.00
PS-5R	0–55	0–10	0.8	0.5%	0–75 V; 0–15 A	0.8	19 x 14¼ x 10½	89	385.00
PS-1000-32	0–32	0–30	0.2	0.75%	0–50 V; 0–30 A	0.2	14¼ x 19¼ x 9¾	103	460.00
PS-1000-55	0–55	0–20	0.5	0.5%	0–75 V; 0–30 A	0.5	14¼ x 19¼ x 9¾	113	465.00
PS-1000-125	0–125	0–8	1.0	Less than 1%	0–150 V; 0–10 A	1.0	14¼ x 19¼ x 9¾	120	465.00

*Continuously variable unless otherwise noted. †Voltage change for each ampere of output current change % applies for either line or load. ‡No-load to full load unless otherwise specified. §Accuracy 2%.

©Electronic Publishing Co., Inc., 1971



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

Then...

call your local distributor for fast, reliable service!

EVEREADY® FLASHLIGHTS, LANTERNS, and BATTERIES

THE WORLD'S MOST TRUSTED BRAND FOR OVER 60 YEARS

"CAPTAIN" FLASHLIGHTS... Classic Design

—Heavy-Duty Copper/Nickel/Chrome/Plated Steel
—Exclusive 3-Way Lock Switch and Flasher
—End-Loading . . . Ring Hanger



No. 9951 Magnet Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp.



No. 9251 Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Also available: **No. 9351** — Uses 3 No. 950, D-99 or E95 Batteries, No. PR3 Lamp.



No. 9231 — Uses 2 No. 935 or E93 Batteries, No. PR4 Lamp.



No. 9652 — Uses 6 No. 950, D-99 or E95 Batteries, No. PR18 Lamp. Also available: **No. 9352** — Uses 3 No. 950, D-99 or E95 Batteries, No. PR3 Lamp.

	No. 9231	No. 9251	No. 9351	No. 9352	No. 9652	No. 9951
List Each	$2.69	$2.69	$3.39	$4.49	$6.69	$3.39
Sugg. Dealer	1.79	1.79	2.26	2.99	4.46	2.26

RECHARGEABLE DEVICES

—Never need batteries
—Retain a charge up to a year when not in use
—One year warranty



No. 3210 "Captain" Rechargeable Mini-Spotlight — Smooth roll action switch. Ideal for pocket or purse. Available in Harbor Blue or Jet Black.



No. 6300 "Commander" Rechargeable Flashlight — Handy for pocket or purse. Available in Diablo Red/Oyster White finish. Gift boxed or blister packed.



No. 71A Display 1 "Captain" 3200BL, 1 "Captain" 3300, 2 "Commander" 6200's, 2 "Commander" 6300's.



No. 3112 "Commander" Rechargeable Lantern — Modern, easy-to-hold, cantilever handle with thumb-tip, push-button control.



No. 3300 "Captain" Rechargeable Flashlight — Twice the light of standard 2-Cell Flashlights . . . never needs batteries! Uses rechargeable battery, No. PR-3 Lamp. Gift boxed or blister packed.



No. 3400 "Captain" Rechargeable Lantern — Twice the light of other rechargeable lanterns, powerful sealed beam lamp generates 13,000 candle power, rugged carrying case. Easy grip cantilever handle with finger-tip switch.

	No. 71A	No. 3112	No. 3210	No. 3300	No. 3400	No. 6300
List Each	$91.70	$19.95	$12.95	$16.95	$39.95	$14.95
Sugg. Dealer	55.02	11.97	7.77	10.17	23.97	8.97

WEATHERPROOF LANTERNS



No. 100WB "Big Jim" Lantern w/ flasher and 1 No. 731 Battery, No. 4546 Lamp, No. 407 Signal Lamp.
No. 101WB Same without flasher.



No. 108A Waterproof All American Lantern. "Cordahide" polyethylene construction. Uses 1 No. 509 Battery. No. PR13 Lamp.

In display — order No. 108AD — Contains 3 No. 108A per unit carton All American Lanterns in Colors (white, red, black).



No. 122 Individually boxed "Commander" Lantern with push button switch, easy-grip handle, and tough, high impact case. Uses 1 No. 509 Battery. No. PR13 Lamp.



No. 459 Hercules Waterproof/ Floating Lantern. Explosion-proof, insulated case impervious to gasoline, alcohol, most oils and greases.

	No. 100WB	No. 101WB	No. 108A	No. 122	No. 459
List Each	$16.95	$14.95	$3.98	$2.99	$7.95
Sugg. Dealer	11.30	9.97	2.65	1.99	5.30

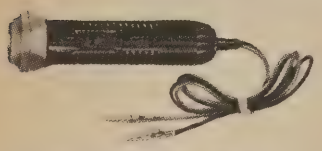
ALL PRICES WITHOUT BATTERIES

© United Technical Publications

EVEREADY® FLASHLIGHTS, LANTERNS, and BATTERIES

THE WORLD'S MOST TRUSTED BRAND FOR OVER 60 YEARS

INDUSTRIAL and SPECIAL PURPOSE LITES



No. 308CT Combination spotlight/continuity tester . . . a high-quality tool for professionals.



No. 330 Utility Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available individually boxed **(No. 330).**



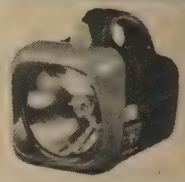
Industrial Flashlights
No. 1251 — 2 Cell, No. PR6 Lamp.
No. 1351 — 3 Cell, No. PR7 Lamp.
Uses Nos. 950, 1050, D99 or E95 Batteries. Will not shatter, crack or dent.



Signal Spotlights
No. 307R or Y. 2 Cell with signal wand (8") specify color: Red (R) or Yellow (Y).



Safety Flashlights
No. 1259 — 2 Cell, No. PR6 Lamp.
No. 1359 — 3 Cell, No. PR7 Lamp.
Uses Nos. 950, 1050, D99 or E95 Batteries. Approved by U.S. Bureau of Mines. Listed by Underwriters' Laboratories, Inc.



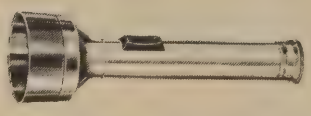
No. 459 Hercules Waterproof/Floating Lantern. Explosion-proof, insulated case impervious to gasoline, alcohol, most oils and greases.



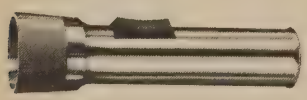
No. 3452 Head-Lite. Uses 1 No. 510S Battery and No. PR13 Lamp. Rainproof pouch also available (No. 1348).

	No. 51	No. 308CT	No. 330	No. 337D	No. 459	No. 307R or Y	No. 1251	No. 1259	No. 1348	No. 1351	No. 1359	No. 3452
List Each	$16.68	$6.95	$1.19	$1.39	$7.95	$4.45	$3.30	$4.60	$2.00	$3.75	$4.90	$3.79
Sugg. Dealer	11.16	4.50	0.79	0.94	5.30	2.95	2.20	3.07	1.35	2.50	3.26	2.52

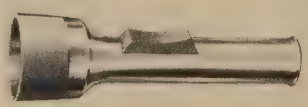
"COMMANDER" CHROME-FINISH METAL FLASHLIGHTS



No. 5352 3-Cell "Commander" Flashlight with extra features: exclusive lock switch design, removable end cap, ring hanger. Available individually boxed. Uses 3 No. 950, D-99 or E95 Batteries. No. PR-3 Lamp.



No. 5251 All-Purpose "Commander" Flashlight. Strong, triple-plated chrome finish; sturdy, safety-glow lens ring; optically perfect reflectors. Available individually boxed or in display of 12 (order 5251D). Uses 2 No. 950, D-99 or E95 Batteries. No. PR-2 Lamp.



No. 5231 Junior Size "Commander" Flashlight. Same features as standard size "Commander" but smaller overall size. Available individually boxed or in display of 12 (order 5231D). Uses 2 No. 935 or E93 Batteries. No. PR-4 Lamp.



No. 5951 Magnet model "Commander" Flashlight with magnet on positive action switch. Available individually boxed. Uses 2 No. 950, D-99 or E95 Batteries. No. PR-2 Lamp.

MAGNET LITES



No. 4MF "Pop-Out" Magnet Flashlight. Hidden magnet designed into sleek case, pops out when placed near steel, retracts into cases when removed. Available individually boxed or in display of 6 (order 6 No. 4MFD).



No. 5MF Magnet Lite with magnet on switch. Uses 2 No. 950D, D-99 or E95 Batteries. No. PR2 Lamp. Available individually boxed or in display of 6 with Selling Tags (order 6 No. 5MFD).

	No. 5251	No. 5951	No. 5352	No. 5231	No. 4MF	No. 5MF
Each	$ .99	$1.39	$3.98	$0.99	$2.59	$2.29
Sugg. Dealer	.63	0.94	2.65	0.63	1.66	1.53

MINIATURE FLASHLIGHTS



No. 315 Heavy-Duty Penlite. Uses 2 No. 915 or E91 Batteries and No. 222 Lamp. Available individually boxed or in Counter Display of 12 (order 12 No. 315D).



No. 115 "Little Jim" Packet Lite — Uses 1 No. 915 or E91 Battery, No. 112 Lamp. Available in Counter Display of 12 (order 12 No. 115D).



No. 312 Slim Penlite. Uses 2 No. 912 or E92 Batteries and No. 224 Lamp. Available individually boxed or in Counter Display of 12 (order 12 No. 312D).



No. 170 Display-combination miniature lite assortment contains: 6 each of Slim and Heavy Duty Penlites and 6 "Little Jim" Pocket Lites.

	No. 115D	No. 312	No. 315	No. 170
List Each	$0.85	$1.39	$1.39	$21.78
Sugg. Dealer	0.56	0.91	0.91	14.28

ALL PRICES WITHOUT BATTERIES

Trade Discount Applies To List Prices Only
© United Technical Publications

EVEREADY® BATTERIES with POWER TO SPARE

THE WORLD'S MOST TRUSTED BRAND FOR OVER 60 YEARS

POPULAR FLASHLIGHT BATTERIES



No. 915
Size AA



No. 935
Size C



No. 950
Size D



No. D99
Heavy-Duty
Size D

ENERGIZERS FOR TRANSISTOR RADIOS

and other electronic applications



No. 208
9 Volts



No. 216
9 Volts



No. 226
9 Volts



No. 1015
Size AA
1½ Volts



No. 1035
Size C
1½ Volts



No. 1050
Size D
1½ Volts

SUPER POWER ALKALINE BATTERIES

for radios, cameras, toys, flashlights,
and high drain applications, rechargeable TV



No. E90
Size N
1½ Volts



No. E91
Size AA
1½ Volts



No. E92
Size AAA
1½ Volts



No. 523
4½ Volts



No. 563
4½ Volts



No. E93
Size C
1½ Volts



No. E95
Size D
1½ Volts



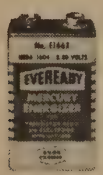
No. 561
15 Volts

COMPLETE LINE SPECIFICATIONS

MERCURY BATTERIES



No. E9
1.4 Volts



No. E146X
8.4 Volts



No. E133
4.2 Volts

SEALED NICKEL CADMIUM RECHARGEABLE BATTERIES



No. B50
1.25 Volts



No. CF1.2



No. CH4
1.25 Volts

LANTERN BATTERIES



No. 509 — Spring
No. 510S — Screws
No. 510F — Fahnestock
6 Volts



No. 731
6 Volts



No. 520
6 Volts
Alkaline

OTHER BATTERIES



No. 6 "Ignitor"
1½ Volts



"HOT SHOT"
No. 1461 6 Volts
No. 1462 6 Volts
No. 1463 12 Volts
No. 1562 7½ Volts
No. 1662 9 Volts



EMERGENCY LIGHTING
No. 706 6 Volts
No. 715 7½ Volts
No. 716 9 Volts

EVEREADY® COMPLETE LINE SPECIFICATIONS

PRIMARY BATTERIES

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in inches L	W	H	Terminals & Voltages	Battery Weight lbs.	ozs.	Unit Pkg. Quan.	Dealer Price	Retail Price	Major Use
E1	1100M	Mercury	0.625 Diam.		x 0.645	Flat Contacts—, +1.4		0.43	4	$0.67	$1.00	Meters, Instr., Misc.
E1N	—	Mercury	0.625 Diam.		x 0.645	Flat Contacts—, +1.35		0.43	4	0.83	1.25	
EPX1	—	Mercury	0.625 Diam.		x 0.650	Flat Contacts—, +1.35		0.43	4	0.83	1.25	Camera Light Meter
E3	—	Mercury	0.985 Diam.		x 0.660	Flat Contacts—, +1.35		1.0	4	1.30	1.95	Meters, Instr., Misc.
E4	—	Mercury	1.195 Diam.		x 0.660	Flat Contacts—, +1.35		1.6	4	1.67	2.50	
EPX4	—	Mercury	0.662 Diam.		x 1.965	Flat Contacts—, +5.6		1.2	1	1.97	2.95	Camera
No. 6 "Ignitor" Gen. Purpose	905	Carb. Zinc	2-5/8 Diam.		x 6-21/32	**Knurled Nut & Screw—, +1.5	2	1.0	1	3.00	4.50	Ign. Lighting
No. 6 "Gray Label Telephone	906	Carb. Zinc	2-5/8 Diam.		x 6-21/32	***Knurled Nut & Screw—, +1.5	2	2.0	1	1.13	1.69	Telephone
No. 6 Railroad and Industrial	911	Carb. Zinc	2-5/8 Diam.		x 6-21/32	**Knurled Nut & Screw—, +1.5	2	3.0	1	1.13	1.69	Ign. Tele.
EPX6	—	Mercury	0.662 Diam.		x 4.415	Flat Contacts—, +4.05, +8.1		1.6	1	1.13	1.69	Camera
E9	15M	Mercury	0.550 Diam.		x 1.968	Flat Contacts—, +1.4		1.05	4	0.67	1.00	Trans. Radio
E12	1101M	Mercury	0.640 Diam.		x 1.968	Flat Contacts—, +1.4		1.4	2	1.17	1.75	
E12N	—	Mercury	0.640 Diam.		x 1.968	Flat Contacts—, +1.35		1.4	2	1.30	1.95	Instr. Misc.
E13	—	Mercury	0.310 Diam.		x 0.210	Flat Contacts—, +1.4		0.04	6	0.30	0.45	Electric Dev.
EPX13	—	Mercury	0.615 Diam.		x 0.238	Flat Contacts—, +1.35		0.14	4	0.67	1.00	Camera Light Meter
S13	—	Silver Oxide	0.310 Diam.		x 0.210	Flat Contacts—, +1.5		0.04	6	0.33	0.50	Electr. Dev.
EPX14	—	Mercury	0.655 Diam.		x 0.607	Flat Contacts—, +2.7		0.3	4	1.33	2.00	Camera Light Meter
EPX23	—	Mercury	0.600 Diam.		x 0.787	Flat Contacts—, +5.6		0.12	6	0.67	1.00	
EPX25	—	Mercury	0.660 Diam.		x 0.845	Flat Contacts—, +4.05		0.45	2	1.67	2.50	
EPX29	—	Mercury	0.475 Diam.		x 0.680	Flat Contacts—, +4.05		0.3	2	1.30	1.95	Photo
EPX30	—	Alkaline	0.955 Diam.		x 0.480	Flat Contacts—, +3.0		0.5	2	0.98	1.50	
T35	—	Carb. Zinc	1-1/32 Diam.		x 1-15/16	Flat Contacts—, +1.5		1.4	6	0.39	0.60	Electric Clock
E41	—	Mercury	0.455 Diam.		x 0.162	Flat Contacts—, +1.4		0.07	6	0.30	0.45	Electr. Dev.
S41	—	Silver	0.455 Diam.		x 0.165	Flat Contacts—, +1.5		0.06	6	0.33	0.50	Novelties
E42	13M	Mercury	1.195 Diam.		x 2.390	Flat Contacts—, +1.4		5.85	1	3.33	5.00	
E42N	—	Mercury	1.195 Diam.		x 2.390	Flat Contacts—, +1.35		5.85	1	3.67	5.50	Instr. Trans. Appl., Misc.
T50	—	Carb. Zinc	1-11/32 Diam.		x 2-13/32	Flat Contacts—, +1.5		3.3	6	0.48	0.75	Electric Clock
S76	—	Silver Oxide	0.455 Diam.		x 0.200	Flat Contacts—, +1.5		0.08	6	0.38	0.575	Novelties
EPX77	1107A	Silver Oxide	0.455 Diam.		x 0.220	Flat Contacts—, +1.5		0.09	6	0.81	1.25	Photoflash
E90	910A	Alkaline	0.455 Diam.		x 1.130	Flat Contacts—, +1.5		0.34	2	0.39	0.60	
E91	15A	Alkaline	9/16 Diam.		x 1-31/32	Flat Contacts—, +1.5		0.75	24	0.455	0.70	Radio, Electric Devices
E92	24A	Alkaline	0.405 Diam.		x 1.745	Flat Contacts—, +1.5		0.4	12	0.455	0.70	Electr. Photoflash
E93	14A	Alkaline	1-1/32 Diam.		x 1-15/16	Flat Contacts—, +1.5		2.2	12	0.52	0.80	Radio, Electr. Dev
E94	927	Alkaline	1-11/32 Diam.		x 1-13/64	Flat Contacts—, +1.5		2.1	12	0.52	0.80	Spec. Lighting Appl.
E95	13A	Alkaline	1-11/32 Diam.		x 2-13/32	Flat Contacts—, +1.5		4.5	12	0.65	1.00	Electr. Photo. Comm. Equip.
†D99	13D	Carb. Zinc	1-11/32 Diam.		x 2-13/32	Flat Contacts—, +1.5		3.3	48	0.2225	0.35	Flashlight, Toys
E113	—	Mercury	0.661 Diam.		x 0.845	Flat Contacts—, +4.05		0.43	2	1.97	2.95	
E114	—	Mercury	0.661 Diam.		x 1.08	Flat Contacts—, +5.4		0.57	2	2.17	3.25	
E115	—	Mercury	0.661 Diam.		x 1.315	Flat Contacts—, +7		0.71	2	2.33	3.50	
E115N	—	Mercury	0.661 Diam.		x 1.315	Flat Contacts—, +6.75		0.71	2	2.50	3.75	
E126	1611M	Mercury	0.744 Diam.		x 2	Flat Contacts—, +8.4		1.65	1	1.67	2.50	
E132	1200M	Mercury	0.661 Diam.		x 1.315	Flat Contacts—, +2.8		0.94	2	1.30	1.95	
E132N	—	Mercury	0.661 Diam.		x 1.315	Flat Contacts—, +2.7		0.94	2	1.30	1.95	
E133	1306M	Mercury	0.661 Diam.		x 1.965	Flat Contacts—, +4.2		1.42	12	1.67	2.50	
E133N	—	Mercury	0.661 Diam.		x 1.965	Flat Contacts—, +4.05		1.42	2	1.67	2.50	
E134	—	Mercury	0.661 Diam.		x 2.615	Flat Contacts—, +5.6		1.89	2	1.83	2.75	Instr. Trans. Appl. Misc.
E134N	—	Mercury	0.661 Diam.		x 2.615	Flat Contacts—, +5.4		1.89	2	1.97	2.95	
E135	—	Mercury	0.661 Diam.		x 3.265	Flat Contacts—, +7		2.37	2	2.16	3.25	
E135N	—	Mercury	0.661 Diam.		x 3.265	Flat Contacts—, +6.75		2.37	2	2.33	3.50	
E136	—	Mercury	0.661 Diam.		x 3.915	Flat Contacts—, +8.4		2.86	2	2.47	3.70	
E136N	—	Mercury	0.661 Diam.		x 3.915	Flat Contacts—, +8.1		2.86	2	2.63	3.95	
E137	—	Mercury	0.661 Diam.		x 4.565	Flat Contacts—, +9.8		3.34	1	2.80	4.20	
E137N	—	Mercury	0.661 Diam.		x 4.565	Flat Contacts—, +9.45		3.34	1	3.00	4.50	
E145	—	Mercury	0.660 Diam.		x 1-3/16	Flat Contacts—, +7		0.7	2	1.83	2.75	
E146X	1604M	Mercury	1.031 x 0.660		x 1-3/4	Min. Snap—, +8.4		1.6	6	1.30	1.95	Trans. Radio
E152	—	Mercury	0.505 Diam.		x 1.139	Flat Contacts—, +2.8		0.4	2	1.13	1.70	
E152N	—	Mercury	0.505 Diam.		x 1.139	Flat Contacts—, +2.7		0.4	2	1.30	1.95	
E153	—	Mercury	0.505 Diam.		x 1.708	Flat Contacts—, +4.2		0.6	2	1.47	2.20	Instr., Trans. Appl., Misc.
E153N	—	Mercury	0.505 Diam.		x 1.708	Flat Contacts—, +4.05		0.6	2	1.67	2.50	
E162	—	Mercury	0.661 Diam.		x 0.887	Flat Contacts—, +2.7		0.58	2	1.30	1.95	
E163	1305M	Mercury	0.661 Diam.		x 1.327	Flat Contacts—, +4.2		0.9	2	1.83	2.75	
E163N	—	Mercury	0.661 Diam.		x 1.327	Flat Contacts—, +4.05		0.9	2	1.83	2.75	
E164	1404M	Mercury	0.661 Diam.		x 1.767	Flat Contacts—, +5.6		1.2	12	1.67	2.50	
E164N	—	Mercury	0.661 Diam.		x 1.767	Flat Contacts—, +5.4		1.2	2	1.83	2.75	Instr. Trans. Appl. Misc
E165	1500M	Mercury	0.661 Diam.		x 2.207	Flat Contacts—, +7		1.5	2	2.16	3.25	
E165N	—	Mercury	0.661 Diam.		x 2.207	Flat Contacts—, +6.75		1.5	2	2.16	3.25	
E169	1901M	Mercury	0.662 Diam.		x 3-63/64	Flat Contacts—, +12.6		4.2	1	3.66	5.50	
E175	1501M	Mercury	1/2 Diam.		x 1-3/32	Flat Contacts—, +7		1.0	1	1.50	2.25	
E177	1606M	Mercury	35/64 Diam.		x 1-29/32	Min. Snap—, +9.8		0.67	1	1.67	2.50	
206	1611	Carb. Zinc	3/4 Diam.		x 2	Flat Contact, Neg. Recess.—, +9		1.2	6	0.62	0.89	
216	1604	Carb. Zinc	1-1/32 x 21/32		x 1-29/32	Min. Snap—, +9		1.5	12	0.54	0.79	Trans. Radio
222	1604D	Carb. Zinc	1-1/32 x 11/16		x 1-15/16	Min. Snap—, +9		1.5	12	0.64	0.98	
226	1600	Carb. Zinc	1 Diam.		x 1-15/16	Snap Type—, +9		2.0	6	0.79	1.19	
228	1810	Carb. Zinc	1 Diam.		x 2-7/16	Snap Type—, +12		2.3	1	1.20	1.75	
E233	1300M	Mercury	1.005 Diam.		x 1-31/32	Flat Contacts—, +4.2		3.0	1	3.00	4.50	
E233N	—	Mercury	1.005 Diam.		x 1-31/32	Flat Contacts—, +4.05		3.0	1	3.00	4.50	Instr.
E234	—	Mercury	1.005 Diam.		x 2.578	Flat Contacts—, +5.6		4.2	1	3.00	4.50	
E234N	—	Mercury	1.005 Diam.		x 2.578	Flat Contacts—, +5.4		4.2	1	3.30	4.95	
E235N	—	Mercury	1-1/64 Diam.		x 3-5/16	Flat Contacts—, +6.75		5.0	1	3.97	5.95	
E236N	—	Mercury	1.005 Diam.		x 3.921	Flat Contacts—, +8.1		6.3	1	4.33	6.50	Instr
239	1900	Carb. Zinc	1-21/64		x 1-1/32 x 2-11/16	Socket—, 9, 13.5		3.0	1	2.40	3.50	
243	1610	Carb. Zinc	1-13/32		x 1-11/32 x 2-3/4	Min. Snap—, 4.5		4.5	1	2.05	3.00	
246	1602	Carb. Zinc	1-13/32		x 1-11/32 x 2-3/4	Min. Snap—, 9		4.5	1	1.54	2.25	
266	1605	Carb. Zinc	1-13/16		x 1-13/16 x 2-7/16	Snap Type—, 9		7.0	1	1.36	1.95	Trans. Radio
276	1603	Carb. Zinc	2-9/16		x 2-1/32 x 3-5/32	Snap Type—, 9		15.0	1	1.71	2.50	
E286	1600M	Mercury	1 Diam.		x 1-15/16	Flat Contacts—, 8.4		1.6	1	1.67	2.50	
E289	1810M	Mercury	1 Diam.		x 2-13/32	Snap Type—, 12.6		3.6	1	3.33	5.00	
E312	—	Mercury	0.310 Diam.		x 0.140	Flat Contacts—, 1.4		0.03	6	0.30	0.45	
S312	—	Silver Oxide	0.310 Diam.		x 0.140	Flat Contacts—, 1.5		0.02	6	0.315	0.475	Electr. Dev
333	1306	Carb. Zinc	0.662 Diam.		x 1.965	Flat Contacts—, 4.5		0.9	6	0.68	0.98	Trans. Radio
W350	—	Carb. Zinc	3-1/16		x 1-7/8 x 4-31/32	Knurled Nut & Screw—, 22.5, 45		14.5	1	3.42	5.00	Radio Trans., Instr.
W352	701	Carb. Zinc	2-5/8		x 1-5/16 x 4-1/32	Knurled Nut & Screw—, 3		12.0	1	1.88	2.75	Electr. Dev., Instr
W353	11	Carb. Zinc	2-19/32		x 1-3/8 x 4-5/32	Socket—, 15		12.5	1	1.33	1.95	Port. Radio
W356	—	Carb. Zinc	2-5/8		x 2-5/8 x 4-9/16	Knurled Nut & Screw—, 3	1	7.0	1	2.70	3.95	Radio & Electr. Dev
W357	901	Carb. Zinc	3-25/32		x 2-11/16 x 5-13/16	Fahnestock—, 3	2	12.0	1	2.70	3.95	Model Ign. Tele
W359	—	Carb. Zinc	3-9/16		x 2-1/4 x 4-1/2	Socket—, 45	1	11.6	1	4.62	6.75	
W361	227	Carb. Zinc	1-3/8		x 1-3/8 x 11-23/32	Flat Contacts—, 103.5	1	4.0	1	5.44	7.95	Port. Radio "B"
W362	—	Carb. Zinc	2-27/32		x 1-9/32 x 5-29/32	Knurled Nut & Screw—, 4.5, 7.5		15	1	4.62	6.75	Radio "C"
■W363F(P)	—	Carb. Zinc	3-1/4		x 1-3/4 x 7-5/8	Fahnestock—, 22.5, 45	10	5.0	1	10.62	15.50	
■W364F(P)	—	Carb. Zinc	3-1/8		x 2-7/16 x 7-11/16	Fahnestock—, 22.5, 45	11	14.0	1	11.60	16.95	Heavy Duty Radio "B"
■W365F(P)	723	Carb. Zinc	8-1/16		x 2-15/16 x 7-5/8	Fahnestock—, +22.5, +45	7	7.5	1	10.62	15.50	Ind. "B"

Trade Discount Applies To List Prices Only

© United Technical Publications

EVEREADY® COMPLETE LINE SPECIFICATIONS

PRIMARY BATTERIES CONTINUED

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in inches L	W	H	Terminals & Voltages	Battery Weight lbs.	ozs.	Unit Pkg. Quan.	Dealer Price	Retail Price	Major Use
E400	1106M	Mercury	0.455 Diam. x 0.135			Flat Contacts—, ▫ 1.4		0.04	6	$0.50	$0.75	Trans. Appl.
E400N	—	Mercury	0.455 Diam. x 0.135			Flat Contacts—, ▫ 1.35		0.04	6	0.67	1.00	
E401	910M	Mercury	0.470 Diam. x 1.130			Flat Contacts—, ▫ 1.4		0.4	3	0.67	1.00	
E401N	—	Mercury	0.470 Diam. x 1.130			Flat Contacts—, ▫ 1.35		0.4	2	0.83	1.25	
409	908C	Carb. Zinc	2-5/8 x 2-5/8 x 4-13/32			Coil Springs—, ▫ 6	1	6.5	1	—	—	Lanterns
411	208	Carb. Zinc	1-1/32 x 5/8 x 1-29/64			Flat Contacts—, ▫ 15		0.95	1	1.03	1.50	Instr.
412	215	Carb. Zinc	1-1/32 x 5/8 x 2			Flat Contacts—, ▫ 22.5		1.3	1	1.20	1.75	
413	210	Carb. Zinc	1-1/32 x 5/8 x 2-9/16			Flat Contacts—, ▫ 30		1.6	1	1.34	1.95	
415	213	Carb. Zinc	1-3/64 x 5/8 x 3-11/16			Min. Snap—, ▫ 45		2.5	1	1.88	2.75	
416	217	Carb. Zinc	1-21/64 x 63/64 x 3-1/2			Min. Snap—, ▫ 67.5		4.0	1	2.23	3.25	
417	224	Carb. Zinc	1-5/16 x 31/32 x 1-9/16			Flat Contacts—, ▫ 15		1.8	1	1.71	2.50	
420	225	Carb. Zinc	1-5/16 x 31/32 x 2-3/16			Flat Contacts—, ▫ 22.5		2.5	1	2.02	2.95	
425P	—	Carb. Zinc	1-23/64 x 1-1/32 x 3-15/16			Socket—, ▫ 22.5		4.1	1	3.08	4.50	
430	—	Carb. Zinc	1-5/16 x 1 x 2-13/16			Flat Contacts—, ▫ 30		3.2	1	2.40	3.50	
437	212	Carb. Zinc	1-15/16 x 1-15/32 x 6-15/32			Snap Type—, ▫ 75		14.8	1	3.77	5.50	Port. Radio "B"
E450	—	Mercury	0.455 Diam. x 0.570			Flat Contacts—, ▫ 1.35		0.16	4	0.83	1.25	Instr.
455	—	Carb. Zinc	2-21/32 x 1 x 3-11/16			Snap Type—, ▫ 45		7.8	1	2.29	3.35	Port. Radio "B"
455P	—	Carb. Zinc	2-21/32 x 1-1/64 x 3-29/32			Socket—, ▫ 45		8.6	1	2.57	3.75	Instr.
457	203	Carb. Zinc	2-13/16 x 1-3/8 x 2-1/2			Snap Type—, ▫ 67.5		7.4	1	2.91	4.25	Port. Radio "B"
460	—	Carb. Zinc	1-57/64 x 1-3/8 x 2.43			Flat Contacts—, ▫ 45		5.3	1	2.71	3.50	Photoflash
467	200	Carb. Zinc	2-13/16 x 1-3/8 x 3-45/64			Snap Type—, ▫ 67.5		12.0	1	2.91	3.95	Port. Radio "B"
468	200C	Carb. Zinc	2-13/16 x 1-3/8 x 3-45/64			Snap Type—, ▫ 67.5		12.0	1	2.71	4.25	Radio, Electr. Dev.
477	211	Carb. Zinc	1-29/32 x 63/64 x 5-7/16			Snap Type—, ▫ 67.5		8.6	1	2.98	3.95	Port Radio "B"
479	214	Carb. Zinc	1-31/32 x 1-1/32 x 7-15/32			Snap Type—, ▫ 90		12.0	1	2.98	4.35	
482	202	Carb. Zinc	3-19/32 x 1-27/32 x 5-1/2			Socket—, ▫ 45	1	14.0	1	3.77	4.35	
484	207	Carb. Zinc	3-31/32 x 2-17/32 x 5-5/16			Socket—, ▫ 45	3	2.0	1	3.90	5.50	Fluor. Lantern
487	—	Carb. Zinc	5-1/8 x 2-1/16 x 7-1/4			Socket—, ▫ 22.5, ▫ 45	4	2.0	1	7.88	5.70	Farm Radio "B"
489	728	Carb. Zinc	4-11/32 x 2-11/16 x 4-3/16			Socket—, ▫ 225	2	12.0	1	3.25	11.50	Electr. Flash
490	204	Carb. Zinc	3-23/32 x 1-3/8 x 3-45/64			Snap Type—, ▫ 90		15.0	1	7.19	4.75	Port Radio "B"
491	—	Carb. Zinc	2-19/32 x 1-5/16 x 4-1/2			Flat Recessed & Socket—, ▫ 240		13.0	1	9.25	10.50	Electr. Flash
492	730	Carb. Zinc	3-9/16 x 2-29/32 x 4-29/32			Socket—, ▫ 180, ▫ 225	2	8.0	1	9.75	13.50	
493	722	Carb. Zinc	2-11/16 x 2-7/32 x 3-29/32			Pinjacks—, ▫ 300		14.5	1	4.45	14.25	Geiger Counter
495	—	Carb. Zinc	1-15/16 x 1-15/32 x 7-1/8			Snap Type—, ▫ 90	1	—	1	2.40	6.50	Port. Radio "B"
496	940	Carb. Zinc	6-3/4 x 3 x 5			Socket—, +450	5	4	1	15.76	22.95	Electr. Flash
497	—	Carb. Zinc	3 x 1-19/32 x 5-5/8			Flat Recessed—, ▫ 180, ▫ 510		10.0	1	12.98	18.95	Electr. Flash
E502	—	Mercury	0.550 Diam. x 1.968			Flat Contacts—, ▫ 1.35		1.05	2	1.17	1.75	Trans. Appl
504	220	Carb. Zinc	39/64 x 19/32 x 1-3/8			Flat Contacts—, ▫ 15		0.6	1	1.03	1.50	Instr.
505	221	Carb. Zinc	19/32 x 19/32 x 1.975			Flat Contacts—, 22.5		0.9	1	1.20	1.75	
506	223	Carb. Zinc	1-13/64 x 5/8 x 1-27/64			Flat Contacts—, ▫ 30		0.9	1	2.53	3.70	
507	—	Carb. Zinc	39/64 x 19/32 x 2.605			Flat Contacts—, ▫ 30		0.9	1	1.54	2.25	
509	908	Carb. Zinc	2-5/8 x 2-5/8 x 4-13/32			Coil Springs—, ▫ 6	1	5.5	1	1.13	1.69	Lantern
510F	917	Carb. Zinc	2-5/8 x 2-5/8 x 4-13/32			Fahnestock—, ▫ 6	1	4.0	1	1.19	1.79	Misc.
510S	—	Carb. Zinc	2-5/8 x 2-5/8 x 4-5/16			Knurled Nut & Screw—, ▫ 6	1	7.0	1	1.13	1.69	
520	930	Alkaline	5-17/32 x 4-21/32 x 2-21/32			Ins. Screw—, ▫ 6	2	8.0	1	4.34	6.50	Lantern
E520	—	Mercury	0.495 Diam. x 0.286			Flat Contacts—, +1.4		0.07	6	0.215	0.35	Trans. Appl.
523	1306A	Alkaline	0.662 Diam. x 1.965			Flat Contacts—, +4.5		1.17	1	1.27	1.95	Photoflash, Trans. Radio
529	1310A	Alkaline	9/16 Diam. x 2			Recessed—, Flat Contact ▫ 3		0.75	1	1.14	1.75	Photo
531	1307A	Alkaline	0.662 Diam. x 2.290			Min. Snap—, ▫ 4.5		1.25	1	1.27	1.95	Automatic Camera
532	1308A	Alkaline	0.664 Diam. x 1.670			Snap Type—, ▫ 3		0.8	1	1.14	1.75	
544	1406A	Silver Oxide	0.514 Diam. x 0.990			Flat Contacts—, +6		0.5	1	1.71	2.50	Photo
E601	—	Mercury	0.627 Diam. x 1.140			Flat Contacts—,		1.22	2	1.17	1.75	Instr.
621	—	Carb. Zinc	2-9/16 Diam. x 13-1/8			Knurled Nut & Screw—, ▫ 3	4	10.0	1	4.45	6.50	Fishing Buoy
E625	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, ▫ 1.4		0.15	4	0.50	0.75	Trans. Appl.
E625N	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, ▫ 1.35		0.14	4	0.63	0.95	
EPX625	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.35		0.15	4	0.6/	1.00	Camera Light Meter
E630	1104M	Mercury	0.615 Diam. x 0.238			Flat Contacts—, ▫ 1.4		0.17	4	0.63	0.95	Trans. Radio
E630N	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, ▫ 1.35		0.17	4	0.63	0.95	Instr.
E640	1105M	Mercury	0.625 Diam. x 0.440			Flat Contacts—, ▫ 1.4		0.28	2	0.63	0.95	Trans. Radio
E640N	—	Mercury	0.625 Diam. x 0.440			Flat Contacts—, ▫ 1.35		0.28	4	0.63	0.95	Instr.
EPX640	—	Mercury	0.625 Diam. x 0.440			Flat Contacts—, ▫ 1.35		0.13	4	0.67	1.00	Photo
646	—	Carb. Zinc	2-9/16 x 2-1/8 x 8-7/64			Flat Contacts—, +69	3	3	2	3.83	5.75	Fluor. Lamp
E675	—	Mercury	0.455 Diam. x 0.205			Flat Contacts—, ▫ 1.4		0.09	6	0.35	0.525	Instr.
EPX675	—	Mercury	0.455 Diam. x 0.205			Flat Contacts—, ▫ 1.35		0.09	6	0.67	1.00	Photo
703	—	Carb. Zinc	2-7/16 x 27/32 x 3-1/16			Spring—, ▫ 4.5		5.0	1	1.54	2.25	Instr.
706	902	Carb. Zinc	8-5/16 x 2-13/16 x 6-7/16			Ins. Screw—, ▫ 6	5	11.0	1	4.34	6.50	Ign. Emerg. Lighting
707	26	Carb. Zinc	2-9/16 x 2-1/32 x 2-13/16			Snap Type—, ▫ 7.5		12.0	1	1.71	2.50	Port. Radio "A"
711	700	Carb. Zinc	2-5/8 x 1-5/16 x 4-1/32			Knurled Nut & Screw—, ▫ 1.5		12.0	1	1.06	1.59	Model Ign. "Glo-Plug"
713	8	Carb. Zinc	3-29/32 x 53/64 x 2-27/32			Socket—, ▫ 7.5		9.0	1	2.71	3.95	Port. Radio "A"
714	—	Carb. Zinc	3-31/32 x 1-11/32 x 3-3/4			Knurled Nut & Screw—, ▫ 4.5		13.5	1	2.05	3.00	Tele. Test Sets
715	903	Carb. Zinc	7-1/4 x 4-1/16 x 6-7/16			Ins. Screw—, ▫ 7.5	7	10.0	1	5.30	7.95	Ign. Emerg. Lighting
716	—	Carb. Zinc	8-37/64 x 4-1/16 x 6-7/16			Ins. Screw—, ▫ 9	8	8.0	1	5.97	8.95	
717	9	Carb. Zinc	2-5/32 x 1-15/16 x 3-1/32			Socket—, ▫ 7.5		8.0	1	1.30	1.90	Port. Radio "A"
718	1	Carb. Zinc	3-29/32 x 2-3/4 x 5-7/16			Socket—, ▫ 6	2	4.0	1	3.22	4.70	
720	18	Carb. Zinc	2-25/32 x 1-13/32 x 3-1/32			Socket—, ▫ 1.5		6.5	1	1.71	2.50	
724	2	Carb. Zinc	1-7/32 x 1-7/32 x 2-11/32			Flat Contacts—, ▫ 6		2.5	1	1.34	1.95	
726	19	Carb. Zinc	4-3/32 x 1-7/16 x 2-15/16			Socket—, ▫ 4.5		10.5	1	2.40	3.50	
729	425	Carb. Zinc	3-27/32 x 2-7/32 x 7-13/16			Socket—"A", +1.5 "A", —"B", ▫ 90 "B"	2	7.0	1	6.78	9.95	Port. Radio "A-B"
731	918	Carb. Zinc	5-11/32 x 2-27/32 x 4-15/16			Ins. Screw—, ▫ 6	3	4.0	1	2.30	3.45	Lantern
732	926	Carb. Zinc	5-11/32 x 2-27/32 x 4-15/16			Ins. Screw—, ▫ 12	3	4.0	1	2.64	3.95	Lantern
735	900	Carb. Zinc	2-5/8 x 2-5/8 x 4-5/16			Knurled Nut & Screw—, ▫ 1.5	1	7.0	1	1.06	1.59	Model Ign. "Glo-Plug"
736	3	Carb. Zinc	3-15/16 x 1-5/16 x 4			Socket—, ▫ 4.5	1	—	1	1.88	2.75	Port. Radio "A"
738	205	Carb. Zinc	3 x 2-5/16 x 4-1/8			Socket—, ▫ 22.5, ▫ 45	1	3.0	1	3.42	5.00	Port. Radio "B"
741	17	Carb. Zinc	3-25/32 x 2-11/16 x 5-3/8			Socket—, ▫ 1.5	2	10.0	1	3.18	4.65	Port. Radio "A"
742	4	Carb. Zinc	2-5/8 x 2-5/8 x 3-27/32			Socket—, ▫ 1.5	1	6.0	1	1.23	1.80	
743	5	Carb. Zinc	3-13/16 x 2-5/8 x 4-1/32			Socket—, ▫ 1.5	1	15.0	1	2.91	4.25	
744	—	Carb. Zinc	2-5/8 x 2-5/8 x 3-27/32			Socket—, ▫ 6	1	6.0	1	1.20	1.75	
746	7	Carb. Zinc	3-15/16 x 1-15/16 x 4-21/32			Socket—, ▫ 4.5	1	3.0	1	2.67	3.90	
750	704	Carb. Zinc	1-7/32 x 5/8 x 2-21/32			Spring—, ▫ 3		2.0	1	1.30	1.90	Instr.
751	705	Carb. Zinc	1-25/32 x 5/8 x 2-21/32			Spring—, ▫ 4.5		3.0	1	2.02	2.95	
752	400	Carb. Zinc	14-1/16 x 2-11/16 x 4-1/16			Recessed Plug—, "A", +9 "A", —"B", +90 "B"	6	2.0	1	8.18	11.95	Port. Radio "A-B"
753	401	Carb. Zinc	9-7/32 x 2-23/32 x 4-5/16			Socket—"A", ▫ 7.5 "A", ▫ 9 "A", —"B", ▫ 90 "B"	4	12.0	1	8.90	13.00	
755	403	Carb. Zinc	8-9/16 x 3-3/4 x 2-7/16			Socket—"A", ▫ 6 "A", ▫ 7.5 "A", —"B", ▫ 75 "B"	3	9.0	1	7.53	11.00	
756	405	Carb. Zinc	8-7/8 x 2-1/8 x 3-25/32			Socket—"A", ▫ 7.5 "A", ▫ 9 "A", —"B", ▫ 90 "B"	2	14.0	1	6.85	10.00	
757	406	Carb. Zinc	9-7/32 x 2-23/32 x 4-7/32			Recessed Plug—"A", ▫ 9 "A", —"B", ▫ 90 "B"	4	12.0	1	9.52	13.95	Farm Radio "A-B"
759	—	Carb. Zinc	15-11/16 x 4-1/32 x 6-15/16			Socket—"A", ▫ 1.5 "A", —"B", ▫ 90 "B"	16	4.0	1	10.89	15.95	Tele. Test Sets
761T	712	Carb. Zinc	4-1/16 x 1-13/32 x 3-1/32			Knurled Nut & Screw—, ▫ 1.5, ▫ 3, ▫ 4.5		14.0	1	2.53	3.70	Instr.
762S	709	Carb. Zinc	4-3/32 x 2-9/16 x 5-7/16			Knurled Nut & Screw—, ▫ 22.5, ▫ 45	2	12.0	1	3.60	5.25	
763	710	Carb. Zinc	3-1/2 x 2-3/32 x 3-1/16			Knurled Nut & Screw—, ▫ 22.5		14.0	1	1.88	2.75	
766T	702	Carb. Zinc	6-13/16 x 4-3/16 x 3-5/16			Fahnestock—, ▫ 16.5, ▫ 18, ▫ 19.5, ▫ 21, ▫ 22.5	4	10.0	1	6.82	9.95	Switchbd. Testing

© United Technical Publications

EVEREADY® COMPLETE LINE SPECIFICATIONS

PRIMARY BATTERIES CONTINUED

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches L	W	H	Terminals & Voltages	Battery Weight lbs.	ozs.	Unit Pkg. Quan.	Dealer Price	Retail Price	Major Use
773	°	Carb. Zinc	3-29/32 x 27/32 x 3			5 Knurled Nut & Screws, 1 Wire +, −1.5, −3, −4.5, −6, −7.5		9.0	1	$2.40	$3.50	Port. Radio "C"
778	708	Carb. Zinc	4 x 2-7/16 x 3-1/8			Fahnestock +, −3, −4.5, −6, −9 −10.5, −16.5, −22.5	1	8.0	1	5.45	7.95	Instr.
781	°	Carb. Zinc	2-7/16 x 27/32 x 3			Knurled Nut & Screw −, + 4.5		5.0	1	1.71	2.50	
789	—	Carb. Zinc	5-1/4 x 1-13/32 x 3-11/32			Flat Contacts −, +3	1	1.5	1	3.77	5.50	Fingerprint Camera
799	—	Carb. Zinc	8 x 4-3/8 x 8-5/8			Fahnestock −, + 22.5, + 45, + 49.5	13	5.0	1	16.37	23.95	Camera Cranking
812	24P	Carb. Zinc	13/32 Diam. x 1-3/4			Flat Contacts −, + 1.5		0.3	12	0.195	0.30	
815	15P	Carb. Zinc	9/16 Diam. x 1-31/32			Flat Contacts −, + 1.5		0.6	24	0.195	0.30	
EPX825	—	Alkaline	0 905 Diam. x 0.228			Flat Contacts −, + 1.5		0.24	2	0.4875	0.75	Photoflash
835	14P	Carb. Zinc	1-1/32 Diam. x 1-15/16			Flat Contacts −, + 1.5		1.4	24	0.225	0.35	
850	13P	Carb. Zinc	1-11/32 Diam. x 2-13/32			Flat Contacts −, + 1.5		3.3	12	0.2225	0.35	
†904	910F	Carb. Zinc	0.455 Diam. x 1.180			Flat Contacts −, + 1.5		0.22	6	0.095	0.15	Novelties
†912	24F	Carb. Zinc	13/32 Diam. x 1-3/4			Flat Contacts −, + 1.5		0.3	12	0.1625	0.25	
†915	15F	Carb. Zinc	9/16 Diam. x 1-31/32			Flat Contacts −, + 1.5		0.6	24	0.1625	0.25	Flashlight, Toys
†935	14F	Carb. Zinc	1-1/32 Diam. x 1-15/16			Flat Contacts −, + 1.5		1.4	24	0.195	0.30	
†950	13F	Carb. Zinc	1-11/32 Diam. x 2-13/32			Flat Contacts −, + 1.5		3.0	48	0.195	0.30	
960P	23	Carb. Zinc	1-11/32 Diam. x 4-1/16			Socket −, + 1.5		5.0	1	1.34	1.95	Port. Radio "A"
964	20	Carb. Zinc	1-11/32 Diam. x 4-5/32			Flat Contacts −, + 1.5		5.9	1	0.65	0.95	
1015	15	Carb. Zinc	9/16 Diam. x 1-31/32			Flat Contacts −, + 1.5		0.6	24	0.19	0.30	
1035	14	Carb. Zinc	1-1/32 Diam. x 1-15/16			Flat Contacts −, + 1.5		1.4	24	0.2225	0.35	Trans. Radio
1050	13	Carb. Zinc	1-11/32 Diam. x 2-13/32			Flat Contacts −, + 1.5		3.0	48	0.2225	0.35	
†1150	13C	Carb. Zinc	1-11/32 Diam. x 2-13/32			Flat Contacts −, + 1.5		3.3	48	—	—	Ind. Flashlight
1461	907	Carb. Zinc	10-7/16 x 2-23/32 x 7-7/32			Knurled Nut & Screw −, + 6	9	4.0	1	3.98	5.98	Ign. Fence Control
1462	—	Carb. Zinc	5-1/4 x 5-1/4 x 7-1/4			Knurled Nut & Screw −, + 6	9	—	1	4.66	6.98	
1463	922	Carb. Zinc	10-7/16 x 2-23/32 x 7-7/32			Knurled Nut & Screw −, + 12	7	11.0	1	5.32	7.95	Toy Cars
1562		Carb. Zinc	7-27/32 x 4-31/32 x 7-7/32			Knurled Nut & Screw −, + 7.5	11	4.0	1	5.32	7.95	
1662	913	Carb. Zinc	7-13/16 x 5-9/32 x 7-1/4			Knurled Nut & Screw −, + 9	13	8.0	1	5.99	8.95	Ign. Lights
1862	—	Carb. Zinc	10-1/4 x 5-1/4 x 6-5/8			Socket −, + 12	21	—	1	9.45	14.00	
2356N	1612	Carb. Zinc	2-3/16 x 1-5/32 x 6-1/4			Snap Type −, + 9		11.0	1	2.40	3.50	
2506	1601	Carb. Zinc	8 x 2-13/16 x 1-9/16			Socket −, + 3, + 6, + 9	1	8.0	1	2.71	3.95	
2709N	1613	Carb. Zinc	1-13/32 x 47/64 x 4-11/16			Snap Type −, + 9		2.5	1	1.88	2.75	Trans. Radio
2713N	1403	Carb. Zinc	1-13/32 x 47/64 x 4-11/16			Min. Snap −, + 6		3.5	1	2.40	3.50	
2731N	1303	Carb. Zinc	2-13/16 x 1-3/4 x 8-11/32			Socket −, + 4.5	1	9.0	1	3.77	5.50	
2744N	920	Carb. Zinc	2-5/8 x 2-5/8 x 3-27/32			Socket −, + 6	1	7.0	1	1.13	1.69	
2745N	924	Carb. Zinc	2-5/8 x 2-5/8 x 4-13/32			Coil Spring −, + 6	1	7.0	1	1.13	1.69	Flasher, Misc.
2746N	925	Carb. Zinc	2-5/8 x 2-5/8 x 4-5/16			Knurled Nut & Screw −, + 6	1	7.0	1	1.13	1.69	Lighting, Mis.
2761N	1608	Carb. Zinc	2-9/32 x 1-1/4 x 7-31/32			Socket −, + 9	1	3.0	1	5.14	7.50	
2762N	1609	Carb. Zinc	2-13/16 x 1-3/4 x 8-11/32			Socket −, + 9	1	9.0	1	3.77	5.50	Trans. Radio
2780N	923	Carb. Zinc	5-11/32 x 2-27/32 x 4-5/32			Socket −, + 12	3	—	1	3.13	4.70	Flasher, Misc.
E302157	—	Mercury	2-1/2 x 1-3/8 x 4-1/4			Socket −, + 1.35		13.5	1	12.00	18.00	
E302250	—	Mercury	11/16 Diam. x 1-29/32			Tabs −, + 9.45		1.0	1	3.00	4.50	Rad. Det. Equip.
E302351	—	Mercury	1-1/16 Diam. x 2-5/8			Flat Contacts −, + 5.4		4.5	1	6.53	9.80	Fire Alarm
E302358	—	Mercury	3/4 Diam. x 2-5/32			Wire Leads −, + 10.8		1.3	1	4.00	6.00	
E302362	—	Mercury	23/32 Diam. x 3-5/32			Wire Leads −, + 16.2		1.8	1	5.33	8.00	
E302435	—	Mercury	11/16 Diam. x 1-1/2			Flat Contacts −, + 6.75		0.75	1	3.33	5.00	Rad. Det. Equip.
E302462	—	Mercury	2-13/16 x 1-17/32 x 6-3/8			Wire Leads −, + 97.2	2	—	1	37.33	56.00	Transmt. "B"
E302465	—	Mercury	2-3/16 Diam. x 3-3/4			Wire Leads −, + 47.25	1	1.0	1	21.33	32.00	Geophys.
E302478	—	Mercury	1-1/4 Diam. x 3-5/8			Flat Contacts −, + 9.8		9.0	1	6.60	9.90	Wire Recorder
E302497	—	Mercury	1-1/16 Diam. x 4-3/16			Screw −, + 6.75		6.0	1	9.33	14.00	
E302579	—	Mercury	1-13/32 x 3/4 x 3-3/16			Wire Leads −, + 29.7		5.0	1	12.00	18.00	Test Equip.
E302580	—	Mercury	2-23/32 x 2-23/32 x 3-29/32			Socket −, + 27	2	1.6	1	32.00	48.00	
E302642	—	Mercury	1-9/32 Diam. x 2-5/8			Flat Contacts −, + 7		6.0	1	5.33	8.00	Instr.
E302651	—	Mercury	1-5/16 Diam. x 2-7/16			Special Leads −, + 1.35		6.14	1	4.67	7.00	
E302702	—	Mercury	1-1/8 Diam. x 1-5/8			Wire Leads −, + 2.7		2.0	1	4.00	6.00	Geophys.
E302904	—	Mercury	1-11/32 Diam. x 2-31/32			Wire Leads −, + 5.4		6.0	1	7.33	11.00	Meter
E302905	—	Mercury	1-11/32 Diam. x 3-19/32			Wire Leads −, + 6.75		9.0	1	8.40	12.60	Test Equip.
E302907	—	Mercury	1-5/16 Diam. x 4-7/8			Wire Leads −, + 9.45		11.6	1	10.67	16.00	Instr.
E302908	—	Mercury	1-11/32 Diam. x 5-9/16			Wire Leads −, + 10.8		12.0	1	12.00	18.00	Rad. Det. Equip.
E303145	1614M	Mercury	2-3/16 x 7/8 x 4-7/16			Snap Type −, + 8.4		9.34	1	6.67	10.00	Depth Finder
E303219	—	Mercury	0.515 Diam. x 1-5/8			Flat Contacts −, + 9.8		1.0	1	2.00	3.00	Radio Conc. (FM)
E303236	1309M	Mercury	23/32 x 23/32 x 1-29/32			Flat Contacts −, + 4.2		1.28	1	1.31	1.95	Paging Dev.
E303314	2200M	Mercury	2.81 x 2.85 x 1.320			Recessed Flat Contacts −, + 16.8		12.8	1	10.67	16.00	Comm. Equip.
E303394	—	Mercury	2-1/2 x 1-3/4 x 2.280			Snap Type −, + 11.2		14.0	1	9.67	14.50	Tape Recorder
E303462	2100M	Mercury	2.14 x 2.12 x 1.8			Recessed Flat Contacts −, + 15.4	1	0.8	1	10.93	16.40	Transceiver
E303496	—	Mercury	0 655 Diam. x 1.330			Flat Contacts −, + 4.2		0.87	1	1.31	1.95	Paging Dev.

NEDA number same as an "Eveready" battery number on a different battery Omitted to prevent errors in shipping

°°Equipped with screw terminals unless Fahnestock spring terminals are specified

°Equipped with Fahnestock spring terminals unless screw terminals are specified

■ Furnished with Fahnestock spring terminals If socket terminals are required specify W-363P W-365P

†Flashlight Types

††These complete line specifications contain the basic data on all "Eveready" batteries in production at the time of preparation. Since the characteristics of individual batteries are sometimes modified, manufacturers who are designing their product to use a particular battery should contact the nearest Union Carbide Consumer Products Division Sales Office for verification of specifications.

RECHARGEABLE BATTERY (NICKEL-CADMIUM)

"Eveready" Battery Number	Formerly Number	Nominal Capacity (10 hour rate)	Cell Type	Overall Dimensions in Inches L	W	H	Terminals & Voltages	Battery Weight lbs.	ozs.	Unit Pkg. Quan.	Dealer Price	Retail Price	Major Use
B1	N39	1 AH	Button	1.980 Diam. x 0.394			Flat Contacts −, + 1.25		2.0	1	$3.21	$4.80	
B1T	N39T	1 AH	Button	1.980 Diam. x 0.406			Solder Tabs −, + 1.25		2.0	1	3.41	5.10	Instr., Hobby, Trans. Appl.
BH1	N40	1 AH	Button	1.980 Diam. x 0.396			Flat Contacts −, + 1.25		2.0	1	3.80	5.70	Misc.
BH1T	N40T	1 AH	Button	1.980 Diam. x 0.406			Solder Tabs −, + 1.25		2.0	1	4.00	6.00	
CF1	—	1 AH	Cylindrical "Short C"	1.034 Diam. x 1.165			Flat Contacts −, + 1.25		1.8	1	2.91	4.35	
CF1T	—	1 AH	Cylindrical "Short C"	1.034 Diam. x 1.175			Solder Tabs −, + 1.25		1.8	1	3.11	4.65	Elec. Shaver
CH1	—	1 AH	Cylindrical "Short C"	1.034 Diam. x 1.165			Flat Contacts −, + 1.25		1.8	1	2.64	3.95	
CH1T	—	1 AH	Cylindrical "Short C"	1.034 Diam. x 1.175			Solder Tabs −, + 1.25		1.8	1	2.84	4.25	Inst., Hobby, Trans. Appl., Misc.
C1.2	—	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.684			Flat Contacts −, + 1.25		1.7	1	2.64	3.95	
C1.2T	—	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.689			Solder Tabs −, + 1.25		1.7	1	2.84	4.25	
CF1.2	—	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.684			Flat Contacts −, + 1.25		1.9	1	3.19	4.75	
CF1.2T	—	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.689			Solder Tabs −, + 1.25		1.9	1	3.39	5.05	
CH1.2	N53	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.684			Flat Contacts −, + 1.25		1.9	1	2.89	4.35	Appliance, Instr., Misc.
CH1.2T	N53T	1.2 AH	Cylindrical "Sub C"	0.900 Diam. x 1.689			Solder Tabs −, + 1.25		1.9	1	3.09	4.65	
CH1.5	N54	1.5 AH	Cylindrical "C"	1.031 Diam. x 1.969			Flat Contact −, Solder Tab + 1.25		2.3	1	5.67	8.50	
CH1.5T	N54T	1.5 AH	Cylindrical "C"	1.031 Diam. x 1.974			Solder Tabs −, + 1.25		2.3	1	5.87	8.80	

Trade Discount Applies To List Prices Only

© United Technical Publications

EVEREADY® COMPLETE LINE SPECIFICATIONS

RECHARGEABLE BATTERIES SEALED NICKEL-CADMIUM BATTERIES

"Eveready" Battery No.	Formerly Number	Nominal Capacity (10 hour rate)	Cell Type	Overall Dimensions in inches L W H	Terminals & Voltages	Battery Weight lbs.	Battery Weight ozs.	Unit Pkg. Quan.	Dealer Price	Retail Price	Major Use
B2	N41	2 AH	Button	1.984 Diam. x 0.689	Flat Contacts –, +1.25		3.3	1	$5.24	$7.85	Instr., Misc.
B2T	N41T	2 AH	Button	1.984 Diam. x 0.701	Solder Tabs –, +1.25		3.3	1	5.44	8.15	
CH2.2	N55	2.2 AH	Cylindrical "1/2 D"	1.344 Diam. x 1.508	Flat Contacts –, +1.25		3.2	1	7.01	10.50	
CH2.2T	N55T	2.2 AH	Cylindrical "1/2 D"	1.344 Diam. x 1.518	Solder Tabs –, +1.25		3.2	1	7.21	10.80	Instr., Misc.
B3	N43	3 AH	Button	1.984 Diam. x 0.984	Flat Contacts –, +1.25		5.0	1	6.61	9.90	
B3T	N43T	3 AH	Button	1.984 Diam. x 0.996	Solder Tabs –, +1.25		5.0	1	6.81	10.20	
CF4	—	4 AH	Cylindrical "D"	1.294 Diam. x 2.390	Flat Contact –, Solder Tab +1.25		5.4	1	7.32	10.95	
CF4T	—	4 AH	Cylindrical "D"	1.294 Diam. x 2.410	Solder Tabs –, +1.25		5.4	1	7.52	11.25	Appliances, Instr., Misc.
CH4	N57	4 AH	Cylindrical "D"	1.294 Diam. x 2.390	Flat Contact –, Solder Tab +1.25		5.4	1	6.64	9.95	
CH4T	N57T	4 AH	Cylindrical "D"	1.294 Diam. x 2.410	Solder Tabs –, +1.25		5.4	1	7.52	11.25	
R6	N76	6 AH	Rectangular	2-31/32 x 1-45/64 x 3-45/64	Nut & Stud –, +1.25		15.7	1	12.95	19.45	
RH7	N78	7 AH	Rectangular	1-5/8 x 1-33/64 x 4-1/64	Nut & Stud –, +1.25		14.7	1	18.07	27.00	
R11	N79	11 AH	Rectangular	3-19/32 x 1-1/16 x 4-59/64	Nut & Stud –, +1.25	1	12.0	1	18.15	27.25	Port. Power Supplies
R15	N81	15 AH	Rectangular	3-19/32 x 1-25/64 x 4-59/64	Nut & Stud –, +1.25	2	3.0	1	21.80	32.75	
RH15	N82	15 AH	Rectangular	3-19/32 x 1-3/16 x 4-31/32	Nut & Stud –, +1.25	1	11.0	1	30.53	45.95	
B20	N22	20 MAH	Button	0.457 Diam. x 0.213	Flat Contacts –, +1.25		0.4	1	1.44	2.15	Hearing Aid, Misc.
B20T	N22T	20 MAH	Button	0.457 Diam. x 0.223	Solder Tabs –, +1.25		0.4	1	1.64	2.45	Instr., Misc.
R23	N85	23 AH	Rectangular	3-19/32 x 2-1/64 x 4-59/64	Nut & Stud –, +1.25	3	2.0	1	30.27	45.50	Port. Power Supplies
B50	N24	50 MAH	Button	0.610 Diam. x 0.235	Flat Contacts –, +1.25		0.12	1	1.09	1.65	Instr., Misc.
B50T	N24T	50 MAH	Button	0.610 Diam. x 0.245	Solder Tabs –, +1.25		0.12	1	1.29	1.95	
N64	—	500 MAH	Pack	2.81 x 2.81 x 1.32	Recessed Flat Contacts –, +15		12.5	1	57.60	86.50	Comm. Equip.
N65	—	1 AH	Pack	7.32 x 1.46 x 3.10	Socket –, +13.75	1	11	1	95.87	143.75	
N67	N67	900 MAH	Pack	1-31/64 x 1-33/64 x 4-13/64	Wire Leads –, +6.25		8.3	1	24.64	36.95	
N70	N70	1.5 AH	Pack	3-7/8 x 1-9/16 x 4-1/3	Wire Leads –, +6.25	1	12.0	1	33.87	50.75	Instr., Misc.
OB70	—	70 MAH	Oval Button	1.012 x 0.559 x 0.236	Flat Contacts –, +1.25		0.2	1	1.88	2.80	
OB70T	—	70 MAH	Oval Button	1.012 x 0.559 x 0.246	Solder Tabs –, +1.25		0.2	1	2.08	3.10	
N86	—	1.2 AH	Pack	4-1/32 x 2-1/32 x 2-7/16	Knurl, Nut & Screw –, +12.5	1	8.0	1	34.61	51.95	
N88	—	70 MAH	Pack	1-3/64 x 39/64 x 1-15/16	Snap Fasteners –, +8.75		1.5	1	6.23	9.35	
N89	—	225 MAH	Cylindrical	0.677 x 1.475	Flat Contacts –, +2.5		0.87	1	9.95	14.98	
N90	—	225 MAH	Cylindrical	0.677 x 2.115	Flat Contacts –, +3.75		1.25	1	12.80	19.25	
N91	—	1.2 AH	Pack	5-1/32 x 1-1/32 x 2-31/64	Screw Terminals –, +6.25		10.0	1	20.77	31.00	
B100	N26	100 MAH	Button	0.992 Diam. x 0.252	Flat Contacts –, +1.25		0.32	1	1.19	1.80	
B100T	N26T	100 MAH	Button	0.992 Diam. x 0.264	Solder Tabs –, +1.25		0.32	1	1.39	2.10	
B150	N28	150 MAH	Button	0.992 Diam. x 0.272	Flat Contacts –, +1.25		0.4	1	1.25	1.85	Instr. Trans. Dev., Misc
B150T	N28T	150 MAH	Button	0.992 Diam. x 0.284	Flat Contacts –, +1.25		0.41	1	1.45	2.15	
CF150	—	150 MAH	Cylindrical	0.475 x 1.135	Flat Contacts –, +1.25		0.3	1			
CF150T	—	150 MAH	Cylindrical	0.475 x 1.145	Solder Tabs –, +1.25		0.3	1	2.08	3.10	
CH150	—	150 MAH	Cylindrical	0.475 x 1.135	Flat Contacts –, +1.25		0.3	1			
CH150T	—	150 MAH	Cylindrical	0.475 x 1.145	Solder Tabs –, +1.25		0.3	1			
B225	N32	225 MAH	Button	0.992 Diam. x 0.351	Solder Tabs –, +1.25		0.44	1	1.84	2.76	Instr., Hobby,
B225T	N32T	225 MAH	Button	0.992 Diam. x 0.363	Solder Tabs –, +1.25		0.45	1	2.04	3.06	Trans. Dev., Misc.
BH225	N33	225 MAH	Button	0.992 Diam. x 0.358	Flat Contacts –, +1.25		0.46	1	1.87	2.50	
BH225T	N33T	225 MAH	Button	0.992 Diam. x 0.370	Solder Tabs –, +1.25		0.47	1	1.28	2.80	
CF225	—	225 MAH	Cylindrical	0.675 Diam. x 0.646	Flat Contacts –, +1.25		0.40	1	1.48	1.90	
CF225T	—	225 MAH	Cylindrical	0.675 Diam. x 0.652	Solder Tabs –, +1.25		0.41	1	1.41	2.20	Recording Dev.
CH225	—	225 MAH	Cylindrical	0.675 Diam. x 0.646	Flat Contacts –, +1.25		0.40	1			
CH225T	—	225 MAH	Cylindrical	0.675 Diam. x 0.652	Solder Tabs –, +1.25		0.41	1	1.61	2.10	
B400	—	400 MAH	Button	0.992 Diam. x 0.571	Flat Contacts –, +1.25		0.66	1	2.43	2.40	
B400T	—	400 MAH	Button	0.992 Diam. x 0.583	Solder Tabs –, +1.25		0.66	1	2.63	3.65	
B450	N36	450 MAH	Button	1.697 Diam. x 0.315	Flat Contacts –, +1.25		1.16	1	1.88	3.95	
B450T	N36T	450 MAH	Button	1.697 Diam. x 0.327	Solder Tabs –, +1.25		1.16	1			
CF450	—	450 MAH	Cylindrical	0.675 Diam. x 1.116	Flat Contacts –, +1.25		0.71	1	2.58	3.86	
CF450T	—	450 MAH	Cylindrical	0.675 Diam. x 1.122	Solder Tabs –, +1.25		0.72	1	2.78	4.16	
CH450	—	450 MAH	Cylindrical	0.675 Diam. x 1.116	Flat Contacts –, +1.25		0.71	1	2.33	3.50	Instr., Hobby,
CH450T	—	450 MAH	Cylindrical	0.675 Diam. x 1.122	Solder Tabs –, +1.25		0.72	1	2.53	3.80	Trans. Dev., Misc
BH500	N38	500 MAH	Button	1.360 Diam. x 0.394	Flat Contacts –, +1.25		1.0	1	2.27	3.40	
BH500T	N38T	500 MAH	Button	1.360 Diam. x 0.416	Solder Tabs –, +1.25		1.0	1	2.47	3.70	
CF500	—	500 MAH	Cylindrical "AA"	0.563 Diam. x 1.974	Flat Contacts –, +1.25		0.8	1	2.20	3.30	
CF500T	—	500 MAH	Cylindrical "AA"	0.563 Diam. x 1.969	Solder Tabs –, +1.25		0.8	1	2.40	3.60	
CH500	—	500 MAH	Cylindrical "AA"	0.563 Diam. x 1.969	Flat Contacts –, +1.25		0.8	1	2.00	3.00	Port. Tools
CH500T	—	500 MAH	Cylindrical "AA"	0.563 Diam. x 1.974	Solder Tabs –, 1.25		0.8	1	2.20	3.30	
1007	1007	4 AH	Pack	6-13/32 x 3-7/32 x 3-1/8	Socket –, +10	3	13.0	1	55.20	82.75	
1807		—	Charger	—	—	2	12	1	13.28	19.95	Charger
07867		—	Cable	—	—		6	1	1.33	2.00	Cable

B = Button C = Cylindical R = Rectangular
F = Fast Charge H = High Rate

Items with suffix T have tabs enabling the user to solder leads to battery without damage. Leads must not be soldered directly to the battery case

ALKALINE SECONDARY BATTERIES

560	2.5 AH*	Pack	2-21/32 x 1-17/32 x 7-5/32	Socket –, +7.5	1	9.0	1	5.29	7.95	Electr. Dev.
561	5 AH*	Pack	8-5/16 x 2-13/16 x 5-7/8	Socket –, +15	6	—	1	11.29	16.95	
563	2.5 AH*	Cylindrical	1-23/64 Diam. x 7-5/32	Flat Contacts –, +4.5		15.0	3	3.00	4.50	Micro Television
564	5 AH*	Pack	8-5/16 x 2-13/16 x 5-7/8	Socket –, +13.5	5	8.0	1	10.99	16.50	
565	5 AH*	Pack	2-25/32 x 2-25/32 x 5-11/32	Socket –, +6	2	8.0	1	5.29	7.95	Toy Car

*At the 4 hour rate

LEAD ACID BATTERIES

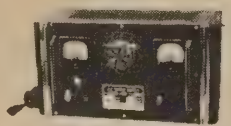
NP3.5-6/T	3.5 AH	Pack	2-25/32 x 1-7/8 x 4-5/32	Solder Tabs –, +6	1	10.0	1	12.94	18.50	Appliances, Instr., Misc
NP3.5-6/TW	3.5 AH	Pack	2-25/32 x 1-7/8 x 4-5/32	Wire Leads –, +6	1	10.0	1	13.29	18.98	
NP6-6/T	6 AH	Pack	4-1/2 x 2-1/16 x 3-21/32	Solder Tabs –, +6	2	3.0	1	18.83	26.95	
NP8-6/T	8 AH	Pack	6 x 2 x 3-7/8	Solder Tabs –, +6	3	6.0	1	20.55	29.50	
NP1-12/T	1 AH	Pack	5-5/16 x 1-3/8 x 2-17/32	Solder Tabs –, +12	1	4.0	1	9.20	15.50	
RZ6.05	—	Charger	—	—	1	8	1	16.49	23.75	Chargers
RZ6.1	—	Charger	—	—	1	6	1	23.25	33.50	

††These complete line specifications contain the basic data on all "Eveready" batteries in production at the time of preparation. Since the characteristics of individual batteries are sometimes modified, manufacturers who are designing their product to use a particular battery should contact the nearest Union Carbide Consumer Products Division Sales Office for verification of specifications.

© United Technical Publications

GATES POWER SUPPLIES

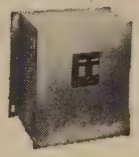
SILICON POWER RECTIFIER



For transistor circuits & electronic equipment
MODEL G92F

INPUT: 115 volts AC 60 cycles, 1 phase
OUTPUT: 0-32 Volts DC, 0-10 Amperes D.C. continuous duty
REGULATION: No load to full load 15%
RIPPLE: Less than 0.3% RMS
METERS: 2% Accuracy
DIMENSIONS: 17" x 9" x 9"
PRICE: $169.50 NET
*Also available in 5 Amperes
PRICE: $114.50 NET

INDUSTRIAL POWER UNITS



MODEL A10

INPUT 115 or 230 AC Volts, 60 cycles—Single Phase.
DC OUTPUT 115 Volts DC 125 Watts
APPLICATION: Power sources for operating DC Motors, Relays, Solenoids, Magnetic Chucks.
DIMENSIONS: 11" H x 9" W x 6½" D
PRICE $63.00 NET
250 Watts — $72.50

SILICON RACK MOUNT SUPPLY



MODEL #GX30-10

INPUT: 115 Volts AC 60 Cycles, Single Phase
OUTPUT: 26, 28, 30 Volts DC 0-10 Amperes Continuous Duty
REGULATION: 10% No Load to Full Load
RIPPLE: 0.3% RMS
DIMENSIONS: 8¾" H x 19" W x 10" D
PRICE: $137.50 NET

SELENIUM POWER SUPPLY



MODEL G48-6FM

INPUT: 115 Volts AC 60 Cycles—Single Phase
OUTPUT: 0-48 Volts DC, 0-6 Amperes
CONTROL: Continuously variable over entire range
RIPPLE: 1% RMS
DIMENSIONS: 19" W x 13" D x 10½" H, Fits RETMA, Western Electric racks
PRICE: $190.00 NET

SILICON POWER SUPPLY



MODEL #GS 14-15F

INPUT: 115 Volts AC, 1 Phase, 60 cycles
OUTPUT: 0-14 Volts DC, 0-15 Amperes, continuous duty
RIPPLE: Less than 1% RMS
METER ACCURACY: 2%
DIMENSIONS: 9" H x 17½" W x 9" D
PRICE: $159.50 NET
Rack Model Same Price

AIRCRAFT BATTERY ELIMINATOR



MODEL #G101F

INPUT: 115 Volts AC 60 cycles, single phase
OUTPUT: 0-32 Volts DC, 0-20 Amperes, continuous duty
RIPPLE: 0.5% RMS
Unique overload device prevents needle slam and shows overload condition
REGULATION: D.C.V. at full load: 30
D.C.V. at 1/10 load: 35
METERS: 2% Accuracy
DIMENSIONS: 19" x 14¼" x 12¼"
PRICE: $275.00 NET
May be used for Rack or Bench

ECONOMY RANGE DC POWER SUPPLIES — Less Than 1% Ripple · Good Regulation · Rack Mount Type · Heavy Duty Construction · Powerstat · Fused 2% Meters · 115 Vac Input

MODEL GT 12-5:	Output 0.12V,	5A	$ 80.
MODEL GT 12-10:	Output 0-12V,	10A	$ 130.
MODEL GT 12-15:	Output 0-12V,	15A	$ 145.
MODEL GT 12-25:	Output 0-12V,	25A	$ 154.
MODEL GT 12-100:	Output 0-12V,	100A	$ 395.
MODEL GT 14-5:	Output 0-14V,	5A	$ 120.
MODEL GT 14-15:	Output 0-14V,	15A	$ 135.
MODEL GT 14-20:	Output 0-14V,	20A	$ 145.
MODEL GT 14-30:	Output 0-14V,	30A	$ 276.
MODEL GT 14-40:	Output 0-14V,	40A	$ 285.
MODEL GT 14-50:	Output 0-14V,	50A	$ 350.
MODEL GT 14-75:	Output 0-14V,	75A	$ 375.
MODEL GT 14-100:	Output 0-14V,	100A	$ 425.
MODEL GT 16-5:	Output 0-16V,	5A	$ 85.
MODEL GT 16-10:	Output 0-16V,	10A	$ 90.
MODEL GT 16-25:	Output 0-16V,	25A	$ 155.
MODEL GT 16-30:	Output 0-16V,	30A	$ 195.
MODEL GT 16-40:	Output 0-16V,	40A	$ 260.
MODEL GT 16-50:	Output 0-16V,	50A	$ 370.
MODEL GT 16-70:	Output 0-16V,	70A	$ 390.
MODEL GT 16-80:	Output 0-16V,	80A	$ 405.
MODEL GT 28-5:	Output 0-28V,	5A	$ 90.
MODEL GT 28-12:	Output 0-28V,	12A	$ 169.
MODEL GT 28-24:	Output 0-28V,	24A	$ 275.
MODEL GT 32-5:	Output 0-32V,	5A	$ 105.
MODEL GT 32-8:	Output 0-32V,	8A	$ 149.
MODEL GT 32-12:	Output 0-32V,	12A	$ 179.
MODEL GT 32-15:	Output 0-32V,	15A	$ 194.
MODEL GT 32-24:	Output 0-32V,	24A	$ 295.
MODEL GT 32-30:	Output 0-32V,	30A	$ 325.
MODEL GT 32-50:	Output 0-32V,	50A	$ 425.
MODEL GT 32-60:	Output 0-32V,	60A	$ 561.
MODEL GT 48-5:	Output 0-48V,	5A	$ 138.
MODEL GT 48-10:	Output 0-48V,	10A	$ 164.
MODEL GT 48-15:	Output 0-48V,	15A	$ 170.
MODEL GT 48-25:	Output 0-48V,	25A	$ 250.
MODEL GT 48-35:	Output 0-48V,	35A	$ 300.
MODEL GT 48-50:	Output 0-48V,	50A	$ 350.
MODEL GT 48-60:	Output 0-48V,	60A	$ 425.
MODEL GT 48-80:	Output 0-48V,	80A	$ 500.
MODEL GT 48-100:	Output 0-48V,	100A	$ 550.
MODEL GT 80-5:	Output 0-80V,	5A	$ 220.
MODEL GT 80-10:	Output 0-80V,	10A	$ 275.
MODEL GT 80-20:	Output 0-80V,	20A	$ 450.
MODEL GT 80-50:	Output 0-80V,	50A	Inquire
MODEL GT 80-100:	Output 0-80V,	100A	Inquire
MODEL GT 115-5:	Output 0-115V,	5A	$ 240.
MODEL GT 115-10:	Output 0-115V,	10A	$ 260.
MODEL GT 115-15:	Output 0-115V,	15A	$ 280.
MODEL GT 115-20:	Output 0-115V,	20A	$ 310.
MODEL GT 115-25:	Output 0-115V,	25A	$ 350.
MODEL GT 115-30:	Output 0-115V,	30A	$ 390.
MODEL GT 115-40:	Output 0-115V,	40A	$ 490.
MODEL GT 115-50:	Output 0-115V,	50A	$ 560.
MODEL GT 115-60:	Output 0-115V,	60A	$ 660.
MODEL GT 115-70:	Output 0-115V,	70A	$ 700.
MODEL GT 120-5:	Output 0-120V,	5A	$ 277.
MODEL GT 130-2:	Output 0-130V,	2A	$ 124.
MODEL GT 130-5:	Output 0-130V,	5A	$ 223.
MODEL GT 130-10:	Output 0-130V,	10A	$ 286.
MODEL GT 200-10:	Output 0-220V,	10A	$ 382.

3 PHASE MODEL POWERSTAT METERS

MODEL GP 125-40:	Output	40A, 0-125V	Inquire
MODEL GP 125-80:	Output	80A, 0-125V	Inquire
MODEL GP 125-125:	Output	125A, 0-125V	Inquire
MODEL GP 250-15:	Output	15A, 0-250V	Inquire
MODEL GP 250-25:	Output	25A, 0-250V	Inquire
MODEL GP 250-40:	Output	40A, 0-250V	Inquire
MODEL GP 250-75:	Output	75A, 0-250V	Inquire
MODEL GP 500-5:	Output	5A, 0-500V	Inquire
MODEL GP 500-10:	Output	10A, 0-500V	Inquire
MODEL GP 500-25:	Output	25A, 0-500V	Inquire
MODEL GP 500-35:	Output	35A, 0-500V	Inquire

LOW-COST BASIC/OEM SUPPLIES

MODEL L6.3-30	6.3VDC @ 30A/1%	$ 125.
MODEL L12-12	12VDC @ 12A/Rip. 1Mv/.01%	$ 180.
MODEL L12-15	12VDC @ 15A/1%	$ 170.
MODEL L12-24	12VDC @ 24Amp.	$ 100.
MODEL L12-24	12VDC @ 24A/1%	$ 144.
MODEL L12-50	12VDC @ 50Amp.	$ 133.
MODEL L12-50	12VDC @ 50A/Rip. 1%	$ 223.
MODEL L24-30	24VDC @ 30A/Rip. 1%	$ 313.
MODEL L28-1	28VDC @ 1A/0.5%	$ 55.
MODEL L28-2	28VDC @ 1A/Rip. .05%	$ 65.
MODEL L28-5	28VDC @ 5Amp.	$ 85.
MODEL L28-8	28VDC @ 8Amp.	$ 110.
MODEL L28-12	28VDC @ 12Amp.	$ 120.
MODEL L28-24	28VDC @ 24Amp. (N.F.)	$ 115.
MODEL L28-24	28VDC @ 24Amp.	$ 180.
MODEL L28-30	28VDC @ 30Amp.	$ 313.
MODEL L28-50	28VDC @ 50Amp. (N.F.)	$ 205.
MODEL L28-50	28VDC @ 50Amp.	$ 285.
MODEL L28-50	28VDC @ 50Amp. —1% R.	$ 403.
MODEL L28-100	28VDC @ 50Amp. —1% R.	$ 418.
MODEL L115-2.5	115VDC @ 2.5A	$ 85.
MODEL L115-5	115VDC @ 5A	$ 124.
MODEL L115-10	115VDC @ 10A (N.F.)	$ 188.
MODEL L115-10	115VDC @ 10A	$ 340.
MODEL L220-5	220VDC @ 5A	$ 223.
MODEL L220-10	220VDC @ 10A	$ 340.
MODEL L440-5	440VDC @ 5A	$ 349.

(N.F.) means not filtered

12 VOLT POWER SUPPLIES — 1% Ripple

MODEL GS 12-1,	Output 1A, 12V	$ 35.00
MODEL GS 12-3,	Output 3A, 12V	$ 55.00
MODEL GS 12-5,	Output 5A, 12V	$ 65.00
MODEL GS 12-10,	Output 10A, 12V	$ 85.00
MODEL GS 12-15,	Output 15A, 12V	$130.00
MODEL GS 12-20,	Output 20A, 12V	$150.00
MODEL GS 12-25,	Output 25A, 12V	$170.00
MODEL GS 12-30,	Output 30A, 12V	$190.00

PRICES SUBJECT TO CHANGE

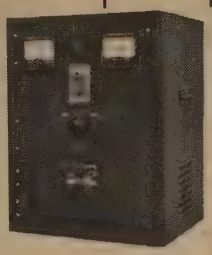
GATES ELECTRONIC COMPANY, INC.

Net

© United Technical Publications

ALL TYPES OF POWER SUPPLIES

SILICON POWER RECTIFIER
Model G50-50R



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-50 volts DC, 0-50 amperes continuous duty

RIPPLE: .3% RMS

REGULATION: No Load to Full Load 8%

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

SILICON INDUSTRIAL POWER UNIT
Model G30-100

INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-100 amperes continuous duty

RIPPLE: .3% RMS

REGULATION: 5-8% 1/10th load to full load with constant input and at maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

SILICON AIRCRAFT BATTERY ELIMINATOR
Model G30-200



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-200 amperes continuous duty also avail. 300A

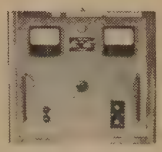
RIPPLE .5% RMS

REGULATION: 5-8% 1/10th load to full load with constant input and maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 25" x 25" x 43"

SILICON REGULATED POWER SUPPLY
Model G530-40M



INPUT: 115 Volts AC, 60 cycles, 1 phase

OUTPUT: 5-30 Volts DC, 0-40 amperes

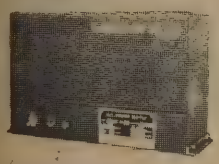
RIPPLE: 1% RMS

REGULATION: ±1% from no load to full load

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" 19"

SILICON POWER SUPPLY



MODEL GX 30-5

INPUT: 115 Volts AC 60 cycles, single phase

OUTPUT: 28-30-32 Volts DC, 0-5 Amperes, DC Continuous Duty

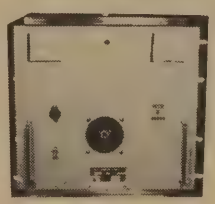
REGULATION: 12% No Load to Full Load

RIPPLE: .5% RMS

DIMENSIONS: 5" W x 13½" L x Overall Height 9"

PRICE: $85.00 — 6 Amps $95.00

SILICON GENERAL PURPOSE RECTIFIER



MODEL G-115

INPUT: 115 Volts AC 60 cycles, 1 Phase

OUTPUT: 0-32 Volts DC, 0-50 Amperes DC, Continuous duty variable over entire range

RIPPLE: 1% RMS

DIMENSIONS: 22"H x 19"W x 15"D

PRICE: $522.00 NET

DC POWER SUPPLY



MODEL G94F

INPUT: 115 Volts AC 60 cycles, 1 Phase DC

OUTPUT: 0-300 Volts DC Continuous Variable 0-1 Amperes.

RIPPLE: 3 MV RMS

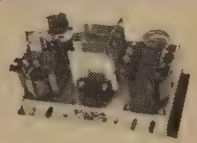
DIMENSIONS: Rack 8¾" H x 19" L x 9½" D

CABINET: 10½"Hx22"Lx12"D

PRICE: $275.00

Also 0-2 Amp. **PRICE:** $340.00

SILICON POWER SUPPLY



MODEL GX30-20

INPUT: 115 Volts, 1 Phase, 60 cycles

OUTPUT: 0-34, Volts, DC 0-20 Amperes, continuous duty

REGULATION: No load to full load: 18%

RIPPLE: Below 1% Silicon Rectifiers, High Efficiency

DIMENSIONS: 10" x 17" x 3"

PRICE: $185.00 NET

3 PHASE — BENCH MODEL PLATING SUPPLIES

MODEL GL 6-50	6V	50A	$204.00
MODEL GL 9-50	9V	50A	$212.00
MODEL GL 12-50	12V	50A	$220.00
MODEL GL 18-50	18V	50A	$236.00
MODEL GL 6-75	6V	75A	$256.00
MODEL GL 9-75	9V	75A	$264.00
MODEL GL 12-75	12V	75A	$276.00
MODEL GL 18-75	18V	75A	$292.00
MODEL GL 6-100	6V	100A	$268.00
MODEL GL 9-100	9V	100A	$284.00
MODEL GL 12-100	12V	100A	$300.00
MODEL GL 18-100	18V	100A	$316.00
MODEL GL 6-150	6V	150A	$300.00
MODEL GL 9-150	9V	150A	$328.00
MODEL GL 12-150	12V	150A	$352.00
MODEL GL 18-150	18V	150A	$372.00
MODEL GL 6-200	6V	200A	$330.00
MODEL GL 9-200	9V	200A	$352.00
MODEL GL 12-200	12V	200A	$372.00
MODEL GL 6-250	6V	250A	$372.00
MODEL GL 9-250	9V	250A	$396.00
MODEL GL 12-250	12V	250A	$460.00

24 VOLT POWER SUPPLIES — Rack Type — 1% Ripple

MODEL G 24-6R	24VDC	6A	$ 95.00
MODEL G 24-15R	24VDC	15A	$105.00
MODEL G 24-25R	24VDC	25A	$125.00
MODEL G 24-50R	24VDC	50A	$210.00

PRICES SUBJECT TO CHANGE

GR LINE REGULATED POWER SUPPLIES — 2% Meters 1% Ripple

MODEL GR 12-5	0-12V	5A	$120.00
MODEL GR 12-10	0-12V	10A	$155.00
MODEL GR 12-20	0-12V	20A	Inquire
MODEL GR 12-30	0-12V	30A	$175.00
MODEL GR 16-5	0-16V	5A	$175.00
MODEL GR 16-10	0-16V	10A	$125.00
MODEL GR 8-10	0-8V	10A	$155.00
MODEL GR 28-5	0-28V	5A	$ 95.00
MODEL GR 14-5	0-14V	5A	$125.00
MODEL GR 32-4	0-32V	4A	$ 79.00
MODEL GR 16-8	0-16V	8A	$135.00
MODEL GR 32-15	0-32V	15A	$225.00
MODEL GR 55-10	0-55V	10A	$210.00
MODEL GR 125-1	0-125V	1A	$375.00
MODEL GR 125-5	0-125V	5A	$215.00
MODEL GR 125-10	0-125V	10A	$485.00

INDUSTRIAL POWER UNITS — SINGLE PHASE

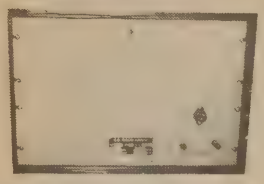
MODEL GK 115-125A	Output 115V	125W	Input 115V	$ 63.00
MODEL GK 115-125B	Output 115V	125W	Input 230V	$ 63.00
MODEL GK 115-125C	Output 115V	125W	Input 440V	$ 63.00
MODEL GK 115-250A	Output 115V	250W	Input 115V	$ 72.50
MODEL GK 115-250B	Output 115V	250W	Input 230V	$ 72.50
MODEL GK 115-250C	Output 115V	250W	Input 440V	$ 72.50
MODEL GK 115-375A	Output 115V	375W	Input 115V	$ 89.00
MODEL GK 115-375B	Output 115V	375W	Input 230V	$ 89.00
MODEL GK 115-375C	Output 115V	375W	Input 440V	$ 89.00
MODEL GK 115-500A	Output 115V	500W	Input 115V	$105.00
MODEL GK 115-500B	Output 115V	500W	Input 230V	$105.00
MODEL GK 115-500C	Output 115V	500W	Input 440V	$105.00
MODEL GK 115-750A	Output 115V	750W	Input 115V	$130.00
MODEL GK 115-750B	Output 115V	750W	Input 230V	$130.00
MODEL GK 115-750C	Output 115V	750W	Input 440V	$130.00
MODEL GK 115-1000A	Output 115V	1000W	Input 115V	$150.00
MODEL GK 115-1000B	Output 115V	1000W	Input 230V	$150.00
MODEL GK 115-1000C	Output 115V	1000W	Input 440V	$150.00
MODEL GK 230-125A	Output 230V	125W	Input 115V	$ 67.00
MODEL GK 230-125A	Output 230V	125W	Input 230V	$ 67.00
MODEL GK 230-125C	Output 230V	125W	Input 440V	$ 67.00
MODEL GK 230-250A	Output 230V	250W	Input 115V	$ 75.00
MODEL GK 230-250B	Output 230V	250W	Input 230V	$ 75.00
MODEL GK 230-250C	Output 230V	250W	Input 440V	$ 75.00
MODEL GK 230-375A	Output 230V	375W	Input 115V	$110.00
MODEL GK 230-375B	Output 230V	375W	Input 230V	$110.00
MODEL GK 230-375C	Output 230V	375W	Input 440V	$110.00
MODEL GK 230-500A	Output 230V	500W	Input 115V	$115.00
MODEL GK 230-500B	Output 230V	500W	Input 230V	$115.00
MODEL GK 230-500C	Output 230V	500W	Input 440V	$115.00
MODEL GK 230-750A	Output 230V	750W	Input 115V	$172.00
MODEL GK 230-750B	Output 230V	750W	Input 230V	$172.00
MODEL GK 230-750C	Output 230V	750W	Input 440V	$172.00
MODEL GK 230-1000A	Output 230V	1000W	Input 115V	$180.00
MODEL GK 230-1000B	Output 230V	1000W	Input 230V	$180.00
MODEL GK 230-1000C	Output 230V	1000W	Input 440V	$180.00

GATES
ELECTRONIC COMPANY, INC.

© United Technical Publications

GATES POWER SUPPLIES

MODEL G230-25



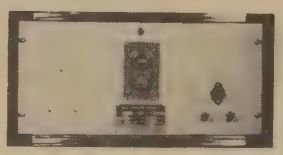
INPUT: 208/440, 3ph 60 cy
OUTPUT: 230 @ 25A
RIPPLE: 4.5%
REGULATION: 1/10 Load 8%
METERS: None
DIMENSIONS: 21" W x 15" D x 14" H
PRICE: $575.00
METERS $50.00 EXTRA

MODEL G12-250



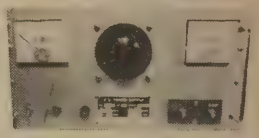
INPUT: 208, 3ph 60 cy
OUTPUT: 0-12V @ 250A
RIPPLE: 4.5%
REGULATION: 1/10 Load 8%
METERS: YES
DIMENSIONS: 20" W x 20" D x 35" H
PRICE: $575.00

MODEL G220-10



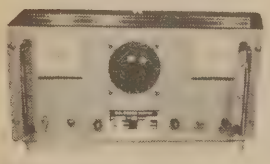
INPUT: 115VAC
OUTPUT: 220VDC @ 10A
RIPPLE: 48%
METERS: NONE
DIMENSIONS: 21" W x 15" D x 10" H
PRICE: $425.00
METERS $50.00 EXTRA

SILICON INDUSTRIAL POWER UNIT
MODEL G30-40F



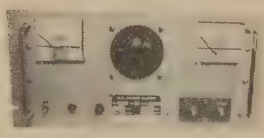
INPUT: 115 Volts AC, 60 cycles, single phase.
OUTPUT: 0-32 Volts DC, 0-40 Amperes DC, continuous duty
RIPPLE: 1% RMS
DIMENSIONS: 12¼"H x 19"W x 13"D
REGULATION: D.C.V. at full load: 32 minimum D.C.V. at 1/10 load: 35 maximum
PRICE: $425.00

MODEL GT125-5F



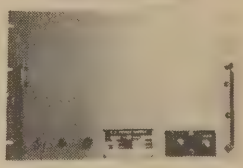
INPUT: 115VAC
OUTPUT: 0-125 @ 5A
RIPPLE: 0.5%
REGULATION: UNREGULATED
METERS: YES
DIMENSIONS: 21" W x 15" D x 10½" H
PRICE: $325.00

MODEL GT14-40



INPUT: 115VAC
OUTPUT: 0-14 @ 40A
RIPPLE: 0.1%
REGULATION: UNREGULATED
METERS: YES
DIMENSIONS: 19" W x 13½" D x 8-3/6" H
PRICE: $275.00 — RACK MOUNTED

MODEL GX28-50



INPUT: 115VAC
OUTPUT: 28 @ 50A
RIPPLE: 0.5%
REGULATION: UNREGULATED
METERS: NONE
DIMENSIONS: 19" W x 13½" D x 12¼" H
PRICE: $325.00 — RACK MOUNTED

MODEL G45-30



INPUT: 115VAC
OUTPUT: 45, 42, 40, 36, 32, 30, 29, 28, 26 @ 30A
RIPPLE: 1%
REGULATION: FAN COOLED
METERS: 5%
DIMENSIONS: 19" W x 10" D x 8-3/6" H
PRICE: $375.00



MODEL GT20-200

INPUT: 220 VAC 60 cy. 1 Phase
OUTPUT: 0-22 VDC @ 200A
RIPPLE: 1%
CABINET: 35" x 20" x 20"
METERS: VOLT & AMP.
PRICE $625.00

NEW SCR REGULATED POWER SUPPLIES



GCR32-30 115VAC 24-32 @ 30A 1% ±1% Meters 19"Wx17"Dx12¼"H
PRICE: $550.00 — Cabinet $25.00 more

GCR32-25 115VAC 24-32 @ 25A 1% ±1% Meters 19"Wx17"Dx12¼"H
PRICE: $505.00 — Cabinet $25.00 more

GCR32-20 115VAC 24-32 @ 20A 1% ±1% Meters 19"Wx17"Dx10¼"H
PRICE: $475.00 — Cabinet $25.00 more

HIGH VOLTAGE DC POWER SUPPLIES

1% Ripple - Good Regulation - Cabinets - Meters - Heavy Duty Construction - Powerstat - Fused 1% Meters - 115 Vac Input Heavy Duty Line Cord.

MODEL GP	32-5	Input 115V, 60c, 1ph.	Output 0-32V	@	5A	.....$ Inquire
MODEL GP	32-10	Input 115V, 60c, 1ph.	Output 0-32V	@	10A	.....$ Inquire
MODEL GP	32-20	Input 115V, 60c, 1ph.	Output 0-32V	@	20A	.....$ Inquire
MODEL GP	32-40	Input 115V, 60c, 1ph.	Output 0-32V	@	40A	.....$ Inquire
MODEL GP	32-100	Input 220V, 60c, 3ph.	Output 0-32V	@	100A	....$ Inquire
MODEL GP	32-150	Input 220V, 60c, 3ph.	Output 0-32V	@	150A	....$ Inquire
MODEL GP	60-6	Input 115V, 60c, 1ph.	Output 0-60V	@	6A	.....$ Inquire
MODEL GP	60-10	Input 115V, 60c, 1ph.	Output 0-60V	@	10A	.....$ Inquire
MODEL GP	60-12	Input 115V, 60c, 1ph.	Output 0-60V	@	12V..	....$ Inquire
MODEL CP	60-20	Input 115V, 60c, 1ph.	Output 0-60V	@	20A	.....$ Inquire
MODEL GP	60-50	Input 220V, 60c, 3ph.	Output 0-60V	@	50A	.....$ Inquire
MODEL GP	60-80	Input 220V, 60c, 3ph.	Output 0-60V	@	80A	.....$ Inquire
MODEL GP	60-250	Input 220V, 60c, 3ph.	Output 0-60V	@	250A	....$ Inquire
MODEL GP	125-2.5	Input 117V, 60c, 1ph.	Output 0-125V	@	2.5A	....$ Inquire
MODEL GP	125-3	Input 117V, 60c, 1ph.	Output 9-124V	@	3A	.....$ Inquire
MODEL GP	125-5	Input 117V, 60c, 1ph.	Output 0-125V	@	5A	.....$ Inquire
MODEL GP	125-10	Input 117V, 60c, 1ph.	Output 0-125V	@	10A	.....$ Inquire
MODEL GP	125-20	Input 117V, 60c, 1ph.	Output 0-124V	@	20A	.....$ Inquire
MODEL GP	125-24	Input 220V, 60c, 3ph.	Output 0-125V	@	24A	.....$ Inquire
MODEL GP	125-40	Input 220V, 60c, 3ph.	Output 0-125V	@	40A	.....$ Inquire
MODEL GP	125-80	Input 220V, 60c, 3ph.	Output 0-125V	@	80A	.....$ Inquire
MODEL GP	125-120	Input 220V, 60c, 3ph.	Output 0-125V	@	120A	....$ Inquire
MODEL GP	250-5	Input 117V, 60c, 1ph.	Output 0-250V	@	5A	.....$ Inquire
MODEL GP	250-10	Input 117V, 60c, 1ph.	Output 0-250V	@	10A	.....$ Inquire
MODEL GP	250-12	Input 220V, 60c, 3ph.	Output 0-250V	@	12A	.....$ Inquire
MODEL GP	250-20	Input 220V, 60c, 3ph.	Output 0-250V	@	20A	.....$ Inquire
MODEL GP	250-40	Input 220V, 60c, 3ph.	Output 0-250V	@	40A	.....$ Inquire
MODEL GP	250-60	Input 220V, 60c, 3ph.	Output 0-250V	@	60A	.....$ Inquire
MODEL GP	300-1	Input 220V, 60c, 3ph.	Output 0-250V	@	1A	.....$ 275
MODEL GP	300-1.5	Input 220V, 60c, 3ph.	Output 0-250V	@	1.5A	....$ 310
MODEL GP	300-2	Input 220V, 60c, 3ph.	Output 0-250V	@	2A	.....$ 350
MODEL GP	300-3	Input 220V, 60c, 3ph.	Output 0-250V	@	3A	.....$ 450
MODEL GP	300-5	Input 220V, 60c, 3ph.	Output 0-250V	@	5A	.....$ 645
MODEL GP	500-1	Input 220V, 60c, 3ph.	Output 0-500V	@	1A	.....$ 305
MODEL GP	500-1.5	Input 220V, 60c, 3ph.	Output 0-500V	@	1.5A	....$ 360
MODEL GP	500-2	Input 220V, 60c, 3ph.	Output 0-500V	@	2A	.....$ 425
MODEL GP	500-3	Input 220V, 60c, 3ph.	Output 0-500V	@	3A	.....$ 525
MODEL GP	500-5	Input 220V, 60c, 3ph.	Output 0-500V	@	5A	.....$ 725
MODEL GP	500-5	Input 220V, 60c, 3ph.	Output 0-500V	@	5A	.....$ Inquire
MODEL GP	500-10	Input 220V, 60c, 3ph.	Output 0-500V	@	10A	.....$ Inquire
MODEL GP	500-20	Input 220V, 60c, 3ph.	Output 0-500V	@	20A	.....$ Inquire
MODEL GP	500-30	Input 220V, 60c, 3ph.	Output 0-500V	@	30A	.....$ Inquire

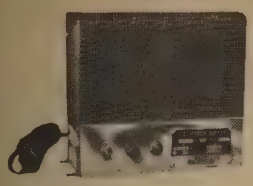
GATES ELECTRONIC COMPANY, INC.

SILICON RECTIFIERS FOR EXITATION OF SYNCHRONOUS MOTORS. HEAVY DUTY, INDUSTRIAL CONSTRUCTION. PROVEN IN USE.

3.5	KW 125 DCV	28 DCA	.....	$ Inquire
5	KW 125 DCV	40 DCA	.....	$ Inquire
7	KW 125 DCV	56 DCA	.....	$ Inquire
10	KW 125 DCV	80 DCA	.....	$ Inquire
22	KW 125 DCV	168 DCA	.....	$ Inquire
55	KW 125 DCV	440 DCA	.....	$ Inquire

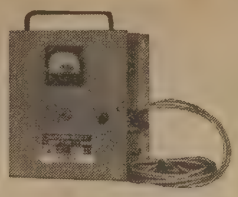
Net
© United Technical Publications

HIGHEST QUALITY-LOWEST PRICE



SILICON POWER SUPPLY
Model GX24-1

INPUT: 115 Volts AC, 60 cycles, 1 phase
OUTPUT: 24 Volts DC, 0-1 ampere DC, continuous duty
RIPPLE: 0.3% RMS
REGULATION: 8% no load to full load
DIMENSIONS: 3" x 5" x 10"
PRICE: $75.00
0-2 Amps **PRICE: $85.00**

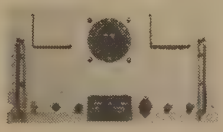


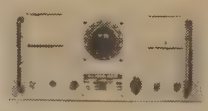
PORTABLE SILICON BATTERY CHARGER
Model G612-20

INPUT: 115 volts AC, 60 cycles, 1 phase
OUTPUT: 6/12 Volts DC, 20 amperes continuous duty
METER: Amp. meter 2% Accuracy
DIMENSIONS: 11"H x 9"W x 6½"D
PRICE: $57.50

SILICON RECTIFIER
Model GT32-30

INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 30 amperes, 0-32 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 1% RMS
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy volt meter, amp. meter
DIMENSIONS: 10½" x 13½" x 19"
PRICE: $350.00 — WT. 92 Lbs.





SILICON RECTIFIER
Model GT32-24

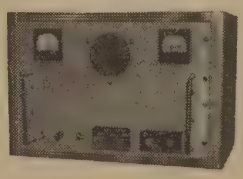
INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 24 amperes, 0-32 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 1%
VOLTAGE CONTROL: Powerstat
DIMENSIONS: 8¾" x 13½" x 19"
METERS: 2% Accuracy volt meter, amp. meter
PRICE: $325.00 — WT. 75 Lbs.

BENCH PLATING RECTIFIER
Model G50-8



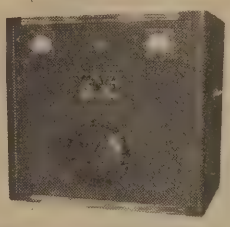
INPUT: 115 volts, 50-60 cycles, 1 phase
OUTPUT: 50 amperes, 0-8 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $75. extra
VOLTAGE CONTROL: Powerstat
METER: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21" x 15" x 10"
PRICE: $175.00

BENCH PLATING RECTIFIER
Model G100-8



INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 100 amperes, 0-8 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $75. extra
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21" x 15" x 10"
PRICE: $275.00

BENCH PLATING RECTIFIER
Model G200-6



INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 200 amperes, 0-6 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $100 extra
COOLING: Fan
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21" x 15" x 19"
PRICE: $385.00

BENCH PLATING RECTIFIER
Model G50-15



INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 50 amperes, 0-15 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $125 extra
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21" x 15" x 10"
PRICE: $210.00

MAGNETICALLY REGULATED D.C. POWER SUPPLIES

REGULATION: Line ±1% for ±15% line voltage change load ±2% for any load change between ½ load and full load. Ripple 1% RMS Maximum. Rack or cabinet types.

VOLTS	D.C. OUTPUT AMPS	VA	CATALOG NUMBER	LOAD REGULATION 20% F.L.	50% F.L.	PRICE
6	10	60	6GDCV10	9	7	$130.00
6	15	90	6GDCV15	9	7	140.00
12	5	60	12GDCV5	7	5	92.00
12	10	120	12GCDV10	7	5	120.00
12	15	180	12GDCV15	7	5	155.00
18	5	90	18GDCV5	5	4	96.00
18	10	180	18GDCV10	7	5	141.00
24	6	144	24GDCV6	5	4	116.00
24	10	240	24GDCV10	6	4	144.00
24	15	360	24GDCV15	5	4	200.00
24	25	600	24GDCV25	6	4	275.00
28	8	224	28GDCV8	6	4	144.00
28	15	420	28GDCV15	7	5	200.00
48	4	192	48GDCV4	3.5	2.5	109.00
48	4	480	48GDCV4	4	2	149.00
48	20	960	48GDCV20	3	2	223.00
125	2	250	125GDCV2	2.5	1.5	117.00
150	2	300	150GDCV2	2	1.5	117.00
150	1	200	200GDCV1	3	2	112.00
250	1	250	250GDCV1	3	2	120.00

A single source for all possible types of "brute" force" and regulated power supplies that can fill 90% of your design and application needs. Gates Power Supplies give you absolutely lowest cost and long life. The units are excellently constructed of high rated components for trouble free, years of service.

Silicon or Selenium. Single and three-phase units. 1 to 1000 volts, 1 to 1000 Amps. Metered and unmetered Static or variable outputs. Rack, cabinet or chassis mounts. Unit or hundred quantities 48 hour delivery. Two year guarantees. Power supplies for OEM Application, Testing Prototype, Lab type units, Plating, Motor Control, Cathode Protection, Transistor power, Anodizing, Battery Charging, Battery Conversions, Marine types, Aircraft Starting.

GATES

ELECTRONIC COMPANY, INC.

© United Technical Publications

AC VOLTAGE STABILIZERS

For Electronic and Electric Equipment

General Electric a-c voltage stabilizers are static-magnetic transformer-type products which provide voltage maintained within ±1% variation while input line voltage fluctuates ±15%. They are offered in the following variations:

Unfiltered output: output voltage waveform is relatively flat-topped, with harmonic content from 15 to 20%.

Harmonic filtered output: output voltage is filtered to near sinusoidal waveshape, with a maximum of 3% harmonic content.

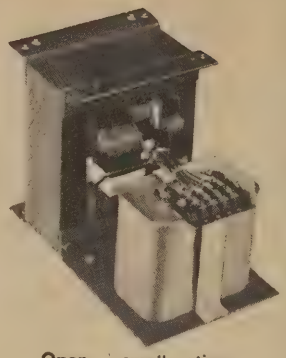
Enclosed construction: completely metal enclosed for safe external mounting.

Open construction: for installation within electronic or electric equipment.

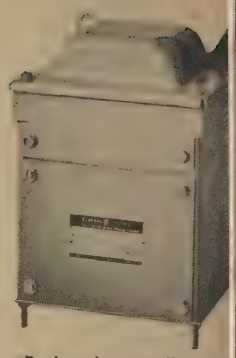
Cord/Receptacle units: for convenient temporary connections.

SINGLE PHASE — Magnetic-capacitor circuitry is frequency sensitive. Stabilizers designed for one frequency are not suitable for use on another.

THREE PHASE — Standard single-phase a-c voltage stabilizers can be connected for 3-phase, 4-wire loads with input connected delta. However, single-phase models cannot be connected for 3-phase, 3-wire loads: select from 3-phase delta-delta models.



Open — small ratings



Enclosed — small ratin

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Unfiltered Output Model Number	Unfiltered Output Sugg'd Net Price 1-9§	Harmonic Filtered Output Model Number	Harmonic Filtered Output Sugg'd Net Price 1-9§
SINGLE PHASE — ENCLOSED — FOR 60 HERTZ						
15	95-130	118	9T91Y4070	$18.39	.....	.....
30	95-130	118	9T91Y4090	21.05	.....	.....
60	95-130	118	9T91Y4110	27.78	.....	.....
120	95-130	118	9T91Y4130	38.22	.....	.....
250	95-130	118	9T91Y4140‡	63.80	9T91Y7140‡	$66.12
250	190-260	118	9T91Y4142‡	63.80	.....	.....
250	190-260X380-520	118/236	9T91Y4144‡	70.76	.....	.....
250	380-520	118	9T91Y4145‡	63.80	.....	.....
500	95-130	118	9T91Y4150‡	100.34	9T91Y7150‡	103.24
500	190-260	118	9T91Y4152‡	100.34	.....	.....
500	380-520	118	9T91Y4155‡	100.34	.....	.....
1000	95-130	118	9T91Y4170	153.70	9T91Y7170	158.34
1000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7173	178.06
1000	190-260	118	9T91Y4172	153.70	9T91Y7172	158.34
1000	190-260X380-520	118/236	.....	.....	9T91Y7174	175.16
1000	380-520	118	9T91Y4175	153.70	.....	.....
2000	95-130X175-235X190-260	118/236	9T91Y4183	307.98	9T91Y7183	323.06
2000	190-260X380-520	118/236	9T91Y4184	303.34	9T91Y7184	317.84
2000	380-520	236/472	9T91Y4186	294.64	.....	.....
3000	95-130X175-235X190-260	118/236	9T91Y4193	414.12	9T91Y7193	435.00
3000	190-260X380-520	118/236	9T91Y4194	405.42	.....	.....
3000	380-520	236/472	9T91Y4196	394.40	.....	.....
5000	190-260X380-520	118/236	9T91Y4204	624.66	9T91Y7204	658.00
5000	95-130X175-235X190-260	118/236	9T91Y4203	634.52	9T91Y7203	671.06
5000	380-520	236-472	9T91Y4206	605.52	.....	.....
7500	95-130X175-235X190-260	118/236	9T91Y4213	946.56	.....	.....
7500	190-260X380-520	118/236	9T91Y4214	928.00	9T91Y7214	1023.12
10000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7223	1356.62
10000	190-260X380-520	118/236	9T91Y4224	1212.20	9T91Y7224	1331.10
15000	190-260X380-520	118/236	9T91Y4244	1779.44	9T91Y7244	1963.30
SINGLE PHASE — OPEN — FOR 60 HERTZ						
15	95-130	118	9T91Y5070	$17.40	.....	.....
30	95-130	118	9T91Y5090	19.84	.....	.....
60	95-130	118	9T91Y5110	25.93	.....	.....
120	95-130	118	9T91Y5130	35.96	.....	.....
250	95-130	118	9T91Y5140	60.32	9T91Y8140	$62.06
250	190-260	118	9T91Y5142	60.32	.....	.....
500	95-130	118	9T91Y5150	94.54	9T91Y8150	96.28
500	190-260	118	9T91Y5152	94.54	.....	.....
750	95-130	118	9T91Y5160	118.90	9T91Y8160	122.96
1000	95-130	118	9T91Y5170	143.84	9T91Y8170	148.48
1000	190-260	118	9T91Y5172	143.84	9T91Y8172	148.48
1500	95-130	118	9T91Y5010	199.52	9T91Y8010	209.38
2000	95-130X175-235X190-260	118/236	9T91Y5183	288.84	9T91Y8183	303.34
SINGLE PHASE — ENCLOSED — FOR 50 HERTZ						
250	95-130	118	9T91Y4147‡	$73.66	9T91Y7147‡	$75.98
250	95-130X175-235X190-260	118/236	9T91Y4148‡	82.94	9T91Y7148‡	85.84
500	95-130X175-235X190-260	118/236	9T91Y4158	130.50	9T91Y7158	133.98
500	190-260X380-520	118/236	9T91Y4159	127.60	9T91Y7159	131.66
1000	95-130X175-235X190-260	118/236	9T91Y4178	199.52	9T91Y7178	205.90
2000	95-130X175-235X190-260	118/236	9T91Y4188	354.38	9T91Y7188	371.78
3000	95-130X175-235X190-260	118/236	9T91Y4198	476.18	9T91Y7198	499.38
5000	95-130X175-235X190-260	118/236	9T91Y4208	730.80	9T91Y7208	767.34
7500	95-130X175-235X190-260	118/236	9T91Y4218	1086.34	9T91Y7218	1194.80
7500	190-260X380-520	118/236	9T91Y4219	1068.36	9T91Y7219	1175.66

‡ Can be used with adapter kit for quick conversion to a cord and receptacle unit.

Freq.	VA	Input Voltage Range	Stabilized Output Voltage	Model Number	Sugg'd Net Price 1-9§
3 PHASE DELTA DELTA — ENCLOSED					
60	6000*	190 to 260/380 to 520 delta	230/236 delta	9T91Y3506	$1337.48
60	10000*	190 to 260 delta	236 delta	9T91Y3501G2	1927.92
50	10000*	190 to 260 delta	236 delta	9T91Y3510	2107.14

*Minimum recommended load 20% of rated; maximum harmonic content 5%.
§ OEM quantity prices available on request.

Cord/Receptacle Units

Integral single-phase units with a 2-prong cord set a female receptacle in the case.

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Model Number	Sugg'd N Price 1-9
ENCLOSED — UNFILTERED OUTPUT — FOR 60 HERTZ				
15	95-130	118	9T91Y4070G19	$21.05
30	95-130	118	9T91Y4090G19	23.72
60	95-130	118	9T91Y4110G19	30.33
120	95-130	118	9T91Y4130G19	40.95

Adapter kits are available for use with 250 and 5 volt-amp stabilizers to provide quick conversion to cord and receptacle unit.

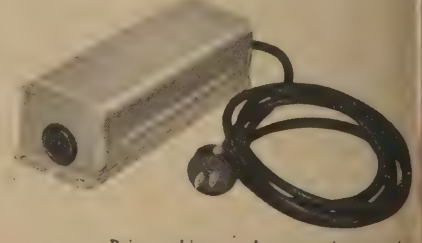
For Use With Stabilizer Model Number	Order Adapter Kit Model Number 2-prong	Order Adapter Kit Model Number 3-prong	Sugg'd N Price 1-9
9T91Y4140	9T91Y4140G55	9T91Y4140G75	
9T91Y4142	9T91Y4140G55	9T91Y4140G75	
9T91Y4144	9T91Y4140G55	9T91Y4140G75	2-prong
9T91Y4145	9T91Y4140G55	9T91Y4140G75	Kits
9T91Y4147	9T91Y4140G55	9T91Y4140G75	$2.67
9T91Y4148	9T91Y4140G55	9T91Y4140G75	
9T91Y4150	9T91Y4140G55	9T91Y4140G75	
9T91Y4152	9T91Y4140G55	9T91Y4140G75	
9T91Y4155	9T91Y4140G55	9T91Y4140G75	
9T91Y7140	9T91Y7140G55	9T91Y7140G75	3-prong
9T91Y7150	9T91Y7150G55	9T91Y7150G75	Kits
9T91Y7147	9T91Y7147G55	9T91Y7147G75	$3.31
9T91Y7148	9T91Y7147G55	9T91Y7147G75	

Filament Ratings—Single Phase—60 Hert

For stabilized power for 6-volt nominal filaments, thes stabilizers are suitable for operation with other 6-vo loads of rated or lower output current requirement Current-limiting characteristic protects cold filamen from high current surges.

Volt-amp Output Capacity	Input Voltage Range	Output Volts	Output Amps	Model Number	Sugg'd N Price 1-9
OPEN					
15	95-130	6	2.5	9T91Y365	$17.40
15	95-130	6.3	2.4	9T91Y367	17.40
31.5	95-130/190-260	6.3	5.0	9T91Y369	19.84
63	95-130/190-260	6.3	10.0	9T91Y370	25.93
94.5	95-130/190-260	6.3	15.0	9T91Y371	29.70
157.5	95-130/190-260	6.3	25.0	9T91Y372	43.50

Typical cord/receptacle unit



Prices subject to change without notice

GENERAL ELECTRIC

Net

© United Technical Publication

STABILTRON* AC VOLTAGE STABILIZERS

For Electronic and Electric Equipment Requiring PRECISE Voltage Control

General Electric Stabiltron a-c voltage stabilizers can be used in a wide variety of electronic equipment applications where precise control of voltage is required. The Stabiltron consists entirely of static components — there are no tubes to burn out or moving parts to replace or maintain.

The Stabiltron senses deviations from a predetermined output voltage level by an error detector. The error signal, through the silicon-controlled rectifier circuit, augments the voltage stabilizer action and provides almost instantaneous correction of output voltage.

Typical applications include computers, radar and communications equipment, industrial process control, and X-ray equipment.

Input Voltage — The most common power source voltages can be handled by the standard models listed. Stabiltron units can be provided for special voltage levels on request.

Output Voltage — Stabiltron voltage stabilizers maintain extremely precise voltage output in spite of wide fluctuations of line voltage, frequency, load, load power factor, and ambient temperatures.

The table below illustrates the effect on the output of the maximum steady state excursions, within rated limits of some of these variables.

TABLE 1 — TYPICAL OUTPUT VOLTAGE CHARACTERISTICS

Variable	Excursion	Output Voltage Bandwidth¶
Line voltage†	95 to 130	0.02 to 0.2%
Frequency	57 to 63 Hertz	0.15 to 0.4%
Load	0 to 100% rated load	0.02 to 0.1%
Load power factor	0.4 lagging to unity	0.01 to 0.1%
Ambient temperature	—25C to 40C	0.01%/degree C

¶ A range is indicated because exact amounts are dependent on the static level of other variables.

† When the Stabiltron unit is operated at less than rated load, the line voltage can be reduced considerably below 95 volts without serious deterioration of the output voltage.

Response — Under transient line or load conditions, elapsed time for correction of output voltage and transient excursion from the normal bandwidth are key considerations to equipment operation.

The Stabiltron provides fast response and small transient excursion through its unique combination of solid state and magnetic circuitry.

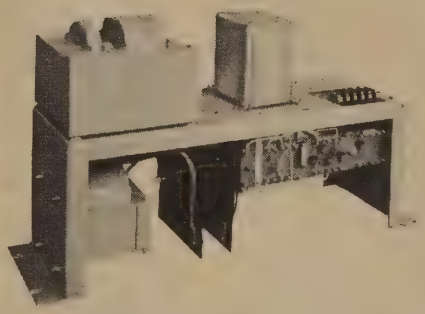
* Trade-name of General Electric Co.



ENCLOSED CONSTRUCTION - 2-kva units are suitable for either wall or floor mounting. 5- and 10-kva units can be floor mounted only.



PANEL CONSTRUCTION is suitable for standard 19-inch rack mounting.



OPEN CONSTRUCTION is suitable for horizontal or vertical mounting surfaces in equipment enclosures.

57-63CPS; 3% HARMONIC: 0.4 LAG TO UNITY LOAD PF

Kva	Model Number	Sugg'd Net Price 1-4 △	Input Voltage Range	Output Voltage (Adjustable ±4%)	Approx. Net Weight (Pounds)	Construction Type	Approx. Dim. (in.) H	W	D
0.5	9T91Y3021	$465.15	95-130/190-260	118	70	Panel	7	19	14¾
0.5	9T91Y3021G2	456.23	95-130/190-260	118	70	Open	7	19	13¼
1.0	9T91Y3022	548.10	95-130/190-260	118	125	Panel	8¾	19	15½
1.0	9T91Y3022G2	540.23	95-130/190-260	118	125	Open	8¾	19	14
2.0	9T91Y3023	733.43	95-130/190-260	118/236	185	Enclosed	25	14½	11¼
2.0	9T91Y3023G2	720.83	95-130/190-260	118/236	180	Open	23½	14½	10¼
5.0	9T91Y3027	1574.48	95-130/175-235/190-260	118/236	570	Enclosed	26½	28	14
10.0	9T91Y3030	2432.33	190-260/380-520	118/236	975	Enclosed	28	39	17

△ OEM quantity prices are available on request.

TABLE 2 — TYPICAL TRANSIENT RESPONSE CHARACTERISTICS

Transient Change	Percent Peak Output Voltage Excursion	Response‡ Time	Total Recovery§ Time
0 to 115V input	14%	4 Hertz	13 Hertz
95 to 130V input	14%	3 Hertz	8 Herzt
130 to 95V input	9%	5 Hertz	9 Hertz
0 to 100% rated load	24%	1 Hertz	2 Hertz
20% to 100% rated load	21%	1 Hertz	2 Hertz
100% to 20% rated load	34%	1 Hertz	10 Hertz

‡ The time required for the output to recover 63.3% from its maximum excursion.

§ The time required for the output to recover to normal bandwidth limits.

Harmonic Content — Under all rated ranges of line variation and most load conditions, the total harmonic content of the output wave form will not exceed three percent for a sine wave power source. Even under adverse conditions, when the power source is not a sine wave, the Stabiltron voltage stabilizer will correct the wave form to the load to approximately three percent harmonic content.

Rectifier-filter Loading — Since the output wave form is low in harmonic content, the Stabiltron voltage stabilizer can be connected successfully to a rectifier (capacitor input) filter load to the input of a d-c power supply having capacitor input filters.

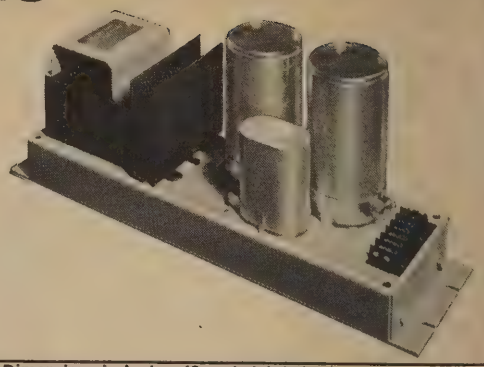
Prices subject to change without notice.

GENERAL ELECTRIC

© United Technical Publications

REGULATED DC POWER SUPPLIES

Improve Performance of Computers and Other Electronic Equipment



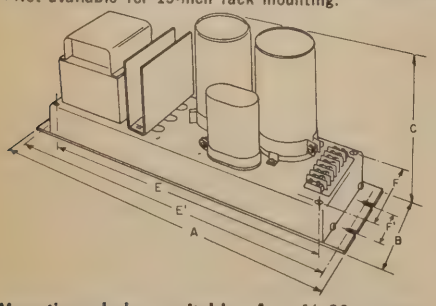
These component power supplies can be used in a wide variety of applications where relatively constant d-c voltage is required despite fluctuating line voltages. Computers, process control equipment, and electronic measuring devices are typical applications where demands for accuracy require constant regulation of voltage.

Performance-proved GE d-c power supplies can be designed to suit your needs for either 50- or 60-Hertz power sources.

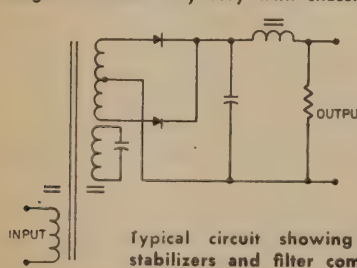
97- TO 130-VOLT INPUT RANGE, 40C AMBIENT

DC OUTPUT†				LOAD REGULATION‡		Dimensions in Inches (See sketch below)							
						OVER-ALL			MOUNTING				NET
									Chassis		Rack		WGT
Volts	Amps	MODEL NO.	Suggested Net Price 1-4*	100% to 50% load	100% to 20% load	A	B	C	F	E	F'	E'	LBS
60 HERTZ													
10.0	16.0	9T66Y8	$173.25	5%	8%	19	7	6⅝	6¼	16¼	4	18⅜	25
12.0	5.0	9T66Y51	147.00	5%	6%	19	3½	7⅝	2¾	16¼	3	18⅜	16
12.0	15.0	9T66Y53	178.50	5%	7%	19	5¼	8	4½	16¼	2¼	18⅜	25
12.0	20.0	9T66Y978	194.25	5%	7%	19	7	8	6¼	16¼	4	18⅜	35
18.0	5.0	9T66Y61	134.40	4%	5%	19	3½	7⅝	2¾	16¼	3	18⅜	19
18.5	6.0	9T66Y966	139.65	4%	5%	19	5¼	7	4½	16¼	2¼	18⅜	20
18.5	12.0	9T66Y967	165.90	5%	7%	19	5¼	7¾	4½	16¼	2¼	18⅜	20
±18.5	24.0	9T66Y965	391.65	5%	8%	19	8¾	7	8	16¼	5¾	18⅜	45
24.0	2.5	9T66Y987	127.05	4%	6%	19	3½	6⅛	2¾	16¼	3	18⅜	16
24.0	6.0	9T66Y988	150.15	3%	5%	19	5¼	6½	4½	16¼	2¼	18⅜	25
24.0	10.0	9T66Y989	174.30	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	28
24.0	20.0	9T66Y990	227.85	3%	5%	19	7	9⅜	6¼	16¼	4	18⅜	45
24.0	50.0	9T66Y991	402.15	3%	5%	19	10½	11⅜	9¾	16¼	§	18⅜	105
28.0	8.0	9T66Y83	166.95	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
28.0	20.0	9T66Y85	247.80	3%	5%	19	7	9⅜	6¼	16¼	4	18⅜	50
28.0	50.0	9T66Y6	450.45	3%	5%	19	10½	12⅛	10½	17½	10½	18⅜	105
48.0	4.0	9T66Y93	139.65	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
48.0	10.0	9T66Y94	191.10	2%	4%	19	5¼	8	4½	16¼	2¼	18⅜	35
90.0	1.0	9T66Y69	120.75	2%	3%	19	3½	7⅛	2⅝	16¼	3	18⅜	19
90.0	10.0	9T66Y985	265.65	3%	4%	20⅞	7⅜	7	6⅛	20	¶	¶	100
125.0	2.0	9T66Y980	150.15	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	26
125.0	4.0	9T66Y970	194.25	2%	3%	19	7	7⅝	6¼	16¼	4	18⅜	45
150.0	2.0	9T66Y981	158.55	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	28
200.0	1.0	9T66Y982	140.70	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	24
50 HERTZ													
12.0	15.0	9T66Y53G5	$187.95	5%	7%	19	5¼	6½	4½	16¼	2¼	18⅜	27
24.0	10.0	9T66Y989G5	182.70	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	30
24.0	20.0	9T66Y990G5	239.40	3%	5%	19	7	8½	6½	16¼	4	18⅜	50
28.0	8.0	9T66Y83G5	173.35	2%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
48.0	4.0	9T66Y93G5	147.00	3%	5%	19	4¼	8	4½	16¼	2¼	18⅜	30
48.0	10.0	9T66Y94G5	200.55	2%	4%	19	5½	9	4½	16¼	2¼	18⅜	38
125.0	2.0	9T66Y980G5	150.15	2%	3%	19	5¼	7⅜	4½	16¼	2¼	18⅜	28

* OEM quantity prices are available on request.
† May vary ±1%. All standard units come equipped with a plate for 19-inch rack mounting.
‡ Indicates approximate percent increase in output voltage due to decrease of load current from full load.
§ Rack mounting plate has four mounting slots on each end. Distance between centers of two outer slots is 7½ in., between two inner slots 3 in.
¶ Not available for 19-inch rack mounting.



Mounting holes suitable for ¼-20 screws. Length of screw may vary with chassis height.



Typical circuit showing voltage stabilizers and filter components.

EFFECT OF INPUT VOLTAGE VARIATION

D-c power supplies can be designed for various input voltages and ranges. With all other variables constant, the output voltage will not vary more than ±1 percent for a change in input voltage over the rated range of 97 to 130 volts input.

EFFECT OF TEMPERATURE CHANGE

For every 40C change in the ambient temperature, the output voltage level will change approximately one percent.

EFFECT OF FREQUENCY

A change of one percent in frequency will change output voltage level approximately one and one-half percent.

ISOLATION

All d-c power supplies provide electrical isolation between the a-c power source and the d-c load.

POLARITY

GE d-c power supplies can be de signed with the polarity you requir All standard units listed can be installe with either plus or minus grounded.

RIPPLE

Ripple levels of one percent RM meet most requirements. However, othe levels of ripple content can be designe into GE power supplies.

EFFICIENCY

Efficiency ranges from 70 to 85 per cent for normal output voltage level For unusually low output voltages o low power ratings, some decrease i efficiency may occur.

REGULATION

Load regulation characteristics depen on the rated output voltage and rate power level of the power supply.

Prices subject to change without notice

GENERAL ELECTRIC

Net

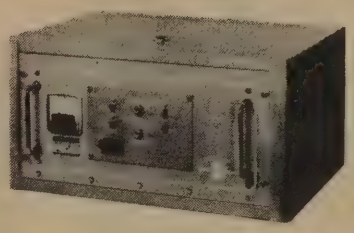
© United Technical Publication

volt-pac® VOLTAGE REGULATORS

- **New solid-state control**
- **Precise output voltage control**
- **Fast voltage-correction rate**
- **Cabinet or rack-mounted models**
- **Magnetic circuit-breaker protection**

General Electric's new automatic voltage regulator line provides closely regulated output voltages from varying input voltages. They normally include a motor-operated Volt-Pac variable transformer, associated buck-boost transformers which handle a wide range of input-voltage variation, and a new solid-state SCR control.

These automatic regulators maintain a preselected output voltage level within 1 percent bandwidth, and are temperature compensated from −20 to +40C. They can be bench or floor mounted, or in smaller sizes, mounted in standard relay racks.



Single-Phase



Three-Phase

	Wide Range Input				Narrow Range Input▲			Rack Mounted		Cabinet Type	
		Load		Correction Rate	Load		Correction Rate				
	Freq. (Hertz)	Max. Amps	KVA*	Volts/Sec.	Max. Amps	KVA*	Volts/Sec.	Model Number	Suggested Net Price§	Model Number	Suggested Net Price§
		95-135V INPUT			105-125V INPUT						
	50/60	7.5	0.86	8.0	.....	.....	.....	.....	.....	9T92A100	$477.00
	50/60	10.0	1.15	8.0	21.5	2.5	4.0	9T92A101G3	$459.00	9T92A101	490.50
Single-phase	50/60	14.8	1.70	8.0	33.0	3.8	4.0	9T92A102G3	477.00	9T92A102	504.00
115V Nominal,	50/60	20.0	2.30	8.0	45.0	5.2	4.0	9T92A103G3	490.50	9T92A103	522.00
110-220V	60	50.0	5.75	10.4	.....	.....	.....	9T92Y132G3	549.00	9T92Y132	576.00
Adjustable Output¶	60	100.0	11.50	10.4	.....	.....	.....	9T92Y133G3	666.00	9T92Y133	693.00
	60	150.0	17.20	10.4	.....	.....	.....	.....	.....	9T92Y134	742.50
		190-260V INPUT‡			215-245V INPUT						
	50/60	7.5	1.70	16.0	.....	.....	.....	.....	.....	9T92A108†	$549.00
Single-phase	50/60	12.0	2.75	12.0	26.0	6.0	6.0	9T92A109G3	$544.50	9T92A109	571.50
230V Nominal,	60	32.5	7.50	17.2	.....	.....	.....	9T92Y136G3	607.50	9T92Y136	634.50
220-240V	60	52.0	12.00	17.2	.....	.....	.....	9T92Y137G3	702.00	9T92Y137	729.00
Adjustable Output¶	60	130.0	30.00	17.2	.....	.....	.....	.....	.....	9T92Y138	846.00
		400-520V INPUT			430-490V INPUT						
Single-phase	50/60	12.0	5.50	24.0	26.0	12.0	12.0	9T92A114G3	$621.00	9T92A114	$648.00
460V Nominal,	60	32.5	15.00	34.4	.....	.....	.....	9T92Y140G3	787.50	9T92Y140	814.50
440-480V	60	52.0	24.00	34.4	.....	.....	.....	.....	.....	9T92Y141	945.00
Adjustable Output¶	60	130.0	60.00	34.4	.....	.....	.....	.....	.....	9T92Y142	1179.00
		200-260V INPUT‡			215-245V INPUT‡						
	50/60	14.0	5.00	12.0	30.0	12.0	6.0	9T92A120G3	$1017.00	9T92A120	$1044.00
Three-phase	50/60	20.8	8.30	12.0	45.0	18.0	6.0	9T92A121G3	1071.00	9T92A121	1098.00
230V Nominal,	50/60	28.5	11.50	12.0	61.0	24.0	6.0	.....	.....	9T92A122	1143.00
220-240V	60	68.0	27.00	17.2	.....	.....	.....	.....	.....	9T92Y145	1404.00
Adjustable Output¶	60	136.0	54.00	17.2	.....	.....	.....	.....	.....	9T92Y146	1863.00
	60	170.0	67.50	7.5	.....	.....	.....	.....	.....	9T92Y147	2070.00
		400-520V INPUT			430-490V INPUT						
	50/60	12.0	9.60	24.0	26.0	21.0	12.0	.....	.....	9T92A127	$1147.50
Three-phase	60	32.5	26.00	34.4	.....	.....	.....	.....	.....	9T92Y149	1314.00
460V Nominal,	60	52.0	41.50	34.4	.....	.....	.....	.....	.....	9T92Y150	1701.00
440-480V	60	100.0	80.00	34.4	.....	.....	.....	.....	.....	9T92Y151	2043.00
Adjustable Output¶	60	130.0	104.0	15.0	.....	.....	.....	.....	.....	9T92Y152	2169.00

▲ Where narrow range input ratings are not listed for certain models, units can be custom designed as needed.

* Load kva is based on ontput voltage at midpoint in the output range.

¶ When output voltage is adjusted up or down from midpoint, the rated input range will shift proportionately.

Note: All dual input voltage range models are connected for the narrow range when shipped. Reconnection for the wide input range can be made when the unit is installed, if desired. For reconnection, follow directions included with the unit.

§ OEM quantity prices are available on request.

† This model is suitable for a wider input voltage range, i.e., 190-270V.

‡ These models can be used for 199-217V output and 181 to 236V input by changing connections as outlined in connection diagram included in shipping carton.

No Waveform Distortion

No harmonic waveform distortion is introduced at any load or with any input voltage. The output voltage waveform is a precise reproduction of applied input waveform.

Adjustable Output Voltage

Output voltage for units nominally rated 115 volts is adjustable from 110 to 120 volts. Output voltage also is adjustable from 220 to 240 volts for units rated 230 volts; from 440 to 480 volts for nominally rated units of 460 volts. Please note that the specified input-voltage range is applicable for nominal output voltage. When operating at any other output voltage within specified range, the input voltage range shifts in proportion with the selected output voltage.

Accurate Static-sensing Control

Solid-state control combined with the new Sylvan-Kettler static-sensing device achieve the optimum in automatic accuracy. The voltage regulator is governed automatically by a dead-band-type voltage-sensitive control utilizing either lamp or zener bridges. The circuit includes magnetic input circuit breakers and an output voltmeter.

FEATURES

- No wave-form distortion
- Dual rated for wide or narrow input voltage ranges
- Adjustable output voltage
- ±1% output voltage band for rated input ranges
- Output voltmeter included
- Fused control circuit
- Fast voltage correction
- −20 to +40C ambient temperature range
- 0 to 100% rated load
- Not sensitive to load power factor
- Not sensitive to line frequency (59-61 Hz)
- Up to 99% efficient
- Solid State control using lamp bridge circuit (Zener diode bridge circuit is available at slightly higher price.)
- Easily replaceable control circuit

Prices subject to change without notice.

GENERAL ELECTRIC

© United Technical Publications



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

LAMBDA POWER COMPONENTS

modular ac to dc power supplies for rack or chassis mounting—industrial, military and commercial—AC voltage regulators



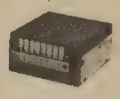
© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output wide range models
voltage and current ratings

LCS-1 SINGLE OUTPUT MODELS

$3\frac{5}{32}$" x $3\frac{9}{32}$" x $1\frac{21}{32}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. MA. AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCS-1-01A	0-7	275 (250)	220 (180)	165 (120)	110 (75)	$70
LCS-1-02A	0-18	130 (115)	130 (115)	100 (80)	85 (40)	70
LCS-1-03A	0-32	90 (80)	90 (80)	90 (50)	50 (25)	70
LCS-1-04A	0-60	50 (45)	50 (45)	50 (35)	30 (15)	90
LCS-1-05A	0-120	18 (15)	18 (15)	18 (15)	18 (10)	90

*Bracketed ratings are for 47-53 Hz operation.

LCS-2 SINGLE OUTPUT MODELS

$3\frac{5}{32}$" x $3\frac{9}{32}$" x $3\frac{9}{32}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. MA. AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCS-2-01	0-7	550	455	350	240	$80
LCS-2-02	0-18	330	275	210	140	80
LCS-2-03	0-32	240	205	155	95	80
LCS-2-04	0-60	145	115	87	57	90
LCS-2-05	0-120	50	50	45	30	90

LCS-3 SINGLE OUTPUT MODELS

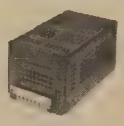
$3\frac{3}{16}$" x $3\frac{5}{16}$" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. MA. AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCS-3-01	0-7	1200	1000	750	500	$90
LCS-3-02	0-18	750	620	480	320	90
LCS-3-03	0-32	400	350	265	170	90
LCS-3-04	0-60	240	190	140	85	99

LCS-A SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $3\frac{3}{4}$" x $6\frac{1}{2}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCS-A-01	0-7	2.0	1.9	1.6	1.1	$99
LCS-A-02	0-18	1.1	1.0	0.9	0.7	99
LCS-A-03	0-32	0.69	0.64	0.60	0.45	99
LCS-A-04	0-60	0.37	0.34	0.31	0.25	99
LCS-A-05	0-120	0.10	0.10	0.10	0.10	109

LCS-B SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $6\frac{1}{2}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCS-B-01	0-7	3.7	3.3	2.7	1.7	$130
LCS-B-02	0-18	2.0	1.8	1.6	1.2	130
LCS-B-03	0-32	1.1	1.0	0.8	0.5	130

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

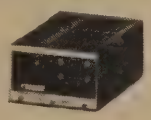
Net
© United Technical Publication

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output wide range models
voltage and current ratings

LM-B SINGLE OUTPUT MODELS

3 3/16" x 4 15/16" x 6 1/2"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-B-0-7	0-7	2.8	2.6	2.3	1.5	$119
LM-B-0-14	0-14	1.6	1.5	1.3	1.2	119
LM-B-0-32	0-32	0.8	0.7	0.6	0.5	119
LM-217	8.5-14	2.1	1.9	1.7	1.3	129
LM-218	13-23	1.5	1.3	1.2	1.0	129
LM-219	22-32	1.2	1.1	1.0	0.8	129
LM-220	30-60	0.70	0.65	0.60	0.45	139

LCS-4 SINGLE OUTPUT MODELS

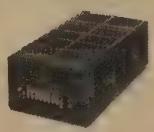
4 29/32" x 4 29/32" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-4-01	0-7	3.3	3.0	2.3	1.5	$130
LCS-4-02	0-18	1.8	1.6	1.2	0.8	130
LCS-4-03	0-32	1.0	0.9	0.7	0.5	130

LCS-C SINGLE OUTPUT MODELS

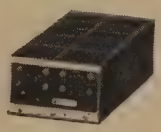
3 3/16" x 4 15/16" x 9 3/8"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-C-01	0-7	4.5	4.1	3.8	3.3	$150
LCS-C-02	0-18	2.3	2.1	1.9	1.6	150
LCS-C-03	0-32	1.6	1.5	1.4	1.2	150

LM-C SINGLE OUTPUT MODELS

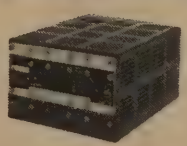
3 3/16" x 4 15/16" x 9 3/8"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-225	0-7	4.0	3.6	3.0	2.4	$149
LM-C-0-14	0-14	2.2	2.0	1.8	1.5	149
LM-C-0-32	0-32	1.1	1.0	0.90	0.80	149
LM-C-0-60	0-60	0.60	0.55	0.50	0.45	139
LM-227	13-23	2.3	2.1	1.7	1.4	149
LM-228	22-32	2.0	1.8	1.5	1.2	149
LM-229	30-60	1.1	1.0	0.80	0.60	159

LM-D SINGLE OUTPUT MODELS

4 15/16" x 7 1/2" x 9 3/8"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-234	0-7	8.3	7.3	6.5	5.5	$199
LM-D-0-14	0-14	4.9	4.2	3.4	2.7	199
LM-D-0-32	0-32	2.5	2.1	1.7	1.3	180
LM-235	8.5-14	7.7	6.8	6.0	4.8	199
LM-236	13-23	5.8	5.1	4.5	3.6	209
LM-237	22-32	5.0	4.4	3.9	3.1	219
LM-238	30-60	2.6	2.3	2.0	1.6	239

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output wide range models
voltage and current ratings

LM-E SINGLE OUTPUT MODELS

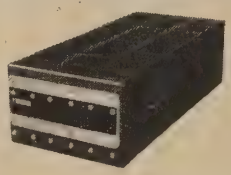
4 15/16" x 7½" x 11¾"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-E-0-7	0-7	12.0	10.5	8.5	6.8	$249
LM-E-0-14	0-14	7.4	6.4	5.2	4.1	249
LM-E-0-32	0-32	3.7	3.2	2.6	2.1	249

LM-EE SINGLE OUTPUT MODELS

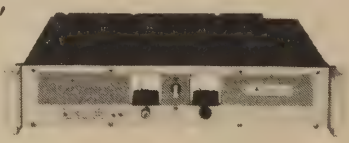
4 15/16" x 7½" x 16½"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-EE-0-7	0-7	16.0	13.5	11.2	9.2	$340
LM-EE-0-14	0-14	10.2	8.6	7.3	6.1	340
LM-EE-0-32	0-32	5.2	4.4	3.8	3.2	340

LM-F SINGLE OUTPUT MODELS

3½" x 19" x 16½"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-F-0-7	0-7	25.0	21.0	17.0	14.0	$475

LM-G SINGLE OUTPUT MODELS

5 3/16" x 19" x 16½"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-G-0-7	0-7	35.0	29.0	24.0	20.0	$605

*Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.

© United Technical Publication

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Modular power supplies*
dual output wide range models
voltage and current ratings

LCD-2 DUAL OUTPUT MODELS

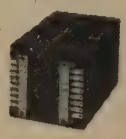
3 5/32" x 3 5/32" x 3 5/32"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC (EACH SIDE)	MAX. MA. AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCD-2-11	0-7 0-7	300 300	240 240	175 175	115 115	$125
LCD-2-12	0-18 0-7	160 300	130 240	100 175	65 115	125
LCD-2-22	0-18 0-18	160 160	130 130	100 100	65 65	125
LCD-2-33	0-32 0-32	120 120	95 95	70 70	45 45	125
LCD-2-44	0-60 0-60	65 65	52 52	37 37	23 23	170
LCD-2-55	0-120 0-120	30 30	30 30	22 22	14 14	170

LCD-3 DUAL OUTPUT MODELS

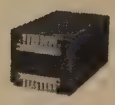
3 3/16" x 3 5/16" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. MA. AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCD-3-11	0-7 0-7	700 700	590 590	480 480	340 340	$145
LCD-3-12	0-7 0-18	700 400	590 350	480 300	340 210	145
LCD-3-22	0-18 0-18	400 400	350 350	300 300	210 210	145
LCD-3-33	0-32 0-32	225 225	190 190	160 160	120 120	145

LCD-A DUAL OUTPUT MODELS

3 3/16" x 3 3/4" x 6 1/2"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCD-A-11	0-7 0-7	1.0 1.0	0.9 0.9	0.7 0.7	0.5 0.5	$155
LCD-A-12	0-18 0-7	0.5 1.0	0.45 0.9	0.4 0.7	0.3 0.5	155
LCD-A-22	0-18 0-18	0.5 0.5	0.45 0.45	0.4 0.4	0.3 0.3	155
LCD-A-33	0-32 0-32	0.35 0.35	0.3 0.3	0.25 0.25	0.2 0.2	155
LCD-A-44	0-60 0-60	0.2 0.2	0.18 0.18	0.14 0.14	0.12 0.12	180

LCD-4 DUAL OUTPUT MODELS

4 29/32" x 4 29/32" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCD-4-11	0-7 0-7	1.8 1.8	1.5 1.5	1.2 1.2	0.7 0.7	$190
LCD-4-12	0-18 0-7	1.0 1.8	0.8 1.5	0.65 1.2	0.4 0.7	190
LCD-4-13	0.32 0-7	0.6 1.8	0.53 1.5	0.4 1.2	0.24 0.7	190
LCD-4-22	0-18 0-18	1.0 1.0	0.8 0.8	0.65 0.65	0.4 0.4	190
LCD-4-33	0-32 0-32	0.6 0.6	0.53 0.53	0.4 0.4	0.24 0.24	190

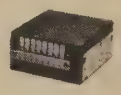
***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output fixed voltage models
voltage and current ratings

UNREGULATED POWER SUPPLY

$3\frac{5}{32}$" x $3\frac{9}{32}$" x $1\frac{21}{32}$"
UNREGULATED

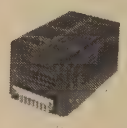


MODEL	VOLT., MAX.	CURRENT RANGE	PRICE[2]
LUS-1-06	180 Vdc	25 ma up to 71°C at nominal line voltage for use with up to 7 Nixie® tubes.	$35

(Nixie is trademark of Burroughs Corp.)

LCS-A SINGLE OUTPUT MODELS

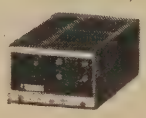
$3\frac{3}{16}$" x $3\frac{3}{4}$" x $6\frac{1}{2}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-A-5	5±5%	2.7	2.3	1.8	1.2	$99
LCS-A-6	6±5%	2.6	2.2	1.8	1.2	99
LCS-A-8	8±5%	2.4	2.0	1.7	1.1	99
LCS-A-10	10±5%	2.1	1.8	1.5	1.0	99
LCS-A-12	12±5%	1.9	1.7	1.3	0.9	99
LCS-A-15	15±5%	1.8	1.5	1.2	0.9	99
LCS-A-18	18±5%	1.6	1.3	1.1	0.8	99
LCS-A-20	20±5%	1.4	1.2	1.0	0.8	99
LCS-A-24	24±5%	1.1	1.0	0.85	0.70	99
LCS-A-28	28±5%	1.0	0.9	0.75	0.60	99
LCS-A-36	36±5%	0.90	0.80	0.70	0.50	99
LCS-A-48	48±5%	0.60	0.55	0.50	0.45	99
LCS-A-100	100±5%	0.18	0.18	0.18	0.18	109
LCS-A-120	120±5%	0.15	0.15	0.15	0.15	109
LCS-A-150	150±5%	0.10	0.10	0.10	0.10	109

LM-B SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $6\frac{1}{2}$"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-B-5	5±5%	3.7	3.2	2.5	1.5	$119
LM-B-6	6±5%	3.2	2.9	2.4	1.4	119
LM-B-12	12±5%	2.5	2.3	2.1	1.3	119
LM-B-15	15±5%	2.2	2.0	1.8	1.3	119
LM-B-20	20±5%	1.8	1.6	1.5	1.2	119
LM-B-24	24±5%	1.4	1.3	1.2	1.1	119
LM-B-28	28±5%	1.3	1.2	1.1	1.0	119

LXS-A SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $3\frac{3}{4}$" x $6\frac{1}{2}$"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS

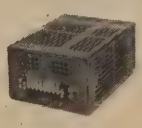


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LXS-A-5-OV*	5±5%	4.0	3.4	2.7	2.0	$ 85
LXS-A-6	6±5%	3.7	3.1	2.5	1.9	85
LXS-A-12	12±5%	2.7	2.2	1.8	1.5	85
LXS-A-15	15±5%	2.4	2.0	1.6	1.3	85

*Includes fixed overvoltage protection at 6.8V ± 10%.

LCS-B SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $6\frac{1}{2}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-B-20	20±5%	2.7	2.3	2.0	1.4	$125
LCS-B-24	24±5%	2.1	2.0	1.8	1.2	125
LCS-B-28	28±5%	1.8	1.7	1.6	1.0	125
LCS-B-36	36±5%	1.4	1.3	1.1	0.7	125
LCS-B-48	48±5%	1.1	1.0	0.9	0.6	140
LCS-B-100	100±5%	0.46	0.46	0.46	0.34	140
LCS-B-120	120±5%	0.40	0.40	0.40	0.30	140
LCS-B-150	150±5%	0.32	0.32	0.32	0.25	150

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

Net
© United Technical Publication

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Modular power supplies*
single output fixed voltage models
voltage and current ratings

LCS-4 SINGLE OUTPUT MODELS

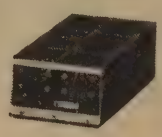
$4\frac{29}{32}$" x $4\frac{29}{32}$" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-4-5	5±5%	4.4	3.7	2.9	1.8	$130
LCS-4-6	6±5%	4.0	3.4	2.6	1.5	130
LCS-4-12	12±5%	3.1	2.8	2.2	1.3	130
LCS-4-15	15±5%	2.8	2.6	2.1	1.3	130
LCS-4-20	20±5%	2.4	2.2	1.9	1.1	130
LCS-4-24	24±5%	2.2	1.8	1.5	0.95	130
LCS-4-28	28±5%	2.0	1.6	1.4	0.85	130
LCS-4-48	48±5%	1.2	1.1	0.9	0.75	140

LM-C SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $9\frac{3}{8}$"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-C-5	5±5%	5.1	4.3	3.4	2.4	$139
LM-C-6	6±5%	4.8	4.1	3.3	2.4	139
LM-C-12	12±5%	4.0	3.5	2.9	1.9	139
LM-C-15	15±5%	3.5	3.2	2.8	1.9	139
LM-C-20	20±5%	3.1	2.9	2.6	1.8	139
LM-C-24	24±5%	2.5	2.4	2.2	1.5	139
LM-C-28	28±5%	2.3	2.1	2.0	1.4	139

LXS-B SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $6\frac{1}{2}$"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LXS-B-5-OV*	5±5%	5.8	5.0	4.0	3.0	$125
LXS-B-6	6±5%	5.5	4.7	3.8	2.9	125
LXS-B-12	12±5%	3.8	3.6	3.0	2.2	125
LXS-B-15	15±5%	3.2	2.8	2.5	1.5	125

*Includes fixed overvoltage protection at 6.8V ±10%.

LXS-4 SINGLE OUTPUT MODELS

$4\frac{29}{32}$" x $4\frac{29}{32}$" x 5"
REGULATION: 0.1%
RIPPLE: 1.5mv RMS

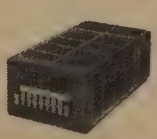


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LXS-4-5-OV*	5±5%	7.4	6.5	5.4	3.9	$135
LXS-4-6	6±5%	6.6	5.8	4.8	3.5	135
LXS-4-12	12±5%	4.4	3.8	3.1	2.5	135
LXS-4-15	15±5%	4.0	3.5	2.8	2.3	135

*Includes fixed overvoltage protection at 6.8V ± 10%.

LXS-C SINGLE OUTPUT MODELS

$3\frac{3}{16}$" x $4\frac{15}{16}$" x $9\frac{3}{8}$"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LXS-C-5-OV*	5±5%	9.0	8.0	6.8	5.3	$150
LXS-C-6	6±5%	8.8	7.8	6.7	5.2	150
LXS-C-12	12±5%	6.5	6.1	5.5	4.6	150
LXS-C-15	15±5%	6.0	5.6	5.1	4.5	150

*Includes fixed overvoltage protection at 6.8V ±10%.

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

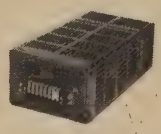
LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies* single output fixed voltage models

voltage and current ratings

LCS-C SINGLE OUTPUT MODELS

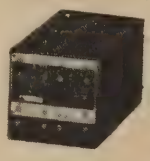
$3\frac{3}{16}$" x $4\frac{15}{16}$" x $9\frac{3}{8}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 250 μV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LCS-C-20	20±5%	4.2	4.0	3.5	3.0	$150
LCS-C-24	24±5%	3.6	3.4	3.0	2.5	150
LCS-C-28	28±5%	3.0	2.7	2.6	2.2	150
LCS-C-36	36±5%	2.3	2.2	2.1	1.6	150
LCS-C-48	48±5%	1.8	1.7	1.6	1.3	170
LCS-C-100	100±5%	0.65	0.65	0.65	0.65	170
LCS-C-120	120±5%	0.55	0.55	0.55	0.55	170
LCS-C-150	150±5%	0.42	0.42	0.42	0.42	170

LM-CC SINGLE OUTPUT MODELS

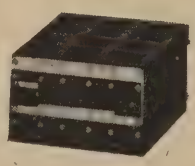
$4\frac{15}{16}$" x $4\frac{15}{16}$" x $9\frac{3}{8}$"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-CC-5	5±5%	10.5	9.0	8.0	5.5	$179
LM-CC-6	6±5%	9.0	8.4	7.7	5.5	179
LM-CC-12	12±5%	7.3	6.8	5.9	4.7	179
LM-CC-15	15±5%	6.0	5.6	5.1	4.3	179
LM-CC-20	20±5%	5.0	4.6	4.2	3.6	179
LM-CC-24	24±5%	4.0	3.7	3.4	3.0	179
LM-CC-28	28±5%	3.5	3.4	3.1	2.8	179
LM-CC-48	48±5%	2.5	2.4	2.2	1.9	199

LM-D SINGLE OUTPUT MODELS

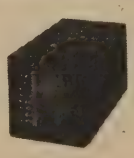
$4\frac{15}{16}$" x $7\frac{1}{2}$" x $9\frac{3}{8}$"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-D-5	5±5%	12.6	10.8	9.2	6.1	$209
LM-D-6	6±5%	12.4	10.6	8.9	6.0	209
LM-D-12	12±5%	10.0	9.2	8.3	5.7	209
LM-D-15	15±5%	9.0	8.4	7.9	5.3	219
LM-D-20	20±5%	7.4	6.9	6.5	4.9	219
LM-D-24	24±5%	6.7	6.3	5.8	4.8	219
LM-D-28	28±5%	6.0	5.6	5.2	4.7	219
LM-D-48	48±5%	4.1	3.9	3.6	3.1	239
LM-D-100	100±5%	1.7	1.5	1.3	1.1	239
LM-D-120	120±5%	1.5	1.3	1.1	1.0	239
LM-D-150	150±5%	1.1	1.0	0.90	0.80	239

LXS-CC SINGLE OUTPUT MODELS

$4\frac{15}{16}$" x $4\frac{15}{16}$" x $9\frac{3}{8}$"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS
5 mV pk-pk



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LXS-CC-5-OV *	5±5%	16.0	14.5	12.7	10.5	$200
LXS-CC-6	6±5%	15.2	13.8	12.1	10.0	200
LXS-CC-12	12±5%	10.5	9.4	8.2	5.0	190
LXS-CC-15	15±5%	9.5	8.6	7.4	4.8	190
LXS-CC-20	20±5%	7.7	7.2	6.5	4.4	190
LXS-CC-24	24±5%	6.8	6.4	5.7	4.4	190
LXS-CC-28	28±5%	6.0	5.6	5.0	4.3	190

*Includes fixed overvoltage protection at 6.8V ±10%.

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

Net
© United Technical Publication

LAMBDA ELECTRONICS CORP.

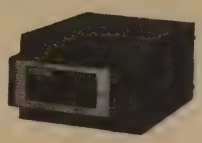
DISTRIBUTOR DIVISION

Modular power supplies*
single output fixed voltage models
voltage and current ratings

LM-E SINGLE OUTPUT MODELS

4 15/16" x 7½" x 11¾"

REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS

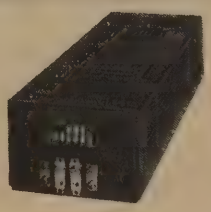


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LM-E-5	5±5%	20.0	18.0	16.4	10.0	$269
LM-E-6	6±5%	19.0	17.3	15.6	10.0	269
LM-E-12	12±5%	15.0	13.6	12.3	9.5	269
LM-E-15	15±5%	14.0	12.7	11.5	8.6	269
LM-E-20	20±5%	12.0	10.9	9.8	8.5	269
LM-E-24	24±5%	11.0	10.0	9.0	7.6	269
LM-E-28	28±5%	10.0	9.0	8.0	7.1	269
LM-E-48	48±5%	6.0	5.4	4.9	4.3	299

LYS-5 SINGLE OUTPUT MODELS

3 3/16" x 4 15/16" x 15"

REGULATION: 0.1%
RIPPLE: 0.2% RMS VDC



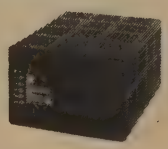
MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:(1) 40°C	50°C	60°C	71°C	PRICE(2)
LYS-5-5-OV*	5±5%	30	25	20	10	$300
LYS-5-6	6±5%	25	21	17	8.5	280
LYS-5-12	12±5%	21	18	14	8	280
LYS-5-15	15±5%	17	14.5	11.5	6.8	280
LYS-5-20	20±5%	13.2	11.2	9	5.4	280
LYS-5-24	24±5%	11	9.6	7.5	4.5	280
LYS-5-28	28±5%	9.5	8.4	6.5	3.8	280

*Includes fixed overvoltage protection at 6.8V ± 10%.

LXS-D SINGLE OUTPUT MODELS

4 15/16" x 7½" x 9⅜"

REGULATION: 0.1%
RIPPLE: 1.5 mV RMS
5 mV pk-pk



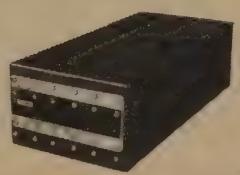
MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:(1) 40°C	50°C	60°C	71°C	PRICE(2)
LXS-D-5-OV*	5±5%	27.5	24.2	20.5	16.5	$235
LXS-D-6	6±5%	26.5	23.4	19.8	16.0	235
LXS-D-12	12±5%	16.0	14.0	11.9	8.0	235
LXS-D-15	15±5%	14.0	12.3	10.4	7.5	235
LXS-D-20	20±5%	11.5	10.0	8.6	6.8	235
LXS-D-24	24±5%	10.0	8.8	7.5	6.0	235
LXS-D-28	28±5%	9.0	8.0	6.8	5.5	235

*Includes fixed overvoltage protection at 6.8V ±10%.

LM-EE SINGLE OUTPUT MODELS

4 15/16" x 7½" x 16½"

REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS

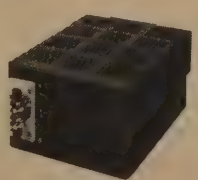


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LM-EE-5	5±5%	31.0	24.6	20.8	17.3	$340
LM-EE-6	6±5%	30.0	24.6	20.8	17.3	340
LM-EE-12	12±5%	21.0	19.0	16.1	13.2	340
LM-EE-15	15±5%	19.0	18.0	15.5	12.7	340
LM-EE-20	20±5%	15.2	13.7	11.8	9.7	340
LM-EE-24	24±5%	14.0	12.5	10.8	9.0	340
LM-EE-28	28±5%	13.0	11.5	9.8	8.2	340

LV-E SINGLE OUTPUT MODELS

4 15/16" x 7½" x 11¾"

REGULATION: 0.15% + 10 mV
RIPPLE: 10 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LV-E-5-OV	5±5%	37	34	28	13	325
LV-E-6-OV	6±5%	33	30	27	13	325

LV-E packages are only available with built-in overvoltage protection.

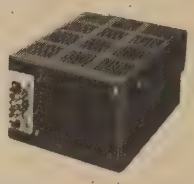
***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output fixed voltage models
voltage and current ratings

LW-E SINGLE OUTPUT MODELS

4 15/16" x 7½" x 11¾"
REGULATION: 2%
RIPPLE: 300 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LW-E-5	5±5%	45	42	40	37	270
LW-E-6	6±5%	39	37	35	32	270

LW-D SINGLE OUTPUT MODELS

4 15/16" x 7½" x 9⅜"
REGULATION: 2%
RIPPLE: 300 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LW-D-10	10±5%	27.0	25.0	23.0	17.0	$250
LW-D-12	12±5%	26.5	20.0	13.7	8.8	250
LW-D-15	15±5%	22.5	20.0	13.7	8.8	250
LW-D-18	18±5%	19.0	18.3	13.7	8.8	250
LW-D-20	20±5%	17.5	16.7	13.7	8.8	250
LW-D-24	24±5%	14.7	14.0	13.2	8.8	250
LW-D-28	28±5%	12.5	12.0	11.1	7.7	250
LW-D-48	48±5%	7.6	7.3	6.8	6.2	250

LM-F SINGLE OUTPUT MODELS

3½" x 19" x 16½"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-F-5	5±5%	48	41	33	25	$475
LM-F-6	6±5%	47	40	32	24	475
LM-F-12	12±5%	33	28	22	17	475
LM-F-15	15±5%	25	22	18	14	475
LM-F-20	20±5%	23	20	17	13	475
LM-F-24	24±5%	20	17	14	11	475
LM-F-28	28±5%	19	16	13	10	475

Prices of LM-F models are for non-metered models. For metered models, add Suffix "-M" to model number and $30.00 to the price.

LV-EE SINGLE OUTPUT MODELS

4 15/16" x 7½" x 16½"
REGULATION: 0.15% + 10 mV
RIPPLE: 10 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LV-EE-5-OV	5±5%	74	70	65	45	490
LV-EE-6-OV	6±5%	64	61	56	40	490
LV-EE-10-OV	10±5%	41	39	36	25	415
LV-EE-12-OV	12±5%	34	32	30	21	415
LV-EE-15-OV	15±5%	28	26	24	18	415

LV-EE packages are only available with built-in overvoltage protection.

LM-G SINGLE OUTPUT MODELS

5 3/16" x 19" x 16½"
REGULATION:
0.05% + 4 mV — line
0.03% + 3 mV — load
RIPPLE: 1 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-G-5	5±5%	80	75	62	45	$605
LM-G-12	12±5%	56	46	37	29	605
LM-G-15	15±5%	45	42	36	28	605
LM-G-20	20±5%	35	32	28	21	605
LM-G-24	24±5%	32	26	21	16	605
LM-G-28	28±5%	28	25	21	16	605

Prices of LM-G models are for non-metered models. For metered models, add Suffix "-M" to model number and $30.00 to the price.

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

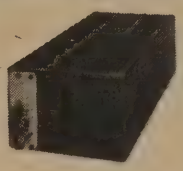
© United Technical Publication

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies*
single output fixed voltage models
voltage and current ratings

LW-EE SINGLE OUTPUT MODELS

4 15/16" x 7½" x 16½"
REGULATION: 2%
RIPPLE: 300 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LW-EE-5	5±5%	91	87	82	62	400
LW-EE-6	6±5%	78	75	70	54	400
LW-EE-12	12±5%	42	40	37	28	350
LW-EE-15	15±5%	35	33	31	24	350
LW-EE-24	24±5%	26	25	23	17	350
LW-EE-28	28±5%	22	21	20	15	350
LW-EE-48	48±5%	13	13	12	9	350

LM-H SINGLE OUTPUT MODELS

7" x 19" x 18½"
REGULATION:
0.01% + 1 mV
0.02% + 2 mV
RIPPLE: .5 mV RMS

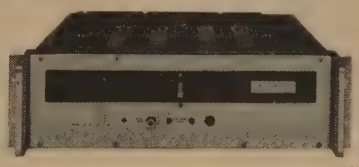


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LM-H-5-OV-Y-M	5±5%	130	110	90	70	$995

LM-H model is available only with overvoltage protection, high performance option and meters, all of which are included in the price.

LV-G SINGLE OUTPUT MODELS

5 3/16" x 19" x 16½"
REGULATION:
RIPPLE: 10 mV RMS

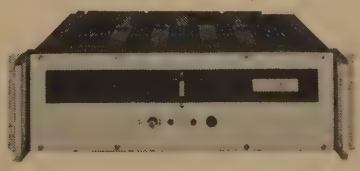


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LV-G-5-OV	5±5%	130	126	115	100	750
LV-G-6-OV	6±5%	110	107	98	90	750
LV-G-10-OV	10±5%	74	71	65	61	750
LV-G-12-OV	12±5%	65	63	57	54	750
LV-G-15-OV	15±5%	50	48	44	40	750

LV-G models are only available without meters and with built-in overvoltage protection.

LW-G SINGLE OUTPUT MODELS

5 3/16" x 19" x 16½"
REGULATION: 2%
RIPPLE: 300 mV RMS



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[2]
LW-G-5	5±5%	150	146	135	123	675
LW-G-6	6±5%	128	123	115	105	675
LW-G-12	12±5%	75	72	67	61	675
LW-G-15	15±5%	60	57	53	49	675
LWG-24	24±5%	48	46	42	39	675
LWG-28	28±5%	39	37	34	32	675
LWG-48	48±5%	24	23	21	19	675

LW-G models are only available without meters.

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

© United Technical Publications

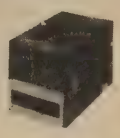
LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Modular power supplies* dual and dual tracking models

voltage and current ratings

LXD-3-152 DUAL TRACKING OUTPUT MODEL

3 3/16" x 3 3/4" x 5"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LXD-3-152	+(12 to 15)	400	370	340	300	$85
	−(12 to 15)	400	370	340	300	
	can also be used					
LXD-3-152	24-30	400	370	340	300	85

Only one overvoltage protector accessory is required for both outputs.

LXD-A-152 DUAL TRACKING OUTPUT MODEL

3 3/16" x 3 3/4" x 6 1/2"
REGULATION: 01.%
RIPPLE: 1.5 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:(1) 40°C	50°C	60°C	71°C	PRICE(2)
LXD-A-152	±15	1.0	1.0	0.9	0.7	$125
	to ±12	0.8	0.8	0.7	0.6	

Only one overvoltage protector accessory is required for both outputs.

LXD-B DUAL TRACKING OUTPUT MODELS

3 3/16" x 3 3/4" x 6 1/2"
REGULATION: 01.%
RIPPLE: 1.5 mV RMS

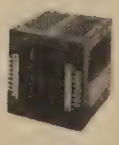


MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:(1) 40°C	50°C	60°C	71°C	PRICE(2)
LXD-B-062	±6	2.7	2.4	1.9	1.4	$160
	to ±3	2.1	2.0	1.6	1.2	
LXD-B-152	±15	1.6	1.4	1.2	0.7	150
	to ±12	1.4	1.3	1.1	0.6	

Only one overvoltage protector accesscry is required for both outputs.

LCD-4-152 DUAL OUTPUT MODEL

4 29/32" x 4 29/32" x 5"
REGULATION: 0.01% + 1 mV
RIPPLE: 250μV RMS

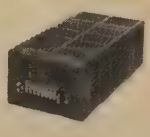


MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LCD-4-152	15±5%	1.5	1.3	1.0	0.6	$220
	15±5%	1.5	1.3	1.0	0.6	

Two separate independent output voltages. One overvoltage protector accessory is required for each output.

LXD-C DUAL TRACKING OUTPUT MODELS

3 3/16" x 4 15/16" x 9 3/8"
REGULATION: 0.1%
RIPPLE: 1.5 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: (1) 40°C	50°C	60°C	71°C	PRICE(2)
LXD-C-062	±6	3.5	3.3	2.7	1.7	$170
	to ±3	2.6	2.4	1.9	1.3	
LXD-C-152	±15	2.5	2.3	1.9	1.5	160
	to ±12	2.0	1.8	1.5	1.2	

Only one overvoltage protector accessory is required for both outputs.

*Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.

Net
© United Technical Publication

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Modular power supplies*
dual, triple & quadruple output models
voltage and current ratings

LYD-5 DUAL OUTPUT MODELS

3 3/16" x 4 15/16" x 15"
REGULATION: 0.1%
RIPPLE: 0.2% RMS of VDC

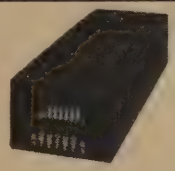


MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[2]
LYD-5-062	±3 to ±6	12.5	10.5	8.5	4.3	$380
LYD-5-152	±12 to ±15	8.5	7.2	5.6	3.3	380

Two separate independent output voltages. One overvoltage protector accessory is required for each output.

LYT-5 TRIPLE OUTPUT MODEL

3 3/16" x 4 15/16" x 15"
REGULATION: 0.1%
RIPPLE: 10 mV on 5V output
3 mV on dual output



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[2]
LYT-5-5152*	5±5%	18	15	11	6	$395
	±15 to ±12	2	1.8	1.6	1.3	
		1.6	1.5	1.4	1.2	

*5 volt output has fixed overvoltage protection at 6.8 V ± 10%

LYQ-5 QUADRUPLE OUTPUT MODEL

3 3/16" x 4 15/16" x 15"
REGULATION: 0.1%
RIPPLE: 10 mV on 5 V output
3 mV on dual output
and 24-28 V



MODEL	FIXED VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[2]
LYQ-5-5153*	5±5%	16	13.5	10	5	$450
	±15 to ±12	1.5	1.35	1.2	1.0	
		1.2	1.1	1.0	0.8	
	24 to 28	1.0	0.9	0.8	0.6	

*5 volt output has fixed overvoltage protection at 6.8 V ± 10%

***Note: Non-standard voltage and current ratings 0-150 volts fixed and wide range models available as a special. Contact factory for price and delivery.**

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LC series

Specifications of LC series

DC output

voltage range: refer to tables.

Regulated voltage

regulation, line	0.01% + 1 mV
regulation, load	0.01% + 1 mV
ripple and noise	250 μV RMS, 1 mV pk-pk
remote programming resistance	1000 ohms/volt, nominal
remote programming voltage	volt per volt
temperature coefficient	0.01% + 300 μV/°C with external programming resistor; 0.015% + 300 μV/°C with internal programming resistor.

AC input

line	105-132 Vac; 57-63 Hz. For operation at other than 57-63 Hz and 205-265 Vac, see AC input option.
power	LCS-1 13 watts; LCS-2, LCD-2 20 watts; LCS-3, LCD-3 40 watts; LCS-A 80 watts; LCD-A 55 watts; LCS-4, LCD-4 125 watts; LCS-B 125 watts; LCS-C 215 watts.

Overshoot

no overshoot on turn-on, turn-off, or power failure

Ambient operating temperature range

continuous duty from −20°C to +71°C with corresponding load current ratings for all modes of operation.

Storage temperature range

−55°C to +85°C

Overload protection

Thermal

thermostat; automatic reset when overtemperature condition is eliminated. (Not applicable to LCS-1, LCS-3, LCD-3, LCS-A, and LCD-A models.)

Electrical

external overload protection: automatic electronic current limiting circuit limits the output current to a preset value, thereby providing protection for the load as well as the power supply.

Input and output connections

thru terminal block on chassis.

Integrated circuit regulation

integrated circuit provides regulation system, except for input and output capacitors, rectifiers and series regulation transistors.

Convection cooled

no external heat sinking or forced air required.

Number of package sizes

seven (7). Package 1, 2, 3, A, B, 4, C.

Controls

DC output control

simple screwdriver voltage adjustment over entire voltage range.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Current limit

140% of 40°C rating for LCS-1, LCS-2, LCD-2, LCS-3, LCD-3, LCS-A, LCD-A, 110% of 40°C rating for LCS-4, LCD-4, LCS-B, LCS-C.

Mounting

LCS-1 five mounting surfaces; LCS-2, LCD-2 four mounting surfaces; LCS-3, LCD-3, LCS-A, LCD-A, LCS-4, LCD-4, LCS-B and LCS-C three mounting surfaces, designed to mount in Lambda standard rack adapters.

Physical data

Weight

LCS-1 1 lb. net, 1⅞ lbs. ship; LCS-2, LCD-2 2¼ lbs. net, 3⅛ lbs. ship; LCS-3, LCD-3 3½ lbs. net, 4½ lbs. ship; LCS-A 6 lbs. net, 7 lbs. ship; LCD-A 5 lbs. net, 6 lbs. ship; LCS-4, LCD-4 8 lbs. net, 9 lbs. ship; LCS-B 7 lbs. net, 8 lbs. ship; LCS-C 10 lbs. net, 11 lbs. ship.

Size

LCS-1 3 5/32" x 3 9/32" x 1 21/32" single output models; LCS-2, LCD-2 3 5/32" x 3 9/32" x 3 9/32" single and dual output models; LCS-3, LCD-3 3 3/16" x 3 3/4" x 5" single and dual output model; LCS-A, LCD-A 3 3/16" x 3 3/4" x 6½" single and dual output models; LCS-4, LCD-4 4 29/32" x 4 29/32" x 5" single and dual output model; LCS-B 3 3/16" x 4 15/16" x 6½" single output models; LCS-C 3 3/16" x 4 15/16" x 9 3/8" single output models.

Finish

gray, FED. STD. 595 No. 26081

Accessories

rack adapters, overvoltage protectors, chassis slides and blank panels.

Options

AC input

add suffix "-V" to model number for operation at 205-265 Vac, 47-440 Hz, except LCS-1 series and derate current 10% for 47-53 Hz operation except LCS-1 series. For 360-440 Hz operation consult factory. Add 10% or $10.00 to price, whichever is greater.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

Net
© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LX series

Specifications of LX series

DC output

voltage range: refer to tables.

Regulated voltage

regulation, line	0.1%
regulation, load	0.1%
ripple and noise	1.5 mV RMS, 5 mV pk-pk with either positive or negative terminal grounded.
remote programming resistance	200-ohms/volt nominal for LXS-B and LXS-C models. 1000 ohms/volt nominal for LXS-A and LXS-4 models.
temperature coefficient	0.03%/°C

AC input

line: 105-132 Vac, 47-440 Hz. 40° rating not applicable for 50 Hz operation. For 205-265 Vac, see A.C. input option. For operation at 400 Hz consult factory.

power:

LXD-3	35 watts
LXS-A	90 watts
LXD-A	90 watts
LXS-B	125 watts
LXD-B	115 watts
LXS-4	140 watts
LXS-C	215 watts
LXD-C	185 watts
LXS-CC	300 watts
LXS-D	460 watts

Ambient operating temperature range

continuous duty from 0° to +71°C with corresponding load current ratings for all modes of operation.

Storage temperature range

−55°C to +85°C

Tracking accuracy (dual models)

2% absolute voltage difference; 0.2% change for all conditions of line, load and temperature.

Overload protection

Thermal

thermostat; automatic reset when overtemperature condition is eliminated. (Not applicable to LXD-3-152.)

Electrical

external overload protection: automatic electronic current limiting circuit limits the output current to a preset value, thereby providing protection for the load as well as the power supply.

Overshoot

no overshoot on turn-on, turn-off or power failure.

Input and output connections

through terminal block on chassis.

Power hybrid voltage regulator or integrated circuit regulation

some models have Power Hybrid Voltage Regulator providing complete regulation system while others have an integrated circuit providing regulation system except for input and output capacitors, rectifiers and series regulation transistors.

Convection cooled

no external heat sinking or forced air required.

Number of package sizes

seven (7) packages 3, A, B, 4, C, CC, and D.

Controls

DC output control

simple screwdriver voltage adjustment over entire voltage range.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Transformer

MIL-T-27C, Grade 6.

Mounting

three mounting surfaces, designed to mount in Lambda standard rack adapters.

Physical data

Weight

LXD-3:	3.0 lbs. net,	4.0 lbs. ship.
LXS-A, LXD-A:	6.0 lbs. net,	7.0 lbs. ship.
LXS-B, LXD-B:	7.0 lbs. net,	8.0 lbs. ship.
LXS-4:	8.5 lbs. net,	9.5 lbs. ship.
LXS-C, LXD-C:	10.0 lbs. net,	11.0 lbs. ship.
LXS-CC:	15.0 lbs. net,	17.0 lbs. ship.
LXS-D:	23.0 lbs. net,	26.0 lbs. ship.

Size

LXD-3:	3 3/16" x 3 3/4" x 5"
LXS-A, LXD-A:	3 3/16" x 3 3/4" x 6 1/2"
LXS-B, LXD-B:	3 3/16" x 4 15/16" x 6 1/2"
LXS-4:	4 29/32" x 4 29/32" x 5"
LXS-C, LXD-C:	3 3/16" x 4 15/16" x 9 3/8"
LXS-CC:	4 15/16" x 4 15/16" x 9 3/8"
LXS-D:	4 15/16" x 7 1/2" x 9 3/8"

Finish

gray, FED. STD. 595 No. 26081.

Accessories

rack adapters, blank panels, chassis slides. Overvoltage protectors are available for all models except 5 V single output models which have built-in fixed overvoltage protection at 6.8 volts ± 10%.

Options

A.C. input

add suffix "V" to model number for operation at 205-265 Vac, 47-440 Hz and add 10% or $25.00 to the price, whichever is greater.

Fungus proofing

Add suffix "R" to model and add $20.00 to price.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LY series

Specifications of LY series

DC output

voltage range: refer to tables

regulation, line ..... 0.1% for line variations from 105-132 VAC

regulation, load ..... 0.1% for load variations from 0 to full load

remote programming resistance 1000 ohms/volt (not applicable on dual tracking models)

remote programming voltage .. volt/volt (not applicable on dual tracking models)

ripple and noise ..... 0.2% RMS of output voltage with either positive or negative terminal grounded (LYS & LYD models)

10mV RMS on 5 V DC output

3mV RMS on ±15 to ±12V DC output } LYT & LYQ models

3mV RMS on 24-28 V DC output } LYT & LYQ models

temperature coefficient ..... 0.03% °C.

power failure ..... output will remain within regulation for 20 mS after power failure on LYS-5-50V, LYS-5-6, LYD-5-062, LYT-5-5152, and LYQ-5-5153 models.

AC input

line ..... 105-132 VAC 47-440 Hz

power .....

LYS-5-5-OV	280 watts
LYS-5-6	280 watts
LYS-5-12 thru LYS-5-28	405 watts
LYD-5-062	280 watts
LYD-5-152	405 watts
LYT-5-5152	320 watts
LTQ-5-5153	320 watts

DC input

145 VDC ± 10%

Overshoot

no overshoot on turn-on, turn-off, or power failure

Ambient operating temperature range

continuous duty from −20°C to +71°C (LYS and LYD models) 0°C to +71°C with load current ratings as shown in tables (LYT and LYQ models)

Storage temperature range

−55°C to 85°C

Tracking accuracy (dual tracking outputs)

2% absolute voltage difference; 0.2% change for line load and temperature.

Overload protection

Thermal

thermostat, automatic reset when over-temperature condition is removed.

Electrical

external overload protection: automatic factory preset electronic current limiting circuit limits the output current thereby providing protection for the load as well as the power supply.

internal failure protection: provided by fuse.

Input and output connections

heavy duty terminal block on rear of chassis.

Controls

DC output controls

one voltage adjustment control for single or dual tracking outputs. two voltage adjustment controls for independent dual outputs.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Overvoltage protection

built in fixed overvoltage protection on all models with 5V dc outputs. Non-adjusting trip point is 6.8 V dc ± 10%.

For all other voltages, optional overvoltage protection available.

Physical data

Weight:

11½ lbs. net

13 lbs. ship

mounts in two positions.

Size:

3 3/16" x 4 15/16" x 15"

Accessories

rack adapters, overvoltage protectors (only one overvoltage protection unit required for dual tracking outputs).

Guaranteed for 5 years

5 year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LM series

Specifications of LM Series

DC output

voltage range: refer to tables.

Regulated voltage

regulation, line	0.05% plus 4 mV for line variations from 105-132 Vac. 0.01% plus 1.0 mV for line variations from 105-132 Vac. ("Y" option)
regulation, load	0.03% plus 3 mV for load variations from 0 to full load. 0.02% plus 2 mV for load variations from 0 to full load. ("Y" option)
remote programming resistance	200 ohms/volt, nominal
remote programming voltage	volt per volt
ripple and noise	1 mV RMS, 3 mV pk-pk with either pos. on neg. terminal grounded. 0.5 mV RMS, 1.5 mV pk-pk with 60 Hz input. ("Y" option)
temperature coefficient	0.03%/°C; 0.01%/°C ("Y" option)

Overshoot

no overshoot on turn-on, turn-off, or power failure

AC input

line	105-132 Vac: 45-440 Hz. 40°C rating not applicable for 50 Hz operation. For 400 Hz operation consult factory. 205-265 Vac, see AC input option.
power	LM-B Models, 80 watts(1). LM-C Models, 140 watts(1); LM-CC Models, 220 watts(1); LM-D Models, 300 watts(1); LM-E Models, 450 watts(1); LM-EE Models, 750 watts(1); LM-F Models, 900 watts(1); LM-G Models, 1300 watts(1); LM-H Models, 2200 watts(1).

(1) With output loaded to 40°C rating, input 132 Vac and 55-65 Hz.

Ambient operating temperature range

continuous duty from −20°C to +71°C ambient with corresponding load current ratings for all modes of operation and mounting positions.

Storage temperature range

−55°C to +85°C

Overload protection

Thermal

thermostat; automatic reset when over-temp condition is eliminated.

Electrical

external overload protection: fixed, automatic electronic current limiting circuit limits the output current upon external overloads, including short circuit, thereby providing protection for load as well as power supply.

Input and output connections

heavy duty terminal block on rear of chassis; output terminals on LM-F, LM-G, and LM-H are two heavy duty studs.

Controls

DC output control

simple screwdriver voltage adjustment over entire voltage range.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Meters

voltmeter and ammeter on metered models of LM-F, G, and H.

Mounting

three surfaces, each with tapped mounting holes, can be utilized for mounting LM-B, C, CC, and D Models. One mounting surface for E and EE Models, and only in the horizontal plane. Designed to mount in Lambda Standard Rack Adapters.

Physical data

Weight

LM-B Models, 6 lbs. net, 7 lbs. ship; LM-C Models, 9 lbs. net, 10 lbs. ship; LM-CC Models, 15 lbs. net, 17 lbs. ship; LM-D Models, 20 lbs. net, 23 lbs. ship; LM-E Models, 28 lbs. net, 31 lbs. ship; LM-EE Models, 37 lbs. net, 47 lbs. ship; LM-F Models, 54 lbs. net, 64 lbs. ship; LM-G Models, 72 lbs. net, 84 lbs. ship; LM-H Models, 110 lbs. net, 145 lbs. ship.

Size

See tables.

Finish

LM-B, C, CC, D, E, EE, F, G, and H — grey, FED. STD. 595 No. 26081. LM-F, G, H front panels brushed aluminum clear anodized panels with grey inlay (standard).

Accessories

rack adapters, chassis slides, overvoltage protectors, metered and non-metered panels, blank panels.

Options

High performance

add suffix "-Y" — all models available with these specifications for $15.00 extra: Line regulation .01% + 1 mV; Load regulation .02% + 2 mV; Ripple and noise — with 60 Hz input: ½ mV RMS; 1½ mV pk-pk with either positive or negative terminal grounded; Temp. coeff. .01%/°C. These specifications are standard on all H Packages and are included in the price.

AC input

add suffix "-V" — for operation at 205-265 Vac. Add 10% or $10.00 to the price, whichever is greater.

Fungus proofing

add suffix "-R" — all models can be obtained with MIL-V-173 varnish for all fungi nutrient components. LM-B thru EE at $10.00 surcharge; LM-F, G, H at $15.00 surcharge.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LV series

Specifications of LV series

DC output

voltage range: refer to tables.

Regulated voltage

regulation, line	0.15% + 10 mV for line variations from 105-132 Vac.
regulation, load	0.15% + 10 mV, no load to full load or full load to no load.
ripple and noise	10 mV RMS, max. with electronic ripple reducer.
remote programming resistance	200 ohms/volt nominal
remote programming voltage	volt per volt
temperature coefficient	0.03% + 0.5 mV/°C

AC input

line	105-132 Vac, 57-63 Hz
power	LV-E Models, 450 watts; LV-EE Models, 850 watts; LV-G Models, 1350 watts.

Overshoot

no overshoot on turn-on, turn-off, or power failure

Efficiency

greater than 50%, with advanced SCR circuitry.

Ambient operating temperature range

0°C to +71°C

Storage temperature range

−55°C to +85°C

Overload protection

Thermal

thermostat on LV-E and LV-EE models automatic reset when overtemp condition is eliminated; circuit breaker must be reset on all LV-G models.

Electrical

external overload protection: fixed, automatic electronic current limiting circuit limits the output current upon external overloads, including short circuit, thereby providing protection for loads as well as power supply.

internal failure protection: provided by fuse.

Overvoltage protection

built-in, continuously adjustable overvoltage protection crowbars output when trip level is exceeded. Included on all models.

Input connections

heavy duty terminal block on rear of chassis.

Output connections

2 heavy duty studs on rear of chassis; ¼"-28 on all E and EE packages, 5/16"-24 on G packages.

Convection cooled

no external heat sinking or forced air required.

Number of package sizes

three (3) packages E, EE, G.

Controls

DC output control

screwdriver voltage adjustment over entire voltage range.

Overvoltage protector control

screwdriver adjustment covers entire operating range.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Mounting

one surface with tapped mounting holes for LV-E and LV-EE Models; designed to mount in standard Lambda rack adapters. LVG is rack mounted.

Physical data

Weight

LV-E Models, 40 lbs. net, 50 lbs. ship; LV-EE Models, 60 lbs. net, 75 lbs. ship; LV-G Models, 120 lbs. net, 140 lbs. ship.

Size

LV-E, 4 13/16"H x 7½"W x 11¾"D; LV-EE, 4 13/16"H x 7½"W x 16½"D; LV-G, 5¼"H x 19"W x 16½"D (full rack).

Finish

LV-E, EE, and G grey FED. STD. 595 No. 26081. LV-G. Front panel — brushed aluminum clear anodized panels with grey inlay (standard).

Accessories

rack adapters, chassis slides, blank panels.

Options

AC input

add suffix "V" to LVEE models only for operation at 205-265 Vac. 47-63 Hz and add 10% to the price.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

Net
© United Technical Publicatio

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LW series

Specifications of LW series

DC output

voltage range: refer to tables.

Regulated voltage

regulation, line	2% for line variations from 105-132 Vac.
regulation, load	2%, 20% load to full load or full load to 20% load, or 2% full load to no load with a 20% preload throughout voltage adjust range.
ripple and noise	300 mV RMS, max., or 2% of output voltage, whichever is greater.
remote programming resistance	200 ohms/volt nominal
remote programming voltage	volt per volt
temperature coefficient	0.03% + 0.5 mV/°C

AC input

line	105-132 Vac, 57-63 Hz
power	LW-D Models, 450 watts; LW-E Models, 450 watts; LW-EE Models, 850 watts; LW-G Models, 1350 watts.

Overshoot

no overshoot on turn-on, turn-off, or power failure.

Efficiency

greater than 50%, with advanced SCR circuitry.

Ambient operating temperature range

0°C to +71°C

Storage temperature range

−55°C to +85°C

Overload protection

Thermal

thermostat on all LW-D, LW-E and LW-EE models automatic reset when over-temp condition is eliminated; circuit breaker must be reset on LW-G models.

Electrical

external overload protection: fixed, automatic electronic current limiting circuit limits the output current upon external overloads, including short circuit, thereby providing protection for load as well as power supply.

internal failure protection: provided by input fuse.

Input connections

heavy duty terminal block on rear of chassis.

Output connections

2 heavy duty studs on rear of chassis, ¼"-28 on all D, E and EE packages except LW-D-18 thru 48; 5/16"-24 on all G packages.

Convection cooled

no external heat sinking or forced air required.

Number of package sizes

four (4) Packages D, E, EE, G.

Controls

DC output control

screwdriver voltage adjustment over entire voltage range.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Mounting

one surface with tapped mounting holes for LW-E and LW-EE Models; three surfaces for LW-D; designed to mount in standard Lambda rack adapter. LW-G is rack mounted.

Physical data

Weight

LW-D Models, 40 lbs. net, 50 lbs. ship; LW-E Models, 40 lbs. net, 50 lbs. ship; LW-EE Models, 60 lbs. net, 75 lbs. ship; LW-G Models, 120 lbs. net, 140 lbs. ship.

Size

LW-D, 4 15/16"H x 7½"W x 9⅜"D; LW-E; 4 15/16"H x 7½"W x 11¾"D; LW-EE, 4 15/16"H x 7½"W x 16½"D; LW-G, 5 3/16"H x 19"W x 16½"D (full rack).

Finish

LW-D, E, EE, G grey, FED. STD. 505 No. 26081. LW-G Front Panel — brushed aluminum clear anodized panels with grey inlay (standard).

Options

AC input

add suffix "V" to LVEE models only for operation at 205-265 Vac. 47-63 Hz and add 10% to the price.

Accessories

rack adapters, chassis slides, blank panels.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

$35 Lambda-Pak™

FIELD REPAIRABLE, ADJUSTABLE VOLTAGE AC TO DC SINGLE AND DUAL OUTPUT POWER SUPPLIES

"Unencapsulated" regulated supplies designed to power operational amplifiers, linear and digital integrated circuits and transistor circuitry. Ideal for equipment where low power, small size, PC board mounting and low costs are essential.

Voltage and current ratings

LZ-10 SERIES SINGLE OUTPUT MODELS 2½" x 3½" x ⅞"

Model	Voltage(1) VDC	Current mA	Price(2)
LZS-10	5	450	$35
LZS-11	12	195	35
LZS-11	15	150	35

LZ-20 SERIES SINGLE OUTPUT MODELS 2½" x 3½" x 1¼"

Model	Voltage(1) VDC	Current mA	Price(2)
LZS-20	12	268	$55
LZS-20	15	300	55
*LZD-22	24	73	40
*LZD-23	24	129	55
*LZD-22	28	84	40
*LZD-23	28	143	55

*Single output ratings for dual output models connected in series

LZ-30 SERIES SINGLE OUTPUT MODELS 2½" x 3½" x 1⅞"

Model	Voltage(1) VDC	Current mA	Price(2)
LZS-30	5	900	$65
LZS-33	12	336	65
LZS-33	15	400	65
*LZD-32	24	186	65
*LZD-32	28	208	65

*Single output ratings for dual output models connected in series

LZ-20 SERIES DUAL TRACKING OUTPUT MODELS 2½" x 3½" x 1¼"

Model	Voltage(1) VDC	Current mA	Price(2)
LZD-21	± 5	300	$55
LZD-22	±12	73	40
LZD-23	±12	129	55
LZD-22	±15	90	40
LZD-23	±15	150	55

LZ-30 SERIES DUAL TRACKING OUTPUT MODELS 2½" x 3½" x 1⅞"

Model	Voltage(1) VDC	Current mA	Price(2)
LZD-31	± 5	500	$65
LZD-32	±12	186	65
LZD-32	±15	220	65

NOTES: (1) LZ Models are adjustable between the following limits: LZS 10 2 to 6V; LZS 11 8 to 15V; LZS 20 8 to 15V; LZD 21 ±2 to ±6V; LZD 22 ±8 to ±15V; LZD 23 ±8 to ±15V; LZS 30 2 to 6V; LZD 31 ±2 to ± 6V; LZD 32 ±8 to ±15V; LZS 33 8 to 15V

Consult factory for current ratings or voltages not listed above. (2) Prices are U.S.A. list prices only, F.O.B. Melville, N.Y.; North Hollywood, California; Montreal, Canada. All prices and specifications are subject to change without notice.



FEATURES

Outputs
Single and dual (tracking) outputs

Regulation
0.15%—line or load

Ripple and Noise
1.5 mV RMS, 5 mV, pk-pk

Temp. coefficient
0.03%/°C

Tracking accuracy
2% absolute voltage difference (dual output models only) 0.2% change for all conditions of line, load and temperature

Ambient operating temperature
continuous duty from 0°C to +50°C

Wide AC input voltage range
105 to 132 Vac, 57-63 Hz

Storage temperature
—25°C to +85°C

60-day guarantee

LAMBDA ELECTRONICS CORP.
A (Veeco) Company

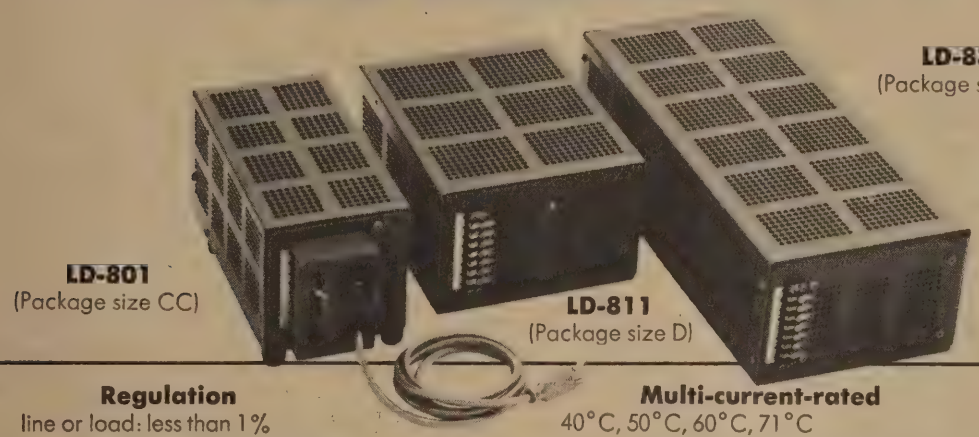
Lambda's Distributor Division maintains a total inventory of over 10,000 power supply units located in Los Angeles, Montreal and New York for 1-day delivery.

© United Technical Publications

LAMBDA ELECTRONICS CORP.

Now from Lambda.
All solid state ac power conditioners

1% line and load regulation 3.5% harmonic distortion
40 db line isolation



LD-831
(Package size EE)

LD-801
(Package size CC)

LD-811
(Package size D)

Regulation
line or load: less than 1%

Response time
less than 50 msec.

All silicon semiconductors

Convection cooled
no external heat sinks

Sinusoidal output
less than 3% distortion

High efficiency
greater than 80%

Wide power factor range
+0.7 PF leading to 0 PF lagging

Remote sensing

Multi-current-rated
40°C, 50°C, 60°C, 71°C

Adjustable output voltage

Remote programing
LD 802, LD 812 and LD 832

Wide frequency range
57-63 Hz or 47-53 Hz

Wide temperature range
0 to 71° C

Wide input voltage range
100-132, 180-235, 200-265 vac

Automatic current limiting
protects load as well as power supply

Completely repairable
all components replaceable

	Model[3]	INPUT VAC Resistive Load	INPUT VAC Inductive Load	OUTPUT VAC (Adjustable)	Frequency Hz	MAXIMUM VA AT AMBIENT OF [1] 40°C	50°C	60°C	71°C	Price[2]
4 15/16" x 4 15/16" x 9 3/8"	LD-801	100-132	105-132	110-120	57-63	250	200	160	85	$140
	LD-802*	100-132	105-132	100-132	57-63	225	180	130	70	200
	LD-803	180-235	190-235	200-220	57-63	200	165	120	70	200
	LD-803-V	200-265	210-265	220-240	47-53	200	165	120	70	200
4 15/16" x 7 1/2" x 9 3/8"	LD-811	100-132	105-132	110-120	57-63	500	440	300	170	150
	LD-812*	100-132	105-132	100-132	57-63	450	350	270	120	225
	LD-813	180-235	190-235	200-220	57-63	400	320	250	120	225
	LD-813-V	200-265	210-265	220-240	47-53	400	320	250	120	225
4 15/16" x 7 1/2" x 16 1/2"	LD-831	100-132	105-132	110-120	57-63	1000	800	600	350	230
	LD-832*	100-132	105-132	100-132	57-63	900	725	550	300	275
	LD-833	180-235	190-235	200-220	57-63	800	640	500	280	275
	LD-833-V	200-265	210-265	220-240	47-53	800	640	500	280	275

*Models LD-802, 812, and 832 are remotely programable.

Note 1. Ratings do not apply for capacitive load; consult factory.
2. All prices F.O.B. Melville, N.Y. All prices and specifications subject to change without notice.
3. "—V option" units are same as LD-803, 813 & 833 respectively except that internal taps on transformer are rewired for input frequency change.

One day delivery—90% of all models

Guaranteed for five years material and labor

A Vesco Company
LAMBDA ELECTRONICS CORP.

LAMBDA ELECTRONICS CORP.

New IC regulated bench power supply with built-in, tracking overvoltage protection

0-10 volts, 1 amp, $90 with OV
0-10 volts, 1 amp, $75 less OV

Also available 0-20, 0-40, 0-120 vdc

Regulation
line 0.01% + 1mv
load 4 mv

Ripple and noise
250 μv rms; 1 mv p-to-p

All silicon DC power supply using integrated circuits to provide regulation system
except for input and output capacitors, rectifiers and series regulation transistors

Multi-position operation
lies flat or stands erect

AC input
105-132 vac 47-440 Hz (Current ratings based on 57-63 Hz.)

Weight
less than 5 lbs.

Output
5-way binding posts

Ambient operating temperature
0—50°C

Temperature coefficient
0.015% + 300 μv/°C

Adjustable current limiting
0% to 110% of rating

Storage temperature
—40°C to +85°C

Convection cooled

Die-cast aluminum construction

No overshoot
on turn-on, turn-off or power failure

Controls
coarse voltage adjust, fine voltage adjust, current adjust, ON/OFF switch, meter function switch.

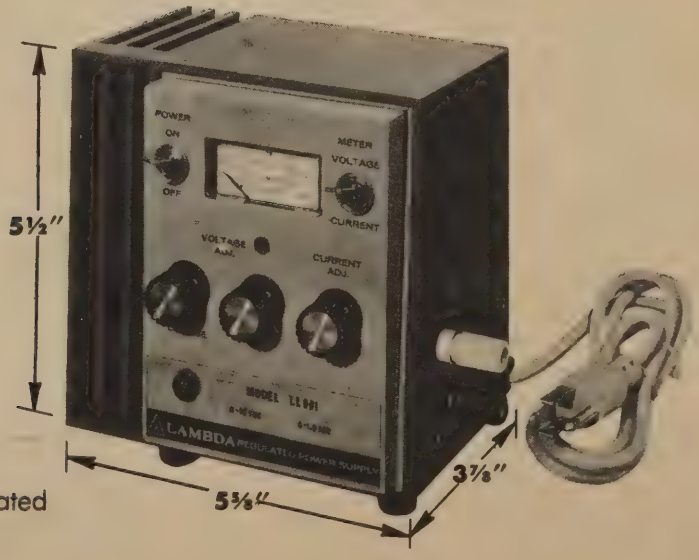
Indicators
power ON light and dual-function meter

Guaranteed for 5 years material and labor

LL series bench-type supply 5⅝" x 5½" x 3⅞"

Model	ADJ. VOLT RANGE VDC	CURRENT RANGE(1)	Price(2)
LL-901	0-10	0-1.0 amp	$85
LL-902	0-20	0-0.65 amp	85
LL-903	0-40	0-0.35 amp	85
LL-905	0-120	0-65 ma	99
WITH BUILT-IN TRACKING OVERVOLTAGE PROTECTION			
LL-901-OV	0-10	0-1.0 amp	$99
LL-902-OV	0-20	0-0.65 amp	99
LL-903-OV	0-40	0-0.35 amp	99

NOTES:
(1) Consult factory for operation at 50 Hz or temperatures above 50°C. Ratings apply 0-50°C.
(2) Independently adjustable OV protection available as accessory on LL-901, 902 (LC-OV-10, range 3-24 vdc) and LL-903 (LC-OV-11, range 3-47 vdc) price $20.
(3) All prices F.O.B. Melville, N. Y. All prices and specifications subject to change without notice.



LL series I-C regulated power supply

Net
© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

LP and LPD series general-purpose laboratory power supplies

Outstanding features

Designed for both bench and rack use

Convection-cooled
no blowers, no external heat sinks

Series/parallel operation

Continuously variable

Remotely programmable

Remote sensing

Constant voltage/constant current

Designed to meet RFI
per MIL STD 826A

Completely protected
short circuit proof; continuously adjustable automatic current limiting

No overshoot
on turn-on, turn-off or power failure

Features of dual output models

5 Models with two independent DC outputs offer widest choice
up to ±250 Vdc, up to 1.7 amps. Either output may be plus or minus, or both outputs may be plus or minus.

Series/parallel operation
of both outputs yields two times the voltage or two times the current—up to 500 volts or up to 3.4 amps.

Auto series/auto parallel (master-slave)
permits tracking to a common reference.

4 Meters
provide simultaneous monitoring of both voltage and current.

LPD SERIES DUAL OUTPUT MODELS

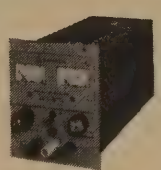
$5\frac{3}{16}$" x $8\frac{3}{8}$" x $10\frac{3}{32}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 500 μV RMS



MODEL	VOLTAGE RANGE Per Output Outputs in Series VDC	MAX. CURRENT (AMPS) AT AMBIENT OF: (1) Per Output. Outputs in Parallel 30°C	40°C	50°C	60°C	PRICE(3)
*LPD-421-FM	0-±20/0-40	1.7/3.4	1.5/3.0	1.3/2.6	0.9	$290
*LPD-422-FM	0-±40/0-80	1.0/2.0	0.85/1.7	0.7/1.4	0.55/1.1	290
*LPD-423-FM	0-±60/0-120	0.7/1.4	0.6/1.2	0.5/1.0	0.4/0.8	325
LPD-424-FM	0-±120/0-240	0.38/0.76	0.32/0.64	0.26/0.52	0.20/0.40	325
LPD-425-FM	0-±250/0-500	0.13/0.26	0.12/0.24	0.11/0.22	0.10/0.20	350

LP 400A SERIES SINGLE OUTPUT MODELS

$5\frac{3}{16}$" x $4\frac{3}{16}$" x 10"
REGULATION: 0.01% + 1 mV
RIPPLE: 500 μV RMS



MODEL	ADJ. VOLTAGE RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF: (1) 30°C	40°C	50°C	60°C	PRICE(3)
*LP-410A-FM	0-10	2	1.8	1.6	1.4	$140
*LP-411A-FM	0-20	1.2	1.1	1.0	0.8	140
*LP-412A-FM	0-40	1.0	0.90	0.80	0.60	140
*LP-413A-FM	0-60	0.45	0.41	0.37	0.33	140
LP-414A-FM	0-120	0.20	0.18	0.16	0.12	160
LP-415A-FM	0-250	80 mA	72 mA	65 mA	60 mA	175

LP 500 SERIES SINGLE OUTPUT MODELS

$5\frac{3}{16}$" x $4\frac{3}{16}$" x $15\frac{1}{2}$"
REGULATION: 0.01% + 1 mV
RIPPLE: 500 μV RMS



MODEL	ADJ. VOLTAGE RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF: (1) 30°C	40°C	50°C	60°C	PRICE(3)
LP-520-FM	0-10	5.0	4.7	4.3	3.7	$210
LP-521-FM	0-20	3.3	3.0	2.6	2.3	200
LP-522-FM	0-40	1.8	1.6	1.4	1.2	200
LP-523-FM	0-60	0.9	0.8	0.7	0.6	215
LP-524-FM	0-120	0.5	0.45	0.4	0.35	270

NOTES:
* Overvoltage protection available as an accessory. Each output requires separate OV accessory — add $35.00 for each output.
(1) Current rating applies over entire voltage range. Ratings based on 57-63 Hz operation.
(2) Prices are for metered models. LP and LPD series models are not available without meters.
(3) All prices subject to change without notice.

OVERVOLTAGE PROTECTOR ACCESSORIES

Each model requires separate OV accessory.



ADJ. VOLTAGE RANGE VDC	MODEL	FOR USE WITH	PRICE(3)
3-24	LH-OV-4	LP-410A-FM, LP-411A-FM, LP-520-FM, LP-521-FM, LPD-421-FM	$35
3-47	LH-OV-5	LP-412A-FM, LP-522-FM, LPD-422-FM	35
3-70	LH-OV-6	LP-413A-FM, LP-523-FM, LPD-423-FM	35

NOTE:
Price is for a single overvoltage accessory. LPD series models require one LH-OV for each output.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LP and LPD series

Specifications of LP and LPD series

DC output
voltage ranges shown in tables on page 6.

Regulated voltage

regulation (line or load)	0.01% + 1 mV for line variations from 105-132 Vac
current range	as shown in table
remote programming resistance	200 ohms/volt nominal
remote programming voltage	volt per volt
ripple and noise	500 μV RMS, 1.5 mV pk-pk (either plus or minus terminal grounded). LPD-425-FM model only — 1 mV RMS, 3 mV, pk-pk.
temperature coefficient	(0-015% + 0.3 mV)/°C—LP models (0.015% + 0.5 mV)/°C—LPD models

Constant current
(current regulated line and load)

Automatic crossover

voltage range	as shown in tables
current range	min: 5 mA or 1% whichever is greater. max: as shown in table.
regulation (line or load)	less than 0.2% or 5 mA whichever is greater.

AC input
105-132 Vac; 47-440 Hz. Ratings based on 57-63 Hz. 205-265 Vac, see "AC Input Option."

Ambient operating temperature range
continuous duty from 0° to +60°C

Storage temperature range
−55°C to +85°C

Overload protection

Thermal
thermostat, automatic reset.

Electrical

external overload protection	adjustable, automatic electronic current limiting, settable to 105% of rated current.
internal failure protection	provided by fuse.

Input and output connections
covered terminal block on rear of chassis; five-way binding posts on front panel. On LPD Models one set of five-way binding posts is provided for each output.

Meters
voltmeter and ammeter. For LPD Models, each output has a separate voltmeter and ammeter.

Controls

DC output controls
coarse and fine voltage adjust and coarse and fine current adjust on front panel of all models. On LPD Models these controls are provided for each output.

Power
on-off switch, front panel.

Remote sensing
provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Physical data

Size
LP-400A Series: 5 3/16"H x 4 3/16"W x 10"D; LP-500 Series: 5 3/16"H x 4 3/16"W x 15 1/2"D; LPD Series: 5 3/16"H x 8 3/8"W x 10 3/32"D.

Weight
LP-400A Series: 7 lbs. net, 10 lbs. ship.; LP-500 Series: 14 lbs. net, 18 lbs. ship., LPD Series: 13 lbs. net, 16 lbs. ship.

Panel finish
brushed aluminum clear anodized panels with grey inlay (LPD models only).

Accessories
rack adapters, overvoltage protectors, pot covers, blank panels.

Options

AC input
add suffix "-V" to model number for operation at 205-265 Vac and add 10% or $25.00 to the price (whichever is greater).
For 50 Hz operation derate current 10%.

Fungus proofing
add suffix "-R" to model number and add $15.00 to price.

Guaranteed for 5 years
5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

LH series 1/2 rack general purpose power supplies offering high power ratings for bench, for rack, or test equipment usage

Outstanding features

Convection cooled
no blowers, no external heat sinks

Regulation
.015% or 1 mV (line or load)

Ripple
250 μV RMS

No voltage spikes or overshoot
on "turn-on," "turn-off" or power failure.

Series/parallel operation
Completely protected
short circuit proof; continuously adjustable automatic current limiting.

Constant voltage/constant current
Remotely programmable
200 ohms/volt, or volt/volt

Remote sensing
provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Meet Mil. environment specs.
vibration: MIL-T-4807A
shock: MIL-E-4907A Proc. 1 and 2
RFI: MIL-I-26600
humidity: MIL-STD-819 Meth. 507
temp. shock: MIL-E-5272C (ASG) Proc. 1
altitude: MIL-E-4970A (ASG) Proc. 1
marking: MIL-STD-130
quality: MIL-Q-9858

LH SERIES ½-RACK MODELS

5 3/16" x 8 3/8" x 15 5/8"
REGULATION: 0.015% + 1 mV
RIPPLE: 250 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 30°C	50°C	60°C	71°C	PRICE[4]
LH-119A-FM	0-10	9.0	8.0	6.9	5.8	$320
LH-122A-FM	0-20	5.7	4.7	4.0	3.3	300
LH-125A-FM	0-40	3.0	2.7	2.3	1.9	300
LH-128A-FM	0-60	2.4	2.1	1.8	1.5	345
LH-131-FM	0-120	1.2	0.9	0.8	0.6	350

OVERVOLTAGE PROTECTOR ACCESSORIES



ADJ. VOLT RANGE VDC	MODEL	FOR USE WITH	PRICE[4]
3-24	LH-OV-4	LH-119A-FM,-122A-FM	$35
3-47	LH-OV-5	LH-125A-FM	35
3-70	LH-OV-6	LH-128A-FM	35

NOTES:
(1) Current rating applies over entire voltage range. Derate 10% for 50 Hz operation.
(2) Prices are for metered models. Non-metered models available at same price.
(3) Overvoltage protection up to 70 Vdc is available as a bolt-on accessory for models with suffix (A). To order, see chart.
(4) Prices subject to change without notice.

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LH series

Specifications of LH series

DC output
voltage ranges shown in tables, page 9.

Regulated voltage
regulation, line ..... 0.015% + 1 mV for line variations from 105-132 Vac.

regulation, load ..... 0.015% + 1 mV for load variations from 0 to full load.

remote programming resistance 200 ohms/volt (nominal)
remote programming voltage.. volt per volt
ripple and noise ..... 250 μV RMS; 1 mV pk-pk with either positive or negative terminal grounded.
temperature coefficient ..... 0.015% + 0.5 mV/°C

Constant current
(current regulated line and load)
Automatic crossover
voltage range ..... as shown in tables.
current range ..... minimum, 20% of 30° rating; maximum, as shown in tables.
regulation, line ..... less than 15 mA for Input Variations of 105-132 Vac.
regulation, load ..... less than 15 mA for input variations of 105-132 Vac from 0 to rated Vdc load voltage change.
ripple and noise ..... less than 1 mA RMS either pos. or neg. terminal grounded.

Constant current
(current regulated line and load)
high precision: barrier strip reconnection
voltage range ..... as shown in tables.
current range ..... 5% to 100% of Current Ratings at any ambient temperature as shown in table.
regulation, line ..... less than 0.05% or 0.5mA whichever is greater for Input Variations of 105-132 Vac
regulation, load ..... less than 0.05% or 0.5 mA whichever is greater for Input Variations of 105-132 Vac from 0 to rated Vdc load voltage charge.
ripple and noise ..... less than 1 mA RMS either pos. or neg. terminal grounded.

AC input ..... 105-132 Vac, 45-480 Hz.

LH-122A-FM, 300 watts(1); LH-119A-FM, 325 watts(1); LH-128A-FM, 250 watts(1); LH-125A-FM, LH-131-FM, 275 watts(1).
(1) With output loaded to full 30°C rating and maximum input voltage.

Ambient operating temperature range
continuous duty from 0° to +71°C with load current ratings shown in tables.

Storage temperature range
−55°C to +85°C

Overload protection
Thermal
thermostat; automatic reset when over-temp. condition is removed.
Electrical
external overload protection: adjustable, automatic electronic current limiting circuit limits the output current to the preset value.
internal failure protection: provided by fuse.

Input and output connections
terminal block on rear of chassis: five-way binding posts on front panel.

Meters
voltmeter and ammeter on all models.

Controls
(consult instruction manual for specific instructions)
DC output controls
coarse and fine voltage adjust, single current adjust, on front panel.
Power
switch, front panel power light energizes when power is on.

Remote sensing
provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Physical data
Size
LH-119A-FM thru LH-131-FM: 5 3/16"H x 8 3/8"W x 15 5/8"D.

Weight
LH-119A-FM, 122A-FM, 125A-FM, 128A-FM, 131-FM, 25 lbs. net, 30 lbs. ship.

Panel finish
brushed aluminum clear anodized panels with grey inlay (standard).

Accessories
rack adapters LRA-1, LRA-2, overvoltage protectors, pot covers, blank panels.

Options
AC input
add suffix "V" to model number for operation at 205-265 Vac and add 10% to the price.
Fungus proofing
add suffix "R" to model number and add $20.00 to price.

Guaranteed for 5 years
5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

LK series

Three high current, all-convection-cooled power packages

0-20, 0-36, 0-60 Vdc and up to 66 amps.

Outstanding features

Convection-cooled
no blowers, no external heat sinking

Regulation
0.015% or 1 mV — line or load

Ripple
500 μV RMS max.

No voltage spikes or over shoot
on turn-on, turn-off or power failure

Series/Parallel operation

Constant voltage/constant current

Remotely programmable
all models, by voltage or resistance

Remote sensing
eliminates effect of power output lead resistance on DC regulation

Meet mil. environment specs.
vibration: MIL-T-4807A
shock: MIL-E-4970A Proc. 1 & 2
humidity: MIL-STD-819 Meth. 507
temp. shock: MIL-E-5272C (ASG) Proc. 1
altitude: MIL-E-4970A (ASG) Proc. 1
marking: MIL-STD-130
quality: MIL-Q-9858

LK SERIES ½-RACK MODELS

5 3/16" x 8 3/8" x 16"
REGULATION: 0.015% + 1 mV
RIPPLE: 500 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[5]
LK-340-A-FM	0-20	8.0	7.0	6.1	4.9	$360
LK-341-A-FM	0-20	13.5	11.0	10.0	7.7	415
LK-342-A-FM	0-36	5.2	5.0	4.5	3.7	365
LK-343-A-FM	0-36	9.0	8.5	7.6	6.1	425
LK-344-A-FM	0-60	4.0	3.5	3.0	2.5	370
LK-345-A-FM	0-60	6.0	5.2	4.5	4.0	425

LK SERIES FULL-RACK MODELS

5 3/16" x 19" x 16½"
REGULATION: 0.015% + 1 mV
RIPPLE: 500 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[5]
LK-350-FM	0-20	35	31	26	20	$705
LK-351-FM	0-36	25	23	20	15	670
LK-352-FM	0-60	15	14	12.5	10	680

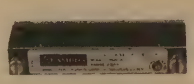
LK SERIES FULL-RACK MODELS

7" x 19" x 18½"
REGULATION: 0.015% + 1 mV
RIPPLE: 500 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 40°C	50°C	60°C	71°C	PRICE[5]
LK-360-FM	0-20	66	59	50	40	$1,100
LK-361-FM	0-36	48	43	36	30	1,000
LK-362-FM	0-60	25	24	22	19	1,100

OVERVOLTAGE PROTECTOR ACCESSORIES



ADJ. VOLT. RANGE VDC	MODEL	FOR USE WITH	PRICE[5]
3-24	LH-OV-4	LK-340-A-FM, -341-A-FM	$35
3-47	LH-OV-5	LK-342-A-FM, -343-A-FM	35
3-70	LH-OV-6	LK-344-A-FM, -345-A-FM	35
3-70	Add "-OV" to Model No.	LK-350-FM, -352-FM	90
3-70		LK-360-FM to 362-FM	120

NOTES:
(1) Current rating applies over entire voltage range.
(2) Prices are for metered models. Non metered models available at same price. Models LK-360-FM, LK-361-FM, and LK-362-FM, which are metered models, not available without meters.
(3) Overvoltage protection up to 70 Vdc as a built-in option for full-rack models. To order, add suffix "-OV" and add $90.00 to price of models LK-350-FM, 351-FM, 352-FM. For models LK-360-FM, 361-FM, 362-FM, add $120.00 and order by adding -OV to model number.
(4) Chassis slides for full rack models: add suffix "-CS" to model number and add $60.00 to the price, except for models LK-360-FM, LK-361-FM and LK-362-FM, for which add $100.00.
(5) All specifications and prices subject to change without notice.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LK series

Specifications of LK series

DC output

voltage ranges shown in tables, page 12.

Regulated voltage

regulation, line or load..... 0.015% + 1 mV for line variations from 105-132 Vac. (or 188-238 Vac LK-360-FM series).

remote programming resistance 200 ohms/volt

remote programming voltage.. volt per volt

ripple and noise ..... 500 μV RMS; with either pos. or neg. terminal grounded.

temperature coefficient ..... 0.015%/°C.

Constant current

(current regulated line and load)

Automatic crossover

voltage range..... as shown in tables.

current range..... minimum — 5% of 40° rating. maximum — as shown in tables.

regulation, line ..... less than 10 mA or 0.1% whichever is greater for Input Variations of 105-132 Vac (188-238 Vac LK-360-FM series).

regulation, load ..... less than 10 mA or 0.1% whichever is greater for Input Variations of 105-132 Vac (188-238 Vac LK-360-FM series) from 0 to rated Vdc load voltage change.

AC input

105-132 Vac, 47-63 Hz. 188-238 Vac, 47-63 Hz (LK-360-FM series only). For operation at 50 Hz derate output current by 10%. 205-265 Vac, see AC option.

Ambient operating temperature range

continuous duty from 0° to +71°C with load current ratings shown in tables.

Storage temperature range

−55°C to +85°C

Overload protection

Thermal

thermostat; automatic reset when over-temp. condition is removed.

Electrical

external overload protection: adjustable, automatic electronic current limiting circuit limits the output current to the preset value, thereby providing protection for load as well as power supply. Current limiting settability to 105% of rated current.

internal failure protection: provided by fuse.

Input and output connections

terminal block on rear of chassis.

Meters

voltmeter and ammeter on all models.

Controls

DC output controls

coarse and fine voltage adjust and coarse and fine current adjust on front panel.

Power

on-off switch, front panel — ½ rack models; circuit breakers, front panel — full-rack models.

Remote sensing

provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Physical data

Size

LK-340-FM Series: 5 3/16"H x 8 3/8"W x 16"D; LK-350-FM Series: 5 3/16"H x 19"W, 16½"D; LK-360-FM Series: 7"H x 19"W x 18½"D.

Weight

LK-340A-FM thru LK-345A-FM — 36 lbs. net, 41 lbs. ship. LK-350-FM thru LK-352-FM — 95 lbs. net, 125 lbs. ship. LK-360-FM thru LK-362-FM — 135 lbs. net, 170 lbs. ship.

Panel Finish

brushed aluminum clear anodized panels with grey inlay (standard).

Accessories

rack adapters LRA-1, LRA-2 (LK-340 series only) chassis slides, overvoltage protectors, pot covers, blank panels.

Options

AC input

for operation of all models at 205-265 Vac, add suffix "-V" to model numbers and add 10% to the price. For operation of LK-360 series at 208 ± 10%, 47-53 Hz add suffix "-Z" to model number and add 10% to price. For "V" and "Z" option derate current 10%.

Fungus proofing

add suffix "R" to model number and add $20.00 to price.

Guaranteed for 5 years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

LB series provides up to 87% efficiency in convection-cooled power packages

3kW output – 7" panel height
5kW output – 12 3/16" panel height

Outstanding features

Up to 87% efficiency

Regulation
line 0.05% + 6 mV
load 0.1% + 10 mV

Ripple
10 mV RMS max. by use of electronic ripple reducer

Convection cooled
no blowers or internal fans, no external heat sinking

Overvoltage protection
standard on all models up to 60 Vdc rating

No overshoot
on turn-on, turn-off or power failure

Remotely programmable

Remote sensing

Magnetics
designed to MIL-T-27C, grade 6

Completely protected
short circuit proof — continuously adjustable automatic current limiting

Constant I. / Constant V.
by automatic crossover

Series operation

Multi-current-rated
for 40°C, 50°C, 60°C, 71°C

LB SERIES, METERED, FULL-RACK

7" x 19" x 20 1/16"

REGULATION:
.05% + 6 mV — line
0.1% + 10 mV — load
RIPPLE: 10 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[4]
LB-701-FM-OV	0-7.5	300	270	235	200	$1,500
LB-702-FM-OV	0-15	180	170	160	150	1,500
LB-703-FM-OV	0-36	80	75	70	65	1,400
LB-704-FM-OV	0-60	50	47	44	40	1,400
LB-705-FM	0-125	25	22	19	16	1,400
LB-706-FM	0-300	10	9.5	9.0	8.0	1,400

LB SERIES, METERED, FULL-RACK

12 3/16" x 19" x 22 1/16"

REGULATION:
.05% + 6 mV — line
0.1% + 10 mV — load
RIPPLE: 10 mV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. AMPS AT AMBIENT OF: [1] 40°C	50°C	60°C	71°C	PRICE[4]
LB-721-FM-OV	0-7.5	500	450	400	350	$2300
LB-722-FM-OV	0-15	300	265	225	180	2300
LB-723-FM-OV	0-36	135	130	125	120	2200
LB-724-FM-OV	0-60	80	75	70	65	2200
LB-725-FM	0-125	40	36	32	28	2200
LB-726-FM	0-300	16	15	14	13	2200

NOTES:
[1] Current rating applies over entire voltage range.
[2] Prices include meters. LB Series models are not available without meters. Prices for all models up to and including 60 Vdc include built-in over-voltage protection.
[3] Chassis slides are available with LB-701 thru LB-706-FM models only. Add suffix "-CS" to the model number and add $100.00 to the price.
[4] Prices are U.S.A. list prices only. F.O.B. Melville, N.Y. All prices and specifications are subject to change without notice. New prices effective October 15, 1971.

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LB series

Specifications of LB series

DC output
voltage ranges as shown in tables, page 15.

Constant voltage

regulation, line	0.05% + 6 mV for line variations from 187-229 Vac or from 229-187 Vac
regulation, load	0.1% + 10 mV for load variations from 0 to full load
remote programming, resistance	200 ohms/volt, nominal
remote programming, voltage	volt per volt
ripple and noise	10 mV RMS max 100 mV RMS max for LB-706-FM 150 mV RMS max for LB-726-FM with "Z" option: 15 mV RMS for LB-701 thru LB-705; 150 mV RMS for LB-706
temperature coefficient	(0.03% + 0.5 mV/)°C

Constant current
(current regulated line and load)

Automatic crossover

current range	zero to max. current as shown in tables
regulation (line and load combined)	less than 1% + 10 mA (1% + 50 mA for LB-706-FM, 726-FM) for input variations from 187-229 Vac or from 229-187 Vac and from 0 to 95% output voltage change
ripple and noise	for LB-701-LB-705-FM and LB-721-FM-OV-LB-725-FM less than $(\frac{1}{*Vout})$% RMS of load current either positive or negative terminal grounded for LB-706-FM, less than $(\frac{10}{Vout})$% of load current for LB-726-FM, less than $(\frac{15}{Vout})$% of load current with "Z" option $(\frac{1.5}{Vout})$% of Idc for LB-701-705; $(\frac{15}{Vout})$% of Idc for LB-706

*Vout equals $I_{out}R_L$ measured at output terminals of power supplies.

AC input
208 ± 10% Vac: 57-63 Hz, 3 phase ± 10% max. phase unbalance, 4 wire. For operation at other than 57-63 Hz, see AC input option. For operation of LB-700 series at 50 Hz consult factory for derating.

Efficiency
up to 87% efficiency.

Response time
for a 20% load change between 20% load and 100% load, the voltage will recover to within 0.5 volt in 150 milliseconds.

Ambient operating temperature range
continuous duty from 0° to +71°C with load current rating shown in tables.

Storage temperature
−55°C to +85°C.

Overload protection
Thermal

thermostat requires resetting of circuit breaker to re-energize.

Overvoltage protection
built-in overvoltage protection on all models up to 60 Vdc rating

Electrical

external overload protection: adjustable, automatic electronic current limiting circuit limits the output current to the preset value, thereby providing protection for load as well as power supply. Current limiting settability to 110% of rated current.
internal failure protection: provided by primary circuit breaker.

Input connections
terminal block on rear of chassis.

Output connections
LB-700 series: 2 heavy duty studs ½"-20 on LB-701-FM-OV and LB-702-FM-OV models; all other models: 5/16"-24 studs on rear of chassis. LB-720 series: 4 heavy duty studs 5/16"-24 on LB-721-FM-OV and LB-722-FM-OV models; all other models: 2 studs, 5/16"-24.

Meters
independent voltmeter and ammeter with ±2% accuracy.

Controls
DC output control

coarse and fine voltage adjust and coarse and fine current adjust on front panel.

Power

circuit breaker to protect against internal failure and to provide an on-off control on front panel. Pilot lamp on front panel energizes when circuit breaker is "on."

Remote sensing
provision is made for remote sensing to eliminate effect of power output lead resistance on dc regulation up to 5 volts in each leg.

Physical data
Weight

LB-700 series: 215 lbs. net, 240 lbs. ship.
LB-720 series: 360 lbs. net, 410 lbs. ship.

Size

LB-700 series: 7"H x 19"W x 20 1/16"D
LB-720 series: 12 3/16" H x 19"W x 22 1/16"D

Panel finish

brushed aluminum clear anodized panels with grey inlay.

Chassis finish

grey, FED. STD. 595 No. 26081

Options
AC input

The LB-700 and 720 Series are available for operation at 230 ±10% VAC 57-63 Hz 3 phase. Add suffix "V" to the model number and add 10% to the price.

LB-700 Series only is available for operation at 208 ±10% VAC 47-53 Hz 3 phase. Add suffix "Z" to the model number and add 10% to the price.

Accessories
chassis slides (LB-701-FM-OV thru LB-706-FM models only) and pot covers.

Guaranteed for 5 years
5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

High performance, high regulation power supplies

from 60 mA to 1.8 amperes for rack or bench use.

Outstanding features

Convection cooled
for convenience and reliability . . . no blowers or external heat sinks

Regulation
0.0005% + 100 μV line or load

Ripple
35 μV RMS

2 meters
monitor both voltage and current simultaneously and continuously.

Remote sensing

Remote programming
by external voltage or resistance for convenience in systems, test equipment and automatic equipment applications.

No overshoot
on turn-on, turn-off or power failure

Accuracy
0.01% + 1 mV

Stability
0.001% + 100 μV over 8 hr. period

Temperature coefficient
(0.001% + 10 μV)/°C

Auto series/auto parallel
with Master-Slave tracking

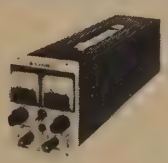
Constant I/Constant V
by automatic crossover

Completely protected
short-circuit proof; continuously adjustable automatic current limiting.

Overvoltage protection
available as low cost add-on accessory.

LR SERIES ¼-RACK MODELS

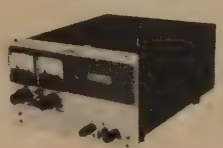
5 3/16" x 4 3/16" x 15 1/4"
REGULATION: 0.0005% + 100 μV
RIPPLE: 35 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 30°C	40°C	50°C	60°C	PRICE[2]
LR-602-FM	0-20	1.1	0.95	0.80	0.64	$265
LR-603-FM	0-40	0.60	0.50	0.42	0.33	265

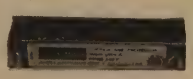
LR SERIES ½-RACK MODELS

5 3/16" x 8 3/8" x 10 3/32"
REGULATION: 0.0005% + 100 μV
RIPPLE: 35 μV RMS



MODEL	ADJ. VOLT. RANGE VDC	MAX. CURRENT (AMPS) AT AMBIENT OF:[1] 30°C	40°C	50°C	60°C	PRICE[2]
LR-612-FM	0-20	1.8	1.6	1.3	1.1	$305
LR-613-FM	0-40	1.0	0.9	0.75	0.6	305
LR-615-FM	0-120	0.33	0.29	0.25	0.21	320
LR-616-FM	0-250	100 mA	90 mA	80 mA	70 mA	340

OVERVOLTAGE PROTECTORS ACCESSORIES



ADJ. VOLT. RANGE VDC	MODEL	FOR USE WITH	PRICE
3-24	LH-OV-4	LR-602-FM, LR-612-FM	$35
3-47	LH-OV-5	LR-603-FM, LR-613-FM	35

NOTES:
(1) Current rating applies over entire voltage range. Ratings based on 55-65 Hz operation. Derate current 10% for 50 Hz input.
(2) Prices are for metered models. LR series models are not available without meters.
All specifications and prices subject to change without notice.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Specifications of LR series

Specifications of LR series

DC output
voltage ranges shown in tables, page 18.

Regulated voltage

regulation, line	0.0005% plus 100 μV for line variations from 105-132 Vac.
regulation, load	0.0005% plus 100 μV for load variations from 0 to full load.
remote programming resistance	1000 ohms/volt. nominal
remote programming voltage	volt per volt
ripple and noise	35 μV RMS, 100 μV pk-pk with either positive or negative terminal grounded, with 60 Hz input.
temperature coefficient*	0.001% plus 10 μV/°C

Constant current
(current regulated line or load)

Automatic crossover

voltage range	as shown in tables.
current range	continuously adjustable from 1% to 100% of 30° rating.
regulation (line or load)	less than 2.0 mA for input variations of 105-132 Vac and from 0 to rated Vdc load voltage change.
ripple and noise	less than 500 μA with either pos. or neg. terminal grounded.

AC input
105-132 Vac, 47-440 Hz (derate dc output current 10% at 50 Hz).
205-265 Vac, 47-440 Hz, see AC input option.

Accuracy*
0.01% plus 1 mV at 25°C

Stability*
0.001% plus 100 μV over any 8-hour period after 30-minute warmup.

Ambient operating temperature range
continuous duty from 0° to +60°C with load current ratings shown in table.

Storage temperature range
−55°C to +85°C

Overload protection

Thermal

thermostat; automatic reset when over-temperature condition is removed.

Electrical

limiting circuit limits the output current to the preset value, thereby providing protection for load as well as power supply. Current limiting settability to 105% of rated current.
to 105% of rated current.

internal failure protection: provided by fuse.

Input and output connections
covered DC output and AC input terminal blocks on rear of chassis.

Controls

DC output control

coarse and fine voltage adjust and coarse and fine current on front panel.

Current limiter

coarse and fine front panel concentric controls.

Power

on-off switch, front panel

Remote sensing
provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation, rear panel.

Physical data

Size

LR-602-FM—606-FM, 5 3/16"H x 4 3/16"W x 15 1/4"D;
LR-612-FM—616-FM, 5 3/16"H x 8 3/8"W x 10 3/32"D.

Weight

LR-602-FM—606-FM, 11 lbs. net, 14 lbs. ship;
LR-612-FM—616-FM, 14 lbs. net, 17 lbs. ship.

Finish

brushed aluminum clear anodized panels with grey inlay (standard).

Accessories
rack adapters LRA-1, LRA-2, overvoltage protectors, pot covers, blank panels.

Options

AC input

for operation at 205-265 Vac, add suffix "-V" to model number and add 10% to the price. Derate output current 10% at 50 Hz.

Fungus proofing

add suffix "R" to model number and add $20.00 to price.

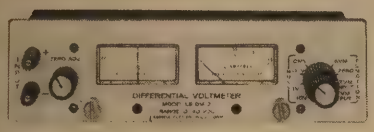
Guaranteed for 5 years
5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

*Remote programming mode only.

© United Technical Publications

LS series is two instruments in one
Expand the capability of your laboratory

With this plug-in



it becomes a high precision power differential voltmeter





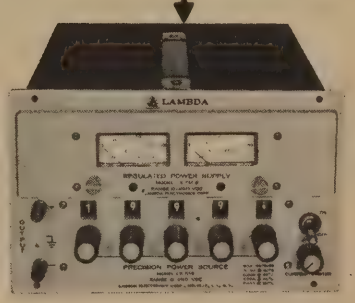
LS power source

ONE DAY DELIVERY ALL MODELS

With this plug-in



it becomes a metered high precision power supply



FEATURES OF THE HIGH PRECISION POWER DIFFERENTIAL VOLTMETER

- **Draw power as you measure voltage...**

  The first and only differential voltmeter to furnish high stability power output while being used as a voltmeter... no need for a separate power supply.

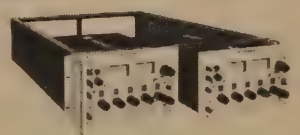
- **Plus all power supply specifications**

FEATURES OF THE METERED HIGH PRECISION POWER SOURCE

- **0.0005% plus 100μV Regulation** — best of any high stability power supply in this price range.
- **Ripple** — 35μV rms; 100μV p-p.
- **Accuracy** — 0.01% + 1mV.
- **2 Meters** — monitor both voltage and current simultaneously and continuously.
- **Twice the power** — in a convenient ½-rack package.
- **Guaranteed for 5 years** — the only 5-year guarantee that includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.



- **Multi-Current-Rated** — for 30°C, 40°C, 50°C, 60°C — Covers temperatures most often encountered in laboratory work.
- **5 Models** — with ranges of 0-10, 0-20, 0-40, 0-120, 0-250VDC—Wide selection of ranges to suit your specific needs.
- **Illuminated digital readout** — 5-digital voltage dials provide convenient precise adjustment (200μV resolution over entire range).
- **Only 5¼" high**—convenient half-rack size for rack or bench use.
- **Stability** — 0.001% + 100μV for 8 hours.
- **All silicon-designed for maximum reliability.**
- **Convection-cooled** — no blowers, no external heat sinks.
- **Remote programing**—by changes in voltage or resistance for convenience in systems, test equipment and automatic equipment applications.
- **Auto Series/Auto Parallel** — with Master-Slave tracking.
- **Constant voltage/Constant current.**
- **Completely protected** — short-circuit proof; continuously adjustable automatic current limiting.
- **Overvoltage protection**—available as low cost add-on accessory.
- **Rubber feet** — provided for bench use.
- **AC Input** — 105-132VAC, 47-440 Hz (derate dc output current 10% at 50 Hz) 205-265VAC at extra charge. ("-V" option)
- **Fungus Proofing Option**—Add suffix "R" to model number and add $20.00 to price



- **Mount in Rack Adapters**—LRA-1 ($60.00) or LRA-2 ($35.00). Rack adapter LRA-1 only is available with chassis slides mounted. Add suffix "CS" to rack adapter model number and $50 to price.

Basic Non-Metered Model	Voltage Range	Max. Amps at Ambient of (1) 30°C	40°C	50°C	60°C	(2) Price
LS-511A	0-10VDC	2.8A	2.5A	2.1A	1.7A	$445
LS-512A	0-20VDC	1.8A	1.6A	1.3A	1.1A	445
LS-513A	0-40VDC	1.0A	0.9A	0.75A	0.6A	445
LS-515A	0-120VDC	0.33A	0.29A	0.25A	0.21A	445
LS-516A	0-250VDC	0.1A	0.09A	0.08A	0.07A	445

Metered Accessory Model	(2) Price
LS-FM1	$55
LS-FM2	55
LS-FM3	55
LS-FM5	55
LS-FM6	55

Diff. VM Accessory Model	(2) Price
LS-DM1	$125
LS-DM2	125
LS-DM3	125
LS-DM5	125
LS-DM6	125

Over Volt. Protect. Model	Adj. V. Range	Price
LHOV-4	3-24	$35
LHOV-4	3-24	35
LHOV-5	3-47	35

NOTES:

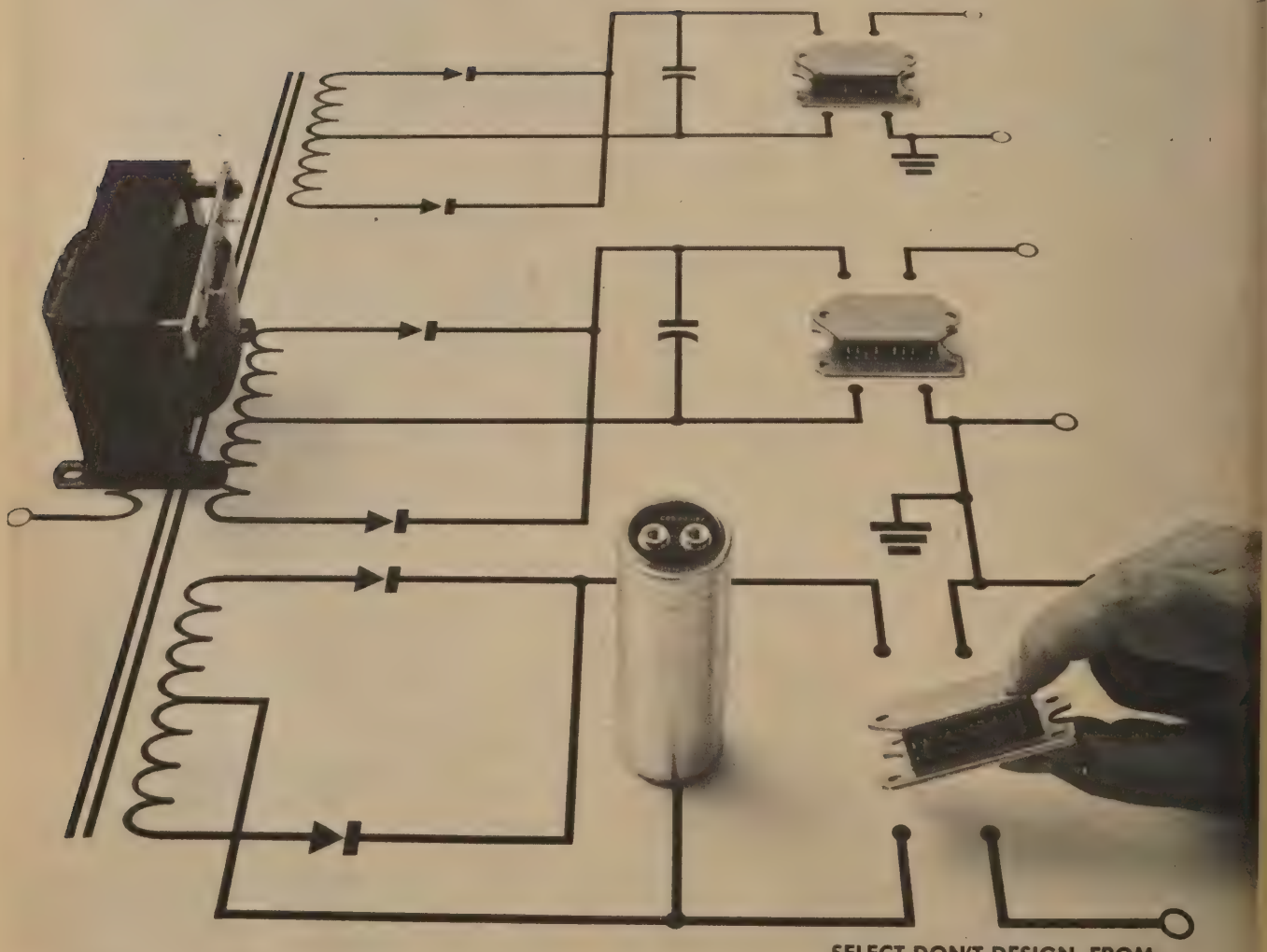
1 Current rating applies over entire voltage range. Ratings based on 55-65 Hz operation. Derate current 10% for 50 Hz.
2 This price is for non-metered Precision Power Source. Addition of Metered Accessory Plug-In (next two columns) is necessary to have Metered High Precision Power Supply. Addition of Differential Voltmeter Accessory Plug-In to the basic model is necessary for the unit to function as a High Precision Differential Voltmeter.

LAMBDA ELECTRONICS CORP.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

LAMBDA POWER KITS

pre-designed power supply circuits and selected components for building your own power supply using standard and voltage regulating transformers



SELECT-DON'T-DESIGN FROM OFF-THE-SHELF COMPONENTS:

power transformers
filter chokes
computer grade electrolytic capacitors
silicon rectifiers
power hybrid voltage regulators

Net

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Lambda power kits

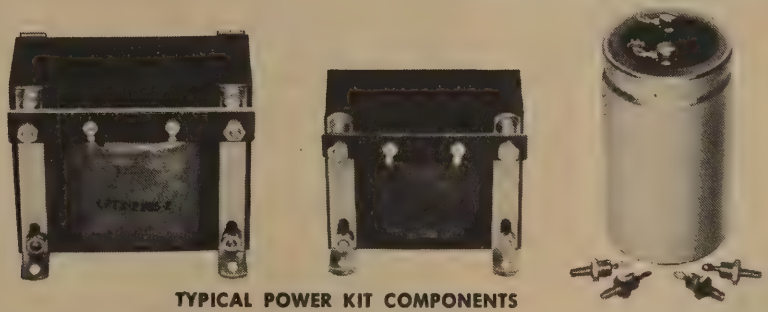
pre-designed power supply circuits and selected components providing four levels of regulation and ripple . . . 200 circuits

1. Define parameters

- **output voltage**
- **current**
- **regulation**
- **ripple**

2. Select power kits

All the major components you need . . . pre-designed to meet your specific requirements and delivered off-the-shelf from a single source of supply



TYPICAL POWER KIT COMPONENTS

Everything you need for a pre-designed power supply

Lambda power kits are comprised of components selected for a pre-designed power supply circuit so that you can build your own dc power supply. The components vary depending upon the circuit selected, as well as the dc voltage and dc current required.

Major components supplied are:

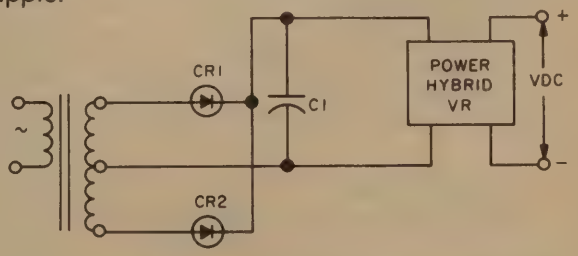
- power and ferro-resonant transformers
- ac capacitors
- filter chokes
- computer grade electrolytic capacitors
- silicon rectifiers
- regulator systems
- power hybrid voltage regulators

Designed for breadboard, pre-production and production models

Lambda, with the introduction of standard power kits, leaves you free to design your circuit without having to bother with the power supply. Lambda now offers a wide selection of power supply kits to provide you with all the major components needed to build a power supply. At the same time, Lambda stocks these items so you get off-the-shelf delivery from 4 regional distribution points.

Wide selection of circuits for regulation and ripple

Lambda offers a selection of pre-designed groups of circuits from which you can select the regulation and ripple characteristics required for your application. Specifications are available from 0.01% regulation 250 μV RMS ripple to 20% regulation at 2 V RMS ripple.



Wide selection of output voltages and currents

in each group of circuits Lambda offers a wide selection of voltages and currents to meet your needs . . . both single and dual outputs. Voltage ranges up to 48 Vdc and current ranges up to 50 amperes dc are provided.

Simply select what you need . . . no calculations or design necessary

all the circuits supplied with the Power Kits are complete showing all components, and have been pre-designed, proved and tested by Lambda Engineering to assure you the same quality and performance achieved by Lambda's standard line of power supplies. In addition, thermal properties of rectifiers and transistors for heat sinking are provided. Lambda transformers and chokes carry the same 5 year guarantee as Lambda power supplies. Lambda transformers and chokes are fully varnish-impregnated.

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Circuit specifications/power kits

Circuit specifications

SERIES 1000 — Capacitor-input filter power supply circuits

regulation, line	1.2% per % @ full load
regulation, load	20% from ½ load to full load
output voltage tolerance	±5% @ nominal line of 115 Vac
ripple	1 v RMS, up to 12 Vdc 2 v RMS, 15 to 48 Vdc
dc output voltages	5 to 48 Vdc (eleven ranges)
dc output currents	0.25 to 50 amps (seven ranges)
input voltages	105-132 Vac, 57-63 Hz

SERIES 2000 — Choke-input filter power supply circuits

regulation, line	1% per % @ full load
regulation, load	10% from ½ load to full load
output voltage tolerance	±5% @ nominal line of 115 Vac
ripple	2% (RMS) of dc output voltage
dc output voltages	5 to 48 Vdc (eleven ranges)
dc output currents	1.0 amp to 50 amps (five ranges)
input voltages	105-132 Vac, 57-63 Hz

SERIES 3000 — Regulated power supply circuits

regulation	0.15% + 10 mV — line or load
ripple	5 mV pk-pk
dc output voltages	5 to ±15 Vdc (four ranges)
dc output currents	2 to 50 amps (five ranges)
input voltages	105-132 Vac, 57-63 Hz
temperature coefficient	0.03%/°C
remote sensing	available on some models
automatic current limiting	

SERIES 4000 — Highly regulated power supply circuits

regulation	0.01% + 1 mV — line or load
ripple	250 μV RMS, 1 mV pk-pk
dc output voltages	5 to ± 18 Vdc (five ranges)
dc output currents	0.25 to 50 amps (seven ranges)
input voltages	105-132 Vac, 57-63 Hz
temperature coefficient	0.015%/°C
remote sensing	
remote programming	1000 ohm/v nominal or volt/volt
series/parallel operation	with similar single or dual units
automatic current limiting	

SERIES 5000 Ferro resonant power supply circuits

Input

105-132 Vac — 59-61 Hz

Output

regulation, line	2% for line changes from 105 to 132 Vac or 132 to 105 Vac for any load between 25% and 100% of full load
regulation, load	5% from ½ load to full load for output voltages above 6V. 500 mV from ½ load to full load for 5V and 6V units
output voltage tolerance	±2% @ 25°C, 115 Vac 60 Hz input and 100% load
ripple	100 mV RMS or 1% RMS whichever is greater (200 mV RMS for LPKT-5031-1 and LPKT5081-1)
current limit	transformer automatically limits short circuit current to less than 200% of rated current
effect of line frequency on output voltage	the output changes less than 2.4% for each cycle change in line frequency
dc output voltages	5 to 48 Vdc
dc output currents	1 to 50A

SERIES 6000 Ferro resonant power supply circuits using power hybrid voltage regulator

Input

105-132 Vac — 59-61 Hz

Output

regulation, line	0.02% for line changes from 105 to 132 Vac or 132 to 105 Vac for any load between 0 and 100% of full load
regulation, load	0.2% for 0 to 100% of full load for any line between 105 and 132 Vac
output voltage tolerance	±1% @ 25°C, 115 Vac and 100% load
ripple	1.5 mV RMS, 5 mV pk-pk
current limit	regulator circuit has automatic foldback current limiting to protect the supply as well as the load
temperature coefficient	0.03%/°C
dc output voltages	5 to 28 Vdc
dc output currents	1 to 25A
remote sensing	available on some models

© United Technical Publications

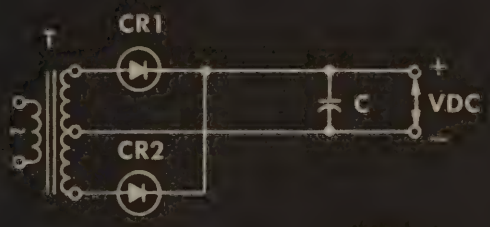
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

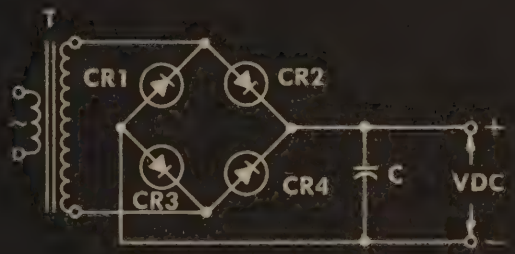
Lambda power kits 1000 series

transformers, capacitors, rectifiers and circuits

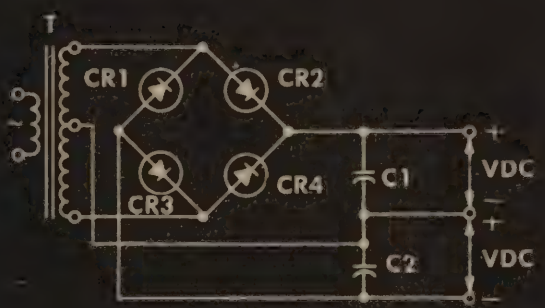
CAPACITOR-INPUT FILTER POWER SUPPLY CIRCUITS



CIRCUIT 1



CIRCUIT 2



CIRCUIT 3

Lambda transformers are guaranteed for five years.



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA POWER TRANSFORMER

Regulation
line: 1.2% per % at full load
load: 20% from ½ load to full load
output voltage tolerance: ±5% at nominal line of 115 Vac

Ripple
1 V RMS, up to 12 Vdc
2 V RMS, 15 to 48 Vdc

DC output voltages
5 to 48 Vdc (eleven ranges)

DC output currents
0.25 to 50 amps (seven ranges)

AC input
105-132 Vac, 57-63 Hz

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Lambda power kits 1000 series

power kit and transformer selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	0.25 AMP 1-9	0.25 AMP 10-24	0.5 AMP 1-9	0.5 AMP 10-24	1.0 AMP 1-9	1.0 AMP 10-24	5.0 AMPS 1-9	5.0 AMPS 10-24	10.0 AMPS 1-9	10.0 AMPS 10-24	25.0 AMPS 1-9	25.0 AMPS 10-24	50.0 AMPS 1-9	50.0 AMPS 10-24
5 VDC	LPKT	1003-1 $11.00	$9.50	1005-1 $11.00	$9.50	1007-1 $13.00	$11.00	1011-1 $22.00	$19.00	1015-1 $34.00	$30.00	1025-1 $67.00	$58.00	1031-1 $100.00	$82.00
	LPTX	8.00	7.00	8.00	7.00	10.00	8.00	16.00	13.00	23.00	19.00	46.00	37.00	62.00	50.00
6 VDC	LPKT	1053-1 $11.00	$9.50	1055-1 $11.00	$9.50	1057-1 $13.00	$11.00	1061-1 $22.00	$19.00	1065-1 $34.00	$30.00	1075-1 $69.00	$59.00	1081-1 $102.00	$84.00
	LPTX	8.00	7.00	8.00	7.00	10.00	8.00	16.00	13.00	24.00	19.00	48.00	38.00	63.00	50.00
12 VDC	LPKT	1103-1 $11.00	$9.50	1105-1 $11.00	$9.50	1107-1 $13.00	$11.00	1111-1 $31.00	$27.00	1115-1 $43.00	$36.00	1125-1 $87.00	$72.00	1131-1 $102.00	$84.00
	LPTX	8.00	7.00	8.00	7.00	10.00	8.00	25.00	21.00	37.00	30.00	75.00	60.00	90.00	73.00
±12 VDC	LPKT	1133-1 $13.00	$11.00	1135-3 $16.00	$13.00	1137-3 $17.00	$14.00	1141-3 $49.00	$42.00						
	LPTX	10.00	8.00	13.00	10.00	14.00	11.00	37.00	30.00						
15 VDC	LPKT	1153-2 $11.50	$10.00	1155-2 $11.50	$10.00	1157-2 $14.00	$12.00	1161-2 $31.00	$27.00	1165-2 $45.00	$38.00	1175-1 $91.00	$77.00	1181-1 $104.00	$86.00
	LPTX	8.50	7.50	8.50	7.50	12.00	10.00	24.00	19.00	37.00	30.00	75.00	61.00	89.00	71.00
±15 VDC	LPKT	1203-3 $13.00	$11.00	1205-3 $16.00	$13.00	1207-3 $17.00	$14.00	1211-3 $49.00	$42.00						
	LPTX	10.00	8.00	13.00	10.50	14.00	11.00	37.00	30.00						
18 VDC	LPKT	1253-2 $11.50	$10.00	1255-2 $11.50	$10.00	1257-2 $14.00	$12.00	1261-2 $31.00	$27.00	1265-2 $46.00	$39.00	1275-1 $91.00	$77.00		
	LPTX	8.50	7.50	8.50	7.50	12.00	10.00	24.00	19.00	39.00	31.00	78.00	62.00		
±18 VDC	LPKT	1303-3 $13.00	$11.00	1305-3 $16.00	$13.00	1307-3 $18.50	$16.00	1311-3 $52.00	$44.00						
	LPTX	10.00	8.00	13.00	10.50	15.00	13.50	40.00	32.00						
24 VDC	LPKT			1355-2 $12.00	$11.00	1357-2 $14.00	$12.00	1361-2 $39.00	$33.00	1365-2 $50.00	$42.00	1375-2 $100.00	$82.00		
	LPTX			10.00	9.00	12.00	10.00	31.00	25.00	42.00	34.00	84.00	66.00		
28 VDC	LPKT			1455-2 $12.00	$11.00	1457-2 $17.00	$14.00	1461-2 $41.00	$35.00	1465-2 $58.00	$48.00	1475-2 $100.00	$82.00		
	LPTX			10.00	9.00	14.00	11.00	33.00	27.00	50.00	40.00	84.00	66.00		
48 VDC	LPKT					1507-2 $20.00	$17.00	1511-2 $47.00	$40.00	1515-2 $90.00	$76.00				
	LPTX					17.00	14.00	40.00	32.00	80.00	64.00				

NOTES:
1. All prices F.O.B. Gouldsboro, Pa. All prices and specifications are subject to change without notice.
2. For quantities of 25 and over, please consult factory.
3. All transformers and rectifiers with capacitors, are abailable separately. Please consult factory for price.

Net
© United Technical Publications

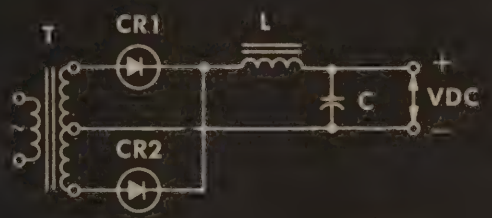
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

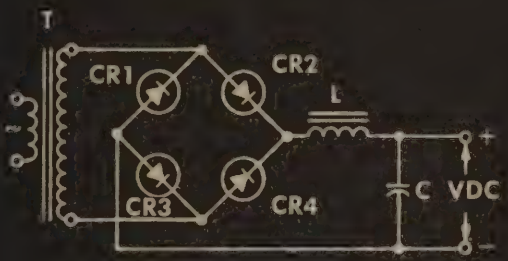
Lambda power kits 2000 series

transformers, chokes, capacitors, rectifiers and circuits

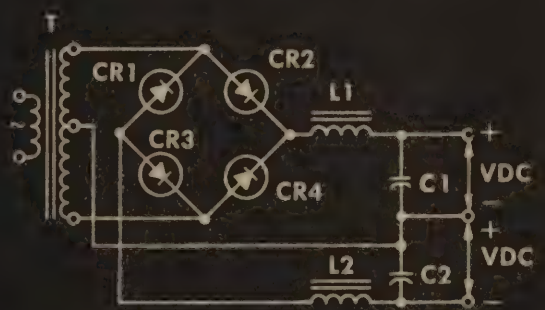
CHOKE-INPUT FILTER POWER SUPPLY CIRCUITS



CIRCUIT 1



CIRCUIT 2



CIRCUIT 3

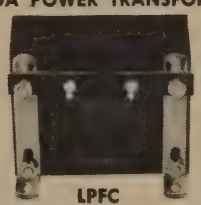
Lambda transformers and chokes are guaranteed for five years.



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA POWER TRANSFORMER



LPFC
LAMBDA FILTER CHOKE

Regulation
line: 1% per % at full load
load: 10% from ½ load to full load
output voltage tolerance: ±5% at nominal line of 115 Vac

Ripple
2% (RMS) of dc output voltage

DC output voltages
5 to 48 Vdc (eleven ranges)

DC output currents
1.0 to 50 amps (five ranges)

AC input
105-132 Vac, 57-63 Hz

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Lambda power kits 2000 series

power kit, transformer and choke selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	1.0 AMP 1-9	1.0 AMP 10-24	5.0 AMPS 1-9	5.0 AMPS 10-24	10.0 AMPS 1-9	10.0 AMPS 10-24	25.0 AMPS 1-9	25.0 AMPS 10-24	50.0 AMPS 1-9	50.0 AMPS 10-24
		2007-1		2011-1		2015-1		2025-1		2031-1	
5 VDC	LPKT	$23.00	$19.50	$41.00	$36.00	$74.00	$61.00	$121.00	$100.00	$150.00	$124.00
	LPTX	8.00	7.00	14.00	12.00	24.00	19.00	37.00	30.00	50.00	39.00
	LPFC	12.00	10.00	21.00	18.00	43.00	35.00	72.00	58.00	80.00	64.00
		2057-1		2061-1		2065-1		2075-1		2081-1	
6 VDC	LPKT	$23.00	$19.50	$41.00	$36.00	$74.00	$61.00	$121.00	$100.00	$150.00	$124.00
	LPTX	8.00	7.00	14.00	12.00	24.00	19.00	37.00	30.00	50.00	39.00
	LPFC	12.00	10.00	21.00	18.00	43.00	35.00	72.00	58.00	80.00	64.00
		2107-1		2111-1		2115-1		2125-1		2131-1	
12 VDC	LPKT	$23.00	$19.50	$46.00	$40.00	$86.00	$71.00	$132.00	$108.00	$184.00	$152.00
	LPTX	8.00	7.00	19.00	16.00	36.00	29.00	48.00	38.00	83.00	67.00
	LPFC	13.00	10.00	21.00	18.00	43.00	35.00	72.00	58.00	80.00	64.00
		2137-3		2141-3							
±12 VDC	LPKT	$44.00	$37.00	$89.00	$75.00						
	LPTX	12.00	10.00	35.00	27.00						
	LPFC	26.00	20.00	42.00	36.00						
		2157-2		2161-2		2165-2		2175-1		2181-1	
15 VDC	LPKT	$25.00	$21.50	$46.00	$40.00	$88.00	$72.00	$138.00	$113.00	$187.00	$154.00
	LPTX	8.00	7.00	19.00	16.00	34.00	27.00	54.00	43.00	86.00	69.00
	LPFC	14.00	12.50	21.00	18.00	42.00	33.00	72.00	58.00	80.00	64.00
		2207-3		2211-3							
±15 VDC	LPKT	$47.00	$40.00	$90.00	$76.00						
	LPTX	13.00	10.00	36.00	28.00						
	LPFC	28.00	25.00	42.00	36.00						
		2257-2		2261-2		2265-2		2275-1			
18 VDC	LPKT	$25.00	$21.50	$61.00	$50.00	$88.00	$72.00	$160.00	$131.00		
	LPTX	8.00	7.00	18.00	15.00	34.00	27.00	74.00	59.00		
	LPFC	15.00	13.00	37.00	30.00	42.00	33.00	72.00	58.00		
		2307-3		2311-3							
±18 VDC	LPKT	$48.00	$41.00	$108.00	$89.00						
	LPTX	13.00	10.00	26.00	21.00						
	LPFC	30.00	26.00	74.00	60.00						
		2357-2		2361-2		2365-2		2375-2			
24 VDC	LPKT	$28.00	$24.00	$74.00	$61.00	$90.00	$75.00	$162.00	$133.00		
	LPTX	10.00	9.00	31.00	25.00	43.00	34.00	73.00	60.00		
	LPFC	16.00	13.00	37.00	30.00	39.00	33.00	72.00	58.00		
		2457-2		2461-2		2465-2		2475-2			
28 VDC	LPKT	$29.00	$24.50	$77.00	$63.00	$90.00	$75.00	$171.00	$141.00		
	LPTX	10.50	9.00	34.00	27.00	43.00	34.00	77.00	61.00		
	LPFC	16.50	13.50	37.00	30.00	39.00	33.00	72.00	58.00		
		2507-2		2511-2		2515-2					
48 VDC	LPKT	$33.00	$27.00	$88.00	$72.00	$104.00	$86.00				
	LPTX	13.00	10.00	43.00	34.00	54.00	43.00				
	LPFC	17.00	14.00	37.00	30.00	37.00	30.00				

NOTES:
1. All prices F.O.B. Gouldsboro, Pa. All prices and specifications are subject to change without notice.
2. For quantities of 25 and over, please consult factory.
3. All transformers and rectifiers with capacitors, are abailable separately. Please consult factory for price.

Net
© United Technical Publications

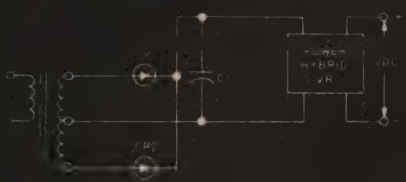
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Lambda power kits 3000 series

transformers, capacitors, regulators, rectifiers and circuits

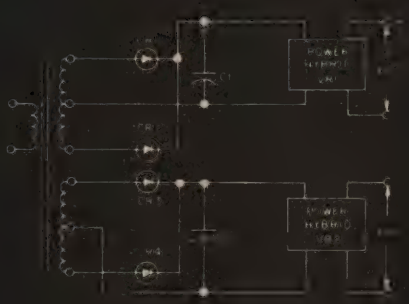
REGULATED POWER SUPPLY CIRCUITS WITH POWER HYBRID VOLTAGE REGULATOR (SIMPLIFIED DIAGRAMS)



CIRCUIT 1



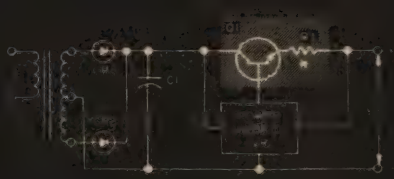
CIRCUIT 4



CIRCUIT 2



CIRCUIT 5



CIRCUIT 3

*Complete circuit diagrams are provided with kits and components. Lambda does not supply those components shown in shaded areas.

**CR3 and C2 not required on all circuits

Lambda transformers are guaranteed for 5 years

Regulation
0.15% + 10 mV, line or load

Ripple
5 mV pk-pk

DC output voltage
5 to ± 15 Vdc (four ranges)

DC output currents
2 to 50 amps (five ranges) nges)

AC input
105-132 Vac, 57-63 Hz

Temperature coefficient
0.03%/°C

Remote sensing on some models

Automatic current limiting

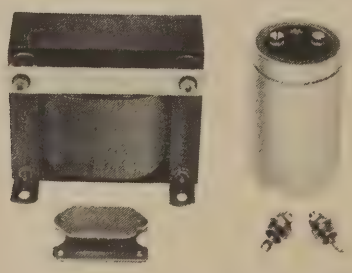
LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Lambda power kits 3000 series

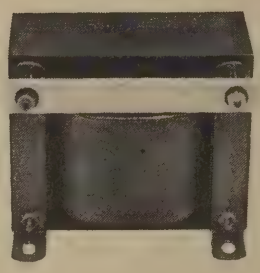
power kit and transformer selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	2.0 AMPS 1-9	2.0 AMPS 10-24	5.0 AMPS 1-9	5.0 AMPS 10-24	10.0 AMPS 1-9	10.0 AMPS 10-24	25.0 AMPS 1-9	25.0 AMPS 10-24	50.0 AMPS 1-9	50.0 AMPS 10-24
5 VDC		3008-1		3011-3		3015-3		3025-4		3031-4	
	LPKT	$62.00	$48.50	$74.50	$58.50	$82.50	$65.50	$106.00	$85.00	$144.00	$106.00
	LPTX	18.50	15.00	28.50	23.00	33.50	27.00	52.50	42.00	80.00	63.50
6 VDC		3058-1		3061-3		3065-3		3075-4		3081-4	
	LPKT	$63.00	$49.00	$75.00	$59.00	$83.00	$66.00	$108.00	$87.00	$146.00	$108.00
	LPTX	19.00	15.50	29.00	23.50	34.00	27.50	53.00	42.50	81.00	64.00
±12 VDC		3138-2		3141-5							
	LPKT	$121.00	$94.00	$137.00	$108.00						
	LPTX	33.50	26.50	45.00	36.00						
±15 VDC		3208-2		3211-5							
	LPKT	$123.00	$96.00	$139.00	$110.00						
	LPTX	34.00	27.00	47.00	38.00						



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA POWER TRANSFORMER

OVERVOLTAGE PROTECTOR ACCESSORIES





MODEL	ADJ. VOLT RANGE VDC	POWER KIT CURRENTS	PRICE
LM-OV-1	3-8	2, 5 and 10 amps	$30.00
LM-OV-2	6-20	2, 5 and 10 amps	30.00
LM-OV-7	3-8	25 and 50 amps	75.00
LM-OV-8	6-20	25 and 50 amps	75.00

All prices and specifications are subject to change without notice.

Net
© United Technical Publications

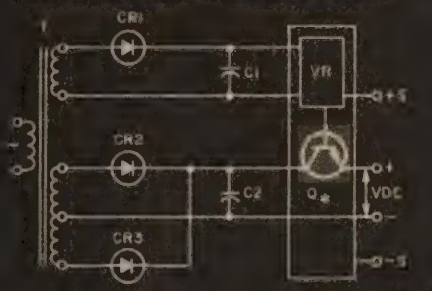
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

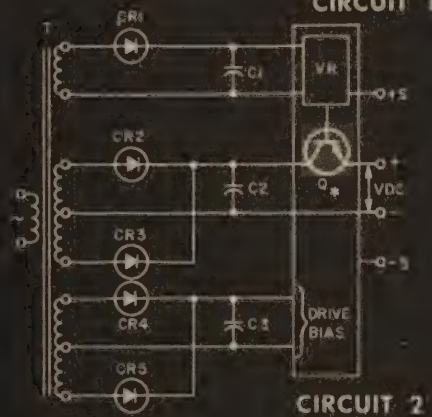
Lambda power kits 4000 series

transformers, capacitors, rectifiers, regulators and circuits

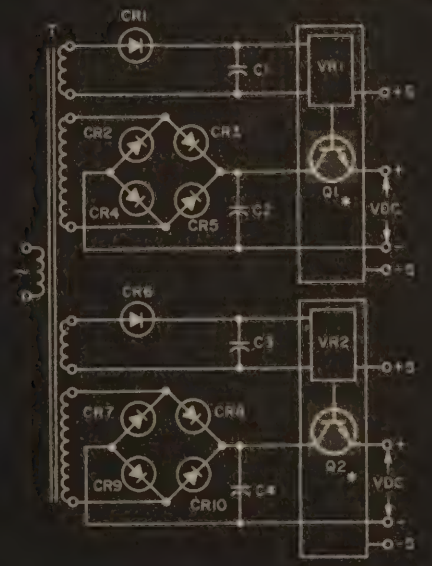
HIGHLY REGULATED POWER SUPPLY CIRCUITS (SIMPLIFIED DIAGRAMS)



CIRCUIT 1

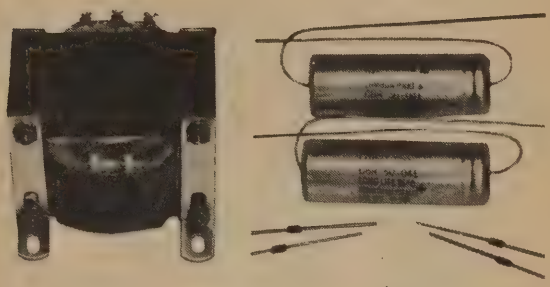


CIRCUIT 2



CIRCUIT 3

*Complete circuit diagrams are provided with kits and components. Lambda does not supply those components shown in shaded areas. Lambda transformers are guaranteed for 5 years



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA POWER TRANSFORMER

Regulation
0.01% + 1 mV, line or load
Ripple
250 μV RMS, 1 mV pk-pk
DC output voltages
5 to ± 18 Vdc (five ranges)
DC output currents
0.25 to 50 amps (seven ranges)
AC input
105-132 Vac, 57-63 Hz
Temperature coefficient
0.015%/°C
Remote sensing
Remote programming
1000 ohm/v nominal or volt/volt
Series/parallel operation
with similar single or dual units
Automatic current limiting

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

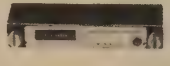
Lambda power kits 4000 series

power kit and transformer selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	0.25 AMP 1-4	0.25 AMP 5 & UP	0.5 AMP 1-4	0.5 AMP 5 & UP	1.0 AMP 1-4	1.0 AMP 5 & UP	5.0 AMPS 1-4	5.0 AMPS 5 & UP	10.0 AMPS 1-4	10.0 AMPS 5 & UP	25.0 AMPS 1-4	25.0 AMPS 5 & UP	50.0 AMPS 1-4	50.0 AMPS 5 & UP
5 VDC		4003-1		4005-1		4007-1		4011-1		4015-1		4025-1		4031-3	
	LPKT	$40.00	$35.00	$42.00	$37.00	$44.00	$38.50	$77.00	$67.00	$99.00	$89.00	$127.00	$111.00	$212.00	$186.00
	LPTX	20.00	17.50	22.00	19.50	24.00	21.00	53.00	46.00	74.00	67.00	93.00	81.00	162.00	142.00
6 VDC		4053-1		4055-1		4057-1		4061-1		4065-1		4075-1		4081-3	
	LPKT	$42.00	$37.00	$44.00	$38.50	$46.00	$40.00	$78.00	$68.00	$100.00	$88.00	$131.00	$115.00	$250.00	$219.00
	LPTX	22.00	19.50	24.00	21.00	26.00	22.50	54.00	47.00	75.00	66.00	97.00	85.00	170.00	149.00
±12 VDC		4133-5		4135-5		4137-5		4141-5							
	LPKT	$65.00	$58.00	$70.00	$62.00	$75.00	$64.00	$145.00	$127.00						
	LPTX	25.00	23.00	30.00	27.00	33.00	29.00	95.00	83.00						
±15 VDC		4203-5		4205-5		4207-5		4211-5							
	LPKT	$67.00	$59.00	$72.00	$63.00	$75.00	$66.00	$150.00	$131.00						
	LPTX	27.00	24.00	32.00	28.00	35.00	31.00	100.00	87.00						
±18 VDC		4303-5		4305-5		4307-5		4311-5							
	LPKT	$69.00	$60.00	$75.00	$66.00	$80.00	$70.00	$155.00	$136.00						
	LPTX	29.00	25.00	35.00	31.00	40.00	35.00	105.00	92.00						

OVERVOLTAGE PROTECTOR ACCESSORIES





MODEL	ADJ. VOLT RANGE VDC	POWER KIT CURRENTS	PRICE
LC-OV-10	3-24	0.25, 0.5 and 1 amp	$20.00
LM-OV-1	3-8	5 and 10 amps	30.00
LM-OV-2	6-20	5 and 10 amps	30.00
LM-OV-3	18-70	5 and 10 amps	30.00
LM-OV-7	3-8	25 and 50 amps	75.00
LM-OV-8	6-20	25 and 50 amps	75.00

All prices and specifications are subject to change without notice.

Net
© United Technical Publications

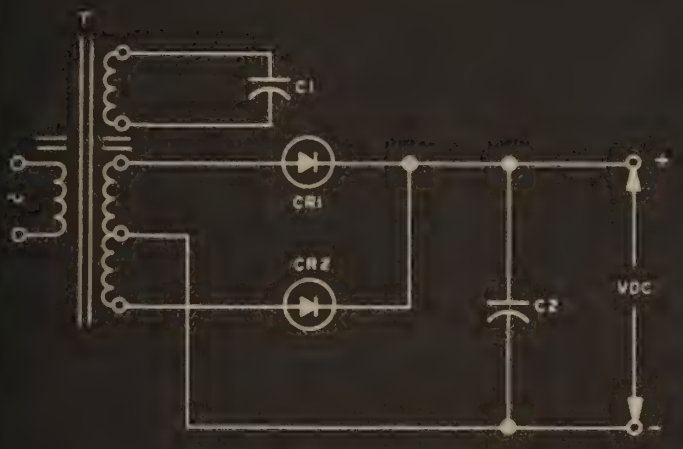
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

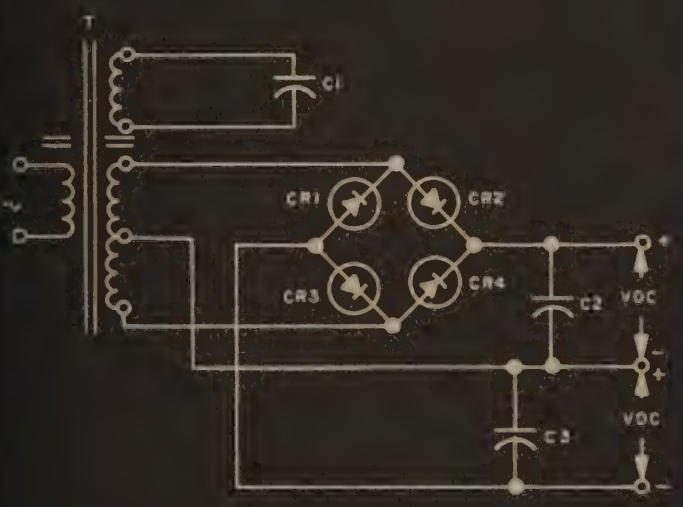
Lambda power kits 5000 series

ferroresonant transformers, AC and DC capacitors, rectifiers and circuits

FERRORESONANT CAPACITOR INPUT FILTER POWER SUPPLY CIRCUITS



CIRCUIT 1



CIRCUIT 3

Lambda transformers are guaranteed for five years.



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA FERRO TRANSFORMER AND AC CAPACITOR

Regulation

line: 2% for line changes from 105 to 132 Vac or 132 to 105 Vac for any load between 25% and 100 of full load

load: 5% from ½ load to full load for output voltages above 6V. 500 mV from ½ load to full load for 5V and 6V units

Ripple

100 mV RMS or 1% whichever is greater

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Lambda power kits 5000 series

kit and transformer selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	1.0 AMP 1-9	1.0 AMP 10-24	5.0 AMPS 1-9	5.0 AMPS 10-24	10.0 AMPS 1-9	10.0 AMPS 10-24	25.0 AMPS 1-9	25.0 AMPS 10-24	50.0 AMPS 1-9	50.0 AMPS 10-24
5 VDC				5011-1		5015-1		5025-1		5031-1	
	LPKT			$42.50	$36.00	$ 61.00	$ 53.00	$114.00	$102.50	$136.00	$121.00
	LPTX			31.50	25.00	40.00	32.00	58.00	46.50	76.00	61.00
6 VDC				5061-1		5065-1		5075-1		5081-1	
	LPKT			$48.00	$41.00	$ 69.00	$ 59.50	$120.00	$107.00	$139.00	$123.00
	LPTX			37.00	30.00	48.00	38.50	64.00	51.00	79.00	63.00
12 VDC				5111-1		5115-1		5125-1			
	LPKT			$65.00	$55.00	$ 94.00	$ 82.00	$154.00	$139.00		
	LPTX			48.00	38.00	60.00	48.00	74.00	59.00		
15 VDC				5161-1		5165-1					
	LPKT			$73.00	$62.00	$ 94.00	$ 82.00				
	LPTX			56.00	45.00	60.00	48.00				
±15 VDC		5207-3		5211-3							
	LPKT	$47.00	$40.50	$99.50	$86.50						
	LPTX	33.50	27.00	65.00	52.00						
24 VDC		5357-1		5361-1		5365-1					
	LPKT	$34.50	$29.00	$75.00	$63.00	$107.00	$ 92.00				
	LPTX	27.50	22.00	58.00	46.00	72.00	57.00				
28 VDC		5457-1		5461-1		5465-1					
	LPKT	$34.50	$29.50	$75.00	$63.00	$107.50	$ 92.50				
	LPTX	27.50	22.00	58.00	46.00	73.00	58.00				
48 VDC		5507-1		5511-1		5515-1					
	LPKT	$41.50	$34.50	$87.50	$73.50	$136.00	$115.00				
	LPTX	35.00	28.00	71.00	57.00	102.00	81.00				

All prices and specifications are subject to change without notice.

© United Technical Publications

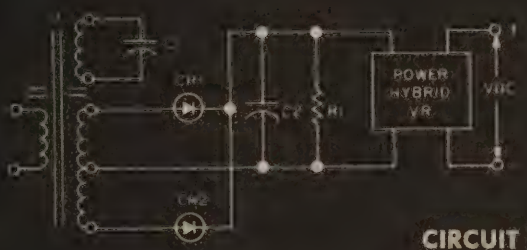
LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

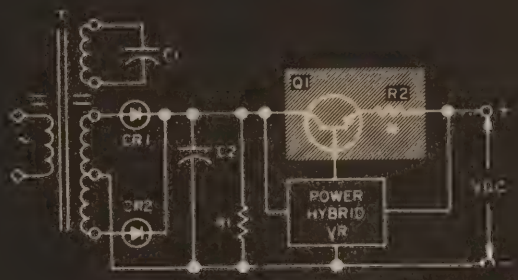
Lambda power kits 6000 series

ferroresonant transformers, AC and DC capacitors, rectifiers, pre-load resistors, regulators and circuits

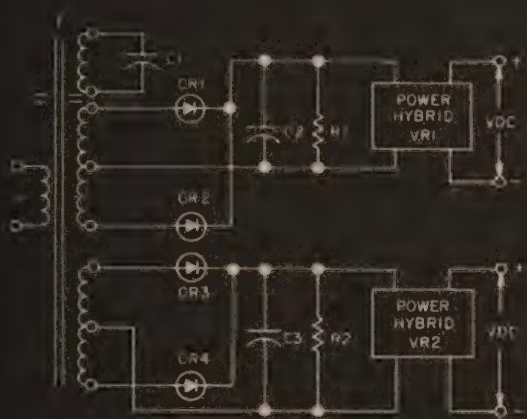
FERRORESONANT TRANSFORMER WITH POWER HYBRID VOLTAGE REGULATOR, POWER SUPPLY CIRCUITS (SIMPLIFIED DIAGRAMS)



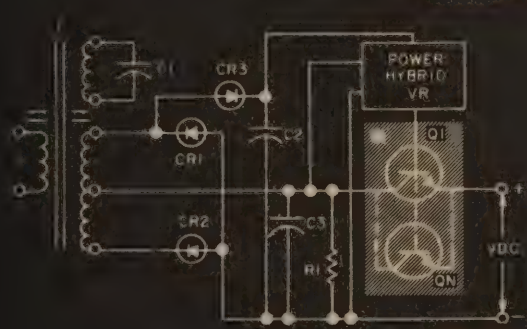
CIRCUIT 1



CIRCUIT 5



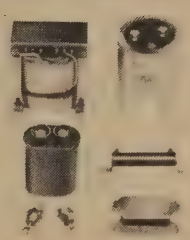
CIRCUIT 2



CIRCUIT 3

*Complete circuit diagrams are provided with kits and components. Lambda does not supply those components shown in shaded areas.

Lambda transformers are guaranteed for five years



LPKT
LAMBDA POWER KIT



LPTX
LAMBDA FERRO TRANSFORMER AND AC CAPACITOR

Regulation

line: 0.02% for line changes from 105 to 132 Vac or 132 to 105 Vac for any load between 10% and 100% of full load

load: 0.2% for no load to full load and full load to no load

Ripple

1.5 mV RMS, 5 mV pk to pk

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Lambda power kits 6000 series

kit and transformer selection chart

DC OUTPUT CURRENT AND STOCK NUMBERS

DC OUTPUT VOLTAGE	STOCK NUMBER PREFIX	1.0 AMP 1-9	1.0 AMP 10-24	5.0 AMPS 1-9	5.0 AMPS 10-24	10.0 AMPS 1-9	10.0 AMPS 10-24	25 AMPS 1-9	25 AMPS 10-24
5 VDC				6011-1		6015-3		6025-3	
	LPKT			$ 97.50	$ 78.00	$109.00	$ 87.00	$137.00	$111.00
	LPTX			47.50	38.00	58.00	46.00	78.00	62.00
6 VDC				6061-1		6065-3		6075-3	
	LPKT			$ 97.50	$ 78.00	$109.00	$ 87.00	$162.00	$132.00
	LPTX			47.50	38.00	58.00	46.00	103.00	83.00
12 VDC				6111-1		6115-5			
	LPKT			$107.00	$ 86.00	$121.00	$ 97.00		
	LPTX			57.00	46.00	71.00	57.00		
15 VDC		6157-1		6161-1					
	LPKT	$ 73.50	$ 58.00	$107.00	$ 86.00				
	LPTX	27.50	22.00	57.00	46.00				
±15 VDC		6207-2		6211-2					
	LPKT	$128.50	$101.00	$174.00	$139.00				
	LPTX	37.50	30.00	75.00	60.00				
24 VDC		6357-1		6361-5		6365-5			
	LPKT	$ 84.00	$ 67.00	$114.00	$ 91.00	$137.00	$112.00		
	LPTX	34.00	27.00	64.00	51.00	78.00	63.00		
28 VDC		6457-1		6461-5		6465-5			
	LPKT	$ 84.00	$ 67.00	$114.00	$ 91.00	$137.00	$112.00		
	LPTX	34.00	27.00	64.00	51.00	78.00	63.00		

All prices F.O.B. Gouldsboro, Pa. All prices and specifications are subject to change without notice.

OVERVOLTAGE PROTECTOR ACCESSORIES
see listing with 4000 series

Special Purpose and Multi-Output Transformers

Lambda produces special purpose and multi-output transformers in the standard sizes A through GG (up to 750 VA) as used in the Power Kits.

Also available are open, sealed and encapsulated transformers up to 6 KVA @ 60 Hz and 10 KVA @ 400 Hz, also ferro resonant transformers up to 2 KVA.

Full technical data and prices are available on request.

© United Technical Publications

LAMBDA ELECTRONICS CORP.

ISTRIBUTOR DIVISION

LAMBDA
CUSTOM POWER KITS
Single or multiple outputs...
Designed to your specifications...
Delivered in 3-4 weeks.

If your application requires custom power supplies, you can save time, money and compromises by assembling them yourself from Lambda Custom Power Kits designed to your electrical specifications. These kits utilize Lambda's revolutionary Power Hybrid Voltage Regulator, the biggest advance in power supply design since the silicon power transistor. They can be supplied in single or multiple outputs with regulating (ferroresonant) or non-regulating transformers.

You write the specs. Lambda's engineers, who are power specialists, design a circuit and select components to meet those specs. All the electrical parts, including the circuit diagram and thermal data, are delivered in 3 to 4 weeks after receipt of your order.

YOU BENEFIT 12 WAYS

Consider these time and money saving advantages of building your own power supplies from Lambda's designed-to-order power kits. You get...

1.
A power supply designed expressly to your electrical specifications and guaranteed to meet them.

2.
A wide choice of regulated or unregulated single or multiple outputs up to 100 VDC, up to 50 amps DC.

3.
Complete circuit and thermal data for heat sinking and mounting.

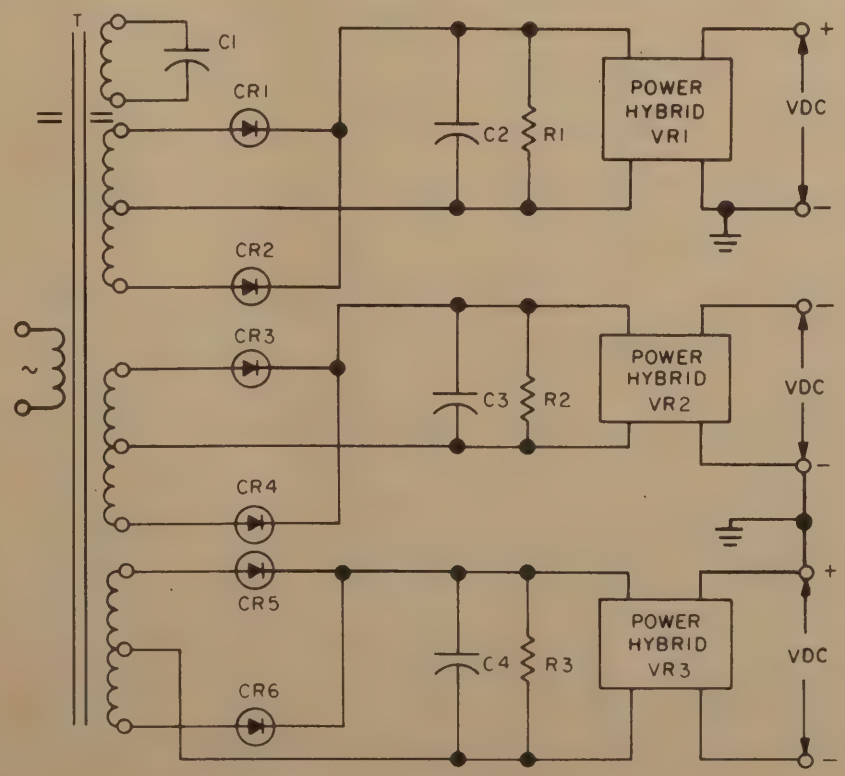
4.
The same quality components used in Lambda's standard supplies (example: Sprague 85°C, 3500-hr. computer grade electrolytic capacitors).

5.
Simplicity of assembly by use of Lambda's exclusive Power Hybrid Voltage Regulator which replaces discrete components, reducing parts count and inventory substantially.

6.
Low cost by use of your existing labor force and factory overhead.

7.
Low cost because production set-up costs are minimized.

8.
Low cost because you save on engineering design cost.



Typical circuit with regulating (ferroresonant) transformer

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

LAMBDA CUSTOM POWER KITS

Single or multiple outputs... Designed to your specifications... Delivered in 3-4 weeks.

9.
Full control of quality and production scheduling.

10.
Complete flexibility to meet your form factor requirements.

11.
Sharply reduced lead time. Lambda gives you 3 to 4 weeks delivery on design and parts.

12.
5-year guarantee on magnetics.

GUARANTEED PERFORMANCE

Lambda guarantees to meet your electrical specifications when components are properly assembled and heat sinked in accordance with the circuit and data supplied. In addition, Lambda guarantees all magnetic components for five years when operated within specified ratings.

HOW TO ORDER

To obtain a firm quotation on Lambda Custom Power Kits, submit your specifications to any Lambda sales representative or direct to the factory. A form for this purpose has been included in this catalog for your use.

This is the information we need:

1.
AC input voltage and frequency.

2.
DC output voltage and current.

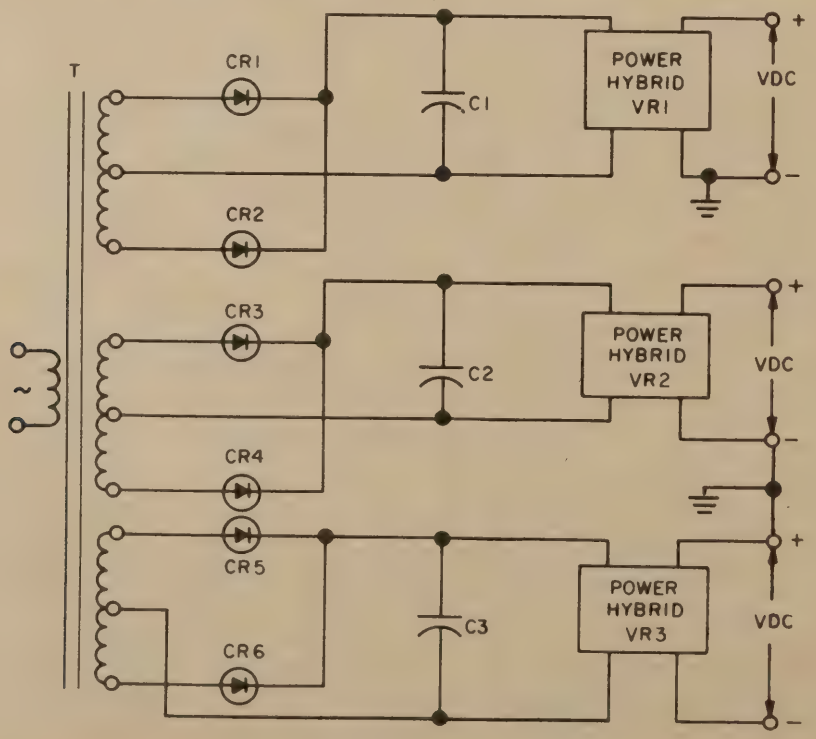
3.
Number of outputs and voltage/current ratings for each.

4.
Regulation requirements.

5.
Ripple requirements.

6.
Additional requirements.

7.
Number of kits to be supplied.



Typical circuit with non-regulating transformer

Net
© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

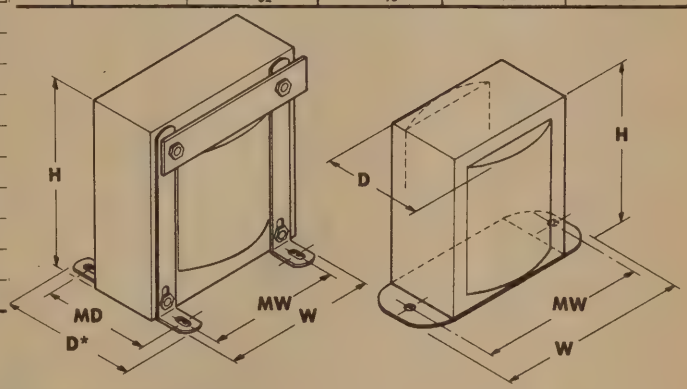
Component dimensions

Dimensions of Lambda Transformers & Chokes

SIZE	CASE DIMENSIONS H	W	D	MOUNTING DIMENSIONS MW	MD
A	1 11/16"	2 13/16"	1 7/8"	2 3/8"	
B	2"	3 1/4"	2 5/16"	2 13/16"	
C	2 5/16"	3 23/32"	2 3/8"	3 1/8"	
D	2 5/8"	4"	2 5/8"	3 5/16"	
E	3 1/16"	3 1/16"	3 9/16"	2 1/2"	2 1/2"
F	3 11/32"	3 13/32"	2 3/4"	2 13/16"	2 1/8"
G	3 15/16"	3 25/32"	3 1/4"	3 1/8"	2 1/4"
H	3 31/32"	4 5/32"	3 19/32"	3 7/16"	2 5/8"
I	4 9/32"	4 17/32"	3 5/8"	3 3/4"	2 1/2"
J	4 9/32"	4 17/32"	4"	3 3/4"	2 3/4"
K	4 7/8"	4 17/32"	4 3/8"	3 3/4"	3 1/8"
L	4 7/8"	5 9/32"	4 1/8"	4 3/8"	2 5/8"
M	4 7/8"	5 9/32"	4 3/8"	4 3/8"	2 7/8"
N	4 7/8"	5 9/32"	5"	4 3/8"	3 1/4"
O	4 7/8"	5 9/32"	5 1/2"	4 3/8"	4"
P	4 7/8"	5 9/32"	5 15/16"	4 3/8"	4 1/8"
Q	6 1/4"	6 13/32"	5"	5 5/16"	3 1/2"
R	6 1/4"	6 13/32"	5 3/8"	5 5/16"	3 3/4"
S	6 1/4"	6 13/32"	6"	5 5/16"	4 1/2"
T	6 1/4"	6 13/32"	6 5/16"	5 5/16"	4 7/8"
U	3 31/32"	4 5/32"	3 1/2"	3 7/16"	2 3/8"

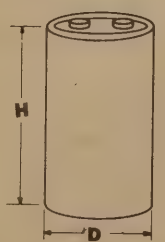
SIZE	CASE DIMENSIONS H	W	D	MOUNTING DIMENSIONS MW	MD
V	4 1/8"	3 5/32"	2 3/4"	2 5/8"	1 15/16"
W	4 1/8"	3 5/32"	3"	2 5/8"	2 1/8"
X	4 1/8"	3 5/32"	3 1/4"	2 5/8"	2 3/8"
Y	5 1/4"	3 21/32"	3 1/2"	3"	2 11/16"
Z	5 1/4"	3 21/32"	4 1/4"	3"	3 1/2"
AA	5 7/8"	5 9/32"	3 7/8"	4 3/8"	2 1/8"
BB	5 7/8"	5 9/32"	4 1/8"	4 3/8"	2 3/8"
CC	5 7/8"	5 9/32"	4 7/8"	4 3/8"	3 1/8"
DD	5 7/8"	5 9/32"	5"	4 3/8"	3 1/4"
EE	6 1/4"	5 9/32"	5"	4 5/8"	3 1/4"
FF	6 1/4"	5 9/32"	5 1/2"	4 3/8"	3 3/4"
GG	6 1/4"	5 9/32"	6 5/16"	4 3/8"	4 5/8"

Equals maximum depth of transformer either feet, winding or terminal board.

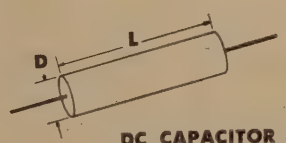


Dimensions of Filter Capacitors

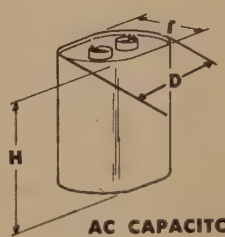
SIZE	H	L	D	T
a		2 3/4"	15/16"	
b		2 3/4"	1 1/16"	
c		3 3/4"	1 1/16"	
d	4 1/4"		2 9/16"	
e	5 3/4"		2 9/16"	
f	5 21/32"		3"	
g	4 1/4"		1 15/32"	
h	3 3/4"		1 15/32"	
i	3 1/4"		2 5/32"	1 5/16"
k	3 7/8"		2 3/4"	1 3/4"



DC CAPACITOR



DC CAPACITOR



AC CAPACITOR

Chokes

STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE	STOCK NO. LPFC	SIZE
2007-1	F	2057-1	F	2107-1	F	2157-2	F	2207-3	F	2275-1	S	2365-2	M	2475-2	S
2011-1	U	2061-1	U	2111-1	U	2161-2	U	2211-3	U	2307-3	G	2375-2	S	2507-2	G
2015-1	M	2065-1	M	2115-1	M	2165-2	M	2257-2	G	2311-3	M	2457-2	G	2511-2	M
2025-1	S	2075-1	S	2125-1	S	2175-1	S	2261-2	M	2357-2	G	2461-2	M	2515-2	M
2031-1	S	2081-1	S	2131-1	S	2181-1	S	2265-2	M	2361-2	M	2465-2	M		

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Component dimensions

Transformers & Capacitors

STOCK NO.	TRANSFORMER SIZE	CAPACITORS QTY. & SIZE	STOCK NO.	TRANSFORMER SIZE	CAPACITORS QTY. & SIZE	STOCK NO.	TRANSFORMER SIZE	CAPACITOR QTY. & SIZ
1003-1	A	1b	1181-1	S	4d	2025-1	L	2c
1005-1	A	1b	1203-3	B	2a	2031-1	O	4d
1007-1	B	1b	1205-3	C	2a	2057-1	B	1c
1011-1	E	1d	1207-3	E	2b	2061-1	D	1d
1015-1	H	2d	1211-3	L	2d	2065-1	G	1d
1025-1	N	4d	1253-2	A	1a	2075-1	M	2d
1031-1	Q	8d	1255-2	B	1a	2081-1	O	4d
1053-1	A	1b	1257-2	C	1b	2107-1	C	1c
1055-1	A	1b	1261-2	H	1d	2111-1	G	1d
1057-1	B	2b	1265-2	M	1d	2115-1	I	1d
1061-1	E	1d	1275-1	R	2d	2125-1	N	2d
1065-1	H	2d	1303-3	B	2a	2131-1	S	4d
1075-1	N	4d	1305-3	C	2a	2137-3	C	2c
1081-1	Q	8d	1307-3	F	2b	2141-3	H	2d
1103-1	B	1a	1311-3	L	2d	2157-2	C	1c
1105-1	B	1b	1355-2	B	1a	2161-2	G	1d
1107-1	C	1b	1357-2	D	1b	2165-2	J	2d
1111-1	H	1d	1361-2	J	1d	2175-1	O	2d
1115-1	L	1d	1365-2	N	1d	2181-1	T	4d
1125-1	R	2d	1375-2	S	2d	2207-3	D	2c
1131-1	S	4d	1455-2	B	1a	2211-3	I	2d
1133-3	B	2a	1457-2	D	1b	2257-2	D	1b
1135-3	B	2b	1461-2	J	1d	2261-2	G	1h
1137-3	D	2b	1465-2	N	1d	2265-2	L	1d
1141-3	J	2d	1475-2	S	2d	2275-1	R	1f
1153-2	A	1a	1507-2	G	1c	2307-3	D	2b
1155-2	B	1a	1511-2	M	1c	2311-3	I	2h
1157-2	C	1b	1515-2	R	1c	2357-2	D	1b
1161-2	H	1d	2007-1	B	1c	2361-2	I	1h
1165-2	L	1d	2011-1	D	1d	2365-2	M	1d
1175-1	R	2d	2015-1	G	1d	2375-2	R	2f

© United Technical Publications

Component dimensions

Transformers & Capacitors

STOCK NO.	TRANSFORMER SIZE	CAPACITORS QTY. & SIZE	STOCK NO.	TRANSFORMER SIZE	CAPACITORS QTY. & SIZE	STOCK NO.	TRANSFORMER SIZE	CAPACITORS QTY. & SIZE
2457-2	D	1c	4057-1	C	1b	5207-3	W	1k, 2b
2461-2	I	1h	4061-1	H	1d	5211-3	BB	1i, 6b
2465-2	N	1d	4065-1	K	1d	5357-1	V	1i, 1b
2475-2	S	2f	4075-1	O	2d	5361-1	AA	1i, 3b
2507-2	D	1g	4081-3	S	4c	5365-1	DD	2i, 6b
2511-2	N	1d	4133-5	B	2a	5457-1	V	1i, 1b
2515-2	P	2d	4135-5	E	2a	5461-1	BB	1i, 3b
3008-1	C	1g	4137-5	G	2b	5465-1	EE	2i, 6b
3011-3	I	1d	4141-5	N	2d	5507-1	X	1i, 1b
3015-3	K	1d	4203-5	D	2a	5511-1	DD	2i, 3b
3025-4	O	2d	4205-5	F	2a	5515-1	GG	2k, 6b
3031-4	S	4d	4207-5	G	2b	6011-1	Y	1i, 1b
3058-1	C	1g	4211-5	P	2d	6015-3	BB	1i, 1b
3061-3	I	1d	4303-5	D	2a	6025-3	FF	2i, 2b
3065-3	K	1d	4305-5	F	2a	6061-1	Y	1i, 1b
3075-4	O	2d	4307-5	G	2b	6065-3	BB	1i, 1b
3081-4	S	4d	4311-5	P	2d	6075-3	GG	1i, 1k, 2b
3138-2	K	2g	5011-1	V	1i, 1c	6111-5	Z	1k, 1b
3141-5	N	2d	5015-1	X	1i, 2c	6115-5	DD	1k, 1b
3208-2	K	2g	5025-1	BB	1i, 6c	6157-1	V	1i, 1a
3211-5	N	2d	5031-1	EE	2i, 6c	6161-5	AA	1i, 1b
3003-1	B	1a	5061-1	W	1k, 1c	6207-2	X	1i, 2a
3005-1	B	1a	5065-1	Y	1k, 2c	6211-6	DD	1k, 2b
3007-1	C	1b	5075-1	CC	1k, 6c	6357-1	W	1k, 1a
3011-1	H	1d	5081-1	FF	2i, 6c	6361-5	CC	1k, 1b
3015-1	K	1d	5111-1	Y	1k, 3b	6365-5	FF	2i, 2b
3025-1	O	2d	5115-1	AA	1k, 6b	6457-1	W	1k, 1b
3031-3	S	4d	5125-1	EE	2i, 15b	6461-5	CC	1k, 1b
3053-1	B	1a	5161-1	Z	1k, 3b	6465-5	FF	2i, 2b
3055-1	B	1a	5165-1	BB	1i, 6b			

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

How to order Lambda power kits

How to Select Lambda Power Kits

1. Determine the regulation and ripple requirement for the circuit you wish to supply.
2. Select one of the six series of circuits that best satisfies your needs — 1000, 2000, 3000, 4000 5000 or 6000 series.
3. Turn to the table for that series and select the power supply kit that meets your dc output voltage and current requirements. No need to design the power supply or to calculate voltage drops across components. This has already been done for you.
4. You may purchase either the entire kit, the transformer, or the filter choke.
5. Number System — The Lambda part number is an alpha-numeric designation in three parts:

Stock No. Prefix	Stock No.	Suffix
LPKT	**2311**	**-3**

The stock number prefix defines the kit or transformer you wish to purchase and the suffix identifies the circuit to be used within that series.

LPKT = Lambda Power Kit
LPTX = Lambda Power Transformer
LPFC = Lambda Filter Choke

The stock number defines the circuit series (which identifies the regulation and ripple) in addition to output voltage and current. For stock numbers in the:

1000 series, see pages 751-752
2000 series, see pages 753-754
3000 series, see pages 755-756
4000 series, see pages 757-758
5000 series, see pages 759-760
6000 series, see pages 761-762

Ordering:

1. Turn to the page listing the circuit series that meets your requirement for regulation and ripple.
2. Select the voltage you need along the vertical axis of the selection chart.
3. Select the current you need along the horizontal axis of the selection chart.
4. Pick the stock number directly off the chart at the intersection of the axes.
5. You select the stock number prefix to the number depending upon whether you want the entire kit or just individual components. The price for each item is also listed in the same section of the chart. Prices for 1 to 9 units are listed in the left-hand column and prices for 10-24 units are listed in the right-hand column under each current rating.
6. Send all transformer and other component orders directly to Lambda Electronics Corp.

Example:

If you were to order part number LPKT 2311-3, you would be ordering (from the Power Kit and Component Selection chart on Page 754) a complete Lambda Power Kit in the 2000 series, a power supply with a choke input filter, which provides a dual + and − 18 volts dc output at 5 amps each, as shown in series 2000 circuit 3. The kit price on the chart is $108.00. If, on the other hand you only wanted the transformer, you would order LPTX 2311-3 at $26.00 or LPFC 2311-3 at $74.00 if you only wanted the filter chokes, etc.

Net
© United Technical Publication

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

REQUEST FOR QUOTATION FROM YOUR DISTRIBUTOR

Lambda Electronics Corp.

Date_____

Please quote us on LAMBDA CUSTOM POWER KITS designed to the following specifications:

Number of Kits required_____A.C. Input Voltage and Frequency_____

Operating Temperature Range_____°C to_____°C

D.C. Output #1

Output Voltage_____Volts
Output Current_____Amps Maximum
Line Regulation_____% from_____load to full load.
Ripple_____mV rms,_____mV p-p
Temperature Coefficient_____%/°C
Protection (check where applicable) _____Current limit _____OV

D.C. Output #2

Output Voltage_____Volts
Output Current_____Amps Maximum
Line Regulation_____%
Load Regulation_____% from_____load to full load.
Ripple_____mV rms,_____mV p-p
Temperature Coefficient_____%/°C
Protection (check where applicable) _____Current limit _____OV

D.C. Output #3

Output Voltage_____Volts
Output Current_____Amps Maximum
Line Regulation_____%
Load Regulation_____% from_____load to full load.
Ripple_____mV rms,_____mV p-p
Temperature Coefficient_____%/°C
Protection (check where applicable) _____Current limit _____OV

Up to 12 outputs available. If more than 3 required, describe each under "Additional Requirements."

Additional Requirements _____

Delivery schedule (if other than single shipment)_____

Return Quotation to :

Name_____Title_____

Company_____

Address_____City_____Zip_____

Telephone_____Ext._____

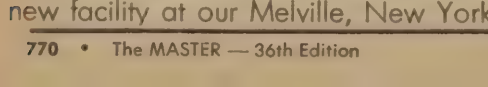
LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

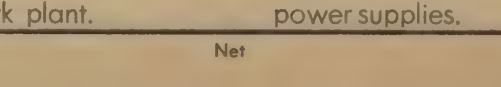
Lambda's microelectronic facility for power hybrid voltage regulator production

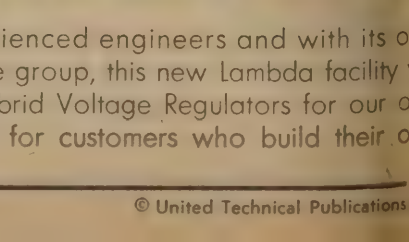












We not only developed the Power Hybrid Voltage Regulator; we build it too—from basic material to finished product. The most modern equipment for the manufacture of microelectronic circuitry has been installed in a new facility at our Melville, New York plant.

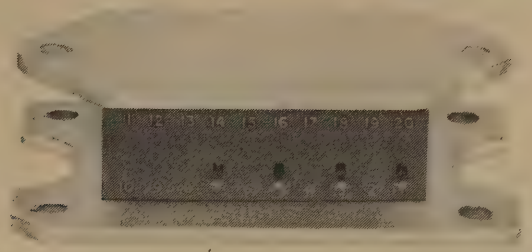
Staffed by experienced engineers and with its o Quality Assurance group, this new Lambda facility supply Power Hybrid Voltage Regulators for our o requirements and for customers who build their o power supplies.

Net © United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Do you face a "make or buy" decision on power supplies?



"actual size"

A revolutionary development by Lambda offers you improved power supply performance at lower cost whether you "make" OR "buy." It is the Series LAS2000 Power Hybrid Voltage Regulator, which provides 0.2% line or load regulation for any dc power supply with output ratings up to 28V and 5A.

The Power Hybrid Voltage Regulator replaces all discrete components of conventional regulator circuitry. It converts any source of filtered dc into a regulated power supply. Designed and built by Lambda in a new microelectronic facility, the Power Hybrid Voltage Regulator is available as a separate component for the buyer or builder of custom power supplies. It is also incorporated in many of Lambda's off-the-shelf supplies and in Lambda's power kits.

What it is

The Series LAS2000 Power Hybrid Voltage Regulator utilizes cermet thick-film resistors, capacitors and monolithic integrated circuits, and power transistors in chip form, to achieve optimum regulator performance at minimum cost.

A key feature of its construction is the high degree of thermal isolation between the heat generating power elements and the heat sensitive control and reference elements. This thermal isolation results in extremely low thermal drift characteristics for changes in power levels. In addition, a unique thermal power limiting circuit is built into the power section of the unit for increased operational reliability.

What it offers

The Power Hybrid Voltage Regulator allows the power supply builder to achieve rock-bottom simplicity in his design. This is one of its major advantages. The regulator package, occupying about 2.5 cubic inches of space, replaces all of the transistors, diodes, resistors, capacitors and circuit boards of present-day voltage regulators. 22 electrical configurations provide exceptional versatility to meet specific design requirements.

For the builder of power supplies . . .

this means lower cost at every stage of production: lower engineering costs, simpler incoming inspection, smaller and simpler parts inventory, lower manufacturing costs. Of course, these same benefits accrue to us as a manufacturer of regulated power supplies. This is why we can offer a wide range of high-performance packaged supplies at moderate cost.

For the user of power supplies . . .

the Power Hybrid Voltage Regulator means, above all, unequaled reliability. The advantages of ICs over discrete circuitry need no elaboration. Moreover, this ruggedly packaged unit is less susceptible to physical damage than exposed IC or discrete components, thus, longer MTBF is achieved. If a malfunction should occur, the low cost of the Power Hybrid Voltage Regulator makes it economically practical to simply replace the entire unit.

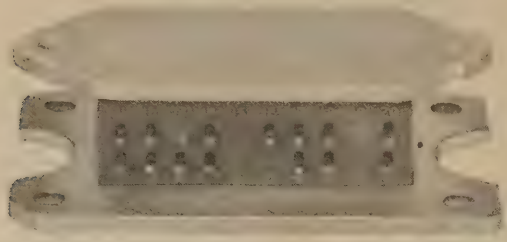
© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Only Lambda's power hybrid voltage regulators offer you these 15 features in a package this small

(and at a price of $20 each in lots of 100)



"actual size"

Features

1
up to 5 Amperes dc output

2
up to 28 Volts dc output

3
up to 85 Watts dissipation

4
0.2% regulation, line or load

5
0.007% / °C temperature coefficient

6
short circuit and overload protection

7
thermal protection

8
remote programming

9
remote sensing

10
electrically isolated case

11
increased power handling capability with external regulation transistor

12
increased current output when used as a driver for series regulation transistors

13
positive regulator

14
dual tracking connection and negative regulator connection with transformer isolation

15
22 models available

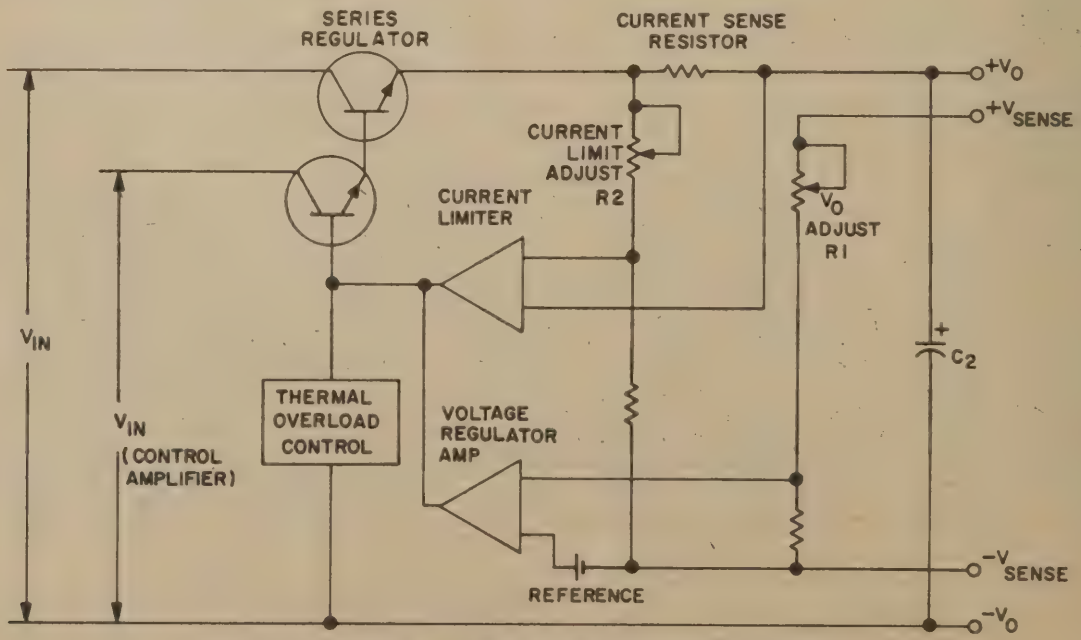


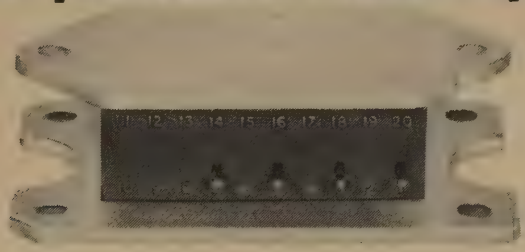
FIG. 1. BLOCK DIAGRAM, POWER HYBRID VOLTAGE REGULATOR

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

22 models provide all these capabilities



"actual size"

NARROW RANGE INPUT VOLTAGE FIXED OUTPUT VOLTAGE (±1%)[2]

4 Pin Package

REGULATION: 0.2% — line[4]
0.2% — load[5]
RIPPLE: 2 mV RMS[6]

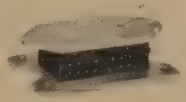


MODEL	V_0 (volts)	I_0 (amps)[1]	PRICE[8]
LAS 2105	5.0	5.0	$40
LAS 2106	6.0	5.0	40
LAS 2112	12.0	5.0	40
LAS 2115	15.0	5.0	40
LAS 2120	20.0	4.0	40
LAS 2124	24.0	3.0	40
LAS 2128	28.0	2.0	40

NARROW RANGE INPUT VOLTAGE ADJUSTABLE OUTPUT VOLTAGE (±5%) [2] [3] [10]

14 Pin Package

REGULATION: 0.2% — line[4]
0.2% — load[5]
RIPPLE: 2 mV RMS[6]



MODEL	V_0 (volts)	I_0 (amps)[1]	PRICE[8]
LAS 2205	5.0	5.0	$40
LAS 2206	6.0	5.0	40
LAS 2212	12.0	5.0	40
LAS 2215	15.0	5.0	40
LAS 2220	20.0	4.0	40
LAS 2224	24.0	3.0	40
LAS 2228	28.0	2.0	40

WIDE RANGE INPUT VOLTAGE, FIXED OUTPUT VOLTAGE (±1%) [7]

4 Pin Package

REGULATION: 0.2% — line[4]
0.2% — load[5]
RIPPLE: 2 mV RMS[6]



MODEL	V_0 (volts)	MAX. AMPS AT AMBIENT OF:[9] 40°C I_0 (amps)	50°C I_0 (amps)	60°C I_0 (amps)	71°C I_0 (amps)	PRICE[8]
LAS 2305	5.0	3.3	3.0	2.7	2.3	$40
LAS 2306	6.0	3.2	2.9	2.6	2.3	40
LAS 2312	12.0	2.5	2.3	2.1	1.8	40
LAS 2315	15.0	2.3	2.1	1.9	1.7	40

WIDE RANGE INPUT VOLTAGE, ADJUSTABLE OUTPUT VOLTAGE (±5%) [3] [7] [10]

14 pin package

REGULATION: 0.2% — line[4]
0.2% — load[5]
RIPPLE: 2 mV RMS[6]

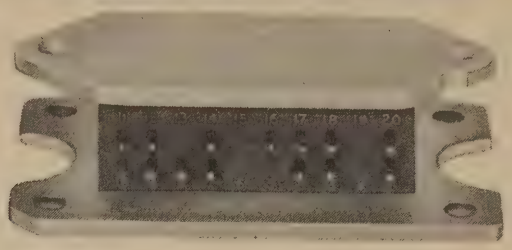


MODEL	V_0 (volts)	MAX. AMPS AT AMBIENT OF:[9] 40°C I_0 (amps)	50°C I_0 (amps)	60°C I_0 (amps)	71°C I_0 (amps)	PRICE[8]
LAS 2405	5.0	3.3	3.0	2.7	2.3	40
LAS 2406	6.0	3.2	2.9	2.6	2.3	40
LAS 2412	12.0	2.5	2.3	2.1	1.8	40
LAS 2415	15.0	2.3	2.1	1.9	1.7	40.

NOTES:

1. See curves for limitations imposed by heat sink thermal resistance and input-output differential.
2. Maximum foldback current is 140% of current rating shown in table.
3. External component required for adjustment of output voltage (see figure 15).
4. For line variations from 105-132 Vac.
5. For load variations from 0 to full load.
6. See general ratings.
7. Maximum foldback current is 140% of 40°C current rating.
8. For quantities 1-9; for quantities 100, $20.00; for quantities 1000, $16.00; consult factory for other quantities.
9. Maximum current rating (based on 2°C/W heatsink).
10. Output voltage adj. of LAS 2200 series and LAS 2400 series is ±5% except for LAS 2205 and LAS 2405 which can operate from −50% to +5% of 5V. For current ratings at other than 5V ±5% consult factory.

Definition of terms



"actual size"

V_{IN} (maximum)
the instantaneous maximum allowable input voltage to the regulator between pin 1 and pin 3.

V_{IN} (minimum)
the instantaneous minimum allowable voltage to the regulator between pin 1 and pin 3.

V_{IN} (average)
the steady state or average input voltage to the regulator, between pin 1 and pin 3.

V_{IN} (ripple)
the peak to peak ripple voltage applied to the input of the regulator between pin 1 and pin 3.

V_O
the steady state or average output voltage between pin 7 and pin 4 (pin 5 on 2100 and 2300 models).

Input-output differential (V_{IN} average — V_O average)
the maximum steady state voltage between pin 1 and pin 7.

Saturation voltage (V_{IN} minimum — V_O)
the minimum instantaneous voltage between pin 1 and pin 7.

V_{IN} (control amplifier)
the voltage available to the control amplifier (pin 20) from a peak detector circuit (see figure 19).

Line regulation
the maximum amount of change in the output voltage as the result of a change in the input voltage with load current and ambient temperature held constant.

Load regulation
the maximum amount of output voltage change due to a change in the load from, or for a specified load change with line voltage and ambient temperature held constant.

Temperature coefficient
the percent change in the output (voltage or current) averaged over the operating ambient temperature range expressed in percent per °C. This assumes constant AC input voltage, constant load and internal voltage programming.

Ripple attenuation
the ratio of the ac component of the rectified and filtered power line voltage to the ac component of the output voltage.

Standby current
the input current drawn by the regulator with no output load.

Programming resistance
the change in resistance value required at the program control terminals of the regulator per unit change in output voltage.

Programming voltage
the change in voltage applied to the program control terminals of the regulator per unit change in output voltage.

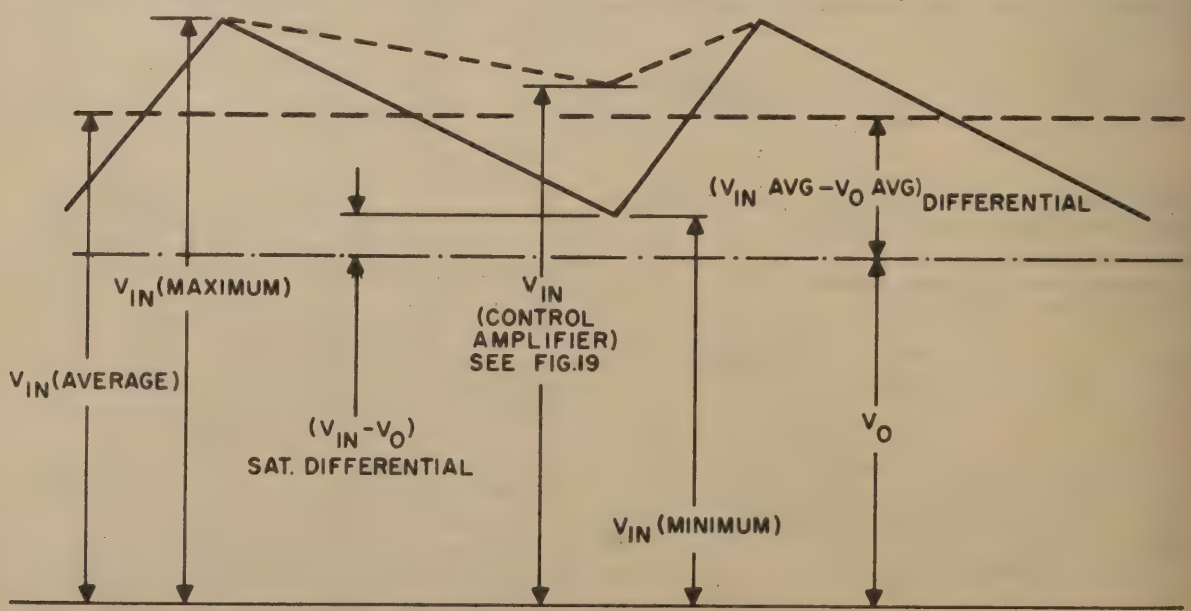


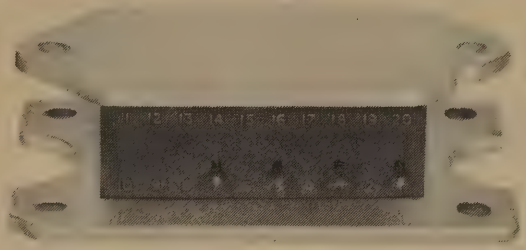
FIG. 2. DEFINITION OF TERMS

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Performance specifications



"actual size"

PARAMETER	SYMBOL	CONDITIONS	MIN.	MAX.	UNITS
Input voltage	V_{IN}		9.6	40.0	volts
Output voltage (1)	V_O		2.5	28.0	volts
Input-output differential (2)	$V_{IN} - V_O$		4.6	37.5V	volts
Input-output differential (3)	$V_{IN} - V_O$		2.5	37.5V	volts
Output current (1)	I_O		0	5.0	amps
Standby current	I_S			10.0	mA
Power dissipation	P_D	Plate #1 @ 25°C		85	watts
Power dissipation (8)	P_D	Free Air @ 25°C		9.0	watts
Thermal resistance junction-case #1	θj-C1			2.0	°C/watt
Thermal resistance junction-free air	θj-FA			15.0	°C/watt
Storage temperature (4)	T_S		−55	+125	°C
Power transistor junction temperature	T_J			+200	°C
Regulation line (5)				0.01	% / $\triangle V_{IN}$
Regulation load (6)				0.2	%
Programming resistance			1000 nominal		ohms/volt
Programming voltage			one/one		volt/volt
Temperature coefficient	T.C.			.007	% / °C
Ripple attenuation (7)		V_{IN} minimum I_O maximum	60		dB

NOTES:

1. Varies with model number.
2. Single DC input voltage (see figure 15).
3. Separate DC input voltages for power circuit (pin 1) and control circuit (pin 20) (see figure 19). V_{IN} minimum = 9.5 volts at pin 20.
4. Maximum storage temperature limited by tantalum capacitor.
5. I_O constant for entire range from 0 to full load.
6. V_{IN} constant for entire range from V_{IN} minimum to V_{IN} maximum.
7. Ripple attenuation is 54dB minimum for 20V, 24V, and 28V modules.
8. See notes on page 779.
9. Minimum input-output differential based on $T_J \geq 25°C$.

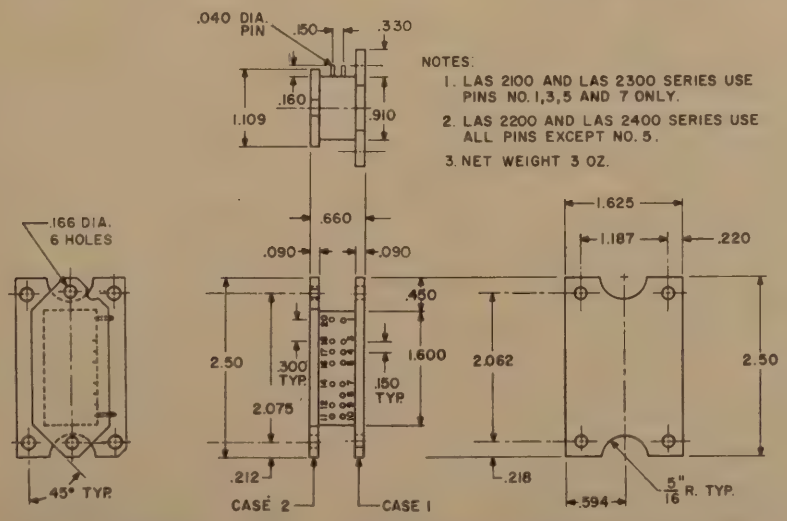
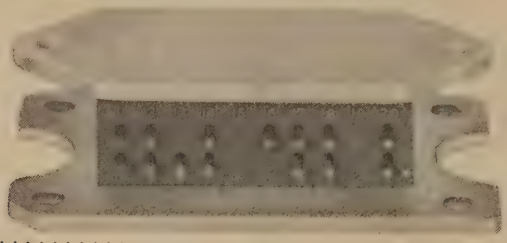


FIG. 3 OUTLINE DRAWING, POWER HYBRID VOLTAGE REGULATOR

Operational data



"actual size"

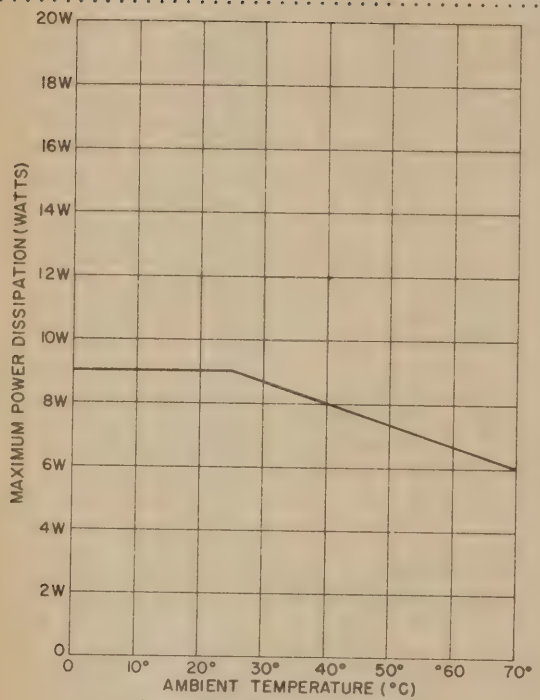


Fig. 4 Free air derating curve

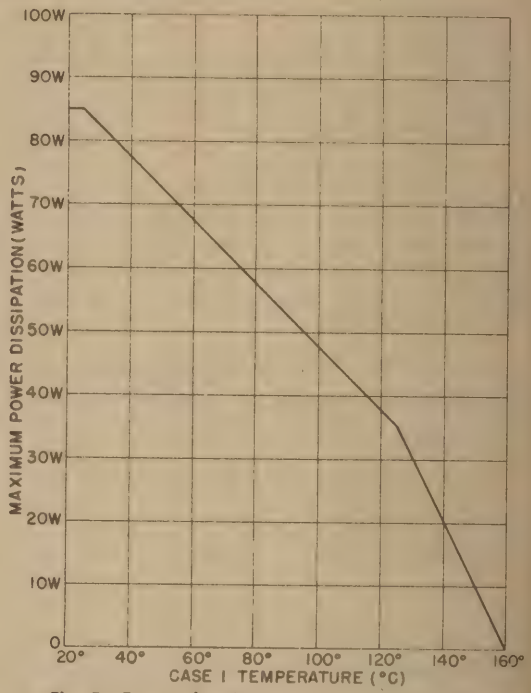


Fig. 5 Power derating curve as a function of case 1 temperature

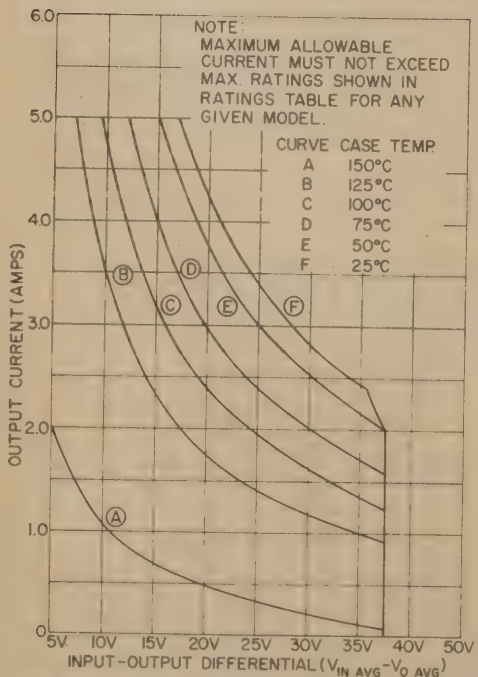


Fig. 6 DC safe operating area as a function of module case temperature

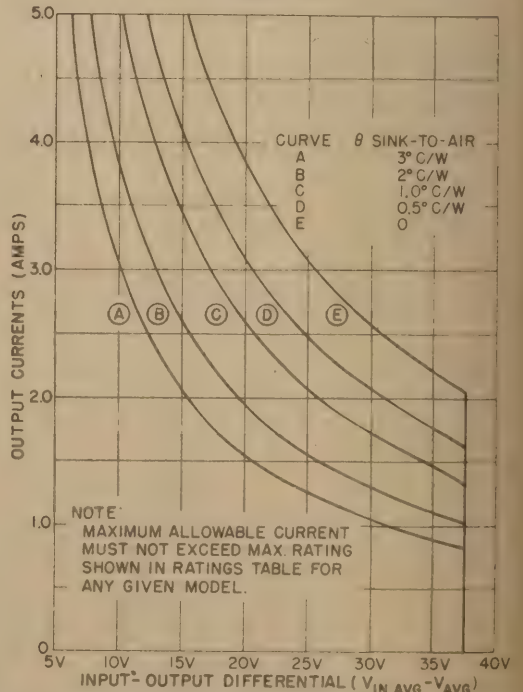


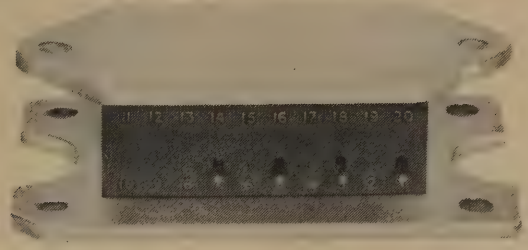
Fig. 7 DC safe operating area as a function of heatsink thermal resistance to air at 40°C ambient temperature

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Operational data



"actual size"

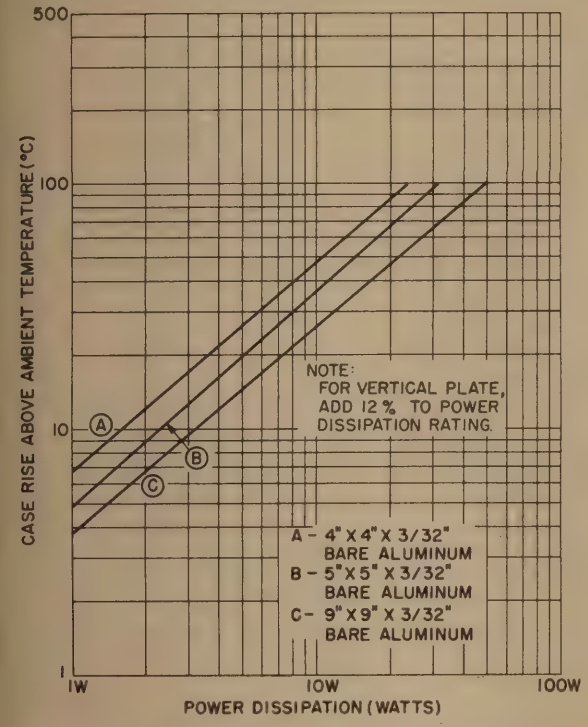


Fig. 8 Typical heat sinking data for horizontal plate

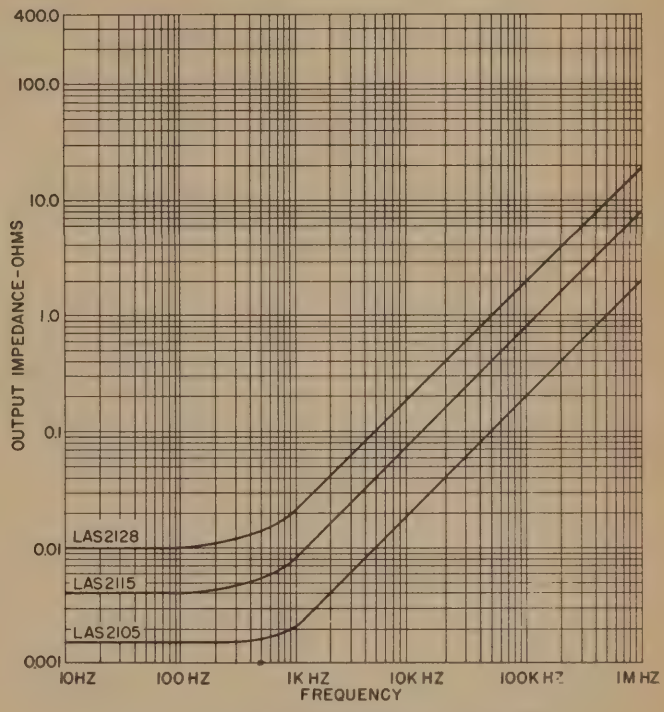


Fig. 10 Typical output impedance vs. frequency

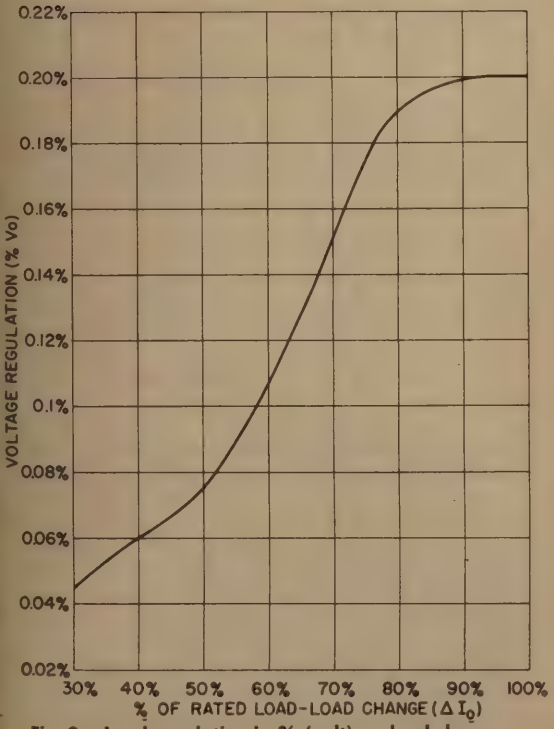


Fig. 9 Load regulation in % (volt) vs. load change

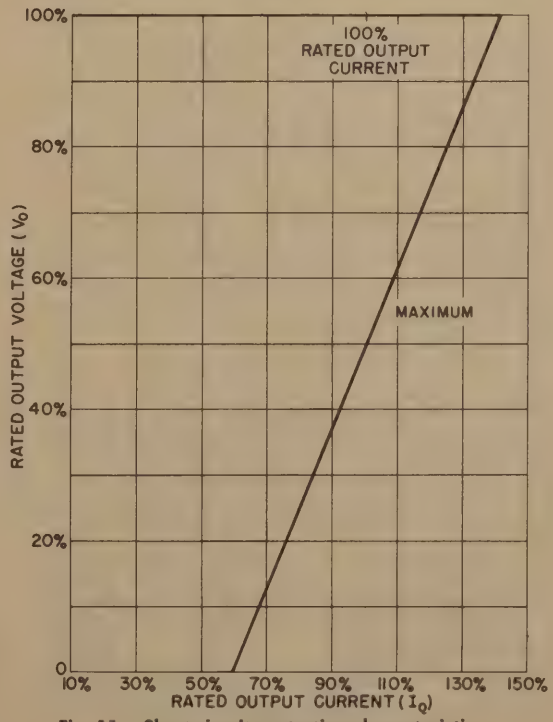


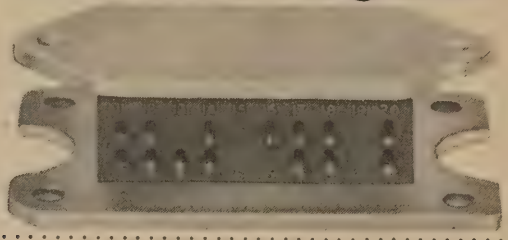
Fig. 11 Short circuit protection characteristic

© United Technical Publications

LAMBDA ELECTRONICS CORP.

DISTRIBUTOR DIVISION

Connection diagrams



"actual size"

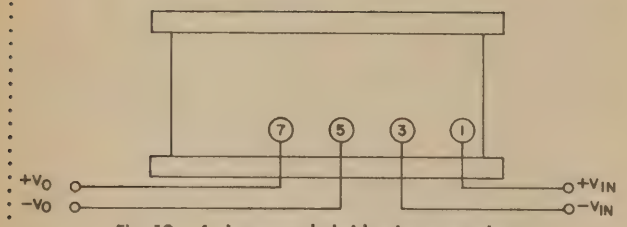


Fig. 12 4 pin power hybrid voltage regulator

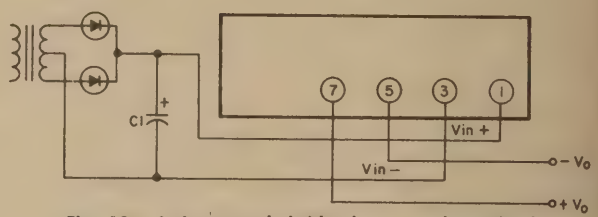


Fig. 13 4 pin power hybrid voltage regulator circuit

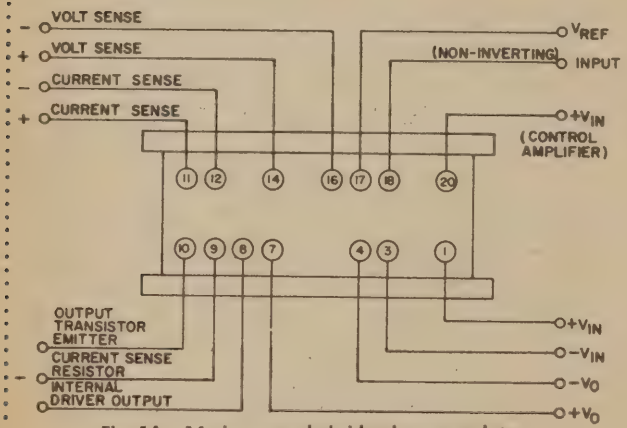


Fig. 14 14 pin power hybrid voltage regulator,

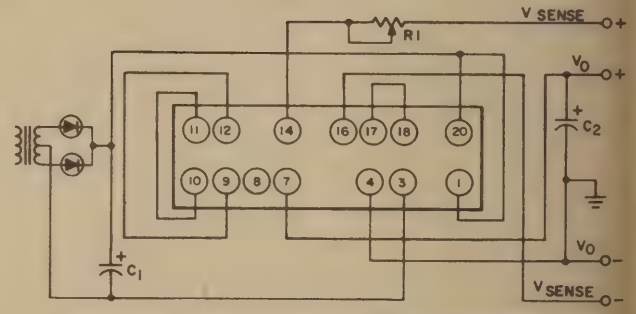


Fig. 15 Positive power hybrid voltage regulator

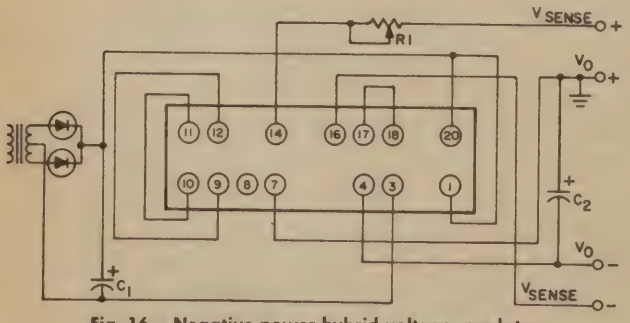


Fig. 16 Negative power hybrid voltage regulator

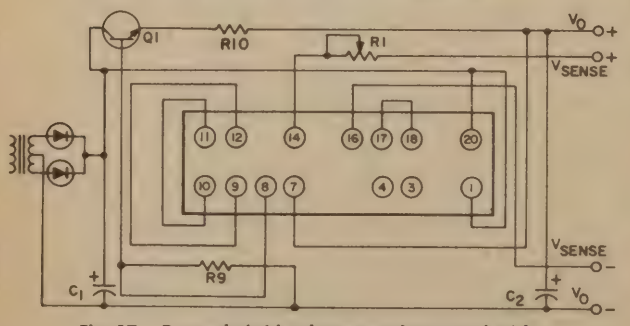


Fig. 17 Power hybrid voltage regulator used with parallel pass transistors for higher output current

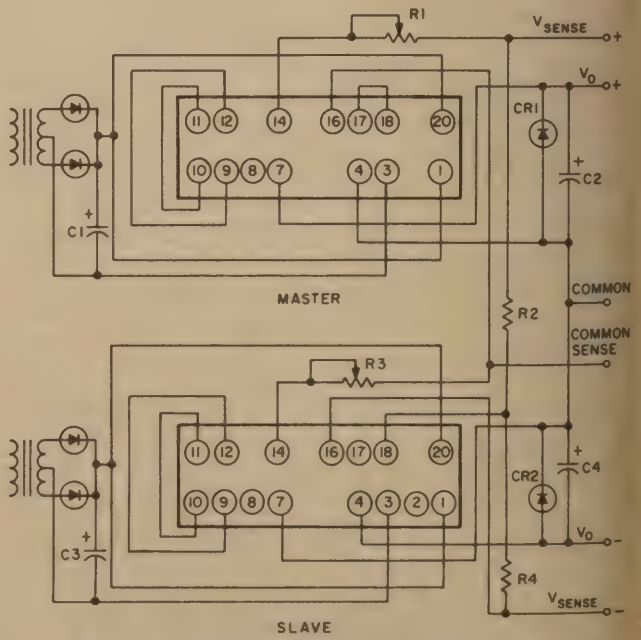
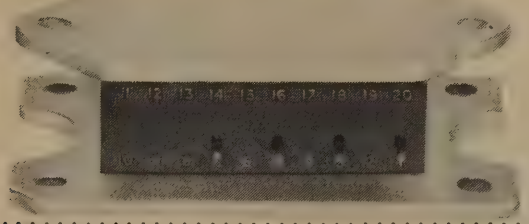


Fig. 18 Dual tracking power hybrid voltage regulator

© United Technical Publications

LAMBDA ELECTRONICS CORP.
DISTRIBUTOR DIVISION

Connection diagrams



"actual size"

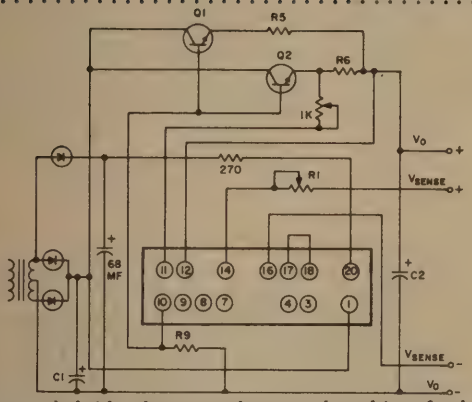


Fig. 19 Power hybrid voltage regulator used as driver for higher current outputs using peak detector for control amplifier input voltage

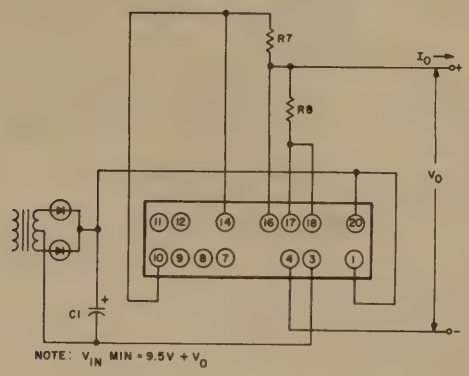


Fig. 20 Power hybrid current regulator

Notes for Determining Values of External Components in Figures 15 through 20

1. Minimum value of input filter capacitors C1 and C3 is determined by: C1, C3 = I_o (1000 mfd/amp) recommended.
2. Minimum value of output capacitors C2 and C4 is determined by: C2, C4 = I_o (100 mfd/amp).
3. Minimum value of output voltage adjust resistors R1 and R3 for LAS 2205 and LAS 2405 is 3K ohms. See note 4 to determine value for all other models.
4. Minimum value of output voltage adjust resistors R1 and R3 is determined by: R1, R3 = ($0.25V_o$ x 1000Ω/V) ohms wirewound. Use next highest standard value.
5. Values of tracking reference voltage divider resistors R2 and R4 for all models except LAS 2205, 2405, 2206, and 2406 are determined by:
   a) R2 = (2000 V_o − 7150) ohms, ±1%, ½W film
   b) R4 = 7.15K ohms, ±1%, ½W film
6. Value of tracking reference voltage divider resistor R2 and R4 for LAS 2205 and LAS 2405 is:
   a R2 = 7.50K ±1% ½W film
   b) R4 = 2.43K ±1% ½W film
7. Value of tracking reference voltage divider resistor R2 and R4 for LAS 2206 and LAS 2406 is:
   a) R2 = 8.06K ±1% ½W film
   b) R4 = 4.02K ±1% ½W film
8. Values of current sharing resistors R5 and R6 are determined by: R5, R6 = $\frac{(N \times 0.5V)}{MAX\ I_o}$ ohms ±3% wirewound where N = number of emitter current sharing resistors required.
9. Nominal value of the current sharing resistor R10 for Fig. 17 is determined from table below.

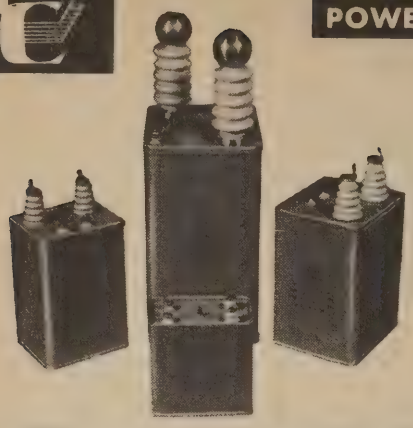
R10	Model
.100Ω	LAS 2105, 2106, 2112, 2115, 2205, 2206, 2212, 2215
.150Ω	LAS 2120, 2220
.200Ω	LAS 2305, 2306, 2405, 2406, 2124, 2224
.250Ω	LAS 2128, 2228, 2312, 2315, 2412, 2415

10. Value of current sensing resistor R7 is determined by R7 = $\frac{(2.4V)}{I_o}$ ohms, nominal, wirewound.
11. R8 (part of reference voltage divider) = 750 ohms nominal, ½W film resistor for all models except LAS 2205, 2405, 2206, and 2406.
12. R8 for LAS 2206 and 2406 is 3.2K nominal, ½W film.
13. R8 for LAS 2205 and 2405 is not required.
14. Rectifiers CR1 and CR2 should be rated at peak inverse voltage of 50 V and forward current equal at least to maximum rated I_o.
15. Value of I_{cbo} drain resistor R9, is determined by: R9 = $\frac{(V_o)}{(N \times MAX\ I_{cbo})}$ ohms, ±5% composition where N = number of external series pass transistors.
16. All fixed resistors shown on diagrams with given values in ohms are ½W composition.
17. Temperature rise of case 2, △ TC2, is given by the following:
    a) For no external heat sink on case 2,
    $$\triangle TC2 = 0.25P_D\ \theta J_1\text{-}A$$
    b) For an external heat sink on case 2 with thermal resistance θ
    $$\triangle TC2 = \frac{\theta\text{-HS2}}{50°C/W + \theta HS2} \times P_D\ \theta J_1\text{-}A$$

© United Technical Publications

POWER SUPPLIES

POWER SUPPLIES — COMPACT "M" SERIES



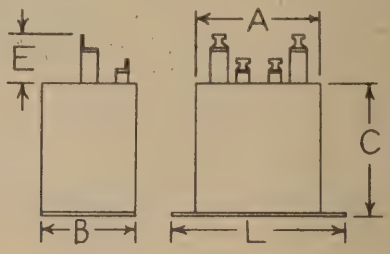
THE HV-M SERIES Power Packs have these important features:

1. **Input Voltage** 0 to rated input voltage* at 50 to 500 CPS.
2. **Output Ratings** 0 to 10 milliamperes in accordance with the rating of the power pack.
3. **Ripple** 1% RMS or 2.75% peak to peak at rated voltage.
4. **Output Voltage** can be varied from 0 to rated voltage and load by means of a variable auto transformer.
5. **Two Output Terminals** are isolated from the container, permitting either terminal or both to be operated away from ground. EXCEPTION: The HV750-152M and HV750-502M has a small and a large output terminal. The power pack is normally furnished to deliver a positive output.
6. **Ambient Temperature Range** is minus 55° C to plus 85° C (with limited ratings). EXCEPTION: The HY300-502M, HV500-502M and the HV750-502M are limited to operation at an ambient temperature of 50° C maximum.
7. **Design Life** 40,000 hours at 35° C and 25,000 hours at 65° C at rated output. Life is 5000 hours at 85° C if the output current is no more than 80% of the rated current. Useful life is generally double the figure given above if an approximately 3% drop in voltage is tolerable.
8. **Mounting Position:** Any.
9. **Altitude** up to 10,000 feet operating 50,000 feet non-operating.
10. **Vibration** 10 to 55 CPS with a total of 0.06 inches for 2 hours in each plane for all power packs which have a base dimension of 3 3/4" x 9/16" or less.
11. **Salt Spray** per MIL-Q-151 for 50 hours.
12. **Rectifiers** are long life selenium type.
13. **Filter Capacitors** are special film types designed for long life.
14. **Hermetically Sealed Container.**
15. **Oil Filled Container** prevents corona.
16. **Container Finish** Zinc chromate primer and light blue-gray lacquer per MIL-L-7178.
17. **Terminals** are steatite, solder seal type with solder lug terminals.

Contact your distributor for prices

*HOW TO ORDER

Select the part number for output voltage and current. This number has a rated input voltage of 118V. If a 220V. input is needed, add the suffix "X" to the part number. For 230V. input, add the suffix "Y", and for 240V. input, add the suffix "Z".



PART NUMBER	KV RANGE	MAX. MA.	DIMENSIONS A	B	C	E	WEIGHT LBS.
HV20-152M	0-2	1.5	3 3/4	1 3/4	3 3/4	3/8	2
HV50-152M	0-5	1.5	3 3/4	2 1/4	3 3/8	5/8	2
HV100-152M	0-10	1.5	3 3/4	3 3/16	4 1/2	1 1/16	4
HV150-152M	0-15	1.5	3 3/4	3 3/16	5 1/2	1 1/16	5
HV200-152M	0-20	1.5	3 3/4	4 9/16	5 7/8	2 1/8	9
HV300-152M	0-30	1.5	3 3/4	4 9/16	7 1/2	3 1/4	11
HV500-152M	0-50	1.5	4 11/16	6	8 1/2	4 5/16	18
HV750-152M	0-75	1.5	5 5/8	7 5/8	12 3/16	7 1/2	26
HV20-502M	0-2	5	3 3/4	2 1/4	3 3/8	3/8	2
HV50-502M	0-5	5	3 3/4	2 1/4	3 3/4	5/8	3
HV100-502M	0-10	5	3 3/4	4 9/16	5 7/8	1 1/16	8
HV150-502M	0-15	5	3 3/4	4 9/16	6 1/8	1 11/16	9
HV200-502M	0-20	5	3 3/4	4 9/16	8	2 1/8	12
HV300-502M	0-30	5	4 11/16	6	8 1/2	3 1/4	18
HV500-502M	0-50	5	5 5/8	7 3/8	12 3/16	4 5/16	26
HV750-502M	0-75	5	11 1/8	14 1/16	16 1/4	7 1/2	124
HV10-103M	0-1	10	3 3/4	2 1/4	3 3/8	3/8	2
HV25-103M	0-2.5	10	3 3/4	2 1/4	3 3/4	5/8	3
HV50-103M	0-5	10	3 3/4	4 9/16	5 7/8	5/8	8
HV100-103M	0-10	10	3 3/4	4 9/16	8	1 1/16	12
HV150-103M	0-15	10	4 11/16	6	8 1/2	1 11/16	18
HV250-103M	0-25	10	5 5/8	7 3/8	12 3/16	3 1/4	26
HV375-103M	0-37.5	10	11 1/8	14 1/16	16 1/4	4 5/16	124

POWER SUPPLIES — LVE SERIES — REGULATED LOW VOLTAGE

AC Input 105 to 125 volts. 50 to 420Hz.

DC Output Voltage Catalog items are available in the most commonly used voltages between 12 vdc and 100 vdc.

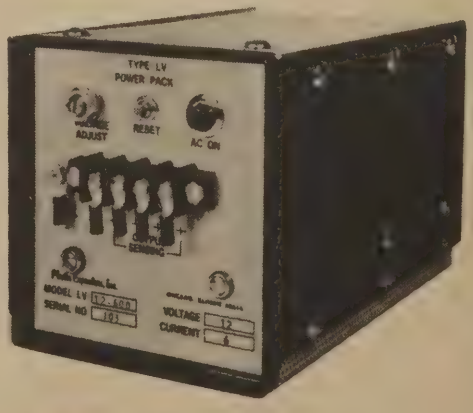
Regulation

0.01% for line voltages 105 to 125 vac.
0.05% for no load to full load.
Temperature coefficient is negative 0.015% per degree centigrade over the temperature range.

SPECIAL FEATURES

- All Solid Sate
- All Silicon Semiconductors
- ±2% Output Voltage Control
- Remote Sensing Terminals
- Less than 3 MV P-P Ripple and Noise
- 0 to 55°C Temperature Operating Range
- Unique Heatsink Design
- Natural Convection Cooling (NO FORCED AIR)
- Control Circuit maintained in a stable environment
- Input electrically isolated from Output
- Protected from Overload and Short Circuit
- Floating Output Potential allows Positive or Negative Output
- Output terminal, control, pilot light and reset button are mounted on the front panel
- Any mounting position

MODEL LV-	OUTPUT VOLTAGE RANGE	MAXIMUM OUTPUT CURRENT AMPERES	DIMENSIONS A X B X C	WT. LBS.
5-250	4.9-5.1	2.5	3 X 5 X 5	5.0
5-1000	4.9-5.1	10.0	5 X 5 X 12	20.0
12-200	11.75-12.25	2.0	3 X 5 X 5	5.0
12-600	11.75-12.25	6.0	5 X 5 X 8	15.0
12-800	11.75-12.25	8.0	5 X 5 X 12	20.0
24-100	23.5-24.5	1.0	3 X 5 X 6	5.0
24-200	23.5-24.5	2.0	5 X 5 X 7	9.0
24-400	23.5-24.5	4.0	5 X 5 X 8	15.0
24-600	23.5-24.5	6.0	5 X 5 X 12	20.0
28-400	27.4-28.6	4.0	5 X 5 X 8	15.0
36-200	35.3-36.7	2.0	4 X 5 X 7	9.0
48-200	47.0-49.0	2.0	5 X 5 X 8	15.0
100-150	98.0-102.0	1.5	5 X 5 X 12	20.0



Contact your distributor for prices

Plastic Capacitors, Inc.

© United Technical Publications

Solid-State Regulated DC Power Supplies

Type WP-700A, WP-702A, WP-703A, WP-704A

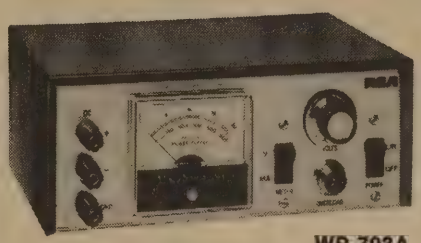
RCA

Test Equipment and Accessories



WP-700A

$48.00*



WP-703A
WP-704A

$60.00*



WP-702A

$87.00*

Features

- **All solid-state circuitry**
- **Continuously adjustable voltage output down to 0 volts**
- **Electronic short-circuit protection — short across the output terminals won't harm the supplies**
- **Front-panel overload-indicator lamp signals when maximum current condition is approached**
- **Negative feedback regulator circuit maintains constant output voltage with low ripple**
- **Compact and lightweight**

Description

The WP-700A, 702A, 703A, and 704A are solid-state, constant voltage dc power supplies. These versatile bench-type supplies are ideally suited for use in circuit design, servicing, industrial, and educational applications. Typical applications include developmental transistor or integrated circuit projects, production line testing of dc operated equipment, industrial maintenance, life testing of devices that require dc supply, and classroom use.

The WP-700A and WP-702A circuits are identical, except that the WP-702A is a dual unit, with separate controls, output terminals, and meters for each section. The two sections of the WP-702A are electrically isolated from each other.

Output voltage of the WP-700A and WP-702A is continuously adjustable from 0 to 20 volts, at current levels up to 200 milliamperes.

Output voltage of the WP-703A is continuously adjustable from 0 to 20 volts at current levels up to 500 milliamperes.

The output voltage of the WP-704A is adjustable from 0 to 40 volts at current levels up to 250 mA.

Overload current is limited to prevent damage to the power supplies. No damage will occur even if connected to an external short circuit. A special overload indicator panel lamp will begin to glow when the current approaches the maximum rated level.

A meter is provided to indicate either output voltage or current level. The meter function is selected by a convenient panel switch.

All silicon transistors and diodes are used in the four supplies. Circuit design features include a negative feedback circuit to maintain constant output voltage with low ripple regardless of varying line.

Three convenient output terminals (+DC, —DC, and GND) are provided. The units are equipped with a three-wire ac power cord to permit connecting the external circuit to the power line ground, using the "GND" terminal.

Specifications

	WP-700A WP-702A	WP-703A	WP-704A
Output	0 to 20V 0 to 200 mA	0 to 20V 0 to 500 mA	0 to 40V 0 to 250 mA
Line Regulation (Max. change in output with power-line variation of 110 to 135 V ac)	30 mV	7 mV	15 mV
Load Regulation (Max. change at rated load)	less than 50 mV	less than 10 mV	less than 20 mV
Ripple	less than 500 uV rms	less than 200 uV rms	less than 200 uV rms
Meter Functions (Function selected with panel switch)	0 to 20V 0 to 200 mA	0 to 20V 0 to 500 mA	0 to 40V 0 to 250 mA

Controls ..... Continuously variable voltage
Power on/off
Meter selector V/mA

Output Terminals ..... DC+, DC—, GND, (Pos. or neg. output)

Short Circuit Protection ..... Protected from damage due to external short circuit

Overload Indicator ..... Panel lamp glows when current approaches max. level

Power Cord ..... Three-wire type

Dimensions
WP-700A ..... 4 in. x 6½ in. x 3 in., weight 2 lbs., 11 oz.
WP-702A ..... 6 in. x 12 in. x 3 in., weight 4 lbs., 13 oz.
WP-703A and
WP-704A ..... 5¼ in. x 8¼ in. x 3¼ in., weight 5 lbs., 13 oz.

*** Optional User Price**

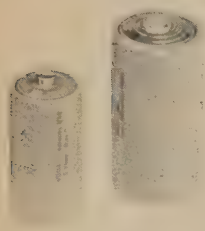
RCA

BATTERIES

RADIO • FLASHLIGHT • FARM • TRANSISTOR HEARING AID • INDUSTRIAL • PHOTO FLASH

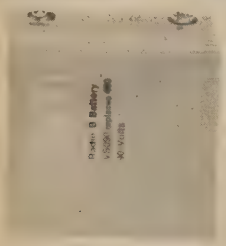
JUNE 24, 1970

PORTABLE "A" TYPES



Type	Optional Distr. Resale Price Ea.	Optional List Price Ea.	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA• Type No.	Replaces Eveready	Burgess	Mallory
VS004	1.15	1.65	1.5	0-1000	2 5/8	2 5/8	3 27/32	6	8.5	4	742	4F	M4
VS034A↓	.16	.25	1.5	0-25	—	5/16	1 31/32	192	7	15F	915	Z	M15F
VS035A↓	.195	.30	1.5	0-80	—	1 1/32	1 15/16	192	18.5	14F	935	1	M14F
VS036↓	.195	.30	1.5	0-150	—	1 11/32	2 13/32	192	39	13F	950	2R	M13F
VS065	1.23	1.75	7.5	0-70	2 5/32	1 15/16	3 1/32	12	7.3	9	717	C5	M9
VS067	1.66	2.50	4.5	0-250	3 13/16	1 5/16	4 3/32	6	6	3	736	F3	—
VS068↓	1.00	1.50	6	0-250	1 7/32	1 7/32	2 11/32	6	1	2	724	Z4	—
VS069	1.29	1.95	1.5	0-300	2 25/32	1 13/32	3 1/32	6	3	18	720	2D	—
VS070	1.29	1.95	1.5	0-250	—	1 11/32	4 1/16	6	4.5	23	960P	8R	—
VS072	1.66	2.50	4.5	0-150	4 3/32	1 7/16	2 15/16	3	2	19	726	D3	—
VS129	2.45	3.50	7.5	0-50	3 29/32	5/64	2 27/32	6	2.5	8	713	B5	—
VS141	1.22	1.75	1.5	0-500	2 1/32	1 3/8	4 5/32	6	4.5	11	W353	2F	—
VS236↓	.63	.95	1.5	0-300	—	1 11/32	4 1/16	6	2.3	20	964	21R	M20
VS315▲	1.29	1.95	7.5	0-80	2 7/16	2 1/32	2 13/16	6	4.7	26	707	D5	—
VS343↓	.19	.30	1.5	0-150	—	1 11/32	2 13/32	192	40	13D	D99	—	—
VS345	1.15	1.65	6	0-250	2 5/8	2 5/8	3 27/32	6	8.5	6	744	F4P1	—
VS734↓	.16	.25	1.5	0-25	—	5/16	1 31/32	192	7	15P	815	920	M15P
VS735↓	.19	.30	1.5	0-80	—	1 1/32	1 15/16	192	17	14P	835	120	M14P
VS736↓	.19	.30	1.5	0-150	—	1 11/32	2 13/32	72	13	13P	850	220	M13P

PORTABLE "B" TYPES



Type	Optional Distr. Resale Price Ea.	Optional List Price Ea.	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA• Type No.	Replaces Eveready	Burgess	Mallory
VS013	2.97	4.25	45	0-40	3 13/32	1 27/32	5 1/2	6	12.3	202	482	M30	—
VS014	4.16	5.95	45	0-40	3 5/16	2 1/4	4 1/2	5	9.5	206	W359	A30	—
VS015	2.97	4.25	22.5, 45	0-25	3	2 13/16	4 1/8	6	7.3	205	738	Z30	—
VS016▲	2.70	3.85	67.5	0-10	2 13/16	1 3/8	3 45/64	12	9.8	200	467	XX45	M200
VS055▲	2.48	3.75	45	0-10	2 21/32	1	3 11/16	12	6.7	201	455	XX30	—
VS082▲	2.70	3.85	67.5	0-6	2 13/16	1 3/8	2 1/2	6	3.0	203	457	K45	—
VS084	1.17	1.75	22.5	0-25	1 1/2	5/8	2	12	1	215	412	U15	M215
VS086▲	1.75	2.50	45	0-4	1 3/4	5/8	3 11/16	12	1.8	213	415	U30	—
VS090▲	3.15	4.50	90	0-10	3 23/32	1 3/8	3 45/64	6	6.5	204	490	V60	—
VS125▲	2.77	3.95	67.5	0-10	2 13/16	1 3/8	3 23/32	12	9.8	200C	468	V45	—
VS217▲	3.15	4.50	75	0-10	1 15/16	1 15/32	6 15/32	12	12.6	212	437	XX50	—
VS218▲	2.70	3.85	67.5	0-8	1 29/32	6 3/4	5 7/16	12	6.4	211	477	P45	M211P
VS219▲	2.97	4.25	90	0-8	1 31/32	1 1/32	7 15/32	6	4.7	214	479	P60	—
VS318▲	2.07	2.95	67.5	0-3	1 7/64	6 3/4	3 1/2	6	1.5	217	416	UX45	—
VS344	3.47	4.95	45	0-70	3 31/32	2 17/32	5 3/16	6	19.3	207	484	B30	—

HEARING AID TYPES

Type	Optional Distr. Resale Price Ea.	Optional List Price Ea.	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA• Type No.	Replaces Eveready	Burgess	Mallory
VS312■	.24	.35	1.4	0-2	—	0.312	0.140	60	3	—	E312	HG312	RM312
VS400■	.33	.50	1.4	0-7	—	0.455	0.135	60	0.5	1106	E400	HG400	RM400
VS401■	.62	.95	1.4	0-50	—	0.470	1.130	24	1	910M	E401	HG401	RM401
VS575■	.24	.35	1.4	0-3	—	0.455	0.132	60	0.5	—	E575	HG575	RM575
VS625■	.42	.60	1.4	0-5	—	0.615	0.238	40	0.5	—	E625	HG625	RM625
VS630■	.49	.75	1.4	0-20	—	0.615	0.238	40	0.5	1104	E630	HG630	RM630
VS675■	.325	.50	1.4	0-10	—	0.455	0.210	60	0.75	—	E675	HG675	RM675
VS1713	.30	.45	1.5	0-1.5	—	0.310	0.206	60	0.5	—	S13	—	MS13
VS1741	.30	.45	1.5	0-2.5	—	0.455	0.160	60	0.5	—	S41	—	MS41
VS1776	.39	.60	1.5	0-10	—	0.455	0.210	60	0.5	—	S76	—	MS76

TYPES FOR TRANSISTOR APPLICATIONS



Type	Optional Distr. Resale Price Ea.	Optional List Price Ea.	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA• Type No.	Replaces Eveready	Burgess	Mallory
VS1■	.62	.95	1.4	0-75	—	0.627	0.650	40	2	1100	E1	HG1	RM1
VS9■	.65	1.00	1.4	0-200	—	0.555	1.968	24	1 3/4	15M	E9	HG9	ZM9
VS12■	.99	1.50	1.4	0-250	—	0.640	1.968	10	1 1/4	1101	E12	HG12	RM12
VS126■	1.46	2.25	8.4	0-50	—	0.730	2.000	24	2	1611M	E126	H126	TR126
VS132■	1.14	1.75	2.8	0-75	—	0.662	1.315	10	3/4	1200	E132	H132	TR132
VS133■	1.46	2.25	4.2	0-75	—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS146X■	1.27	1.95	8.4	0-30	1.031	0.660	1.641	24	2.5	1604M	E146X	H146X	TR146X
VS163■	1.62	2.50	4.2	0-50	—	0.662	1.327	10	3/4	1305	E163	H163	TR163
VS164■	1.47	2.25	5.6	0-50	—	0.662	1.767	24	2 1/4	1404	E164	H164	TR164
VS165■	1.92	2.95	7	0-50	—	0.662	2.217	10	1	1500	E165	H165	TR165
VS177■	1.47	2.25	9.8	0-10	—	0.547	1.906	24	1	1606M	E177	H177	TR177
VS233■	2.60	4.00	4.2	0-60	—	1.016	1.969	10	2.5	1300	E233	H233	TR233
VS300A	.68	.98	9	0-9	—	1	1 3/16	36	4	1600	226	P6	M1600
VS301	2.31	3.50	3, 6, 9	0-150	8	1 5/16	2 13/16	6	8	1601	2506	D6P1	—
VS304	1.66	2.50	13.5	0-10	1 11/32	1 1/32	2 11/16	12	2.3	1900	239	XX9	—
VS305	1.48	2.25	9	0-15	1 13/32	1 11/32	2 3/4	6	1.7	1602	246	2N6	M1602
VS306	1.66	2.50	9	0-30	2 7/16	2 1/32	3 5/32	6	5.6	1603	276	D6	M1603
VS322	1.36	1.95	9	0-20	1 13/16	1 13/16	2 7/16	12	5.3	1605	266	M6	M1605
VS323	.54	.79	9	0-8	1 1/32	3/32	1 3/32	72	6	1604	216	2U6	M1604
VS324	1.48	2.25	4.5	0-40	1 13/32	1 11/32	2 3/4	6	1.5	1610	243	2Z3	—
VS327	.62	.89	9	0-7	—	3/4	2	6	0.4	1611	206	L6	M1611
VS329	1.05	1.50	12	0-9	—	1	2 7/16	12	1.8	1810	228	PM8	—
VS330	1.97	2.95	9	0-80	2 5/16	1 3/32	6 1/4	6	6.5	1612	2356N	C6X	—
VS331	3.31	4.95	9	0-30	2 3/32	1 1/4	7 31/32	6	8 1/4	1608	2761N	D6S	—
VS332	.68	.98	4.5	0-12	—	0.662	1.965	12	0.9	1306	333	—	—
VS334	.155	.25	1.5	0-25	—	5/16	1 31/32	192	7.6	15	1015	930	M15R
VS335	.19	.30	1.5	0-80	—	1 1/32	1 15/16	192	17.6	14	1035	130	M14R
VS336	.19	.30	1.5	0-150	—	1 11/32	2 13/32	192	40	13	1050	230	M13R
VS337	3.31	4.95	4.5	0-200	2 13/16	1 3/4	8 11/32	6	10.5	1303	2731N	—	—
VS338	1.66	2.50	6	0-25	1 13/32	4/64	4 11/16	6	1.4	1403	2713N	—	—
VS339	1.29	1.95	9	0-20	1 13/32	4/64	4 11/16	6	1.5	1613	2709N	—	—
VS640■	.49	.75	1.4	0-50	—	0.625	0.440	20	3/4	1105	E640	HG640	RM640

• National Electronic Distributors Association. ↓ Flashlight Type Terminals. ■ Mercury Types. ▲ 2 Snap Fasteners.

Trade Discount Applies To List Prices Only

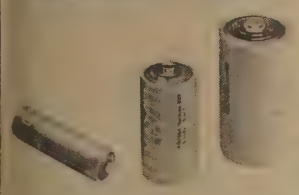
© United Technical Publications

RCA

BATTERIES

RADIO • FLASHLIGHT • FARM • TRANSISTOR HEARING AID • INDUSTRIAL • PHOTO FLASH

LANTERN TYPES



Type	Optional Distr. Resale Price Ea.	Optional List Price Ea.	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA• Type No.	Replaces Eveready	Burgess	Mallory
VSPX14	1.27	1.95	2.7	0-5	—	0.660	0.610	20	1.0	—	EPX14	—	—
VSPX23	.62	.95	5.6	0-10	—	0.600	0.787	24	—	—	EPX23	—	—
VS034A♦	.16	.25	1.5	0-25	—	5/16	1 31/32	192	7	15F	915	Z	M15F
VS035A♦	.195	.30	1.5	0-80	—	1 1/32	1 15/16	192	18.5	14F	935	I	M14F
VS036♦	.195	.30	1.5	0-150	—	1 11/32	2 13/32	192	39	13F	950	2R	M13F
VS040C	.99	1.49	6	0-250	2 5/8	2 5/8	4 13/32	12	17	908	509	F4H	M908
VS040S	.99	1.49	6	0-250	2 5/8	2 5/8	4 5/16	12	18	915	510S	F4BP	M915
VS073	.095	.15	1.5	0-20	—	0.445	1.180	96	1.5	910	904	N	910F
VS074	.13	.20	1.5	0-20	—	13/32	1 3/4	48	1	24F	912	7	M24F
VS103	4.01	5.98	6	0-1000	8 5/16	2 13/16	6 7/16	4	26	902	706	4F4H	—
VS134	1.00	1.50	3	0-25	1 1/32	5/8	2 21/32	6	0.7	704	750	422	—
VS139	4.86	7.25	7.5	0-1000	7 1/4	4 1/16	6 7/16	4	30	903	715	4F5H	M903
VS140	5.53	8.25	9	0-1000	8 1/32	4 1/16	6 7/16	4	37	904	716	4F6H	M904
VS317	2.15	3.25	6	0-500	5 1/32	2 27/32	4 15/16	6	20	918	731	TW1	M918
VS342	2.33	3.50	12	0-250	5 1/32	2 27/32	4 15/16	6	20	926	732	TW2	—
VS343	.22	.35	1.5	0-150	—	1 11/32	2 13/32	192	40	13D	D99	—	—

INDUSTRIAL and SPECIAL-PURPOSE TYPES





VS006C	1.05	1.59	1.5	0-1500	—	2 5/8	6 21/32	12	26	906	6GL	6TEL	M906
VS006S	1.05	1.59	1.5	0-1500	—	2 5/8	6 21/32	12	25	905	6IGN	6IGN	M905
VS028	1.48	2.25	4.5	0-50	2 7/16	27/32	3	5	1 1/2	714	781	5360	—
VS029	2.15	2.95	1.5, 3, 4.5, 6, 7.5	0-50	3 23/32	27/32	3	5	2 1/2	713	773	5540	—
VS039	3.98	5.98	6	0-1500	10 7/16	2 23/32	7 1/32	4	38	907	1461	S461	M907
VS040C	.99	1.49	6	0-250	2 5/8	2 5/8	4 13/32	12	17	908	509	F4H	M908
VS040S	.99	1.49	6	0-250	2 5/8	2 5/8	4 5/16	12	18	915	510S	F4BP	M915
VS047	8.18	11.95	9-90	A 0-50, B-0-15	14.06	2.68	4.06	1	6.5	400	752	G6B60	—
VS057W	6.85	10.00	7.5-9-90	A 0-50, B 0-12	8.87	2.12	3.78	1	2.9	405	756	T6Z60	—
VS070	1.29	1.95	1.5	0-250	—	1 11/32	4 1/16	6	4.5	23	960P	8R	—
VS083	1.00	1.50	15	0-2.5	1 1/32	5/8	1 29/64	6	0.4	208	411	U10	M208
VS084	1.17	1.75	22.5	0-2.5	1 1/32	5/8	2	12	1	215	412	U15	M215
VS085	1.30	1.95	30	0-2.5	1 1/32	5/8	2 7/16	12	1.3	210	413	U20	M210
VS093	9.07	12.95	300	0-2.5	2 11/16	2 1/32	3 29/32	3	3.2	722	493	U200	—
VS1	.62	.95	1.4	0-75	—	0.627	0.650	40	2	1100	E1	HG1	RM1
VS12	.99	1.50	1.4	0-250	—	0.640	1.968	10	1 1/4	1101	E12	HG12	RM12
VS100	1.48	2.25	3	0-250	2 21/32	1 11/32	4 1/16	5	3.5	701	W352	F2BP	—
VS101	.99	1.49	1.5	0-500	2 5/8	1 5/16	4 1/32	6	7	700	711	2FH	—
VS102	1.61	2.35	22.5	0-40	3 1/2	2 1/32	3 1/16	6	4.6	710	763	4156	—
VS103	4.01	5.98	6	0-1000	8 5/16	2 13/16	6 7/16	4	26	902	706	4F4H	—
VS106	.99	1.49	1.5	0-1000	2 5/8	2 5/8	4 13/32	12	18	900	735	4FH	M900
VS112	3.05	4.35	22.5, 45	0-50	4 3/32	2 7/16	5 1/16	6	20	700	762S	5308	—
VS114	2.69	3.85	22.5, 45	0-20	3 1/16	1 7/8	4 31/32	5	5	711	W350	Z30NX	—
VS127W	8.37	11.95	22.5, 45	0-250	8 1/32	4 1/16	7 5/8	4	44	724	W363F	10308SC	—
VS130	2.15	2.95	1.5, 3, 4.5	0-150	4 1/16	1 13/32	3 1/32	5	4.5	712	761T	2370ST	—
VS131	4.59	6.95	3, 4.5, 6, 9, 10.5, 16.5, 22.5	0-50	4	2 7/16	3 1/8	4	5.0	708	778	5156SC	—
VS132	1.14	1.75	2.8	0-75	—	0.662	1.315	10	3/4	1200	E132	H132	TR132
VS133	1.48	2.25	4.2	0-75	—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS134	1.00	1.50	3	0-25	1 1/32	5/8	2 31/32	10	1	704	750	422	—
VS136	2.45	3.50	3	0-500	2 5/8	2 5/8	4 5/16	5	7.5	703	W356	2F2H	—
VS139	4.86	7.25	7.5	0-1000	7 1/4	4 1/16	6 7/16	4	30	903	715	4F5H	M903
VS140	5.53	8.25	9	0-1000	8 37/64	4 1/16	6 7/16	4	37	904	716	4F6H	M904
VS157W	9.36	13.95	22.5, 45	0-300	8 1/8	4 7/16	7 11/16	4	51	715	W364F	21308SC	—
VS163	1.62	2.50	4.2	0-50	—	0.662	1.327	10	3/4	1305	E163	H163	TR163
VS164	1.47	2.25	5.6	0-50	—	0.662	1.767	24	2 1/4	1404	E164	H164	TR164
VS317	2.15	3.25	6	0-500	5 1/32	2 27/32	4 15/16	6	20	918	731	TW1	M918
VS340	4.66	6.98	12	0-600	10 7/16	2 23/32	7 1/32	4	32	922	1463	2G8H	—
VS342	2.33	3.50	12	0-250	5 1/32	2 27/32	4 15/16	6	20	926	732	TW2	—
VS346	1.36	1.95	4.5	0-50	2 7/16	27/32	3 1/16	10	3	706	703	532	—
VS400	.33	.50	1.4	0-7	—	0.455	0.135	60	1/2	1106	E400	HG400	RM400
VS630	.49	.75	1.4	0-20	—	0.615	0.238	40	1/2	1104	E630	HG630	RM630
VS640	.49	.75	1.4	0-50	—	0.625	0.440	20	3/4	1105	E640	HG640	RM640

PHOTO FLASH



VS704	1.00	1.50	15	0-1.5	5/8	1 3/32	1 3/8	12	0.6	220	504	Y10	M50
VS705	1.17	1.75	22.5	0-1.5	5/8	1 3/32	2	12	0.7	221	505	Y15	M505
VS734♦	.16	.25	1.5	0-25	—	5/16	1 31/32	96	3.5	15P	815	920	M15P
VS735♦	.19	.30	1.5	0-80	—	1 1/32	1 15/16	192	17	14P	835	120	M14P
VS736♦	.19	.30	1.5	0-150	—	1 11/32	2 13/32	72	13	13P	850	220	M13P
VS789	7.67	10.95	225	0-10mA	4.34	2.68	4.18	1	2.5	—	489	XX150	PF-489
VS791	6.96	9.95	240	0-2.5mA	2.59	1.31	4.50	1	.75	—	491	U160	PF-491
VS797	12.98	18.95	510	0-2.5mA	3.00	1.59	5.62	1	1.75	—	497	U320	PF-497
VS1340-B	.84†	1.25†	1.5	0-5	—	0.288	0.905	2 per card		—	EXP-825	APX825	PX825
VS3204**	2.15	3.25	4.5	0-6	0-6	1 3/8	2 3/4	12	4.9	—	460K	—	—
VSPX13-B*	2.68	4.00	1.4	0-5	—	.238	.615	4	.17		EPX13	HPX13	PX-13
VSPX14	1.34	2.00	2.8	0-5	—	.610	.660	4	.2		EXP14	—	PX14
VSPX30	.98	1.50	3.0	0-5mA	—	.485	.960	12	.05	—	—	—	PX30

**Includes one No. 428 lamp. †Per card of 2 batteries. * Per blister card of 4 batteries.

ALKALINE TYPES



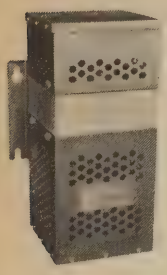
VS1073	.325	.50	1.5	0-150	—	0.470	1.130	24	.6	910A	E90	AL-N	Mn9100
VS1074	.45	.70	1.5	0-200	—	0.410	1.735	48	2	24A	E92	AL-7	Mn2400
VS1149▲	1.14	1.75	4.5	0-100	—	0.662	1.965	24	2	1306A	523	AL-133	Mn1306
VS1323▲	.975	1.50	9	0-15	—	—	—	24	2.5	—	—	2U6	Mn1604
VS1334	.45	.70	1.5	0-300	—	0.550	1.960	96	5	15A	E91	AL-9	Mn1500
VS1335	.52	.80	1.5	0-500	—	1 1/32	1 15/16	48	8	14A	E93	AL-1	Mn1400
VS1336	.65	1.00	1.5	0-1000	—	1 5/16	2 3/8	48	18	13A	E95	AL-2	Mn1300
VS1337	1.14	1.75	4.5	0-70	—	0.665	2.41	10	2	1307A	531	APX-19	PX19
VS1338	1.14	1.75	4.5	0-70	—	0.662	2.051	10	2	—	—	APX-21	PX21
VS1339	.975	1.50	3	0-70	—	0.665	1.67	10	1	1308A	532	APX-24	PX24
RECHARGEABLE													
VS1513-P2	2.34†	3.50†	1.5	0-500	—	1.31	2.37	2 per card		—	—	—	SA-13D
VS1514-B	2.00†	3.00†	1.5	0-250	—	1.31	2.37	2 per card		—	—	—	SA14C
VS1515-B	1.32†	2.00†	1.5	0-75	—	1.31	2.37	2 per card		—	—	—	SA-15AA
VS1560	5.29	7.95	7.5	0-625	2.656	1.531	7.156	1	19.5	—	560	—	—
VS1561	11.29	16.95	15	0-1250	8.313	2.813	5.875	4	25.5	—	561	—	—
VS1563	3.00	4.50	4.5	0-625	—	1.359	7.156	3	11.0	—	563	—	—
VS1564	10.99	16.50	13.5	0-1250	8.313	2.813	5.875	1	24.0	—	564	—	—

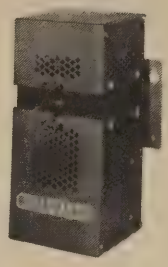
Per card of 2 batteries.

▲ Alkaline types specially designed for transistor radios. ♦ Flashlight-type terminals. • National Electronic Distributors Association.

SOLA ELECTRIC SLB
DIVISION OF SOLA BASIC INDUSTRIES

SOLATRON® ±½% LINE VOLTAGE REGULATORS


Fig. A


Fig. B

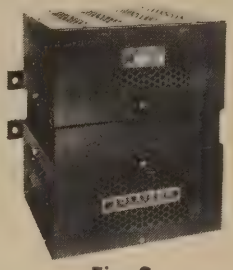

Fig. C


Fig. D



Fig. E

SELECTING THE PROPER SOLATRON® REGULATOR FOR YOUR APPLICATION

1. Determine the proper wiring configuration. Solatron® regulators are cataloged for single-phase, three-phase delta, and three-phase wye applications. The configuration used will depend on service available and on the nature of equipment loading.

2. Determine KVA capacity required. KVA capacity should at the very least equal the total load KVA involved. It is of course wise to provide additional KVA capacity in the regulator as protection against errors in load rating and the possibility of additions to the load at later times.

3. Determine operating voltage. Having located the KVA rating desired on the correct catalog page, you should then determine the operating voltage of your system.

4. Determine variation range required. The extent of voltage excursions you experience or anticipate will determine which of the input voltage ranges should be chosen. Units are offered to regulate line variations of ±10% and +10%/−20%. Since larger variations are likely to occur on the low side of nominal voltage, the +10%/−20% unit is recommended where line voltage may drop more than 10%.

5. To insure correct Solatron® regulators for your application, be sure to specify, in addition to catalog number, the KVA rating and power factor of load, operating voltage, frequency, and whether single-phase, 3-phase delta, or 3-phase wye is desired.

SINGLE PHASE (60 Hz ±3 Hz) (*)

Maximum Output KVA Rating (1)	Nominal Output Voltage	Output Voltage Adjustability	Input Voltage Range (2)	Maximum Harmonic Content (3)	Catalog Number	Approx. Shipping Weight	Figure
.5	120	108-132	+10/−20%	5%	33-16-150	40	A
.5	240	216-264	+10/−20%	5%	33-26-150	40	A
1	120	108-132	+10/−20%	5%	33-16-210	58	A
1	240	216-264	+10/−20%	5%	33-26-210	58	A
2	120	104-125	+10/−20%	5%	33-16-220-6	81	B
2	240	208-250	+10/−20%	5%	33-26-220-6	81	B
3	120	104-125	+10/−20%	5%	33-16-230-6	95	B
3	240	208-250	+10/−20%	5%	33-26-230-6	95	B
5	120	104-125	+10/−20%	5%	33-16-250-6	127	B
5	240	208-250	+10/−20%	5%	33-26-250-6	127	B
5	277	250-304	+10/−20%	5%	33-36-250-6	127	B
5	480	416-500	+10/−20%	5%	33-46-250-6	127	B
7.5	120	104-125	+10/−20%	5%	33-16-275-6	168	B
7.5	240	208-250	+10/−20%	5%	33-26-275-6	168	B
7.5	277	250-304	+10/−20%	5%	33-36-275-6	168	B
7.5	480	416-500	+10/−20%	5%	33-46-275-6	168	B
10	120	104-125	+10/−20%	5%	33-16-310-6	193	B
10	240	208-250	+10/−20%	5%	33-26-310-6	193	B
10	277	250-304	+10/−20%	5%	33-36-310-6	193	B
10	480	416-500	+10/−20%	5%	33-46-310-6	193	B
15	208	188-228	+10/−20%	5%	33-06-315	400	C
15	277	250-304	+10/−20%	5%	33-36-315	400	C
15	480	416-500	+10/−20%	7%	33-46-315	168	B
25	120	108-132	+10/−20%	5%	33-16-325	520	C
25	208	188-228	+10/−20%	5%	33-06-325	520	C
25	240	216-264	+10/−20%	5%	33-26-325	520	C
25	277	250-304	+10/−20%	5%	33-36-325	520	C
25	480	432-528	+10/−20%	5%	33-46-325	520	C
37 5	120	108-132	±10%	8%	31-16-337	525	C
37 5	240	216-264	±10%	8%	31-26-337	525	C
37 5	480	432-528	±10%	8%	31-46-337	525	C
50	120 (4)	114-126	±10%	9%	31-16-350-5	1050	E
50	240 (4)	228-252	±10%	9%	31-26-350-5	1050	E
50	480 (4)	456-504	±10%	9%	31-46-350-5	1050	E
75	120 (4)	114-126	±10%	9%	31-16-375-5	1625	E
75	240 (4)	228-252	±10%	9%	31-26-375-5	1625	E
75	480 (4)	456-504	±10%	9%	31-46-375-5	1625	E
100	120 (4)	114-126	±10%	9%	31-16-410-5	1900	E
100	240 (4)	228-252	±10%	9%	31-26-410-5	1900	E
100	480 (4)	456-504	±10%	9%	31-46-410-5	1900	E
150	120 (4)	114-126	±10%	9%	31-16-415-5	2200	E
150	240 (4)	228-252	±10%	9%	31-46-415-5	2200	E
150	480 (4)	456-504	±10%	9%	31-46-415-5	2200	E

THREE PHASE WYE (60 Hz ±3 Hz) (*)

Maximum Output KVA Rating (1)	Nominal Output Voltage	Line-to-Neutral Output Voltage Adjustability	Input Voltage Range (2)	Maximum Harmonic Content (3)	Catalog Number	Approx. Shipping Weight	Figure
1.5	208/120 Y	108-132	+10/−20%	5%	39-06-215	210	D
3	208/120 Y	108-132	+10/−20%	5%	39-06-230	265	D
6	108/120 Y	108-132	+10/−20%	5%	39-06-260-6	325	D
9	208/120 Y	108-132	+10/−20%	5%	39-06-290	370	D
15	208/120 Y	108-132	+10/−20%	5%	39-06-315-6	452	D
15	480/277 Y	250-304	+10/−20%	5%	39-46-315-6	452	D
22.5	208/120 Y	108-132	+10/−20%	5%	39-06-322-6	558	D
22.5	480/277 Y	250-304	+10/−20%	5%	39-46-322-6	558	D
30	208/120 Y	108-132	+10/−20%	5%	39-06-330-6	610	D
30	480/277 Y	250-304	+10/−20%	5%	39-46-345-6	610	D
45	208/120 Y	108-132	+10/−20%	5%	39-06-345-6	787	D
45	480/277 Y	250-304	+10/−20%	5%	39-46-345-6	787	D
75	208/120 Y	108-132	+10/−20%	5%	39-06-375-6	960	D
75	480/277 Y	250-304	+10/−20%	5%	39-46-375-6	960	D
100	480/277 Y	264-290	±10%	9%	37-46-410-5	2100	E
112.5	208/120 Y	108-132	±10%	8%	37-06-411	1660	D
150	208/120 Y	114-126	±10%	9%	37 06-415 5	3450	E
150	480/277 Y	264-290	±10%	9%	37-46-415-5	3450	E
225	208/120 Y	114-126	±10%	9%	37-06-422-5	3700	E
225	480/277 Y	264-290	±10%	9%	37-46-422-5	3700	E
300	208/120 Y	114-126	±10%	9%	37-06-430-5	4800	E
300	480/277 Y	264-290	±10%	9%	37-46-430-5	4800	E
500	208/120 Y	114-126	±10%	9%	37-06-450-5	6000	E
500	480/277 Y	264-290	±10%	9%	37-46-450-5	6000	E

THREE PHASE DELTA (60 Hz ±3 Hz) (*)

Maximum Output KVA Rating (1)	Nominal Output Voltage	Line-to-Line Output Voltage Adjustability	Input Voltage Range (2)	Maximum Harmonic Content (3)	Catalog Number	Approx. Shipping Weight	Figure
1.7	240 Δ	216-264	+10/−20%	5%	39-29-217	265	D
3.5	240 Δ	216-264	+10/−20%	5%	39-29-235-6	325	D
5.2	240 Δ	216-264	+10/−20%	5%	39-29-252-6	370	D
8.5	208 Δ	188-228	+10/−20%	5%	39-09-285-6	452	D
8.5	240 Δ	216-264	+10/−20%	5%	39-29-285-6	452	D
8.5	480 Δ	432-528	+10/−20%	5%	39-49-285-6	452	D
13	208 Δ	188-228	+10/−20%	5%	39-09-313-6	508	D
13	240 Δ	216-264	+10/−20%	5%	39-29-313-6	558	D
13	480 Δ	432-528	+10/−20%	5%	39-49-313-6	558	D
17	208 Δ	188-228	+10/−20%	5%	39 09-317-6	1000	D
17	240 Δ	216-264	+10/−20%	5%	39-29-317-6	1000	D
17	480 Δ	432-528	+10/−20%	5%	39 49 317 6	1000	D
26	208 Δ	188-228	+10/−20%	5%	39 09 326-6	1300	D
26	240 Δ	216-264	+10/−20%	5%	39 29-326-6	1300	D
26	480 Δ	432-528	+10/−20%	5%	39 49-326 6	1300	D
43	208 Δ	188-228	+10/−20%	5%	39 09 343 6	1645	D
43	240 Δ	216-264	+10/−20%	5%	39 29 343 6	1645	D
43	480 Δ	432-528	+10/−20%	5%	39 49 343 6	1645	D
65	240 Δ	216-264	±10%	8%	37 29 365	1660	D
65	480 Δ	432-528	±10%	8%	37 49 365	1660	D

AUXILIARY HARMONIC FILTERS

Auxiliary harmonic filters (to reduce output harmonics to 3% maximum additive rms content) are available. Consult your Sola® Distributor for details.

Single Phase 400 Hz Consult your Sola® Distributor for availability.

(*) 50 Hertz units also available . . . consult your Sola® Distributor.

© United Technical Publications

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

LINE VOLTAGE REGULATORS FOR COMPUTERS

SOLATRON® FOR COMPUTERS

With the problems of low line voltage due to power cutbacks or line loss; the increase of power line transients from lightning or the switching of power or equipment; and, the increased speed and sensitivity of new E.D.P. equipment — the need for a method of achieving consistent, reliable, clean power is becoming more critical every day.

The new, improved Solatron® LVR for computers is designed specifically to meet the stringent requirements of E.D.P. equipment.



FIG. 1

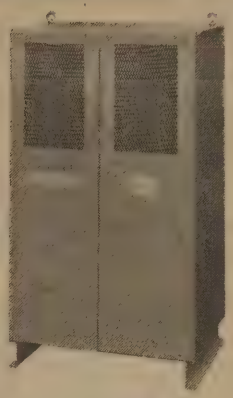


FIG. 2

Output KVA Rating	Catalog Number	NAED EDP No. 5888	Approx. Shipping Weight	Figure
10	39-59-310	27001	540	1
15	39-59-315	27002	700	1
25	39-59-325	27003	1,080	2
50	39-59-350	27004	1,510	2
75	39-59-375	27005	1,785	2

Regulators below consist of 3 cabinets — weight specifications are for each cabinet.

100	39-59-410	27006	1,200	2
150	39-59-415	27007	1,385	2
225	39-59-422	27008	1,585	2

TRANSFORMERS — STEP-DOWN & CONTROL

SOLA® STEP-DOWN TRANSFORMERS FOR USE WITH COMPUTER LINE SOLATRON®

Solatron® Catalog No.	KVA	3 φ Primary 240V Δ Catalog No.	3 φ Primary 480V Δ Catalog No.	3 φ Primary 600V Δ Catalog No.
39-59-310	10	35-20-315	35-30-315	35-40-315
39-59-315	15	35-20-325	35-30-325	35-40-325
39-59-325	25	35-20-337	35-30-337	35-40-337
39-59-350	50	35-20-375	35-30-375	35-40-375
39-59-375	75	35-20-411	35-30-411	35-40-411
39-59-410	100	35-20-415	35-30-415	35-40-415
39-59-415	150	35-20-422	35-30-422	35-40-422
39-59-422	225	35-20-430	35-30-430	35-40-430

CONTROL TRANSFORMERS

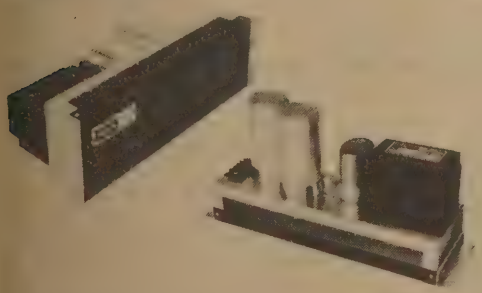
For control circuits incorporating electromagnetic and electronic devices — solenoids, valves, contactors, relays, rectifiers, and solid state components — in applications such as motor control, processing equipment, and machine tools.

Transformers meet or exceed NEMA, ANSI & NMBTA standards.

KVA	Catalog Number	Approx. Wgt. Lbs.
.025	35-10-025	2
.050	35-10-050	2-1/2
.075	35-10-075	3-1/2
.100	35-10-100	3-2/3
.150	35-10-150	6-1/2
.200	35-10-200	7-1/2
.250	35-10-250	9
.300	35-10-300	11-1/4
.350	35-10-350	13
.500	35-10-500	16-1/4
.750	35-10-750	24
1.0	35-10-210	30-1/2

SOLA® CVDC POWER SUPPLIES

REGULATED DC WITH FIXED OUTPUT



For computers, data processing, process control, electronic measuring, telemetering, and wherever isolation from line fluctuation is required.

The Sola CVDC offers a wide range of voltage outputs. It is rugged, simple, and features dependable operation.

OUTPUT SELECTIONS Single-phase input: 100-130v. A.C., 60 Hz std. 19 inch rack mounting

D.C. Output			Catalog Number	Load Regulations		Approx. Shipping Weight
Volts	Amps	VA		20% f.l.	50% f.l.	
6	10	60	281513-2	9%	7%	27
6	15	90	282123-1	10	7	38
12	5	60	281514-2	7	5	18
12	10	120	282124-1	9	5	31
12	15	180	281845-2	10	7	45
18	5	90	281515-2	5	4	20
18	10	180	282125-1	7	5	45
24	6	144	281024-1	5	4	30
24	10	240	282126-1	6	4	48
24	15	360	281203-2	7	5	64
24	25	600	282127-1	7	5	72
28	8	224	28626-2	6	4	42
28	15	420	282128-1	7	5	55
48	4	192	281048	3.5	2.5	32
48	10	480	281561-2	4	2	48
48	20	960	282129-1	4	2.5	95
125	2	250	281125-1	2.5	1.5	44
150	2	300	281150-1	2	1.5	48
200	1	200	281200	3	2	39
250	1	250	281250	3	2	45

SOLA SCRDC-III

SILICON CONTROLLED RECTIFIER REGULATED D.C. POWER SUPPLY

OUTPUT SELECTIONS

Single Phase input
100-130VAC 50/60 Hz
Std. 19 inch rack mounting

DC OUTPUT			
Volts	Amps	Watts	Catalog Number
24	20	480	39326
24	40	960	39346
48	10	480	39319
48	20	960	39329



© United Technical Publications

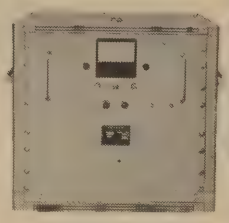
STABILINE® automatic VOLTAGE REGULATORS

- THE MOST EXTENSIVE LINE OF AUTOMATIC VOLTAGE REGULATORS
- RATED OUTPUTS FROM 0.25 TO 275 KVA

Deliver a constant output voltage regardless of variations in input voltage or changes in load current. Conservatively rated, ruggedly built, precision products. Submit specifications for ratings desired but not given in the charts. Input voltage ranges shown are at nominal output voltage; input voltage range shifts with output voltage setting. All are cabinet types; those with other construction also are indicated.

EMT series

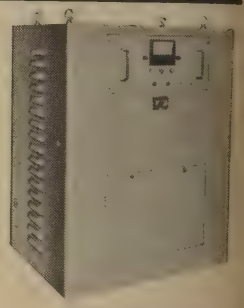
Electro Mechanical Transistorized types in ratings from 2.3 to 118 kva. Control circuit is completely transistorized. POWERKOTE Coils in power section permit higher output ratings. Rated accuracy ±0.75% for all variations of line voltage or load current within stated range of unit.



TYPE EMT4115B

EMS series

Electro Mechanical Transistorized types for single or three phase duty with ratings from 25 to 275 kva. Several types available with individual line control for greater application flexibility. Plug-in transistorized control circuit permits quick replacement in event of malfunction.



TYPE EMS42100

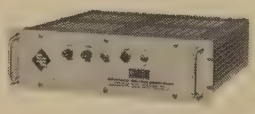


EMK series

Electro Mechanical high speed, high accuracy assemblies in ratings of 2.5/5.0 KVA. Accuracy ±1.0% of nominal output voltage.

TYPE EMK4105R

IES series



TYPE IES9101

Solid-state types with accuracy within 100 millivolts bandwidth, efficiency up to 95%, fast response, low distortion and wide operating frequency range. No vacuum tubes, motors, blowers or relays are used. All units have provision for remote sensing and have removable plug-in solid-state circuit boards.

All-boost Marine

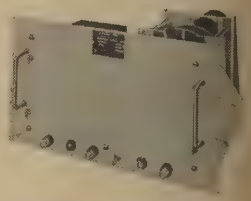
Electro Mechanical Transistorized type EMT10228 is fully enclosed in a weatherproof cabinet. Well suited for marine or industrial applications where equipment must withstand effects of dust and moisture. Has 6 KVA rated output.



TYPE EMT10228

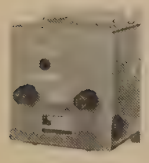
Militarized

Standard Electro Mechanical and Electro Mechanical Transistorized types that meet the requirements of applicable military specifications. Type EMTH41007MH is 3½ x 6 x 4½"; type EM4108MCR fits standard 19" relay rack. Accuracy ±1.0%.



TYPE EM4108MCR

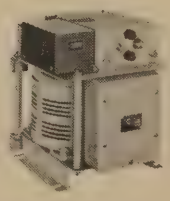
Overvoltage Detector OVK100



TYPE OVK100

Solid-state voltage level detector used with STABILINE Automatic Voltage Regulators. Actuates relay contacts when monitored voltage exceeds preset level. Relay contacts can be used to actuate protective equipment in a latching (relay remains closed) or nonlatching (relay automatically resets) connection. Trip level adjustable from 110 to 150 volts. Adaptable for higher voltage operation.

Types EMT4104B, (U), (UT)



TYPE EMT4104BUT

Have two primary windings for parallel or series (120 or 240 volt) duty. Type EMT4104B is cabinet enclosed; EMT4104BU is of open construction; EMT4104BUT has components screened or enclosed.

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES

© United Technical Publications

EMT SERIES

NOMINAL OUTPUT VOLTAGE	OUTPUT VOLTAGE (ADJUSTABLE)	INPUT VOLTAGE RANGE‡‡	MAXIMUM OUTPUT AMPERES	RATED OUTPUT KVA	CORRECTION RATE AT 60 HERTZ (SECONDS/VOLT)	TYPE
50/60 HERTZ, SINGLE PHASE OPERATION						
115	110-120	95-135	20	2.3	0.075	EMT4102B†
			57	6.6	0.075	EMT4106C§
		90-115	52	6.0	0.12	EMT10228
		105-125	114	13.0	0.15	EMT4112B§*
		95-135	144	16.6	0.125	EMT4115B
120¶	110-120	108-137	35	4.2	0.10	EMT4104B††
230‡	220-240	195-255	36	8.3	0.083	EMT4207B
			93	21.4	0.083	EMT4220
		205-250	130	29.9	0.111	EMT4228C
240‡¶	220-240	228-256	35	8.4	0.10	EMT4104B††
460	440-480	400-520	20	9.2	0.041	EMT4407B
			45	20.7	0.041	EMT4418B
50/60 HERTZ, THREE PHASE OPERATION						
230‡	220-240	195-255	33	13.1	0.083	EMT6210YB
			48	19.1	0.083	EMT6215YB
			63	25.1	0.083	EMT6220YB
			145	57.8	0.25	EMT6245YB
			188	74.9	0.25	EMT6270DB
460	440-480	400-520	18	14.3	0.041	EMT6412YB
			24	19.1	0.041	EMT6417YB
			35	27.9	0.041	EMT6425YB
			75	59.8	0.125	EMT6450YB
			100	75.0	0.125	EMT6475YB
		420-500	148	118	0.188	EMT64100YB

EMS SERIES

60 HERTZ, SINGLE PHASE, 2-WIRE						
115	110-120	103.5-126.5	833	100	0.65	EMS41100
230‡	220-240	218.5-241.5	435	100	0.22	EMS42100‡
50/60 HERTZ, SINGLE PHASE, 3-WIRE, INDIVIDUAL LINE CONTROL						
240/120	230-250/115-125	204-276/102-138	104	25.0	.03/.06	EMSI4225
			250	60.0	.03/.06	EMSI4260
	220-240/110-120	228-252/114-126	417	100	.10/.21	EMSI42100††
50/60 HERTZ, THREE PHASE, SINGLE CONTROL						
230‡	220-240	203-257	339	135	0.28	EMS62135Y‡
460	440-480	445-495	230	180	0.30	EMS64180Y
			347	275	0.30	EMS64275Y
50/60 HERTZ, THREE PHASE, INDIVIDUAL LINE CONTROL						
208/120	191-217/115-125	177-239/102-138	250	90.0	.08/.14	EMSI6290Y
		165-233/95-135	525	190	.37/.22	EMSI62190Y††

EMK SERIES

50/60 HERTZ, SINGLE PHASE						
115	110-120	95-135	23	2.6	0.02	EMK4105†
		105-125	46	5.3	0.04	

IES SERIES

50 OR 60 HERTZ ±10%, SINGLE PHASE						
115	110-120	95-135**	4.4	0.5	—	IES91005
			8.7	1.0	—	IES9101
			26.1	3.0	—	IES9103
			52.2	6.0	—	IES9106
			87.0	10.0	—	IES9110
			130	15.0	—	IES9115
230	220-240	195-255**	13	3.0	—	IES9203
			26.1	6.0	—	IES9206
			43.5	10.0	—	IES9210
			65	15.0	—	IES9215

MILITARIZED TYPES

45-66 HERTZ, SINGLE PHASE						
120	115-125	105-135	66.6	8.0	0.10	EM4108MCR
380-420 HERTZ, SINGLE PHASE						
115	115	103.5-126.5	6	0.69	0.13▲	EMTH41007MH

▲At 400 hertz. †Also available as rack model (suffix R when ordering). ¶For 60 hertz operation only.
*Can also be operated on an input range of 95 to 135 volts with a rating of 57 amperes, 6.6 kva and a correction rate of 0.075 seconds per volt.
§Also available as rack (suffix R when ordering) or wall mounted (suffix W when ordering) models.
‡Unit can be converted for 208 volt operation by simple tap changes. Input and output voltage ranges change proportionally.
**At nominal output. Shifts with output voltage setting but not proportionally.
††Also available in open construction (suffix U) and with screened and enclosed (suffix UT) construction.
‡‡At nominal output. Shifts proportionally with output voltage setting.

IN SECTIONS 2100, 3500 AND 5600

STABILINE®
FULL RANGE REGULATOR CONTROLLERS



TYPE FR501MP

For use with any motor-driven POWERSTAT® Variable Transformer to provide full range:

1. REGULATED AC VOLTAGE

A type FR501 or FR501MP STABILINE Full Range Regulator Controller can regulate the output from any motor-driven POWERSTAT Variable Transformer designed for 120 or 240 volt, 50/60/400 hertz, single phase service. For three-phase applications the unit may be used to monitor one line-to-neutral or one line-to-line voltage, depending on the type of variable transformer used. The unit may also be used in 480 volt applications, but when sensing line-to-line voltage, a 480/120 volt step-down transformer, Superior Electric part no. T6026, is required. Output voltage will remain within a 2 volt band when used with 120 volt POWERSTAT Variable Transformers and within a 4 volt band when used with 240 volt POWERSTAT Variable Transformers. The output voltage will remain within the stated bands for any and all variations in line voltage that the variable transformer is capable of correcting and for variations in the control input between 95 and 135 volts.

2. REGULATED AC CURRENT

With the addition of a T6340 transformer and a user supplied current transformer, an FR501 or FR501MP Full Range Regulator Controller can be used with any motor-driven POWERSTAT Variable Transformer to automatically regulate current. The user-supplied current transformer should be of the proper rating to supply 0 to 5 amperes, 10 VA minimum to the transformer. The Full Range Regulator Controller will maintain constant output voltage accurate within ±1% of the maximum current setting. Current can be maintained at any point from zero to maximum.

3. REGULATED DC VOLTAGE

A type FR501DC STABILINE Full Range Regulator Controller is used to provide regulated d-c voltage. Required are a motor-driven POWERSTAT Variable Transformer, an FR501DC Full Range Regulator Controller and a user-supplied d-c power supply. The FR501DC requires 0 to 28 volts d-c, 16 milliamperes to the sensing terminals.

© United Technical Publications

DEALER NET PRICES

terado CHARGERS, INVERTERS AND VOLTAGE ADJUSTERS

CHANGES BATTERY CURRENT TO 110 VAC, 60 CYCLE, ±½ CYCLE, REGARDLESS OF LOAD*

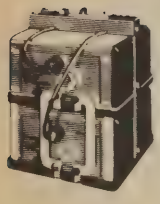
CAN BE ADAPTED FOR 50 CYCLE USE †

SOLID STATE

INVERTERS

FREQUENCY STABLE QUAD CONTINENTAL

Transistorized, 1200 watts



Converts 12 VDC to 117 VAC, 60 Hz, 1100 to 1200 watts. Frequency stable within ¼ Hz, not affected by change in input or load. Filtered for sensitive electronic equipment. Operates such equipment as small refrigerators, lights, tape recorders, video cameras and tape recorders, electric tools, laboratory test equipment, television, including color, and portable hospital equipment. Adjustable output control and accurate AC output meter. Sophisticated, solid state design at sensible cost. Variable control head may be installed from main unit with 4 optional plug-in extension cables. Size: 12" w. x 12" l. x 15" h. Shpg. Wt., 140 lbs.
Terado No. 50-110—Net Each..... **$610.05**

DUAL CONTINENTAL*†

Transistorized, 600 watts

Same as QUAD CONTINENTAL except: 550 to 600 watts capacity. Size 10¾" w. x 13" d. x 6" h. Shpg. Wt., 60 lbs.
Terado No. 50-202—Net Each..... **$327.74**

CONTINENTAL*†

Transistorized, 300 watts

Same as DUAL CONTINENTAL except: 275-300 watts capacity. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 30 lbs.
Terado No. 50-191—Net Each..... **$158.40**

ATLAS*†

Transistorized, 200 watts

Same as DUAL CONTINENTAL except: 175-200 watts capacity. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs
Terado No. 50-200—Net Each..... **$116.50**

TITAN*†

Transistorized, 175 watts

Same as DUAL CONTINENTAL except: less remote control; 150-175 watts capacity; on-off switch; AC receptacle. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs.
Terado No. 50-201—Net Each..... **$100.51**

SUPREME*†

Non-transistorized. Converts 12 VDC to AC. Power output, 175-200 W, filtered. Remote control has variable AC output switch and signal light. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs.
Terado No. 50-153—Net Each..... **$89.70**

RECORDER*†

150-175 watt version of SUPREME, less remote control. Plugs into cigarette lighter. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs.
Terado No. 50-175—Net Each..... **$78.00**

CHIEF*†

Operates tape recorders, power tools, dictation machines, mixers, blenders, etc. Front AC receptacle connects direct to battery. Toggle switch output control. Ventilated steel case. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs.
Terado No. 50-137—Input, 6 V; AC power output, 75-100 watts. Net Each..... **$53.90**
Terado No. 50-138—Input, 12 V; AC power output, 100-125 watts. Net Each..... **$53.90**

AUTOMATIC*†

Operates automatically from 6 or 12 VDC without vibrator change or switching (6 V, 55-75 watts; 12 V, 85-110 watts). Easy installation into cigarette lighter. For dictation machines, radios, tape recorders, phonographs, heating pads, etc. Steel case. Seal brown baked enamel. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs.
Terado No. 50-134—Net Each..... **$50.52**

SUPER*†

Single input version of AUTOMATIC above. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs.
Terado No. 50-126—Input, 6 V; AC power output, 60-75 watts. Net Each..... **$42.90**
Terado No. 50-127—Input, 12 V; AC Power output, 75-100 watts. Net Each..... **$42.90**

MASTER*†

Voltage input, 12 V; AC power output, 60-75 watts. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 6 lbs.
Terado No. 50-122—Net Each..... **$39.90**

ELECTRAL*

Glove compartment size inverter, available in 12 volt input. Easy installation into cigarette lighter. Vinyl coated steel case with leatherette appearance. Size: 3" w. x 2¼" d. x 5½" h. Shpg. Wt., 3 lbs.
Terado No. 50-167—Voltage input, 12 V; AC power output, 42-52 watts. Net Each..... **$21.30**

SENIOR

Operates radios, lights, phonographs and small tape recorders. Available in 6 V or 12 V input. Simple to install into cigarette lighter. Aluminum case. Seal brown baked enamel. Size: 2½" w. x 4½" d. x 2¼" h. Shpg. Wt., 3 lbs.
Terado No. 50-115—Voltage input, 6 V; AC power output, 35-40 watts. Net Each..... **$20.16**
Terado No. 50-116—Voltage input, 12 V; AC power output, 40-50 watts. Net Each..... **$20.16**

DYNAMO*

Permits operating AC radios and electric shavers on 12 VDC battery. Power output, 25-30 watts. Size: 2" x 2" x 3¾". Shpg. Wt., 2 lbs.
Terado No. 50-197—Net Each..... **$16.47**

AUTO SHAVER*

Operates all electric shavers. Available in 6 V (10-15 W) or 12 V (15-20 W) input. Plugs into cigarette lighter. Polyethylene non-breakable case. Size: 3⅝" w. x 2¼" d. x 4½" h. Shpg. Wt., 2 lbs.
Terado No. 50-102—6 V. Net Each..... **$11.85**
Terado No. 50-103—12 V. Net Each..... **$11.85**

ULTRA FINE FREQUENCY STABLE INVERTERS

DUAL CONTINENTAL-3

Converts 12 VDC to 110 VAC, 60 Hz, 550-600 watts. Frequency variation plus or minus ¼ Hz with changing input and load. Ideal for operation of fine or critical equipment as: video-tape equipment and instruments. Includes battery cables, remote control and variable AC output. Size: 10¾"x13"x6"; shipping weight 60 lbs.
Terado No. 50-202-3—Net Each..... **$417.64**

CONTINENTAL-3

Same as DUAL CONTINENTAL-3 Except 275-300 watts, capacity — Frequency stable to plus or minus ¼ Hz. Size: 10¾"x6"x6"; shipping weight 30 lbs.
Terado No. 50-191-3—Net Each..... **$233.40**

24 VOLT TRANSISTORIZED INVERTERS WITH ULTRA FINE FREQUENCY CONTROL

DUAL CONTINENTAL — 24 VOLT

Converts 24 VDC to 110 VAC, 60 Hz, 700-800 Watts, Frequency stable to ± ¼ Hz with changing input and load. Designed for duty in aircraft or other 24 volt D.C. applications. Includes battery cables, remote control and variable A.C. output. Size: 10¾"x13"x7¼": shipping weight 60 lbs.
Terado No. 50-152—Net Each..... **$621.23**

CONTINENTAL — 24 VOLT

Same as 24 Volt Dual Continental; except 350-400 watt capacity—Frequency stable to ± ¼ Hz; Size: 10¾"x6"x-6"; Shipping weight 30 lbs.
Terado No. 50-190—Net Each..... **$305.35**

PORTABLE 117 VOLT POWER SUPPLY

TRAV-ELECTRIC*†

Operates anything using 117 VAC, 60 Hz, from enclosed 25 amp storage battery. Capacity, 125-175 watts. Frequency stable within ½ Hz with load change. Recharges from AC outlet or car cigarette lighter. Meter shows charge rate and hours of output. Size 12" x 5½" x 8" Shpg. Wt., including battery, 36 lbs.
Terado No. 50-160—Net Each..... **$78.79**

TRANSISTORIZED INVERTERS

Frequency Not Stabilized

GEMINI

(Transistorized, 450 to 500 watts)

Transistorized 12 VDC to 110 VAC. Designed to operate equipment not sensitive to frequency change. Size: 12½" x 6" x 6". Shpg. Wt., 20 lbs.
Terado No. 50-128—Net Each..... **$97.17**
Remote Control No. 50-130—Net Each..... **$11.50**

FALCON

(Transistorized, 275 to 300 watts)

Transistorized 12 VDC to 110 VAC. Designed to operate equipment not sensitive to frequency change. Size: 12½" x 6" x 6". Shpg. Wt., 20 lbs.
Terado No. 50-129—Net Each..... **$78.15**
Remote Control No. 50-130—Net Each..... **$11.50**

GALAXY

Transistorized 12 VDC to 110 VAC, 175-200 watts filtered. Adjustable voltage and frequency. Ideal where frequency is not critical. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 9½ lbs.
Terado No. 50-205—Net Each..... **$51.50**

TEMPEST

Transistorized 12 VDC to 110 VAC, 150-175 watts. Ideal where frequency is not important. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 9½ lbs.
Terado No. 50-170—Net Each..... **$45.45**

INVERTER-CHARGER COMBINATION

Transistorized — Solid State

Frequency Not Controlled

MARK I

Copper baked enameled case. Changes battery voltage to 117 volts. AC capacity 450 to 500 watts. Charges 12 volt storage battery at 20 amps, 10 amps or trickle. Has charge meter. Size: 12½" x 6" x 6". Shpg. Wt., 21 lbs.
Terado No. 50-131—Net Each..... **$108.50**

MARK II

Same specifications as MARK I above except inverter capacity is 275-300 watts.
Terado No. 50-132—Net Each..... **$89.50**

12 VDC POWER SUPPLIES with BATTERY CHARGING FEATURE

POWR-MITE

Brown baked enamel, ventilated steel case. Supply and charge rate 10 amps. 12 volts D.C. Filtered for 1 amp. loads. Includes output meter. Size: 3½" x 4" x 6½". Wt. 10 lbs.
Terado No. 50-105—Net Each..... **$32.90**

POWR-ALL

Same type as **Powr-Mite** except: Capacity 25 amperes—continuous 40 amps. intermittent. Two complete circuits. SEPARATE CIRCUIT BREAKERS. Battery Charge rate 25 amps. to trickle. Filtered for 1 amp.loads.
Size: 12½" x 6" x 6". Wt. 21 lbs.
Terado No. 50-106—Net Each..... **$61.20**

VOLTAGE ADJUSTERS

POLARIS & SATURN

For TV, hi-fi and AC motorized equipment. Change high or low voltage over range of 95-135 V to normal. Input: 110 VAC line. Size: 3" x 2¼" x 5½".
Terado No. 50-204 Polaris—Cap., 300 W cont., 500 W int. Wt. 3 lbs. Net Each..... **$12.24**
Terado No. 50-172 Saturn—Same as Polaris, but with accurate AV voltmeter. Net Each..... **$18.77**

APPOLLO

Cap. 1200 W Cont. 1500 W int. Wt. 8 lbs. Size: 3½" x 6½" x 4".
Terado No. 50-141—Net Each..... **$24.75**

KORECT-A-LINE

For **CB and Ham** radio equipment, monitor and correct abnormal voltage; accurate AC voltmeter. Cap., 300 W cont. Wt. 3 lbs.
Terado No. 50-150—Net Each..... **$18.77**



POLARIS



KORECT-A SA



ATLAS TITAN

SUPREME, CONTINENTAL



ELECTRAL



RECORDER



CHIEF



AUTOSHAVER



GALAXY, TEMPEST



SENIOR, DYNAMO



AUTOMATIC, SUPER AND MASTER



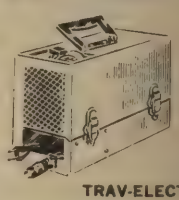
DYN-A-MITE



MARK I MARK II



CHALLENGER, SUPER CHARGER



TRAV-ELECTRIC

BATTERY CHARGERS

DYN-A-MITE

Baked seal brown paint over aluminum case. Charge rat 1 amp, both 6 and 12 volts. Size: 1¾" x 1¾" x 3¾" Wt., 1 lb.
Terado No. 50-186—Net Each..... **$71**

CHARGRITE

Brown baked enamel, ventilated steel case. Charge rate amps. tapers to trickle. 12 volts only. Charge rate meter Brackets for coiling wire provided. Size: 4"x5"x6". 10 lbs
Terado No. 50-194—Net Each..... **$233**

TAPERITE

Brown baked enamel case. Charges 6 amps, or in lo position charge automatically tapers to 0. Will not over charge battery; has charge rate meter. Size: 4" x 5" 6". Wt., 7½ lbs.
Terado No. 50-192—Net Each..... **$284**

CHALLENGER

Brown baked enamel, ventilated steel case. Charge rat 6 amps, both 6 and 12 volts. Charge rate meter Brackets for coiling wire provided. Size: 4" x 5" x 6" Wt., 5 lbs.
Terado No. 50-189—Net Each..... **$239**

SUPER CHARGER

Brown baked enamel, ventilated steel case. Charge rat 10 amps, both 6 and 12 volts. Color coded meter show condition of battery and charge rate. Size: 4" x 5" x 6" Wt., 7½ lbs.
Terado No. 50-181—Net Each..... **$290**

POWERHOUSE

Heavy duty, heavy copper clad, ventilated steel case with handle. Full fast 20 amp charge rate on 12 volts only. volt batteries, plus trickle charge. Full wave type with 4 silicon rectifiers. Complete with charge rate meter and 6 ft. cable with battery clamps. Size: 11" x 6" x 6". Ship Wt., 20 lbs.
Terado No. 50183—Net Each..... **$541**

TERADO CORPORATION

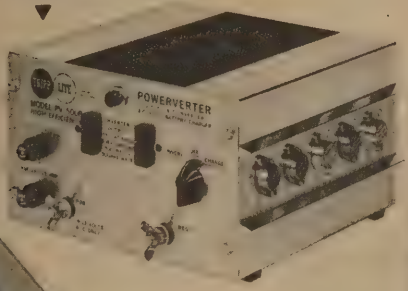
© United Technical Publications

TRIPP LITE

inverters

SQUARE WAVE AND SINE WAVE MODELS 12 Volt DC—to—117 Volt AC

MODEL PV-500 B
MODEL PV-500 FC

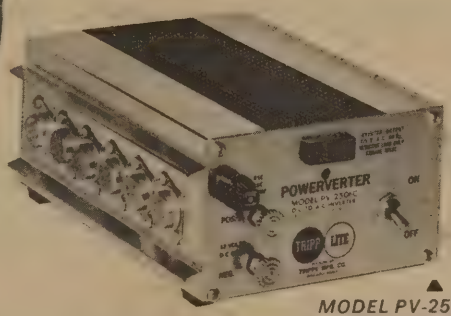


MODEL PV-1000
MODEL PV-1000 FC
MODEL PV-1000-24
MODEL PV-1000 FC-24

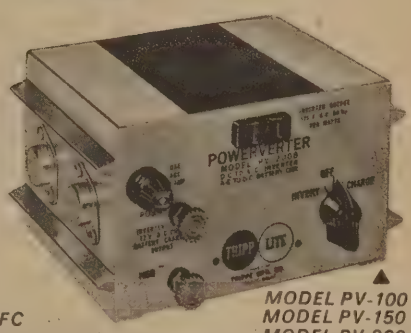




MODEL PVR-195 B



MODEL PV-250 FC
MODEL PV-350



MODEL PV-100
MODEL PV-150
MODEL PV-200 B

Model No.	Max. Watts Cont.	Max. Output Watts (5 Min.)	Input Amps No Load	Battery Charger	Number Xistor	Freq. Control 60 Hz ±1 Hz 11-14 VDC	Polarity Protection	Over-Load Pilot Light	Size h x w x d	Weight Lbs.	Miscellaneous Information	Industrial Net
PV-100	100	110	2½		2				3½ x 6½ x 5½	6	Cord and cigar lighter plug-in	$ 29.95
PV-150	150	165	3		2				3½ x 6½ x 5½	7		39.95
PVR-195B	195	195	3	5 amps	4				9½ x 7 x 15	15	Use any No. 24 case 12V battery (not incl.)	69.95
PV-200B	200	220	3	5 amps	4				3½ x 6½ x 5½	7		49.95
PV-350	350	385	4½		8				3½ x 6½ x 9	10		79.95
PV-500B	500	550	4	10 amps	10		X	X	5 x 9½ x 9	19	High Efficiency	109.50
PV-1000	1000	1100	8		20		X	X	5 x 9½ x 17	45	High Efficiency	219.50
PV-250FC	250	275	3½		11	X			3½ x 6½ x 9	13		119.50
PV-500FC	500	550	4½		15	X	X	X	5 x 9½ x 9	19		199.50
PV-1000FC	1000	1100	12		27	X	X	X	5 x 9½ x 17	45		299.50

230 volt AC output, 500 watt ADD $20.00
50 cycle output, 500 watt ADD 20.00
24 volt DC input, 500 watt ADD 50.00

230 volt AC output, 1000 watt ADD $40.00
50 cycle output, 1000 watt ADD 40.00
24 volt DC input, 1000 watt ADD 100.00

NOTE: Tripp-Lite square wave inverters are recommended for lighting, small power tools, electric razors, tape recorders, radios, TV, phonographs, test equipment, etc. DO NOT USE with refrigerators, air conditioners, toasters, coffee pots, fry pans, and other heavy current devices.

FAMOUS SINCE 1922 **TRIPP-LITE** WINNER OF TWO WORLDS FAIR AWARDS

© United Technical Publications

It's easy

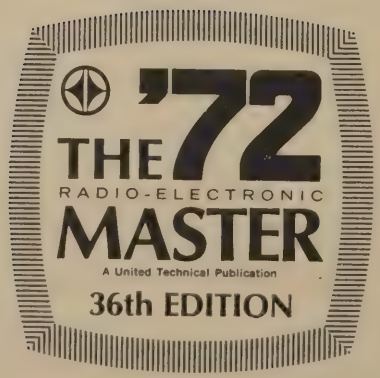
to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

Thank you!



Wilmore Electronics Company, Inc.

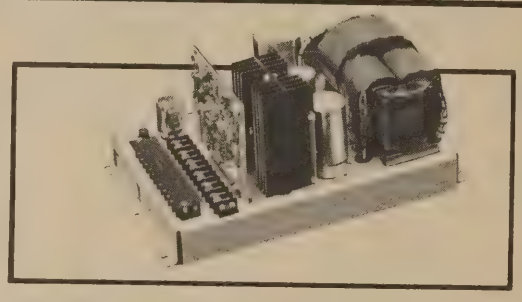
SOLID-STATE POWER INVERTERS

DC to AC INVERTERS

	INPUT: Battery Type (voltage)	INPUT: DC Voltage Range	Price	Output, 60 Hz: Nominal AC Voltage	Output, 60 Hz: Power Rating	Output, 60 Hz: Frequency Regulation	Output, 60 Hz: Wave Shape	Output, 60 Hz: Voltage Regulation*	Efficiency, Half-to-Full Load	Size	Weight
MODEL 1124 **45 WATTS CONTINUOUS** INDUSTRIAL QUALITY LIGHT-WEIGHT, RUGGEDLY DESIGNED INCORPORATES PROTECTION NORMALLY MISSING IN OTHER INEXPENSIVE UNITS	1124-12 12 v	11 to 14.5 v	$ 84	115 volts	45 watts or volt-amps	±.5 Hz	Square	Proportional to dc line	70%	4"h 5¼"w 6⅝"d	6 lbs.
	1124-24 24 v	22 to 29 v	$107								
MODEL 1057 **290 WATTS CONTINUOUS** IDEAL FOR INSTRUMENTS REQUIRING EXTREME FREQUENCY STABILITY AND NORMALLY REQUIRING A SINE WAVE; i.e., OSCILLOSCOPES, VIDEO TAPE SYSTEMS, ETC.	1057-12 12 v	11 to 14.5 v	$325	115 volts	290 watts or volt-amps	±.15 Hz with line and load T.C. .01% per °F	3-level step approx. to sine wave	±1%	85% to 90%	8¼"h 11"w 8¾"d	25 lbs.
	1057-24 24 v	22 to 29 v	$350								
	1057-28 28 v	24 to 32 v	$350								
MODEL 1081 **500 WATTS CONTINUOUS** FINE FREQUENCY STABILITY, GOOD VOLTAGE REGULATION. APPLICABLE WHEN A SINE WAVE VOLTAGE IS ESSENTIAL	1081-12 12 v	11 to 14.5 v	$1180	115 volts	500 watts or volt-amps	±.15 Hz with line and load T.C. .01% per °F	Sine	±2%	70% at full load	6¾"h 19"w 20½"d	105 lbs.
	1081-24 24 v	22 to 29 v	$1180								95 lbs.
	1081-120 120 v	105 to 140 v	$1180								85 lbs.
MODEL 1076A **500 WATTS CONTINUOUS** **1000 WATTS SURGE** A WELL PROTECTED INVERTER SUITED FOR EXTREMELY SEVERE LOADS THAT REQUIRE BETTER THAN AVERAGE FREQUENCY STABILITY	1076A-12 12 v	11 to 14.5 v	$269	115 volts	500 watts or volt-amps 1000 watts surge	±.5 Hz	Square	Proportional to dc line	80% to 90%	6⅞"h 7¼"w 12⅞"d	30 lbs.
	1076A-24 24 v	22 to 29 v	$339								
MODEL 1172 **500 WATTS CONTINUOUS** **1000 WATTS SURGE** AN INEXPENSIVE, WELL PROTECTED INVERTER DESIGNED FOR EXTREMELY SEVERE LOADS SUCH AS MOTOR STARTING, COMPRESSORS, AND PORTABLE POWER TOOLS	1172-12 12 v	11 to 14.5 v	$229	120 volts	500 watts or volt-amps 1000 watts surge	± 2 Hz	Square	Proportional to dc line	80% to 90%	7"h 8½"w 11½"d	33 lbs.
MODEL 1172P **1000 WATTS CONTINUOUS** **2000 WATTS SURGE** TWO SEPARATE MODEL 1172'S PROVIDED WITH INTERCONNECTING CABLES FOR PARALLEL OPERATION	1172P-12 12 v	11 to 14.5 v	$468	120 volts	1000 watts or volt-amps 2000 watts surge	± 2 Hz	Square	Proportional to dc line	80% to 90%	7"h 18"w 11½"d	67 lbs.

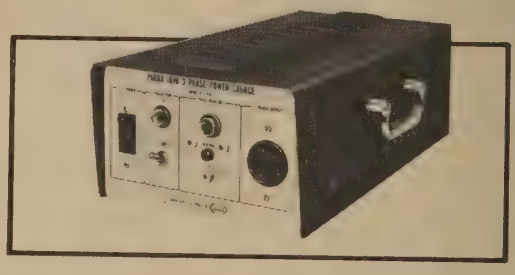
* Voltage regulation, at fixed load due to input dc line variation read by conventional ac voltmeter which responds to average voltage but calibrated in rms volts.

Wanlass Power Supplies...



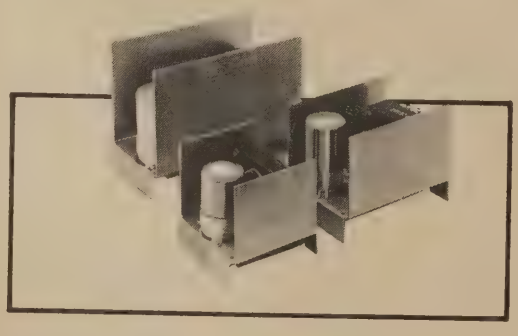
CUSTOM OEM ASSEMBLIES

Power supplies, voltage regulators, inverters, converters, frequency converters and filters custom designed to meet your exact need. Conventional solid-state designs or Wanlass proprietary PARAX®, CLIP-AC™ and VARAX™ techniques in any configuration.



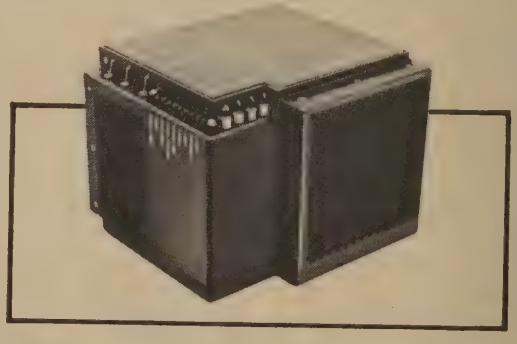
LAB INSTRUMENTS

Complete instruments in rack-panel or bench configurations for multi-purpose power supply requirements, AC power conditioning, dynamic line filtering, and voltage regulation, including PARAX® and VARAX™ technology for transient-free lab power!



STANDARD OEM ASSEMBLIES

The same technologies applied to standard OEM units available for immediate delivery from stock of more than 100 distributors across the nation. The "special" you have in mind could be a standard "off-the-shelf" unit stocked locally.



MILITARY ASSEMBLIES

High reliability power supplies designed and produced at state-of-the-art levels of technology. You'll get production with quality control conforming to MIL-Q-9858A, performed in highly automated "clean room" facilities.

WANLASS

DIVISION OF AMBAC

© United Technical Publications

"NOW AVAILABLE FROM YOUR LOCAL ELECTRONIC DISTRIBUTOR"

Wanlass Standard OEM D.C. Power Supplies

DPS SERIES
Super Economy All Purpose D.C. Power Supplies
...to 3 Amps



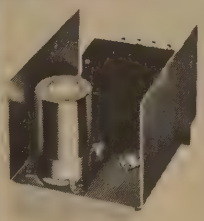
10 & 20W Regulated Power Supplies

No frills, just sound "functionalized" design that offers ±1% regulation, overload and short-circuit protection, and a high-power to small-package ratio. The DPS-1 has 50% fewer parts, provides 1-Watt/cubic inch, weighs just 1.6 oz./Watt and costs only 65¢/Watt — less than you could build it yourself!

Wanlass Model	D.C. Output	Prices 1-9	10-24	25-49	50-99
DPS-1	5 & 6V @ 3.0A	$24.95	$23.70	$22.45	$21.20
DPS-5	5 & 6V @ 1.5A	19.95	18.95	17.95	16.95
DPS-2	12 & 15V @ 1.5A	24.95	23.70	22.45	21.20
DPS-6	12 & 15V @ 0.75A	19.95	18.95	17.95	16.95
DPS-3	24V @ 1.0A	24.95	23.70	22.45	21.20
DPS-7	24V @ 0.4A	19.95	18.95	17.95	16.95
*DPS-4	180-220V @ 100mA	36.00	34.20	32.40	30.60

*DPS-4 only: Reg. = ±2.0%; Line Ripple = ±2.0%

PHASE II SERIES
OEM D.C. Power Supplies
...to 10 Amps



30-60-120W Power Supplies

Offering a choice of three power ratings — 30-60-120W — with 4 voltage ranges in each (3.6-9V/9-17V/17-30V/30-60V), these floating-output supplies provide design flexibility and peak performance at low prices! Line/load regulation is just ±1%, they have automatic short-circuit protection.

Wanlass Model	D.C. Output	Prices
30-OEM-1	3.6-9V @ 2.5A	1—9 $46.00
30-OEM-2	9-17V @ 30W	10—24 $43.75
30-OEM-3	17-30V @ 30W	25—49 $41.50
30-OEM-4	30-60V @ 30W	50—99 $39.00
60-OEM-1	3.6-9V @ 5A	1—9 $57.50
60-OEM-2	9-17V @ 60W	10—24 $54.50
60-OEM-3	17-30V @ 60W	25—49 $51.75
60-OEM-4	30-60V @ 60W	50—99 $49.00
120-OEM-1	3.6-9V @ 10A	1—9 $86.25
120-OEM-2	9-17V @ 120W	10—24 $82.00
120-OEM-3	17-30V @ 120W	25—49 $77.75
120-OEM-4	30-60V @ 120W	50—99 $73.50

MARK III SERIES
Precision OEM Slot Supplies
...to 10 Amps

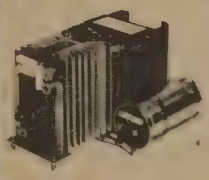


60-120W Power Supplies

Ideal for IC, OP-AMP and MOS/FETS or other voltage sensitive loads. Features dual 115/230V A.C. input, regulation to ±0.1%, ripple of 1 mV or less RMS at full load, and adjustable voltage. Built-in adjustable overvoltage crowbar provides overvoltage protection. Overload protection is automatic and adjustable.

Wanlass Model	D.C. Output	Prices 1-9	10-24	25-49	50-99
III OEM 5-5	5V @ 5A				
III OEM 6-5	6V @ 5A				
III OEM 12-5	12V @ 5A				
III OEM 15-4	15V @ 4A	$89.50	$85.00	$80.50	$76.00
III OEM 18-3	18V @ 3A				
III OEM 24-2.5	24V @ 2.5A				
III OEM 28-2	28V @ 2A				
III OEM 5-10	5V @ 10A				
III OEM 12-10	12V @ 10A	137.50	130.60	123.75	116.85
III OEM 24-5	24V @ 5A				

"BRUTE" SERIES
High Power OEM D.C. Slot Supplies
...to 50 Amps



300-600-1200W Power Supplies

Choose any one of the three BRUTE power ranges — 300-600-1200W — and you'll get a single unit that provides two continuously adjustable voltage ranges (2-25V or 5-50V), SCR closed-loop control assures ±0.1% line/load regulation. Adjustable current limiting protects against overload and "shorts". All this at lower than "slot supply" prices!

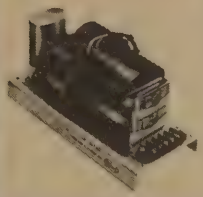
Wanlass Model	D.C. Output	Prices 1-9	10-24	25-49	50-99
BRUTE I	5-50/2-25V* @ 6/12A	$148.00	$141.00	$133.00	$126.00
BRUTE II	5-50/2-25V* @ 12/24A	195.00	185.00	176.00	166.00
BRUTE III	5-50/2-25V* @ 24/50A	315.00	299.00	284.00	268.00

*Can be connected either for 5 to 50V or 2 to 25V depending upon output current desired

Optional Kits: K1 — 10-Turn Potentiometer Kit (for fine voltage adj.) — $20.00/ea.
K2-1/K2-2 — Ripple Reduction Kit (cuts ripple by 50%) — $25.00/ea.
K2-3 — Ripple Reduction Kit for BRUTE III (cuts ripple by 50%) — $52.00/ea.
K3 — OVP for all BRUTE types (may also be used with any DC power supply within a 6-60V/0-500A range) — $52.00/ea.

Wanlass Standard OEM Power Conditioners

PARAFORMER™ PEC SERIES
...over 50dB Noise Attenuation

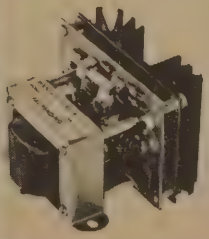


Invented by Wanlass, the novel PARAFORMER™ provides a number of important design advantages ... over 50dB noise filtering at low-frequencies (below 1.0MHz); line voltage regulation; unilateral operation, phase-locked output voltage; and, inherent overload and short-circuit protection. Its simple, no-moving-parts structure assures trouble-free, highly reliable operation under the most stringent conditions.

A.C. Input: 105-125V, Single Phase
A.C. Output: 117V, Single Phase

Model No.	Capacity	Regulation Line / Load	Prices 1-9	10-24	25-49	50-99
PEC-60	60VA @ 60Hz	±0.25% / ±1.5%	$95.00	$90.25	$85.50	$80.75
PEC-150	150VA @ 60Hz	±0.5% / ±2.0%	150.00	142.50	135.00	127.50
PEC-500	500VA @ 60Hz	±0.5% / ±2.0%	225.00	213.75	202.50	191.25
PEC-1000	1KVA @ 60Hz	±0.5% / ±2.0%	425.00	401.75	382.50	361.30
PEC-4-75	75VA @ 400Hz	±1.0% / ±2.5%	105.00	99.75	94.50	89.25

CLIP-AC™ C3000 SERIES
AC Regulators
...30VA to 1000VA

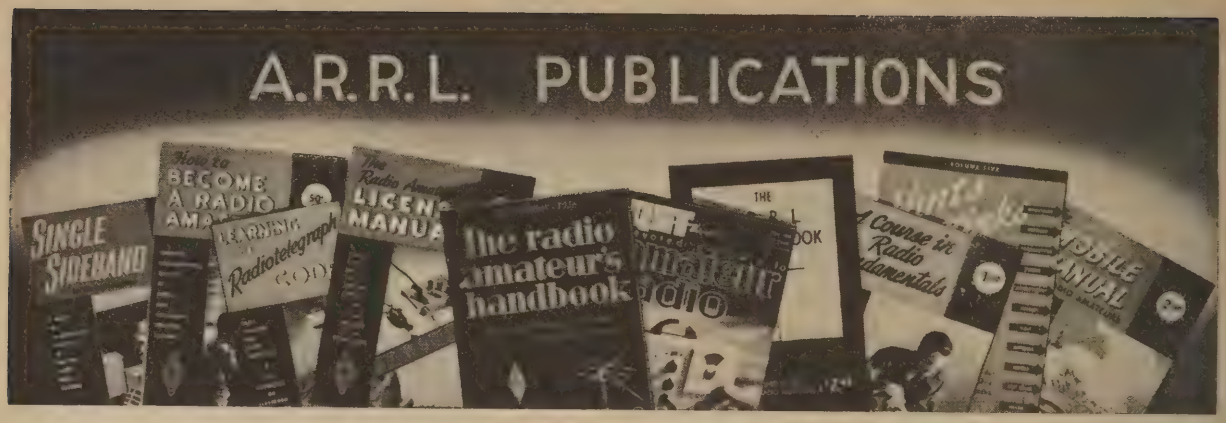


Wanlass CLIP-AC™ regulators are the ideal successors to ferroresonant transformers for the majority of AC regulation requirements to 1KVA! Frequency insensitive, they offer a host of advantages such as: wide input voltage and frequency ranges, adj. output voltage, line transient suppression, line regulation to 0.1%, instant response, "clipped" sinusoidal output, excellent TC and efficiency. All this, plus their low-cost, small-size and light-weight make them a "best buy" in AC regulators!

A.C. Input: 100-130V, 47-420Hz, Single Phase
A.C. Output: 117V Nominal
Regulation (RMS): ±0.5% (for ±10% A.C. Line Change)
±0.5% (for 10% to full Load Change)
Power Factor Regulation: ±0.5%
Frequency Regulation: ±0.5%

Model No.	Ratings	Prices 1-9	10-24	25-49	50-99
C-3003	30VA	$39.00	$37.00	$35.00	$33.00
C-3006	60VA	46.00	43.75	41.50	39.00
C-3012	120VA	51.00	48.50	46.00	43.50
C-3025	250VA	89.50	85.00	80.50	76.00
C-3050	500VA	125.00	118.75	112.50	106.00
C-3100	1000VA	210.00	199.50	184.00	178.50

WANLASS
DIVISION OF AMBAC



QST. Ranks high among the leading technical publications of the world. The oldest continuously published radio magazine (it was founded in 1915), its technical articles are aimed at all classes of radio enthusiasts. Construction articles are clearly illustrated with pictures and diagrams. Typography and clarity are tops. General interest articles and special columns abound. Complete advertising coverage. Truly, the "complete magazine on amateur radio."——QST and ARRL membership, **$6.50** in USA and Canada (US Funds), **$7.00** Elsewhere.

The RADIO AMATEUR'S HANDBOOK. Internationally recognized as one of the most valuable and widely used books in electronics, the Radio Amateur's Handbook is universally consulted by both amateur and professional alike. Its more than 700 pages are annually revised and modified in the light of current application and technique. The Handbook is found on the desks of executives, engineers, technicians and purchasing agents of the radio industry as often as in the shacks of radio amateurs throughout the world. Twenty-five chapters plus a catalog section including data on all types of vacuum tubes and semiconductors. **$4.50**

HOW TO BECOME A RADIO AMATEUR. Pointing the way for the beginner, tells how to get started in this fascinating hobby. Special emphasis given to the needs of the Novice licensee with several complete simple stations featured **$1.00**

The RADIO AMATEUR'S LICENSE MANUAL. Study guide and reference book, the License Manual points the way toward the coveted amateur license. Complete with typical questions and answers to all of the FCC amateur examinations — it provides an ideal means of self-study and examination. Continually kept up to date. Complete FCC regulations included..... **$1.00**

The ARRL ANTENNA BOOK. A complete book on antennas. Its fifteen chapters are divided into two principal divisions: (1) a basic text on antennas and transmission lines, wave propagation and its relationship to antenna design, and the performance characteristics of directive antenna systems, and (2) specific designs for a multitude of antennas for various amateur bands. **$2.50**

The MOBILE MANUAL FOR RADIO AMATEURS. It is a collection of articles on tried and tested equipment that have appeared in QST. Contents include a section on receivers, transmitters, antennas and power supplies. A "must" for anyone interested in the installation, maintenance and operation of mobile stations... **$2.50**

The RADIO AMATEUR'S OPERATING MANUAL. A ready reference source and guide to good operating practices. Written for the amateur who prides himself on good operating procedures... **$1.50**

A COURSE IN RADIO FUNDAMENTALS. A complete course of study for use with the Radio Amateur's Handbook, it applies the time-tested principle of "learning by doing." Study assignments, experiments and examination questions make this book equally applicable to individual home study or classroom use..... **$1.00**

HINTS AND KINKS. If you build equipment and operate an amateur radio station you will find Hints and Kinks a mighty valuable book in your shack and workshop. More than 300 practical ideas give you a helping hand at all times..... **$1.00**

UNDERSTANDING AMATEUR RADIO. Written for the beginner. Explains in simple language the elementary principles of electronic and radio circuits, tells how transmitters, receivers and antennas work. Includes complete how-to-build-it information on low cost gear — receivers, phone and code transmitters up to 150 watts, v.h.f., measurements, and easy-to-build antenna systems. A "must" guide for every newcomer in setting up and operating his amateur station..... **$2.50**

THE RADIO AMATEUR'S V.H.F. MANUAL. A thorough treatment of v.h.f. Contains the first authentic history of v.h.f. ever written. Covers receiving and transmitting principles, techniques and construction; antenna and feed system design, construction and adjustment; u.h.f. and microwaves; test equipment, construction and use; interference, causes and cures; v.h.f. hints and kinks. Emphasis throughout is on tried and tested equipment and practice. A book about things that work and the ideas behind them. **$2.50**

SINGLE SIDEBAND FOR THE RADIO AMATEUR. This third edition of a popular ARRL publication is a digest of the best SSB articles that have appeared in QST. The newcomer to Single Sideband as well as the experienced SSB user will find it indispensable. Includes discussions of theory and practical how-to-build-it descriptions of equipment. Covers reception and transmission. **$3.00**

LEARNING THE RADIOTELEGRAPH CODE. Supplying the key toward mastery of the International Morse Code, this publication trains you to handle the code skillfully and easily. Based on the accepted method of "sound conception," it is a boon to the beginner without access to the help of an experienced operator or code machine. Practical material for both home study and classroom use is included **50c**

ARRL WORLD MAP. Printed in eight colors on heavy map paper with countries clearly outlined. Call letter prefixes printed on the countries and in the margin. Continental boundaries and time zones plainly marked. Thirteen countries have call districts indicated. An equi-distant azimuthal projection centered on Wichita, Kansas. Prepared by ARRL and Rand-McNally. **$2.00**

QST BINDERS. No need to let your copies of QST rest in a disordered pile. . . . A QST Binder will keep them neat and orderly. Sturdy binders hold a one year file, protecting and preserving your copies. QSTs in the Binder open and lie flat at any page permitting quick and easy reference. **$4.00**

L/C/F CALCULATOR: Quick as a flash the answer is yours when you use this handy slide-rule design calculator. It will solve problems of inductance, capacitance, and frequency as well as computing single-layer coil dimensions and inductance. An invaluable tool for the amateur, technician or engineer. **$2.00**

LOG BOOK. Record keeping made easy. Fully ruled 8½ by 11 inch pages with legible headings permitting all necessary entries. Spiral bound to lie flat when open. **75c**

MINILOG. Mobile and portable operational needs are met by this pocket size log. Spiral bound, 4 by 6 inch pages. Headings for all necessary information. **50c**

RADIOGRAMS. First impressions are important. Official ARRL Radiogram Forms add prestige; informs the addressee about amateur radio. ..... Per pad of 70 blanks, **35c**

The AMERICAN RADIO RELAY LEAGUE, Inc.

Net

© United Technical Publications

RCA

TECHNICAL LITERATURE
THE MOST AUTHORITATIVE IN THE INDUSTRY

TECHNICAL MANUALS

Inexpensive and current reference sources, these easy-to-understand and well illustrated manuals cover theory, application and circuits, as well as performance data, for RCA electronic components and devices.

■ **RCA SOLID-STATE HOBBY CIRCUITS MANUAL — HM-91** — 368 pages. A remarkable book for electronic hobbyists, experts, teachers, and students. Features 62 different solid-state circuits. Contains theory, circuit operation, construction practices, and trouble shooting. $1.95*

■ **RCA TRANSISTOR, THYRISTOR AND DIODE MANUAL — SC-15** — This 768 page manual contains text, data, and circuit information on bipolar and MOS transistors, thyristors, silicon rectifiers, and other types of semiconductor diodes. $2.50*

■ **RCA LINEAR INTEGRATED CIRCUITS — IC-42** — 416 pages covering the basic principles involved in the design and application of linear integrated circuits. Includes description of silicon monolithic fabrication process, derivation of design equations, performance criteria, schematic diagrams and performance data. $2.50*

■ **RCA SILICON CONTROLLED-RECTIFIER EXPERIMENTER'S MANUAL — KM-71** — 136 pages. Contains schematic drawings and practical working control circuits which can be made with one or more basic RCA experimenter's kit (KD2105) and two add-on sensor kits (KD2106, KD2110). 95 cents*

■ **RCA TRANSMITTING TUBES — TT-5.** More than 180 power tubes described in 320 pages . . . circuits for transmitting and industrial applications . . . applications guide. $1.00*

■ **RCA RECEIVING TUBE MANUAL — RC-28** — 784 pages containing data for 1650 tube types including black-and-white and color picture tubes and 200 Industrial Receiving types. New section cross-references tube types by base terminal diagrams. 64 page chart lists data on RCA discontinued and renewal types. $2.50*

■ **RCA HIGH-SPEED, HIGH-VOLTAGE, HIGH-CURRENT POWER TRANSISTORS — PM-81** — 96 pages of theory and application of RCA medium-frequency power transistors. Typical circuits illustrate amplification, switching, and control applications. Selection charts are included. $2.00*

■ **COS/MOS INTEGRATED CIRCUITS MANUAL — CMS-270** — 160 pages covering basic design and application of COS/MOS IC's. Gives design criteria, procedures, examples, and typical practical circuits for many applications. $2.50*

■ **RCA ELECTRO-OPTICS HANDBOOK — EOH-10** — 150 pages of data from all technical areas of Electro-Optics with a coherent system of symbols and definitions. More than 100 tables, charts and graphs. $2.50*

■ **RCA PHOTOMULTIPLIER MANUAL — PT-61** — 192 pages. The construction, operation and application of photomultipliers are detailed in this manual. Contains a selection guide for over 100 RCA photomultiplier tubes, including outlines, basing diagrams and circuit information. $2.50*

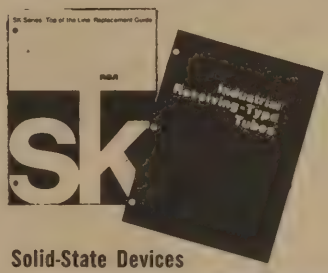


RCA ELECTRON TUBE HANDBOOK HB-3

Five 7⅜" x 5⅝" black 4-ring binders containing approximately 6000 pages of electron-tube data for 1600 tube types. Includes applications, characteristics, maximum ratings, typical operating values, mechanical dimensions, and characteristics curves for RCA receiving tubes, transmitting tubes, cathode-ray tubes, picture tubes, photocells, phototubes, camera tubes, ignitrons, rectifiers, traveling-wave tubes, pencil tubes, and other types for special applications. $20.00 ($25.00 foreign) includes service mailings for one year.

RCA SOLID-STATE DATABOOK SERIES

See your local RCA Solid-State Distributor for details.



RCA CATALOGS AND APPLICATION BOOKLETS

These fact-filled publications are a valuable guide to the practical use of electron tubes, solid-state devices, integrated circuits, microphones, and audio recording tapes, and batteries. Convenient 10⅞" x 8⅜" size handy for 3-ring binders.

Solid-State Devices

■ **RCA SOLID-STATE PRODUCTS GUIDE — SPG-201G.** 25 cents*

■ **MOS/FET PRODUCT GUIDE — MOS-160C.** 25 cents*

■ **MOUNTING HARDWARE FOR RCA SEMICONDUCTOR DEVICES — MHI-300B.** 15 cents*

■ **MICROWAVE SOLID-STATE DEVICES AND SUBSYSTEMS — MWD-104E.** Single copy free.

■ **RF POWER TRANSISTORS — RFT-700H.** 40 cents

■ **SILICON SIGNAL TRANSISTOR QUICK CROSS-REFERENCE DIRECTORY — PHP-150A.** 15 cents*

■ **SILICON VHF TRANSISTORS APPLICATION GUIDE — 1CE-228.** 50 cents*

■ **RCA THYRISTORS/RECTIFIERS — THC-500A.** 35 cents

■ **TOP-OF-THE-LINE SOLID-STATE REPLACEMENT GUIDE — SPG-202L.** 35 cents*

■ **TRANSISTORIZED VOLTAGE REGULATOR APPLICATION GUIDE — 1CE-254.** 25 cents*

■ **SOLID-STATE POWER CURCUIT MODULES — High Power Arrays — HPA-100A.** 65 cents*

■ **RCA POWER TRANSISTOR DIRECTORY — PTD-187B.** 40 cents*

■ **INTRODUCTION TO JUNCTION TRANSISTORS — 4T86-C.** 50 cents*

■ **RCA GALLIUM-ARSENIDE LASERS AND EMITTERS — OPT-100.** 25 cents*

Integrated Circuits

■ **INTEGRATED CIRCUITS MOUNTING AND CONNECTION TECHNIQUES — 1CE-338.** Single copy free.

■ **PRODUCT GUIDE, LINEAR-DIGITAL — CDL-820D.** 45 cents*

■ **COS/MOS INTEGRATED CIRCUITS PRODUCT GUIDE — COS-278A.** 20 cents*

Electron Tubes

■ **GUIDE TO RCA INDUSTRIAL TUBE PRODUCTS — TPG-200E.** 35 cents*

■ **INDUSTRIAL RECEIVING-TYPE TUBES — RIT-104G.** 20 cents*

■ **VIDICONS — CAM-700B.** 60 cents*

■ **IMAGE ORTHICON INTERCHANGEABILITY GUIDE — CAM-702.** Single copy free.

■ **IMAGE ORTHICONS — CAM-800.** 40 cents*

■ **STORAGE TUBES AND CATHODE RAY TUBES — STC-900B.** 20 cents*

■ **PHOTOMULTIPLIER TUBES — PIT-700B.** $1.25*

■ **PHOTO-CATHODE SPECTRAL RESPONSE CHART — PIT-701B.** 75 cents*

■ **IMAGE-INTENSIFIER AND IMAGE-CONVERTER TUBES — PIT-702C.** $1.00*

■ **TRAVELING - WAVE TUBE CLASSIFICATION CHARTS — MWD-101D.** Single copy free.

■ **PENCIL TUBE CLASSIFICATION CHARTS — MWD-102B.** Single copy free.

■ **POWER TUBES FOR NEW EQUIPMENT DESIGN — PWR-505B.** 75 cents*

■ **PRODUCT GUIDE FOR POWER DEVICES — PWR-506C.** 30 cents*

■ **SELECTION GUIDE — RCA SUPER POWER TUBES — PWR-522.** Single copy free.

■ **SOCKETS FOR RCA POWER TUBES — PWR-532A.** 35 cents*

■ **RCA RF CAVITIES AND CIRCUITS — PWR-535.** Single copy free.

■ **RCA BROADCAST POWER TUBES AND CAVITIES — PWR-553.** Single copy free.

■ **HELIUM NEON SELECTION GUIDE — PWR-554.** Single copy free.

■ **RECEIVING TUBE AND PICTURE TUBE DIRECT REPLACEMENT GUIDE — ERT-198B.** 25 cents*

■ **RECEIVING TUBES AND PICTURE TUBES — ERT-1275Q.** 40 cents*

■ **PICTURE TUBE PRODUCT GUIDE — COLOR AND BLACK & WHITE — PIX-300D.** 55 cents*

Batteries, Microphones and Audio Recording Tape

■ **BATTERIES — BAT-134H.** 35 cents*

■ **BATTERY MANUAL — BDG-111B.** 60 cents*

■ **RECHARGEABLE ALKALINE BATTERIES — BAT-135A.** 20 cents*

■ **AUDIO RECORDING TAPE — IT1182A.** Single copy free.

■ **STARMAKER MICROPHONES — IS1056 and IS1072.** Single copy free.

*Suggested Price

REFERENCE and TV SERVICE PUBLICATIONS

■ **RADIOTRON DESIGNER'S HANDBOOK — RDH-905.** $7.00*

■ **SOLID-STATE POWER CIRCUITS DESIGNER'S HANDBOOK — SP-52.** $7.50*

■ **TRANSISTOR SERVICING GUIDE — TSG-1673.** $3.50*

■ **COLOR TV SERVICE HANDBOOKS — 1A1553** — 1960 - 1966. $1.50*
1A1759 — 1967 - 1968. $2.00*
1A1848 — 1969 - 1970. $2.25*

■ **FIELD SERVICE GUIDES — RCA COLOR TV RECEIVERS** — 1955-1970. **ERT-200** — 1955 - 1966 $2.00.* **ERT-201** — 1967 - 1968. $1.60.* **ERT-202** — 1969 - 1970. $1.90*

■ **COLOR TV TROUBLE SHOOTING PICT-O-GUIDE — 1A1389.** $5.75*

■ **"BY-STAGE" GUIDE TO COLOR-TV RECEIVERS — ERT-205B.** 50 cents*

■ **TV SERVICING — TVS-1032.** 50 cents*

© United Technical Publications

THERMOSTATIC **AMPERITE** DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

AMPERITE THERMOSTATIC DELAY RELAYS



STANDARD

Amperite Thermostatic Delay Relays are manufactured on automatic high production equipment — resulting in a low price — and top quality. Quality is not sacrificed at any point. For example, although contacts are rated at 3 amps, 10 amp contacts are actually used. Similarly with all other parts—only the best available are used.

Amperite Thermostatic Delay Relays are actuated by a heater . . . and therefore can be used on A.C., D.C., or pulsating current. Being hermetically sealed, Amperite Relays are not affected by altitude, moisture, or other atmospheric conditions. REPLACED AS EASILY AS A RADIO TUBE.

CIRCUITS SPST: Available only — normally open or normally closed.

HEATER VOLTAGES AVAILABLE: 2.5, 5.0, 6.3, 12.6, 26, 50, 115V.
For 220V use a 6000 ohm-5 watt resistor in series, with 115V heater.

HEATER WATTAGE: Standard and Miniature Relays—all voltages—2.3w prox. All heaters may be operated continuously. Heaters will not be damaged by a 50% voltage overload for duration of 1 hour or less.

Amperite Delay Relays are recognized under component program of Underwriters' Laboratories, Inc. for all voltages up to and including 115V.



MINIATURE

VARIATION OF DELAY WITH HEATER VOLTAGE

FIG. 1—Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in diagram.

For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

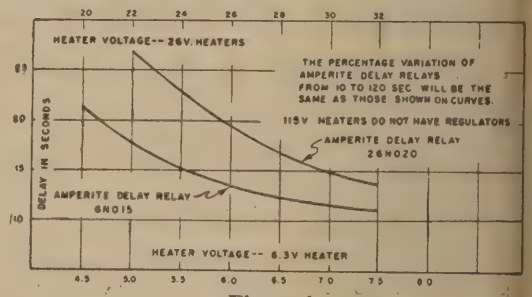


Figure 1

CONTACT RATING

	Delay	Contact Rating Non-Inductive	DC Voltage Breakdown Contact-to-Contact	Heater-to-Contact
STANDARD	2 to 10 Sec.	115V - 3a AC	250V	500V
RELAYS	15 to 180 Sec.	115V - 3a AC	800V	800V
		220V - 1a AC	800V	800V
MINIATURE	2 to 10 Sec.	115V - 2a AC	250V	500V
RELAYS	15 to 120 Sec.	115V - 2a AC	800V	800V
		220V - 1a AC	800V	800V
FLASHERS		- ½a AC		

AMBIENT TEMPERATURES: Relays are compensated for temperatures of −55° to +80°C. (Relays can be operated from −80°C to +125°C without damage). Low voltage heaters 26V or less have better ambient compensation than relays with 115V heaters. If the relays are actually to be used over ambients of −55°C to +80°C it is advisable to have each relay tested at the factory over the ambient. A nominal charge is made for this service.

CONTACT DROP: — 0.1V — Prox. at 1A.

DELAYS AVAILABLE:—From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay up to 120 seconds can be increased up to 25% by using a resistor in series with the heater. Delays above 120 seconds cannot be increased. Relays with short delays such as 2 to 5 seconds can be increased 50%.

LIFE of any individual relay will depend on the service the contacts are subjected to. With a 115V — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. SHELF LIFE of Amperite Delay Relays is over 10 years.

CONTACT FLUTTER:—If encountered, this can be eliminated by flashing approximately 1 amp. through the contacts a dozen times. Contacts of Amperite Delay Relays clean up and get better with use because of the oxygen free atmosphere. **Relay Contacts should not be used on voltages above 220V.**

FOR INSTANTANEOUS RECYCLE AND ELIMINATION OF CHATTER

For instantaneous recycle and elimination of chatter. Cannot be used with Sensitive Relays.

Magnetic Relay requires extra N.O. contact as shown at "E".

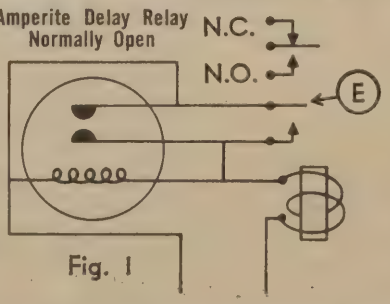


Fig. 1

For instantaneous recycle and elimination of chatter when Sensitive Relay is used.

Magnetic Relay requires an extra SPDT contact as shown at "F".

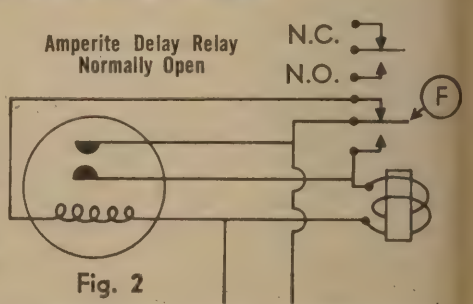


Fig. 2

INSTANTANEOUS RECYCLE: This can be obtained by using a normally open Amperite Delay Relay in conjunction with a Magnetic Relay as shown above. If normally closed is required — use a **normally open** Amperite Delay Relay — and use the contacts on the magnetic relay. Choose the Amperite Delay Relay for the voltage required and the delay required (e.g. — 115N030 — would be used on 115 volt supply — for a 30 second delay).

LONG CYCLE RELAYS: are also available. For example, Amperite Delay Relay 115N07T has a delay in closing of 3 to 7 seconds. After heater is disconnected, contacts will remain closed for 30 seconds minimum. Write us about your requirements.

© United Technical Publications

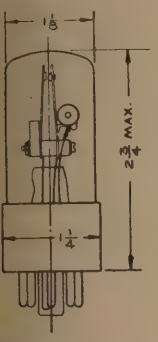
THERMOSTATIC AMPERITE DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

BREAKING D.C. CURRENT: When Relay contacts open D.C. above 50 volts, a condenser of approximately 0.5 uf with a resistor in series with it must be connected across the contacts. Arc suppressors can also be used.

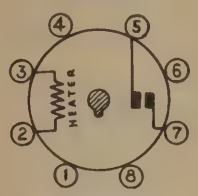
INDUCTIVE A.C. LOADS: When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd. across contacts. In some cases, putting a 20,000 ohm, 5w resistor across the contacts reduces the arcing considerably.

Relay contacts should not be used on voltages over 220V.



Standard Octal Base

STANDARD



Bottom View
Schematic Diagram

Base Wiring:
Standard Radio Octal:
Prongs 2-3-heater;
Prongs 5-7-contacts.

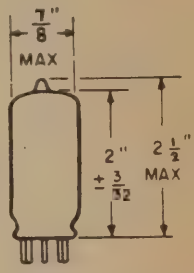
Base Wiring:
9-Pin Miniature:
Prongs 1-6 heater;
Prongs 3-4, 1 contact;
Prongs 8-9, 2nd contact

Amperite Delay Relays are recognized under component program of Underwriters' Laboratories, Inc. for all voltages up to and including 115V.

MINIATURE



Bottom View
Schematic Diagram



9-Pin Miniature Base

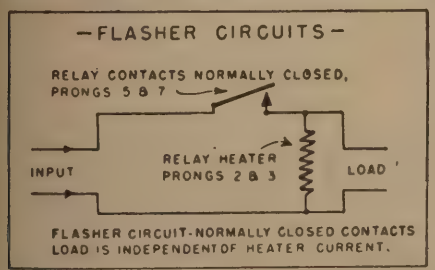
STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS... Net $2.40 each

STANDARD RELAYS: Available in 2 to 180 Seconds Delay. MINIATURE RELAYS: Available in 2 to 120 Seconds Delay.

Types shown in Bold type in the chart below are more popular relays and are more readily available.

MINIATURE TYPES: Designated by letter T (e.g. 6N05T)

Delay-Seconds	Tolerance Seconds at 20°C	NORMALLY OPEN CONTACTS — HEATER VOLTAGES							NORMALLY CLOSED CONTACTS — HEATER VOLTAGES						
		2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.	2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.
2	± 1½	2N02	5N02	6N02	12N02	26N02	50N02	115N02	2C2	5C2	6C2	12C2	26C2	50C2	115C2
3	± 1½	2N03	5N03	**6N03**	12N03	**26N03**	50N03	**115N03**	2C3	5C3	**6C3**	12C3	**26C3**	50C3	**115C3**
5	± 2½	2N05	5N05	**6N05**	12N05	**26N05**	50N05	**115N05**	2C5	5C5	**6C5**	12C5	**26C5**	50C5	**115C5**
8	± 3	2N08	5N08	**6N08**	12N08	**26N08**	50N08	**115N08**	2C8	5C8	**6C8**	12C8	**26C8**	50C8	**115C8**
10	± 4	2N010	5N010	**6N010**	12N010	**26N010**	50N010	**115N010**	2C10	5C10	**6C10**	12C10	**26C10**	50C10	**115C10**
15	± 4	2N015	5N015	**6N015**	12N015	**26N015**	50N015	**115N015**	2C15	5C15	**6C15**	12C15	**26C15**	50C15	**115C15**
20	± 5	2N020	5N020	**6N020**	12N020	**26N020**	50N020	**115N020**	2C20	5C20	**6C20**	12C20	**26C20**	50C20	**115C20**
30	±10	**2N030**	**5N030**	6N030	**12N030**	26N030	50N030	115N030	2C30	5C30	**6C30**	12C30	**26C30**	50C30	**115C30**
45	±10	2N045	5N045	**6N045**	12N045	**26N045**	50N045	**115N045**	2C45	5C45	**6C45**	12C45	**26C45**	50C45	**115C45**
60	±15	**2N060**	5N060	**6N060**	12N060	**26N060**	50N060	**115N060**	2C60	5C60	**6C60**	12C60	**26C60**	50C60	**115C60**
75	±15	2N075	5N075	**6N075**	12N075	**26N075**	50N075	**115N075**	2C75	5C75	**6C75**	12C75	**26C75**	50C75	**115C75**
90	±20	2N090	5N090	**6N090**	12N090	**26N090**	50N090	**115N090**	2C90	5C90	**6C90**	12C90	**26C90**	50C90	**115C90**
120	±35	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	50N0120	**115N0120**	2C120	5C120	**6C120**	12C120	**26C120**	50C120	**115C120**
150	±35	2N0150	5N0150	**6N0150**	12N0150	**26N0150**	50N0150	**115N0150**	2C150	5C150	**6C150**	12C150	**26C150**	50C150	**115C150**
180	±45	2N0180	5N0180	**6N0180**	12N0180	**26N0180**	50N0180	**115N0180**	2C180	5C180	**6C180**	12C180	**26C180**	50C180	**115C180**



Flashers operate approximately ⅓ on, ⅔ off. The percentage time on can be increased by reducing voltage of heater.

115V Flashers available ONLY in quantities of 12 or less. Cannot be supplied in production quantities.

Normally closed flashers are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. *For example a 6F30 flasher,* has 6.3V heater, normally closed 30 FPM with a ± 15 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from *30 to 90 Flashes per minute* with tolerances as shown in the chart below:

FLASHERS have contact rating of ½a 115V AC, non-inductive.

Tol. FPM — 20°C	Standard Flashers Available			
30 ± 15	6F30	12F30	26F30	115F30
45 ± 15	6F45	12F45	26F45	115F45
60 ± 20	6F60	12F60	26F60	115F60
75 ± 20	6F75	12F75	26F75	
90 ± 25	6F90	12F90	26F90	

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

American Zettler, inc.

STANDARD AZ 420 AND 430 SERIES RELAYS

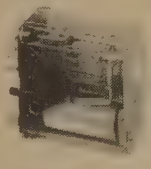
General purpose miniature relays in plastic dust cover — Interchangeable with other cradle type relays — Combination solder and plug-in terminals. UL-version listed under UL Component Recognition File E43203.

SERIES AZ 420 — MINIATURE GENERAL PURPOSE RELAYS — UP TO 6 FORM C

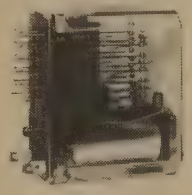
• International Standard type • Combination plug in/wire or PC terminals • Low level bifurcated, 2 amp or 5 amp contacts • Life expectancy more than 100 million operations • Form A, B, C and D contacts are available • Molded cradle eliminates phenolic dust inside the relay • Balanced, spring-held armature allows dependable operation in any position • Round core and larger coil volume provides more pull force, eliminating expensive, sensitive version • Slim profile mounting with right-angle socket • Sockets are of unbreakable fiberglass-filled base and have unique knife-type connectors for dependable contact • Available from stock.



420-DPDT

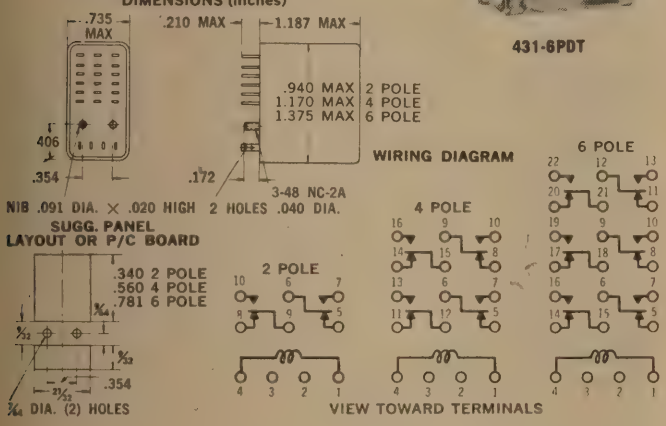


421-4PDT



431-6PDT

DIMENSIONS (inches)



ELECTRICAL SPECIFICATIONS

CONTACT RATING — noninductive load
Light Duty (Code L): Fine silver goldplated — low level to 2 amps @ 26 VDC or 1 amp @ 115 VAC
Heavy Duty (Code H): Silver cadmium oxide — 5 amp @ 26 VDC or 3 amp @ 115 VAC (other contact material available)
LIFE EXPECTANCY — Mechanical Operations: 10^8 — Operations at Rated Load: 10^5
CONTACT RESISTANCE — 50 milliohms max. initially — 200 milliohms at end of life
OPERATE TIME — at two times "must operate" voltage or current: ≤ 8ms
RELEASE TIME — at two times "must operate" voltage or current: ≤ 3ms
CONTACT BOUNCE — at 10 ma contact current: 2 ms max. at operate, N.O. contacts
3 ms max. at release, N.C. contacts
DIELECTRIC STRENGTH — 1000 V rms; 500 V rms across contact gap
INSULATION RESISTANCE — 1000 megohms minimum @ 25°C, 100 VDC, 50% RH
COIL TEMPERATURE — Max. 105°C (220°F)
AMBIENT TEMPERATURE — Operating: −55°C (−72°F) to 80°C (175°F) @ nominal operating voltage
Storage: −55°C (−72°F) to 105°C (220°F)
VIBRATION — Operating: .062 DA @ 5-55 Hz; 10g @ 55-110 Hz
Non Operating: 10g @ 5-500 Hz
SHOCK — Operating: 20g @ 11 ms — Non Operating: 30g @ 11 ms
WEIGHT — 23 to 35 grams (approx. 1 oz.)

CONTACTS RATED 2 AMPS FINE SILVER GOLD PLATED

AZ Type	Coil Specifications: Nominal Voltage (Volts)	Must Operate (mA)	Resistance (Ohms)	Contacts	NET Price 1-24 (Dollars)
AZ 420-15-4L	6 DC	37	52	DPDT	3.23
AZ 420-1011-4L	12 DC	20	185	DPDT	3.23
AZ 420-70-4L	24 DC	12	700	DPDT	3.23
AZ 420-56-4L	48 DC	5.4	2.5K	DPDT	3.23
AZ 420-035-4L	115 DC	2.4	15K	DPDT	4.88
AZ 421-15-1L	6 DC	57	52	4PDT	3.61
AZ 421-1011-1L	12 DC	30	185	4PDT	3.61
AZ 421-70-1L	24 DC	18	700	4PDT	3.61
AZ 421-56-1L	48 DC	8.3	2.5K	4PDT	3.61
AZ 421-035-1L	115 DC	3.5	15K	4PDT	5.26
AZ 431-18-1L	6 DC	106	25	6PDT	4.61
AZ 431-13-1L	12 DC	59	90	6PDT	4.61
AZ 431-80-1L	24 DC	29	430	6PDT	4.61
AZ 431-06-1L	48 DC	13.5	1.8K	6PDT	4.61
AZ 431-04-1L	115 DC	6.5	9K	6PDT	5.51

BIFURCATED CONTACTS RATED 2 AMPS FINE SILVER GOLD PLATED

AZ Type	Coil Specifications: Nominal Voltage (Volts)	Must Operate (mA)	Resistance (Ohms)	Contacts	NET Price 1-24 (Dollars)
AZ-420-15-40L	6 DC	49.3	52	DPDT	3.63
AZ 420-1011-40L	12 DC	26.6	185	DPDT	3.63
AZ 420-70-40L	24 DC	16	700	DPDT	3.63
AZ 420-56-40L	48 DC	7	2.5K	DPDT	3.63
AZ 420-035-40L	115 DC	3.2	15K	DPDT	5.28
AZ 421-15-10L	6 DC	76	52	4PDT	4.11
AZ 421-1011-10L	12 DC	40	185	4PDT	4.11
AZ 421-70-10L	24 DC	24	700	4PDT	4.11
AZ 421-56-10L	48 DC	11.1	2.5K	4PDT	4.11
AZ 421-035-10L	115 DC	4.7	15K	4PDT	5.76
AZ 431-18-10L	6 DC	140	25	6PDT	5.21
AZ 431-13-10L	12 DC	78	90	6PDT	5.21
AZ 431-80-10L	24 DC	38	430	6PDT	5.21
AZ 431-06-10L	48 DC	18	1.8K	6PDT	5.21
AZ 431-04-10L	115 DC	8.5	9K	6PDT	6.11

CONTACTS RATED 5 AMPS SILVER CADMIUM

AZ 420-15-4H	6 DC	49.3	52	DPDT	3.33
AZ 420-1011-4H	12 DC	26.6	185	DPDT	3.33
AZ 420-70-4H	24 DC	16	700	DPDT	3.33
AZ 420-56-4H	48 DC	7	2.5K	DPDT	3.33
AZ 420-035-4H	115 DC	3.2	15K	DPDT	4.98
AZ 421-15-1H	6 DC	76	52	4PDT	3.81
AZ 421-1011-1H	12 DC	40	185	4PDT	3.81
AZ 421-70-1H	24 DC	24	700	4PDT	3.81
AZ 421-56-1H	48 DC	11.1	2.5K	4PDT	3.81
AZ 421-035-1H	115 DC	4.7	15K	4PDT	5.46
AZ 431-18-1H	6 DC	140	25	6PDT	4.91
AZ 431-13-1H	12 DC	78	90	6PDT	4.91
AZ 431-80-1H	24 DC	38	430	6PDT	4.91
AZ 431-06-1H	48 DC	18	1.8K	6PDT	4.91
AZ 431-04-1H	115 DC	8.5	9K	6PDT	5.81

SOCKET ORDER INFORMATION

AZ Type	Description	Use With	Contacts	NET Price 1-24 (Dollars)
ST-140-A1	Socket	AZ 420	DPDT	.45
ST 342-A1	Right Angle for PC		DPDT	1.85
ST 349-A1	Right Angle for PC		DPDT	1.85
ST 140-1	Retainer		DPDT	.07
ST 141-A1	Socket	AZ 421	4PDT	.55
ST 343-A1	Right Angle for PC		4PDT	2.15
ST 350-A1	Right Angle for PC		4PDT	2.15
ST 141-1	Retainer		4PDT	.07

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

AZ Type	Description	Use With	Contacts	NET Price 1-24 (Dollars)
ST 345-A1	Socket	AZ 431	6PDT	.75
ST 354-A1	Right Angle for PC		6PDT	2.45
ST 345-1	Retainer		6PDT	.07
ST 140-2	Ground Clip for all	All		.10

Order socket, retainer and grounding clip (if desired) by separate part numbers. To specify sockets with gold plated terminals, substitute -A2 for -A1.

American Zettler, inc.

STANDARD AZ 480 SERIES

Enclosed plug-in version with octal type sockets (8 or 11 pins) or open type with wire terminals, silver cadmium-oxide 10 Amp contacts in SPDT through 4PDT. AC or DC coils. UL-version listed under UL Component Recognition File E44211.

ENCLOSED, OCTAL PLUG-IN, AC ACTUATED

AZ Type	Coil Specifications: Voltage, VAC (Volts) Nominal	Max.	Min.	Nominal Current (mA)	Contacts	NET Price 1-24 (Dollars)
AZ 481-2-1	6 AC	9	5	410	SPDT	5.95
AZ-481-3-1	12 AC	19	10	205	SPDT	5.95
AZ 481-4-1	24 AC	37	21	100	SPDT	5.95
AZ 481-7-1	120 AC	184	102	20	SPDT	5.95
AZ 481-2-2	6 AC	9	5	410	DPDT	6.70
AZ 481-3-2	12 AC	19	10	205	DPDT	6.70
AZ 481-4-2	24 AC	37	21	100	DPDT	6.70
AZ 481-7-2	120 AC	184	102	20	DPDT	6.70
AZ 481-2-3	6 AC	9	5	410	3PDT	8.50
AZ 481-3-3	12 AC	19	10	205	3PDT	8.50
AZ 481-4-3	24 AC	37	21	100	3PDT	8.50
AZ 481-7-3	120 AC	184	102	20	3PDT	8.50

OPEN, WIRE TERMINALS, AC ACTUATED

AZ Type	Coil Specifications: Voltage, VAC (Volts) Nominal	Max.	Min.	Nominal Current (mA)	Contacts	NET Price 1-24 (Dollars)
AZ 483-2-1	6 AC	9	5	410	SPDT	3.60
AZ 483-3-1	12 AC	19	10	205	SPDT	3.60
AZ 483-4-1	24 AC	37	21	100	SPDT	3.60
AZ 483-7-1	120 AC	184	102	20	SPDT	3.60
AZ 483-2-2	6 AC	9	5	410	DPDT	4.10
AZ 483-3-2	12 AC	19	10	205	DPDT	4.10
AZ 483-4-2	24 AC	37	21	100	DPDT	4.10
AZ 483-7-2	120 AC	184	102	20	DPDT	4.10
AZ 483-2-3	6 AC	9	5	410	3PDT	4.65
AZ 483-3-3	12 AC	19	10	205	3PDT	4.65
AZ 483-4-3	24 AC	37	21	100	3PDT	4.65
AZ 483-7-3	120 AC	184	102	20	3PDT	4.65
AZ 483-2-8	6 AC	9	5	410	4PDT	5.25
AZ 483-3-8	12 AC	19	10	205	4PDT	5.25
AZ 483-4-8	24 AC	37	21	100	4PDT	5.25
AZ 483-7-8	120 AC	184	102	20	4PDT	5.25

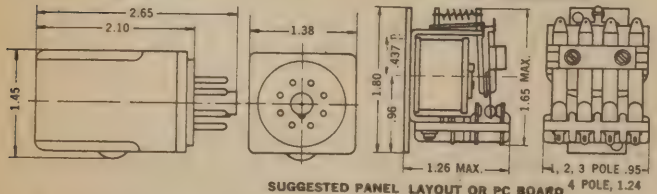
SERIES AZ 480 — GENERAL PURPOSE RELAYS — 10 AMP CONTACTS

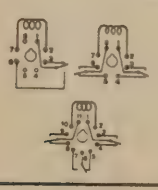


AZ 480 & AZ 481



AZ 482 & AZ 483









ELECTRICAL SPECIFICATIONS

CONTACT RATING — 10 amp @ 115 volts AC 60 Hz non inductive
CONTACT MATERIAL — Silver-cadmium-oxide
CONTACT ARRANGEMENT — 1, 2, 3 and 4 form C (up to 4PDT)
LIFE EXPECTANCY — Mechanical: 10 million operations
Rated Load: ¼ million operations
DIELECTRIC STRENGTH — 1500 v rms
500 v rms across contact gap
INSULATION RESISTANCE — 100 megohms minimum
COIL VOLTAGE — to 280 volts AC
COIL POWER — Nominal — DC: 1.2 watts — AC: 2.5 VA
Max. Continuous Dissipation: 2.5 watts @ 35°C (95°F) ambient
AMBIENT TEMPERATURE — Open relay −45°C (−50°F) to +70°C (158°F) [at nominal operate voltage]
Enclosed relay −45°C (−50°F) to +50°C (125°F) [at nominal operate voltage]
OPERATE TIME — Less than 15ms at nominal operate voltage (DC coils only)
RELEASE TIME — Less than 8ms at nominal operate voltage (DC coils only)
WEIGHT — Open relay: 2.3 oz (65 gr) — Enclosed relay: 3 oz (85 gr)
TERMINALS — Open relay: pierced solder lugs
Enclosed relay: octal plug-in
MOUNTING — See mechanical specifications
ENCLOSURE: Heat and shock resistant clear plastic

ENCLOSED, OCTAL PLUG-IN, DC ACTUATED

AZ Type	Coil Specifications: Voltage, VAC (Volts) Nominal	Max.	Min.	Resistance (Ohms) ±10%	Contacts	NET Price 1-24 (Dollars)
AZ 480-2-1	6 DC	9	4.5	32	SPDT	5.95
AZ 480-3-1	12 DC	19	9	130	SPDT	5.95
AZ 480-4-1	24 DC	37	18	500	SPDT	5.95
AZ 480-6-1	48 DC	75	36	2,100	SPDT	5.95
AZ 480-9-1	110 DC	165	83	10,500	SPDT	6.75
AZ 480-2-2	6 DC	9	4.5	32	DPDT	6.70
AZ 480-3-2	12 DC	19	9	130	DPDT	6.70
AZ 480-4-2	24 DC	37	18	500	DPDT	6.70
AZ 480-6-2	48 DC	75	36	2,100	DPDT	6.70
AZ 480-9-2	110 DC	165	83	10,500	DPDT	7.50
AZ 480-2-3	6 DC	9	4.5	32	3PDT	8.50
AZ 480-3-3	12 DC	19	9	130	3PDT	8.50
AZ 480-4-3	24 DC	37	18	500	3PDT	8.50
AZ 480-6-3	48 DC	75	36	2,100	3PDT	8.50
AZ 480-9-3	110 DC	165	83	10,500	3PDT	9.30

OPEN, WIRE TERMINALS, DC ACTUATED

AZ Type	Coil Specifications: Voltage, VAC (Volts) Nominal	Max.	Min.	Resistance (Ohms) ±10%	Contacts	NET Price 1-24 (Dollars)
AZ 482-2-1	6 DC	9	4.5	32	SPDT	3.60
AZ 482-3-1	12 DC	19	9	130	SPDT	3.60
AZ 482-4-1	24 DC	37	18	500	SPDT	3.60
AZ 482-6-1	48 DC	75	36	2,100	SPDT	3.60
AZ 482-9-1	110 DC	165	83	10,500	SPDT	4.20
AZ 482-2-2	6 DC	9	4.5	32	DPDT	4.10
AZ 482-3-2	12 DC	19	9	130	DPDT	4.10
AZ 482-4-2	24 DC	37	18	500	DPDT	4.10
AZ 482-6-2	48 DC	75	36	2,100	DPDT	4.10
AZ 482-9-2	110 DC	165	83	10,500	DPDT	4.80
AZ 482-2-3	6 DC	9	4.5	32	3PDT	4.65
AZ 482-3-3	12 DC	19	9	130	3PDT	4.65
AZ 482-4-3	24 DC	37	18	500	3PDT	4.65
AZ 482-6-3	48 DC	75	36	2,100	3PDT	4.65
AZ 482-9-3	110 DC	165	83	10,500	3PDT	5.35
AZ 482-2-8	6 DC	9	4.5	32	4PDT	5.25
AZ 482-3-8	12 DC	19	9	130	4PDT	5.25
AZ 482-4-8	24 DC	37	18	500	4PDT	5.25
AZ 482-6-8	48 DC	75	36	2,100	4PDT	5.25
AZ 482-9-8	110 DC	165	83	10,500	4PDT	5.95

SENSITIVE RELAYS — AZ 484 — DC ACTUATED, ENCLOSED PLUG-IN ONLY

ELECTRICAL SPECIFICATIONS

CONTACT RATING — 2 amp @ 30 VDC or 70 VAC non inductive

COIL POWER — 125m Watt SPDT — 250m Watt DPDT — 375m Watt 3PDT

OPERATE TIME — Less than 16ms at nominal power

RELEASE TIME — Less than 12ms at nominal power

TERMINALS — Plug in only

All other data see standard relays

AZ Type	Coil Specifications: Resistance (Ohms) ±5%	Voltage (Volts)	Must Operate Current (mA)	Nom. Voltage (Volts)	Contacts	NET Price 1-24 (Dollars)
Coil power: 125m Watt						
AZ 484-1-1	2500	20	7.2	27	SPDT	6.70
AZ 484-2-1	5000	27	5	36	SPDT	6.70
AZ 484-3-1	10,000	40	3.6	52	SPDT	7.50
Coil power: 250m Watt						
AZ 484-1-2	2500	27	10	36	DPDT	7.30
AZ 484-2-2	5000	40	7.2	52	DPDT	7.30
AZ 484-3-2	10,000	55	5	74	DPDT	8.10
Coil power: 375m Watt						
AZ 484-1-3	2500	34	12.3	45	3PDT	7.90
AZ 484-2-3	5000	49	8.7	65	3PDT	7.90
AZ 484-3-3	10,000	68	6.2	90	3PDT	8.70

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

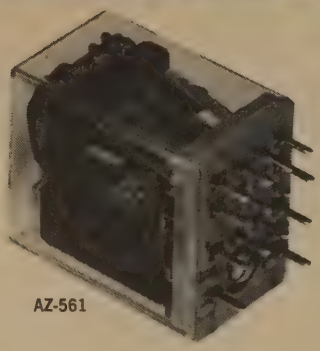
© United Technical Publications

American Zettler, inc.

MINIATURE AC, DC RELAYS SERIES AZ 560


AZ-560




AZ-561

FEATURES

- AC or DC coils
- Less than 1 watt operating power
- 4PDT 5 amp contacts, gold plated
- Longer life expectancy due to unique contact blade design
- 1 Million operations at 3 amp 26VDC
- Polycarbonate dust cover
- Made in Western Europe

GENERAL DESCRIPTION

The miniature relay series AZ 560 with AC or DC coils and 4PDT contacts, available with either plug-in or PC terminals, is ideally suited for use in alarm systems, communications, and data processing equipment. Due to the low price, less than 50 cents per transfer contact, (considerably less expensive than solid state techniques) these units are finding broad acceptance in consumer type products. The rugged construction assures longer life than other similar relays. The unique design of the support for the contact blade provides better wiping action and less bounce. Strict quality control, in compliance with stringent Western European practices, guarantees uniform characteristics in high production quantities.

ELECTRICAL SPECIFICATIONS

Contact Rating — Resistive Load 5 amp at 26VDC or 115VAC*

Contact Material — Silver gold plated. Other contact material available.

Contact Arrangement — 4 form C (4PDT)

Life Expectancy — Mechanical operations: 10^8

Electrical operations: at rated load: 5×10^4
at 3 Amp 26VDC or 115VAC: 10^6

Contact Resistance — 50 Milliohms typical

Time Values — at nominal voltage @ 20°C
13 ms max operate
10 ms max release

Dielectric Strength — 1500 Vrms; 500 Vrms across contact gap

* For low level switching AZ 420 series with bifurcated contacts recommended

Insulation Resistance — 1500 megohms, min. @ 20°C, 100VDC, 50% RH

Coil Power at 20°C — AC: 1.20 Va nom.
DC: .90 Watts nom.

Coil Temperature — Max. 105°C

Ambient Temperature — Operating: −45°C to +70°C at nom. voltage
Storage: −45°C to +100°C

Temperature Rise — 35°C at nom. voltage

Vibration — .062 DA @ 10-55Hz

Weight — Appr. 42 gr (1.5 oz)

Terminals — Solder lug/plug-in or PC on relay
Solder lug or PC on socket

Enclosure — Glear, high impact polycarbonate cover

STANDARD RELAYS AC ACTUATED

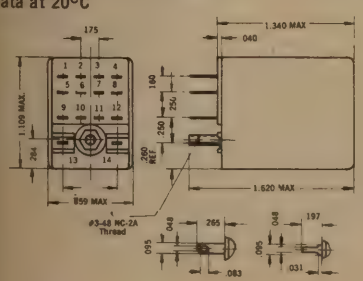
Coil Specifications				Order No.		
Voltage VAC			Nom. Curr.	Plug in	PC	Net
Nom.	Max.	Min.	(Average (mA)	Terminals	Terminals	1-24
6VAC	7.1	5.1	200	AZ562-25	AZ563-25	5.30
12VAC	14.2	10.2	100	AZ562-17	AZ563-17	5.30
24VAC	28.5	20.4	50	AZ562-12	AZ563-12	5.30
36VAC	42	30.6	33	AZ562-10	AZ563-10	5.30
48VAC	57	40.8	25	AZ562-085	AZ563-085	5.30
60VAC	71	51	20	AZ562-075	AZ563-075	5.70
115VAC	130	94	11	AZ562-055	AZ563-055	5.80
127VAC	150	108	9.5	AZ562-050	AZ563-050	5.95

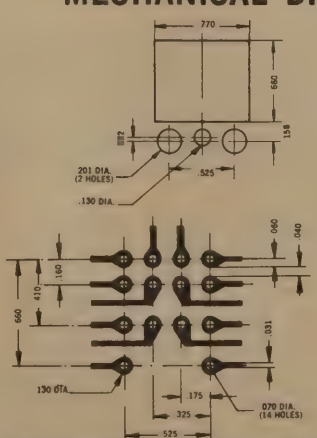
All data at 20°C

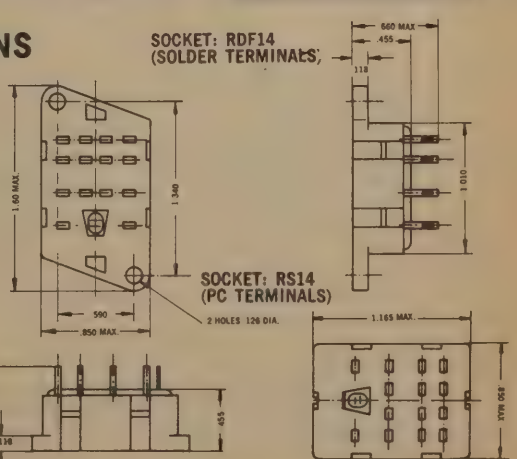
STANDARD RELAYS DC ACTUATED

Coil Specifications				Order No.		
Voltage VDC			Resistance	Plug in	PC	Net
Nom.	Max.	Min.	(ohms) ±10%	Terminals	Terminals	1-24
6VDC	8	4.5	40	AZ560-17	AZ561-17	4.50
12VDC	16	9	160	AZ560-12	AZ561-12	4.50
24VDC	32	18	650	AZ560-085	AZ561-085	4.50
36VDC	48	27	1400	AZ560-07	AZ561-07	4.50
48VDC	64	36	2600	AZ560-06	AZ561-06	4.50
60VDC	80	45	3600	AZ560-055	AZ561-055	5.00
110VDC	146	83	13000	AZ560-04	AZ561-04	5.20

MECHANICAL DIMENSIONS



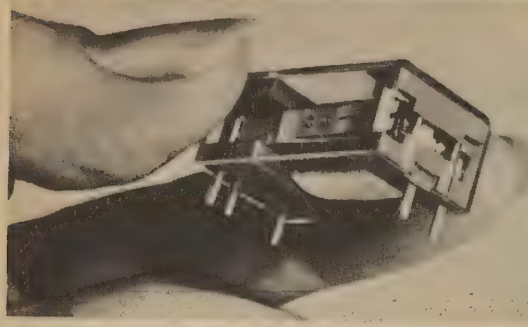




American Zettler, inc.

American Zettler, inc.

THINPAK™ MINIATURE RELAYS SERIES AZ 530



FEATURES

- 0.415″ high for 0.6″ standard pc board spacing
- Up to 5 Amp SPDT contacts
- 0.1″ Grid Terminal spacing
- Insulation resistance greater than 10^{10} ohms
- Contact resistance less than 50×10^{-3}
- No phenolic insulation used
- 2500 Vrms contact to coil

GENERAL DESCRIPTION

The AZ miniature THINPAK relay, Series 530, has been designed for applications with either demanding space limitations, such as 0.6″ center-to-center PC card mounting, or operating requirements that cannot be met by reed relays or conventional contact type relays. The high pressure SPDT 1, 2 or 5 amp contacts operating at 26 VDC enables the unit to switch capacitance or lamp loads with current spikes that would normally weld the contacts of reed relays. The high sensitivity of 125 mW pull-in, long life and insulatio resistance of more than 10^{10} ohms makes it an ideal uni for galvanic separation between electronic circuits. Th AZ-530 THINPAK is available in standard coil voltages fror 6 to 115 VDC with an operate and release time of less tha 2 ms. It has PC terminals in 0.10″ grid spacing. A blac plastic dust cover with a mylar bottom plate is provided

ELECTRICAL SPECIFICATIONS

Contact Rating — noninductive load
- Light Duty: Fine silver goldplated, 1 Amp @ 26 VDC or 0.5 Amp @ 115 VAC
- Medium Duty: Silver Cadmium-Oxide, 2 Amp @ 26 VDC or 1 Amp @ 115 VAC
- Heavy Duty: Silver Cadmium-Oxide, 5 Amp @ 26 VDC or 3 Amp @ 115 VAC or 2 Amp @ 220 VAC

Life Expectancy — Mechanical Operations: 10^7; Operations at Rated Load: 10^5
Contact Resistance — 50 milliohms max. initially
Operate Time — <5 ms at 2 times must operate voltage or current
Release Time — <2 ms at 2 times must operate voltage or current
Contact Bounce — at 10 mA contact current: 2 ms max. at operate N.O. side; 3 ms max. at release N.C. side
Capacitance — typical: NC to Movable 0.6 pF; NO to Movable 0.9 pF; contact to coil 12 pF

Dielectric Strength —	AZ 530	AZ 535
Contact — Contact	500 Vrms	1000 Vrms
Contact — Coil	500 Vrms	2500 Vrms

Insulation Resistance — 10,000 Megohms min. @ 20°C. 100 VDC, 50% RH
Drop Out — 10% minimum of must operate-voltage or current.
Coil Power — Pick up typical:
Light duty type — 125 mW
Medium duty type — 250 mW
Heavy duty type — 400 mW
Max. Continuous Dissipation:
AZ 530 — 1.6 W @ 20°C (68°F) ambient; 1.2 W @ 40°C (105°F) ambient
Temperature Rise: appr. 55°C per watt
AZ 535 — 2.3 W @ 20°C (68°F) ambient; 1.9 W @ 40°C (105°F) ambient
Temperature Rise: appr. 35°C per watt
Coil Temperature — Max. 105°C (220°F)
Ambient Temperature —
Operating: −55°C (−72°F) to 80°C (175°F) @ nominal operating voltage
Storage: −55°C (−72°F) to 105°C (220°F)
Vibration — 0.062 DA @ 10-55 Hz
Shock — 20 g
Enclosure — Black plastic cover with mylar bottom plate
Terminals — Printed circuit board terminals goldplated in 0.10″ standard grid space
Weight — Approx. 10 (AZ 530); Approx. 20 gr. (AZ 535)

Standard Relays with light duty contact (1 Amp)

Nom. Coil VDC	Max. Contin. VDC	Resist. Ohm ±10%	Must Operate* mA	Must Operate* VDC	Part No.	Net 1-24 Pcs.
6	9.7	66	49	3.6	AZ 530-12-1	2.36
12	21.8	330	22.5	8.3	AZ 530-08-1	2.36
24	37	950	13	13.8	AZ 530-06-1	2.53
48	68	4700	6.2	32.6	AZ 530-04-1	2.94
60	104	7600	5	42.6	AZ 530-035-1	3.41
115	145	14500	3.6	58.6	AZ 530-03-1	3.93

Standard Relays with medium duty contact (2 Amp)

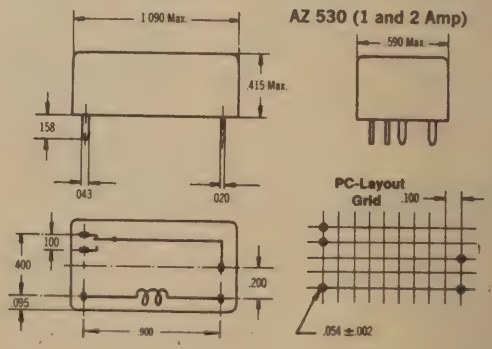
6	8.2	47	83	4.8	AZ 530-13-2	2.47
12	17	200	41	9.2	AZ 530-09-2	2.47
24	37	950	18.3	19.5	AZ 530-06-2	2.64
48	66	3000	11	37	AZ 530-045-2	3.06
60	82	4700	8.7	46	AZ 530-04-2	3.52
115	145	14500	5	82	AZ 530-03-2	3.98

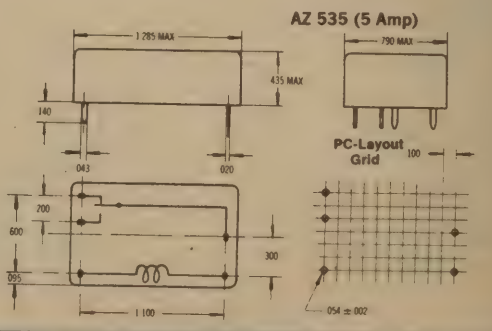
Standard Relays with heavy duty contact (5 Amp)

6	8.7	37	110	4.5	AZ 535-15-2	2.88
12	16	125	61	8.4	AZ 535-11-2	2.88
24	30	440	33	16	AZ 535-08-2	2.88
48	63	1030	15.5	33	AZ 535-055-2	3.24
60	74	2700	13.5	40	RZ 535-05-2	3.30
115	147	10500	7.2	83	AZ 535-035-2	3.95

All values at 20°C
* Relay will pull in with less than "must operate" value. There will be a change of less than 10% in must operate if several relays are mounted close together.

Note: To fasten relay on PC board do not bend contact terminals as this damages adjustment. Use coil terminals only. After soldering relay to board, do not dip the board into a cleaning solution.
Solder temperature: Max. 270°C (500°F)
Soldering time: Max. 5 sec.





Net
© United Technical Publications

C. P. Clare & Co., a pioneer in relay engineering, offers a wide selection of over 400 stock relays. Clare Distributors have large on-the-shelf quantities waiting for your order.

Clare relays meet the exacting size and performance requirements of todays sophisticated switching applications. Stock relay capabilities range from low level logic switching at microsecond speeds to high power 15 ampere load switching. Pick an application — we probably have a relay or stepping switch to handle the job waiting for your order. Detailed Data Sheets on our products are available on request.

INDEX

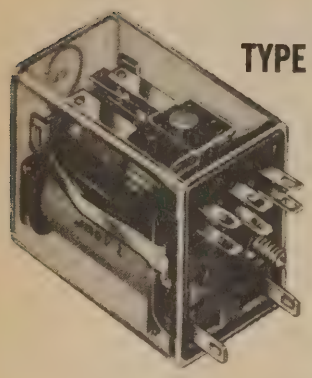
	Page
VP General Purpose Relays	804
Mercury-Wetted Contact Relays	805, 806, 807
Dry Reed Relays	808, 809, 810, 811
General Purpose Relays	812, 813
Hybrid Relays	814
Telephone Type Relays	815
Stepping Switches	816
Military Type Relays	817

PRICE AND SPECIFICATIONS

All prices and specifications in this catalog are subject to change without notice.

C. P. CLARE & CO.
A GENERAL INSTRUMENT COMPANY

"VP" SERIES GENERAL PURPOSE RELAYS



TYPE VP

Clare/Varley VP relays have 2, 4 or 6 Form C contact arrangements and Silver contacts rated 2A at 120Vac or 30Vdc resistive. Standard coil voltages are 12, 24, 48 & 120Vdc. The VP is enclosed in an amber Lexan polycarbonate dust cover to prevent contamination. The relays provide an economical and space saving way of solving complex switching problems. Typical applications include telecommunications, business machines, process controls and digital instruments. Sockets available for wired assembly and PCB mounting.

VP

Part Number	List Price	Nominal Voltage (Vdc)	Contact Form	Must Operate (Vdc)	Maximum Voltage (Vdc)	Coil Resistance in ohms +10%, 20°C
VP2CAB12	$2.95	12	2C	5.0	19	185
VP4CAB12	3.45	12	4C	8.0	19	185
VP6CAB90 OHM	4.25	12	6C	9.0	17.2	90
VP2CAB26	2.95	24	2C	11	37	700
VP4CAB26	3.45	24	4C	16	37	700
VP6CAB430 OHM	4.25	24	6C	18	32	430
VP2CAB47	2.95	48	2C	21	70	2500
VP4CAB47	3.45	48	4C	31	70	2500
VP6CAB1550 OHM	4.25	48	6C	36	56	1550
VP2CAB120	3.95	120	2C	58	166	15000
VP4CAB120	4.40	120	4C	86	166	15000
VP6CAB9000 OHM	4.95	120	6C	86	150	9000
RP15223-5	$ .55	VP2-111PC, PCB socket w/retaining clip				
RP15223-2	.55	VP2-111W, Solder lug socket w/retaining clip				
RP15223	.65	VP4-111PC, PCB socket w/retaining clip				
RP15223-1	.65	VP4-111W, solder lug socket w/retaining clip				
RP15223-7	.75	VP6-111PC, PCB socket w/retaining clip				
RP15223-6	.75	VP6-111W, Solder lug socket w/retaining clip				

SPECIFICATIONS — VP

CONTACT ARRANGEMENTS: 2, 4 and 6 Form C

CONTACT RATINGS (Resistive Load): 2A at 28Vdc or 120Vac

CONTACT RESISTANCE (ON Impedance): 50 milliohms maximum initially

COIL DATA: 2W max. dissipation at 25°C

LIFE EXPECTANCY: 100 million operations mechanical — 100,000 operations minimum electrical at rated load

TYPICAL OPERATE TIME: 20ms maximum opeate, 8ms maximum dropout at nominal voltage. 25°C, unsuppressed, dc coil

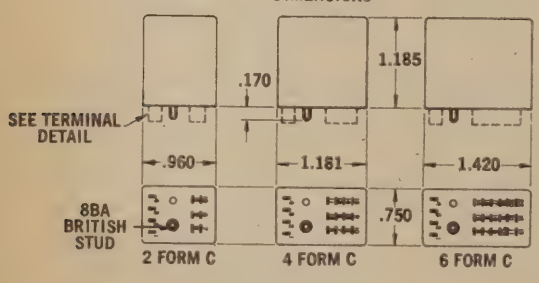
BREAKDOWN VOLTAGE: 500Vac, rms, 60Hz between open contacts, 100Vac, rms, 60Hz between all other mutually insulated elements

INSULATION RESISTANCE (OFF Impedance): 1000 megohms minimum at 25°C, 50% relative humidity

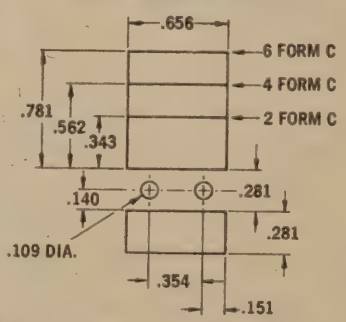
ENVIRONMENTAL (Operating): Temperature range of −55° to +65°C

PHYSICAL: Dust cover — Amber Lexan® polycarbonate; Base material — Black glass filled nylon; Pileup insulation — Grade MP155 pirtoid; Terminals — Pierced solder lug; Weight — 1.3 oz. maximum; Marking — Part number, coil resistance, Clare/Varley name

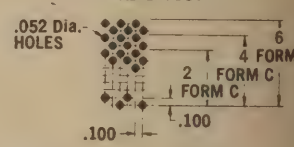
DIMENSIONS



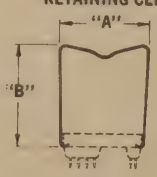
RELAY & SOCKET PANEL CUTOUT



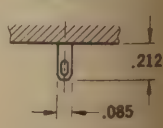
PCB PAD LAYOUT



SOCKET RETAINING CLIP

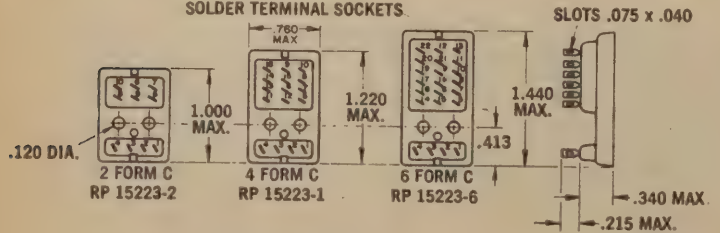


RELAY TERMINAL DETAIL



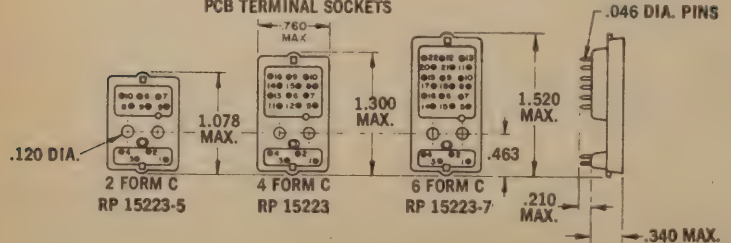
SOLDER TERMINAL SOCKETS

SLOTS .075 x .040

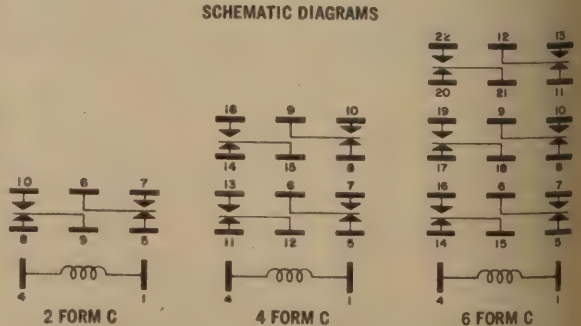


PCB TERMINAL SOCKETS

.046 DIA. PINS

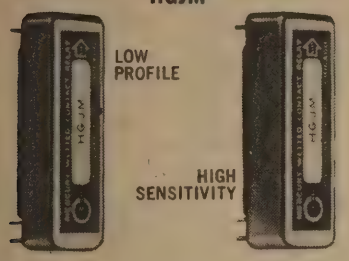


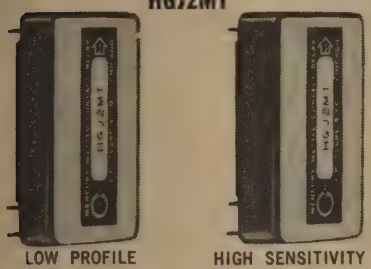
SCHEMATIC DIAGRAMS



Trade Discount Applies To List Prices Only
© United Technical Publications

MERCURY-WETTED CONTACT RELAYS







HGJM

Clare HGJM relays have established new industry standards for quiet, fast and stable operation. HGJM Series SPDT relays have the 100VA load and multi-billion operation reliability characteristic of our HGSM and are recommended for all new applications.

Response times approach 1ms speeds, noise levels are less than 5μV at 5ms after coil energization (10kHz bandwidth) and the relays are ultra-stable to 250Hz. The 1 Form C contact will switch μV, nanoampere loads to 2A or 500V loads (100VA max, ac or dc). The relays are offered in 0.400″ height high sensitivity models and 0.350″ height low profile versions. Both mount on staggered 0.100″ PCB grid patterns. The low profile models permit 0.5″ board centers.

HGJ2MT

Clare HGJ2MT relays feature the same outstanding electrical characteristics as the HGJM relays in a DPDT (2 Form C) package. High sensitivity HGJ2MT relays have common open time durations to 50μs at 100Hz for capacitor transfer technique applications. Electrostatic shielding is standard on all models.

HGQM

Clare HGQM relays for PCB mounting have the fastest response times in the industry for mercury-wetted relays. The contact form is a SPDT transfer-contact configuration. Typical response times range from 0.8 to 1.0ms and noise levels are under 5μV within 1.5ms after coil energization (1000Hz bandwidth). HGQM relays are ultra-stable at switching speeds to 500Hz (bistable) and 400Hz (single-side-stable). Switching capabilities range from signal levels to 1A or 500V loads (50VA max).

The HGQM package is only 0.580″ high and mounts on convenient staggered 0.100″ grid patterns. An ideal companion for HGJM relays in many applications requiring low level sensor-based analog signal switching or process control for data logging/acquisition.

HGQ2MT

The HGQ2MT relays feature the same electrical characteristics as the HGQM relay with transfer contact switching but in a DPDT package. This ultra-high speed two pole relay is ideal for low level switching applications.

Contact noise is less than 10μV within 2ms after coil energization — three times faster than the industry standard. Thermal emf levels are 15μV maximum.

SPECIFICATIONS — HGJM & HGJ2MT

CONTACT RATING (Resistive Load): Power — 100VA, max. Voltage — 500V, dc or ac, max. Current — 2A switched, max., 5A carry only, max.

CONTACT RESISTANCE (ON impedance): 15 to 25 milliohms, ±2.0 millioms

LIFE EXPECTANCY: Greater than 10 x 10^9 operations at rated load

OPERATE TIME: 1.25ms response time — Switching up to 250Hz (4.0ms period)

BREAKDOWN VOLTAGE: 1,000V rms 60Hz min. between all mutually insulated terminals, except between windings of double wound coils, 200Vdc

INSULATION RESISTANCE (OFF impedance): HGJM Series, Standard Value 100 megohms. Available, 100,000 megohms — HGJ2MT Series, Standard Value, 10,000 megohms. Available 100,000 megohms (Measured across open contacts at 25°C, 40% relative humidity)

ENVIRONMENTAL: Vibration — 10 to 300Hz 0.06″ d.a. or 5g's. Shock — 10g, 11 ±1ms, ½ sinewave (non-operating). Temperature — −38.8°C to +105°C (operating)

SPECIFICATIONS — HGQM & HGQ2MT

CONTACT RATING (Resistive Load): Power — 50VA, max. Voltage — 250V, dc or ac, max. Current — 1A switched, max. 5A carry only, max.

CONTACT RESISTANCE (ON impedance): Initial — 15 to 25 milliohms, ±2.0 milliohms

LIFE EXPECTANCY: Greater than 2 x 10^9 operations at rated load

OPERATE TIME: 1000μs. Switching up to 500Hz (2.0ms period) bistable and to 400Hz single-side-stable

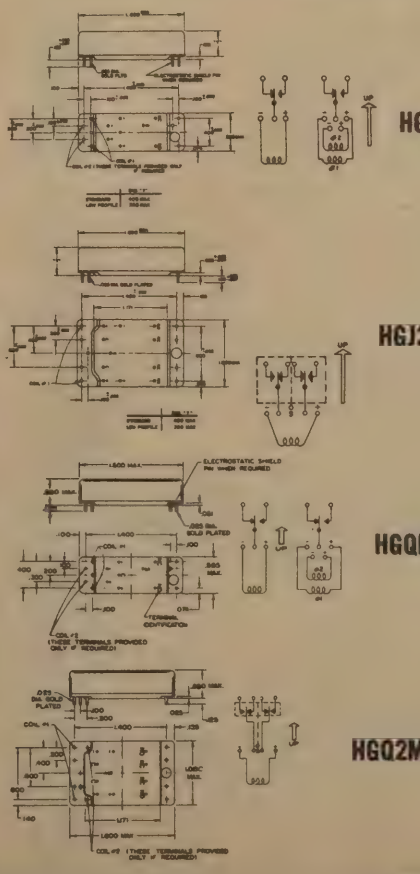
BREAKDOWN VOLTAGE: 1,000V rms 60Hz min. between all mutually insulated terminals, except between windings of double wound coils, 200Vdc

INSULATION RESISTANCE (OFF impedance): HGQM Series — Standard Value, 100 megohms. Available 100,000 megohms — HGQ2MT Series, Standard Value, 10,000 megohms. Available 100,000 megohms (Measured across open contacts at 25°C, 40% relative humidity)

ENVIRONMENTAL: Vibration — 10 to 300Hz 0.06″ d.a. or 5g's. Shock — 10g, 11 ±1ms, ½ sinewave (no mechanical damage, non-operating test). Temperature — −38.8°C to +105°C (operating)

Part No.	Rec. Nom. Coil Voltage (Vdc)	Coil Res. ±10% at 25°C (Ohms)	Pickup Voltage (Vdc)	Dropout Voltage (Vdc)	Max. Voltage (Vdc)	Typical Relay Ind. (mH)	List Price
DPDT LOW PROFILE SINGLE-SIDE-STABLE							
HGJM 51131 J00	5.0	68	2.7	.58	11	7.4	$12.60
HGJM 51131 N00	12	375	6.5	1.4	26	45	12.60
HGJM 51131 R00	24	1425	13	2.7	50	155	12.60
DPDT HIGH SENSITIVITY SINGLE-SIDE-STABLE							
HGJM 51111 K00	5.0	125	2.9	.61	15	34	$11.45
HGJM 51111 P00	12	685	7.1	1.5	35	161	11.45
HGJM 51111 T00	24	2650	14	3.0	68	630	11.45
DPDT LOW PROFILE SINGLE-SIDE-STABLE							
HGJ2MT 51231 E00	5.0	27	2.6	.54	9.7	2.1	$25.40
HGJ2MT 51231 K00	12	230	6.7	1.4	28	24	25.40
HGJ2MT 51231 N00	24	750	12	2.4	53	90	25.40
DPDT HIGH SENSITIVITY SINGLE-SIDE-STABLE							
HGJ2MT 54211 G00	5.0	55	2.6	.55	14	11	$24.35
HGJ2MT 54211 L00	12	370	6.7	1.4	36	75	24.35
HGJ2MT 54211 P00	24	1370	13	2.7	69	277	24.35
DPDT SINGLE-SIDE-STABLE							
HGQM 91111 J00	5	86	2.5	0.5	11.6	32	$13.20
HGQM 91111 N00	12	620	6	1.25	31.3	260	13.20
HGQM 91111 R00	24	2430	12	2.5	61.9	980	13.20
DPDT SINGLE-SIDE-STABLE							
HGQ2MT 91211 F00	5	48	2.75	0.5	12	19	$26.25
HGQ2MT 91211 K00	12	280	7	1.25	30	105	26.25
HGQ2MT 91211 N00	24	1240	14	2.5	62	475	26.25

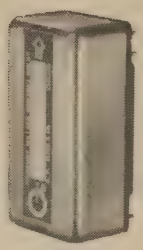
Part No.	Rec. Nom. Coil Voltage (Vdc)	Coil Res. ±10% (Ohms)	Must Oper. Volt., Either Wind. (Vdc)	Must Not Oper. Volt., Either Wind. (Vdc)	Max. Volt. One Wind. Only (Vdc)	Typ. Relay Ind. (mH)	List Price
DPDT HIGH SENSITIVITY BISTABLE (DOUBLE WOUND COIL)							
HGJM 52112 N00	5.0	205/205	—	—	19	26	$13.20
DPDT BISTABLE (DOUBLE WOUND COIL)							
HGQM 92112 M00	5	190/190	2.5	1.0	17	40	$14.00



MERCURY-WETTED CONTACT RELAYS



HGSM



HGS2MT



HGM



HG2M

HGSM

Clare HGSM relays are PCB mount models with 2A or 500V (100VA max.) switching capabilities. The HGSM series SPDT relay is recommended for replacement applications only. New applications should specify the faster HGJM series with the same load switching capabilities, life expectancy and lower noise. The HGSM package is 5/8" high and mounts on staggered 0.100" grid patterns.

HGS2MT

Clare HGS2MT relays have the same ratings and life expectancy as the HGSM series in a DPDT model. The HGS2MT relay is also recommended for replacement purposes only. HGJ2MT relays are recommended for all new applications requiring 100VA (per pole) switching capabilities in DPDT configurations.

HGM

HGM relays are Clare standard HG switch capsules in module form, are provided with plated steel covers for excellent mechanical protection and magnetic shielding. The standard HG switch in the HGM is not polarity sensitive. Contacts are SPDT make-before-break rated at 5 amps, 500 Volts, 250VA maximum. Life expectancy is 22 x 10^9 at specified ratings.

HG2M

HG2M has the same characteristics as the HGM but contains 2 capsules to give you double-pole, double-throw configuration make-before-break. This results in saving space and cost over single element units. Contacts are rated at 5 amps 500 Volts, 100VA maximum with life expectancy of 22 x 10^9.

SPECIFICATIONS — HGSM, HGS2MT, HGM, HG2M

CONTACT RATING (resistive load):
- Power 250VA max.
- Voltage 500V max.
- Current 5A max.

CONTACT RESISTANCE (ON impedance):
- 28 milliohms typical

LIFE EXPECTANCY:
- 22 x 10^9 operations

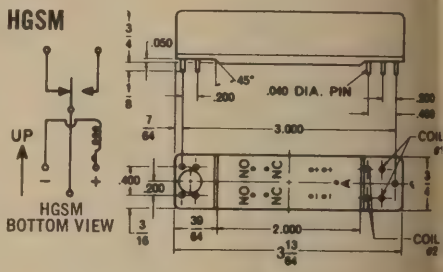
OPERATE TIME:
- 3ms typical

BREAKDOWN VOLTAGE:
- 1000Vac, rms, 60Hz between all mutually insulated terminals

ENVIRONMENTAL:
- Vibration: 10-500Hz, 0.06" d.a. or 10g's
- Shock: 30g's, 11 ±1ms, ½ sinewave
- Temperature: −38° to +105°C (operating)

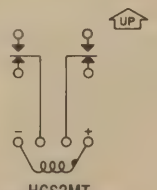
DIMENSIONS

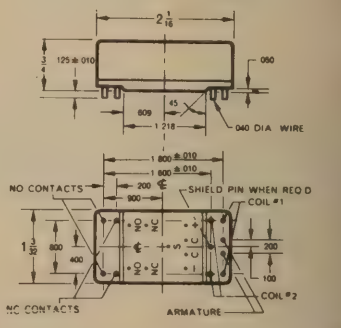
HGSM



Form D Part No.	Form C Part No.	Rec. Nom. Coil Vdc	Coil Res. (Ohms)	Must Operate Vdc	Max. Vdc	List Price
SPDT SINGLE-SIDE-STABLE						
HGSM 1008	HGSM 5008	5	115	3.8	15.1	$11.45
HGSM 1009	HGSM 5035	12	275	5.2	23.4	11.45
HGSM 1010	HGSM 5009	12	450	6.4	30.0	11.45
HGSM 1011	HGSM 5010	12	675	8.6	36.7	11.45
HGSM 1002	HGSM 5011	15	940	10.5	43.3	11.45
HGSM 1001	HGSM 5001	24	1425	13	53.4	11.45
HGSM 1003	HGSM 5064	24	2400	20.6	69.2	11.45
SPDT BISTABLE (DOUBLE WOUND COIL)						
HGSM 12112 N00	HGSM 52112 N00	—	325/325	±2.5 (Either Winding)	26.0 (One Winding Only)	$12.20
HGSM 1016	HGSM 5003	—	1100/1100	±8.77/±6.9	46.9	12.20

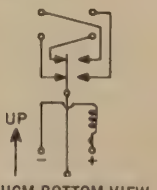
HGS2MT

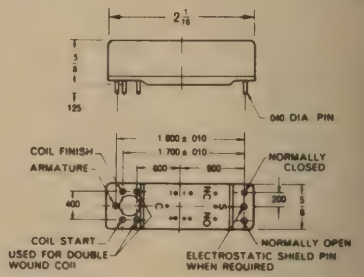




Part No.	Nominal Volts (dc)	Coil Resistance	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	List Price
HGS2MT 5001	6	130	3.0	0.5	$24.35
HGS2MT 5008	12	520	5.3	1.1	24.35
HGS2MT 5009	24	2200	11.0	2.2	24.35

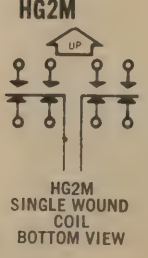
HGM

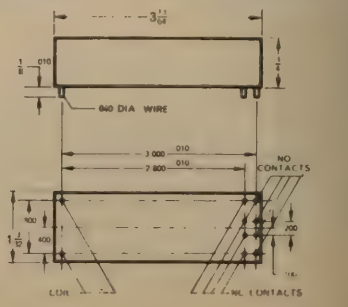




Part No.	Rec. Nom. Coil Volt. (dc)	Coil Resistance	Must Operate Voltage (Vdc)	Max. Voltage (Vdc)	List Price
HGM 1005	12	40	5.24	12.6	$15.10
HGM 1008	—	150	8.75	24	15.10
HGM 1002	24	450	16.3	42	15.10
HGM 1001	24	750	15.4	55	15.10
HGM 1012	—	1100	26.2	66	15.10

HG2M



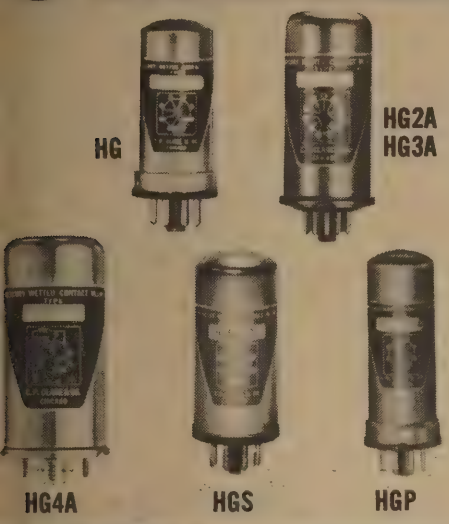


Part No.	Rec. Nom. Coil Voltage (dc)	Coil Resistance	Must Operate Voltage (Vdc)	Max. Voltage (Vdc)	List Price
HG2M 1007	12	90	8.2	19	$21.30
HG2M 1008	24	350	16.2	37	21.30
HG2M 1020	—	580	20.7	48	21.30
HG2M 1026	—	1250	31.8	70	21.30

Trade Discount Applies To List Prices Only

© United Technical Publications

CLARE MERCURY-WETTED CONTACT RELAYS



HG

HG relays have SPDT make-before-break form D contacts rated at 5 amps, 500 volts, 250VA max. Operating time can be as short as 2 milliseconds. The Series HG2 relay utilizes two switch capsules to furnish DPDT operating time can be as short as 2¼ milliseconds. Series HG3 relay utilizes three capsules providing 3 PDT, operating time can be as short as 2½ milliseconds. Series HG4 relay utilizes four capsules providing 4 PDT, operating time can be as short as 3¾ milliseconds. Life expectancy is 22 x 10^9 at specified ratings. Resistance, ±10% tolerance at 25 degrees C. Typical applications include computers, data logging and low-level dry circuits.

HGS

HGS Mercury-wetted relay offer increased speed and reliability along with high sensitivity. HGS 1000 Series. provide SPDT make-before-break and HGS 5000 Series provides SPDT break-before-make. Both are rated at 2 amps, 500 Volts, 100VA max. Operate time as fast as 1 millisecond. Standard design available only in single element assemblies, they come in the following, single-side-stable, bi-stable and chopper. Life expectancy is 22 x 10^9 at specified ratings.

HGP

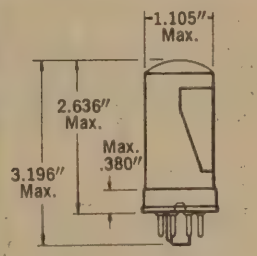
HGP is similar to the HG series except for the inclusion of permanent magnets making a slight increase in height. Magnets provide increased sensitivity. Contacts are SPDT make-before-break rated at 5 amps, 500 Volts, 250VA maximum with operate time as short as 2 milliseconds. Life expectancy is 22 x 10^9 at specified rating.

SPECIFICATIONS — HG, HGS, HGP

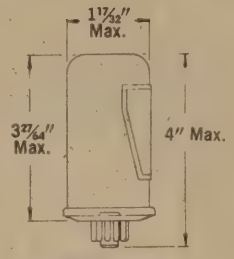
CONTACT RATING (Resistive Load): Power — HG, HGP, 250VA; HGS, 100VA. Voltage — HG, HGP & HGS, 500V. Current — HG, HGP, 5A; HGS, 2A. CONTACT RESISTANCE (ON Impedance): 25 milliohms typical. LIFE EXPECTANCY: 22 x 10^9 Operations. OPERATE TIME: See description. BREAKDOWN VOLTAGE: 1000Vac, rms, 60Hz between mutually insulated terminals. ENVIRONMENTAL: Vibration: 10-500Hz, 0.06″ d.a. or 10g's. Shock: 30g's, 11 ±1ms. Temperature: −38.8° to +100°C.

Part No.	Coil Resistance	Must Operate Voltage (Vdc)	Max. Voltage (Vdc)	Base Figure	List Price
HG					
HG 1019	40	2.9	11	4	$17.10
HG 1012	130	5.4	20	4	17.10
HG 1026	500	11	39	1	17.10
HG 1004	700	15	45	1	17.10
HG 1051	700	15	45	1	17.10
HG 1043	1000	17	55	1	17.10
HG 1001	2500	28	87	1	17.45
HG 1002	4000	33	110	1	10.45
HG 1017	4000	33	110	4	18.00
HG 1009	7000	45	145	1	18.00
HG 1011	11,000	61	180	1	18.00
HG 1024	25,000	94	275	1	18.00
HG 1003†	700/3300	25/47	46/99	2	19.75
HG2A 1008	50	6	14	2A2	27.75
HG2A 1042	140	10	24	2A1	27.75
HG2A 1003	315	15	36	2A2	27.75
HG2A 1017	500	19	45	2A2	27.75
HG2A 1009	700	24	53	2A1	27.75
HG2A 1002	700	24	53	2A2	27.75
HG2A 1015	1250	30	71	2A2	27.75
HG2A 1068	2500	46	100	2A1	27.75
HG2A 1001	5000	62	142	2A1	27.75
HG2A 1004	5000	62	142	2A2	27.75
HG2A 1013	10,000	94	200	2A2	27.75
HG3A 1004	315	15	36	2A1	36.00
HG3A 1006	500	19	45	2A2	36.00
HG3A 1002	700	24	53	3A1	36.00
HG3A 1008	1250	30	71	3A1	36.00
HG3A 1005	2500	46	100	3A1	36.00
HG3A 1003	5000	62	142	3A1	36.00
HG3A 1010	10,000	94	200	3A1	36.00
HG4A 1013	65	7.2	16	4A1	46.30
HG4A 1011	390	18	40	4A1	46.30
HG4A 1001	700	27	53	4A1	46.30
HG4A 1007	1400	35	75	4A1	46.30
HG4A 1003	4000	69	126	4A1	46.30
HG4A 1006	10,000	94	200	4A1	46.30
HGS					
HGS 1015‡	90	.63	13	S1	$14.15
HGS 1045‡	350	1.4	26	S1	14.15
HGS 1018†	500	1.6	31	S1	14.15
HGS 1009‡	600	1.9	34	S1	14.15
HGS 1046†	700	2.2	37	S1	14.15
HGS 1014‡	1000	2.4	44	S1	14.15
HGS 1019	1100/1100	±2.2	47	S3	15.10
HGS 1006†	2500	3.9	70	S1	14.50
HGS 1005‡	4000	5.5	90	S1	15.10
HGS 1048‡	4000	5.5	90	S4	15.10
HGS 1016‡	7000	6.7	118	S1	15.10
HGS 1017‡	11,000	8.7	148	S1	15.10
HGS 1113*	1000	1.4	45	S1	14.15
HGS 1114*	2500	2.3	70	S1	14.50
HGS 1026*	4000	2.1	90	S1	15.10
HGS 1056*	7000	3.7	118	S1	15.10
HGS 1096*	25,000	3.0	223	S1	15.10
HGS 1004§	600	6.3 Vac	—	S1	14.75
HGS 5009	40	.43	8.9	S1	14.15
HGS 5011‡	350	1.4	26	S1	14.15
HGS 5015‡	1000	2.4	44	S1	14.15
HGS 5003‡	2500	3.9	70	S1	14.50
HGS 5008‡	4000	5.5	90	S5▲	15.10
HGS 5047‡	11,000	8.7	148	S1	15.10
HGS 5016‡	25,000	14.3	224	S1	15.10
HGS 5006*	1000	1.4	45	S1	14.15
HGS 5004*	4000	2.1	90	S1	15.10
HGS 5017§	600	6.3 Vac	—	S1	14.75

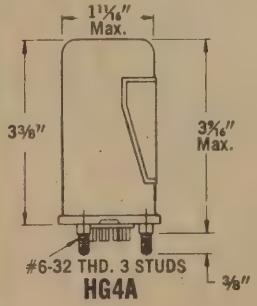
† Double Wound. ‡ Single-Side-Stable. * Bi-Stable. § Chopper.
▲ S5 same as S1 except pin 6 connected to case.



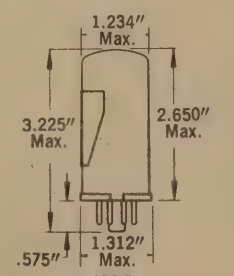
HG



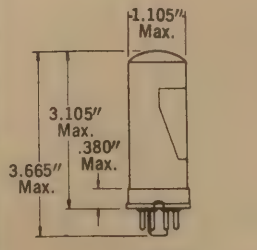
HG2A, HG3A



HG4A

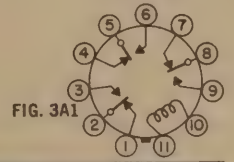


HGS



HGP





Part No.	Coil Resistance	Must Operate Voltage (Vdc)	Max. Voltage (Vdc)	Base Figure	List Price
HGP					
HGP 1001‡	90	1.6	16	1	$18.55
HGP 1005‡	1000	6.2	55	1	18.55
HGP-1002‡	4000	13	110	1	19.90
HGP 1008‡	4000	21	110	1	19.09
HGP 1055‡	7000	17	145	1	19.90
HGP 1052‡	11,000	23	180	1	19.90
HGP 1050‡	25,000	36	275	1	19.90
HGP 1006†‡	700/3300	11/21	46/99	1	21.60
HGP 1047*	600	±2.2	43	1	18.55
HGP 1003*	4000	±6.6	110	1	19.90
HGP 1012†	700/3300	4.6/3.7	46/99	3	21.60
HGP 1031†*	7500/7500	±14/14	150/150	3	21.60
HGP 1028§	500	6.3Vac	—	4	19.20
HGP 1009§	4000	18.5Vac	—	4	20.50

† Double Wound. ‡ Single-Side-Stable. * Bi-Stable.
†‡ Single-Side-Stable Double Wound. § Chopper.
†* Double Wound Bi-Stable.


FIG. S4


FIG. 1

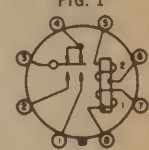

FIG. 2


FIG. 2A1


FIG. 2A2


FIG. 4

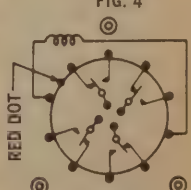
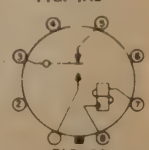
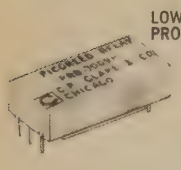


FIG. 4A1

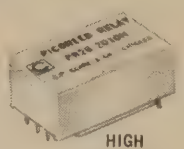

FIG. S1

DRY REED RELAYS

PRB & PRBH SERIES PICOREED®



LOW PROFILE



HIGH SENSITIVITY

Clare's micro-miniature PRB and PRBH series Picoreed relays offer signal level to 10VA switching characteristics, power requirements ranging from 48 to 500 milliwatts (dependent on relay configuration) and operate times typically less than 500 microseconds in economical space saving packages. The low profile PRB series permits 0.375" PCB mounting centers and the high sensitivity PRBH series will mount on 0.5" PCB centers.

The 5 volt PRB/PRBH relays are fully compatible with the standard 5 volt DTL/TTL logic families and will solve many interface application problems.

Both series have molded epoxy bases with stamped metal covers and mount on 0.70" x 0.100" grid pattern. The PRB low profile models are also available in 6 Form A, 1B, 1A1B and 1A latching contact configurations.

SPECIFICATIONS — PRB & PRBH

CONTACT RATING (Resistive Load): Power: 10 volt-amperes, max. Voltage: 100 volts dc or peak ac, max. Current: .5 ampere, switched, max. 2 amperes, carry only, max.

CONTACT RESISTANCE (ON Impedance): Initial: 200 milliohms max., measured at 10mA, 1000Hz

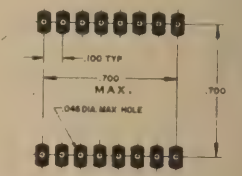
LIFE EXPECTANCY: 100 x 10^6 operations at signal levels. 5 x 10^6 operations at full rated load

TYPICAL OPERATE TIME: As low as 500 μs including bounce

BREAKDOWN VOLTAGE: 200Vac, rms, 60Hz across open contacts or 275Vdc, max.

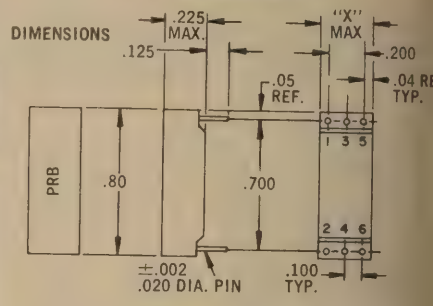
INSULATION RESISTANCE (OFF Impedance): 10^{10} ohms min. at 100Vdc +25°C, 40% rel. hum.

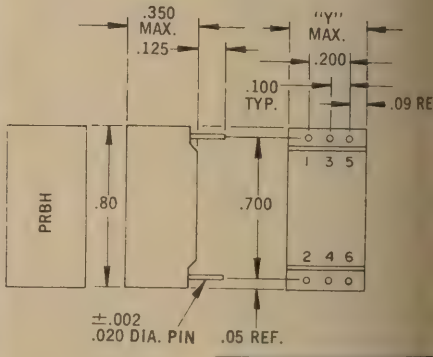
ENVIRONMENTAL (Operating): Vibration: 0.06" d.a. or 20g's, 10 - 5000Hz. Shock: 100g's, 11 ±1ms, ½ sinewave. Temperature: −40° to +85°C.



PCB PA LAYOU

DIMENSIONS

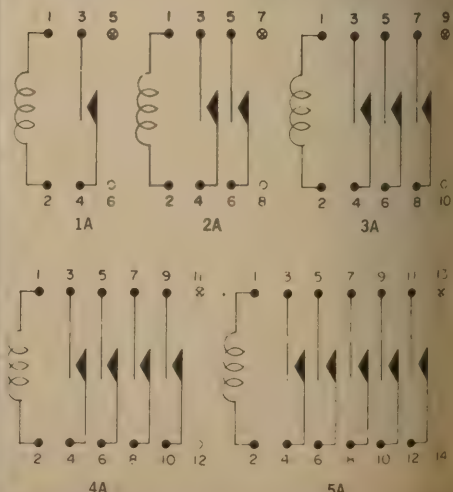




Part Number	Contact Form	Nominal Voltage (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Maximum Voltage (Vdc)	Coil Resis. (Ohms ±10%)	List Price
LOW PROFILE PRB SERIES							
PRB 3510	1A	5	3.75	0.5	12	385	$3.05
PRB 2510		6	4.5	0.5	12	385	2.75
PRB 2513		12	9	1	24	1200	2.75
PRB 2516		24	18	2	48	5380	3.05
PR2B 3007	2A	5	3.75	0.5	12	135	4.30
PR2B 2007		6	4.5	0.5	12	135	4.00
PR2B 2011		12	9	1	24	740	4.00
PR2B 2014		24	18	2	48	3040	4.30
PR3B 3006	3A	5	3.75	0.5	10	115	5.55
PR3B 2006		6	4.5	0.5	10	115	5.25
PR3B 2009		12	9	1	22	480	5.25
PR3B 2013		24	18	2	46	2250	5.55
PR4B 3005	4A	5	3.75	0.5	10	90	6.80
PR4B 2005		6	4.5	0.5	10	90	6.50
PR4B 2008		12	9	1	22	350	6.50
PR4B 2012		24	18	2	46	1860	6.80
PR5B 3005	5A	5	3.75	0.5	10	105	8.05
PR5B 2005		6	4.5	0.5	10	105	7.75
PR5B 2008		12	9	1	22	420	7.75
PR5B 2011		24	18	2	46	1420	8.05
HIGH SENSITIVITY PRBH SERIES							
PRB 3009H	1A	5	3.75	0.5	12	535	$3.40
PRB 2009H		6	4.5	0.5	12	535	3.00
PRB 2013H		12	9	1	24	2870	3.00
PRB 2016H		24	18	2	48	11,900	3.40
PR2B 3007H	2A	5	3.75	0.5	12	295	4.65
PR2B 2007H		6	4.5	0.5	12	295	4.25
PR2B 2010H		12	9	1	24	1180	4.25
PR2B 2013H		24	18	2	48	3780	4.65
PR3B 3006H	3A	5	3.75	0.5	12	230	5.90
PR3B 2006H		6	4.5	0.5	12	230	5.50
PR3B 2009H		12	9	1	24	875	5.50
PR3B 2013H		24	18	2	48	4700	5.90
PR4B 3005H	4A	5	3.75	0.5	12	155	7.15
RP4B 2005H		6	4.5	0.5	12	155	6.75
PR4B 2008H		12	9	1	24	660	6.75
PR4B 2012H		24	18	2	48	3620	7.15
PR5B 3005H	5A	5	3.75	0.5	12	180	8.40
PR5B 2005H		6	4.5	0.5	12	180	8.00
PR5B 2008H		12	9	1	24	770	8.00
PR5B 2011H		24	18	2	48	3150	8.40

Contact Form	"X"	"Y"
1A	.28	.38
2A	.38	.48
3A	.48	.58
4A	.58	.68
5A	.68	.78

BOTTOM VIEW SCHEMATICS

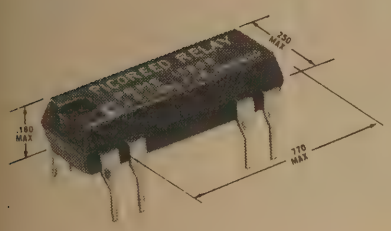


Trade Discount Applies To List Prices Only

© United Technical Publications

DRY REED RELAYS

PRME SERIES PICOREED®



Clare's new dual-in-line package PRME Picoreed relay represents a significant addition to the micro-miniature Picoreed relay family packaging. The relays feature 600 microsecond typical response times, signal level to 10VA switching capabilities, total input/output isolation, epoxy molded construction and an IC compatible TO-116 DIP package. Traditional Clare reliability gives 100 x 10^6 operations at signal level loads or 5 x 10^6 operations at the rated load.

The PRME one Form A switching arrangement is compatible with most DTL/TTL drive IC's. The coil draws only 13 milliamperes from standard 5 volt logic supplies. Low contact noise and low thermal emf characteristics make the PRME ideal for electronic process control equipment and low level switching applications.

The 0.180" height optimizes the industry trend toward high density packaging by allowing PRME mounting on 0.375" PCB centers compatible with IC components. The PRME adapts to either automatic insertion equipment techniques for direct PCB mounting on 0.30" x 0.100" grid patterns or to mounting in standard 14 pin DIP sockets.

SPECIFICATIONS — PRME

CONTACT RATING (Resistive Load): Power: 10 volt-amperes, max. Voltage: 100 volts dc or peak ac, max. current .5 ampere max, switched. 1.5 amperes, carry only, max.

CONTACT RESISTANCE (ON Impedance): Initial: 200 milliohms max., measured at 10mA, 1000Hz

LIFE EXPECTANCY: 100 x 10^6 operations at signal levels. 5 x 10^6 operations at full rated load

TYPICAL OPERATE TIME: As low as 600 μs including bounce

BREAKDOWN VOLTAGE: 200Vac, rms, 60Hz across open contacts or 275Vdc, max.

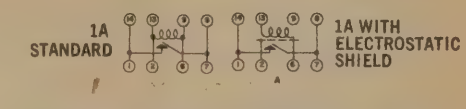
INSULATION RESISTANCE (OFF Impedance): 10^{10} ohms min. at 100Vdc +25°C, 40% rel. hum.

ENVIRONMENTAL (Operating): Vibration: 0.125" d.a. or 20g's 10-5000Hz. Shock: 100g's, 8 ±1ms, ½ sinewave. Temperature: −40° to +85°C.

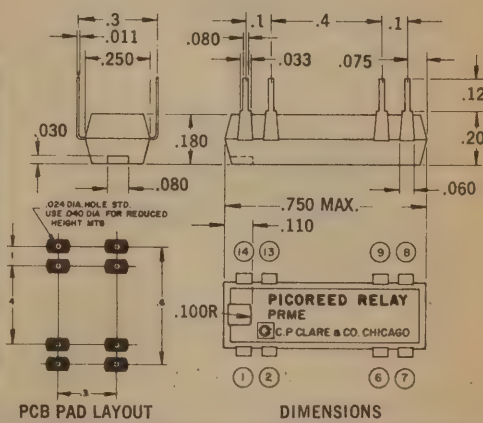
Part Number	Contact Form	Nominal Voltage (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Max. Voltage (Vdc)	Coil Resis. (Ohms ±10%)	Power mW	List Price
PRME 1A005	1A	5	3.75	0.9	15	380	65	$4.00
PRME 1A006		6	4.5	0.9	15	380	95	3.50
PRME 1A012		12	9	2	18	530	270	3.50
PRME 1A024		24	18	4	32	2000	290	3.50

Special Features Suffix: Add to the part number	Add to List Price
A: Electrostatic shield between coil and capsule	$ .50
B: Diode between pins 6 and 9; cathode to pin 6	1.00
C: Both electrostatic shield and diode	1.50

Example: The PRME 1A024 with electrostatic shield becomes a PRME 1A024A

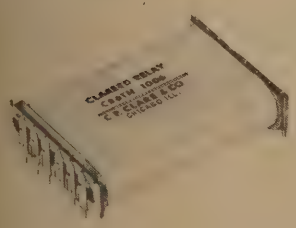


TOP VIEW SCHEMATICS



PCB PAD LAYOUT DIMENSIONS

CRTN SERIES CLAREED® DRY REED RELAYS



Clare's economical CRTN standard size reed relays offer signal level to 15VA power handling capabilities, total input/output isolation, and low millisecond switching speeds. CRTN relays are direct replacements for our CRT series relays. Like all Clare reed relays, they are immune to false operation and are insensitive to overload transients that affect solid state devices. Clareed relays are rated for millions of reliable, trouble free operations.

Optional CRTN series contact configurations are 3 & 5 Form A, 1B or 2B, 1C or 2C, and 1A latching or 2A latching. Special relays are available with up to twelve contacts. UL recognized versions of our 1 to 12 Form A relays are available as listed in UL File E43775. The relays feature open assembly construction and PCB 2.5" x .218" grid mounting centers.

SPECIFICATIONS — CRTN

CONTACT RATING (Resistive Load): Power: 15 volt-amperes, max. Voltage: 250 volts dc or peak ac, max. Current 1 ampere, switched, max. 5 amperes, carry only, max.

CONTACT RESISTANCE (ON Impedance): Initial: 70 milliohms max., measured at 100mA, 1000Hz

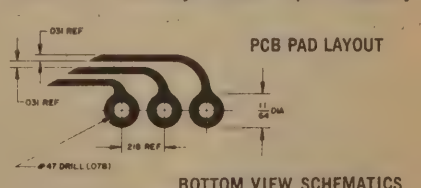
LIFE EXPECTANCY: 100 x 10^6 operations at signal levels. 20 x 10^6 operations at full rated load

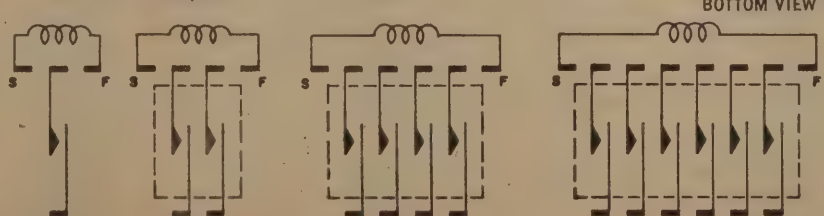
TYPICAL OPERATE TIME: Less than 4.0ms including bounce

BREAKDOWN VOLTAGE: 500Vac, rms, 60Hz across open contacts or 750Vdc, max.

INSULATION RESISTANCE (OFF Impedance): 10^{10} ohms min. at 100Vdc +25°C, 40% rel. hum.

ENVIRONMENTAL (Operating): Vibration: 0.06" d.a. or 10g's, 10-750Hz. Shock: 30g's, 11 ±1ms, ½ sinewave. Temperature: −65°C to +85°C





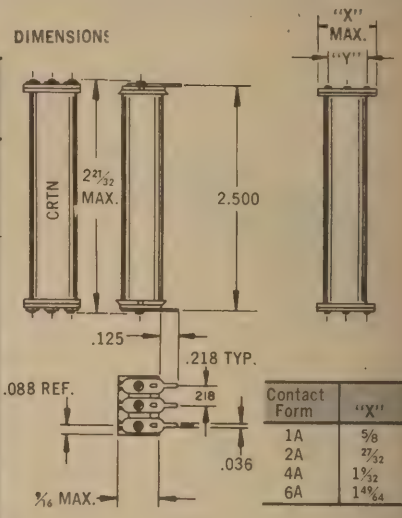
CONTINUED ON NEXT PAGE

DRY REED RELAYS

CRTN (Continued)

Part Number	Contact Form	Nominal Voltage (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Maximum Voltage (Vdc)	Coil Resis. (Ohms ±10%)	List Price
CRTN 1007	1A	6	4.5	0.6	20	160	$3.50
CRTN 1010		12	9	1.2	35	600	3.50
CRTN 1013		24	18	2.5	75	2500	4.50
CRTN 1016		48	36	4.8	150	9450	6.00
CR2TN 1004	2A	6	4.5	0.5	18	90	4.50
CR2TN 1007		12	9	1.1	35	350	4.50
CR2TN 1010		24	18	2.2	65	1400	5.50
CR2TN 1013		48	36	4.4	130	5400	7.00
CR4TN 1104	4A	6	4.5	0.4	13	35	6.50
CR4TN 1107		12	9	0.8	26	135	6.50
CR4TN 1110		24	18	1.7	53	545	7.50
CR4TN 1113		48	36	3.4	105	2200	9.00
CR6TN 1003	6A	6	4.5	0.4	15	31	8.50
CR6TN 1006		12	9	0.9	30	120	8.50
CR6TN 1009		24	18	1.9	60	510	9.50
CR6TN 1012		48	36	3.8	115	1900	11.00

DIMENSIONS



Contact Form	"X"	"Y"
1A	5/8	.436
2A	27/32	.654
4A	1 5/32	1.090
6A	1 49/64	1.566

MRME TYPE MICROCLAREED®



Clare's MRME Microclareed relays feature signal level to 10VA switching characteristics, and 800 microsecon typical response speeds in a miniature size package. The rugged MRME molded epoxy construction is idea for critical environmental applications. MRME relays are direct electrical and mechanical replacement for our MRMC series relays.

MRME relays will handle simultaneous signal and power level switching in the same device over a wide band Total input/output isolation and immunity to false operation by overload transients that affect soli state devices are characteristics of MRME relays.

Optional MRME relays are available in 5 Form A, 1 or 2 Form B, 1A1B or 2A2B, and 1A latching o 2A latching contact configurations. The pins are arranged in a 1.000" x 0.100" staggered offset gri mounting pattern. The MRME relay package readily mounts on 0.5" PCB centers.

SPECIFICATIONS — MRME

CONTACT RATING (Resistive Load): Power: 10 volt-amperes, max. Voltage: 200 Volts dc or peak a.c. max. Current: 0.75 amperes, switched, max. 2.0 amperes, carry only, max.

CONTACT RESISTANCE (ON Impedance): Initial: 200 milliohms max., measured at 10mA, 1000Hz

LIFE EXPECTANCY: 100 x 10^6 operations at signal levels. 10 x 10^6 operations at full rated load

TYPICAL OPERATE TIME: Less than 800μs including bounce

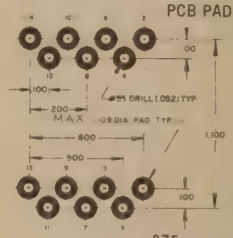
BREAKDOWN VOLTAGE: 250Vac, rms, 60Hz across open contacts or 350Vdc, max.

INSULATION RESISTANCE (OFF Impedance): 10^{10} ohms min. at 100Vdc +25°C, 40% rel. hum.

ENVIRONMENTAL (Operating): Vibration: 0.06" d.a. or 10g's, 10 - 2000Hz. Shock: 20g's, 11 ±1ms, ½ sinewave. Temperature: −40° to +85°C.

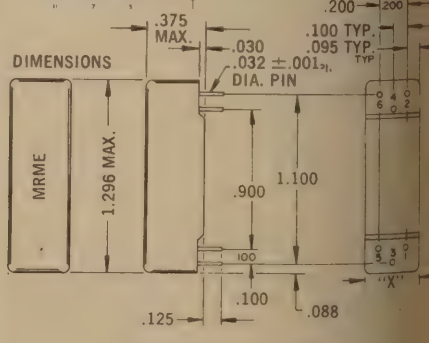
Part Number	Contact Form	Nominal Voltage (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Maximum Voltage (Vdc)	Coil Resis. (Ohms ±10% @ 25°C)	Price List
MRME 1540	1A	5	3.75	0.15	11	130	$3.50
MRME 1041		6	4.5	0.15	15	220	3.50
MRME 1042		12	9	0.7	29	790	3.50
MRME 1043		24	18	2.5	55	3060	4.00
MR2ME 1540	2A	5	3.75	0.15	10	100	4.75
MR2ME 1041		6	4.5	0.15	13	170	4.75
MR2ME 1042		12	9	0.7	26	635	4.75
MR2ME 1043		24	18	2.5	53	2580	5.25
MR3ME 1540	3A	5	3.75	0.15	9	80	6.00
MR3ME 1041		6	4.5	0.15	12	125	6.00
MR3ME 1042		12	9	0.7	24	510	6.00
MR3ME 1043		24	18	2.5	47	1950	6.50
MR4ME 1540	4A	5	3.75	0.15	8	60	7.25
MR4ME 1041		6	4.5	0.15	11	95	7.25
MR4ME 1042		12	9	0.7	22	410	7.25
MR4ME 1043		24	18	2.5	43	1500	7.75

PCB PAD LAYOUT

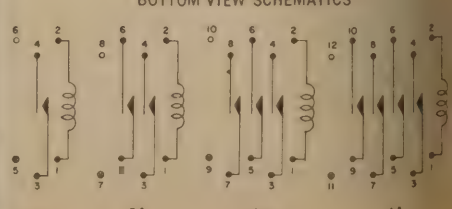


Contact Form	"X"
1A	.390
2A	.490
3A	.590
4A	.690

DIMENSIONS



BOTTOM VIEW SCHEMATICS



CLARE DRY REED RELAYS

MRB SERIES MICROCLAREED®



Clare's MRB Microreed relays offer versatile signal level to 10VA switching capabilities, total input/output isolation, 800 microsecond typical switching speeds in the miniature sized relay family.

The MRB relays operate with coil power requirements as low as 10 milliwatts. The ultra-reliable operation will exceed 100 x 10^6 operations at signal level loads or 10 x 10^6 operations at the rated load.

Optional MRB relays are available in 3 or 5 Form A, 2 Form B, 3 or 4 Form C, 1A latching or 2A latching and 2A2B contact forms. UL recognized versions in all but Form C are available as listed in UL File E43775. The relays have molded epoxy bases with stamped metal covers and convenient 1.000" x 0.100" grid mounting centers for printed circuit board mounting. This low profile package will mount on 0.5" PCB centers.

SPECIFICATIONS — MRB

CONTACT RATING (Resistive Load): Power: 10 volt-amperes, max. Voltage: 200 Volts dc or peak a.c. max. Current: 0.75 amperes, switched, max. 2.0 amperes, carry only, max.

CONTACT RESISTANCE (ON Impedance): Initial: 200 milliohms max., measured at 10mA, 1000Hz

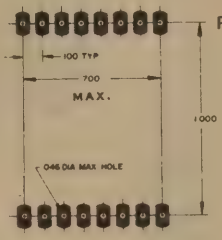
LIFE EXPECTANCY: 100 x 10^6 operations at signal levels. 10 x 10^6 operations at full rated load

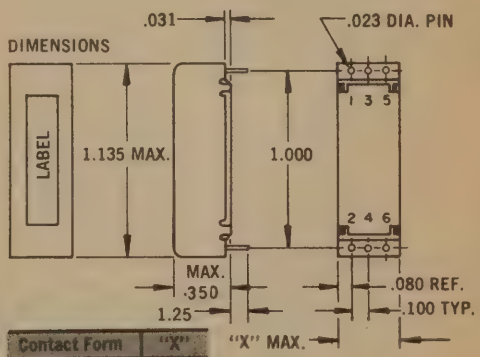
TYPICAL OPERATE TIME: Less than 800μs including bounce

BREAKDOWN VOLTAGE: 250Vac, rms, 60Hz across open contacts or 350Vdc max.

INSULATION RESISTANCE (OFF Impedance): 10^{10} ohms min. at 100Vdc +25°C, 40% rel. hum.

ENVIRONMENTAL (Operating): Vibration: 0.06" d.a. or 10g's, 10 - 2000Hz. Shock: 20g's, 11 ±1ms, ½ sinewave. Temperature: −40° to +85°C.

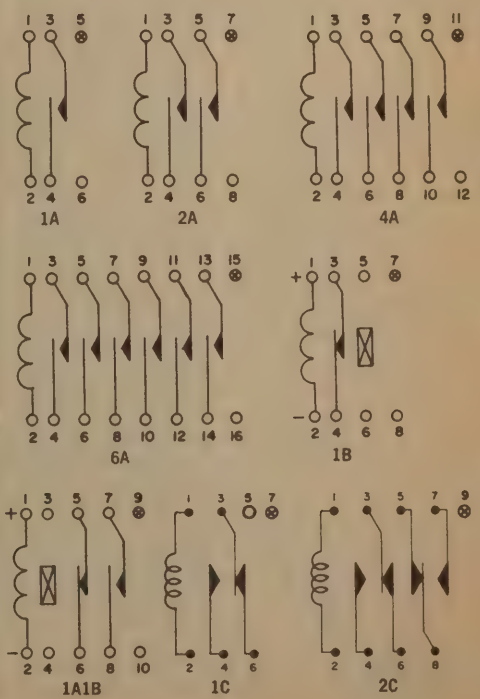




Contact Form	"X"
1A	.360
2A, 1B, 1C	.460
1A, 1B, 2C	.560
4A	.660
6A	.860

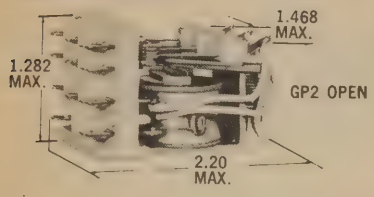
Part Number	Contact Form	Nominal Voltage (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Maximum Voltage (Vdc)	Coil Resis. (Ohms ±10% @ 25°C)	List Price
MRB 1A05	1A	5	3.75	0.15	15	225	$2.40
MRB 1A06		6	4.5	0.15	18	340	2.40
MRB 1A12		12	9	0.7	36	1400	2.40
MRB 1A24		24	18	2.5	60	4340	2.70
MRB 2A05	2A	5	3.75	0.15	11	105	3.40
MRB 2A06		6	4.5	0.15	14	180	3.40
MRB 2A12		12	9	0.7	26	730	3.40
MRB 2A24		24	18	2.5	48	2500	3.70
MRB 4A05	4A	5	3.75	0.15	9	60	5.40
MRB 4A06		6	4.5	0.15	11	100	5.40
MRB 4A12		12	9	0.7	18	275	5.40
MRB 4A24		24	18	2.5	36	1090	5.70
MRB 6A05	6A	5	3.75	0.15	7	32	7.40
MRB 6A06		6	4.5	0.15	9	50	7.40
MRB 6A12		12	9	0.7	18	210	7.40
MRB 6A24		24	18	2.5	36	900	7.70
MRB 1B05	1B	5	3.75	0.4	7.5	300	3.40
MRB 1B06		6	4.5	0.5	9	450	3.40
MRB 1B12		12	9	1	18	1240	3.40
MRB 1B24		24	18	2	36	5800	3.70
MRB 1N05	1A1B	5	3.75	0.4	7.5	50	4.40
MRB 1N06		6	4.5	0.5	9	82	4.40
MRB 1N12		12	9	1	18	230	4.40
MRB 1N24		24	18	2	36	900	4.70
MRB 1C05	1C	5	3.75	0.4	20	350	5.40
MRB 1C06		6	4.5	0.5	25	560	5.40
MRB 1C12		12	9	1	45	1900	5.40
MRB 1C24		24	18	2	93	7800	5.70
MRB 2C05	2C	5	3.75	0.4	16	220	9.40
MRB 2C06		6	4.5	0.5	21	365	9.40
MRB 2C12		12	9	1	32	880	9.40
MRB 2C24		24	18	2	75	4660	9.70

BOTTOM VIEW SCHEMATICS

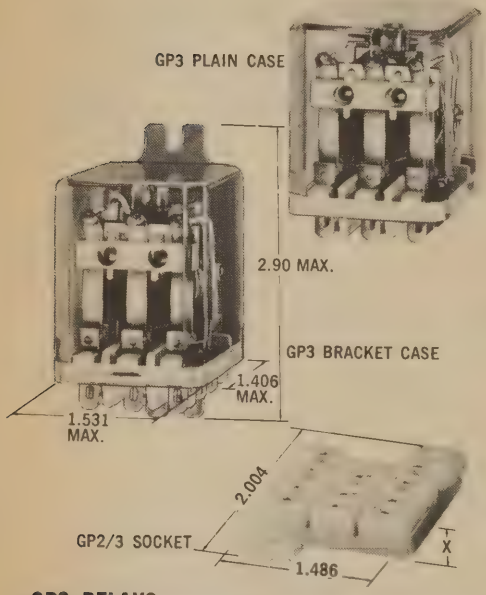


GENERAL PURPOSE RELAYS

GP2 & GP3



The GP3 (Lexan® dust cover) Relays are UL bulletin 508 recognized (UL File E47012) and CSA list (File LR26727) as magnetic motor controllers. The rugged AC or DC relays are available in SPDT, DPDT a 3PDT configurations with Gold flashed Silver Cadmium Oxide contacts rated at either 10 amperes at 28V resistive or 120/150Vac, .8 power factor. The GP3 plain case models are available with matching mold nylon sockets for plug-in applications. The GP3 bracket case model is available for direct chassis mounti only. Mechanical life expectancy is 100 million operations, electrical life 100,000 operations minimum rated load .187" quick connect terminals standard. GP2 models are identical to GP3 models less dust cove



SPECIFICATIONS — GP2 & GP3

CONTACT RATING: 10 Amperes at 28Vdc resistive or 120/150Vac, .8 power factor. 6 amperes at 240/300Vac, .8 power factor. ⅓ hp at 120Vac, ½ hp at 240Vac

CONTACT RESISTANCE: Initial — 50 milliohms max. at rated current

LIFE EXPECTANCY: Electrical: 100,000 operations minimum at rated load. Mechanical: 10,000,000 operations

OPERATE TIME: Pickup: 15ms typical. Dropout: 10ms typical

BREAKDOWN VOLTAGE: 600Vac, rms, 60Hz minimum between open contacts. 1200Vac, rms, 60Hz all other mutually insulated elements

INSULATION RESISTANCE: 1000 megohms minimum at 500Vdc

	X
GPS 3003	.294"
GPS 3001	.542"

ENVIRONMENTAL: Shock: 15g for 11 ±1ms (Non-o
Vibration: 0.1" d.a. or 10g, 10 to 55Hz (ope
Temperature Range: −45° to +60°C (AC). −4
to +70°C (DC)

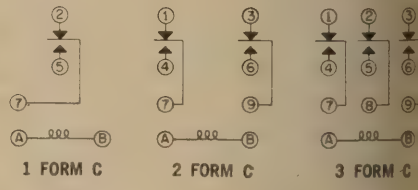
OPTIONS **List Price Chan**

OMIT DUST COVER (GP2 OPEN TYPE)
Relay supplied with #6-32 tapped core, no locati tab. To order, change 3rd character in part numb from "3" to "2". Example: GP3R211AA0000 becom GP2R211AA0000. Deduct $0.15

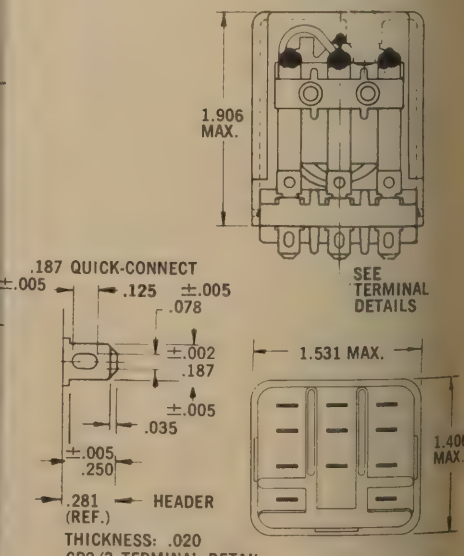
BRACKET CASE
To order, change 8th character from "A" to "N". E ample: GP3R231AA2000 becomes GP3R231NA2000. No Char

NOTE: Options include neon indicator lamp, extern push-to-test button, various mounting modificatio for GP2R and GP3R relays, and special conta materials. Contact your local Clare Sales Office f details.

SCHEMATI



DIMENSIONS



GP3 RELAYS

Coil Voltage	Contacts	AC Part Number	AC List	DC Part Number	DC List
6	SPDT	GP3R211AA0000	$3.15	GP3R211AD0000	$3.00
12	SPDT	GP3R211AA1000	3.15	GP3R211AD1000	3.00
24	SPDT	GP3R211AA2000	3.15	GP3R211AD2000	3.00
48	SPDT	GP3R211AA3000	3.15	GP3R211AD3000	3.10
90	SPDT	———		GP3R211AD4000	3.30
110	SPDT	———		GP3R211AD5000	3.50
120	SPDT	GP3R211AA6000	3.15	———	
6	DPDT	GP3R221AA0000	3.80	GP3R221AD0000	3.40
12	DPDT	GP3R221AA1000	3.80	GP3R221AD1000	3.40
24	DPDT	GP3R221AA2000	3.80	GP3R221AD2000	3.40
48	DPDT	GP3R221AA3000	3.80	GP3R221AD3000	3.50
90	DPDT	———		GP3R221AD4000	3.70
110	DPDT	———		GP3R221AD5000	3.90
120	DPDT	GP3R221AA6000	3.80	———	
6	3PDT	GP3R231AA0000	4.25	GP3R231AD0000	3.90
12	3PDT	GP3R231AA1000	4.25	GP3R231AD1000	3.90
24	3PDT	GP3R231AA2000	4.25	GP3R231AD2000	3.90
48	3PDT	GP3R231AA3000	4.25	GP3R231AD3000	3.95
90	3PDT	———		GP3R231AD4000	4.15
110	3PDT	———		GP3R231AD5000	4.25
120	3PDT	GP3R231NA6000	4.25	———	

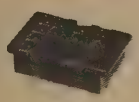
GPS3001	Socket, solder terminals	$0.69
GPS3002	Socket, quick-connect terminals	0.79
GPS3003	Socket, PCB terminals	0.79

Trade Discount Applies To List Prices Only
© United Technical Publications

GENERAL PURPOSE RELAYS

GP1





GP1 Relays are miniature 4PDT relays available in both AC and DC models. GP1 Relays with Lexan® dust covers are UL recognized (File E47012) and CSA listed (File LR26727) as magnetic motor controllers. Solder lug terminals are standard. Sockets are available in .375" or .187" solder lug or PCB mounting styles. Gold Flashed Fine Silver contacts are standard.

SPECIFICATIONS — GP1

CONTACT RATINGS (Resistive): Gold Flashed Fine Silver: 5A at 120Vac or 28Vdc, ⅛ hp at 120Vac. Silver Cadmium Oxide: 5A at 120Vac or 28Vdc, ⅛ hp at 120/250Vac

CONTACT RESISTANCE (ON Impedance): Initial 50 milliohms

LIFE EXPECTANCY: Electrical: 100,000 operations min. at rated load. Mechanical DC: 100,000,000 operations. AC: 50,000,000 operations

OPERATE TIME: Pickup: 13ms, max. Dropout: 6ms, max. Nom. voltage, 25°C, unsuppressed

BREAKDOWN VOLTAGE: 500Vac, rms, 60Hz between open contacts. 1200Vac, rms, 60Hz all other mutually insulated elements

INSULATION RESISTANCE (OFF Impedance): 2000 megohms minimum

ENVIRONMENTAL: Shock: 15g, 11 ±1ms, ½ sine-wave. Vibration: 0.06" d.a. or 10g's 10 to 55Hz. Temperature Range: −45°C to +75°C.

OPTIONS	Add to List
OPPOSITE POLARITY RATING	$0.25 each

To order, replace the "R" in the part number with "Q" Example: GP1R11A0000 becomes GP1Q11A0000

SILVER CADMIUM OXIDE (GOLD FLASHED) CONTACTS	No Charge

To order, change 5th character in part number from "1" to "2". Example: GP1R11A0000 becomes GP1R21A0000.

P.C.B. TERMINALS	No Charge

To order, change 6th character in part number from "1" to "2". Example: GP1R11A0000 becomes GP1R12A0000.

TAPER TAB TERMINALS	No Charge

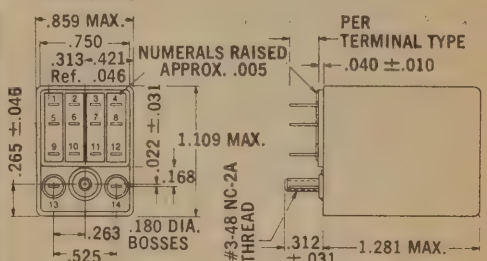
To order, change 6th character in part number from "1" to "3". Example: GP1R11A0000 becomes GP1R13A0000.

NOTE: Some optional relays may be built to order.

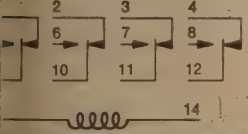
GP1 RELAYS

Coil Voltage	AC Part No.	AC List	DC Part No.	DC List
6	GP1R11A0000	$4.55	GP1R11D0000	$4.30
12	GP1R11A1000	4.55	GP1R11D1000	4.30
24	GP1R11A2000	4.55	GP1R11D2000	4.30
48	———		GP1R11D3000	4.40
90	———		GP1R11D4000	4.60
110	———		GP1R11D5000	4.85
120	GP1R11A6000	4.75	———	
GPS1001	Socket, .375" long solder lug w/socket retaining spring			$0.60
GPS1002	Socket, .187" long solder lug w/socket retaining spring			0.60
GPS1003	Socket, P.C.B. mounting			0.60

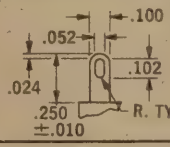
DIMENSIONS



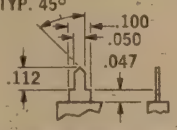
SCHEMATIC



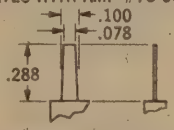
PIERCED SOLDER LUG

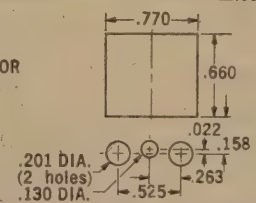


PRINTED CIRCUIT TAB
TYP. 45°



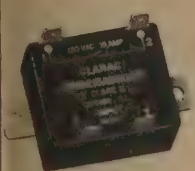
TAPER TAB
MATES WITH AMP #78 CONNECTOR

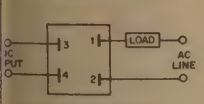




CHASSIS CUTOUT

CLARAC™ AC POWER RELAYS





WIRING DIAGRAM

The Clarac relay is an ultra-reliable hybrid relay featuring a reed input and a triac solid state output. The relays are very sensitive and operate with less than 200mW power inputs. Rugged construction, low cost and long life make the Clarac an excellent choice for tough circuit applications such as switching solenoids, ac motors, lamps and other industrial loads.

The units maximum ratings are 4, 7, 10 or 15A at 240Vac, 50/60Hz when mounted on a 8" x 8" x ⅛" aluminum heat sink for optimum operation. The relays must be derated when used without heat sink (free air) or at elevated temperatures (consult Clare Data Sheet 1201 for surge current capabilities and additional details). The relays have dust and explosion proof nylon covers, quick-connect terminals and an average shipping weight of 2 oz.

SPECIFICATIONS

LOAD RATING: 4, 7, 10 or 15A at 240Vac, 50/60Hz (400V max. peak)

ELECTRICAL ISOLATION: Greater than 10^{10} ohms input/output isolation

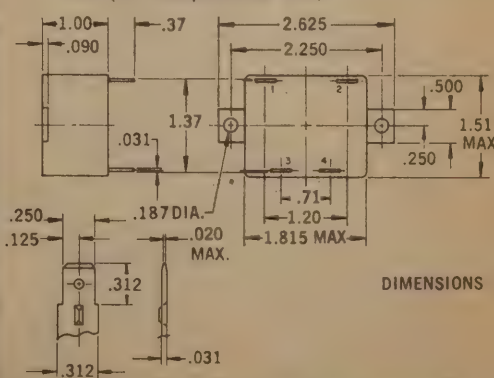
LIFE EXPECTANCY: 100 x 10^6 operations min. with random switching during the cycle

TYPICAL OPERATE TIME: Turn On: 1ms max. Turn Off: At 1st zero amplitude current point of the sinewave after coil de-energization

BREAKDOWN VOLTAGE: 1000Vac, 60Hz min. between all mutually insulated terminals and the mounting plate

ENVIRONMENTAL: Operating temperature from 0° to 70°C (with adequate heat sink)

Part No.	Nom. Coil Input Voltage (Vdc)	Must Operate Voltage (Vdc)	Coil Res. (Ohms)	Max. Load Current with heat sink	Load Current (Free air, 25°C)	List Price
NR1D404AAD2000	5	3.75	218	4	2.5	$10.80
NR1D407AAD2000	5	3.75	218	7	3.5	11.40
NR1D410AAD2000	5	3.75	218	10	5.0	12.15
NR1D415AAD2000	5	3.75	218	15	5.0	13.95
NR1D404AAD4000	12	9.0	790	4	2.5	10.80
NR1D407AAD4000	12	9.0	790	7	3.5	11.40
NR1D410AAD4000	12	9.0	790	10	5.0	12.15
NR1D415AAD4000	12	9.0	790	15	5.0	13.95
NR1D404AAD5000	24	18.0	3060	4	2.5	10.80
NR1D407AAD5000	24	18.0	3060	7	3.5	11.40
NR1D410AAD5000	24	18.0	3060	10	5.0	12.15
NR1D415AAD5000	24	18.0	3060	15	5.0	13.95



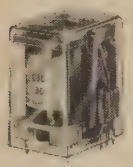
DIMENSIONS

TELEPHONE TYPE RELAYS

LA/LB SERIES







Designed for the user who must have high quality at a reasonable price. The LA relays have 4PDT contacts and the LB/LBP relays have 6PDT contacts. These miniature relays have extraordinary switching capacity and versatility for their size. Contacts rated 2 amps at 28Vdc. LA/LB Series is for direct P.C.B. mounting and the LBP Series is for direct plug into socket mounting. These relays are ideal components for military, industrial and commercial applications.

SPECIFICATIONS — LA/LB SERIES

CONTACT RATING (Resistive Load): 2A at 28Vdc

CONTACT MATERIAL: Palladium, with Gold overlay on bifurcated make and break springs

CONTACT RESISTANCE (ON Impedance): 100 milliohms max. initial

LIFE EXPECTANCY: 100,000 operations at rated load min. 100,000,000 operations mechanical life min.

OPERATE TIME: 10-25ms typical

RELEASE TIME: 5ms max.

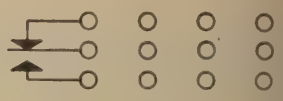
BREAKDOWN VOLTAGE: 500Vac, rms, 60Hz between all mutually insulated points

INSULATION RESISTANCE (OFF Impedance): 500M Megohms min. at 25°C, 50% rel. hum.

ENVIRONMENTAL (Operating, 10 μs max. contact chatter): Vibration: 5-2000Hz, 10g's. Shock: 15g's 11ms, ½ sinewave

Part Number	Volts	Coil Resistance	Contact Form	List Price
LB0060A00, LBP0060A00	6	35	6 Form C	$5.75
LB0060B00, LBP0060B00	12	130	6 Form C	5.75
LB0060D00, LBP0060D00	24	590	6 Form C	5.75
LB0060N00, LBP0060N00	48	2100	6 Form C	6.00
RP 15450G5 Socket, Solder lug for LBP w/Cover Clip				1.35
RP 15450G6 Socket, PCB for LBP w/Cover Clip				1.35
LA0040A00	6	35	4 Form C	5.15
LA0040B00	12	130	4 Form C	5.15
LA0040D00	24	590	4 Form C	5.15
LA0040N00	48	2100	4 Form C	5.40

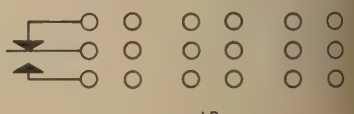
SCHEMATICS



LA

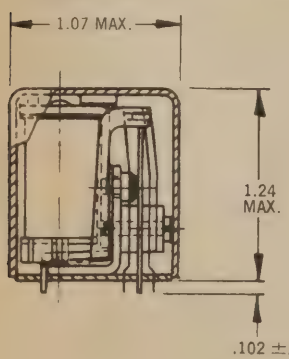


LB

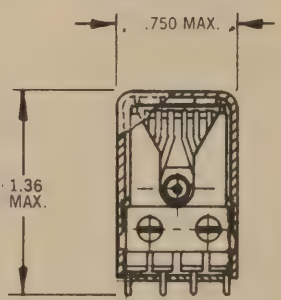


LA/LB SIDE VIEW

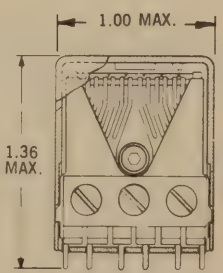
DIMENSIONS



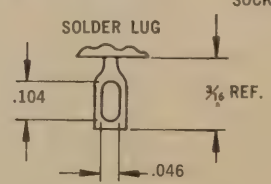
LA

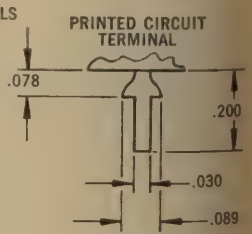


LB

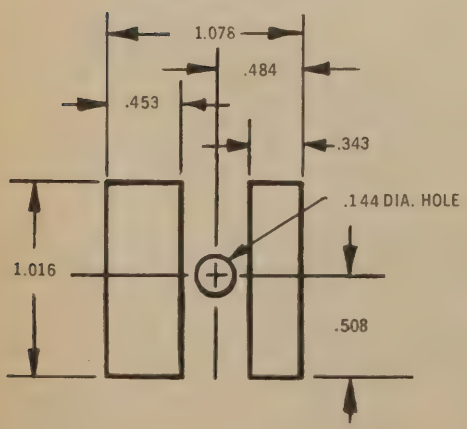


SOCKET TERMINALS

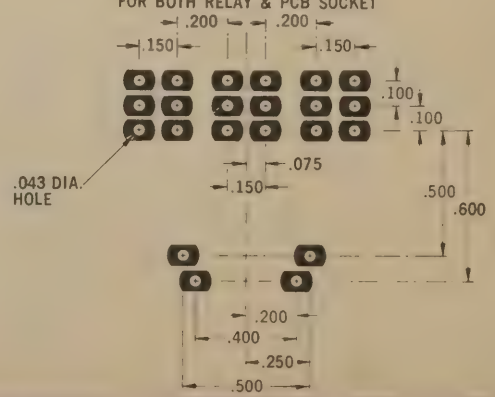




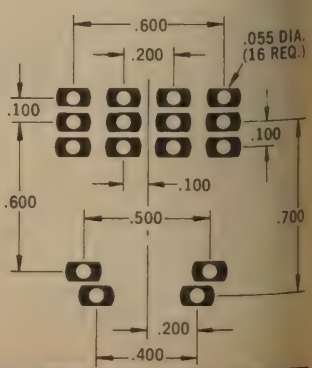
LBP SOCKET CUTOUT



LB & LBP PCB PAD LAYOUT FOR BOTH RELAY & PCB SOCKET



LA PCB PAD LAYOUT



Trade Discount Applies To List Prices Only

© United Technical Publications

TELEPHONE TYPE RELAYS

J & JDP SERIES



J



JDP

J & JDP relays are compact telephone type relays for applications ranging from simple switching in alarm circuits to complex computer functions. Contact combinations of 4, 6 & 8 pole double throw are rated 4A at 120Vac, 60Hz or 30Vdc resistive. Mechanical life exceeds 70 x 10^6 operations.

Type J relays are open type construction for direct chassis mounting. Series JDP relays are furnished with a basic J relay, a socket with solder lug terminals and a dust cover enclosure.

SPECIFICATIONS — J & JDP

CONTACT RATING (Resistive Load): 4A at 120Vac, 60Hz or 30Vdc

CONTACT MATERIAL: Twin Palladium (bifurcated make-and-break springs)

CONTACT RESISTANCE: 100 milliohms max. initial

LIFE EXPECTANCY: 1 x 10^5 operations min. at rated load, mechanical life 70 x 10^6 operations

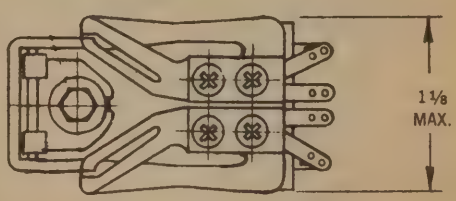
OPERATE TIME: 5-30ms typical

RELEASE TIME (Coil unsuppressed): 5ms typical

BREAKDOWN VOLTAGE: 1000Vac, 60Hz

Part Number	Volts	Coil Resistance	Contact Form	Figure	List Price
J SERIES					
J124C24	12	80	4PDT	A	$15.00
J126C24	12	50	6PDT	A	15.00
J128C24	12	50	8PDT	A	15.00
J244C24	24	500	4PDT	A	15.00
J246C24	24	300	6PDT	A	15.00
J248C24	24	200	8PDT	A	15.00
J484C24	48	1300	4PDT	A	15.00
J486C24	48	1000	6PDT	A	15.00
J488C24	48	800	8PDT	A	15.00
J1104C24	110	6500	4PDT	A	15.00
J1106C24	110	5000	6PDT	A	15.00
J1108C24	110	3600	8PDT	A	15.00
JDP SERIES					
JDP124C24	12	80	4PDT	B1	$17.00
JDP126C24	12	50	6PDT	B2	17.00
JDP128C24	12	50	8PDT	B2	17.00
JDP244C24	24	500	4PDT	B1	17.00
JDP246C24	24	300	6PDT	B2	17.00
JDP248C24	24	200	8PDT	B2	17.00
JDP484C24	48	1300	4PDT	B1	17.00
JDP486C24	48	1000	6PDT	B2	17.00
JDP488C24	48	800	8PDT	B2	17.00
JDP1104C24	110	6500	4PDT	B1	17.00
JDP1106C24	110	5000	6PDT	B2	17.00
JDP1108C24	110	3600	8PDT	B2	17.00

DIMENSIONS "J"



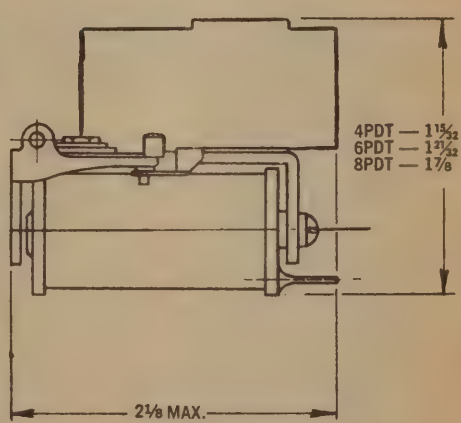


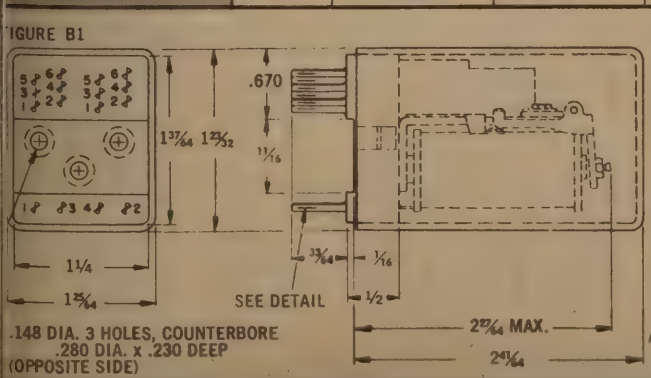
FIGURE A

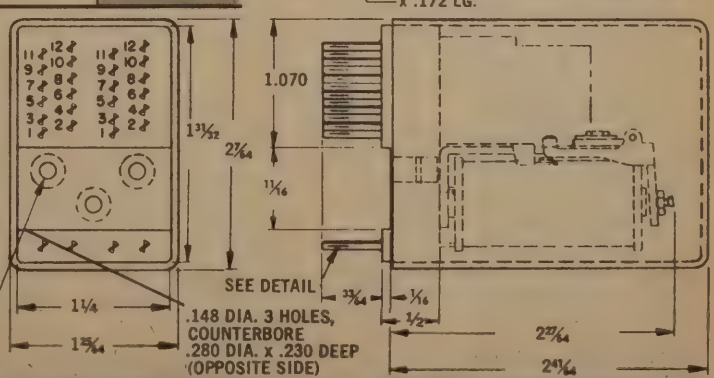


"JDP"

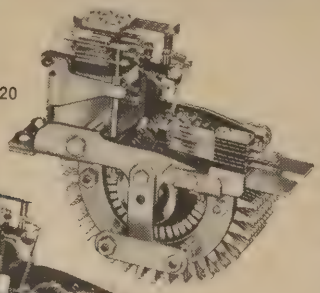
FIGURE B2

FIGURE B1

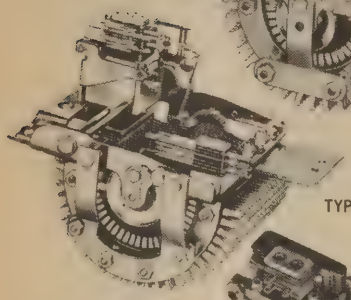




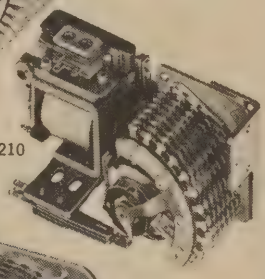
CLARE STEPPING SWITCHES



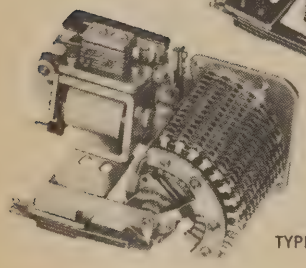
TYPE 20



TYPE 26



TYPE 210



TYPE 211

Clare stepping switches offer an economical alternative to solid state switching. Multiplexing, counting sequencing problems are easily solved by providing the most working capacity in the smallest sp Clare stepping switches allow you to select, interrupt or change connections in a succession of circ in response to current pulses.

Type 210 offers 3, 6 & 12 levels of 10 points with a life expectancy of 100 million steps at 12 le Contacts are rated 0.1A at 115Vac or 30Vdc resistive with a 3A carry rating. Operate time is app 20ms at 25°C and release time is 10ms. Solder lug terminals are standard.

Type 211 has the same electrical characteristics as the type 210 but in 3, 6, & 12 levels of 11 points.

Type 20 offers 4 & 8 levels of 20 points with a life expectancy of 180 million steps at 8 levels. Cont are rated 0.1A at 115Vac or 30Vdc resistive with a 3A carry rating. Operate time is approx. 20ms 25°C and release time is approx. 10ms at 25°C. Solder lug terminals are standard.

Type 26 has the same electrical characteristics as the type 20 but is offered in 4 & 8 levels of 26 poi or 6 levels of 52 points.

ALL SWITCHES LISTED HAVE 1 BRIDGING LEVEL WITH THE REMAINING LEVELS BEING NON-BRIDGI 2C OFF-NORMAL AND 2C INTERRUPTER CONTACTS ARE STANDARD.

SPECIFICATIONS

CONTACT RATINGS (Resistive Load): 0.1A at 115Vac or 30Vdc switched, 3A carry only; max.

CONTACT RESISTANCE (ON Impedance): 0.15 ohm typical

LIFE EXPECTANCY: (See description)

TYPICAL OPERATE TIME: Approximately 20ms at 25°C, release time approx. 10ms

BREAKDOWN VOLTAGE: 1000Vac, 60Hz across op contacts

INSULATION RESISTANCE (OFF Impedance): 1 ohms at 500Vdc between levels

ENVIRONMENTAL: Vibration: 0.06" d.a., 10-55 Shock: 30g's, 11 ±1ms. Temperature: 0°C +85°C

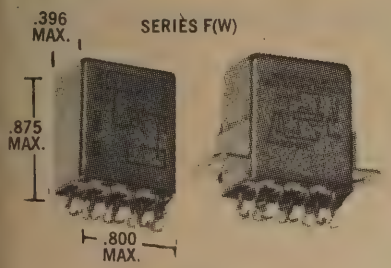
Part No.	Nom. Volt. (dc)	Coil Resistance (ohms)	Levels	Points	Dimensions H	Dimensions W	Dimensions D	List Price
210-2403A	24	24	3	10	2 3/4	4 5/16	1 19/64	$24.50
210-2406A	24	24	6	10	2 3/4	4 5/16	1 13/16	28.00
210-2412A	24	20	12	10	2 3/4	4 5/16	2 13/16	45.50
210-4803A	48	100	3	10	2 3/4	4 5/16	1 19/64	24.50
210-4806A	48	100	6	10	2 3/4	4 5/16	1 13/16	28.00
210-4812A	48	70	12	10	2 3/4	4 5/16	2 13/16	45.50
210-11003A	110	600	3	10	2 3/4	4 5/16	1 19/64	25.00
210-11006A	110	600	6	10	2 3/4	4 5/16	1 13/16	28.50
210-11012A	110	400	12	10	2 3/4	4 5/16	2 13/16	46.00
211-2403A	24	24	3	11	2 3/4	4 5/16	1 19/64	24.50
211-2406A	24	24	6	11	2 3/4	4 5/16	1 13/16	28.00
211-2412A	24	20	12	11	2 3/4	4 5/16	2 13/16	45.50
211-4803A	48	100	3	11	2 3/4	4 5/16	1 19/64	24.50
211-4806A	48	100	6	11	2 3/4	4 5/16	1 13/16	28.00
211-4812A	48	70	12	11	2 3/4	4 5/16	2 13/16	45.50
211-11003A	110	600	3	11	2 3/4	4 5/16	1 19/64	25.00
211-11006A	110	600	6	11	2 3/4	4 5/16	1 13/16	28.50
211-11012A	110	400	12	11	2 3/4	4 5/16	2 13/16	46.00
20-2404A	24	35	4	20	4 5/8	5 5/16	2 1/8	35.00
20-2408A	24	35	8	20	4 5/8	5 5/16	2 1/8	44.00
20-4804A	48	100	4	20	4 5/8	5 5/16	2 1/8	35.00
20-4808A	48	100	8	20	4 5/8	5 5/16	2 1/8	44.00
20-11004A	110	600	4	20	4 5/8	5 5/16	2 1/8	35.50
20-11008A	110	600	8	20	4 5/8	5 5/16	2 1/8	44.50
26-2404A	24	35	4	26	4 7/8	6 5/16	2 1/2	36.50
26-2408A	24	35	8	26	4 7/8	6 5/16	2 1/2	45.00
26-4804A	48	100	4	26	4 7/8	6 5/16	2 1/2	36.50
26-4808A	48	100	8	26	4 7/8	6 5/16	2 1/2	45.00
26-11004A	110	600	4	26	4 7/8	6 5/16	2 1/2	37.00
26-11008A	110	600	8	26	4 7/8	6 5/16	2 1/2	45.50
26-11026A	110	600	6	52	4 7/8	6 5/16	2 3/4	57.00
RP8047G4	Rectifier Unit							12.50
RP9466	Standard Lubrication Kit							9.00
RP11375	Tool Kit							35.00

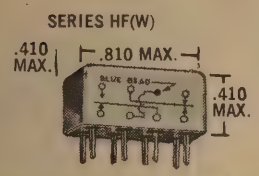
Trade Discount Applies To List Prices Only

© United Technical Publications

CLARE MILITARY RELAYS

TYPE F(W) & HF(W)





Clare provides full and half-size military-type relays of unusual versatility, capable of reliable long life operation under adverse environments. The relays are available in both solder seal versions (F & HF) and welded seal models (FW & HFW). These relays are ideal for use in industrial application as well as airborne and aerospace. Relays employ a rigid frame to maintain permanent alignment of all elements. Contact arrangements are 2 form C. These relays are manufactured to meet Mil-R-5757/10 and 5757/9.

SPECIFICATIONS — F(W) & HF(W)

CONTACT RATING (Resistive Load): 2A at 28Vdc

CONTACT RESISTANCE (ON Impedance): 50 milliohms max. at 6Vdc, 100mA

LIFE EXPECTANCY: F & FW: 250,000 operations at rated load. HF & HFW: 100,000 operations at rated load

OPERATE TIME: F & FW: 5ms max. HF & HFW: 4ms max.

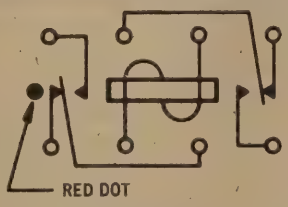
BREAKDOWN VOLTAGE: 1000Vac, rms, 60Hz between all terminals and case

INSULATION RESISTANCE (OFF Impedance): 1000 Megohms min.

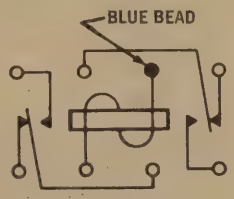
ENVIRONMENTAL: Vibration: 5 - 2000 Hz, 0.125″ d.a. or 30g peak (HF & HFW). 10 - 3000Hz, 0.125″ d.a. or 30g peak (F & FW). Shock: 65g peak, 11 ±1ms Temperature range: −65° to +125°C

Part No.		List Price	Nom. Volt. (dc)	Coil Res. (Ohms)	Contacts		Terminal Type	Enclosure Variations
Welded Header	Soldered Header				Arrangement	Rating (Amps)		
FW	**F**							
FW1111G00	RP7631G12	$9.50	26.5	675	DPDT	2	S. H.	Side Plate Mtg.
FW1105G00	RP7632G1	9.50	26.5	675	DPDT	2	S. H.	Std. Ear Brkts.
FW1102G00	RP7633G4	9.50	26.5	675	DPDT	2	S. H.	Stud Mtg. Top
FW1104G00	RP7640G1	9.50	26.5	675	DPDT	2	S. H.	Stud Mtg. Side
FW1301G00	RP7641G2	9.50	26.5	675	DPDT	2	3″ Leads	Plain Case
FW1201G00	RP7641G8	9.50	26.5	675	DPDT	2	3/16″ plug in	Plain Case
FW1207G00	RP9809G1	9.50	26.5	675	DPDT	2	3/16″ plug in	Std. Ear Brkts.
*FW1106G02	RP9817G1	9.50	26.5	675	DPDT	2	S. H.	Std. Ear Brkts.
HFW	**HF**							
HFW1201D00	HF1201D00	10.75	26.5	1250	DPDT	2	3/16″ plug in	Plain Case
†HFW1201K01	HF1201K01	10.75	26.5	700	DPDT	2	3/16″ plug in	Plain Case

PL Numbers
Mil-R-5757E/10-141
Mil-R-5757E/9-003



F(W) SCHEMATIC

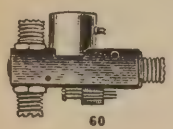


HF(W) SCHEMATIC

Dow-Key®
DIVISION OF KILOVAC

COAXIAL RELAYS, SWITCHES AND CONNECTORS

RELAYS

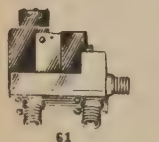

60

60 SERIES SPDT TYPES

SPDT coaxial relays for low-level to 1-kW operation. Available with one or two form C auxiliary contacts and with high-isolation "G" connector at NC or receiver terminal in transmit-receive applications. The "G" connector increases isolation to greater than —100 dB at up to 500 MHz. UHF connectors are not recommended for use above 400 MHz. RF power rating: 1 kW to 100 MHz, 750 W at 400 MHz, 500 W at 1000 MHz. VSWR: 1.05:1 at 50 MHz, 1.31:1 at 1000 MHz. Impedance: 50 ohms. Body Size: 3.00"x0.88". **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDCx or 6, 12, 24, 115 or 230 VAC. **See Coil Voltage Table.**

Dow-Key Model	Conn Type	With 2 Form C Aux. Contacts	Net Each, Lots of 1	2-4	5-9	10-24
60-XX04	UHF	No	$17.96	$16.17	$15.27	$14.37
60-XX0442	UHF	Yes	19.97	17.97	16.97	15.97
60-XX28*	UHF	No	19.78	17.80	16.81	15.82
60-XX2842*	UHF	Yes	21.78	19.60	18.51	17.42
60-XX02	BNC	No	20.09	18.07	17.07	16.07
60-XX0242	BNC	Yes	22.08	19.87	18.77	17.67
60-XX26*	BNC	No	21.83	19.65	18.56	17.47
60-XX2642*	BNC	Yes	23.84	21.45	20.26	19.07
60-XX19	Solder	No	19.48	17.53	16.55	15.59
60-XX1942	Solder	Yes	21.47	19.33	18.25	17.18
60-XX35*	Solder	No	21.23	19.11	18.04	16.98
60-XX3542*	Solder	Yes	23.23	20.91	19.75	18.59

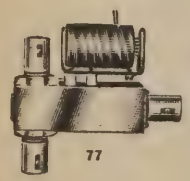
*With NC "G" Connector


61

61 SERIES SPDT TYPES

Small relays for military and severe environmental requirements. Balanced armature actuator prevents contact chatter under high frequency vibration and severe shock. Offered with many connector types and 1 or 2 Form C aux. contacts. Power rating: 150 W at 50 MHz, 75 W at 1GHz. VSWR: 1.03:1 at 50 MHz, 1.18:1 at 1GHz. Body size: 1.58"x 0.64"x1.20". Wt. 3½ to 4½ oz. **Specify coil voltage:** 6, 12, 26, 48 or 110 VDC or 115 VAC. **See Coil Voltage Table.**

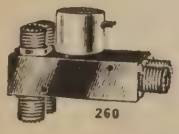
Dow-Key Model	Conn. Type	With Aux. Cont. 1 Form C	With Aux. Cont. 2 Form C	Net Each, Lots of 1	2-4	5-9	10.24
61-XX02	BNC	No	No	$31.84	$28.66	$27.06	$25.47
61-XX0212	BNC	Yes	No	32.78	29.50	27.86	26.22
61-XX0222	BNC	No	Yes	33.66	30.29	28.61	26.93
61-XX03	TNC	No	No	31.84	28.66	27.06	25.47
61-XX0312	TNC	Yes	No	32.78	29.50	27.86	26.22
61-XX0322	TNC	No	Yes	33.66	30.29	28.61	26.93
61-XX19	Solder	No	No	29.92	26.93	25.43	23.94
61-XX1912	Solder	Yes	No	30.85	27.76	26.22	24.68
61-XX1922	Solder	No	Yes	31.73	28.56	26.97	25.38


77

77 SERIES SPDT TYPES

Medium-size, lightweight, low-priced coaxial switches for industrial and less critical military uses. Available with or without 1 Form C aux. contacts. Power rating: 150 W at 50MHz, 60 W at 1.2 GHz. Impedance: 50 ohms. Other RF specifications similar to 61 Series above. Size: 1.88"x0.68"x0.68". Wt.: 3 oz. **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC, (115 VAC available at additional cost). **See Coil Voltage Table.**

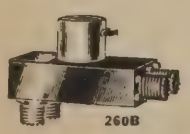
Dow-Key Model	Conn. Type	With Two Form C Aux. Contacts	Net Each, Lots of 1	2-4	5-9	10-24
77-XX0202	BNC	No	$14.55	$13.09	$12.36	$11.64
77-XX0232	BNC	Yes	16.12	14.51	13.71	12.90
77-XX0302	TNC	No	14.55	13.09	12.36	11.64
77-XX0332	TNC	Yes	16.12	14.51	13.71	12.90
77-XX0902	Phono	No	13.28	11.95	11.29	10.63
77-XX0932	Phono	Yes	14.86	13.37	12.63	11.89


260

260/260B SERIES DPDT TYPES

The 260 Series is a standard DPDT relay with six connectors. 260B Series bypass relay is similar but has an internal connection between its NC contacts, leaving only four connectors. RF ratings and specifications same as 60 Series above. With UHF connectors (others available). Body size: 3"x1.75"x0.88". **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC or 6, 12, 24, 115 or 230 VAC. **See Coil Voltage Table.**

Dow-Key Model	With 2 Form C Aux. Contacts	Net Each, Lots of 1	2-4	5-9	10-24
260-XX04	No	$29.94	$26.95	$25.45	$23.96
260-XX0442	Yes	31.94	28.75	27.15	25.55
260B-XX04	No	30.23	27.21	25.70	24.18
260B-XX0442	Yes	32.31	29.08	27.46	25.85


260B

Net
© United Technical Publications

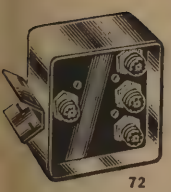
SWITCHES


71

Weatherproof high power switches for switching antennas, transmitters, or receivers up to 500 MHz. Power rating: 1 kW to 200 MHz, 750 W at 500 MHz. VSWR: 1.06:1 at 50 MHz, 1.31:1 at 500 MHz. Impedance: 50 ohms. With UHF connectors. Body size: 72 Series, 4"x 3.5"x2.62"; 71 Series, 5.75" dia. x 2.75". **Specify Coil Voltage:** 6, 12, 26, 48 or 115 VDC or 6, 12, 24, 115 or 230 VAC. **See Coil Voltage Table.**

71/72 SERIES MULTI-POSITION TYPES

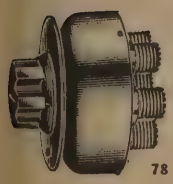
Dow-Key Model	Description	Net Each, Lots of 1	2-4	5-9	10-24
71-XX0401	SP6T shorting	$63.52	$57.17	$53.99	$50.82
71-XX0402	SP6T non-shorting	68.03	61.23	57.83	54.42
72-XX0401	SP3T shorting	29.92	26.93	25.43	23.94
72-XX0402	SP3T non-shorting	34.48	31.03	29.31	27.58


72

78 SERIES MULTI-POSITION TYPES

Manually operated switches with true coaxial switching members (not wafer switches). Useful frequency range 0-500 MHz. RF power rating 1.5 kW at 50 MHz, 1 kW at 100 and 400 MHz. Impedance, 50 ohms. With UHF connectors (also available with BNC, C, N, or TNC connectors; frequency range 0-1 GHz.)Size, 3" dia. x 1". Weight, 10 oz. approx.

Dow-Key Model	Function	Net Each, Lots of 1	2-4	5-9	10-24
78-0204	SPDT	$18.48	$16.63	$15.71	$14.78
78-0304	SP3T	19.08	17.17	16.21	15.26
78-0404	SP4T	19.86	17.87	16.88	15.89
78-0604	SP6T	20.66	18.60	17.57	16.54
78-0704	DPDT	23.29	21.19	19.80	19.02
78-0904	Transfer	21.97	19.78	18.67	17.58


78

CONNECTORS


A B

UHF CONNECTORS AND ADAPTERS

Types C-201, C-60P and C-60PT have UHF female or male connector to solder terminal, and mount through panels ⅛" thick, max. C-201 mounts through ⅝" hole. C-601 mounts into a ⅝-24 tapped hole or through a ⅝" hole. C-60PT is similar to C-60P except has Teflon of Dupont insulation and better impedance match.

Dow-Key Model	Fig.	Description	Net Each, Lots of 1	2-4	5-9	10-24
A-2F	A	UHF double male	$0.97	$0.87	$0.82	$0.77
C-60P	B	UHF panel-mount female	.87	.78	.75	.70
C-60PT	B	UHF panel-mount female	1.25	1.13	1.07	1.00
C-201	C	UHF panel-mount male	1.36	1.22	1.15	1.08
A-202	D	UHF double female	1.03	.93	.87	.83
A-210	E	UHF female to male phono	1.56	1.40	1.33	1.25
A-211	F	UHF male to male phono	1.67	1.49	1.41	1.33

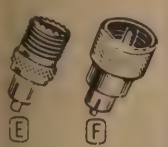

C D

COIL VOLTAGE TABLE

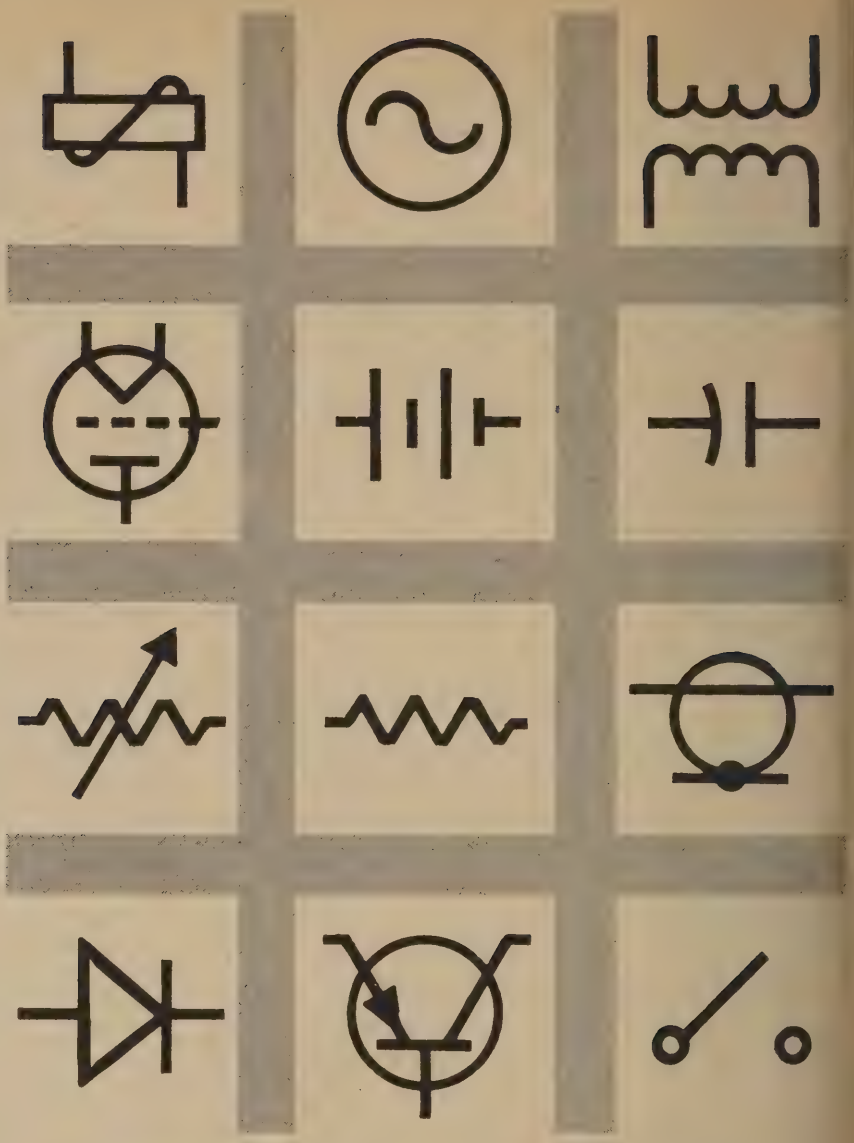
To specify coil voltage desired, substitute two digits (21 through 60) from this table for **XX** in the Dow-Key model number; e.g. 260-XX04 with 6 VDC coil becomes 260-2104.

Model No. Digits	Nominal Voltage	Model No. Digits	Nominal Voltage	Model No. Digits	Nominal Voltage
21	6 VDC	24	48 VDC	27*	220 VAC
22	12 VDC	25	110 VDC	28*	6 VAC
23	26 VDC	26*	115 VAC	29*	24 VAC
				60†	115 VAC

*Intermittent Service • 50% max. duty, 15 mins. max "on".
†110 VDC coil plus diode bridge rectifier.


E F

DowKey
DIVISION OF KILOVAC



Select the electronic products you need from



world's largest catalog of electronic parts and equipment sold through distributors

Then...

call your local distributor for fast, reliable service!

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

CONTENTS

ALTERNATING CURRENT CONTROLS

Page

Prices 1, 2, 3, 4
Design Application Data 5
Mounting Dimensions 17, 18

General Purpose Relay
Type 84 7
Type 91 7
Type 92 7
Type 93 6
Type 987 8

Page

Prices 1, 2, 3, 4
Design Application Data 5
Mounting Dimensions 17, 18

General Purpose Relay
Type 84D 7
Type 91D 7
Type 92D 7
Type 93 6

Page

Power Relay
Type 129 8
Type 129AR 8

Power Contactor
Type 143 8
Type 75 9
Type 80 9
Type 85 9
Type S30 9
Type S40 9

Industrial Contactor
Type C10 10

DIRECT CURRENT CONTROLS

Page

Power Relay
Type 60 13
Type 150 12

Power Contactor
Type 70 13

Miniature Sensitive
Type MS25 (open) 15
Type MS25P (plug-in) 15
Type MS40 (open) 14
Type MS50 (open) 15

Page

Type C15 10
Type C30 10
Type C50R 10

Reversing Contactor
Type CR15 11
Type CR30 11

Replacement Parts
Type C 11

Time Delay Relay
Type 59 12
Type 84T 12
Type 187 12

Page

Type MS50P (plug-in) 15
Type MS64 (enclosed) 14

Glass Reed Switch
Type BRM Miniature 16
Type BRS Standard 16
Type TRM Miniature 16

Glass Reed Relay
Type BRMR Miniature 16
Type BRSR Standard 16
Type TRMR Miniature 16

— SPECIALLY DESIGNED CONTROLS HAVE THEIR PLACE — BUT CONSIDER THE ADVANTAGES OF USING RBM STANDARD CONTROLS

RBM, one of the world's largest manufacturers of industrial relays, realizes that design engineers are beginning to "SEE IT LIKE IT IS" — standard relays are really "VERY SPECIAL". They are produced in high volume, there are no replacement problems, they are less expensive, the are immediately available, and are field-proven.

RBM also realizes that a distribution system is needed for off-the-shelf delivery. We therefore, stock all standard controls in depth. Our central warehouse can ship to your authorized distributor within days, compared to weeks for a special device.

Below 250 pieces we sell standard catalog items only through authorized RBM distributors. Your authorized RBM distributor can also handle larger quantity orders. Call or write your authorized RBM distributor — NOW! There's something SPECIAL about RBM's Standard Relays.

Prices and specifications are subject to change without notice. For latest prices refer to United Pricing Service or contact "Distributor Sales Department" at:

ESSEX INTERNATIONAL, INC.

CONTROLS DIVISION

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

PRICES EFFECTIVE 6-15-71

PRODUCTION PART NUMBER IS RBM MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNIT

Standard Catalog Number	Production Part Number	SUGGESTED PRICES 1/24	25/49	50/99	100/249	250/499	500/999
59-901	59-21	4.23	3.81	3.38	2.96	2.96	2.83
59-902	59-20	4.23	3.81	3.38	2.96	2.96	2.83
59-903	59-22	4.23	3.81	3.38	2.96	2.96	2.83
60-901	60-108025-0	3.64	3.28	2.91	2.55	2.25	2.00
60-902	60-111025-0	3.72	3.35	2.98	2.60	2.30	2.05
60-903	60-117025-0	4.20	3.78	3.36	2.94	2.63	2.32
70-901	70-108224-5	4.20	3.78	3.36	2.94	1.79	1.79
70-902	70-111224-5	4.20	3.78	3.36	2.94	1.98	1.98
70-903	70-117224-5	4.20	3.78	3.36	2.94	2.05	2.05
70-904	70-120224-5	4.20	3.78	3.36	2.94	2.14	2.14
70-905	70-108221-5	7.35	6.62	5.88	5.15	3.34	3.34
70-906	70-111221-5	7.35	6.62	5.88	5.15	3.53	3.53
70-907	70-117221-5	7.35	6.62	5.88	5.15	3.77	3.77
70-908	70-120221-5	7.35	6.62	5.88	5.15	3.96	3.96
70-909	70-308221-5	11.00	9.90	8.80	7.70	5.44	5.44
70-910	70-311221-5	11.00	9.90	8.80	7.70	5.60	5.60
70-911	70-317221-5	11.00	9.90	8.80	7.70	5.83	5.83
70-912	70-320221-5	11.00	9.90	8.80	7.70	5.90	5.90
70-913	70-108225-5	4.20	3.78	3.36	2.94	1.61	1.61
70-914	70-111225-5	4.20	3.78	3.36	2.94	1.82	1.82
70-915	70-117225-5	4.20	3.78	3.36	2.94	1.90	1.90
70-916	70-120225-5	4.20	3.78	3.36	2.94	2.00	2.00
70-917	70-108226-5	4.20	3.78	3.36	2.94	1.61	1.61
70-918	70-111226-5	4.20	3.78	3.36	2.94	1.58	1.58
70-919	70-117226-5	4.20	3.78	3.36	2.94	1.90	1.90
70-920	70-120226-5	4.20	3.78	3.36	2.94	2.00	2.00
70-921	70-308224-5	9.87	8.88	7.90	6.91	4.55	4.55
70-922	70-311224-5	9.87	8.88	7.90	6.91	4.86	4.86
70-923	70-317224-5	9.87	8.88	7.90	6.91	4.94	4.94
70-924	70-320224-5	9.87	8.88	7.90	6.91	5.02	5.02
75-901	75-840301-2906A	4.86	4.37	3.89	3.40	2.86	2.86
75-902	75-840301-2910A	4.86	4.37	3.89	3.40	2.86	2.86
75-903	75-840301-2913A	4.86	4.37	3.89	3.40	2.86	2.86
75-904	75-250301-2506A	4.86	4.37	3.89	3.40	2.86	2.86
75-905	75-250301-2510A	4.86	4.37	3.89	3.40	2.86	2.86
75-906	75-250301-2513A	4.86	4.37	3.89	3.40	2.86	2.86
80-901	80-312111-1000	7.90	7.11	6.32	5.53	4.95	4.95
80-902	80-312131-1000	7.90	7.11	6.32	5.53	4.95	4.95
80-904	80-312171-1000	7.90	7.11	6.32	5.53	4.95	4.95
84-901	84-20405-101	3.21	2.89	2.57	2.25	2.08	1.45
84-902	84-20105-101	3.21	2.89	2.57	2.25	2.08	1.45
84-903	84-20205-101	3.54	3.19	2.83	2.48	2.29	1.60
84-904	84-20305-101	3.95	3.56	3.16	2.77	2.56	1.78
84-905	84-20406-301	3.52	3.17	2.82	2.46	2.28	1.59
84-906	84-20106-301	3.54	3.19	2.83	2.48	2.29	1.60
84-907	84-20206-301	3.83	3.45	3.06	2.68	2.48	1.73
84-908	84-20306-301	4.18	3.76	3.34	2.93	2.71	1.89
84-912	84-20102-101	3.19	2.87	2.55	2.23	2.06	1.44
84-913	84-20202-101	3.47	3.12	2.78	2.43	2.24	1.56
84-914	84-20302-101	3.83	3.45	3.06	2.68	2.48	1.73
84-916	84-20103-301	3.44	3.10	2.75	2.41	2.23	1.55
84-917	84-20203-301	3.77	3.39	3.02	2.64	2.44	1.70
84-918	84-20303-301	4.11	3.70	3.29	2.88	2.66	1.85
84-922	84-50102-101	3.14	2.83	2.51	2.20	2.03	1.41
84-923	84-50202-101	3.14	2.83	2.51	2.20	2.03	1.41
84-924	84-50302-101	3.88	3.49	3.10	2.72	2.51	1.75
84-926	84-50103-301	3.49	3.14	2.79	2.44	2.26	1.58
84-927	84-50203-301	3.77	3.39	3.02	2.64	2.44	1.70
84-928	84-50303-301	4.73	4.26	3.78	3.31	2.74	1.89
84D-902	84-31506-301	3.54	3.19	2.83	2.48	2.29	1.60
84D-903	84-31106-301	3.54	3.19	2.83	2.48	2.29	1.60
84TD-902	84-35	8.13	7.32	6.50	5.69	5.63	4.80
84TD-903	84-36	8.13	7.32	6.50	5.69	5.63	4.80
84TE-902	84-32	8.13	7.32	6.50	5.69	5.57	4.65
84TE-903	84-33	8.13	7.32	6.50	5.69	5.57	4.65
85-901	85-20226-12000A	10.80	9.72	8.64	7.56	5.63	5.63
85-902	85-21226-12000A	10.80	9.72	8.64	7.56	5.63	5.63
85-903	85-23226-12000A	10.80	9.72	8.64	7.56	5.63	5.63
91-180-1	None	.60	.54	.48	.42	.39	.37
91-901	91-132006-13000	6.15	5.54	4.92	4.31	2.79	2.46
91-902	91-131006-13000	6.32	5.69	5.06	4.42	2.86	2.53
91-903	91-133006-13000	6.65	5.99	5.32	4.66	3.01	2.66
91-904	91-192006-13000	6.08	5.47	4.86	4.26	2.75	2.43
91-905	91-191006-13000	6.26	5.63	5.01	4.38	2.84	2.50
91-906	91-193006-13000	6.57	5.91	5.26	4.60	2.98	2.63
91-907	91-192006-19000	5.60	5.04	4.48	3.92	2.54	2.24
91-908	91-191006-19000	6.27	5.64	5.02	4.39	2.84	2.51
91-909	91-193006-19000	6.26	5.63	5.01	4.38	2.84	2.50
91D-911	91-228004-22000	5.97	5.37	4.78	4.18	2.70	2.39
91D-912	91-227004-22000	6.06	5.45	4.85	4.24	2.75	2.42
91D-913	91-222004-22000	6.27	5.64	5.02	4.39	2.84	2.51
92-901	92-321111-11607	7.67	6.90	6.14	5.37	3.47	3.07
92-902	92-311111-11607	7.59	6.83	6.07	5.31	3.44	3.04
92-903	92-331111-11607	7.88	7.09	6.30	5.52	3.57	3.15
92-904	92-321177-11607	7.47	6.72	5.98	5.23	3.38	2.99
92-905	92-311177-11607	7.16	6.44	5.73	5.01	3.24	2.86
92-906	92-331177-11607	7.95	7.16	6.36	5.57	3.60	3.18
92-907	92-327711-77607	7.41	6.67	5.93	5.19	3.36	2.96
92-908	92-317711-77607	7.61	6.85	6.09	5.33	3.45	3.04
92-909	92-337711-77607	7.89	7.10	6.31	5.52	3.58	3.16
92-910	92-327777-77607	7.74	6.97	6.19	5.42	3.51	3.10
92-911	92-317777-77607	7.28	6.55	5.82	5.10	3.30	2.91
92-912	92-337777-77607	8.22	7.40	6.58	5.75	3.73	3.29
92D-911	92-383333-33507	7.62	6.86	6.10	5.33	3.45	3.05
92D-912	92-373333-33507	7.76	6.98	6.21	5.43	3.52	3.10
92D-913	92-323333-33507	7.77	6.99	6.22	5.44	3.52	3.11
93-153-1	None	.60	.54	.48	.42	.39	.37
93-901	93-208030-13000B	3.75	3.38	3.00	2.63	2.25	1.73
93-902	93-208303-13000B	4.38	3.94	3.50	3.07	2.63	2.01
93-903	93-208333-13000B	4.88	4.39	3.90	3.42	2.93	2.24
93-904	93-202030-13300B	3.78	3.40	3.02	2.65	2.27	1.74
93-905	93-202303-13300B	4.38	3.94	3.50	3.07	2.63	2.01
93-906	93-202333-13300B	4.88	4.39	3.90	3.42	2.93	2.24
93-907	93-201030-13000B	3.78	3.40	3.02	2.65	2.27	1.74
93-908	93-201303-13000B	4.38	3.94	3.50	3.07	2.63	2.01
93-909	93-201333-13000B	4.88	4.39	3.90	3.42	2.93	2.24
93-910	93-203030-13000B	4.28	3.85	3.42	3.00	2.57	1.97
93-911	93-203303-13000B	4.90	4.41	3.92	3.43	2.94	2.26

Consult RBM Controls for factory prices in larger quantities.

Net

© United Technical Publications

PRICES

PRODUCTION PART NUMBER IS R B M MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNIT

Standard Catalog Number	Production Part Number	SUGGESTED PRICES 1/24	25/49	50/99	100/249	250/499	500/999
93-912	93-203333-13000B	5.40	4.86	4.32	3.78	3.24	2.49
93-913	93-508030-13300B	3.78	3.40	3.02	2.65	2.27	1.74
93-914	93-508303-13300B	4.38	3.94	3.35	3.07	2.63	2.01
93-915	93-508333-13300B	4.88	4.39	3.90	3.42	2.93	2.24
93-916	93-507030-13300B	3.78	3.40	3.02	2.65	2.27	1.74
93-917	93-507303-13300B	4.38	3.94	3.50	3.07	2.63	2.01
93-918	93-507333-13300B	4.88	4.39	3.90	3.42	2.93	2.24
93-919	93-502030-13300B	3.78	3.40	3.02	2.65	2.27	1.74
93-920	93-502303-13300B	4.38	3.94	3.50	3.07	2.63	2.01
93-921	93-502333-13300B	4.88	4.39	3.90	3.42	2.93	2.24
93-922	93-501030-13300B	4.63	4.17	3.70	3.24	2.78	2.13
93-923	93-501303-13300B	5.25	4.73	4.20	3.68	3.15	2.42
93-924	93-501333-13300B	5.63	5.07	4.50	3.94	3.44	2.63
93-931	93-208090-13000A	3.85	3.47	3.08	2.70	2.31	1.77
93-932	93-208909-13000A	4.58	4.12	3.66	3.21	2.75	2.10
93-933	93-208999-13000A	5.23	4.71	4.18	3.66	3.14	2.41
93-934	93-202090-13300A	3.85	3.47	3.08	2.70	2.31	1.77
93-935	93-202909-13300A	4.58	4.12	3.66	3.21	2.75	2.10
93-936	93-202999-13300A	5.23	4.71	4.18	3.66	3.14	2.41
93-937	93-201090-13000A	3.88	3.49	3.10	2.72	2.33	1.78
93-938	93-201909-13000A	4.60	4.14	3.68	3.22	2.76	2.12
93-939	93-201999-13000A	5.25	4.73	4.20	3.68	3.15	2.42
93-940	93-203090-13000A	4.35	3.92	3.48	3.05	2.61	2.00
93-941	93-203909-13000A	5.10	4.59	4.08	3.57	3.06	2.35
93-942	93-203999-13000A	5.68	5.11	4.54	3.98	3.41	2.61
93-943	93-508090-13300A	3.88	3.49	3.10	2.72	2.33	1.78
93-944	93-508909-13300A	4.58	4.12	3.66	3.21	2.75	2.10
93-945	93-508999-13300A	5.23	4.71	4.18	3.66	3.14	2.41
93-946	93-507090-13300A	3.88	3.49	3.10	2.72	2.33	1.78
93-947	93-507909-13300A	4.58	4.12	3.66	3.21	2.75	2.10
93-948	93-507999-13300A	5.23	4.71	4.18	3.66	3.14	2.41
93-949	93-502090-13300A	3.88	3.49	3.10	2.72	2.33	1.78
93-950	93-502909-13300A	4.58	4.12	3.66	3.21	2.75	2.10
93-951	93-502999-13300A	5.18	4.66	4.14	3.63	3.11	2.38
93-952	93-501090-13300A	4.70	4.23	3.76	3.29	2.82	2.16
93-953	93-501909-13300A	5.43	4.89	4.34	3.80	3.26	2.50
93-954	93-501999-13300A	6.08	5.47	4.86	4.26	3.65	2.79
93-964	93-202090-30300A	3.88	3.49	3.10	2.72	2.33	1.78
93-965	93-202909-30300A	4.63	4.17	3.70	3.24	2.78	2.13
93-966	93-202999-30300A	5.28	4.75	4.22	3.70	3.17	2.43
93-967	93-201090-30000A	3.88	3.49	3.10	2.72	2.33	1.78
93-968	93-201909-30000A	4.63	4.17	3.70	3.24	2.78	2.13
93-969	93-201999-30000A	5.28	4.75	4.22	3.70	3.17	2.43
93-976	93-507090-30300A	3.88	3.49	3.10	2.72	2.33	1.78
93-977	93-507909-30300A	4.63	4.17	3.70	3.24	2.78	2.13
93-978	93-507999-30300A	5.28	4.75	4.22	3.70	3.17	2.43
93-979	93-502090-30300A	3.88	3.49	3.10	2.72	2.33	1.78
93-980	93-502909-30300A	4.63	4.17	3.70	3.24	2.78	2.13
93-981	93-502999-30300A	5.28	4.75	4.22	3.70	3.17	2.43
93-985	93-207030-13000B	3.78	3.40	3.02	2.65	2.27	1.74
93-986	93-207303-13000B	4.38	3.94	3.50	3.07	2.63	2.01
93-987	93-207333-13000B	4.88	4.39	3.90	3.42	2.93	2.24
93-988	93-207090-13000A	3.85	3.47	3.08	2.70	2.31	1.77
93-989	93-207909-13000A	4.58	4.12	3.66	3.21	2.75	2.10
93-990	93-207999-13000A	5.23	4.71	4.18	3.66	3.14	2.41

Standard Catalog Number	Production Part Number	SUGGESTED PRICES 1/24	25/49	50/99	100/249	250/499	500/999
93-991	93-207090-30000A	3.88	3.49	3.10	2.72	2.33	1.78
93-992	93-207909-30000A	4.63	4.17	3.70	3.24	2.78	2.13
93-993	93-207999-30000A	5.28	4.75	4.22	3.70	3.17	2.43
93P-901	93-208030-70000B	6.23	5.61	4.98	4.36	3.74	2.86
93P-902	93-208303-60000B	7.48	6.73	5.98	5.24	4.49	3.44
93P-903	93-208333-90000B	8.73	7.86	6.98	6.11	5.26	4.02
93P-904	93-202030-70300B	6.23	5.61	5.98	4.23	3.74	2.86
93P-905	93-202303-60300B	7.48	6.73	5.98	5.24	4.49	3.44
93P-906	93-202333-90300B	8.80	7.92	7.04	6.16	5.28	4.05
93P-907	93-201030-70000B	6.13	5.52	4.90	4.29	3.68	2.81
93P-908	93-201303-60000B	7.43	6.69	5.94	5.20	4.46	3.42
93P-909	93-201333-90000B	8.80	7.92	7.04	6.16	5.28	4.05
93P-910	93-203030-70000B	6.75	6.08	5.40	4.73	4.05	3.11
93P-911	93-203303-60000B	7.98	7.18	6.38	5.59	4.79	3.68
93P-912	93-203333-90000B	9.35	8.42	7.48	6.55	5.61	4.30
93P-913	93-508030-70300B	6.23	5.61	4.98	4.36	3.74	2.86
93P-914	93-508303-60300B	7.53	6.78	6.02	5.27	4.51	3.46
93P-915	93-508333-90300B	8.80	7.92	7.04	6.16	5.28	4.05
93P-916	93-507030-70300B	6.23	5.61	4.98	4.36	3.74	2.86
93P-917	93-507303-60300B	7.78	7.00	6.22	5.45	4.67	3.58
93P-918	93-507333-90300B	8.80	7.92	7.04	6.16	5.28	4.05
93P-919	93-502030-70300B	6.23	5.61	4.98	4.36	3.74	2.86
93P-920	93-502303-60300B	7.48	6.73	5.98	5.24	4.49	3.44
93P-921	93-502333-90300B	8.80	7.92	7.04	6.16	5.28	4.05
93P-922	93-501030-70300B	7.05	6.35	5.64	4.94	4.23	3.24
93P-923	93-501303-60300B	8.33	7.50	6.66	5.83	5.00	3.83
93P-924	93-501333-90300B	9.65	8.69	7.72	6.76	5.79	4.44
93P-931	93-208090-70000A	6.30	5.67	5.04	4.41	3.78	2.90
93P-932	93-208909-60000A	7.65	6.89	6.12	5.36	4.59	3.52
93P-933	93-208999-90000A	9.13	8.22	7.30	6.39	5.48	4.20
93P-934	93-202090-70300A	6.30	5.67	5.04	4.41	3.78	2.90
93P-935	93-202909-60300A	7.65	6.89	6.12	5.36	4.59	3.52
93P-936	93-202999-90300A	9.13	8.22	7.30	6.39	5.48	4.20
93P-937	93-201090-70000A	5.80	5.22	4.64	4.06	3.48	2.67
93P-938	93-201909-60000A	7.65	6.89	6.12	5.36	4.59	3.52
93P-939	93-201999-90000A	9.15	8.24	7.32	6.41	5.49	4.22
93P-940	93-203090-70000A	6.68	6.01	5.34	4.68	4.01	3.07
93P-941	93-203909-60000A	7.90	7.11	6.32	5.53	4.74	3.64
93P-942	93-203999-90000A	9.23	8.31	7.38	6.46	5.60	4.29
93P-943	93-508090-70300A	5.80	5.22	4.64	4.06	3.48	2.67
93P-944	93-508909-60300A	7.65	6.89	6.12	5.36	4.59	3.52
93P-945	93-508999-90300A	9.15	8.24	7.32	6.41	5.49	4.22
93P-946	93-507090-70300A	6.30	5.67	5.04	4.41	3.78	2.90
93P-947	93-507909-60300A	7.65	6.89	6.12	5.36	4.59	3.52
93P-948	93-507999-90300A	9.03	8.13	7.22	6.32	5.42	4.15
93P-949	93-502090-70300A	5.80	5.22	4.64	4.06	3.48	2.67
93P-950	93-502909-60300A	7.65	6.89	6.12	5.36	4.59	3.52
93P-951	93-502999-90300A	8.80	7.92	7.04	6.16	5.28	4.05
93P-952	93-501090-70300A	6.13	5.52	4.90	4.29	3.68	2.81
93P-953	93-501909-60300A	8.27	7.44	6.62	5.79	4.97	3.81
93P-954	93-501999-90300A	9.43	8.49	7.54	6.60	5.66	4.34
93P-955	93-207030-70000B	6.08	5.47	4.86	4.26	3.65	2.79
93P-956	93-207303-60000B	7.25	6.53	5.80	5.08	4.35	3.34
93P-957	93-207333-90000B	8.53	7.68	6.82	5.97	5.16	3.93

Consult RBM Controls for factory prices in larger quantities.

PRODUCTION PART NUMBER IS R B M MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNI

Standard Catalog Number	Production Part Number	SUGGESTED PRICES					
		1/24	25/49	50/99	100/249	250/499	500/999
93P-958	93-207090-70000A	6.15	5.54	4.92	4.31	3.69	2.83
93P-959	93-207909-60000A	7.40	6.66	5.92	5.18	4.44	3.41
93P-960	93-207999-90000A	8.83	7.95	7.06	6.18	5.30	4.06
93Q-901	93-208030-25000B	4.53	4.08	3.62	3.17	2.72	2.08
93Q-902	93-208303-25000B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-903	93-208333-25000B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-904	93-202030-25300B	4.53	4.08	3.62	3.17	2.72	2.08
93Q-905	93-202303-25300B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-906	93-202333-25300B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-907	93-201030-25000B	4.53	4.66	4.14	3.63	2.72	2.08
93Q-908	93-201303-25000B	5.18	4.66	4.14	3.96	3.11	2.38
93Q-909	93-201333-25000B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-910	93-203030-25000B	5.03	4.53	4.02	3.52	3.02	2.31
93Q-911	93-203303-25000B	5.68	5.11	4.54	3.98	3.41	2.61
93Q-912	93-203333-25000B	6.18	5.56	4.94	4.33	3.71	2.84
93Q-913	93-508030-25300B	4.53	4.08	3.62	3.17	2.72	2.08
93Q-914	93-508303-25300B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-915	93-508333-25300B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-916	93-507030-25300B	4.53	4.08	3.62	3.17	2.72	2.08
93Q-917	93-507303-25300B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-918	93-507333-25300B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-919	93-502030-25300B	4.48	4.03	3.58	3.14	2.69	2.06
93Q-920	93-502303-25300B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-921	93-502333-25300B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-922	93-501030-25300B	5.35	4.82	4.28	3.75	3.21	2.46
93Q-923	93-501303-25300B	6.00	5.40	4.80	4.20	3.60	2.76
93Q-924	93-501333-25300B	6.48	5.83	5.18	4.54	3.89	2.98
93Q-931	93-208090-25000A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-932	93-208909-25000A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-933	93-208999-25000A	5.98	5.38	4.78	4.19	3.59	2.75
93Q-934	93-202090-25300A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-935	93-202909-25300A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-936	93-202999-25300A	5.98	5.38	4.78	4.19	3.59	2.75
93Q-937	93-201090-25000A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-938	93-201909-25000A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-939	93-201999-25000A	5.95	5.36	4.76	4.17	3.57	2.74
93Q-940	93-203090-25000A	5.13	4.62	4.10	3.59	3.08	2.36
93Q-941	93-203909-25000A	5.83	5.25	4.66	4.08	3.50	2.68
93Q-942	93-203999-25000A	6.48	5.83	5.18	4.54	3.89	2.98
93Q-943	93-508090-25300A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-944	93-508909-25300A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-945	93-508999-25300A	5.98	5.38	4.78	4.19	3.59	2.75
93Q-946	93-507090-25300A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-947	93-507909-25300A	5.33	4.80	4.26	3.22	3.20	2.45
93Q-948	93-507999-25300A	5.98	5.38	4.78	4.19	3.59	2.75
93Q-949	93-502090-25300A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-950	93-502909-25300A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-951	93-502999-25300A	5.98	5.38	4.78	4.19	3.59	2.75
93Q-952	93-501090-25300A	5.43	4.89	4.34	3.80	3.26	2.50
93Q-953	93-501909-25300A	6.18	5.56	4.94	4.33	3.71	2.84
93Q-954	93-501999-25300A	6.83	6.15	5.46	4.78	4.10	3.14
93Q-955	93-207030-25000B	4.33	3.90	3.46	3.03	2.60	1.99
93Q-956	93-207303-25000B	5.18	4.66	4.14	3.63	3.11	2.38
93Q-957	93-207333-25000B	5.65	5.09	4.52	3.96	3.39	2.60
93Q-958	93-207090-25000A	4.60	4.14	3.68	3.22	2.76	2.12
93Q-959	93-207909-25000A	5.33	4.80	4.26	3.73	3.20	2.45
93Q-960	93-207999-25000A	5.98	5.38	4.78	4.19	3.59	2.75

Standard Catalog Number	Production Part Number	SUGGESTED PRICES					
		1/24	25/49	50/99	100/249	250/499	500/999
129-901	129990-1220	4.44	4.00	3.55	3.11	2.70	2.2
129-902	129115-6880Z	4.42	3.98	3.54	3.09	2.69	2.2
129-903	129115-6810Z	4.69	4.22	3.75	3.28	2.86	2.3
129-904	129115-6830Z	4.97	4.47	3.98	3.48	3.02	2.4
129-905	129990-1230	5.59	5.03	4.47	3.91	3.40	2.7
129-906	129117-5480Z	5.50	4.95	4.40	3.85	3.35	2.7
129-907	129117-5410Z	5.80	5.22	4.64	4.06	3.53	2.9
129-908	129117-5430Z	6.14	5.53	4.91	4.30	3.74	3.0
129-911	129115-7180Z	4.35	3.92	3.48	3.05	2.65	2.1
129-912	129115-7110Z	4.60	4.14	3.68	3.22	2.80	2.3
129-913	129115-7130Z	4.90	4.41	3.92	3.43	2.98	2.4
129-914	129117-6780Z	5.59	5.03	4.47	3.91	3.40	2.7
129-915	129117-6710Z	5.87	5.28	4.70	4.11	3.57	2.9
129-916	129117-6730Z	6.07	5.46	4.86	4.25	3.70	3.0
129AR-901	129515-3180Z	6.74	6.07	5.39	4.72	4.10	3.3
129AR-902	129505-3110Z	6.40	5.76	5.12	4.48	4.03	3.4
129AR-903	129505-3130Z	7.18	6.46	5.74	5.03	4.37	3.5
129AR-904	129517-5380Z	7.73	6.96	6.18	5.41	4.71	3.8
129AR-905	129507-5310Z	7.73	6.96	6.18	5.41	4.71	3.8
129AR-906	129507-5330Z	8.35	7.52	6.68	5.85	5.08	4.1
143-901	143-121520-14400A	4.78	4.30	3.82	3.35	2.74	2.7
143-902	143-121120-14400A	4.78	4.30	3.82	3.35	2.74	2.7
143-903	143-121220-14400A	4.78	4.30	3.82	3.35	2.74	2.7
143-914	143-621520-14400A	8.00	7.20	6.40	5.60	4.75	4.7
143-915	143-621120-14400A	8.00	7.20	6.40	5.60	4.75	4.7
143-916	143-621220-14400A	8.00	7.20	6.40	5.60	4.75	4.7
150-901	150-13	3.00	2.70	2.40	2.10	2.03	1.4
150-902	150-10	3.00	2.70	2.40	2.10	2.03	1.4
150-903	150-20	3.00	2.70	2.40	2.10	2.03	1.4
150-904	150-19	3.44	3.10	2.75	2.41	2.29	1.6
150-905	150-8	3.44	3.10	2.75	2.41	2.29	1.6
150-906	150-9	3.44	3.10	2.75	2.41	2.29	1.6
187-901	187-290201-1	16.10	14.49	12.88	11.27	8.87	7.2
187-902	187-290201-3	16.27	14.64	13.02	11.39	8.93	7.3
987-902	98756-7160	3.88	3.49	3.10	2.72	2.50	2.2
987-903	98756-6142	4.20	3.78	3.36	2.94	2.75	2.4
987-904	98756-3194	4.44	4.00	3.55	3.11	2.89	2.5
987-906	98706-7162	3.95	3.56	3.16	2.77	2.58	2.2
987-907	98706-6144	4.28	3.85	3.42	3.00	2.79	2.4
987-908	98706-3196	4.38	3.94	3.50	3.07	2.84	2.5
987-910	98750-7161	4.80	4.32	3.84	3.36	3.14	2.7
987-911	98750-6143	4.76	4.28	3.81	3.33	3.11	2.7
987-912	98750-3195	5.15	4.64	4.12	3.61	3.38	2.9
BRM-902	96-311001	1.15	1.04	.92	.81	.74	.6
BRMR1-901	97-101700-16	4.15	3.74	3.32	2.91	2.28	2.0
BRMR1-902	97-101700-17	4.18	3.76	3.34	2.93	2.29	2.0
BRMR1-903	97-101700-18	4.29	3.86	3.43	3.00	2.35	2.0
BRMR2-901	97-104700-20	6.10	5.49	4.88	4.27	3.34	2.9
BRMR2-902	97-104700-21	6.13	5.52	4.90	4.29	3.36	2.9
BRMR2-903	97-104700-22	6.24	5.62	4.99	4.37	3.42	3.0
BRS-901	98-612002	1.00	.90	.80	.70	.63	.6
BRSR1-901	99-401242-3	4.89	4.40	3.91	3.42	2.68	2.3
BRSR1-902	99-401242-4	5.00	4.50	4.00	3.50	2.74	2.4
BRSR1-903	99-401242-5	5.31	4.78	4.25	3.72	2.91	2.5

Consult RBM Controls for factory prices in larger quantities.

Net

© United Technical Publications

PRICES

PRODUCTION PART NUMBER IS R B M MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNIT

Standard Catalog Number	Production Part Number	SUGGESTED PRICES 1/24	25/49	50/99	100/249	250/499	500/999
BRSR2-901	99-404242-6	7.34	6.61	5.87	5.14	4.03	3.55
BRSR2-902	99-404242-7	7.44	6.70	5.95	5.21	4.08	3.60
BRSR2-903	99-404242-8	7.60	6.84	6.08	5.32	4.17	3.68
CA-901	45997-23	6.20	3.49	3.49	3.49	3.49	3.49
CA-903	45997-30	10.40	5.85	5.85	5.85	5.85	5.85
CA-904	45997-29	8.56	4.82	4.82	4.82	4.82	4.82
C10-901	109214-105	13.10	11.79	10.48	9.17	9.02	8.88
C10-902	109214-101	13.10	11.79	10.48	9.17	9.02	8.88
C10-903	109214-102	13.10	11.79	10.48	9.17	9.02	8.88
C15-901	109202-105	16.10	14.49	12.88	11.27	11.00	10.73
C15-902	109202-101	16.10	14.49	12.88	11.27	11.00	10.73
C15-903	109202-102	16.10	14.49	12.88	11.27	11.00	10.73
C30-901	109196-105	18.20	16.38	14.56	12.74	12.50	12.13
C30-902	109196-101	18.20	16.38	14.56	12.74	12.50	12.13
C30-903	109196-102	18.20	16.38	14.56	12.74	12.50	12.13
C50R-901	109423-705	23.00	20.70	18.40	16.10	15.73	15.33
C50R-902	109423-701	23.00	20.70	18.40	16.10	15.73	15.33
C50R-903	109423-702	23.00	20.70	18.40	16.10	15.73	15.33
CR15-901	109203-101	42.30	38.07	33.84	29.61	29.14	28.67
CR15-902	109203-102	42.30	38.07	33.84	29.61	29.14	28.67
CR30-901	109197-101	51.12	46.01	40.90	35.78	35.22	34.65
CR30-902	109197-102	51.12	46.01	40.90	35.78	35.22	34.65
MC-901	45225-5	4.88	2.75	2.75	2.75	2.75	2.75
MC-902	45225-1	4.88	2.75	2.75	2.75	2.75	2.75
MC-903	45225-2	4.88	2.75	2.75	2.75	2.75	2.75
MC904	45225-3	4.88	2.75	2.75	2.75	2.75	2.75
MC-905	45225-4	4.88	2.75	2.75	2.75	2.75	2.75
MC-911	45225-35	4.88	2.75	2.75	2.75	2.75	2.75
MC-912	45225-31	4.88	2.75	2.75	2.75	2.75	2.75
MC-913	45225-32	4.88	2.75	2.75	2.75	2.75	2.75
MC-914	45225-33	4.88	2.75	2.75	2.75	2.75	2.75
MC-915	45225-34	4.88	2.75	2.75	2.75	2.75	2.75
MS25-901	62-981	2.68	2.41	2.14	1.88	1.34	1.28
MS25-902	62-982	2.73	2.46	2.18	1.91	1.37	1.30
MS25-903	62-983	3.21	2.89	2.57	2.25	1.61	1.53
MS25-904	62-984	3.16	2.84	2.53	2.21	1.58	1.51
MS25-905	62-985	3.39	3.05	2.71	2.37	1.70	1.62
MS25-906	62-986	3.80	3.42	3.04	2.66	1.90	1.81
MS25P-901	62-551	6.77	6.09	5.42	4.74	3.39	3.23
MS25P-902	62-552	7.06	6.35	5.65	4.94	3.53	3.37
MS25P-903	62-553	7.50	6.75	6.00	5.25	3.75	3.58
MS25P-904	62-554	7.31	6.58	5.85	5.12	3.65	3.48
MS25P-905	62-555	7.58	6.82	6.06	5.31	3.79	3.61
MS25P-906	62-556	8.13	7.32	6.50	5.69	3.88	3.56
MS40-901	61-360	2.17	1.95	1.74	1.52	1.09	1.04
MS40-902	61-361	2.17	1.95	1.74	1.52	1.09	1.04
MS40-903	61-362	2.17	1.95	1.74	1.52	1.09	1.04
MS40-904	61-363	2.26	2.03	1.81	1.58	1.13	1.08
MS40-905	61-364	2.24	2.02	1.79	1.57	1.12	1.07
MS40-906	61-365	2.29	2.06	1.83	1.60	1.15	1.09
MS40-907	61-366	2.26	2.03	1.81	1.58	1.13	1.08
MS40-908	61-367	2.77	2.49	2.22	1.94	1.39	1.32
MS40-909	61-368	2.89	2.60	2.31	2.02	1.45	1.38
MS50-901	62-931	4.90	4.41	3.92	3.43	2.45	2.34
MS50-902	62-932	4.90	4.41	3.92	3.43	2.45	2.34
MS50-903	62-933	5.01	4.51	4.01	3.51	2.50	2.39
MS50-904	62-934	5.46	4.91	4.37	3.82	2.73	2.61
MS50-905	62-935	5.93	5.34	4.74	4.15	2.97	2.83
MS50-906	62-936	6.84	6.16	5.47	4.79	3.42	3.26
MS50-921	62-941	6.12	5.51	4.90	4.28	3.06	2.92
MS50-922	62-942	6.12	5.51	4.90	4.28	3.06	2.92
MS50-923	62-943	5.89	5.30	4.71	4.12	2.95	2.81
MS50-924	62-944	6.71	6.04	5.37	4.70	3.36	3.20
MS50-925	62-945	7.14	6.43	5.71	5.00	3.57	3.41
MS50-926	62-946	8.03	7.23	6.42	5.62	4.02	3.83
MS50P-901	62-561	8.49	7.64	6.79	5.94	4.24	4.05
MS50P-902	62-562	8.49	7.64	6.79	5.94	4.24	4.05
MS50P-903	62-563	8.62	7.76	6.90	6.03	4.31	4.11
MS50P-904	62-564	9.09	8.18	7.27	6.36	4.54	4.33
MS50P-905	62-565	9.52	8.57	7.62	6.66	4.76	4.54
MS50P-906	62-566	10.40	9.36	8.32	7.28	5.20	4.96
MS50P-921	62-571	10.45	9.41	8.36	7.32	5.23	4.98
MS50P-922	62-572	10.45	9.41	8.36	7.32	5.23	4.98
MS50P-923	62-573	10.45	9.41	8.36	7.32	5.23	4.98
MS50P-924	62-574	11.00	9.90	8.80	7.70	5.50	5.25
MS50P-925	62-575	11.29	10.16	9.03	7.90	5.60	5.34
MS50P-926	62-576	12.35	11.12	9.88	8.65	6.18	5.89
MS64-901	64-901	2.27	2.04	1.82	1.59	1.14	1.09
MS64-902	64-902	2.42	2.18	1.94	1.69	1.21	1.16
MS64-903	64-903	2.56	2.30	2.05	1.79	1.28	1.22
MS64-904	64-904	2.82	2.54	2.26	1.97	1.41	1.35
MS64-911	64-911	2.38	2.14	1.90	1.67	1.19	1.14
MS64-912	64-912	2.46	2.21	1.97	1.72	1.23	1.17
MS64-913	64-913	2.69	2.42	2.15	1.88	1.35	1.29
MS64-914	64-914	2.89	2.60	2.31	2.02	1.45	1.38
RP-901	45997-32	4.28	2.41	2.41	2.41	2.41	2.41
RP-902	45997-31	6.92	3.90	3.90	3.90	3.90	3.90
RP-903	45997-33	7.83	4.41	4.41	4.41	4.41	4.41
S30-901	109660-1051	11.65	10.49	9.32	8.16	6.20	6.20
S30-902	109660-1011	11.65	10.49	9.32	8.16	6.20	6.20
S30-903	109660-1021	11.65	10.49	9.32	8.16	6.20	6.20
S40-901	109710-1051	13.25	11.93	10.60	9.28	8.70	8.70
S40-902	109710-1011	13.25	11.93	10.60	9.28	8.70	8.70
S40-903	109710-1021	13.25	11.93	10.60	9.28	8.70	8.70
TRM-901	96-5	4.20	3.78	3.36	2.94	2.71	2.46
TRMR1-901	97-1	8.06	7.25	6.45	5.64	5.12	4.65
TRMR1-902	91-2	8.06	7.25	6.45	5.64	5.12	4.65
TRMR1-903	97-3	8.06	7.25	6.45	5.64	5.12	4.65
TRMR2-901	97-4	13.58	12.22	10.86	9.51	8.31	7.55
TRMR2-902	97-5	13.58	12.22	10.86	9.51	8.31	7.55
TRMR2-903	97-6	13.58	12.22	10.86	9.51	8.31	7.55

Consult RBM Controls for factory prices in larger quantities.

Type	Magnet Coil Rating (Volt Amperes) Inrush	Sealed Nom.	Sealed Max.	Operation in % of Nom. Coil Rating Pick-up	*Max. Safe Operate	Breakdown Voltage All Terminals - 60 cy. RMS Opposite Polarity	Open Contacts Same Polarity	To Ground	Contact Material Power Rating	Pilot Rating	Electrical Life Oper. At Rated Load	Oper. Per Min.	**Mechanical Life Oper. At No Load	Oper. Per Min.	Maximum Operating Ambient Degrees Fahrenheit
59	No Magnet Coil			85%	110%	1500	1000	1500	—	Fine Silver	100,000	1	1,000,000	1	140
75	16	10	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	1,000,000	60	140
80	27	15.6	17	85%	110%	1500	1500	1500	Silver Alloy	—	†100,000	3	1,000,000	60	130
84	4	2.8	3	85%	110%	1500	1000	1500	Silver Alloy	Fine Silver	100,000	6	1,000,000	60	140
84T	9	2.8	3	85%	110%	1500	1000	1500	—	Gold Alloy	100,000	6	1,000,000	60	140
85	90	19	23	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	10	130
91	22	8	10	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	†100,000	6	750,000	60	130
92	24	8.9	12	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	†100,000	6	750,000	60	130
93	4.5	3.0	4	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	10,000,000	60	160
129	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
129AR	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
143	24	8.9	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	500,000	30	130
187	1.3	1.3	1.5	85%	110%	1000	1000	1000	—	Silver Alloy	†100,000	6	10,000,000	60	150
987	9	5.5	6.5	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	1,000,000	60	140
C	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
CR	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
S	50	14.5	17	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	10	130

* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.
** Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.
† Load tests — making inrush ratings (0.4 to 0.5 P.F.) — breaking 125% continuous rating (0.65 to 0.8 P.F.).
• Cross-bar contacts.

D.C. ENGINEERING DESIGN DATA

Type	Nominal Magnetic Coil Rating (Watts)	Operation in % of Nom. Coil Rating Pick-up	*Max. Safe Operate	Breakdown Voltage All Terminals - 60 cy. RMS Opposite Polarity	Open Contacts Same Polarity	To Ground	Contact Material Power Rating	Pilot Rating	Electrical Life Oper. At Rated Load	Oper. Per Min.	**Mechanical Life Oper. At No. Load	Oper. Per Min.	Maximum Operating Ambient Degrees Fahrenheit
60	2	75%	110%	1000	1000	1000	Fine Silver	—	100,000	4	250,000	4	122
70	9	75%	110%	500	500	500	Copper or Silver	—	100,000	4	250,000	4	122
84D	3	75%	110%	1500	1000	1500	—	Silver Alloy	100,000	6	1,000,000	60	140
91D	6.5	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
92D	7	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
93	1.5	75%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	10,000,000	60	160
150	3	75%	110%	500	500	500	Silver Alloy	—	500,000	12	1,000,000	12	122
BRM	Switch Only—No Magnet Coil			500	250	250	—	Special Alloy	5,000,000	60	2,000,000,000	7200	185
BRMR1	0.100	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
BRMR2	0.150	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
BRS	Switch Only—No Magnet Coil			500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
BRSR1	0.125	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
BRSR2	0.250	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
All Type MS	Current Sensitive			1000	1000	1000	—	•Gold Alloy	100,000	60	10,000,000	180	185
TRM	Switch Only—No Magnet Coil			250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
TRMR1	0.150	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
TRMR2	0.250	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185

* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.
** Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.
• Cross-bar contacts.

Net
© United Technical Publications

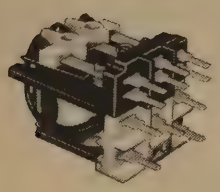
RBM CONTROLS
ESSEX INTERNATIONAL, INC.

A.C.-D.C. GENERAL PURPOSE RELAYS

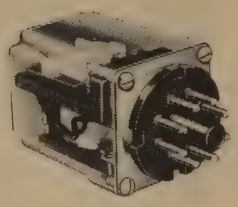
TYPE 93



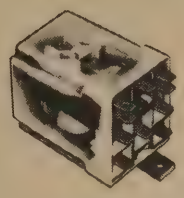
Solder Terminals (Fig. 1)



Printed Circuit (Fig. 2)



8 & 11 Pin Plug-In (Fig. 3)



¾" Quick Connect (Fig. 4)



Relay Receptacle 93-153-1

Size: 1 15/16" x 1 5/16" x 1 5/16"

Size: 2⅛" x 1 7/16" x 1 7/16".

Size: 2⅛" x 1 7/16" x 1 7/16"

A.C. CONTACT RATINGS					D.C. CONTACT RATINGS	
A.C. Voltage	Fine Silver Button		Gold-Alloy Cross Bar		Button	Cross Bar
	Inductive	Resistive	Inductive	Resistive	@ 28 V.D.C.	@ 28 V.D.C.
120	1/6 H.P.	10 Amp.	1/10 H.P.	5 Amp.	5 Amp. Resistive	5 Amp. Resistive
240	1/3 H.P.	5 Amp.	1/6 H.P.	3 Amp.	Consult Factory on U.L. and C.S.A.	

Applications for the RBM Type 93 miniature DC and AC Relays include vending machines, heating, air conditioning, business machines, control panels, appliances, data processing equipment, office machines, communications systems and instruments.

The coil bobbin and contact terminal block are an integral molded plastic material which is highly resistant to arc tracking. The unique configuration of contact terminals allows—(a) easy insertion and removal of connectors, (b) any stresses caused by wiring hook-up cannot change relay contact adjustment. The contact springs are molded as an integral assembly and the molding material is selected to give excellent stability over the temperature range and environmental conditions. The armature contact springs make connection to the terminals by means of flexible insulated leads welded to the terminals. Wiring connections for the contacts and the coil are located on the front of the relay.

Solder terminal type has combined front, single hole screw and stud mounting. Screw and stud included in Boxed units. Printed circuit type may be controlled by SCR if firing angle is no more than 10 degrees. Plug-In Type has 8 pin octal base for single and two pole. 11 pin base for three pole. High impact case. Standard pin connections.

Enclosed quick connect type designed for front mounting or polarized socket mounting. For socket mounting use 93-153-1 socket kit. Relay has .20 x .187 terminals. High impact case.

U/L & CSA—Relays are recognized under Component Recognition Program.

Coil Voltage	D.C. Resistance in Ohms @ 25°C	Contact Form	Open Type			Enclosed Type			
			Solder Terminals (Fig. 1)		Printed Circuit (Fig. 2)	Plug-In (Fig. 3)		Quick Connect Terminals (Fig. 4)	
			10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts
			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
6 (50/60 CY.)	3.5	1PDT	93-901	93-931	—	93P-901	93P-931	93Q-901	93Q-931
		2PDT	93-902	93-932	—	93P-902	93P-932	93Q-902	93Q-932
		3PDT	93-903	93-933	—	93P-903	93P-933	93Q-903	93Q-933
12 (50/60 CY.)	14	1PDT	93-985	93-988	*93-991	93P-955	93P-958	93Q-955	93Q-958
		2PDT	93-986	93-989	*93-992	93P-956	93P-959	93Q-956	93Q-959
		3PDT	93-987	93-990	*93-993	93P-957	93P-960	93Q-957	93Q-960
24 (50/60 CY.)	55	1PDT	93-904	93-934	*93-964	93P-904	93P-934	93Q-904	93Q-934
		2PDT	93-905	93-935	*93-965	93P-905	93P-935	93Q-905	93Q-935
		3PDT	93-906	93-936	*93-966	93P-906	93P-936	93Q-906	93Q-936
120 (50/60 CY.)	1400	1PDT	93-907	93-937	*93-967	93P-907	93P-937	93Q-907	93Q-937
		2PDT	93-908	93-938	*93-968	93P-908	93P-938	93Q-908	93Q-938
		3PDT	93-909	93-939	*93-969	93P-909	93P-939	93Q-909	93Q-939
208/240 (50/60 CY.)	4850	1PDT	93-910	93-940	—	93P-910	93P-940	93Q-910	93Q-940
		2PDT	93-911	93-941	—	93P-911	93P-941	93Q-911	93Q-941
		3PDT	93-912	93-942	—	93P-912	93P-942	93Q-912	93Q-942
6 D.C.	24	1PDT	93-913	93-943	—	93P-913	93P-943	93Q-913	93Q-943
		2PDT	93-914	93-944	—	93P-914	93P-944	93Q-914	93Q-944
		3PDT	93-915	93-945	—	93P-915	93P-945	93Q-915	93Q-945
12 D.C.	96	1PDT	93-916	93-946	*93-976	93P-916	93P-946	93Q-916	93Q-946
		2PDT	93-917	93-947	*93-977	93P-917	93P-947	93Q-917	93Q-947
		3PDT	93-918	93-948	*93-978	93P-918	93P-948	93Q-918	93Q-948
24 D.C.	384	1PDT	93-919	93-949	*93-979	93P-919	93P-949	93Q-919	93Q-949
		2PDT	93-920	93-950	*93-980	93P-920	93P-950	93Q-920	93Q-950
		3PDT	93-921	93-951	*93-981	93P-921	93P-951	93Q-921	93Q-951
110 D.C.	8000	1PDT	93-922	93-952	—	93P-922	93P-952	93Q-922	93Q-952
		2PDT	93-923	93-953	—	93P-923	93P-953	93Q-923	93Q-953
		3PDT	93-924	93-954	—	93P-924	93P-954	93Q-924	93Q-954

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

RBM CONTROLS ESSEX INTERNATIONAL, INC.

A.C. - D.C. GENERAL PURPOSE RELAYS

TYPE 84



FIGURE 1



FIGURE 2

SIZE 2⅜" x 1⅝" x 1½"

- Totally Enclosed
- Low Cost
- Screw or ¼" Quick Connect Termination
- Hardware Included in Boxed Units Only
- Operates Any Position
- Isolated Coil
- I or T Mounting Brackets
- A.C. Coils Rated 50/60 cy
- U.L. and C.S.A.

SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number Figure 1		Contact Rating 125/250 V.A.C.	
	1PNO	1PDT	Inductive	Resistive
6	84-901	84-905	N.O. 8 Amps. Continuous 25 Amps. Inrush D.T. 8 Amps. Continuous 18 Amps. Inrush	N.O. 16 Amps. Continuous D.T. 8 Amps. Continuous
24	84-902	84-906		
120	84-903	84-907		
230/240	84-904	84-908		
Coil Voltage A.C.	**Catalog Number Figure 2**			
	1PNO	1PDT		
24	84-912	84-916		
120	84-913	84-917		
230/240	84-914	84-918		
24	84-922	84-926	3 Amps. @ 125 V.A.C. or 1.5 Amps. @ 250 V.A.C. Pilot Duty	
120	84-923	84-927		
230/240	84-924	84-928		

Coil Voltage D.C.	Resistance in Ohms @ 25°C	Catalog Number Figure 1	D.C. Contact Rating Inductive	
			Voltage	Current
12	90	84D-902	12	3 Amp.
24	280	84D-903	24	1.5 Amp.

TYPE 91



SEPARATE 91-180-1 SOCKET AND TERMINAL KIT
SIZE 2⅛" x 1⅞" x 2⅜"

- ¼" Quick Connect Termination
- U.L. and C.S.A.
- Enclosed Contacts
- Operates Any Position
- Solenoid Action
- Wiring Terminals Included in Boxed Units Only
- A.C. Coils Rated 50/60 cy.
- Can Be Panel Mounted

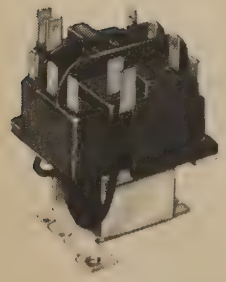
TWO POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number	Circuit Rating Terminals		Power Rating	
		1-2-3	4-5-6	Inductive	Resistive
24	91-901	Power	Power	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C. — 6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	15 Amp. 277 V.A.C. Max.
120	91-902				
230/240	91-903				
24	91-904	Power	Pilot		
120	91-905				
230/240	91-906				
24	91-907	Pilot	Pilot		
120	91-908				
230/240	91-909				

			Pilot Rating	
			Inductive	Resistive
			125 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.

Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C	D.C. Contact Rating - Resistive
6	91D-911	7	10 Amps. @ 32 V. Max.
12	91D-912	29	
24	91D-913	115	

TYPE 92



SIZE 2⅜" x 2⅜" x 2¾"

- ¼" Quick Connect Termination
- U.L. and C.S.A.
- Enclosed Contacts Operates Any Position
- Solenoid Action
- Wiring Terminals Included in Boxed Units Only
- Manual Operating Button
- A.C. Coils Rated 50/60 cy

THREE POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number	Circuit Rating Terminals			Power Rating	
		1-2-3	4-5-6	7-8-9	Inductive	Resistive
24	92-901	Power	Power	Power	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C. — 6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	15 Amp. 277 V.A.C. Max.
120	92-902					
230/240	92-903					
24	92-904	Power	Pilot	Power		
120	92-905					
230/240	92-906					
24	92-907	Pilot	Power	Pilot		
120	92-908					
230/240	92-909					
24	92-910	Pilot	Pilot	Pilot		
120	92-911					
230/240	92-912					

			Pilot Rating	
			Inductive	Resistive
			120 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.

Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C	D.C. Contact Rating - Resistive
6	92D-911	6.5	10 Amps. @ 32 V. Max.
12	92D-912	26	
24	92D-913	104	

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

Net

© United Technical Publications

8 **RBM CONTROLS** ESSEX INTERNATIONAL, INC.

A.C. GENERAL PURPOSE RELAYS

TYPE 987



SIZE 2⅛" x 1" x 2"

- 9" Lead Wire Coil
- Front or Rear Mounting
- Hardware Included in Boxed Units Only
- Quick Connect Terminals on 15 Amp Poles
- Solder Terminals on 3 Amp Poles

TWO POLE and THREE POLE DOUBLE THROW

Coil Voltage 60 cy.	Contact Form	Catalog Number	Contact Rating — Non-Inductive 125/250 V.A.C.	
			Left Stack	Right Stack
24	2PDT	987-902	SPDT - 15 AMP.	SPDT - 3 AMP.
120	2PDT	987-903		
240	2PDT	987-904		
24	2PDT	987-906	SPDT - 15 AMP.	SPDT - 15 AMP.
120	2PDT	987-907		
240	2PDT	987-908		
24	3PDT	987-910	SPDT - 15 AMP.	2PDT - 3 AMP.
120	3PDT	987-911		
240	3PDT	987-912		

A.C. POWER RELAYS

TYPE 129

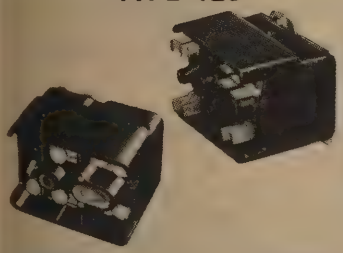


FIGURE 1 FIGURE 2

SIZE 2⅜" x 1⅞" x 1⅞"

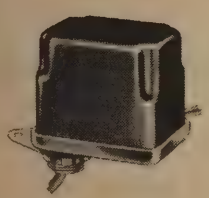
- Double-Break Contacts
- Totally Enclosed
- Hi-Impact Case
- Screw or ¼" Quick Connect Termination
- Hardware Included in Boxed Units Only
- U.L. and C.S.A.
- Non-Positional

SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

Coil Voltage (50/60 cy.)	Catalog Number				Contact Rating 250 V.A.C. Max.	
	Figure 1		Figure 2			
	1PNO	†1PDT	1PNO	†1PDT	Inductive	Resistive
6	129-901	129-905			18 Amp. Continuous 1 H.P.-125 V. 2 H.P.-250 V. Single Phase	25 Amp. Continuous
24	129-902	129-906	129-911	129-914		
120	129-903	129-907	129-912	129-915		
208/230	129-904	129-908	129-913	129-916		

† All contact terminals must be wired same polarity.

TYPE 129AR



SIZE 2¾" x 2 1/16" x 3 1/16"

- Totally Enclosed
- Hi-Impact Case
- Double-Break Contacts
- Easy to Mount
- U.L. and C.S.A.
- Pre-Wired
- No Enclosure Required
- Low Cost

SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

Coil Voltage (50/60 cy.)	Catalog Number		Contact Rating — 250 V.A.C. Max.	
	1PNO	†1PDT	Inductive	Resistive
24	129AR-901	129AR-904	18 Amp. Continuous 1 H.P.-120 V. 1½ H.P.-250 V. Single Phase	25 Amp. Continuous
120	129AR-902	129AR-905		
208/230	129AR-903	129AR-906		

FITS ANY ½" KNOCK-OUT. MEETS STANDARD CODE REQUIREMENTS.
Underwriters Lab. white card listed. File E12139D 184N13.13 7/17/63.
Aluminum die-cast base and bushing. High impact phenolic enclosure.
Locknuts and position locking washer included. Color coded 8" lead wires.

† All contact terminals must be wired same polarity.

A.C. POWER CONTACTORS

TYPE 143



SIZE 3¼" x 2⅜" x 2½"

- Straight-Through Wiring
- Low Cost
- Auxiliary Quick-Connect Terminals
- U.L. and C.S.A.
- Hardware Included in Boxed Units Only
- Screw Power Terminals For #10 Solid Wire Max.
- 25 Amp Unit Has Cover
- Double-Break Contacts

TWO POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating	
		Inductive	Resistive
24	143-901	18 Amp. Cont. 90 Amp. Inrush @ 277 V.A.C. Per Pole	25 Amp. @ 277 V.A.C. Per Pole
120	143-902		
208/240	143-903		
24	143-914	25 Amp. Cont. 150 Amp. Inrush @ 277 V.A.C. Per Pole	35 Amp. @ 277 V.A.C. Per Pole
120	143-915		
208/240	143-916		

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

A.C. POWER CONTACTORS

TYPE 75

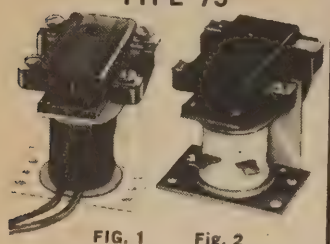


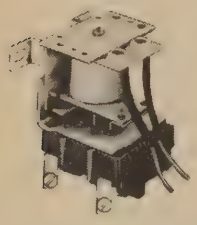
FIG. 1 Fig. 2
SIZE 2½" x 2⅛" x 2¼"

Screw Power Termination #8 Solid Wire Max.
•
13" Lead Wire or Quick Connect Coil Terminals
•
Hardware Included in Boxed Units Only

TWO POLE NORMALLY OPEN

Coil Voltage (60 cy.)	Catalog Number Fig. 1	Catalog Number Fig. 2	Contact Rating (A.C.) Inductive	Contact Rating (A.C.) Resistive
24	75-901	75-904	1 H.P. Per Pole 115/230 V. 2 Pole Rating 2 H.P. — 230 V. or 18 Amp. Cont. 90 Amp. Inrush	25 Amp. 240 V. Per Pole .75 P.F.
115/120	75-902	75-905		
230/240	75-903	75-906		

TYPE 80



SIZE 3⅛" x 2⅝" x 2⅞"

Screw Power Termination #8 Solid Wire Max.
•
Double-Break Contacts
•
Hi-Dielectric
•
9" Coil Leads
•
Mount as Shown
•
Low Cost

TWO POLE NORMALLY OPEN

Coil Voltage (60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	80-901	25 Amp. Continuous 150 Amp. Inrush 250 V. Max.
120	80-902	
240	80-904	

TYPE 85



SIZE 3½" x 3⅛" x 2⅝"

Screw Terminals
•
#8 Solid Wire Max.
•
Double Break Contacts
•
¼" Auxiliary Wiring Terminals
•
Straight-Thru Wiring
•
Hi-Dielectric Materials

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive 250 V.	Contact Rating (A.C.) — Inductive 600 V.
24	85-901	25 Amp. Cont. 150 Amp. Inrush	12.5 Amp. Cont. 75 Amp. Inrush
120	85-902		
208/240	85-903		

TYPE S30



SIZE 3⅞" x 2⅜" x 2½"

Solenoid Action
•
Enclosed Contacts
•
Resilient Mounting
•
Screw Power Termination For #8 Solid Wire Max.
•
Epoxy Coil
•
Hi-Dielectric
•
Double Break Contacts

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive Voltage	Continuous	Inrush
24	S30-901	250 600	30 Amp. 15 Amp.	180 Amp. 90 Amp.
115	S30-902			
230	S30-903			

TYPE S40



SIZE 3⅞" x 2¾" x 2½"

Pressure Power Termination For #6 Solid Wire Max.
•
Solenoid Action
•
Enclosed Contacts
•
Resilient Mounting
•
Hi-Dielectric
•
Epoxy Coil
•
Double Break Contacts

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	S40-901	40 Amp. Continuous 200 Amp. Inrush 250 V. Max.
115	S40-902	
230	S40-903	

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGES 17 — PRICES PAGES 1, 2, 3, 4

Net

© United Technical Publications

10 **RBM CONTROLS** ESSEX INTERNATIONAL, INC.

A.C. INDUSTRIAL CONTACTORS

UNIQUE DESIGN PERMITS COMMON BASE, COIL & MAGNET FOR CONTACTOR RATINGS FROM 10 TO 50 AMPERES • DOUBLE BREAK "NO-KISS" CONTACT ACTION • REPLACEABLE CONTACTS & COIL • EPOXY SEALED MOLDED MAGNET COIL HOUSING • LAMINATED CORROSION RESISTANT E-TYPE MAGNET & SELF-ALIGNING ARMATURE • HI-DIELECTRIC ARC RESISTANT MOLDED CONTACT BLOCK & CARRIER • 50/60 CYCLE MAGNET COIL • RESILIENT MOUNTING

TYPE C10



SIZE 3⅝" x 2¾" x 3⅜"

10 Amp.
600 Volts
•
Pressure Type
Power Terminals
#10 Solid Wire Max.
•
All Contacts
Convert to N.C.
See Page 11
•
Double Break
Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C10-901	110	½	¾
		220	¾	1
110	C10-902	600	1	1
		Resistive		
220	C10-903	10 Amp. 600 V. Max. (Per Pole)		

TYPE C15



SIZE 3⅝" x 2¾" x 3⅜"

15 Amp.
600 Volts
•
Pressure Type
Power Terminals
#10 Solid Wire Max.
•
All Contacts
Convert to N.C.
See Page 11
•
Double Break
Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C15-901	110	1	1½
		220	1½	2
110	C15-902	600	1½	2
		Resistive		
220	C15-903	15 Amp. 600 V. Max. (Per Pole)		

TYPE C30



SIZE 3⅝" x 2¾" x 3⅜"

30 Amp.
600 Volts
•
Pressure Type
Power Terminals
#8 Solid Wire Max.
•
Double Break
Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C30-901	110	2	3
		220	3	7½
110	C30-902	600	5	10
		Resistive		
220	C30-903	30 Amp. — 600 V. Max. (Per Pole)		

TYPE C50R



SIZE 3⅝" x 2¾" x 3⅜"

50 Amp.
480 Volts
•
Pressure Type
Power Terminals
#6 Stranded Wire
Max.
•
Double Break
Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)
24	C50R-901	Resistive Only For Electric Heating 50 Amp. — 480 Volt Max.
110	C50R-902	
220	C50R-903	

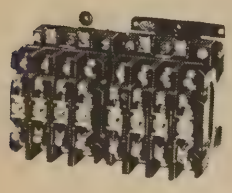
DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 18 — PRICES PAGES 1, 2, 3, 4

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

A.C. REVERSING CONTACTORS

TWO TYPE C CONTACTORS MOUNTED SIDE BY SIDE ON COMMON STEEL BASE • RESILIENT MOUNTING • HARDENED STEEL MECHANICAL INTERLOCK PREVENTS SIMULTANEOUS CLOSING OF BOTH CONTACTORS • NO CROSS-PHASE WIRING • SUITABLE FOR MOTOR REVERSING & TRANSFORMER TAP CHANGING APPLICATION.

TYPE CR15



SIZE 3⅝" x 5¹⁄₁₆" x 3⅜"

15 Amp.
600 Volt

•

Pressure Type
Power Terminals
#10 Solid Wire Max.

•

All Contacts
Convert to N.C.
See Below

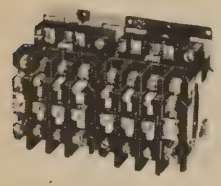
•

Double Break
Contacts

FOUR POLE NORMALLY OPEN REVERSING

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Voltage	Horsepower	
			Single Phase	Three Phase
110	CR15-901	110	1	1½
220	CR15-902	220	1½	2

TYPE CR30



SIZE 3⅝" x 5¹⁄₁₆" x 3⅜"

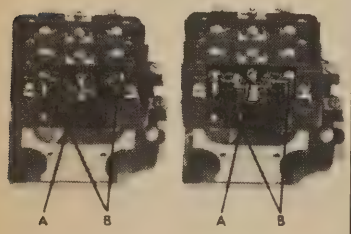
30 Amp.
600 Volt

•

Double Break
Contacts

FOUR POLE NORMALLY OPEN REVERSING

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
		Voltage	Horsepower	
			Single Phase	Three Phase
110	CR30-901	110	2	3
220	CR30-902	220	3	7½



Normally Open Normally Closed

CONVERSION INSTRUCTIONS

All 10 and 15 ampere contact assemblies on RBM standard type C contactors are normally open. To convert to normally closed, use screwdriver. No special parts needed.

1. Remove movable contact assembly and lock washer by backing off terminal nut "A".
2. Loosen screws "B" and remove stationary contact assemblies.
3. Invert movable contact assembly, and replace on contactor with flat "I" spring resting on contact block. Contacts facing out.
4. Remove screws "B" from, and reinsert into opposite end of, stationary contact assembly. Re-install stationary contact assemblies; holding contacts in alignment with movable contacts while tightening screws.

TYPE C REPLACEMENT PARTS

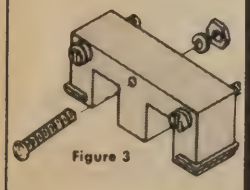


Figure 3

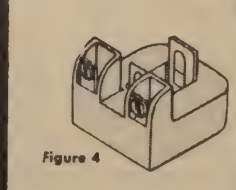


Figure 4

MAGNET COILS — Figure 4

Voltage (50/60 cy.)	*Standard		*Special	
	Catalog Number	Replaces	Catalog Number	Replaces
24	MC-901	45225-5	MC-911	45225-35
110	MC-902	45225-1	MC-912	45225-31
220	MC-903	45225-2	MC-913	45225-32
440	MC-904	45225-3	MC-914	45225-33
550	MC-905	45225-4	MC-915	45225-34

* Do not substitute standard for special coils or vice versa.

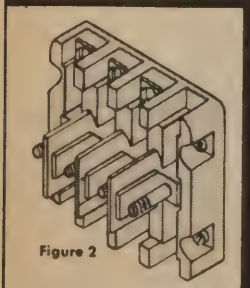


Figure 2

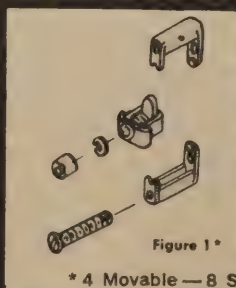


Figure 1 *

CONTACT ASSEMBLIES — Figure 1

USED ON TYPE	CATALOG NUMBER	CONTACT RATING	REPLACES
C10, C15, CR15	CA-901	15 Amp - 4 Pole	45997-3 45997-4
C50R	CA-903	50 Amp - 4 Pole Resistive	45997-22
109153 109453	CA-904	30 Amp - 4 Pole 50 Amp - 2 Pole	45997-16 45997-20
C30, CR30		30 Amp - 4 Pole	45997-5

* 4 Movable — 8 Stationary per kit. Reversing contactors require two kits.

ARMATURE & MAGNET Figure 3

Catalog Number
RP-901

CONTACT BLOCK & CARRIER — Figure 2

4 Pole	5 Pole
Catalog Number	Catalog Number
RP-902	RP-903

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 18 — PRICES PAGES 1, 2, 3, 4

Net

© United Technical Publications

A.C. TIME DELAY RELAYS

TYPE 59



SIZE 3⅜" x 2⅛" x ⅞"

- Ambient Compensated
- ¼" Quick-Connect Termination
- Wiring Terminals Included in Boxed Units Only
- Resilient Mounting
- Non-Positional

THERMAL TYPE
SINGLE POLE NORMALLY OPEN
FIXED TIME DELAY TO CLOSE — AFTER ENERGIZATION — 15 TO 45 SECS.

Operating		Catalog Number	Contact Rating
Voltage (50/60 cy.)	Watts		
24	3.0	59-901	3 Amp. 125/250 V.A.C. Pilot Duty
115/120	7.0	59-902	
230/240	10.0	59-903	

Reset time — approx. 60 seconds.

TYPE 84T



SIZE 2⅝" x 2¼" x 1½"

- Fixed Timing
- ¼" Quick-Connect Termination
- Wiring Terminals Included in Boxed Units Only
- Totally Enclosed
- Approx. Reset Time 4 Seconds

RECTIFIER/CAPACITOR TYPE
SINGLE POLE DOUBLE THROW

Coil (50/60 cy.)	Contact Action		Catalog Number	Time Delay in Seconds ±25%	Contact Rating (A.C.) Inductive
	Delay After Coil Energized	Delay After Coil De-Energized			
115/120	X		84TE-902	2	3 Amp. 125 V. 1.5 Amp. 250 V. Continuous
230/240	X		84TE-903	2	
115/120		X	84TD-902	2	
230/240		X	84TD-903	2	

TYPE 187



SIZE 3" x 1¾" x 2¼"

- Metal Case
- Totally Enclosed
- Flat Bracket
- ¼" Quick-Connect Termination
- Repeat ±2% @ 25°C and Nom. Voltage

SOLID STATE — FIELD ADJUSTABLE TYPE
SINGLE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Time Delay on Pick-up	Catalog Number	Contact Rating
			Inductive
24 V.	.5 - 90 seconds	187-901	1 Amp. @ 120 V.A.C.
120 V.	.5 - 90 seconds	187-902	

Hidden trimming resistor for tamper-proof field timing adjustment. Reset time 100 M.S. Can use Types 93, 84, 91, 92, 129, 143 or 75 as slave relay. Hardware included in boxed units only.

RBM CONTROLS is fully qualified to analyze custom specifications; design, test and produce the correct component or system for lowest product and installation cost.

From the inception of a design to its final production maturity, **RBM CONTROLS** serves its customers with a competent engineering department, complete laboratory facilities and qualified production personnel experienced in highest quality manufacturing standards. Factory trained sales engineers — specialists in the control field — are located in all major marketing areas.

TYPE 150 D.C. POWER RELAYS

TYPE 150



SIZE 2¼" x 1½" x 2"

- Metal Case
- Totally Enclosed
- Isolated Coil
- Side Bracket
- ¼" Quick-Connect Termination
- Hardware Included in Boxed Units Only
- Low Cost

SINGLE POLE NORMALLY OPEN

D.C. Coil Voltage	Resistance in Ohms	Catalog Number	Contact Rating	
			Voltage	Current
6	18	150-901	6	25 Amp.
12	44	150-902	12	25 Amp.
24	176	150-903	24	12 Amp.

SINGLE POLE DOUBLE THROW

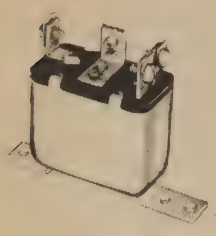
D.C. Coil Voltage	Resistance in Ohms	Catalog Number	Contact Rating	
			Voltage	Current
6	18	150-904	6	15 Amp.
12	44	150-905	12	15 Amp.
24	176	150-906	24	7.5 Amp.

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

TYPE 60 D.C. POWER RELAYS

TYPE 60



SIZE 2⅞" x 1⅛" x 2⅝"

Metal Case
•
Totally Enclosed
•
Isolated Coil
•
Screw Terminals
•
Screws Included
•
Low Cost

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Rating D.C. Inductive	
			Voltage	Current
6	11	60-901	6	15 Amp.
12	35	60-902	12	15 Amp.
24	160	60-903	24	7.5 Amp.

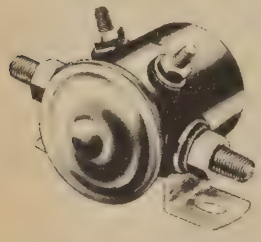
TYPE 70 D.C. POWER CONTACTORS

NON-TURNING STUDS • DRAWN STEEL DUST PROOF ENCLOSURE • COPPER STUD POWER & COIL TERMINALS • DOUBLE BREAK ROTATING DISC MOVABLE CONTACT • SOLENOID ACTUATED • SUGGESTED MOUNTING — CAP DOWN

CONTACT RATING
D.C. INDUCTIVE LOAD — 36 V. MAX.

Voltage (D.C.)	Normally Open		Normally Closed	
	Continuous	Inrush	Continuous	Inrush
6	80 Amp.	300 Amp.	60 Amp.	100 Amp.
12	80 Amp.	150 Amp.	60 Amp.	60 Amp.
24-36	50 Amp.	50 Amp.	30 Amp.	30 Amp.

4 TERMINAL



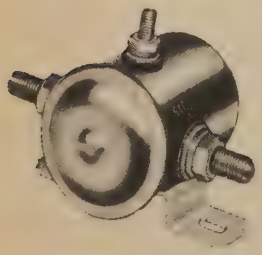
SIZE 2½" x 3½" x 2½"

Four Terminal
•
Isolated Coil
•
Silver or Copper Contacts
•
Hardware Included
•
Continuous Duty Coil
•
Ease In Wiring

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-901	Copper
12	19	70-902	
24	60	70-903	
36	114	70-904	
6	4	70-905	Silver
12	19	70-906	
24	60	70-907	
36	114	70-908	

3 TERMINAL



SIZE 2½" x 3½" x 2½"

Three Terminal
•
Continuous Duty Coil
•
Copper Contacts
•
Hardware Included
•
Coil Common to Case or Coil Common to Battery
•
Rugged Construction

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-913	Copper — Coil Grounded to Case
12	19	70-914	
24	60	70-915	
36	114	70-916	
6	4	70-917	Copper — Coil Common to Load
12	19	70-918	
24	60	70-919	
36	114	70-920	

6 TERMINAL



SIZE 3⅜" x 3¼" x 2½"

Six Terminal
•
Continuous Duty Coil
•
Isolated Coil
•
Hardware Included
•
Choice of 2 Types Contacts

SINGLE POLE DOUBLE THROW

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-909	N.O. and N.C. Silver
12	19	70-910	
24	60	70-911	
36	114	70-912	
6	4	70-921	N.O. Copper and N.C. Silver
12	19	70-922	
24	60	70-923	
36	114	70-924	

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

Net

© United Technical Publications

SINGLE POLE DOUBLE THROW — TWO POLE DOUBLE THROW — THREE POLE DOUBLE THROW

Electrical Life				Mechanical Life	Operate Time (Incl. Bounce)	Vibration	Shock	Operating Ambient
NON-INDUCTIVE LOAD	0.5 Amp.	1.0 Amp.	2.0 Amp.	100,000,000 At 180 Operations Per Minute (No Load)	20 Milliseconds	2G 10-55 Cycles	2G Operate 10G Non-Operate	−55°C to +85°C
NUMBER OPERATIONS	1,000,000	300,000	100,000					

Miniature Sensitive Relays, are used where maximum sensitivity and small size are very important. Ideally these relays are suited when minimum power is available such as transistorized circuits, alarm systems, signal systems, computers, communication equipment, automatic controls and remotes. All Miniature Sensitive Relays have integrally molded coil terminal board of glass filled alkyd. Highly reliable cross-bar contacts are gold alloy construction. Magnet core and armature assembly features high grade electrical steel carefully annealed and processed to obtain the best magnetic characteristics. The materials selected for use in coil winding keeps electrolysis to a minimum under severe environmental conditions.

The MS64 Miniature Sensitive Relay is specifically designed for electronic applications where printed circuit termination and enclosed construction are of major importance. It has symmetrical configuration providing for minimum mounting space requirements and maximum protection to moving parts. A snap-on cover provides protection against contaminants and prevents damage to moving parts when handling. Mounting bracket versions of the relay are for conventional chassis mounting and solder on" lead wire terminations.

The MS50 Multi-Pole isolated contact relay was specifically designed for electronic applications where reliability, small size, sensitive operation, rugged construction and low cost are prime factors.

TYPE MS40



SIZE 1⅛" x 1⅛" x 1¾₆"

Very Sensitive
•
Molded Construction
•
4-4 Mounting
•
Armature Common to Frame
•
Long Life
•
Low Cost
•
Gold Alloy Contacts

SINGLE POLE DOUBLE THROW — OPEN TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.050 Watts
	Maximum Capacity	1.0 Watts

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	3.5 V.	250	MS40-901
13.5 MA.	10 MA.	500	MS40-902
11.0 MA.	8.2 MA.	750	MS40-903
12 V.	7.0 V.	1000	MS40-904
7.7 MA.	5.8 MA.	1500	MS40-905
6.0 MA.	4.5 MA.	2500	MS40-906
4.3 MA.	3.2 MA.	5000	MS40-907
24 V.	19.5 V.	7500	MS40-908
3 MA.	2.3 MA.	10000	MS40-909

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS64

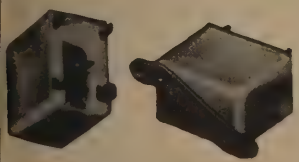


FIG. 1 FIG. 2

SIZE 1¾₆" x ⅜" x 1⅛"

Printed Circuit Terminals or Bracket Mounting
•
Long Life
•
Isolated Contacts
•
Low Cost
•
Snap-on Cover
•
Gold Alloy Contacts
•
Molded Construction

SINGLE POLE DOUBLE THROW — ENCLOSED TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.050 Watts
	Maximum Capacity	1.0 Watts

D.C. Magnet At 25°C				
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 1	Catalog Number Fig. 2
6 V.	4.5 V.	400	MS64-901	MS64-911
12 V.	9.0 V.	1600	MS64-902	MS64-912
24 V.	18.0 V.	6500	MS64-903	MS64-913
3. MA.	2.3 MA.	10000	MS64-904	MS64-914

*D.O. Approx. 35% of PU. †Nominal ±10%.

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 18 — PRICES PAGES 1, 2, 3, 4

RBM CONTROLS
ESSEX INTERNATIONAL, INC.

MINIATURE D.C. SENSITIVE RELAYS

TYPE MS25

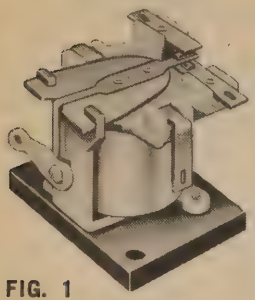


FIG. 1

SIZE 1 9/16" x 1 1/2" x 1 7/16"

TYPE MS25P

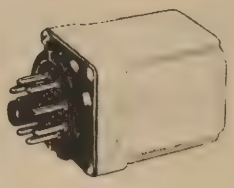


FIG. 2

SIZE 2" x 1 3/8" x 1 3/8"

TYPE MS50

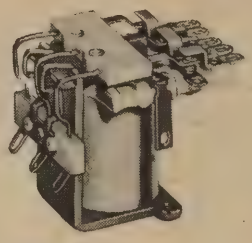


FIG. 3

SIZE 1 5/8" x 1 1/8" x 1 1/4"

TYPE MS50P

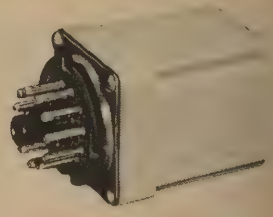


FIG. 4

SIZE 2" x 1 3/8" x 1 3/8"

Open Type Solder Terminals
•
Plug In — Standard 8 Pin Octal
•
Isolated Contacts
•
Long Life
•
Low Cost
•
Plug In — Zytel 100 Nylon Case
•
Molded Construction

SINGLE POLE DOUBLE THROW — OPEN TYPE AND PLUG IN

Contact Rating	Coil Power		Contacts
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.040 Watts	Gold Alloy Cross Bar
	Maximum Capacity	1.5 Watts	

D.C. Magnet Coil At 25°C				
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 1	Catalog Number Fig. 2
6 V.	4.5 V.	510	MS25-901	MS25P-901
12 V.	9.0 V.	2025	MS25-902	MS25P-902
24 V.	18.0 V.	8100	MS25-903	MS25P-903
3.7 MA.	2.8 MA.	5000	MS25-904	MS25P-904
2.7 MA.	2.0 MA.	10000	MS25-905	MS25P-905
2.1 MA.	1.6 MA.	15000	MS25-906	MS25P-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

Open Type Solder Terminals
•
Plug In — Standard 8 Pin Octal
•
Isolated Contacts
•
Long Life
•
Low Cost
•
Plug In — Zytel 100 Nylon Case
•
Molded Construction

TWO POLE DOUBLE THROW — OPEN TYPE AND PLUG IN

Contact Rating	Coil Power		Contacts
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.125 Watts	Gold Alloy Cross Bar
	Maximum Capacity	1.5 Watts	

D.C. Magnet Coil At 25°C				
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 3	Catalog Number Fig. 4
6 V.	4.5 V.	160	MS50-901	MS50P-901
12 V.	9.0 V.	650	MS50-902	MS50P-902
24 V.	18.0 V.	2600	MS50-903	MS50P-903
6.7 MA.	5.0 MA.	5000	MS50-904	MS50P-904
4.7 MA.	3.5 MA.	10000	MS50-905	MS50P-905
3.9 MA.	2.9 MA.	15000	MS50-906	MS50P-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

Open Type Solder Terminals
•
Plug In - Standard 11 Pin Octal
•
Isolated Contacts
•
Long Life
•
Low Cost
•
Plug In — Zytel 100 Nylon Case
•
Molded Construction

THREE POLE DOUBLE THROW — OPEN TYPE AND PLUG IN

Contact Rating	Coil Power		Contacts
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.200 Watts	Gold Alloy Cross Bar
	Maximum Capacity	1.5 Watts	

D.C. Magnet Coil At 25°C				
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 3	Catalog Number Fig. 4
6 V.	4.5 V.	100	MS50-921	MS50P-921
12 V.	9.0 V.	400	MS50-922	MS50P-922
24 V.	18.0 V.	1600	MS50-923	MS50P-923
8.5 MA.	6.4 MA.	5000	MS50-924	MS50P-924
6.0 MA.	4.5 MA.	10000	MS50-925	MS50P-925
4.9 MA.	3.7 MA.	15000	MS50-926	MS50P-926

*D.O. Approx. 35% of PU. †Nominal ±10%.

DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

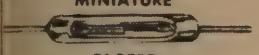
Net

© United Technical Publications

16 **RBM CONTROLS** ESSEX INTERNATIONAL, INC.

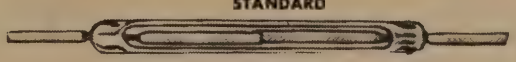
GLASS REED SWITCHES AND RELAYS

BRM-902 MINIATURE



BI-REED ®

BRS-901 STANDARD



BI-REED ®

TRM-901 MINIATURE



TRI-REED ®

Contact Form		Single Pole Normally Open						Single Pole Double Throw		
Miniature or Standard		Miniature			Standard			Miniature		
Catalog Number		BRM-902			BRS-901			TRM-901		
Non-Inductive Contact Rating	Make and Break	15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 250 Volts			15 VA. A.C. — 15 Watts D.C. 1.0 Amp. Maximum up to 250 Volts			15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 125 V. A.C. or 32 V. D.C.		
	No Make or Break	1.0 Amp. 250 V.			5 Amp. 250 V.			1 Amp. 125 V. A.C. or 32 V. D.C.		
Contact Life Based on 10 Ohm Miss Test	Resistive Load (D.C.)	10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts	
	Number Operations	100,000,000	10,000,000		200,000,000	125,000,000		100,000,000	10,000,000	
Approximate Overall Dimensions		Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter
		1.5″	0.75″	0.100″	3.35″	2.1″	0.200″	1.5″	0.60″	0.125″
Weight		0.315 Grams			2.5 Grams			0.295 Grams		
Minimum Breakdown Voltage (60 cy. R.M.S.)		250 V.			500 V.			250 V.		
Minimum Insulation Resistance (Megohms)		500 K.			500 K.			100 K.		
Initial Contact Resistance (Milliohms Max.)		150			50			150		
Maximum Operate Time (Milliseconds)		Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release
		1.0		0.5	2.0		0.5	1.0		0.5
Ampere-Turns To Operate		Pull-In			Pull-In			Pull-In		
		Nominal	Minimum	Drop Out	Nominal	Minimum	Drop Out	Nominal	Minimum	Drop Out
		50 ±15	20	50% of P.U.	100 ±15	60	30% of P.U.	50 ±15	35	70% of P.U.
Nominal Coil Power		0.335 Watts			0.360 Watts			0.335 Watts		
Vibration		15G — 2000 C.P.S.			20G — 750 C.P.S.			15G — 2000 C.P.S.		
Shock (JAN S-44)		50G (Min.)			40G (Min.)			50G (Min.)		
Ambient Temperature Range		−55° to +85°C			−55° to +85°C			−55° to +85°C		
Standard Test Coil Specifications See Page 18	Wire Size	#44			#36			#44		
	Number Turns	10,000			10,000			10,000		
	Tube I.D.	0.150″			0.210″			0.150″		
	Tube O.D.	0.200″			0.375″			0.200″		
	Tube Length	0.75″			1.75″			0.75″		

TYPE BRMR MINIATURE



FIGURE 1 FIGURE 2

SIZE Fig. 1 - 1¾₆″ x ⅜₁₆″ x ³⁵⁄₆₄″
SIZE Fig. 2 - 1¾₆″ x ⁴⁷⁄₆₄″ x ³⁵⁄₆₄″
PLUS LEADS

See BRM-902 For Contact Rating

• Operate Time 1 M.S. Including Bounce

• Release Time 0.5 M.S. Max.

• Magnetically Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
SINGLE POLE NORMALLY OPEN — Figure 1						
1.0 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	27.0 MA.	105	BRMR1-901
	12 V.	6.5 V.	1.0 V.	15.5 MA.	420	BRMR1-902
	28 V.	15.2 V.	2.5 V.	6.5 MA.	2350	BRMR1-903
TWO POLE NORMALLY OPEN — Figure 2						
1.5 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	46.5 MA.	70	BRMR2-901
	12 V.	6.5 V.	1.0 V.	25.2 MA.	280	BRMR2-902
	28 V.	15.2 V.	2.5 V.	9.8 MA.	1540	BRMR2-903

TYPE TRMR MINIATURE

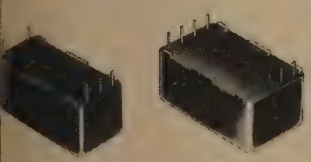


FIGURE 1 FIGURE 2

SIZE Fig. 1 - 1¾₆″ x ⅜₁₆″ x ³⁵⁄₆₄″
SIZE Fig. 2 - 1¾₆″ x ⁴⁷⁄₆₄″ x ³⁵⁄₆₄″
PLUS LEADS

See TRM-901 For Contact Rating

• Operate Time 1 M.S. Including Bounce

• Release Time 0.5 M.S. Max.

• Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
TRUE FORM — SINGLE POLE DOUBLE THROW — Figure 1						
1.0 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	42 MA.	105	TRMR1-901
	12 V.	8 V.	3 V.	21 MA.	420	TRMR1-902
	28 V.	19 V.	6 V.	8 MA.	2350	TRMR1-903
TRUE FORM — TWO POLE DOUBLE THROW — Figure 2						
1.5 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	64 MA.	70	TRMR2-901
	12 V.	8 V.	3 V.	32 MA.	280	TRMR2-902
	28 V.	19 V.	6 V.	12 MA.	1540	TRMR2-903

TYPE BRSR STANDARD



FIG. 1

FIG. 2

SIZE Fig. 1 - 2.55″ x .675″ x .625″
SIZE Fig. 2 - 2.55″ x .925″ x .625″

See BRS-901 For Contact Rating

• Operate Time 2 M.S. Including Bounce

• Release Time 0.5 M.S. Max.

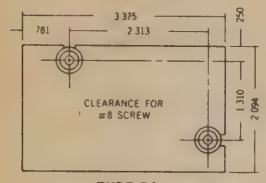
• Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
SINGLE POLE NORMALLY OPEN						
3.0 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	43.0 MA.	115	BRSR1-901
	12 V.	9.0 V.	1.10 V.	22.5 MA.	445	BRSR1-902
	28 V.	18.0 V.	2.50 V.	7.8 MA.	2550	BRSR1-903
TWO POLE NORMALLY OPEN						
3.2 Watts Max. @ 25°C	6 V.	4.5 V.	0.51 V.	86.5 MA.	58	BRSR2-901
	12 V.	9.0 V.	1.00 V.	45.0 MA.	220	BRSR2-902
	28 V.	18.0 V.	2.10 V.	13.3 MA.	1500	BRSR2-903

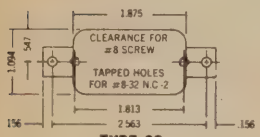
DESIGN DATA PAGE 5 — MOUNTING DIMENSIONS PAGE 17 — PRICES PAGES 1, 2, 3, 4

DIMENSIONS ARE APPROX. CONSULT FACTORY FOR EXACT DIMENSIONS.

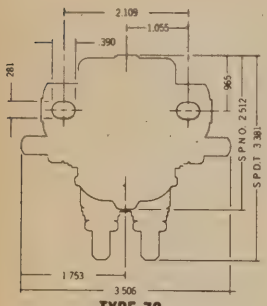
*ASTERISK DENOTES BOTTOM VIEW—ALL OTHERS TOP VIEW



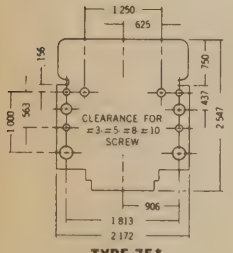
TYPE 59



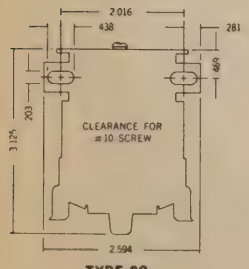
TYPE 60



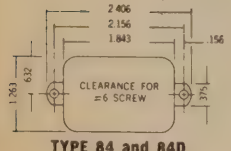
TYPE 70



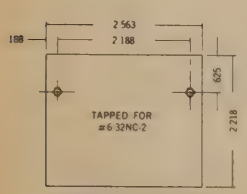
TYPE 75*



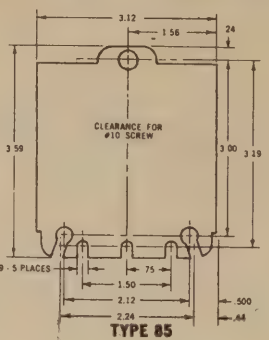
TYPE 80



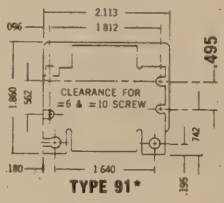
TYPE 84 and 84D



TYPE 84T and 84TE

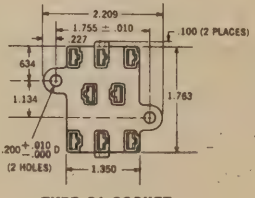


TYPE 85

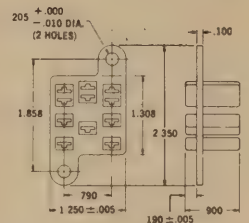


TYPE 91*

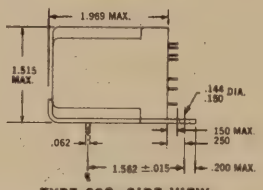




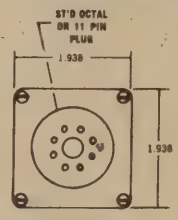
TYPE 91 SOCKET



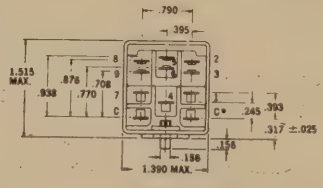
TYPE 93Q SOCKET



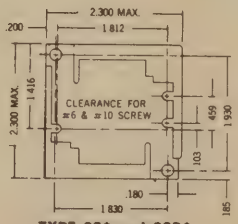
TYPE 93Q SIDE VIEW



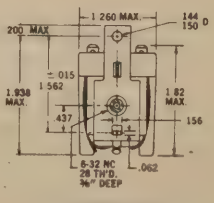
TYPE 93P



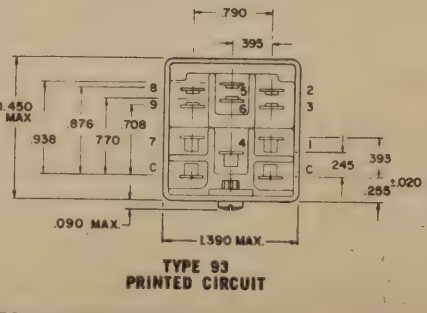
TYPE 93Q*



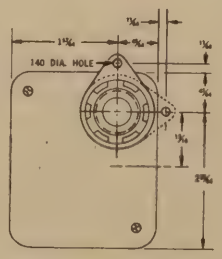
TYPE 92* and 92D*



TYPE 93*
SOLDER TERMINAL

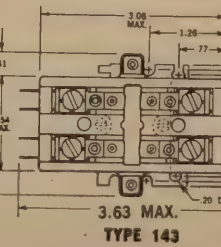


TYPE 93
PRINTED CIRCUIT

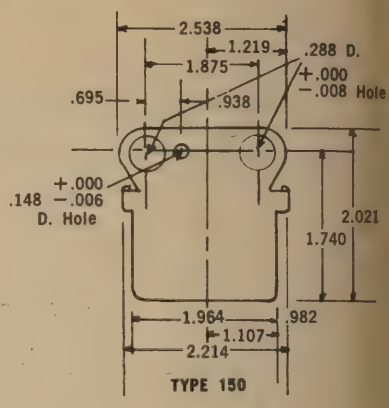


TYPE 129

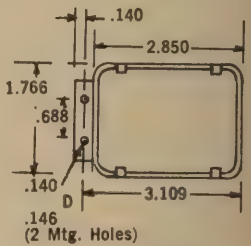
TYPE 129AR



TYPE 143

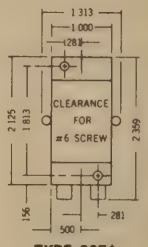


TYPE 150

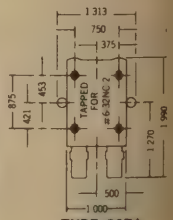


TYPE 187

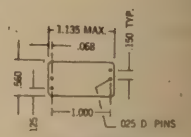
CIRCUIT DIAGRAMS ARE STAMPED ON ALL ENCLOSED UNITS



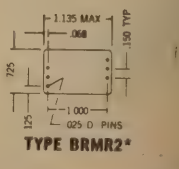
TYPE 987*
FRONT



TYPE 987*
REAR



TYPE BRMR1*



TYPE BRMR2*

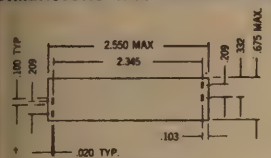
Continued on page 18

© United Technical Publications

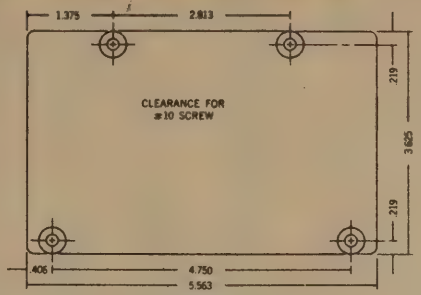
MOUNTING DIMENSIONS

DIMENSIONS ARE APPROX. CONSULT FACTORY FOR EXACT DIMENSIONS

* ASTERISK DENOTES BOTTOM VIEW — ALL OTHERS TOP VIEW



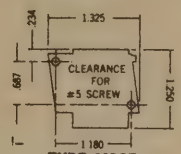
TYPE BRSR1*



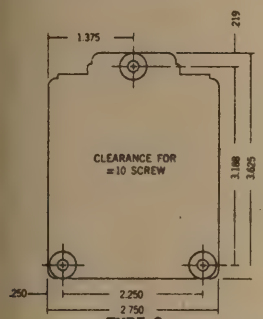
TYPE CR



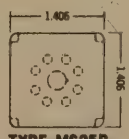
TYPE BRSR2*



TYPE MS25



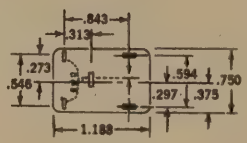
TYPE C



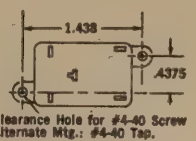
TYPE MS25P
TYPE MS50P (2 Pole)



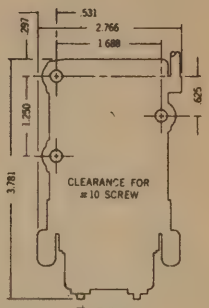
TYPE MS40 - MS50



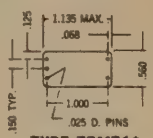
TYPE MS84
P.C. MTG.



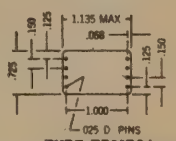
TYPE MS84
BRACKET MTG.



TYPE S



TYPE TRMR1*



TYPE TRMR2*

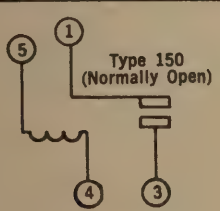
TERMINAL ARRANGEMENTS

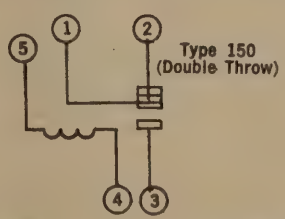
TYPE 91 CONTACT TERMINAL ARRANGEMENT

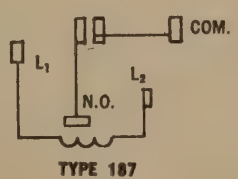
Mounting Hole Side			Coil Terminal Side		
1	2	3	4	5	6
COMMON	N.C.	N.O.	COMMON	N.C.	N.O.

TYPE 92 CONTACT TERMINAL ARRANGEMENT

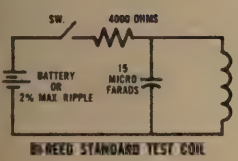
Circuit-X			Circuit-Y			Circuit-Z		
C1	NC2	NO3	C4	NC5	NO6	C7	NC8	NO9



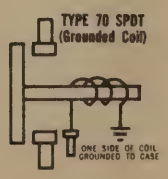




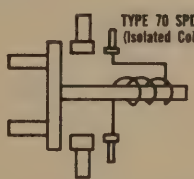
TYPE 187

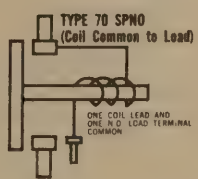


D-REED STANDARD TEST COIL

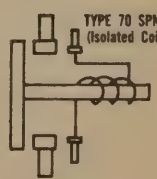


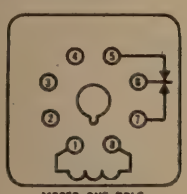
TYPE 70 SPDT
(Grounded Coil)

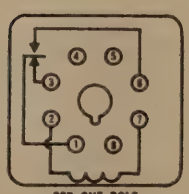

TYPE 70 SPDT
(Isolated Coil)

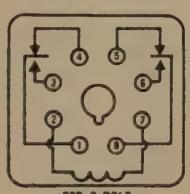


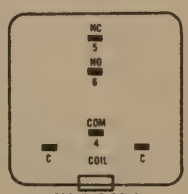
TYPE 70 SPNO
(Coil Common to Lead)


TYPE 70 SPNO
(Isolated Coil)

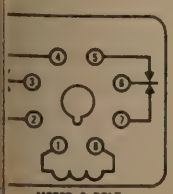

MS25P ONE POLE

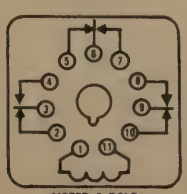

93P ONE POLE

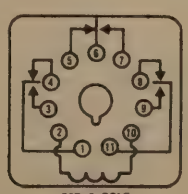

93P 2 POLE

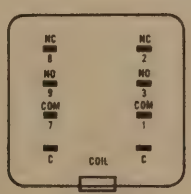


93Q ONE POLE

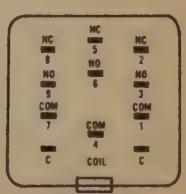

MS50P 2 POLE


MS50P 3 POLE


93P 3 POLE



93Q 2 POLE



93Q 3 POLE

ALL ENCLOSED RELAYS HAVE CIRCUIT DIAGRAMS STAMPED ON UNIT



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

GUARDIAN®

1972

DISTRIBUTOR CATALOG

GUARDIAN® ELECTRIC

ALL PRODUCTS IN THIS CATALOG are immediately available from any franchised Guardian Distributor at factory prices.

CATALOG PRICES: Contact your Guardian Distributor for lower prices on your quantity orders.

index

Guardian Series No.	Page
RELAYS	
ENCLOSED	
1210-1215	12
1210N	12
1220/1220	13
1220-1225	12
1220M-1225M	12
1310-1315	13
1310B-1315B	13
1310N-1315N	13
1310P-1315P	13
NEW 1330-1335	14
NEW 1330P-1335P	14
1350PC-1355PC	14
OPEN	
200	10
220	10
240U-245U	10
625	10
640U-645U	10
660-665	9
840L	9
900-905-910-915	11
1200/1200	11
1200/1200UB	11
1240-1245	11
POWER	
2600U-2605U	11
2620U-2625U	11
REED	
ERR	16
GRR	15
MDR	15
MDX	15
MRR	15
ORR	16
PRR	15
SRR	15
SOLID STATE	
6100-6110	14
6300-6310	14
SOLID STATE/HYBRID	
BDT	16
CSR	18
MET	16
TD	16
TDO	17

Guardian Series No.	Page
SOLID STATE/TIME DELAY	
BDT	16
GU	18
MET	16
TD	16
TDO	17
TMP	17
TMT	17
STEPPERS	
STEPPING RELAYS	
MAS	8
MC	8
MER	8
MER-SOL	8
PAS	8
PC	8
PER	8
SLS	18
660-665	9
705 ROTOMITE	9
840L on/off	9
SOLENOIDS	
PULL TYPE	
1A1	3
2	3
2HD	3
3HD	3
4	3
4HD	3
9	3
10	3
11	4
12	4
14	4
16	4
18	4
22	5
24	5
26	5
28	5
34	5
38	5

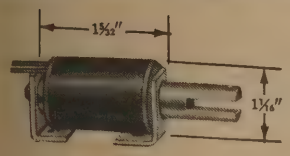
Guardian Series No.	Page
TUBULAR	
T2 x 4	6
T3.5 x 9	6
T4 x 7	6
T4 x 12	6
T4 x 16	6
T6 x 12	6
T8 x 9	7
T8 x 16	7
T12 x 13	7
T12 x 19	7
PUSH TYPE	
11P	4
16P	4
18P	4
28P	5
SOLENOID SWITCHES	
11S	4
24S	5
28S	5
SOLID STATE CONTROLS	
LEVEL DETECTORS	
LDP	18
LDT	18
LOGIC STEPPERS	
SLS	18
PROTECTIVE SENSORS	
AV2	17
CS1	17
CT1	17
FS1	17
FS2	17
PR1	17
VS1	17
VS2	17
VS3	17
ILLUMINATED LEVER SWITCHES	9
ORDERING INFORMATION	19

GUARDIAN ELECTRIC MANUFACTURING CO.

GUARDIAN ELECTRIC MANUFACTURING COMPANY OF CALIFORNIA, INC.

© United Technical Publications

GUARDIAN® ELECTRIC SOLENOIDS

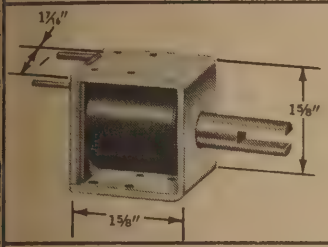


NO. 1A1 AC or DC

Low cost modified U-frame solenoid in six pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 4.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
1A1	Inter	120AC	300	8 oz. at 1/8"	2 oz. at 1/2"	$3.64
1A1	Cont	120AC	675	3 oz. at 1/8"	0.5 oz. at 3/8"	3.64
1A1	Inter	24DC	42.6	5 oz. at 1/8"	1 oz. at 3/8"	3.35
1A1	Cont	24DC	74.4	2 oz. at 1/8"	0.5 oz. at 1/4"	3.35
1A1	Inter	115DC	803	5 oz. at 1/8"	1 oz. at 3/8"	3.94
1A1	Cont	115DC	2070	2 oz. at 1/8"	0.5 oz. at 1/4"	3.94

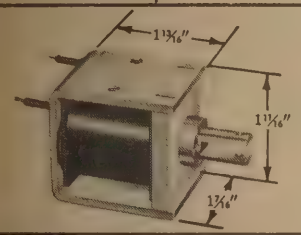


NO. 2 AC

Box-frame solenoid in two pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 10 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
2	Inter	120AC	60	33 oz. at 1/8"	9 oz. at 7/8"	$4.25
2	Cont	120AC	166	10.5 oz. at 1/8"	3 oz. at 7/8"	4.25

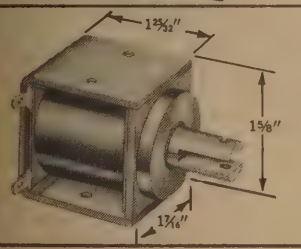


NO. 2HD AC or DC

Heavy duty, long life box-frame solenoid in four pull type models. Insulation material: Class "A" (105°C) Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 13 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
2HD	Inter	120AC	36	38 oz. at 1/8"	16 oz. at 3/4"	$10.01
2HD	Cont	120AC	113	17 oz. at 1/8"	4 oz. at 3/4"	10.01
2HD	Inter	24DC	20	100 oz. at 1/8"	5 oz. at 3/4"	10.31
2HD	Cont	24DC	64	50 oz. at 1/8"	1 oz. at 5/8"	10.31

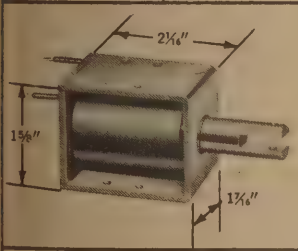


NO. 3HD DC

Heavy duty box-frame solenoid in two pull type models. Insulation material: Class "A" (105°C) standard. Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: 3/16" quick disconnect. Shipping weight: 14 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
3HD	Inter	24DC	21	160 oz. at 1/16"	8 oz. at 3/4"	$6.93
3HD	Cont	24DC	52	100 oz. at 1/16"	3 oz. at 3/4"	6.93

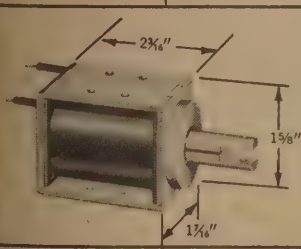


NO. 4 AC or DC

Box-frame solenoid in six pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 14.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
4	Inter	120AC	37	24 oz. at 1/8"	22 oz. at 1"	$4.85
4	Cont	120AC	133	8 oz. at 1/8"	6 oz. at 1"	4.85
4	Inter	24DC	15	110 oz. at 1/8"	4 oz. at 1"	4.85
4	Cont	24DC	54	55 oz. at 1/8"	2.5 oz. at 7/8"	4.85
4	Inter	115DC	346	90 oz. at 1/8"	4 oz. at 1"	5.16
4	Cont	115DC	1300	55 oz. at 1/8"	2.5 oz. at 7/8"	5.16

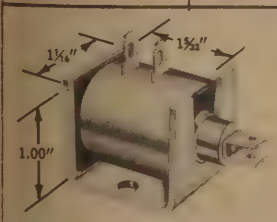


NO. 4HD AC or DC

Heavy duty box-frame solenoid in six pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 15 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
4HD	Inter	120AC	15	107 oz. at 1/16"	30 oz. at 1 1/4"	$7.40
4HD	Cont	120AC	53	26 oz. at 1/8"	8 oz. at 1 1/4"	7.40
4HD	Inter	24DC	15	156 oz. at 1/8"	21 oz. at 3/4"	7.40
4HD	Cont	24DC	50	70 oz. at 1/8"	4 oz. at 3/4"	7.40
4HD	Inter	115DC	350	156 oz. at 1/8"	21 oz. at 3/4"	7.40
4HD	Cont	115DC	1200	70 oz. at 1/8"	4 oz. at 3/4"	7.40

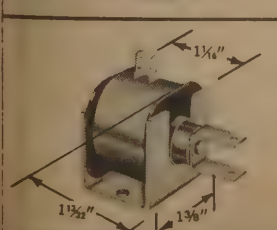


NO. 9 AC or DC

Box-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: 3/16" quick disconnect. Shipping weight: 4 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
9	Inter	120AC	220	17 oz. at 1/8"	8 oz. at 1/2"	$2.37
9	Cont	120AC	350	11 oz. at 1/8"	4 oz. at 1/2"	2.37
9	Inter	24DC	52	16 oz. at 1/8"	1 oz. at 1/2"	2.37
9	Cont	24DC	90	10 oz. at 1/8"	1 oz. at 7/16"	2.37



NO. 10 AC or DC

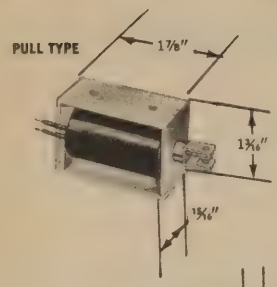
Box-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: 3/16" quick disconnect. Shipping weight: 6.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
10	Inter	120AC	74	40 oz. at 1/8"	25 oz. at 1/2"	$2.70
10	Cont	120AC	172	20 oz. at 1/8"	10 oz. at 1/2"	2.70
10	Inter	24DC	37	26 oz. at 1/8"	4 oz. at 1/2"	2.70
10	Cont	24DC	69	16 oz. at 1/8"	1 oz. at 1/2"	2.70

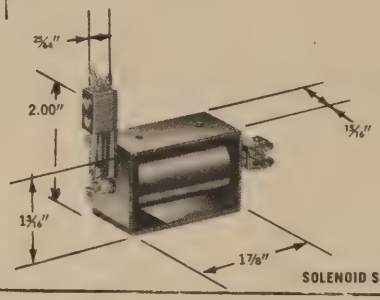
© United Technical Publications

GUARDIAN® ELECTRIC SOLENOIDS



NO. 11 AC or DC

Box-frame solenoid in 20 models and a choice of pull type, push type or solenoid switch. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads on pull type; Dual purpose 3/16" quick disconnect or solder type lugs on push type and solenoid switch models. Shipping weight: 7.5 oz.



PULL TYPE

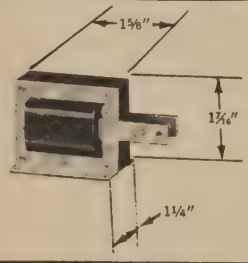
Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
11	Inter	24AC	3.5	25 oz. at 1/8"	6 oz. at 1"	$3.64
11	Cont	24AC	8	12 oz. at 1/8"	1 oz. at 1"	3.64
11	Inter	120AC	85	25 oz. at 1/8"	6 oz. at 1"	3.64
11	Cont	120AC	200	12 oz. at 1/8"	1 oz. at 1"	3.64
11	Inter	6DC	2	40 oz. at 1/8"	2 oz. at 3/4"	3.64
11	Cont	6DC	4.5	25 oz. at 1/8"	1 oz. at 3/4"	3.64
11	Inter	24DC	31	40 oz. at 1/8"	2 oz. at 3/4"	3.64
11	Cont	24DC	72	25 oz. at 1/8"	1 oz. at 3/4"	3.64

PUSH TYPE

11P — Inter — 24AC	3.5	20 oz. at 1/8"	4.8 oz. at 1"	$4.17
11P — Cont — 24AC	8	9.6 oz. at 1/8"	0.8 oz. at 1"	4.17
11P — Inter — 120AC	85	20 oz. at 1/8"	4.8 oz. at 1"	4.17
11P — Cont — 120AC	200	9.6 oz. at 1/8"	0.8 oz. at 1"	4.17
11P — Inter — 6DC	2	32 oz. at 1/8"	1.6 oz. at 3/4"	4.17
11P — Cont — 6DC	4.5	20 oz. at 1/8"	0.8 oz. at 3/4"	4.17
11P — Inter — 24DC	31	32 oz. at 1/8"	1.6 oz. at 3/4"	4.17
11P — Cont — 24DC	72	20 oz. at 1/8"	0.8 oz. at 3/4"	4.17

SOLENOID SWITCH - SPDT — 10 AMP

11S — Inter — 120AC	85	25 oz. at 1/8"	6 oz. at 1"	$4.79
11S — Cont — 120AC	200	12 oz. at 1/8"	1 oz. at 1"	4.79
11S — Inter — 24DC	31	40 oz. at 1/8"	2 oz. at 3/4"	4.79
11S — Cont — 24DC	72	25 oz. at 1/8"	1 oz. at 3/4"	4.79

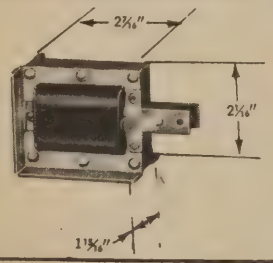


NO. 12 AC

Efficient laminated solenoid in two pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 6 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
12	Inter	120AC	100	32 oz. at 1/8"	4 oz. at 1"	$5.16
12	Cont	120AC	150	22 oz. at 1/8"	3 oz. at 7/8"	5.16

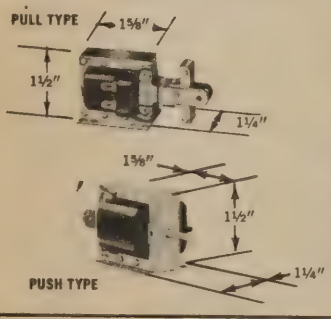


NO. 14 AC

Efficient laminated solenoid in two pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. U/L construction. Termination: External leads. Shipping weight: 9 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
14	Inter	120AC	11	110 oz. at 1/8"	52 oz. at 1½"	$6.97
14	Cont	120AC	18	65 oz. at 1/8"	37 oz. at 1½"	6.97



NO. 16 AC

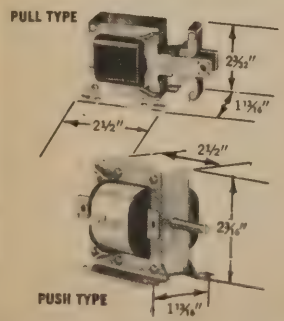
Efficient laminated solenoid in six models and a choice of pull or push type. Insulation material: Class "A" (105°C). U/L construction. Coil finish: New molded polyester. Termination: Dual purpose solder lugs or 3/16" quick disconnect. Shipping weight: 7.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
16	Inter	120AC	41	90 oz. at 1/8"	30 oz. at 3/4"	$4.25
16	Cont	120AC	85	50 oz. at 1/8"	10 oz. at 3/4"	4.25
16	Inter	240AC	200	90 oz. at 1/8"	30 oz. at 3/4"	4.55
16	Cont	240AC	350	50 oz. at 1/8"	10 oz. at 3/4"	4.55

PUSH TYPE

16P — Inter — 120AC	41	90 oz. at 1/8"	30 oz. at 3/4"	$4.78
16P — Cont — 120AC	85	50 oz. at 1/8"	10 oz. at 3/4"	4.78



NO. 18 AC

Efficient laminated solenoid in six models and a choice of pull or push type. Insulation material: Class "A" (105°C). U/L construction. Coil finish: Acetate yarn, coalesced with acetone. Termination: Solder lugs. Shipping weight: 16.5 oz.

PULL TYPE

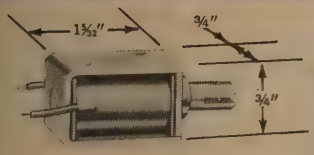
Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
18	Inter	120AC	8.8	280 oz. at 1/8"	80 oz. at 1"	$5.76
18	Cont	120AC	19.7	145 oz. at 1/8"	40 oz. at 1"	5.76
18	Inter	240AC	45	280 oz. at 1/8"	80 oz. at 1"	6.28
18	Cont	240AC	78	145 oz. at 1/8"	40 oz. at 1"	6.28

PUSH TYPE

18P — Inter — 120AC	8.8	280 oz. at 1/8"	80 oz. at 1"	$6.29
18P — Cont — 120AC	19.7	145 oz. at 1/8"	40 oz. at 1"	6.29

© United Technical Publications

GUARDIAN® ELECTRIC SOLENOIDS

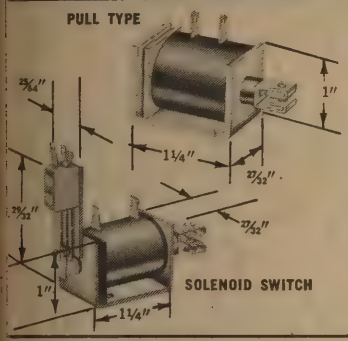


NO. 22 DC

Box-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn coalesced with acetone. Termination: External leads. Shipping weight: 2.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
22	Inter	6DC	4	24 oz. at 1/16"	1 oz. at 3/8"	$3.39
22	Cont	6DC	9	13 oz. at 1/16"	0.5 oz. at 1/4"	3.39
22	Inter	24DC	60	24 oz. at 1/16"	1 oz. at 7/16"	3.39
22	Cont	24DC	144	13 oz. at 1/16"	0.5 oz. at 3/8"	3.39



NO. 24 AC or DC

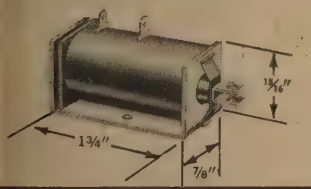
U-frame solenoid in eight models and a choice of pull type or solenoid switch. Insulation material: Class "A" (105°C). U/L construction. Coil finish: Acetate yarn, coalesced with acetone. Termination: Solder lugs on pull type; 3/16" quick disconnect on solenoid switch. Shipping weight: 3 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
24	Inter	120AC	310	16 oz. at 1/16"	3 oz. at 5/8"	$3.94
24	Cont	120AC	500	10.5 oz. at 1/16"	2 oz. at 5/8"	3.94
24	Inter	24DC	52	36 oz. at 1/16"	3 oz. at 1/2"	3.94
24	Cont	24DC	114	18 oz. at 1/16"	0.5 oz. at 1/2"	3.94

SOLENOID SWITCH - SPDT — 10 AMP

24S	Inter	120AC	310	16 oz. at 1/16"	3 oz. at 5/8"	$5.09
24S	Cont	120AC	500	10.5 oz. at 1/16"	2 oz. at 5/8"	5.09
24S	Inter	24DC	52	36 oz. at 1/16"	3 oz. at 1/2"	5.09
24S	Cont	24DC	114	18 oz. at 1/16"	0.5 oz. at 1/2"	5.09

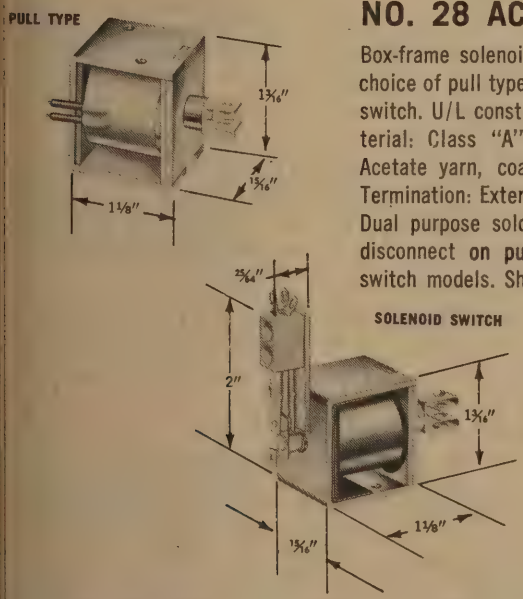


NO. 26 AC or DC

U-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). U/L construction. Coil finish: Acetate yarn, coalesced with acetone. Termination: 3/16" quick disconnect. Shipping weight: 4 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
26	Inter	120AC	140	28 oz. at 1/16"	3 oz. at 7/8"	$4.16
26	Cont	120AC	250	13 oz. at 1/16"	4 oz. at 5/8"	4.16
26	Inter	24DC	33	65 oz. at 1/16"	3 oz. at 3/4"	3.94
26	Cont	24DC	85	36 oz. at 1/16"	1.5 oz. at 1/2"	3.94



NO. 28 AC or DC

Box-frame solenoid in 22 models and a choice of pull type, push type or solenoid switch. U/L construction. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn, coalesced with acetone. Termination: External leads on pull type; Dual purpose solder lugs or 3/16" quick disconnect on push type and solenoid switch models. Shipping weight: 3.5 oz.

PULL TYPE

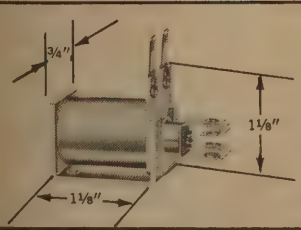
Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
28	Inter	24AC	7.5	35 oz. at 1/16"	5 oz. at 1/2"	$3.64
28	Cont	24AC	17.4	20 oz. at 1/16"	2.5 oz. at 1/2"	3.64
28	Inter	120AC	220	35 oz. at 1/16"	5 oz. at 1/2"	3.94
28	Cont	120AC	400	20 oz. at 1/16"	2.5 oz. at 1/2"	3.94
28	Inter	6DC	3.3	35 oz. at 1/16"	2 oz. at 1/2"	3.39
28	Cont	6DC	7.7	24 oz. at 1/16"	1 oz. at 3/8"	3.39
28	Inter	12DC	13	35 oz. at 1/16"	2 oz. at 1/2"	3.39
28	Cont	12DC	27	24 oz. at 1/16"	1 oz. at 3/8"	3.39
28	Inter	24DC	50	35 oz. at 1/16"	2 oz. at 1/2"	3.39
28	Cont	24DC	104	24 oz. at 1/16"	1 oz. at 3/8"	3.39

PUSH TYPE

28P	Inter	24AC	7.5	28 oz. at 1/16"	4 oz. at 1/2"	$4.17
28P	Cont	24AC	17.4	16 oz. at 1/16"	2 oz. at 1/2"	4.17
28P	Inter	120AC	220	28 oz. at 1/16"	4 oz. at 1/2"	4.46
28P	Cont	120AC	400	16 oz. at 1/16"	2 oz. at 1/2"	4.46
28P	Inter	6DC	3.3	28 oz. at 1/16"	1.6 oz. at 1/2"	3.92
28P	Cont	6DC	7.7	19 oz. at 1/16"	0.8 oz. at 3/8"	3.92
28P	Inter	12DC	13	28 oz. at 1/16"	1.6 oz. at 1/2"	3.92
28P	Cont	12DC	27	19 oz. at 1/16"	0.8 oz. at 3/8"	3.92
28P	Inter	24DC	50	28 oz. at 1/16"	1.6 oz. at 1/2"	3.92
28P	Cont	24DC	104	19 oz. at 1/16"	0.8 oz. at 3/8"	3.92

SOLENOID SWITCH - SPDT — 10 AMP

28S	Inter	24DC	50	35 oz. at 1/16"	2 oz. at 1/2"	$4.55
28S	Cont	24DC	104	24 oz. at 1/16"	1 oz. at 3/8"	4.55

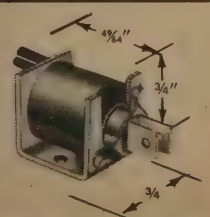


NO. 34 AC or DC

U-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). Coil finish: Acetate yarn coalesced with acetone. U/L construction. Termination: Solder lugs. Shipping weight: 3 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
34	Inter	120AC	400	15 oz. at 1/16"	1 oz. at 1/2"	$2.11
34	Cont	120AC	865	7 oz. at 1/16"	0.5 oz. at 1/2"	2.11
34	Inter	24DC	66	17 oz. at 1/16"	1 oz. at 7/16"	2.11
34	Cont	24DC	145	8.5 oz. at 1/16"	0.5 oz. at 1/4"	2.11



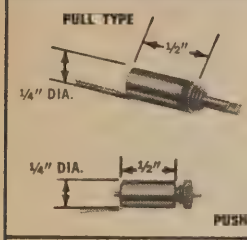
NO. 38 AC or DC

U-frame solenoid in four pull type models. Insulation material: Class "A" (105°C). U/L construction. Coil finish: Acetate yarn, coalesced with acetone. Termination: External leads. Shipping weight: 2 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	Ohms	LIFTS AND STROKES (Minimum)	(Maximum)	Net Ea. 1-24
38	Inter	115AC	860	14 oz. at 1/32"	1 oz. at 5/32"	$1.85
38	Cont	115AC	1500	9 oz. at 1/32"	1 oz. at 1/4"	1.85
38	Inter	24DC	72	21 oz. at 1/32"	1 oz. at 1/4"	1.85
38	Cont	24DC	175	10 oz. at 1/32"	0.5 oz. at 5/32"	1.85

GUARDIAN® ELECTRIC TUBULAR SOLENOIDS



NO. T2 x 4 DC

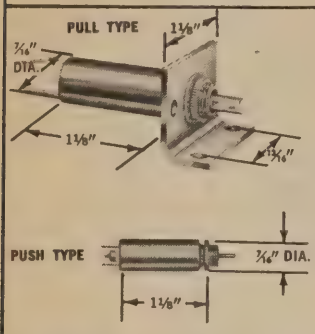
Tubular solenoid in two models: a choice of either pull or push type operation. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: 10-32. Shipping weight: 1 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net Ea. 1-24
T2 x 4	Pulse	24DC	35 gms. at .010"	6 gms. at .090"	200	3	$5.64

PUSH TYPE

TP2x 4	Pulse	24DC	30 gms. at .010"	5 gms. at .090"	200	3	5.64



NO. T3.5 x 9

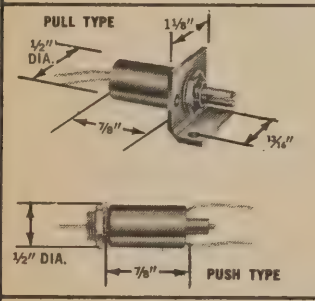
Tubular solenoid in six models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: 5/16"-32. Shipping weight: 3.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net Ea. 1-24
T3.5 x 9	Inter	12DC	11 oz. at 1/32"	1 oz. at ½"	14	10	$3.26
T3.5 x 9	Cont	12DC	4 oz. at 1/32"	.25 oz. at 5/16"	80	2	3.36
T3.5 x 9	Inter	24DC	11 oz. at 1/32"	1 oz. at ½"	57	10	3.26
T3.5 x 9	Cont	24DC	4.5 oz. at 1/32"	.25 oz. at 5/16"	260	2	3.36

PUSH TYPE

TP3.5 x 9	Inter	24DC	9 oz. at 1/32"	0.5 oz. at ½"	57	10	3.78
TP3.5 x 9	Cont	24DC	3.5 oz. at 1/32"	.25 oz. at ¼"	260	2	3.89



NO. T4 x 7

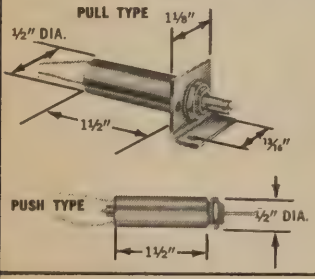
Tubular solenoid in four models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: ⅜"-32. Shipping weight: 3.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T4 x 7	Inter	24DC	10 oz. at 1/32"	1 oz. at ¼"	80	7	$4.41
T4 x 7	Cont	24DC	4 oz. at 1/32"	.25 oz. at 3/32"	240	2.4	4.52

PUSH TYPE

TP4 x 7	Inter	24DC	5 oz. at 1/16"	.75 oz. at ¼"	80	7	4.91
TP4 x 7	Cont	24DC	1.5 oz. at 1/16"	.25 oz. at ⅛"	240	2.4	5.02



NO. T4 x 12

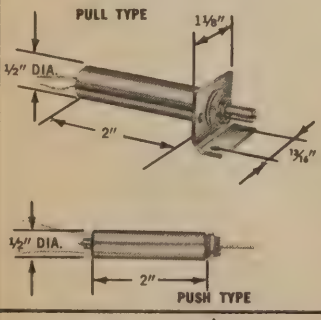
Tubular solenoid in four models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: ⅜"-32. Shipping weight: 3.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T4 x 12	Inter	24DC	15 oz. at 1/32"	1 oz. at ¾"	38	15	$4.73
T4 x 12	Cont	24DC	8 oz. at 1/32"	1 oz. at 5/16"	160	3.5	4.83

PUSH TYPE

TP4 x 12	Inter	24DC	12 oz. at 1/32"	0.5 oz. at ¾"	38	15	5.25
TP4 x 12	Cont	24DC	6 oz. at 1/32"	0.5 oz. at 5/16"	160	3.5	5.36



NO. T4 x 16

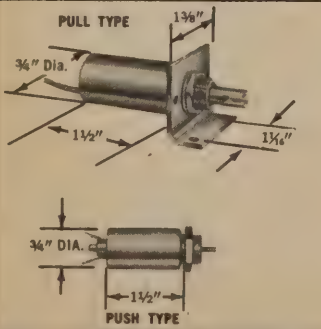
Tubular solenoid in six models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: ⅜"-32. Shipping weight: 3.5 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T4 x 16	Inter	12DC	17 oz. at 1/32"	2 oz. at 1⅛"	6	20	$5.04
T4 x 16	Cont	12DC	10 oz. at 1/32"	0.5 oz. at ⅞"	36	4	5.15
T4 x 16	Inter	24DC	17 oz. at 1/32"	2 oz. at 1⅛"	24	20	5.04
T4 x 16	Cont	24DC	10 oz. at 1/32"	0.5 oz. at ⅞"	145	4	5.15

PUSH TYPE

TP4 x 16	Inter	24DC	14 oz. at 1/32"	1.5 oz. at 1⅛"	24	20	5.57
TP4 x 16	Cont	24DC	8 oz. at 1/32"	0.5 oz. at ¾"	145	4	5.67



NO. T6 x 12

Tubular solenoid in six models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: 15/32"-32. Shipping weight: 5 oz.

PULL TYPE

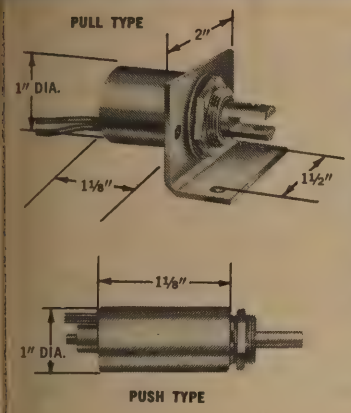
Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T6 x 12	Inter	12DC	30 oz. at 1/16"	2 oz. at ⅞"	6.5	22	$5.25
T6 x 12	Cont	12DC	16 oz. at 1/16"	1 oz. at ½"	41	3.5	5.36
T6 x 12	Inter	24DC	30 oz. at 1/16"	2 oz. at ⅞"	25	22	5.25
T6 x 12	Cont	24DC	16 oz. at 1/16"	1.5 oz. at ½"	165	3.5	5.36

PUSH TYPE

TP6 x 12	Inter	24DC	25 oz. at 1/16"	1.5 oz. at ⅞"	25	22	5.78
TP6 x 12	Cont	24DC	13 oz. at 1/16"	1 oz. at ½"	165	3.5	5.88

© United Technical Publications

GUARDIAN® ELECTRIC TUBULAR SOLENOIDS



NO. T8 x 9

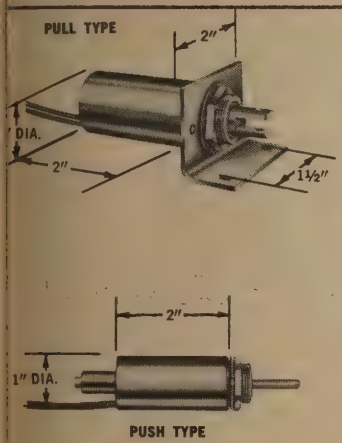
Tubular solenoid in four models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: ¾"-24. Shipping weight: 6 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T8 x 9	Inter	24DC	50 oz. at 1/16"	1 oz. at 9/16"	30	19	$5.41
T8 x 9	Cont	24DC	13 oz. at 1/16"	1 oz. at 3/8"	145	4	5.46

PUSH TYPE

TP8 x 9	Inter	24DC	40 oz. at 1/16"	1 oz. at 9/16"	30	19	5.91
TP8 x 9	Cont	24DC	11 oz. at 1/16"	1 oz. at 3/8"	145	4	5.96



NO. T8 x 16

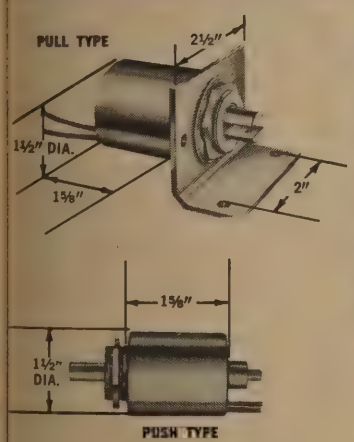
Tubular solenoid in six models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: ¾"-24. Shipping weight: 6 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T8 x 16	Inter	12DC	80 oz. at 1/16"	2 oz. at 1¼"	2.7	38	$5.67
T8 x 16	Cont	12DC	32 oz. at 1/16"	2 oz. at 5/8"	26	5.5	5.78
T8 x 16	Inter	24DC	80 oz. at 1/16"	2 oz. at 1¼"	15	38	5.67
T8 x 16	Cont	24DC	32 oz. at 1/16"	2 oz. at 5/8"	105	5.5	5.78

PUSH TYPE

TP8 x 16	Inter	24DC	65 oz. at 1/16"	1.75 oz. at 1¼"	15	38	6.17
TP8 x 16	Cont	24DC	26 oz. at 1/16"	1.75 oz. at 5/8"	105	5.5	6.28



NO. T12 x 13

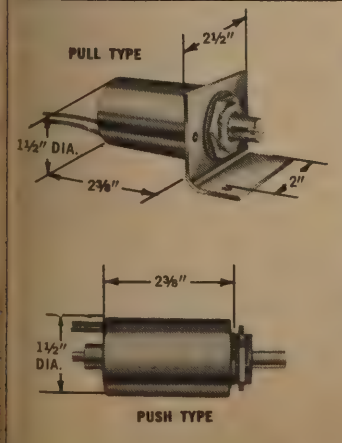
Tubular solenoid in four models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: 1"-27. Shipping weight: 7 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T12 x 13	Inter	24DC	150 oz. at 1/8"	8 oz. at 7/8"	14	40	$6.83
T12 x 13	Cont	24DC	48 oz. at 1/8"	1 oz. at 3/4"	85	7	7.04

PUSH TYPE

TP12x13	Inter	24DC	120 oz. at 1/8"	6.5 oz. at 7/8"	14	40	7.33
TP12x13	Cont	24DC	48 oz. at 1/8"	1 oz. at 3/4"	85	7	7.54



NO. T12 x 19

Tubular solenoid in four models including choice of either pull or push type operation. Both types include mounting bracket. Insulation material: Class "A" (105°C). Termination: 6 inch leads. Mounting thread size: 1"-27. Shipping weight: 8 oz.

PULL TYPE

Guardian No.	Duty	Coil Voltage	LIFTS AND STROKES (Minimum)	(Maximum)	Ω	W.	Net ea. 1-24
T12 x 19	Inter	24DC	165 oz. at 1/8"	6 oz. at 1½"	9.5	60	$7.46
T12 x 19	Cont	24DC	80 oz. at 1/8"	1 oz. at 1¼"	59	10	7.56

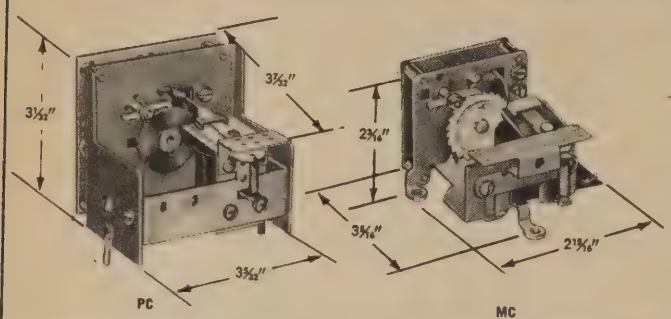
PUSH TYPE

TP12x19	Inter	24DC	130 oz. at 1/8"	5 oz. at 1½"	9.5	60	7.96
TP12x19	Cont	24DC	65 oz. at 1/8"	1 oz. at 1"	59	10	8.06

GUARDIAN® ELECTRIC STEPPERS

STEPPING CONTROLS

For accurate sequence selecting, pulse multiplying, pulse dividing, circuit selecting, automatic homing, remote homing, counting and latching. Guardian steppers are specified for automatic control of electrically operated business machines, accumulators (coin and other), animated displays, electrical scoreboards, automatic overhead garage doors, assembly line controls, automatic packaging (loading) controls, sump pump controls, commercial slide projectors, among others. All Guardian steppers except Series 705 are intermittent duty. All are direct-drive units with switching operations completed upon energization.

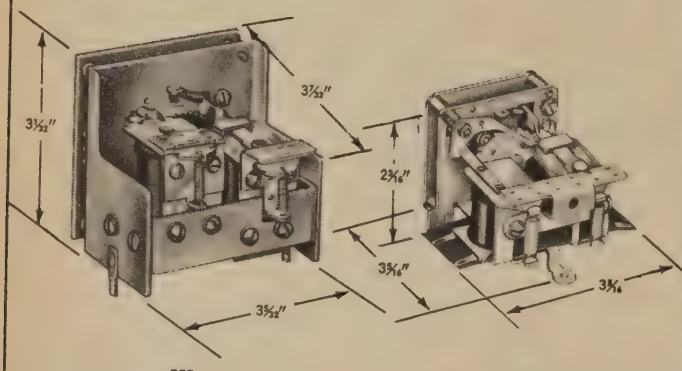


PC MC

CONTINUOUS ROTATION

The circuit selection wiper on Continuous Rotation Steppers moves in one direction only, upon energization of the step coil. This type of stepper is available in standard 24 point (MC) or 40 point (PC). The Guardian MC Midget Continuous Rotation Stepper is particularly adaptable to repetitive sequence functions. The 24 bridging contact deck is evenly divisible by eight possible sequences. The PC stepper features self-stepping speeds up to 30 steps per second and mechanical life expectancy of over 4,000,000 steps.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts	Max. Steps per Second	Shipping Weight Ounces	Net Ea. 1-24
IR-PC-120AC	30	40	40	40	20	17	$23.49
IR-MC-120AC	17	30	24	24	20	9½	17.39



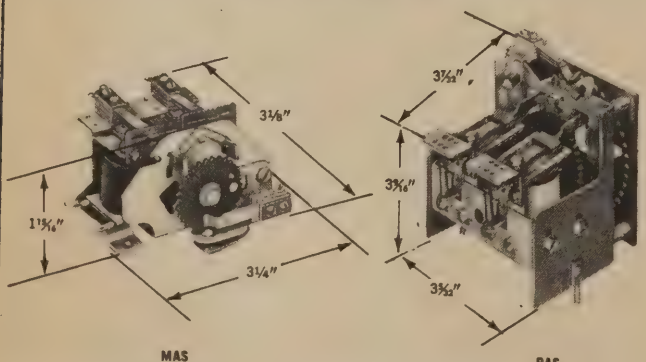
PER MER

ELECTRICAL RESET

Type MER. A direct drive (steps on energization) with positive mechanical reset interlock actuated by the reset magnet and unlocked on the first energization of the step magnet. Assures positive reset on as short a pulse as one-hundredth of a second. By interconnecting two or more Steppers, count can be increased to any desired total counting by tens, or any convenient multiple. Will control a sequence of operation and then automatically reset to starting position. The circuit selecting wiper on Electrical Reset Steppers can be reset to zero or home from any desired position, by energization of the reset magnet. They are frequently employed to record counts by various numerical groups, then resetting automatically.

Type PER. Operation same as MER but with up to 36 active contacts.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts	Max. Steps per Second	Shipping Weight Ounces	Net Ea. 1-24
IR-PER-120AC	35-7¶	50-10¶	40	36	20	22	$30.92
MER-120AC	20-8¶	35- 9¶	24	22	20	11½	18.56
MER-24DC	20-8¶	35- 9¶	24	22	20	11½	18.56



MAS PAS

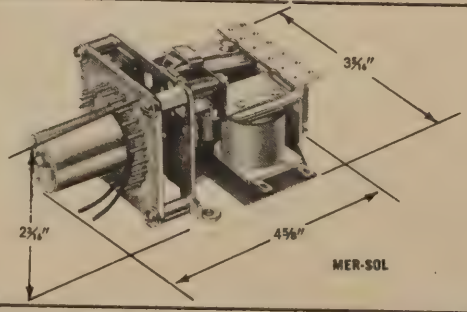
ADD AND SUBTRACT

Add and subtract steppers are basically continuous rotation types with the added feature of being able to reverse the movement of the selecting wiper when required.

Type MAS. A midget add and subtract stepper incorporating a cam actuated switch which operates at zero position. Used primarily to indicate a zero balance between pulses supplied to the "add" coil as compared to pulses received by the "subtract" coil.

Type PAS. New Bi-directional steppers whereby the selector wiper moves either direction depending on which of the coils is energized. Supplied with .057" dia. AMP quick-connect terminals arranged in circle on deck, and also includes a form "C" cam switch.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts	Max. Steps per Second	Shipping Weight Ounces	Net Ea. 1-24
IR-MAS-120AC	9	12	30	‡	10	11	$20.33
IR-PAS-120AC	35	50	40	40†	29	22	30.92



MER-SOL

FRICTION-FREE ELECTRICAL RESET

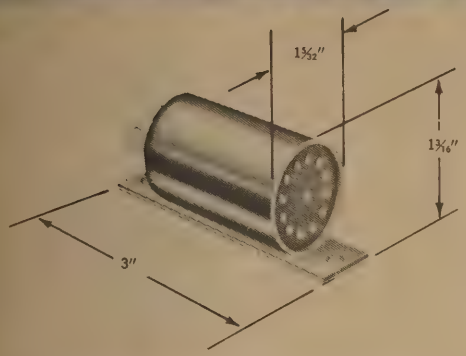
All features of the widely used Guardian MER 24 point electrical reset stepper . . . PLUS Solenoid "lifts" wiper contacts when stepping to reduce friction . . . and arcing. Increased contact ratings to 5 amps resistive at 120 volts AC. Increased function capability. Increased dependability. Increased life expectancy — now up to 10,000,000 steps. Compact design.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts	Max. Steps per Second	Shipping Weight Ounces	Net Ea. 1-24
MER-SOL-120AC	20-8¶	20-9¶	24	22	20	14	$26.48
MER-SOL-24DC	20-8¶	20-9¶	24	22	20	14	26.48

NOTES: All stepper contact points are rated 1½ amps resistive, at 120 V., 60 Hz Coil* Voltages are 120 AC, 60 Hz and 24 DC.
* Steppers will operate satisfactorily at 15% below or 10% above rated voltage.
¶ Listings are for stepping coil and reset coil, respectively.
† Includes Zero (0) position.
‡ Zero (0) position switch only.

© United Technical Publications

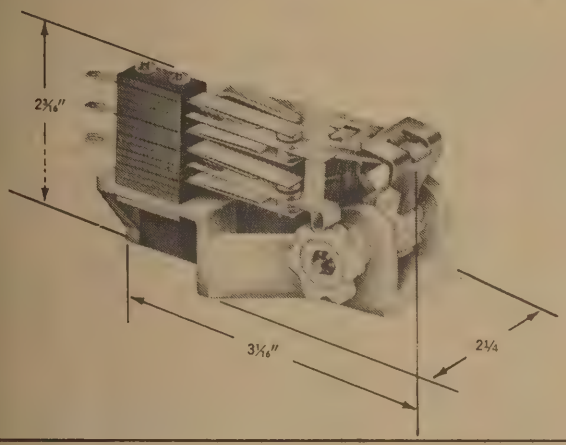
GUARDIAN® ELECTRIC — STEPPERS LEVER SWITCH



ROTOMITE STEPPER SERIES 705

An entirely new concept in stepper design, the Guardian "Rotomite" is first with maximum stepper control in minimum space. Offering high contact rating of 3 amps resistive, 1 amp inductive (50% PF). Featuring continuous duty operation with life well in excess of one million steps, the completely enclosed Rotomite is geared for continuous rotation of 12 positions. A few Rotomite applications presently include computers, business machines, lighting and vending controls, counting and sorting devices, and model trains. Shipping weight, 5 oz.

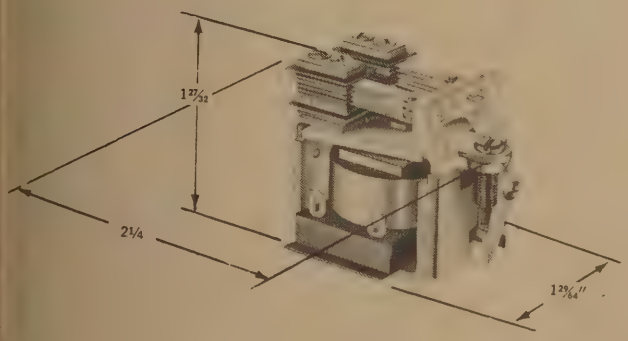
Guardian No.	No. Points	Coil Voltage	Net ea. 1-24
IR-705-12P-6D	12	6DC	$7.26
IR-705-12P-12D	12	12DC	7.26
IR-705-12P-24D	12	24DC	7.26



SERIES 660 - 665 SEQUENCE

Intended to perform switching operations in a repetitive transfer sequence. Each electrical impulse moves the switch contacts to the opposite position in the sequence. Applications include lights, signs, motors, appliances and similar units. Contacts rated up to 12½ amps, 120V., 60 Hz, non-inductive load. Shipping weight, 8 oz. Mounting: 4 holes 8-32 (NC-2B).

Guardian No.	Coil Voltage	Contact Comb.	Net ea. 1-24
660-C-24A	24AC	SPDT	$7.54
660-2C-24A	24AC	DPDT	8.14
660-4C-24A	24AC	4PDT	11.83
660-C-120A	120AC	SPDT	7.54
660-2C-120A	120AC	DPDT	8.14
660-4C-120A	120AC	4PDT	11.83
665-C-24D	24DC	SPDT	7.54
665-2C-24D	24DC	DPDT	8.14
665-4C-24D	24DC	4PDT	11.83



NEW 840L ON/OFF STEPPER

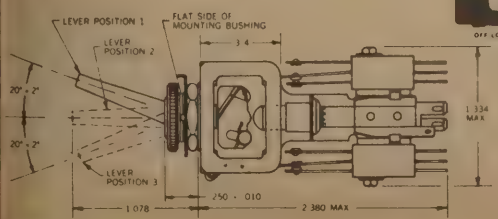
SINGLE COIL IMPULSE OPERATED MECHANICAL LATCHING RELAY STEPPER

New, improved, compact Latching Relay for positive on/off control of positioning devices, remote controls, lighting circuits and many additional applications. SPDT, DPDT or 4PDT contact combinations. Impulse as short as 20 MS energizes coil to reverse position of switches. Holds last position of switch with coil de-energized. Contacts rated for 10 amps at 120VAC, 60 Hz non-inductive. Power requirement: 8.2 volt-amperes. Solder lug terminals for coils and contacts. Shipping weight, 5.2 oz. Mounting: Single mounting hole tapped 8-32 (NC-2B).

Guardian No.	Coil Voltage	Contact Comb.	Net ea. 1-24
840L-C-24A	24AC	SPDT	$5.23
840L-2C-24A	24AC	DPDT	6.30
840L-4C-24A	24AC	4PDT	9.00
840L-C-120A	120AC	SPDT	5.23
840L-2C-120A	120AC	DPDT	6.30
840L-4C-120A	120AC	4PDT	9.00







ILLUMINATED LEVER SWITCHES

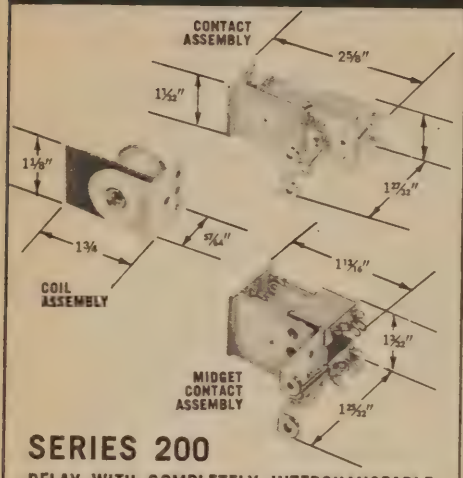
WITH SNAP-IN CAM INSERTS

Bushing mounted illuminated lever switches capable of mounting vertically on 1⅜" centers and horizontally on ¾" centers. Mount in panels up to 1/16" thick with behind panel size .750" x 1.334" x 2.380" max. Supplied with 28 volt lamp and red and green insertable color filters. (Center position on 3 position switches remains clear.) Available in Locked-off-Locked (LOL), Locked-locked (LL), and Locked-Momentary (LM) in either 4 or 10 amps (110VAC Resistive). Other switching position configurations possible with easily replaceable cams. Terminals, .110 quick disconnect.

Guardian No.	Net ea. 1-24	Guardian No.	Net ea. 1-24
LOL-2C-10 Amp	$4.00	LOL-4C-4 Amp	$4.95
LL-2C-10 Amp	4.00	LL-4C-4 Amp	4.95
LM-2C-10 Amp	4.00	LM-4C-4 Amp	4.95

CAM KIT — 12 inserts for 9 switching positions; 1-9 $1.70; 10 & up $1.60.
COLOR FILTER/LAMP KIT . . . 28 volt lamp; socket; retainer clip; 2 red, 2 green filters. 1-9 $1.10; 10 & up $1.00.

GUARDIAN® ELECTRIC OPEN RELAYS



SERIES 200

RELAY WITH COMPLETELY INTERCHANGEABLE COIL AND CONTACT ASSEMBLIES

The coil consists of the coil and field piece; the contact assembly consists of switch blades, armature; return spring and mounting bracket. The Guardian Midget Contact Assembly is interchangeable with the standard Series 200 contact assembly. Available with SPDT, DPDT or 4PDT contact switch assemblies, each suitable for use with any AC or DC coil.

SERIES 200 RELAY

Guardian No.	Volts	Coil	Net ea. 1-24
200-6A	6	AC	$2.04
200-12A	12	AC	2.04
200-24A	24	AC	2.04
200-120A	120	AC	2.37
200-240A	240	AC	3.14
200-6D	6	DC	2.20
200-12D	12	DC	2.20
200-24D	24	DC	2.20
200-32D	32	DC	2.20
200-110D	110	DC	2.92
200-5,000D	†	DC	2.53
200-10,000D	†	DC	2.92

† Plate Circuit

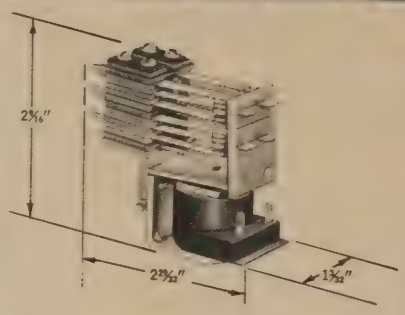
CONTACT SWITCH ASSEMBLIES

Guardian No.	Type	Cont. Amps	Cont. Comb.	Net ea. 1-24
200-1	Standard	8	SPDT	$1.76
200-2	Standard	8	DPDT	2.31
200-4	Standard	12.5	DPDT	2.59
200-5	Standard	8	4PDT	4.07
200-M1	Midget	10	SPDT	1.65
200-M2	Midget	10	DPDT	2.04
200-M5	Midget	8	4PDT	3.30

CONTACT SWITCH PARTS

Guardian No.	Type	Net ea. 1-24
200-3	Standard	$1.76
200-M3	Midget	1.76

Use contact switch parts 200-3 for adding poles to contact switch assemblies 200-1 and 200-2. Use midget contact switch parts 200-M3 for adding poles to midget contact switch assemblies 200-M1 and 200-M2.



SERIES 240U - 245U

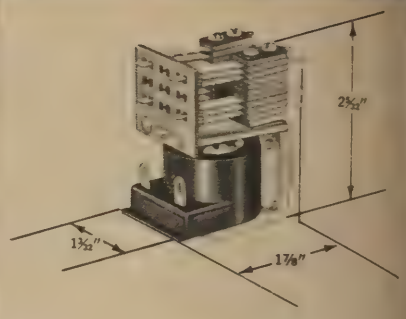
15 AMPERE RELAY

Designed for contact ratings up to 15 amps, Guardian series 240U AC and 245U DC relays are compact, reliable, inexpensive. Factory pretested and adjusted to be ready for assembly into your product. Contact rating is 15 amp, 120V., 60 Hz non-inductive load. Easy assembly with 8-32 single-screw, center-hole mounting. Shipping weight 4.5 oz.

U/L Recognized Component File #E-23524A

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	Net ea. 1-24
240U-A-24A	24	24AC	SPST*	$3.57
240U-2C-24A	24	24AC	DPDT	4.48
240U-4C-24A	24	24AC	4PDT	6.57
240U-A-120A	550	120AC	SPST*	3.57
240U-2C-120A	550	120AC	DPDT	4.48
240U-4C-120A	550	120AC	4PDT	6.57
245U-A-6D	12	6DC	SPST*	3.57
245U-2C-6D	12	6DC	DPDT	4.48
245U-4C-6D	12	6DC	4PDT	6.57
245U-A-12D	50	12DC	SPST*	3.57
245U-2C-12D	50	12DC	DPDT	4.48
245U-4C-12D	50	12DC	4PDT	6.57
245U-A-24D	200	24DC	SPST*	3.57
245U-2C-24D	200	24DC	DPDT	4.48
245U-4C-24D	200	24DC	4PDT	6.57

* Normally open



SERIES 640U - 645U

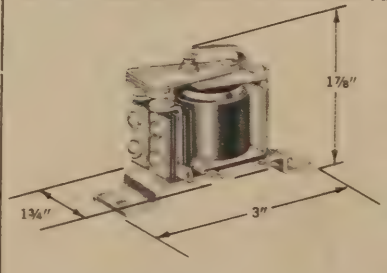
ALL PURPOSE ECONOMY RELAY 10 AMPERE

A compact, lightweight relay capable of unusually heavy power control for its size. Long life, high quality relay available in a variety of AC and DC voltages with a selection of contact combinations. All contact ratings are 10 amps. Contact ratings at 60 Hz 120V. non-inductive load. 8-32 single screw, center pole mounting. Shipping weight, 3.5 oz.

U/L Recognized Component File #E-17260.

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	Net ea. 1-24
IR-640U-A-24A	24	24AC	SPST*	$3.19
IR-640U-C-24A	24	24AC	SPDT	3.47
IR-640U-2C-24A	24	24AC	DPDT	3.74
IR-640U-4C-24A	24	24AC	4PDT	5.50
IR-640U-A-120A	550	120AC	SPST*	3.19
IR-640U-C-120A	550	120AC	SPDT	3.47
IR-640U-2C-120A	550	120AC	DPDT	3.74
IR-640U-4C-120A	550	120AC	4PDT	5.50
IR-640U-2C-240A	2950	240AC	DPDT	4.62
IR-645U-A-6D	12	6DC	SPST*	3.19
IR-645U-C-6D	12	6DC	SPDT	3.47
IR-645U-2C-6D	12	6DC	DPDT	3.74
IR-645U-4C-6D	12	6DC	4PDT	5.50
IR-645U-A-12D	50	12DC	SPST*	3.19
IR-645U-C-12D	50	12DC	SPDT	3.47
IR-645U-2C-12D	50	12DC	DPDT	3.74
IR-645U-4C-12D	50	12DC	4PDT	5.50
IR-645U-A-24D	200	24DC	SPST*	3.19
IR-645U-C-24D	200	24DC	SPDT	3.47
IR-645U-2C-24D	200	24DC	DPDT	3.74
IR-645U-4C-24D	200	24DC	4PDT	5.50
IR-645U-A-110D	4000	110DC	SPST*	3.74
IR-645U-C-110D	4000	110DC	SPDT	4.07
IR-645U-2C-110D	4000	110DC	DPDT	4.34
IR-645U-4C-110D	4000	110DC	4PDT	5.78

* Normally open



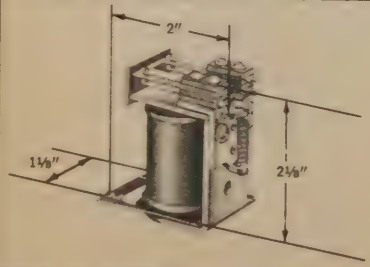
SERIES 220

HEAVY DUTY INDUSTRIAL AC RELAY 20 AMPERE

This rugged unit makes and breaks up to 20 amps, at 240 volts. Armature is equipped with phenolic contact mounting block carrying 5⁄16" dual contacts. Phenolic is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in dual SPST, normally open contact combination only. Contact rating 20 amps at 60 Hz, 240VAC non-inductive load. Mounting: Mounting holes — clearance for 8-32 with 2¹⁹⁄₃₂" centers. Shipping weight, 5.5 oz.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
IR-220-A-24A	24AC	25	SPST*	$4.95
IR-220-A-120A	120AC	600	SPST*	5.56
IR-220-A-240A	240AC	2,500	SPST*	6.11

* Normally Open



SERIES 625

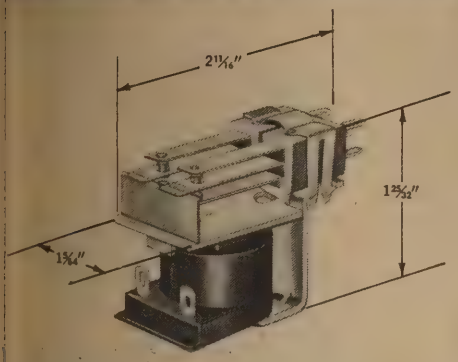
PLATE CIRCUIT DC RELAY — 10 AMPERE

Has extra long coil for greater sensitivity. Adaptable to voltage operation as well as sensitive plate circuit control installations. Coil impregnated for reliability and longer life. Average power requirement, 0.2 watt. Contacts, fine silver. Contact ratings, 10 amps. Mounting: One 8-32 (NC-2) center hole. Shipping weight, 5.5 oz.

Guardian No.	Oper. Mils	Coil Res.	Cont. Comb.	Net ea. 1-24
IR-625-2.5	9 M.A.	2,500	DPDT	$4.90
IR-625-5	6.3 M.A.	5,000	DPDT	5.23
IR-625-10	4.5 M.A.	10,000	DPDT	6.38

© United Technical Publications

GUARDIAN® ELECTRIC OPEN RELAYS



SERIES 900-905
SERIES 910-915

10 AMP RELAY

- U/L Recognized component
- Designed with reduced number of parts for long, trouble-free service
- Has keyed and locked lifter

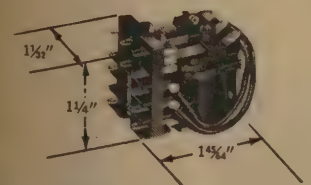
Series 910 is exactly the same as the 900 relay, both electrically and mechanically, but with 3/16" quick disconnects instead of soldered termination.

Dependable, low cost, DPDT relay featuring new, trouble-free design that incorporates a minimum of parts. Contacts all rated 10 amps, 120VAC resistive load. Has molded switches, one-piece mounting clip and return spring; molded bobbin and coil cover. Average shipping weight, 6 oz.

Guardian No.	Coil Res.	Coil Voltage	Net ea. 1-9
900-2C-24A	24	24AC	$1.90
900-2C-120A	750	120AC	1.90
900-2C-240A	2950	240AC	1.90
905-2C-6D	8	6DC	1.90
905-2C-12D	32	12DC	1.90
905-2C-24D	130	24DC	1.90
910-2C-24A	24	24AC	1.90
910-2C-120A	750	120AC	1.90
910-2C-240A	2950	240AC	1.90
915-2C-6D	8	6DC	1.90
915-2C-12D	32	12DC	1.90
915-2C-24D	130	24DC	1.90

U/L Recognized Component File #E-23524B

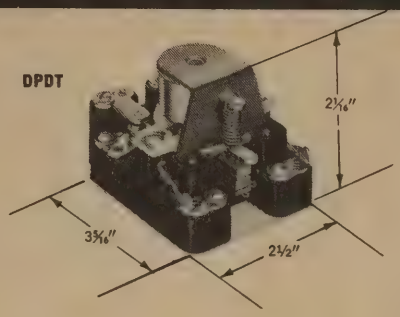
Further savings are available when above Series relays are purchased in bulk packs of 50 units. Relays are supplied nested in new convenient "form fitted" asembly line trays . . . one package of 50 — $76.50 ea.; 2 and up — $67.00 ea.



SERIES 1240 - 1245

NEW SMALL, EFFICIENT MEDIUM POWER RELAY — 10 AMPERE

Highly efficient relay for communications, automation, remote control switching circuits and laboratory applications. All terminals are solder lug type and molded in phenolic panel block for coils as well as contacts. Barriers in panel block raised to meet U/L over-surface spacing; U/L insulation throughout. Contacts rated 10 amps at 60 Hz, 120 VAC, non-inductive load. Mounting: Single mounting hole, 6-32 tap. Shipping weight, 2.5 oz.



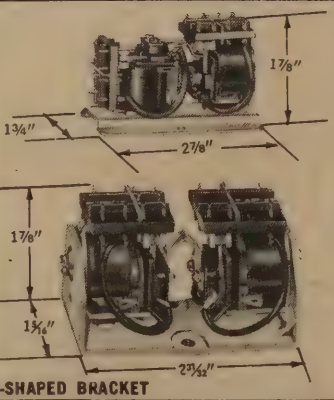
SERIES 2600U - 2605U

25 AMPERE POWER RELAY

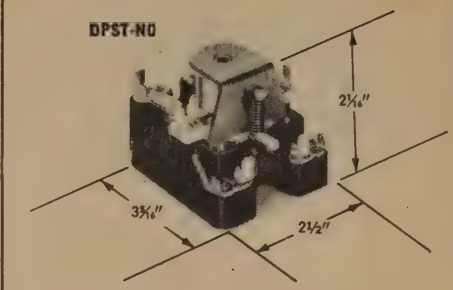
New line of power relays with double pole double throw contacts rated at 25 amperes. Inverted coil construction protects armature and contacts from inadvertent mechanical damage or electrical shorting. Series 2600U-DPDT-AC coils are rated for continuous duty at 240 VAC, with 75% power factor; operating power requirement is 9.5 volt amperes, 60 Hz. Series 2600U and 2605U have easily accessible screw type terminals as pictured; also available are ¼" AMP quick connect terminals as pictured on series 2620U and 2625U. (Purchase 2600 — Q.C. terminal kit for easy "do-it-yourself" conversion). "Press to Test" armature lever makes for convenient manual circuit testing. Recessed SPDT auxiliary switch as illustrated is not included but is simple to mount and may be purchased separately if needed; auxiliary switch has solder lug blade tails and is rated for 10 ampere operation. These new 25 ampere power relays are very compact with a shipping weight of only 8 ounces. For mounting there are two .196" diameter holes in the base; these are located on 1 7/8" centers.

U/L Recognized File #E-23524A

Guardian No.	Volts	Net ea. 1-24
2600U-DPDT-24A	24AC	$7.43
2600U-DPDT-120A	120AC	7.43
2600U-DPDT-240A	240AC	7.81
2605U-DPDT-12D	12DC	7.43
2605U-DPDT-24D	24DC	7.43
2605U-DPDT-110D	110DC	7.81



U-SHAPED BRACKET



SERIES 2620U - 2625U

25 AMPERE POWER RELAY

Compatible line of power relays with double pole single throw contacts (normally open). Same inverted coil construction as for 2600U and 2605U. Important note: Series 2620U and 2625U are manufactured with the easily accessible screw type terminals as pictured on series 2600U and 2605U. The ¼" AMP quick connect terminals pictured here are available in the 2600 Q.C. terminal kit for easy "do-it-yourself" installation. Same "Press to Test" armature lever as for 2600U and 2605U. Auxiliary switch may be added if desired. Overall dimensions, shipping weight and mounting provisions are identical to the compatible DPDT units of the 2600U and 2605U series.

U/L Recognized File #E-23524A

Guardian No.	Volts	Net ea. 1-24
2620U-DPST-24A	24AC	$5.65
2620U-DPST-120A	120AC	5.65
2620U-DPST-240A	240AC	6.15
2625U-DPST-12D	12DC	5.70
2625U-DPST-24D	24DC	5.70
2625U-DPST-110D	110DC	6.15
2600U-SPDT-Aux.-SW	—	1.49
2600U-QC. Terminal Kit	—	.74

INTERLOCK RELAYS
SERIES 1200/1200
SERIES 1200/1200UB

Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Units are electrically pulse operated with mechanical hold and electrical release. Contacts rated for 10 amps, at 60 Hz, 120VAC, non-inductive load. Coil resistance is 1,100 ohms. Shipping weight, 5.5 oz.

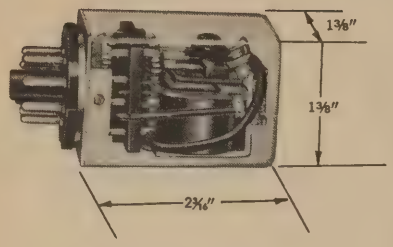
Guardian No.	Cont. Comb.	Coil Voltage	Net ea. 1-24
IR-1200/1200-4C-120A	4PDT	120AC	$10.40
IR-1200/1200UB-4C-120A	4PDT	120AC	10.40

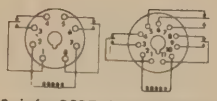
Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	Net ea. 1-24
1240-2C-6A	8	6AC	DPDT	$4.13
1240-3C-6A	4	6AC	3PDT	4.68
1240-2C-24A	59	24AC	DPDT	4.13
1240-3C-24A	50	24AC	3PDT	4.68
1240-2C-120A	1190	120AC	DPDT	4.13
1240-3C-120A	1000	120AC	3PDT	4.68
1240-2C-240A	5340	240AC	DPDT	4.40
1240-3C-240A	4750	240AC	3PDT	4.95

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	Net ea. 1-24
1245-2C-6D	18	6DC	DPDT	3.74
1245-3C-6D	18	6DC	3PDT	4.24
1245-2C-12D	75	12DC	DPDT	3.74
1245-3C-12D	75	12DC	3PDT	4.24
1245-2C-24D	300	24DC	DPDT	3.74
1245-3C-24D	300	24DC	3PDT.	4.24
1245-2C-110DC	6500	110DC	DPDT	4.13
1245-3C-110D	6500	110DC	3PDT	4.68

© United Technical Publications

GUARDIAN® ELECTRIC ENCLOSED RELAYS





8 pin for DPDT 11 pin for 3PDT

SERIES 1210 - 1215

ENCLOSED PLUG-IN RELAY — 10 AMPERE

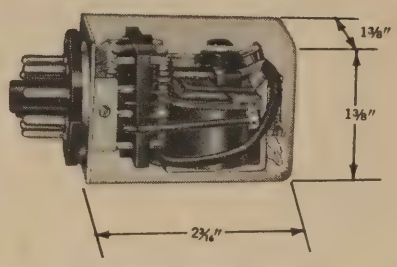
A powerful and economical relay enclosed in a transparent, lightweight Lexan case which has high impact strength, is unaffected by weather, and is resistant to temperatures of 200°F. Relay available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated for 10 amps at 60 Hz, 120VAC non-inductive load. Shipping weight, 3.5 oz.

U/L Recognized Component File #E-17260A (5 amp only)

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
1210-2C-6A	6AC	33	DPDT	$6.60
1210-3C-6A	6AC	33	3PDT	8.25
1210-2C-24A	24AC	54	DPDT	6.60
1210-3C-24A	24AC	54	3PDT	8.25
1210-2C-120A	120AC	1,100	DPDT	6.60
1210-3C-120A	120AC	1,100	3PDT	8.25
1210-2C-240A	240AC	5,000	DPDT	6.88
1210-3C-240A	240AC	5,000	3PDT	8.53
1215-2C-6D	6DC	18	DPDT	6.60
1215-3C-6D	6DC	18	3PDT	8.25
1215-2C-12D	12DC	75	DPDT	6.60
1215-3C-12D	12DC	75	3PDT	8.25
1215-2C-24D	24DC	300	DPDT	6.60
1215-3C-24D	24DC	300	3PDT	8.25
1215-2C-110D	110DC	6,500	DPDT	7.15
1215-3C-110D	110DC	6,500	3PDT	8.80

ENCLOSED PLATE CIRCUIT PLUG-IN RELAY

Guardian No.	Coil Mils	Coil Res.	Cont. Comb.	Net ea. 1-24
1215-2C-2.5	10 MA	2,500	DPDT	$6.82
1215-3C-2.5	12 MA	2,500	3PDT	7.98
1215-3C-5	7.2 MA	5,000	DPDT	6.93
1215-3C-5	8.5 MA	5,000	3PDT	8.25
1215-2C-10	5 MA	10,000	DPDT	7.15
1215-3C-10	6 MA	10,000	3PDT	8.53

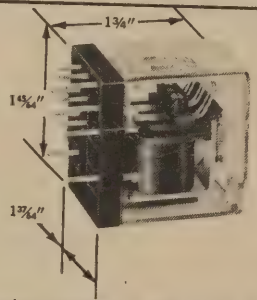


SERIES 1210N

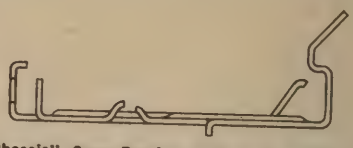
ENCLOSED PLUG-IN AC RELAY WITH BUILT-IN NEON LAMP TO INDICATE CIRCUIT FAULTS — 10 AMPERE

This plug-in relay utilizes a miniature neon lamp connected across coil terminals. The lamp lights each time the coil is energized, or indicates a circuit fault when lamp is "dark". Ideal for detecting circuit faults in relay banks, mass arrangements, or where relays are visibly located at intermediate switching points of the circuitry. Precludes the use of circuit testers. Available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated 10 amps at 120VAC 60 Hz, non-inductive load. Shipping weight, 3.5 oz.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
1210N-2C-120A	120AC	1,100	DPDT	$7.43
1210N-3C-120A	120AC	1,100	3PDT	8.80



SERIES 1220 AC — 1225 DC

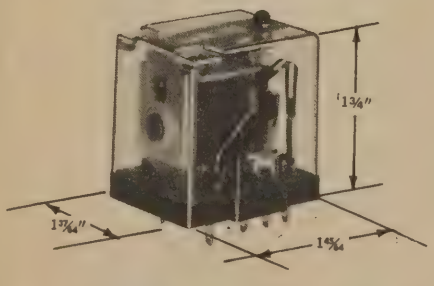


"Above Chassis" Snap Bracket accurately positions relay for quick connects or soldering.

Modern design of this relay has become the standard of the industry. Series 1220 and 1225 are reduced in height and cost by eliminating the radio-type plug and all the wiring between the relay and the plug. These series use the terminal panel itself as the male plug. Famous "UNI-GUARD" continuous-loop moving blades eliminate soldered connections. Cover snap-locks in place with a flush fit that guards against shorting. Universal terminals function as solder-lug, .110" quick connect, or socket plug-in. Mounting bracket for above chassis installation included with each relay. Contacts will safely switch 10 amperes at 120 VAC non-inductive in most applications and are U/L approved at 7 amperes.

U/L Recognition File #E-23524.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
IR-1220-2C-24A	24AC	54	DPDT	$4.40
IR-1220-2C-120A	120AC	1,110	DPDT	4.40
IR-1220-2C-240A	240AC	5,000	DPDT	4.68
IR-1220-3C-6A	6AC	3.3	3PDT	4.95
IR-1220-3C-24A	24AC	54	3PDT	4.95
IR-1220-3C-120A	120AC	1,110	3PDT	4.95
IR-1220-3C-240A	240AC	5,000	3PDT	5.23
IR-1225-2C-6D	6DC	18	DPDT	4.40
IR-1225-2C-12D	12DC	75	DPDT	4.40
IR-1225-2C-24D	24DC	300	DPDT	4.40
IR-1225-2C-110D	110DC	6,500	DPDT	4.68
IR-1225-3C-6D	6DC	18	3PDT	4.95
IR-1225-3C-12D	12DC	75	3PDT	4.95
IR-1225-3C-24D	24DC	300	3PDT	4.95
IR-1225-3C-110D	110DC	6,500	3PDT	5.23

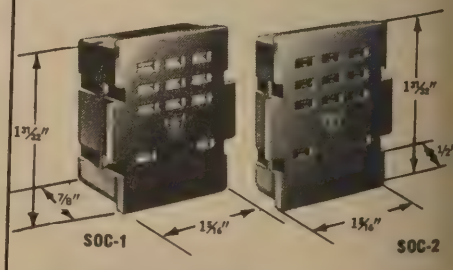


SERIES 1220M AC - 1225M DC

MANUAL RESET RELAY

Basic size and cost advantages of the Series 1220 AC and 1225 DC are obtainable off-the-shelf in a manual reset version. Height and cost are reduced through the elimination of the radio-type octal plug and the wiring between the relay and the plug. Unit is built to meet U/L requirements and features the "UNI-GUARD" continuous-loop moving blades. Double pole double throw contacts transfer when coil is energized, locking in the transferred position without further coil energy. Lock is released and contacts re-transfer only when manual reset button is pressed.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
IR-1220M-2C-24A	24A	54	DPDT	$6.05
IR-1220M-2C-120A	120A	1,110	DPDT	6.05
IR-1225M-2C-24D	24D	300	DPDT	6.05



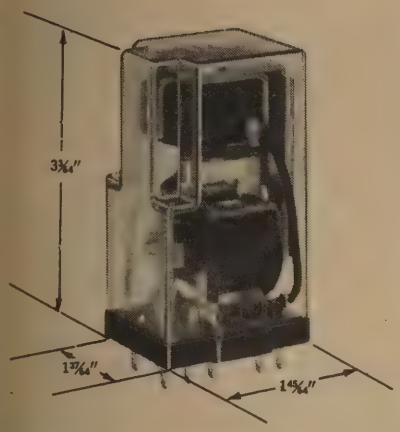
IR-1220 SOCKETS

1-9 — Net 65¢ each 10-up — Net 60¢ each

The 1220 snap-in socket has U/L component recognition when used with Guardian Relays. Socket terminal lugs can be soldered to or will accept AMP Series 110 quick connects.

© United Technical Publications

GUARDIAN® ELECTRIC ENCLOSED RELAYS

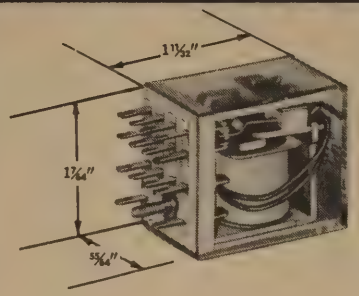


SERIES 1220/1220

ENCLOSED INTERLOCK

For an enclosed interlock or electrical reset relay the Guardian Series 1220/1220 has all the mounting and cost advantages of the Series 1220 and Series 1225. Double pole double throw contacts on relay transfer when relay coil is energized, locking in the transferred position without further coil energy. Lock is released and contacts re-transfer **only** when interlock (reset) magnet is energized. Contacts are rated for 10 amperes at 120 VAC non-inductive.

Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net ea. 1-24
IR-1220/1220-2C-24A	24A	54	DPDT	$13.75
IR-1220/1220-2C-120A	120A	1110	DPDT	13.75
IR-1225/1225-2C-24D	24D	300	DPDT	13.75



SERIES 1310 - 1315

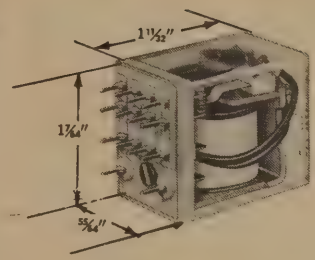
LONG LIFE 4PDT, 5 AMP — MINIATURE RELAY

4PDT . . . 5 amp Plug-In Relay available AC or DC. Contacts rated 5 amps at 30VDC or 120VAC resistive. Heat resistant, Lexan cover. Life in excess of 100 million operations. Weight: 1⅛ oz.

U/L Recognized File #E-23524

Guardian No.	Coil Voltage	Net ea. 1-24
1310-4C-6A	6AC	$5.00
1310-4C-12A	12AC	5.00
1310-4C-24A	24AC	5.00
1310-4C-120A	120AC	5.20
1315-4C-6D	6DC	4.30
1315-4C-12D	12DC	4.30
1315-4C-24D	24DC	4.30
1315-4C-110D	110DC	4.85

NOTE: For motor load applications, inquire about cadmium oxide contacts available on Series 1310-1315 through distributors, with prompt delivery from Guardian stock upon special order.



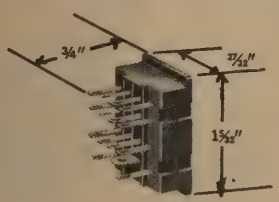
SERIES 1310P - 1315P

MINIATURE RELAY WITH PRINTED CIRCUIT TERMINATION

4PDT . . . 5 Amp Plug-In Relay available AC or DC. Contacts rated 5 amps at 30VDC or 120VAC resistive. Heat resistant Lexan cover. Life in excess of 100 million operations Weight: 1⅛ oz.

Guardian No.	Coil Voltage	Net ea. 1-24
1310P-4C-6A	6AC	$5.00
1310P-4C-12A	12AC	5.00
1310P-4C-24A	24AC	5.00
1310P-4C-120A	120AC	5.20
1315P-4C-6D	6DC	4.30
1315P-4C-12D	12DC	4.30
1315P-4C-24D	24DC	4.30
1315P-4C-110D	110DC	4.85

NOTE: For motor load applications, inquire about cadmium oxide contacts available on Series 1310P-1315P through distributors, with prompt delivery from Guardian stock upon special order.

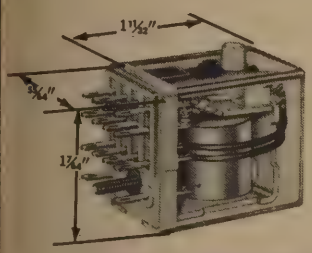


SERIES 1310 SOCKET

Select either the 1310-1 ST Series Relay Socket with solder terminals or the 1310-2 PC Relay Socket with printed circuit terminals for mounting your miniature relays. Panel cutout for socket should measure 1.015" x .858" with .025" radii at all four corners.

1310-1 ST Series Relay Socket (SOLDER TERMINALS) ..... 60¢ ea.

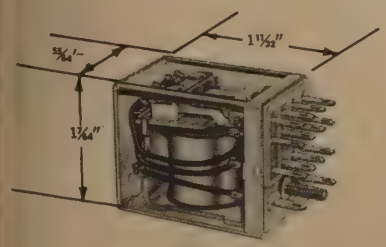
1310-2 PC Series Relay Socket (PRINTED CIRCUIT) ..... 60¢ ea.



SERIES 1310B - 1315B PUSH-TO-TEST RELAY

The same basic characteristics, size and cost advantages of the Series 1310-1315 relays, now available off-the-shelf in a "push-to-test" version. This 4PDT, 5 amp miniature relay is equipped with a readily accessible, insulated button which provides for checking relay and circuit performance without applying voltage to the relay coil. Weight: 1⅛ oz.

Guardian No.	Coil Voltage	Net ea. 1-24
1310B-4C-120A	120AC	$5.80
1315B-4C-24D	24DC	4.90
1315B-4C-110D	110DC	5.45



SERIES 1310N - 1315N

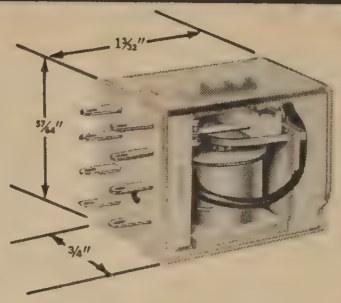
ENCLOSED, LONG LIFE MINIATURE PLUG-IN AC OR DC RELAY WITH BUILT-IN NEON LAMP TO INDICATE CIRCUIT FAULTS

This plug-in relay utilizes a miniature neon lamp connected across the coil terminals. The lamp glows each time the coil is energized, or indicates a circuit fault when lamp fails to glow upon circuit energization. Ideal for detecting circuit faults in relay banks, mass arrangements, or where relays are visibly located at intermediate switching points of the circuitry. Precludes the use of circuit testers. Relay is 4PDT with 120VAC operating coil. Contacts rated at 5 amps at 30VDC or 120VAC resistive. Heat resistant Lexan cover. Weight: 1⅛ oz.

Guardian No.	Coil Voltage	Cont. Comb.	Net ea. 1-24
1310N-4C-120A	120AC	4PDT	$5.80
1315N-4C-24D	24DC	4PDT	4.90
1315N-4C-110D	110DC	4PDT	5.45

GUARDIAN® ELECTRIC ENCLOSED RELAYS

NEW



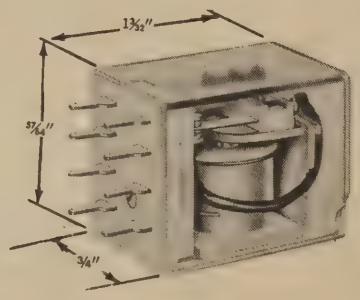
SERIES 1330 - 1335

NEW LOW COST DPDT PLUG-IN RELAYS FOR LARGE CONTROL CAPACITY IN A SMALL SIZE

Compact new DPDT . . . 5 amp Plug-In Relay available AC or DC. Ideal for circuitry found in business machines, photocopy equipment, computers, appliances . . . wherever you need reliable control with economy of space and cost. Contacts rated 5 amp at 30VDC or 120VAC resistive. Heat resistant Lexan cover. Weight: ¾oz.

Guardian No.	Coil Voltage	Coil Res.	Net ea. 1-24
1330-2C-6A	6AC	15	$3.80
1330-2C-12A	12AC	50	3.80
1330-2C-24A	24AC	245	3.80
1330-2C-120A	120AC	5400	4.00
1335-2C-6D	6DC	30	3.72
1335-2C-12D	12DC	125	3.72
1335-2C-24D	24DC	500	3.72

NEW

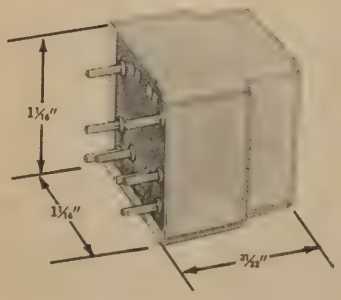


SERIES 1330P - 1335P

NEW, COMPACT, LOW COST MINIATURE RELAY WITH PRINTED CIRCUIT TERMINATION

DPDT . . . 5 amp Plug-In Relay available AC or DC. Contacts rated 5 amps at 30VDC or 120VAC resistive. Heat resistant Lexan cover. Weight: ¾ oz.

Guardian No.	Coil Voltage	Coil Res.	Net ea. 1-24
1330P-2C-6A	6AC	15	$3.80
1330P-2C-12A	12AC	50	3.80
1330P-2C-24A	24AC	245	3.80
1330P-2C-120A	120AC	5400	4.00
1335P-2C-6D	6DC	30	3.72
1335P-2C-12D	12DC	125	3.72
1335P-2C-24D	24DC	500	3.72

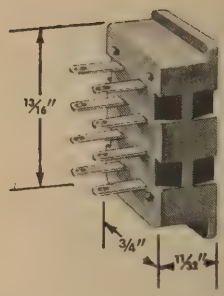


SERIES 1350PC - 1355PC

PRINTED CIRCUIT RELAYS 2PDT SWITCHING

For low power solid state circuitry. All terminals on .1" grid spacing for standard printed circuit board. Solders right on PC board. Conforms to U/L requirements for Office Appliances and Business Equipment. 1 watt normal power . . . 3500 ohms coil resistance (120 VAC - 60 Hz). Mechanical life in excess of 10 million operations. 5 amp resistive 120VAC 60 Hz contact rating. DPDT switching. Weight: 1 oz.

Guardian No.	Coil Voltage	Net ea. 1-24
IR-1350PC-2C-24A	24AC	$3.60
IR-1350PC-2C-120A	120AC	3.90
IR-1355PC-2C-6D	6DC	3.60
IR-1355PC-2C-12D	12DC	3.60
IR-1355PC-2C-24D	24DC	3.60

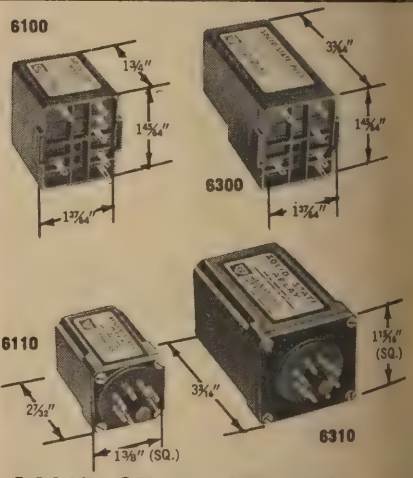


SERIES 1330 SOCKETS

Select either the 1330-1ST Series Relay Socket with solder terminals or the 1330-2PC Relay Socket with printed circuit terminals for mounting your miniature relays. Panel cutout for socket should measure .759" x .830" with .025" radii at all four corners. Recommended for .031" to .062" thick chassis.

1330-1 ST Series Relay Socket (Solder Terminals) ..... $.50 ea.

1330-2 PC Series Relay Socket (Printed Circuit) ..... $.50 ea.



SOLID STATE RELAYS SERIES 6100 - 6300

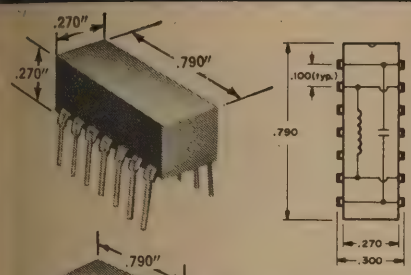
Universal AC or DC control voltage with complete circuit isolation from load switching circuit. Externally adjustable pull-in voltage level from 80-130 volts AC or DC, with close differential between pull-in and drop-out where accurate voltage sensing is required. Control of high inrush lamp, inductive or normal resistive loads from 10 ma to 3 amps. Internal filtering prevents random turn-on of "off" contacts.

"O" - Designates Octal Plug
"T" - Designates .110 QC base

Guardian No.	Weight	Net ea.1-24
6100-THA-1 Amp-SPST N.O.	4 oz.	$17.95
6110-OHA-1 Amp-SPST N.O.	4 oz.	18.50
6100-THC-1 Amp-SPDT	4 oz.	22.95
6110-OHC-1 Amp-SPDT	4 oz.	23.50
6300-THA-3 Amp-SPST N.O.	8 oz.	20.45
6310-OHA-3 Amp-SPST N.O.	8 oz.	20.95
6300-THC-3 Amp-SPDT	8 oz.	27.45
6310-OHC-3 Amp-SPDT	8 oz.	28.95

© United Technical Publication

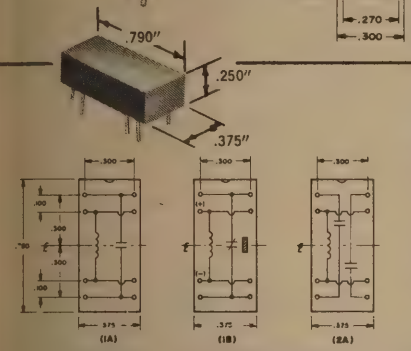
GUARDIAN® CALIFORNIA REED RELAYS



SERIES MDR MINI REED RELAYS

Compatible with dual-in-line integrated circuits. Terminals can be inserted into the same PC board as a 14-terminal dual-in-line IC. Operating sensitivity of the 5-volt DC coil makes it compatible with DTL and TTL logic families: has must-operate value of 3.75 volts at 25°C. **Contacts:** 1 Form A. **Contact Ratings:** 250 mA with 500 mA carry or maximum voltage of 28 VDC at 3 watts. **Contact Resistance:** 200 milliohms max. Breakdown Voltage: 200 VDC minimum. **Capacitance:** 0.25 pF typical. **Operate Time:** 0.350 msec typical, including bounce. **Release Time:** 0.025 msec typical. **Insulation Resistance:** 10^{10} ohms. **Temperature:** −55° to +85°C. **Terminals:** spaced .100".

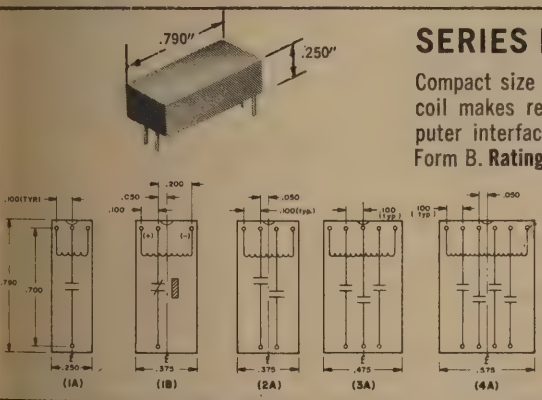
Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
MDR-1A005	5	1A	500	$5.35
MDR-1A006	6	1A	500	5.35
MDR-1A012	12	1A	1400	5.35
MDR-1A024	24	1A	3600	5.35



SERIES MDX MINI REED RELAYS

Guardian now offers a series of reed relays that are compatible with DTL and TTL logic families (5VDC). The relays can be inserted into the same printed circuit board as a 14 terminal dual-in-line IC. **Contacts:** 1A, 1B or 2A. **Ratings:** 250mA (carry 500mA); 28VDC, 3 watts maximum. **Operate Time:** 0.350 msec typical, including bounce. **Release Time:** 0.025 msec typical. **Insulation Resistance:** 10^{10} ohms. **Temperature:** −55° to +85°C. **Pins:** .023" dia., .125" long.

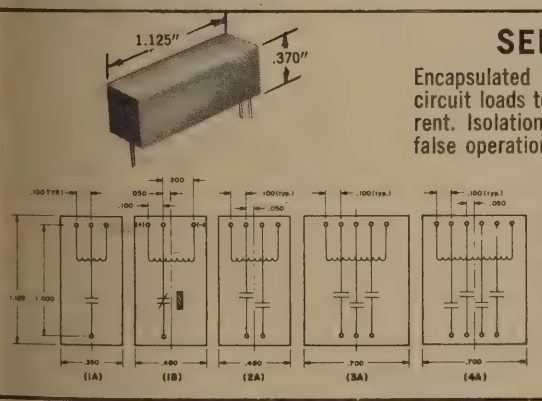
Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
MDX-1A005	5	1A	350	$5.10
MDX-1A006	6	1A	350	4.30
MDX-1A012	12	1A	1400	4.30
MDX-1A024	24	1A	3600	4.80
MDX-2A005	5	2A	150	6.30
MDX-2A006	6	2A	150	4.90
MDX-2A012	12	2A	600	4.90
MDX-2A024	24	2A	2400	5.30
MDX-1B005	5	1B	150	6.10
MDX-1B006	6	1B	150	4.70
MDX-1B012	12	1B	600	4.70
MDX-1B024	24	1B	2400	5.10



SERIES MRR MINI REED RELAYS

Compact size with 5, 6, 12 or 24 VDC coil. The 5-volt coil makes relay compatible with TTL logic for computer interface. **Contacts:** 1, 2, 3 or 4 Form A and 1 Form B. **Ratings:** 250 mA (carry 500 mA); 28 VDC, 3 watts maximum. **Contact Resistance:** 200 milliohms max. **Breakdown:** 200 VDC minimum. **Capacitance:** 0.25 pF typical. **Operate Time:** 0.350 msec typical including bounce. **Release Time:** 0.025 msec typical. **Insulation Resistance:** 10^{10} ohms. **Temperature:** −55° to +85°C. **Pins:** .020" dia., .125" long.

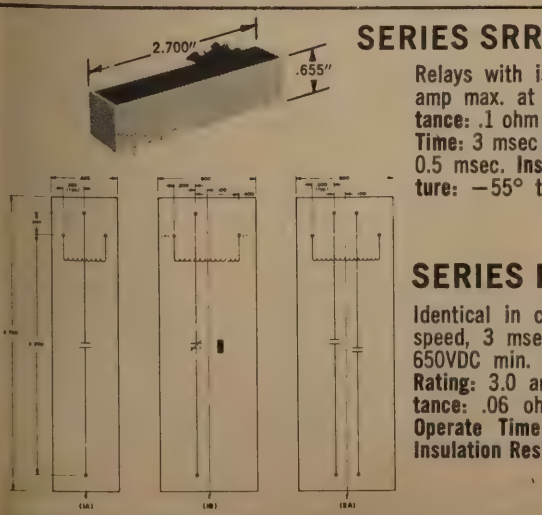
Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
MRR-1A005	5	1A	350	$5.10
MRR-1A006	6	1A	350	4.30
MRR-1A012	12	1A	1400	4.30
MRR-1A024	24	1A	3600	4.80
MRR-2A005	5	2A	150	6.30
MRR-2A006	6	2A	150	4.90
MRR-2A012	12	2A	600	4.90
MRR-2A024	24	2A	2400	5.30
MRR-3A006	6	3A	130	5.60
MRR-3A012	12	3A	520	5.60
MRR-3A024	24	3A	2000	5.90
MRR-4A006	6	4A	110	6.70
MRR-4A012	12	4A	450	6.70
MRR-4A024	24	4A	1600	6.90
MRR-1B005	150	1B	150	6.10
MRR-1B006	150	1B	150	4.70
MRR-1B012	600	1B	600	4.70
MRR-1B024	2400	1B	2400	5.10



SERIES GRR REED RELAYS

Encapsulated reed relays capable of switching dry circuit loads to 10 watts and 0.5 amp steady state current. Isolation between coil and contacts: immune to false operation by transients. Switching speed as fast as 500 μsec. **Contacts:** 1, 2, 3 or 4 Form A; 1 Form B. **Current Rating:** 500 mA max. **Voltage:** 200 VDC max. **Power:** 10 watts max. **Contact Resistance:** 200 milliohms max. **Breakdown:** 300 VDC min. **Capacitance:** 0.2 pF typ. **Operate Time:** 0.3 to 0.5 msec, including bounce. **Release Time:** 0.1 msec. **Insulation Resistance:** 10^{10} ohms. **Temperature:** −55° to +85°C. **Pins:** .023" dia., .125" long.

Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
GRR-1A006	6	1A	125	$3.50
GRR-1A012	12	1A	500	3.50
GRR-1A024	24	1A	2000	3.90
GRR-2A006	6	2A	110	4.60
GRR-2A012	12	2A	440	4.60
GRR-2A024	24	2A	1750	5.00
GRR-3A006	6	3A	75	5.90
GRR-3A012	12	3A	300	5.90
GRR-3A024	24	3A	1200	6.10
GRR-4A006	6	4A	55	6.90
GRR-4A012	12	4A	220	6.90
GRR-4A024	24	4A	900	7.00
GRR-1B006	6	1B	110	4.30
GRR-1B012	12	1B	440	4.30
GRR-1B024	24	1B	1750	4.70



SERIES SRR STANDARD REED RELAYS

Relays with isolation between input and output, 1.0 amp max. at 250VAC max. 15 watts. **Contact Resistance:** .1 ohm max. **Capacitance:** 1.2 pF typical. **Operate Time:** 3 msec typical, including bounce. **Release Time:** 0.5 msec. **Insulation Resistance:** 10^{9} ohms. **Temperature:** −55° to +85°C. **Pins:** .032" dia., .125" long.

Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
SRR-1A006	6	1A	125	$3.40
SRR-1A012	12	1A	500	3.40
SRR-1A024	24	1A	2000	3.70
SRR-2A006	6	2A	85	4.25
SRR-2A012	12	2A	340	4.25
SRR-2A024	24	2A	1360	4.50

SERIES PRR POWER REED RELAYS

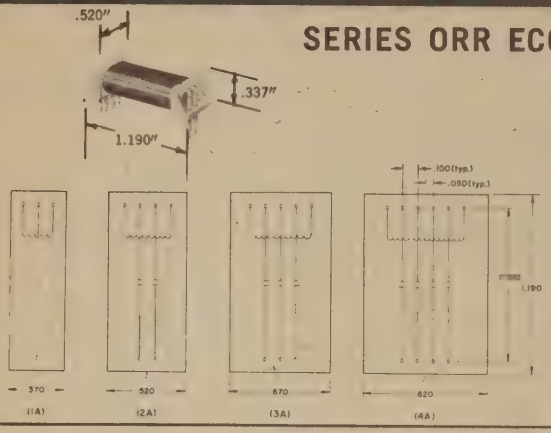
Identical in configuration to SRR. Typical switching speed, 3 msec at 220V max. (resistive), breakdown, 650VDC min. carrying current, 5 amps max. **Current Rating:** 3.0 amps max. **Power:** 50VA. **Contact Resistance:** .06 ohms max. **Capacitance:** 0.8 pF typical. **Operate Time:** 2.5 msec typical, including bounce. **Insulation Resistance:** 10^{10} ohms.

Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
PRR-1A006	6	1A	100	$6.80
PRR-1A012	12	1A	400	6.80
PRR-1A024	24	1A	1600	7.10
PRR-2A006	6	2A	75	8.90
PRR-2A012	12	2A	300	8.90
PRR-2A024	24	2A	1200	9.30

© United Technical Publications

GUARDIAN® CALIFORNIA REED RELAYS and SOLID STATE CONTROL

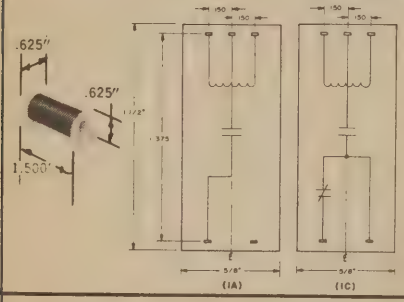
SERIES ORR ECONOMY REED RELAYS



Open frame economy reed relays that switch dry circuit loads to 10 watts and 0.5 amp steady state current. Switching speed as fast as 500 μsec. **Contacts:** 1, 2, 3, or 4 Form A. **Current Rating:** 500 mA max. **Voltage:** 200 VDC max. **Power:** 10 watts max. **Contact Resistance:** 200 milliohms max. **Breakdown:** 300 VDC min. **Capacitance:** 0.2 pF typ. **Operate Time:** 0.3 to 0.5 msec, including bounce. **Release Time:** 0.1 msec. **Insulation Resistance:** 10^{10} ohms. **Temperature:** −55° to +85°C. **Pin:** Fits .035″ dia. hole, .125″ long min.

Guardian No.	Nominal Voltage VDC	Cont. Comb.	Net ea. 1-24
ORR-1A006	6	1A	$2.50
ORR-1A012	12	1A	2.50
ORR-1A024	24	1A	2.90
ORR-2A006	6	2A	3.50
ORR-2A012	12	2A	3.50
ORR-2A024	24	2A	3.90
ORR-3A006	6	3A	4.20
ORR-3A012	12	3A	4.20
ORR-3A024	24	3A	4.60
ORR-4A006	6	4A	5.40
ORR-4A012	12	4A	5.40
ORR-4A024	24	4A	5.80

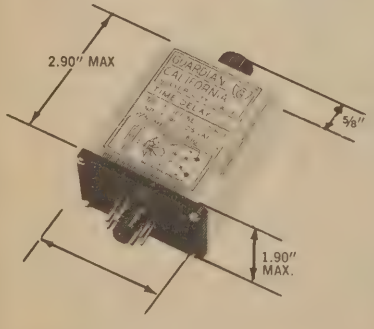
SERIES ERR ECONOMY REED RELAYS



Open frame economy reed relays that meet all the high standards of quality control found in Guardian products. **Contacts:** 1 Form A, 1 Form B, or 1 Form C. **Current Rating:** 500 mA on 1 Form A. **Voltage Rating:** 100 VDC max. **Power:** 15 watts max. **Contact Resistance:** 200 milliohms max. **Capacitance:** 0.3 pF typical. **Operate Time:** 2 msec typical, including bounce. **Release Time:** 0.1 msec. **Insulation Resistance:** 10^9 ohms. **Temperature:** −55° to +85°C. **Pins:** .045″ x .025″, .18″ long.

Guardian No.	Nominal Voltage VDC	Cont. Comb.	Coil Res.	Net ea. 1-24
ERR-1A006	6	1A	75	$1.92
ERR-1A012	12	1A	300	2.10
ERR-1A024	24	1A	1200	2.24
ERR-1B006	6	1B	75	2.56
ERR-1B012	12	1B	300	2.74
ERR-1B024	24	1B	1200	2.88
ERR-1C006	6	1C	75	4.70
ERR-1C012	12	1C	300	4.70
ERR-1C024	24	1C	1200	4.90

MET SERIES TIME DELAY

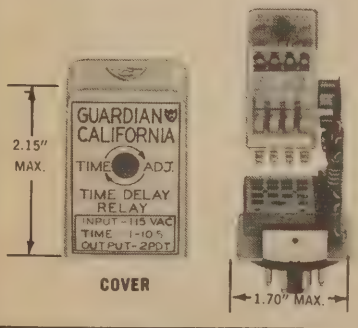


The MET Series of Time Delays are designed to replace many expensive units now on the market. They offer close tolerance repeatability at a low price. Designed for on-operate and on-release, with a range of .5 to 300 seconds, these low cost Time Delays provide a DPDT relay output of 10 amp resistive, 120 VAC, 50-60 Hz and operate on inputs of 120 VAC, 50-60 Hz, 24 VAC, 50-60 Hz or 24 VDC, polarity protected. These new Time Delays feature accuracy of ±10% of nominal setting over voltage and temperature range, repeatability to 1% within fixed conditions, a single turn potentiometer and time delays of .5 to 100 and 100 to 300 seconds over a temperature range of 0°C to 55°C.

Guardian No.	Volts	Delay Range (Sec.)	Net ea. 1-24
MET-O-100-24A	24 VAC	.5 to 100	$18.00
MET-O-300-24A	24 VAC	100 to 300	19.10
MET-O-100-120A	120 VAC	.5 to 100	17.60
MET-O-300-120A	120 VAC	100 to 300	19.10
MET-O-100-24D	24 VDC	.5 to 100	18.00
MET-O-300-24D	24 VDC	100 to 300	19.10
MET-R-100-24A	24 VAC	.5 to 100	26.20
MET-R-300-24A	24 VAC	100 to 300	26.90
MET-R-100-120A	120 VAC	.5 to 100	25.50
MET-R-300-120A	120 VAC	100 to 300	26.25
MET-R-100-24D	24 VDC	.5 to 100	26.20
MET-R-300-24D	24 VDC	100 to 300	26.90

O in part number indicates delay on operate, R delay on release.

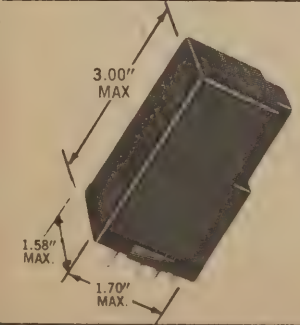
BDT SERIES TIME DELAY



A new Time Delay with unusual features which include operation on high or low line, replaceable electro-mechanical relay, repeatability, temperature stability and small size. The Time Delay incorporates all silicon transistor circuits that operate over a wide input range of 75-125 VAC, 50-60 Hz and draw only 5 ma prior to time out. 24 VDC units also available. Enclosed in a standard relay housing, terminated with an octal plug (8 pin), they are available with time delay periods from 1-10 to 10-60 seconds, adjustable. BDT Time Delays operate in the most severe industrial applications. The solid state circuit is immune to most transient noise found on commercial power lines. Voltage up to 2500 volts peak (short duration) can be tolerated. In the area of machine control, where large numbers of control cycles are expected, the BDT offers another advantage, ability to replace the internal relay. The solid state timing control has the minimum capability of 5 x 10^7 operations under normal conditions with 5 amp DPDT relay output.

Guardian No.	Volts	Delay Range (Sec.)	Net ea. 1-24
IR-BDT-O-10-120V	120 VAC	1 to 10	$17.10
IR-BDT-O-60-120V	120 VAC	10 to 60	17.60
IR-BDT-O-10-24V	24 VDC	1 to 10	16.90
IR-BDT-O-60-24V	24 VDC	10 to 60	17.10

SERIES TD TIME DELAY

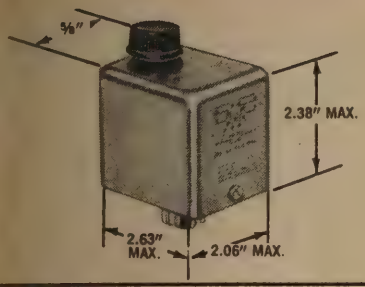


The most accurate, compact time-delay relay available from stock. Adjustable delays frsom 1 to 180 seconds. 15 turn potentiometer provides high adjustment resolution. Accurate to 5% of nominal setting over complete temp. and voltage range. Repeatability, 2% after line interruption of 50 MS. Delays on attract. 3PDT contacts rated at 10 amps resistive.

Guardian No.	Volts	Delay Range (Sec.)	Net ea. 1-24
TD-33C15-24D	24 VDC	1 to 15	$24.20
TD-33C60-24D	24 VDC	10 to 60	25.19
TD-33C180-24D	24 VDC	50 to 180	32.09
TD-63C15-120A	120 VAC	1 to 15	29.70
TD-63C60-120A	120 VAC	10 to 60	30.06
TD-63C180-120A	120 VAC	50 to 180	36.85

© United Technical Publication

GUARDIAN® CALIFORNIA SOLID STATE CONTROLS

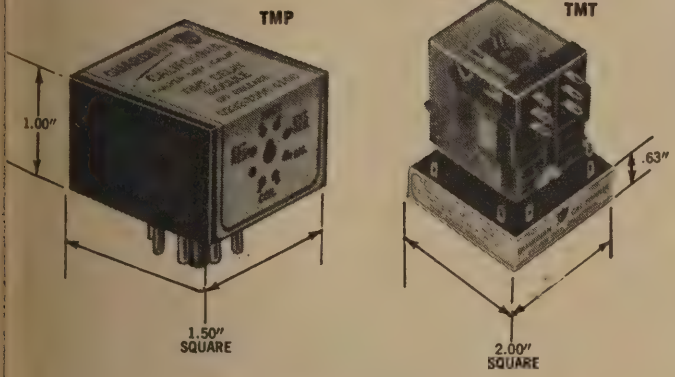


TDO SERIES TIME DELAY

Series TDO incorporates many features of more expensive units, but is most economical, offering contacts rated at 5 amps, DPDT, 120 VAC with adjustable delay of 0.5 to 30 seconds on attract with a ten turn potentiometer. Repeatability is within 5% after a line interruption of 100 milliseconds. Standard unit available is 120 VAC.

Guardian No.	Volts	Delay Range (Sec.)	Net ea. 1-24
TD062C30-120A	120 VAC	.5 to 30	$16.32

TMP & TMT SERIES TIMING MODULES



Series TMP/TMT Time Delay Modules are available in "on operate" and "on release" configurations with two time delays and three standard input voltage ranges. Time delay is externally adjustable within two ranges from ½ to 100 seconds and 100 to 300 seconds. Repeatability is ±1% under normal conditions. Life expectancy is one million cycles. Standard input voltages are 24 VAC, 120 VAC and 24 VDC. TMP is terminated in an octal plug for quick mounting and remote control of relay and other switching devices. The TMT "Flat Pack" package was designed to accept Guardian relays mounted to it, or to allow stacking of modules for extension of timing periods, or direct installation into a printed circuit board.

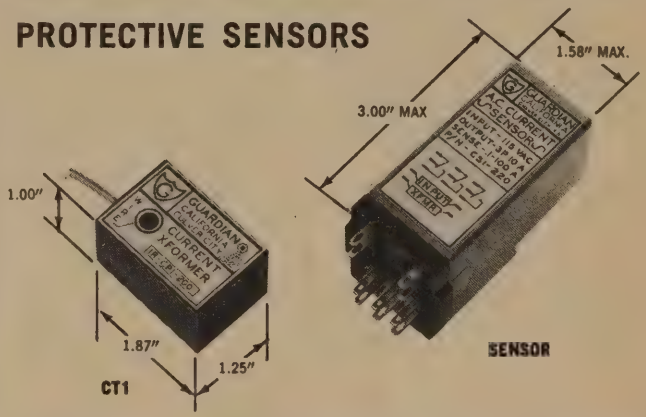
Guardian No.	Volts	Time Range Sec.	Net ea. 1-49
IR-TMT-O-100-24D	24 VDC	.5 to 100	$11.59
IR-TMT-O-300-24D	24 VDC	100 to 300	14.76
IR-TMT-O-100-24A	24 VAC	.5 to 100	12.37
IR-TMT-O-300-24A	24 VAC	100 to 300	15.55
IR-TMT-O-100-120A	120 VAC	.5 to 100	11.59
IR-TMT-O-300-120A	120 VAC	100 to 300	14.76
IR-TMT-R-100-24D	24 VDC	.5 to 100	15.60
IR-TMT-R-300-24D	24 VDC	100 to 300	18.72
IR-TMT-R-100-24A	24 VAC	.5 to 100	16.07
IR-TMT-R-300-24A	24 VAC	100 to 300	19.19
IR-TMT-R-100-120A	120 VAC	.5 to 100	15.60
IR-TMT-R-300-120A	120 VAC	100 to 300	18.72

Relay illustrated with Model TMT not included in TMT prices.

Guardian No.	Volts	Time Range Sec.	Net ea. 1-49
IR-TMP-O-100-24D	24 VDC	.5 to 100	$12.91
IR-TMP-O-300-24D	24 VDC	100 to 300	15.25
IR-TMP-O-100-24A	24 VAC	.5 to 100	13.41
IR-TMP-O-300-24A	24 VAC	100 to 300	15.75
IR-TMP-O-100-120A	120 VAC	.5 to 100	12.91
IR-TMP-O-300-120A	120 VAC	100 to 300	15.25
IR-TMP-R-100-24D	24 VDC	.5 to 100	17.48
IR-TMP-R-300-24D	24 VDC	100 to 300	19.86
IR-TMP-R-100-24A	24 VAC	.5 to 100	17.95
IR-TMP-R-300-24A	24 VAC	100 to 300	20.16
IR-TMP-R-100-120A	120 VAC	.5 to 100	17.48
IR-TMP-R-300-120A	120 VAC	100 to 300	19.86

O in part number indicates delay on operate, R delay on release.

PROTECTIVE SENSORS



A complete line of industrial sensors is available from GUARDIAN including 3-phase (IR-AV2), Close Differential (IR-VS3), Over-Voltage (IR-VS1), Under-Voltage (IR-VS2), 4 wire Phase Sequence (IR-PR1), Adjustable Frequency (IR-FS1) and AC Current Sensors (CS1 Sensor with CT1 XFormer). These sensors are bi-products of designs for military application with solid state networks. The relay is 3PDT 10 amps resistive with 24VDC, 24VAC or 120VAC, available. Mounting is by socket, chassis mount or directly into a printed circuit (110). Temperature range is from 0°C to +50°C. Life is 100,000 operations minimum and protection for transient voltages is to 600 volts for the 3 phase model, 2500 volts for all others. All units come with a dust cover enclosure except the CT1 series which is a transfer molded part.

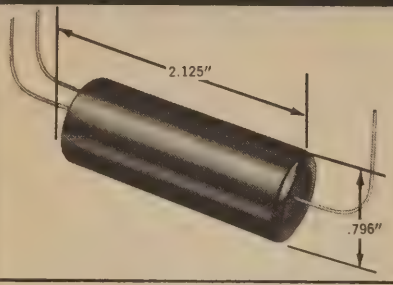
Guardian No.	Nominal Input	Current Sensing Range	Net ea. 1-24
IR-CS1-220	90-125 VAC, 50-60 Hz		$31.20
IR-CT1-201		.1 to 1.5 amps, 50-60 Hz	14.50
IR-CT1-202		1 to 10 amps, 50-60 Hz	13.60
IR-CT1-203		5 to 50 amps, 50-60 Hz	13.60
IR-CT1-204		10 to 100 amps, 50-60 Hz	13.60

Guardian No.	Nominal Input	Sense Point	Differential	Net ea. 1-49
IR-AV2-611	120 VAC, 60 Hz			$34.20
IR-AV2-621	120 VAC, 400 Hz			34.20
IR-VS3-610	120 VAC, 60 Hz	105 to 130 VAC	2.5 to 15 VAC	54.80
IR-VS3-620	120 VAC, 400 Hz	105 to 130 VAC	2.5 to 15 VAC	54.80
IR-VS3-300	24 VDC	23 to 32 VDC	1 to 5 VDC	53.40
IR-VS3-410	24 VAC, 60 Hz	23 to 32 VAC	1 to 5 VAC	54.15
IR-VS3-420	24 VAC, 400 Hz	23 to 32 VAC	1 to 5 VAC	54.15

Guardian No.	Nominal Input	Adjustable Voltage Range	Net ea. 1-49
IR-VS1-610	120 VAC, 60 Hz	90 to 130 VAC	$42.90
IR-VS1-620	120 VAC, 400 Hz	90 to 130 VAC	42.90
IR-VS1-300	24 VDC	18 to 32 VDC	41.70
IR-VS1-410	24 VAC, 60Hz	18 to 32 VAC	42.15
IR-VS1-420	24 VAC, 400 Hz	18 to 32 VAC	42.15
IR-VS2-610	120 VAC, 60 Hz	90 to 130 VAC	42.90
IR-VS2-620	120 VAC, 400 Hz	90 to 130 VAC	42.90
IR-VS2-300	24 VDC	18 to 32 VDC	41.70
IR-VS2-410	24 VAC, 60 Hz	18 to 32 VAC	42.15
IR-VS2-420	24 VAC, 400 Hz	18 to 32 VAC	42.15
IR-PR1-610	120 VAC, 60 Hz		33.95
IR-PR1-620	120 VAC, 400 Hz		39.95

Guardian No.	Nominal Input	Adjustable Frequency Range	Net ea. 1-49
IR-FS1-610	120 VAC, 60 Hz	45 to 66 Hz	$55.20
IR-FS1-620	120 VAC, 400 Hz	360 to 440 Hz	55.20
IR-FS2-610	120 VAC, 60 Hz	45 to 66 Hz	55.20
IR-FS2-620	120 VAC, 400 Hz	360 to 440 Hz	55.20

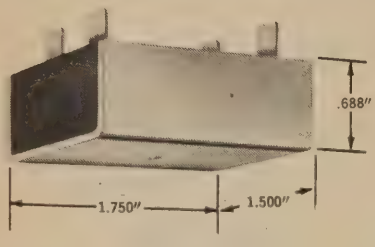
GUARDIAN® CALIFORNIA SOLID STATE CONTROLS



GU SERIES INLINE TIME DELAY

A new solid state Inline Time Delay designed for applications where low cost is a consideration but not at the sacrifice of quality. The GU Series is available in 12, 24 and 110 VDC in two time ranges: .1 to 10 seconds and 2 to 300 seconds. Accuracy is ±10% of setting with operating temperature range of +10° to +40°C. Termination is by 1⅞″ axial leads, delay on operate.

Guardian No.	Volts	Time Range	Net ea. 1-24
GU-10-012D	12 DC	.1 to 10 Sec.	$9.80
GU-10-024D	24 DC	.1 to 10 Sec.	9.80
GU-10-110D	110 DC	.1 to 10 Sec.	9.80
GU-300-012D	12 DC	2 to 300 Sec.	11.30
GU-300-024D	24 DC	2 to 300 Sec.	11.30
GU-300-110D	110 DC	2 to 300 Sec.	11.30

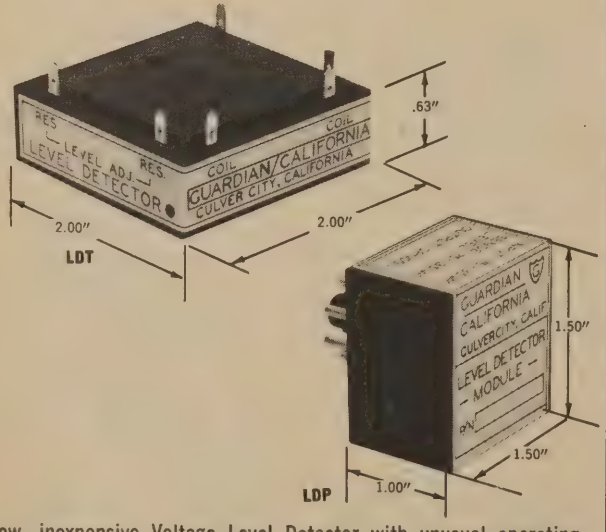


CSR SERIES SOLID STATE HYBRID RELAYS

Guardian introduces a new line of Solid State Hybrid relays capable of switching up to 15 amps with an SPST output. Voltage input can be logic level 5 VDC at 10 mils or 120VAC, output of 120 AC or 240 AC. 50/60 Hz. The relay features a reed relay input control for isolation. Output switching is Solid State for long-life, arc-less switching which offers a hi gain, compact, rugged switching control for varied industrial and commercial application. Terminations are .250″ Faston with single screw mounting.

Guardian No.	VOLTS		Output Rating Amps	Net ea. 1-24
	Input	Output		
CSR-05A0051	5 DC	120 AC	5	$12.88
CSR-10A0051	5 DC	120 AC	10	13.88
CSR-15A0051	5 DC	120 AC	15	16.75
CSR-05A0052	5 DC	240 AC	5	13.75
CSR-10A0052	5 DC	240 AC	10	15.00
CSR-15A0052	5 DC	240 AC	15	19.63
CSR-05A1151	120 AC	120 AC	5	15.75
CSR-10A1151	120 AC	120 AC	10	16.50
CSR-15A1151	120 AC	120 AC	15	19.50
CSR-05A1152	120 AC	240 AC	5	16.25
CSR-10A1152	120 AC	240 AC	10	17.38
CSR-15A1152	120 AC	240 AC	15	22.25

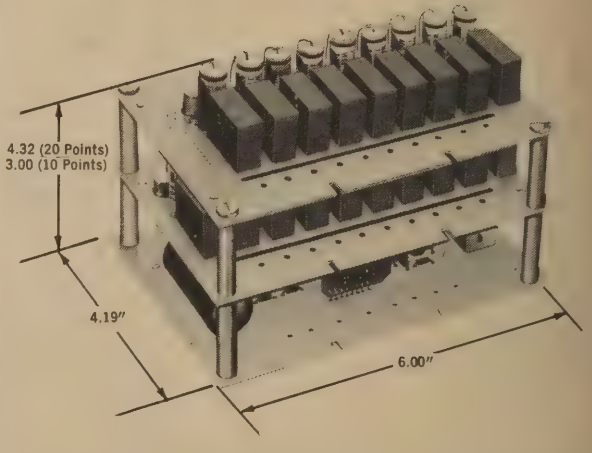
LEVEL DETECTORS



A new, inexpensive Voltage Level Detector with unusual operating characteristics is now in production. These molded modules incorporate circuits comprised of silicon semiconductor devices to form a peak detecting voltage differential amplifier, signal amplifier and a solid state output switch suitable for driving a number of GUARDIAN® relays. The unit's sense level is adjustable (either fixed or variable) over ranges of 85-135 VAC, 50-60 Hz, 20-30 VAC, 50-60 Hz, 20-30 VDC, 180-250 VAC, 50-60 Hz by external resistance. This broad adjustment range permits operation as either an under or over level detector. Two units may be used to form band pass or pedestal level sensing. When used with GUARDIAN® CALIFORNIA TMT/TMP timing modules, they provide inexpensive time delayed voltage detection systems that allow them to ignore normal line fluctuations. Transient suppressed, they will withstand 2500 V peak (short duration) without damage or malfunction. On DC units, transient protection is 600 volts.

Guardian No.	Volts	Net ea. 1-24
LDT-100-24A	24 VAC	$14.80
LDT-100-120A	120 VAC	14.80
LDT-100-240A	240 VAC	19.20
LDT-100-24D	24 VDC	15.10
LDP-100-24A	24 VAC	17.90
LDP-100-120A	120 VAC	17.90
LDP-100-240A	240 VAC	22.30
LDP-100-24D	24 VDC	17.55

SLS SOLID STATE LOGIC STEPPER



The SLS 100 Series Solid State Steppers are the only power solid state steppers to accept either high level or logic level inputs with high noise immunity for industrial applications. The output of each step is a 120 VAC 2½ amp switch. They are modularly constructed so that many configurations can be accomplished from stacked modules. Standard "off the shelf" models have ten or twenty steps. Units may be obtained with pulsers to make them self-stepping steppers. They can be cascaded or paralleled to perform complex switching and control functions. GUARDIAN® CALIFORNIA's new Steppers are built for operation on input power of 120 VAC, 50-60 Hz or 400 Hz and 24 VDC. All solid state construction offers the advantages of mechanical noise free operation and, under proper operating conditions, practically unlimited life.

Guardian No.	Volts	Steps	Net ea. 1-24
SLS110-2A111*	120 VAC	10	$130.00
SLS110-1A211*	24 VDC	10	112.00
SLS120-2A111*	120 VAC	20	225.00
SLS120-1A211*	24 VDC	20	189.40
SLS110-25111†	120 VAC	10	137.50
SLS110-15211†	24 VDC	10	119.50
SLS120-25111†	120 VAC	20	232.50
SLS120-15211†	24 VDC	20	196.90
SLS Connector Kit			1.00

* Step advance by either mechanical switch closure or D.C. Pulse.
† Self-stepping.

All units come with Molex connector terminations (3 sets required for 10 step unit).

© United Technical Publicatio

GUARDIAN® ORDERING INFORMATION

ALL PRODUCTS IN THIS CATALOG are immediately available from any Guardian Distributor at factory prices.

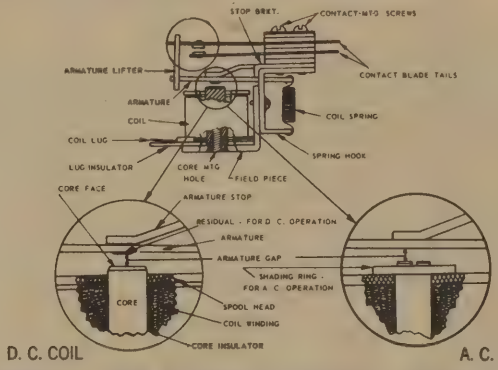
CATALOG PRICES: Contact your Guardian Distributor for lower prices on your quantity orders.

REMEMBER: Your Guardian Sales Engineer and your Guardian Distributor are qualified and eager to help you select the appropriate product for your specific applications.

CHECK LISTS FOR ORDERING relays, solenoids and steppers are included below. Each list indicates the factors you should consider and evaluate when selecting an appropriate product. When ready to order, your Guardian Distributor needs only the Guardian Number from this catalog to give you immediate delivery.

RELAY ORDERING CHECK LIST:

1. GUARDIAN NUMBER
2. TYPE OF RELAY: on/off, latching, clapper, etc.
3. AC or DC
4. COIL VOLTAGE and CURRENT
5. CONTACT COMBINATIONS: SPDT. DPDT. etc.
6. CHARACTERISTICS OF CONTACT LOAD: AC or DC, inductive or non-inductive, voltage, current values
7. APPROPRIATE SIZE
8. OPEN or ENCLOSED
9. TYPE OF TERMINATION
10. U/L or CSA RECOGNITION or CONSTRUCTION



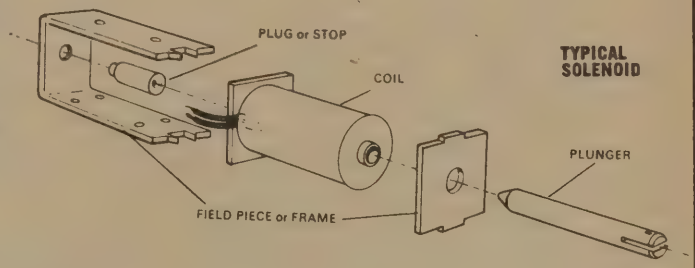
TYPICAL RELAY

SOLENOID ORDERING CHECK LIST:

1. GUARDIAN NUMBER 2. TYPE OF SOLENOID: pull type, push type, solenoid switch, tubular, etc. 3. AC or DC 4. COIL VOLTAGE and CURRENT 5. DUTY: continuous or intermittent 6. STROKE LENGTH 7. WORK REQUIREMENT: pull or push in ounces 8. APPROPRIATE SIZE 9. U/L or CSA CONSTRUCTION

APPLICATION CONSIDERATIONS:

- INTERMITTENT DUTY SOLENOIDS are generally stronger and will do more work in terms of "lift." However, they should not be energized for more than 5 consecutive minutes or be permitted to rise more than 85°C above 24°C ambient without giving them sufficient time to cool between operation cycles.
- CONTINUOUS DUTY SOLENOIDS are designed with a higher coil resistance so they will not rise more than 85°C above 24°C ambient temperature when operated within maximum lift and stroke ratings shown in this catalog.
- LAMINATED SOLENOIDS are available for AC operation only.
- TUBULAR SOLENOIDS are available for DC operation only.
- BRACKETS FOR TUBULAR SOLENOIDS are shipped loose.
- FOR PUSH TYPE SOLENOIDS the lengths of the push rods are equal to the maximum stroke length shown in this catalog.



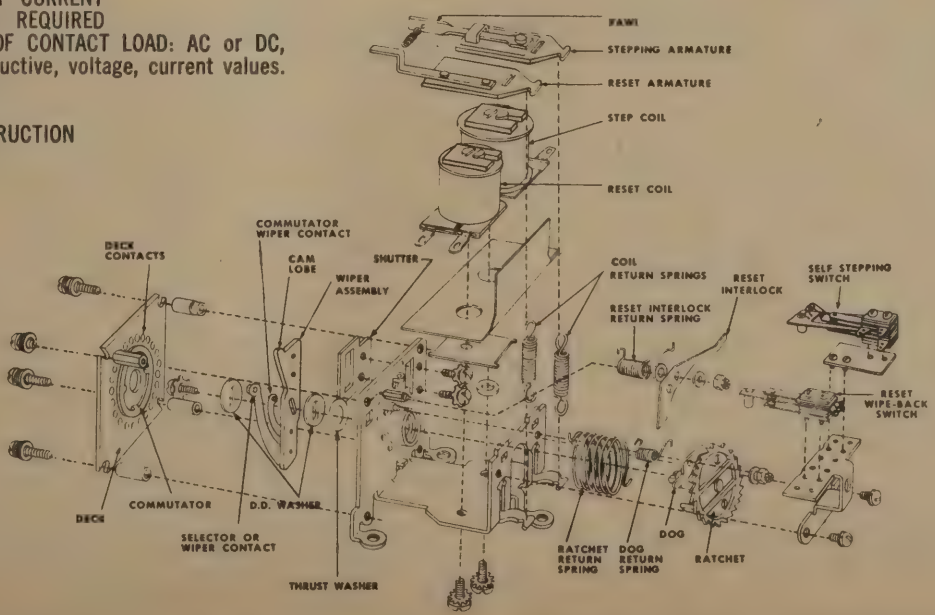
TYPICAL SOLENOID

STEPPER ORDERING CHECK LIST:

1. GUARDIAN NUMBER
2. TYPE OF STEPPER: continuous rotation, electrical reset, etc.
3. AC or DC
4. COIL VOLTAGE and CURRENT
5. NUMBER OF STEPS REQUIRED
6. CHARACTERISTICS OF CONTACT LOAD: AC or DC, inductive or non-inductive, voltage, current values.
7. APPROPRIATE SIZE
8. LIFE EXPECTANCY
9. U/L or CSA CONSTRUCTION

APPLICATION CONSIDERATIONS

- ALL CONTACTS are 1½ amp.
- SEE STEPPING CONTROLS INTRODUCTORY DATA on page 8 of this catalog.



TYPICAL STEPPER

GUARDIAN®

1972

DISTRIBUTOR CATALOG

© United Technical Publications

TIME DELAYS/SENSORS
THERMOSTATS/FLASHERS

G·V CONTROLS SB
DIVISION OF SOLA BASIC INDUSTRIES

ERTION THERMOSTATS — SERIES D-8



D8 Thermostats are designed to operate under the most demanding requirements. Response to temperature changes is rapid as the shell of the D8 is the sensing element and is in direct contact with the medium. Thermostats can be applied in both liquid and air sensing applications. These versatile thermostats are used as temperature limiting and controlling devices in electronic systems, computers, communications equipment, vending machines, etc.

TECHNICAL DATA:

Operating Range: 0 to 150°C (32 to 300°F)

Setting Tolerances: ±5°F; customer adjustable*

Dielectric Strength — 1250 volts RMS between contacts and shell.

Material and Finish — Standard shells are of brass, unplated.

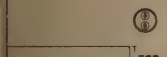
Rate of Response — Time constants, or lag factors of these thermostats in various media are as follows:

Water, moving 0.4 sec	Air, (450-550 FPM) 40 sec.
Water, still 1.0 sec.	Air, (250-300 FPM) 60 sec.
Metal block 10-20 sec.	Air, still 180 sec.

Response is approximately the same as that of a laboratory thermometer.

* Contact factory for special instructions.

CONTACT RATINGS (U.L. Applications) 5 A Res. to 115 VAC
1 A Res. to 32 VDC



TYPE D8-C

STANDARD MODELS

Factory Temp. Setting °F	OPEN ON RISE			CLOSE ON RISE		
	D8-B	D8-C	D8-F	D8-B	D8-C	D8-F
40°F	D8-B-1	D8-C-11	D8-F-21	D8-B-41	D8-C-51	D8-F-61
80°F	D8-B-2	D8-C-12	D8-F-22	D8-B-42	D8-C-52	D8-F-62
120°F	D8-B-3	D8-C-13	D8-F-23	D8-B-43	D8-C-53	D8-F-63
150°F	D8-B-4	D8-C-14	D8-F-24	D8-B-44	D8-C-54	D8-F-64
180°F	D8-B-5	D8-C-15	D8-F-25	D8-B-45	D8-C-55	D8-F-65
210°F	D8-B-6	D8-C-16	D8-F-26	D8-B-46	D8-C-56	D8-F-66

Dimensions — 3⅛" L. x 1½" Dia. — 5/16" lugs.

NOTES:
A. Shaded entries, available from distributor stock.
B. Standard units are shipped with factory settings as indicated.
C. Available with flange (-F) or bracket (-B) for mounting.

RFACE MOUNTED THERMOSTATS — SERIES VE



VE crystal can size thermostats are ideally suited for applications requiring a small, accurate temperature sensing device. The applications include temperature monitoring of heat sinks, power supplies and other vital elements in computers, electronic systems, idustrial processes, etc.

TECHNICAL DATA:

Operating Range: 0 to 150°C (32 to 300°F)

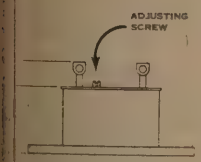
Setting Tolerances: Field setting to ±2°F is feasible

Life: Minimum of 100,000 operations at rated load

Contacts: SPST

Contact Ratings: Open on Rise Models Close on Rise Models

(OR)	(CR)
3A Res. to 230 VAC*	1A Res. to 230 VAC*
1A Res. to 32 VDC	and 32 VDC



* Above 125 Volts, Ungrounded Case

STANDARD MODELS

OPERATING RANGE	Contacts Open on Rise	Contacts Close on Rise
0°C to + 55°C + 32°F to +131°F	VE-2101	VE-2102
+ 50°C to +105°C +122°F to +221°F	VE-3101	VE-3102
+100°C to +150°C +212°F to +300°F	VE-4101	VE-4102

NOTES:
A. This table lists unsealed units which are shipped with a setting at approximately midpoint of range.
B. Shaded entries available from distributor stock.
C. For sealing adjustment screw after setting, an epoxy resin is recommended.

MMERCIAL "QUICK-CONNECT" TIMING RELAYS — SERIES ET



ET Relays (quick connect) are designed for industrial and commercial applications requiring pilot-duty, low cost, time delay devices. Simplified installation requires only two (2) screws and connections with push-on terminations. ET Relays can be mounted in any position, thereby simplifying inventory requirements. Quick-connect terminals provide for easier equipment service and installation time can be maintained at a minimum.

Applications include; computer systems, copying machines, residental and commercial microwave ovens, air conditioning systems, refrigeration control systems, etc.

TECHNICAL DATA:

Delay Range: 2-180 Seconds

Operating Tolerance: ±20% at rated voltage

Operating Temperature: 80°C (176°F) Maximum

Standard Heater Voltages: 24 and 115V. AC/DC

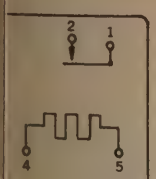
Contacts: SPST; N.O. and N.C.

Contact Ratings: 2A Resistive to 115 VAC
1A Resistive to 28 VDC

Power Requirement: 2.5 Watts

Contact Life: 100,000 cycles

Connections: Push-on terminals



ERNAL CONNECTIONS
IEWED FROM TOP)
NERGIZING HEATER:
ERMINALS 4 AND 5
ONTACTS:
ERMINALS 2 and 1
or
2 and 6

STANDARD MODELS

Delay Time Seconds	RATED HEATER VOLTAGE			
	24		115	
	NO	NC	NO	NC
2	ET-1143	ET-1144	ET-1057	ET-1058
5	ET-1145	ET-1146	ET-1061	ET-1062
10	ET-1147	ET-1148	ET-1063	ET-1064
15	ET-1149	ET-1150	ET-1065	ET-1066
20	ET-1151	ET-1152	ET-1095	ET-1096
30	ET-1153	ET-1154	ET-1067	ET-1068
60	ET-1155	ET-1156	ET-1071	ET-1072
90	ET-1157	ET-1158	ET-1075	ET-1076
120	ET-1159	ET-1160	ET-1077	ET-1078
180	ET-1161	ET-1162	ET-1081	ET-1082

DIMENSIONS — 1¾"L x 1⅜"W x ¾"H. Terminals — 13/32".
NOTES:
A. Shaded entries are available from distributor stock.
B. Other voltages and timings available on special order.

G·V CONTROLS SB
DIVISION OF SOLA BASIC INDUSTRIES

TIME DELAYS/SENSORS THERMOSTATS/FLASHERS

COMMERCIAL PLUG-IN TIMING RELAYS — SERIES DT



DT Red Line Relays are high performance thermal relays, suitably packaged for industrial and commercial applications. These include computers, copying machines, telephone systems, commercial and industrial ovens, etc., where performance reliability is essential.

TECHNICAL DATA:

Delay Range: 2-180 Seconds*

Operating Tolerance: ±15%, at rated voltage, slightly higher below 10 seconds.

Operating Temperature: 85°C (185°F) Maximum

Standard Heater Voltages: 24 and 115 VAC/DC

Contacts: SPST; N.O. and N.C.

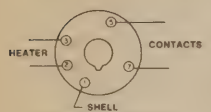
Contact Ratings: 5A Restive to 125 VAC
0.7A Resistive to 48 VDC

Power Requirement: 4 Watts

Contact Life: 100,000 cycles

Connections: Standard octal socket

* Similar units available 0.5 — 2.0 seconds.



WIRING CONNECTIONS

STANDARD MODELS

Delay Time Seconds	RATED HEATER VOLTAGE 24 NO	24 NC	115 NO	115 NC
2	DT-5133	DT-5134	DT-5061	DT-5062
5	DT-5135	DT-5136	DT-5063	DT-5064
10	DT-5137	DT-5138	DT-5065	DT-5066
20	DT-5139	DT-5140	DT-5067	DT-5068
30	DT-5141	DT-5142	DT-5069	DT-5070
45	DT-5143	DT-5144	DT-5071	DT-5072
60	DT-5145	DT-5146	DT-5073	DT-5074
90	DT-5147	DT-5148	DT-5075	DT-5076
120	DT-5149	DT-5150	DT-5077	DT-5078
180	DT-5151	DT-5152	DT-5079	DT-5080

DIMENSIONS — 2¾" L x 1⅝" Dia.

NOTES: A. Shaded entries are available from distributor stock.
B. Other voltages and timings available on special order.

PRINTED CIRCUIT BOARD TIMING RELAYS — SERIES JT



JT Relays are designed specifically for PC board mounting. Well suited for new design work in both commercial and industrial systems. They are widely used in telephone systems and other applications where the advantages of a thermal timer are adapted to solid state circuitry.

TECHNICAL DATA:

Delay Range: 2-180 Seconds

Operating Tolerance: ±15% slightly higher below 10 seconds at rated voltage

Operating Temperature: 85°C (185°F) maximum

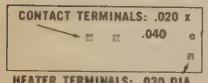
Standard Heater Voltages: 24, 48, 115 VAC/DC

Contact Ratings: 3A Resistive to 125 VAC
2 A to 250 VAC
0.5A Resistive to 48 VDC

Power Requirement: 4 Watts

Contact Life: 100,000 cycles

Connections: PC board pin mount



STANDARD MODELS — Normally Open Contacts, SPST

Delay Time Seconds	RATED HEATER VOLTAGE 24	48	115
2	JT-1023	JT-1043	JT-1063
5	JT-1025	JT-1045	JT-1065
10	JT-1027	JT-1047	JT-1067
20	JT-1029	JT-1049	JT-1069
30	JT-1031	JT-1051	JT-1071
45	JT-1033	JT-1053	JT-1073
60	JT-1035	JT-1055	JT-1075
90	JT-1037	JT-1057	JT-1077
120	JT-1039	JT-1059	JT-1079
180	JT-1041	JT-1061	JT-1081

DIMENSIONS — Max. .76" L x Max. 2.28"L x Max. .78"W.

NOTES: A. Shaded entries are available from distributor stock.
B. Other voltages and timing available on special order.

BASELINE™ TIMING RELAYS / 9 PIN MINIATURE — SERIES BL



Baseline Thermal Timing Relays are a new family of standard commercial units available only from G-V distributors. They are designed for applications where low cost and long life are major considerations. Baseline relays are completely interchangeable with competitive products of similar type and pin configuration. The metal shell offers protection against damage in handling.

Baseline relays are ideal for service replacement programs, prototype work, hobby kits, etc., where low cost time delay fuctions are required.

TECHNICAL DATA:

Delay Range: 2-120 Seconds

Operating Tolerance: ±25% at rated voltage

Operating Temperature: 80°C (176°F) Maximum

Standard Heater Voltages: 6.3, 26 and 115 V. AC or DC

Contacts: SPST; N.O. and N.C.

Contact Ratings: 2A Resistive to 115 VAC
1A Resistive to 28 VDC

Power Requirement: 2.5 Watts

Dielectric Strength: 1250 volts, RMS between contacts and shell

Connections: Standard 9 pin miniature socket



WIRING CONNECTIONS

STANDARD MODELS

Time Delay Seconds	RATED HEATER VOLTAGE 6.3 N.O.	6.3 N.C.	26 N.O.	26 N.C.	115 N.O.	115 N.C.
2	BL-101	BL-102	BL-201	BL-202	BL-301	BL-302
3	BL-103	BL-104	BL-203	BL-204	BL-303	BL-304
5	BL-105	BL-106	BL-205	BL-206	BL-305	BL-306
10	BL-107	BL-108	BL-207	BL-208	BL-307	BL-308
15	BL-109	BL-110	BL-209	BL-210	BL-309	BL-310
20	BL-111	BL-112	BL-211	BL-212	BL-311	BL-312
30	BL-113	BL-114	BL-213	BL-214	BL-313	BL-314
45	BL-115	BL-116	BL-215	BL-216	BL-315	BL-316
60	BL-117	BL-118	BL-217	BL-218	BL-317	BL-318
75	BL-119	BL-120	BL-219	BL-220	BL-319	BL-320
90	BL-121	BL-122	BL-221	BL-222	BL-321	BL-322
120	BL-123	BL-124	BL-223	BL-224	BL-323	BL-324

DIMENSIONS — 1¾"H x 2⅜₂"Dia.

NOTE: Shaded entries are available from distributor stock.

BASELINE™ TIMING RELAYS / OCTAL PLUG-IN — SERIES BL



Baseline Thermal Timing Relays are a new family of standard commercial units available only from G-V distributors. They are designed for applications where low cost and long life are major considerations. Baseline relays are completely interchangeable with competitive products of similar type and pin configuration. The metal shell offers protection against damage in handling.

Baseline relays are ideal for service replacement programs, prototype work, hobby kits, etc., where low cost time delay fuctions are required.

TECHNICAL DATA:

Delay Range: 2-180 Seconds

Timing Tolerance: ±25% at rated voltage

Heater Voltages: 6.3, 26 and 115 V. AC or DC

Contacts: SPST; N.O. or N.C.

Contact Ratings: 3A Resistive to 125 VAC
0.7A Resistive to 48 VDC

Power Requirement: 4 Watts

Dielectric Strength: 1250 volts, RMS between contacts and shell

Connections: Standard Octal Socket



WIRING CONNECTIONS

STANDARD MODELS

Time Delay Seconds	RATED HEATER VOLTAGE 6.3 N.O.	6.3 N.C.	26 N.O.	26 N.C.	115 N.O.	115 N.C.
2	BL-501	BL-502	BL-601	BL-602	BL-701	BL-702
3	BL-503	BL-504	BL-603	BL-604	BL-703	BL-704
5	BL-505	BL-506	BL-605	BL-606	BL-705	BL-706
10	BL-507	BL-508	BL-607	BL-608	BL-707	BL-708
15	BL-509	BL-510	BL-609	BL-610	BL-709	BL-710
20	BL-511	BL-512	BL-611	BL-612	BL-711	BL-712
30	BL-513	BL-514	BL-613	BL-614	BL-713	BL-714
45	BL-515	BL-516	BL-615	BL-616	BL-715	BL-716
60	BL-517	BL-518	BL-617	BL-618	BL-717	BL-718
75	BL-519	BL-520	BL-619	BL-620	BL-719	BL-720
90	BL-521	BL-522	BL-621	BL-622	BL-721	BL-722
120	BL-523	BL-524	BL-623	BL-624	BL-723	BL-724
150	BL-525	BL-526	BL-625	BL-626	BL-725	BL-726
180	BL-527	BL-528	BL-627	BL-628	BL-727	BL-728

DIMENSIONS — 2¾"H x 1⅝"Dia.

NOTE: Shaded entries are available from distributor stock.

© United Technical Publications

IME DELAYS/SENSORS
IERMOSTATS/FLASHERS

G•V CONTROLS SB
DIVISION OF SOLA BASIC INDUSTRIES

STANT-RESET TIMING ELEMENT — SERIES DM





Schematic shown is for N.O. load circuit.

DM Thermal Timing Elements are utilized when instant recovery of the operate mode is necessary after the timing period has been initiated. This function is achieved, by having the DM operate in conjunction with a customer provided DPDT magnetic relay. Refer to figure for typical circuit.

Areas of usage include; computers, telephone systems, machine tool control, combustion and refrigeration control systems, etc.

TECHNICAL DATA:

Delay Range: 0.75 to 360 Seconds
Operating Tolerance: ±15% at rated voltage, slightly higher below 5 seconds
Operating Temperature: 85°C (185°F) Maximum
Standard Heater Voltages: 6.3, 24, 48 and 115V. AC/DC
Load Contacts: SPST; N.O. and N.C.
Load Contact Ratings: 5A Resistive to 125 VAC
1A Resistive to 48 VDC
Power Requirement: 8 watts peak, 3 watts average excluding magnetic relay
Contact Life: 100,000 cycles at rated load
Mounting: Standard octal socket

STANDARD MODELS — Normally Open Contacts

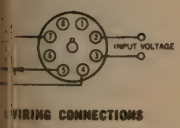
Delay Time Seconds	RATED HEATER VOLTAGE			
	6.3	24	48	115
1	DM-7409	DM-8065	DM-7433	—
5	DM-7301	DM-8066	DM-7345	DM-7367
10	DM-7303	DM-8067	DM-7347	DM-7369
20	DM-7305	DM-8068	DM-7349	DM-7371
30	DM-7307	DM-8069	DM-7351	DM-7373
60	DM-7311	DM-8070	DM-7355	DM-7377
120	DM-7315	DM-8071	DM-7359	DM-7381
180	DM-7317	DM-8072	DM-7361	DM-7383

DIMENSIONS — 2¾"H x 1$^{3}/_{32}$"Dia..

NOTES: A. Models listed are supplied for N.O. load circuits.
B. Shaded entries available from distributor stock.
C. Request application bulletin from factory for complete technical data.

MMERCIAL FLASHERS — SERIES 902-C





IRING CONNECTIONS

902-C Flashers are accurate, reliable, solid-state devices with a relay output. They can be utilized in most circuits requiring a cyclic output. Applications include; alarm panels, annunciator systems, HI-LO priority alarm circuits, combustion and refrigeration indicating lights, safety warning lights, etc.

TECHNICAL DATA:

Contact Arrangement: SPDT (Relay Output)
Contact Ratings: 1A resistive @ 28 VDC or 115 VAC
Operating Power: 1 Watt max.
Effects of Voltage Variation: ±10% voltage variation will not vary flashing rate more than ±5%
Nominal On-Off Ratio: 50:50
Flashing Tolerance: ±20% at 72°F
Operating Temp. Range: 32°F to 158°F
Cover: Dust tight
Mounting: Standard octal socket
Weight: 6 oz. maximum

STANDARD MODELS

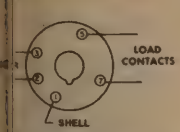
Rate Fl./Min.	SPDT			
	12V	28V	48V	115V
5	902076-68	902077-68	902078-68	902079-68
10	902076-70	902077-70	902078-70	902079-70
20	902076-72	902077-72	902078-72	902079-72
30	902076-60	902077-60	902078-60	902079-60
45	902076-74	902077-74	902078-74	902079-74
60	902076-62	902077-62	902078-62	902079-62
90	902076-64	902077-64	902078-64	902079-64
120	902076-66	902077-66	902078-66	902079-66

DIMENSIONS — 2¼"H x 1⅜"Sq.

NOTES: A. Units listed are supplied with settings and voltages as indicated.
B. Shaded entries available from distributor stock.

LTAGE SENSING RELAYS — SERIES DS





IRING CONNECTIONS

DS Voltage Sensing Relays are thermal type limiting devices used to protect systems and equipment when voltage deviates beyond predetermined levels.

Applications include; communications equipment, emergency power systems, industrial process control, building operations monitors, etc.

TECHNICAL DATA:

Voltage Range: 6-150 volts AC or DC
Setting Tolerance: ±6%
Operating Temperature: 85°C (185°F) Maximum
Contacts: SPST; N.O. or N.C.
Power Requirement: 4 Watts Nominal
Contact Ratings: 3A Resistive to 150 VAC
0.7A Resistive to 48 VDC
Connections: Standard octal socket

STANDARD MODELS

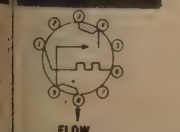
Relay Voltage Setting	Under Voltage Cut-out	Over Voltage Cut-out	Contact Configurations		Standard Model Number
			N.O.	N.C.	
21	√		√		DS-5153
27		√		√	DS-5154
42	√		√		DS-5155
54		√		√	DS-5156
100	√		√		DS-5157
130		√		√	DS-5158

DIMENSIONS — 2¾"H x 1$^{3}/_{32}$" Dia.

NOTE: Models listed are supplied with contact configurations and settings as indicated.

FLOW SENSORS — SERIES FS





FS Sensors, positioned in the air-stream, will continually monitor the air flow. If the velocity falls below the sensor setting, the contacts will open or close, depending on the switch configuration. Will reset automatically upon resumption of adequate flow.

Applications include, protection for commercial and military electronic equipment, computers, process control systems, etc.

TECHNICAL DATA:

Velocity Range: 250-1600 FPM
Response Time: 1-20 Seconds
Operating Temperature: 80°C (176°F) Maximum
Operating Voltages: 24 and 115 Volts AC/DC
Power Requirement: 2.5 Watts
Contacts: SPST; Open on loss of flow or Close on loss of flow
Contact Ratings: 2A Resistive 115 VAC
1A Resistive 28 VDC
Connections: 9 pin miniature socket

STANDARD MODELS

Sensor Type	Factory Setting FPM	Actuating Voltage AC/DC	Contact Action
			Open on Loss of Flow
FS	250	24	FS-2102
FS	250	115	FS-3102

DIMENSIONS — 1¾"H x $^{15}/_{16}$"Dia.

NOTES: A. Units listed are shipped with settings indicated.
B. Shaded entries are available from distributor stock.

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

GENERAL PURPOSE RELAYS



MINIATURE OPEN TYPE (SERIES MK)

Open type relay in standard contact arrangements up to 3PDT. 5 or 10 amp contact rating. Voltages up to 230 volts, A.C. or D.C. Factory adjusted to pull in at 75% max. of nominal voltage D.C. and 80% max. of nominal voltage A.C. Designed to pass 1,000 volt A.C. Hipot test between all elements.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	* MK1A SPDT	$3.10	$3.55
	* MK2A DPDT	3.75	4.15
	* MK3A 3PDT	4.15	4.55

PLATE CIRCUIT RELAYS 5 amp. open type	2500Ω	5000Ω	10,000Ω	20,000Ω
* MKC-1 SPDT	$3.15	$3.25	$3.80	$4.05
* MKC-2 DPDT	3.65	3.80	4.30	4.55
* MKC-3 3PDT	4.10	4.20	4.75	5.00

*10 amp models ask for series MKCO

	5 amp contact rating	6, 12, 24V	110V
DC	* MK1D SPDT	$3.05	$3.45
	* MK2D DPDT	3.40	3.85
	* MK3D 3PDT	3.85	4.25

All models available in 10 amps. DIMENSIONS: 1-11/16 × 1-3/16 × 29/32
* All models available in 10 amps. Ask for series MKO.



MINIATURE PLUG-IN (SERIES MKP)

Plug-in type relay, same factory tested, quality features as above. Will operate continuously in ambient temperature ranges of 45° to 75°C. for D.C. coils and −45° to 55°C. for A.C. coils. Metal or clear C-11 Styrene dust cover.

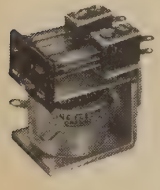
	5 amp contact rating	6, 12, 24, 115V	220V
AC	* MKP1A SPDT	$5.45	$5.90
	* MKP2A DPDT	6.05	6.45
	* MKP3A 3PDT	7.50	7.95

PLATE CIRCUIT RELAYS 5 amp. enclosed type	2500Ω	5000Ω	10,000Ω	20,000Ω
* MKF-1 SPDT	$5.90	$6.00	$6.40	$6.65
* MKF-2 DPDT	6.30	6.40	6.80	7.10
* MKF-3 3PDT	7.75	7.90	8.40	8.65

*10 amp models ask for series MKFO

	5 amp contact rating	6, 12, 24V	110V
DC	* MKP1D SPDT	$5.40	$5.85
	* MKP2D DPDT	6.00	6.40
	* MKP3D 3PDT	7.45	7.90

* All models available in 10 amps. Ask for series MKH. DIMENSIONS: 2-1/4 × 1-5/8 × 1-3/8



MINIATURE MULTIPLE LEAF (SERIES MW)

A small, versatile relay available in a variety of contact configurations consisting of forms A, B, C or D (make before break), up to a maximum of 12 springs. Coils can be supplied for operation on D.C. or A.C. 60 cps. Operation on 400 cps. source is available with self-contained rectifiers on relays with covers.

	10 amp contact rating	6, 12, 24, 115V	220V
AC	MW1A SPDT	$2.70	$3.10
	MW2A DPDT	3.30	3.75
	MW3A 3PDT	3.80	4.20
	MW14A 4PDT	6.35	6.75
		6, 12, 24V	110V
DC	MW1D SPDT	$2.60	$3.10
	MW2D DPDT	3.25	3.65
	MW3D 3PDT	3.75	4.15
	MW14D 4PDT	6.35	6.80

DIMENSIONS: 1-17/32 × 1-21/32 × 1-0

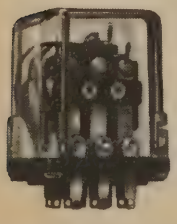


SPOTLIGHT RELAYS (SERIES A)

High quality, general purpose plug-in relay with built-in circuit indicator lamp. Available in C-11 Styrene colored cases for circuit identification or in metal can. Saves panel space, reduces costly labor.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	* A-1A SPDT	$6.40	$6.85
	* A-2A DPDT	7.00	7.40
	* A-3A 3PDT	8.45	8.85
		6, 12, 24V	110V
DC	* A-1D SPDT	$6.35	$6.75
	* A-2D DPDT	6.95	7.35
	* A-3D 3PDT	8.40	8.80

All models available in 10 amps. AH series.
DIMENSIONS: 2-1/4 × 1-3/8 × 1-3/8



SPOTLIGHT RELAYS. LOW COST. (SERIES ATR)

A plug-in relay which is identical in construction to our miniaturized low profile SERIES MKTR (see page 3) but with built-in circuit indicator lamp. It can be used in conjunction with our 92-67 or 92-82 sockets and 91-49 spring clip.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	* ATR1A SPDT	$5.25	$5.60
	* ATR2A DPDT	5.90	6.30
	* ATR3A 3PDT	6.35	6.80
	5 amp contact rating	6, 12, 24V	110V
DC	* ATR1D SPDT	$5.15	$5.55
	* ATR2D DPDT	5.55	6.00
	* ATR3D 3PDT	6.05	6.45

* All models available in 10 amps AHTR Series.
DIMENSIONS: 1-3/16 × 1-3/8 × 1-3/8

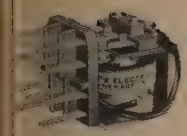
*UNDERWRITERS LABORATORIES COMPONENT RECOGNITION

© United Technical Publications

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

GENERAL PURPOSE RELAYS



PRINTED CIRCUIT or TAPER TAB (SERIES MKT)

Printed circuit type relay incorporating coil, frame and load contacts of standard Series MK. Connector lugs fit standard amp terminal #41355. Series MKTE is the MKT with plastic dust cover. Available with studs for chassis mount or taper tab connectors. Price same as MKTR .

	5 amp contact rating	6, 12, 24, 115V	220V
AC	* MKT1A SPDT	$3.25	$3.65
	* MKT2A DPDT	3.95	4.35
	* MKT3A 3PDT	4.40	4.85
		6, 12, 24V	110V
DC	* MKT1D SPDT	3.20	$3.60
	* MKT2D DPDT	3.60	4.05
	* MKT3D 3PDT	4.10	4.50

DIMENSIONS: 2-1/32 × 1-7/32 × 29/32
Also in 10 amps: *Series MKTO
Plate circuit relay: *Series MKTC 5 amps *Series MKTCO 10 amps



QUICK CONNECT TERMINAL RELAYS (SERIES MKA)

Quick connect terminal type miniature relay incorporating coil, frame and load contacts of the standard Series MK. The connector lugs fit standard .110" quick connect terminals.

(SERIES MKD

The MKD has the same quality features as our SERIES MK (see page 1) but the panel is wider and .187 quick connect lugs are used throughout the series. This is also an open type relay.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKA1A SPDT	$3.25	$3.65
	MKA2A DPDT	3.95	4.35
	MKA3A 3PDT	4.40	4.85
DC	MKA1D SPDT	$3.20	$3.60
	MKA2D DPDT	3.60	4.05
	MKA3D 3PDT	4.10	4.50

Al DIMENSIONS: 29/32 × 1-7/32 × 1-11/16
Also in 10 amps: Series MKAO
Plate circuit relay: Series MKAC 5 amps Series MKACO 10 amps



SERIES MKD. OPEN TYPE WITH .187 QUICK CONNECT LUGS

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKD-1A SPDT	$3.25	$3.65
	MKD-2A DPST	3.95	4.35
	MKD-3A 3PDT	4.40	4.80

	5 amp contact rating	6, 12, 24V	110V
DC	MKD-1D SPDT	$3.20	$3.60
	MKD-2D DPDT	3.60	4.05
	MKD-3D 3PDT	4.10	4.50

SERIES MKDO. OPEN TYPE WITH .187 QUICK CONNECT LUGS

	10 amp contact rating	6, 12, 24, 115V	220V
AC	MKDO-1A SPDT	$3.30	$3.75
	MKDO-2A DPDT	4.05	4.45
	MKDO-3A 3PDT	4.55	5.00

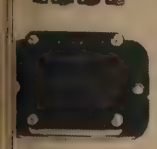
	10 amp contact rating	6, 12, 24V	110V
DC	MKDO-1D SPDT	$3.25	$3.65
	MKDO-2D DPDT	3.75	4.15
	MKDO-3D 3PDT	4.25	4.65

SERIES MKDC. PLATE CIRCUIT RELAYS WITH .187 QUICK CONNECT LUGS

5 amp open type	2500Ω	5000Ω	10,000Ω	20,000Ω
MKDC-1 SPDT	$3.30	$3.45	$4.05	$4.30
MKDC-2 DPDT	3.85	4.00	4.55	4.85
MKDC-3 3PDT	4.25	4.60	5.00	5.25

10 amp open type	2500Ω	5000Ω	10,000Ω	20,000Ω
MKDCO-1 SPDT	$3.35	$3.50	$4.10	$4.35
MKDCO-2 DPDT	3.95	4.10	4.65	4.95
MKDCO-3 3PDT	4.40	4.75	5.15	5.40





MINIATURE PLUG-IN *LOW PROFILE LOW COST*

(SERIES MKTR)

Despite its compact size this new totally enclosed, low cost, low profile miniature relay has not compromised the high quality of its progenitor the Series MK open relay. The low mounting profile (dust cover included) has been made possible by incorporating the frame of the relay with the connector-header. Thus a certain basic hardware has been eliminated resulting in important size reduction. Versatility is also assured since the standard terminals can be used with Amp snap-on connectors, printed circuits, or plug-in receptacles. Also available with studs for chassis mounting. Termination can be used for soldered connections. The plug-in-receptacle is true 10 ampere construction. Lugs can be used for either solder or snap-on connections.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	* MKTR1A SPDT	$4.25	$4.65
	* MKTR2A DPDT	4.95	5.35
	* MKTR3A 3PDT	5.40	5.85
		6, 12, 24V	110V
DC	* MKTR1D SPDT	$4.20	$4.60
	* MKTR2D DPDT	4.60	5.05
	* MKTR3D 3PDT	5.10	5.50

DIMENSIONS: 1-27/32 × 1-3/8 × 1-3/8
Also in 10 amps: *Series MKTRO
Plate circuit relay: *Series MKTRC 5 amps *Series MKTRCO 10 amps
Spotlight relay: *Series ATR5 amps
With or without colored dust cover *Series AHTR 10 amps

92-67 RECEPTACLE .30 net.
92-82 Clip-on Receptacle .50
91-49 Hold down Spring .12

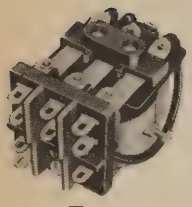
UNDERWRITERS LABORATORIES COMPONENT RECOGNITION

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

GENERAL PURPOSE RELAYS

NEW MINIATURE SENSITIVE RELAYS (SERIES SK) 60 MILLIWATTS PER POLE



Type SK

Type SKA

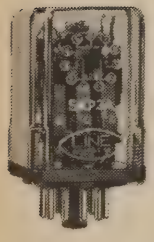
This entire series of SK type relays is identical in construction to our MK series miniature relays, with one essential difference —the special alloy used in pole and frame increases the magnetic flux many times thus making the relays very sensitive to very low power levels—only 60 milliwatts per pole.

SERIES SK OPEN TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
* SK-1 SPDT	$4.15	$4.25	$4.80	$4.80	$5.05
* SK-2 DPDT	4.65	4.80	5.30	5.30	5.55
* SK-3 3PDT	5.10	5.20	5.75	5.75	6.00

SERIES SKT PRINTED CIRCUIT TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
* SKT-1 SPDT	$4.30	$4.45	$5.10	$5.10	$5.30
* SKT-2 DPDT	4.85	5.00	5.55	5.55	5.85
* SKT-3 3PDT	5.25	5.40	6.00	6.00	6.25

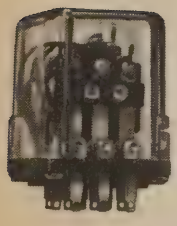


SERIES SKA OPEN TYPE 5 AMPS .110 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
* SKA-1 SPDT	$4.30	$4.45	$5.05	$5.05	$5.30
* SKA-2 DPDT	4.85	5.00	5.55	5.55	5.85
* SKA-3 3PDT	5.25	5.60	6.00	6.00	6.25

SERIES SKD OPEN TYPE 5 AMPS .187 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKD-1 SPDT	$4.30	$4.45	$5.05	$5.05	$5.30
SKD-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKD-3 3PDT	5.25	5.60	6.00	6.00	6.25



SERIES SKP PLUG-IN PLASTIC HOUSING 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
* SKP-1 SPDT	$6.90	$7.00	$7.40	$7.40	$7.65
* SKP-2 DPDT	7.30	7.40	7.80	7.80	8.10
* SKP-3 3PDT	8.75	8.90	9.40	9.40	9.65

PRINTED CIRCUIT TYPE ENCLOSED

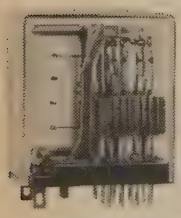
* SKTE1 SPDT	$5.30	$5.45	$6.05	$6.30
* SKTE2 DPDT	5.85	6.00	6.55	6.85
* SKTE3 3PDT	6.25	6.60	7.00	7.25

SERIES SKTR LOW COST PLATE CIRCUIT RELAYS

PLUG-IN TYPE

5 AMP. DC	Up to 2500Ω	5000Ω	10,000Ω	20,000Ω
* SKTR1 SPDT	$5.30	$5.45	$6.05	$6.30
* SKTR2 DPDT	5.85	6.00	6.55	6.85
* SKTR3 3PDT	6.25	6.60	7.00	7.25

NEW MINIATURE CRADLE TYPE RELAYS (SERIES JMR) AND (SERIES JMRB BIFURCATED)





The JMR is an imported miniature cradle type relay incorporating a unique reed hinge. The reed hinge eliminates the possibility of binding and wear, thereby providing exceptional long life.
All contact connections are molded directly through the base; the only solder connections in the relay are those to the coil.
The JMR features gold diffused, silver contacts which are suitable for low level as well as full rated 5 amp. loads. The relay is enclosed in a high impact polycarbonate housing and the relay base is black bakelite. All internal phonoelic spacers are baked and out-gassed prior to assembly, thereby assuring reliable operation under the most adverse conditions.

Model Number	Poles	6, 12, 24 VDC	48 VDC	110 VDC
JMR- 2D	2PDT	$3.30	$3.35	$4.70
JMR-14D	4PDT	3.80	3.85	5.05

Model Number	Poles	6, 12, 24 VDC	48 VDC	110 VDC
JMRB- 2D	2PDT	$3.60	$3.65	$5.00
JMRB-14D	4PDT	4.20	4.25	5.45

*UNDERWRITERS LABORATORIES COMPONENT RECOGNITION

© United Technical Publications

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

GENERAL PURPOSE RELAYS



MINIATURE 4-POLE RELAY
*** (SERIES JA)**

The series JA is a high quality, miniature 4PDT relay for AC or DC operation. The JA relay features nylon dust cover, gold flashed fine silver contacts rated at 3 amps. This imported relay features exceptional quality and rugged design to meet the most exacting requirements. It is excellent for computers, logic systems and data processing. Standard configuration features solder terminals and 3-48, 23/64" mounting stud. Can be used with our 92-79 solder lug socket or 92-80 P.C. socket (50c each)

	Voltage	Resistance	Nominal Power	Price
DC	6 VDC	40 OHMS	800 MW	$4.10
	12 VDC	160 OHMS	800 MW	4.10
	24 VDC	650 OHMS	800 MW	4.10
	48 VDC	2500 OHMS	800 MW	4.20
	110 VDC	10000 OHMS	800 MW	4.90
AC	6 VAC	10.5 OHMS	1.1 VA	$4.40
	12 VAC	43 OHMS	1.1 VA	4.40
	24 VAC	160 OHMS	1.1 VA	4.40
	115 VAC	3900 OHMS	1.1 VA	4.90



MEDIUM POWER RELAY OPEN TYPE (SERIES LR)

Open type, heavy-duty type relay designed for many applications. Standard fine silver contacts rated at 10 amperes, optional Silver Cadmium load contacts rated at 15 amps. Ambient temperature operating range, continuous duty: A.C., —45° to 55°C.; D.C., —45° to 75°C.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LR1A SPDT	$4.00	$4.20
LR2A DPDT	4.85	5.05
LR12A SPDT-DB(15A)	5.05	5.25

DC

10 amp contact rating	6, 12, 24V	110V
LR1D SPDT	$3.80	$4.00
LR2D DPDT	4.65	4.85
LR12D SPDT-DB(15A)	5.85	5.05

DIMENSIONS: 2-3/8 × 1-1/2 × 1-21/32



NEW

MEDIUM POWER RELAY OPEN TYPE (SERIES LRT)

Same quality features of the LR series (above) but in a special configuration utilizing .250 quick connect terminals.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LRT-1A SPDT	$4.50	$4.70
LRT-2A DPDT	5.35	5.55
LRT-12A SPDT-DB	5.55	5.75

DC

10 amp contact rating	6, 12, 24V	110V
LRT-1D SPDT	$4.30	$4.50
LRT-2D DPDT	5.15	5.35
LRT-12D SPDT-DB	5.35	5.55



MEDIUM POWER RELAY PLUG-IN TYPE (SERIES LRP)

This relay is available in either metal or plastic enclosures, equipped with a standard octal plug in header for single and double pole types. Eleven pin headers are also available. The standard LRP plastic enclosure is a clear C-11 Styrene, colors are available at no extra charge. Female sockets for 8 and 11 pin headers are also available.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LRP1A SPDT	$7.00	$7.10
LRP2A DPDT	8.20	8.50
LRP12A SPDT-DB(15A)	8.80	9.00

DC

10 amp contact rating	6, 12, 24V	110V
LRP1D SPDT	$6.80	$7.00
LRP2D DPDT	8.00	8.40
LRP12D SPDT-DB(15A)	8.70	8.80

DIMENSIONS: 3-1/4 × 1-15/16 × 1-15/16



HEAVY DUTY RELAY OPEN TYPE (SERIES LG)

Open type relay, specifically designed for extremely heavy-duty applications. Standard Fine Silver load contacts are rated at 15 amps. with optional Silver Cadmium Oxide contacts where larger inrush loads are encountered. Loads are rated at 115/60 non-inductive. All load contacts are factory gold-flashed to prevent contact oxidation prior to use.

AC

15 amp contact rating	6, 12, 24, 115V	220V
LG1A SPDT	$4.30	$4.50
LG2A DPDT	4.85	5.05
LG3A 3PDT	5.40	5.60

DC

15 amp contact rating	6, 12, 24V	110V
LG1D SPDT	$4.20	$4.40
LG2D DPDT	4.75	4.95
LG3D 3PDT	5.30	5.60

DIMENSIONS: 1-1/2 × 2-3/8 × 1-13/16

*NDERWRITERS LABORATORIES COMPONENT RECOGNITION

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

GENERAL PURPOSE RELAYS



HEAVY DUTY RELAY PLUG-IN TYPE (SERIES LGP)

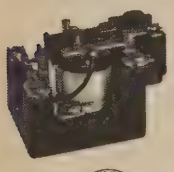
Plug-in type relay, with same quality features as above. Also available in either metal or clear bLC-11 Styrene enclosure. Ambient temperature operating range, continuous duty; A.C., —45° to 55°C.; D.C.,—45° to 75°C.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LGP1A SPDT	$7.30	$7.50
LGP2A DPDT	7.85	8.05
LGP3A 3PDT	8.40	8.60

DC

10 amp contact rating	6, 12, 24V	110V
LGP1D SPDT	$7.20	$7.40
LGP2D DPDT	7.75	8.05
LGP3D 3PDT	8.40	8.60



HEAVY DUTY POWER RELAYS* (SERIES STA)

A 25 amp. power relay ideally suited for starting motors up to 1 hp, elevator controls, and many other applications which require high current or high voltage switching with maximum dependability. One piece molded base, sturdy two-hole mounting. Top removable coil.

Available with one or two auxiliary 5 ampere contacts.

*See new miniature power relay (series PF) on Pg. 7 of this listing.

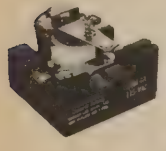
AC

25 amp contact rating	6, 12, 24, 115V	220V
† * STA2A DPDT	$7.20	$7.60
STA3A (1. aux. con.)	10.75	11.05
STA14A (2. aux. con.)	14.25	14.65

DC

	6, 12, 24VDC	110VDC
† * STA2D DPDT	$7.20	$7.60
STA3D (1. aux. con.)	9.75	10.05
STA14D (2. aux. con.)	12.25	12.65

DIMENSIONS: 2-1/2 × 2-15/16 × 3-3/8



HEAVY DUTY POWER RELAYS (SERIES STM)

Same quality features as Series ST, but assembled on a compact base. Available with one or two auxilliary 5 amp contacts.

AC

25 amp contact rating	6, 12, 24, 115V	220V
† STM1A SPDT	$4.85	$5.25
† STM4A SPST NO	4.50	4.90
† STM5A DPST NO	5.10	5.50
† STM7A SPST NC	4.50	4.90
† STM10A SPST NO DB	4.75	5.15

STMC AVAILABLE WITH 1 AUX. CON.
STMCC AVAILABLE WITH 2 AUX. CON.

DC

25 amp contact rating	6, 12, 24V	110V
† STM1D SPDT	$4.85	$5.25
† STM4D SPST NO	4.50	4.90
† STM5D DPST NO	5.10	5.50
† STM7D SPST NC	4.50	4.90
† STM10D SPST NO DB	4.75	5.50

DIMENSIONS: 2-1/8 × 2-1/2 × 2-5/16

MECHANICAL LATCH RELAYS



OPEN TYPE (SERIES RL)

Open type for use where a sustained relay closure is required, and current drain of a relay coil is to be eliminated. Incorporates two coils, one to close load contacts, the other to reset them. Requires only momentary electrical contact to operate or release. Provides positive mechanical latch, eliminating chatter during sustained relay closure.

AC

5 amp contact rating	6, 12, 24, 115V	220V
RL1A SPDT	$7.15	$8.00
RL2A DPDT	8.25	9.00
RL3A 3PDT	9.15	9.95
RL14A 4PDT	10.45	11.30
RL15A 5PDT	11.45	12.30
RL16A 6PDT	12.55	13.35

DC

5 amp contact rating	6, 12, 24V	110V
RL1D SPDT	$6.50	$7.75
RL2D DPDT	7.50	8.75
RL3D 3PDT	8.50	9.75
RL14D 4PDT	9.50	10.75
RL15D 5PDT	10.50	11.75
RL16D 6PDT	11.50	12.75

Available in 10 amp contact rating. ASK FOR SERIES RLO DIMENSIONS: 2-11/16 × 1-3/4 × 1-3/4



PLUG-IN TYPE (SERIES RLP)

Plug-in type, same factory-tested quality features as above. Available in clear C-11 Styrene enclosure up to 5PDT.

AC

5 amp contact rating	6, 12, 24, 115V	220V
RLP1A SPDT	$9.40	$10.25
RLP2A DPDT	10.50	11.30
RLP3A 3PDT	14.75	15.60
RLP14A 4PDT	16.15	17.00
RLP15A 5PDT	17.25	18.00

DC

5 amp contact rating	6, 12, 24V	110V
RLP1D SPDT	$8.75	$10.05
RLP2D DPDT	9.85	11.15
RLP3D 3PDT	14.10	15.40
RLP14D 4PDT	15.55	16.80
RLP15D 5PDT	16.65	17.90

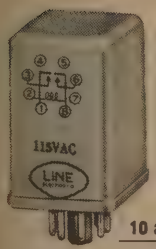
All models available 3PDT, 4PDT, 5PDT, and in 10 amp contact rating. ASK FOR SERIES RLH

© United Technical Publications

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

HERMETICALLY SEALED RELAYS



PLUG-IN TYPE (SERIES HKP)

The Series HKP relay incorporates the basic MK frame into hermetically sealed plug-in configuration. All units are thoroughly vacuum baked and out-gassed and back filled with nitrogen before sealing. The HK series will fit any standard octal based receptacle and is in the classification of a general purpose relay.

PLATE CIRCUIT RELAYS 5 Amp

	2500Ω	5000Ω	10,000Ω	20,000Ω
HKF1 SPDT	$8.90	$9.00	$9.40	$9.65
HKF2 DPDT	9.30	9.40	9.80	10.10
HKF3 3PDT	10.75	10.90	11.40	11.65

	10 amp contact rating	6, 12, 24,115V	220V
AC	HKH1A SPDT	$8.50	$8.95
	HKH2A DPDT	9.15	9.55
	HKH3A 3PDT	10.60	11.10

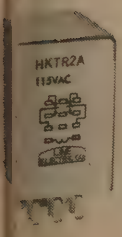
	10 amp contact rating	6, 12, 24V	110V
DC	HKH1D SPDT	$8.45	$8.90
	HKH2D DPDT	9.10	9.50
	HKH3D 3PDT	10.60	10.95

DIMENSIONS: 2-1/16 x 1-21/32 x 1-7/16

PLUG-IN TYPE. LOW COST

(Series HKTR. 5 AMP) (Series HKTRO. 10 AMP)

These relays are hermetically sealed counterparts of our MKTR relays (see page 3) but they are especially designed for use with our 92-67 socket. Low profile general purpose applications.



	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTRO-1A SPDT	$ 8.50	$ 8.95
	HKTRO-2A DPDT	9.15	9.55
	HKTRO-3A 3PDT	10.60	11.10

	10 amp contact rating	6, 12, 24V	110V
DC	HKTRO-1D SPDT	$ 8.45	$ 8.90
	HKTRO-2D DPDT	9.10	9.50
	HKTRO-3D 3PDT	10.60	10.95

PRINTED CIRCUIT TYPE. LOW COST

(Series HKT. 5 AMP) (Series HKTO. 10 AMP)

The same construction as HKTR and HKTRO (on left) but especially designed for use on printed circuit boards, mounting by means of .030 diameter pins.

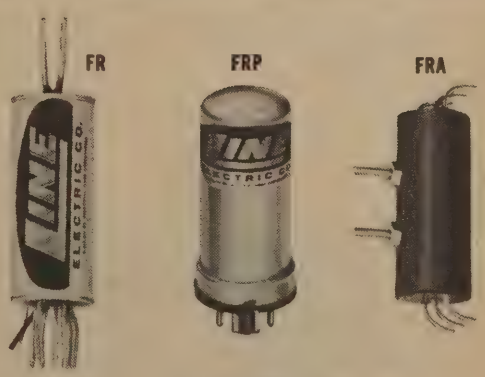
	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTO-1A SPDT	$ 8.25	$ 8.65
	HKTO-2A DPDT	9.70	10.10
	HKTO-3A 3PDT	10.25	10.65

	10 amp contact rating	6, 12, 24V	110V
DC	HKTO-1D SPDT	$ 8.20	$ 8.60
	HKTO-2D DPDT	9.50	9.90
	HKTO-3D 3PDT	10.10	10.50

REED RELAYS — 3 STANDARD TYPES

In computer, data processing and guidance system development, design engineers are enthusiastically applying dry reed relays in place of switching diodes. The reasons: miniature profile—life expectancy exceeding 100,000,000 operations—less heat generated compared with switching diodes—3 millisecond operating time and very high resistance in the open contact stage.

To efficiently serve the growing demand for dry reed relays in these and other applications, Line Electric now stocks these 3 standard types for immediate delivery in prototype quantities.



Open Coil Type—Series FR

6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements

FR1-SPDT, $ 5.50 ea. FR4-SPST NO, $3.30 ea.
FR2-2PDT, $ 9.00 ea. FR5-2PST NO, $4.50 ea.
FR3-3PDT, $12.75 ea. FR6-3PST NO, $5.50 ea.

Plug-In Type—Series FRP

6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements

FRP1-SPDT, $ 8.50 ea. FRP4-SPST NO, $6.00 ea.
FRP2-2PDT, $12.00 ea. FRP5-2PST NO, $7.50 ea.
FRP3-3PDT, $16.00 ea. FRP6-3PST NO, $8.50 ea.

Lug Mount Type—Series FRA

6 VDC & 12 VDC & 24 VDC. 2 Contact Arrangements

FRA1-SPDT, $7.50 ea. FRA4-SPST NO, $4.50 ea.

SPECIFICATIONS

CONTACT RATING
10 volt-amperes resistive
3 watts D.C. resistive

MAXIMUM CURRENT
0.5 amperes

DIELECTRIC STRENGTH
250 volts
60 cps R.M.S.

MAXIMUM VOLTAGE
110 volts

LIFE EXPECTANCY
Rated load - - -
1 x 10^6 operations
Dry circuit - - -
100 x 10^6 operations

OPERATE TIME
3 milliseconds maximum, including bounce

CONTACT RESISTANCE
50 millohms

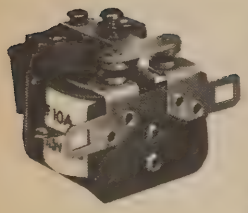
INSULATION RESISTANCE
1000 megohms minimum

RELEASE TIME
5 milliseconds maximum, including bounce

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

NEW MINIATURE POWER RELAY (SERIES PF)



The PF Series Relays are especially designed for applications where limited space is a factor. This relay, although small in size, is ideally suited for heavy duty industrial control applications where long life and fast action are a requirement. The PF Relay is supplied with ¼" quick connect terminals on the contacts for ease of installation. Other type terminals are available upon request. Consult factory for details.

CONTACTS

Material ¼" dia. silver cadmium oxide gold flashed.
Contact Terminals ¼" quick connect. Pierced for soldering.

COILS

Dielectric Strength 750 V.R.M.S.
Nominal Power D.C. relays - 1.1 watts avg.
A.C. relays - 2.5 volt amps avg.
Over-Voltage D.C. - 140% of nominal. A.C. - 125% of nominal.
Operate Time 15 milliseconds or less.
Weight 3 ounces
Temperature Range —40° C. to +50° C.
Coil Terminals Solder type.

25 amp. contact rating	6-12-24-115V	220V
AC PF10A SPST-NO-DB	$3.90	$4.30
DC PF10D SPST-NO-DB	3.70	4.30

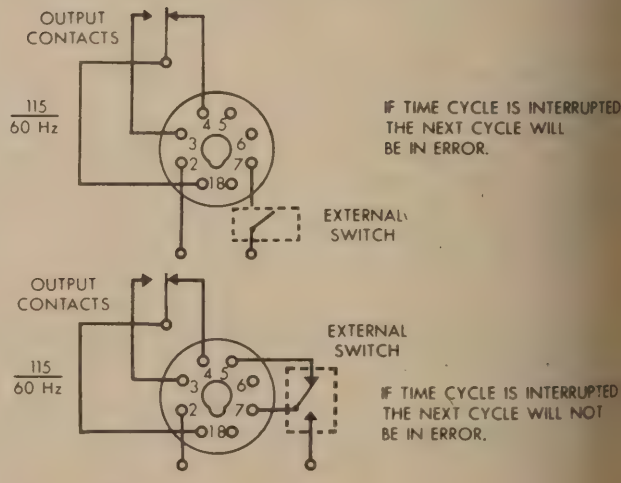
SOLID STATE TIME DELAY RELAY ADJUSTABLE PLUG-IN TYPE (SERIES VTL)

GENERAL DESCRIPTION

The essential difference between solid state electronic timers and other types is the absence of mechanical moving parts within the controlling circuit. For this reason they often require less installation space than the equivalent electro-mechanical models, while delivering longer performance.

Today the incorporation of solid state electronic time controls in original equipment is an indication of advanced engineering design, a strong factor in influencing preference for your company's products. We invite your inquiries.

The Series VTL Time Delay Relay provides an adjustable time delay between the closure of 115 VAC input voltage to the subsequent actuation of a set of SPDT load contacts.





TECHNICAL SPECIFICATIONS

The Series VTL Time Delay Relay has a setting potentiometer with slotted shaft and locking device for adjusting time delay

1. 115 VAC input.
2. Isolated load contacts SPDT.
3. Load capacity 10 amperes non-inductive rated at 115 VAC.
4. Terminals — standard 8 pin octal plug.
5. Temperature range — 30°F. to +120°F.
6. Power consumption 2.0 VA at 115 VAC.
7. Repeat accuracy ±5% of full scale at 115 ±4% VAC.

MODEL	MIN. SETTING	MAX. SETTING
VTL-1S	.2 sec.	1 second
VTL-5S	.5 sec.	5 seconds
VTL-15S	1.0 sec.	15 seconds
VTL-30S	2.0 sec.	30 seconds
VTL-60S	4.0 sec.	60 seconds

PRICE . . . 18.00

Net
© United Technical Publications

LINE ELECTRIC DIVISION

RELAYS · BUZZERS · FOOT SWITCHES

MINIATURE TELEPHONE RELAYS



(SERIES GT)

Fast acting miniature telephone type relay. Highly versatile, supplied in contact arrangements up to 6PDT, and in a variety of styles including open, dust cover, and hermetically sealed. Factory will supply enclosure details.

AC

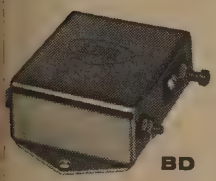
	6, 12, 24V	115V
GT1A SPDT	$5.55	$5.95
GT2A DPDT	6.50	6.75
GT3A 3PDT	7.00	7.45
GT14A 4PDT	7.40	7.85
GT15A 5PDT	8.10	8.50
GT16A 6PDT	8.80	9.30

DC

	6, 12, 24V	110V
GT1D SPDT	$3.55	$4.00
GT2D DPDT	4.50	4.75
GT3D 3PDT	5.00	5.45
GT14D 4PDT	5.40	5.85
GT15D 5PDT	6.10	6.50
GT16D 6PDT	6.80	7.30

DIMENSIONS: Max. 1-9/16 × 17/32 × 3/4

BUZZERS D.C. - A.C.



BD



BDH

VARIABLE SOUND AND PITCH D.C. - A.C.

The series BD buzzers are designed for use in offices, plants, etc., where quality, good appearance and dependable operation is demanded. Three sizes of buzzers are available, each size varying in tone and volume of sound. However, the volume of sound and pitch of each size buzzer can be varied by means of double, locking adjustments. The three sizes of buzzers are equipped with phosphor bronze springs and pure hard-drawn silver contacts. They are bug and dust-proof with tight-fitting polished chrome covers.

Model No.	6-8VDC	12VDC	24VDC	48VDC
BD-0	$3.25	$3.50	$3.75	$5.25
BD-1	3.15	3.25	3.40	4.80
BD-2	3.25	3.50	3.75	5.20

(BD-0 Low tone, BD-1 Medium tone, BD-2 Loud tone)

Hermetic Seal				
BDH	8.50	9.00	9.50	10.00

DIMENSIONS: BD0—1-21/32 × 1-15/32 × 1/2
BD1—2-1/8 × 1-29/32 × 19/32
BD2—3 × 2-1/2 × 7/8
BDH—1-9/16 × 3-13/16 × 2-13/16



MD



MB

AC BUZZERS

Available for 6, 12, 24, 115, 220, and 440 volts A.C. 60 cps operation, these buzzers are ideally suited for paging, warning, starting and dismissal signals. These buzzers are a non-contact type therefore suitable for continuous duty, providing a clear, penetrating signal.



MC



MA

	6, 12, 24, 115 VAC/60 cy	220VAC/60 cy
* MA	$2.50	$3.05
* MB	2.75	3.30
* MC	3.50	4.05
* MD	1.85	2.65
MCH Hermetic Seal	10.00	11.00

PEDALINE FOOT SWITCH



The Pedaline is a compact light weight foot operated switch. The single switch type weighs only 7 ounces; the double switch type 7½ ounces. Baked on light gray hammertone enamel finish with black foot pad. Available with a single pole snap action switch or two single pole double throw switches which operate in sequence.

#PL1 single switch only	$3.15
* #PL-1C single switch w/line cord	$4.45
#PL5 double switch	$4.80
#PL-5C double switch w/line cord	$5.65

DIMENSIONS: 3-1/2 × 2-5/8 × 1

SINGER

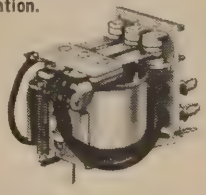
LINE ELECTRIC DIVISION

UNDERWRITERS LABORATORIES COMPONENT RECOGNITION

Magnecraft® general purpose relays

class 88 open type

SPDT, DPDT, 3PDT — 10 amps.
AC or DC operation.



- Small Size: 1 1/16 x 1 3/16 x 1 1/4"
- Silver alloy, gold-flashed, contacts rated at 10 amps at 115 VAC or 32 VDC resistive load.
- Solder terminals for easy wiring.
- Easy mounting: One #6-32 tapped mounting hole with locating boss.
- Rugged hinge-pin armature for long life and stability of operation.
- Weight: 2 oz. approx.

Stock Part No.	Contacts 10 Amps.	COIL †Volt or ††Curr.	COIL *Res. Ohms	COIL Nominal Power	Prices 1-9
AC Voltage Specified					
W88AX1	SPDT	6VAC			4.02
W88AX2		12VAC			4.02
W88AX3		24VAC		3 VA	4.02
W88AX4		115VAC			4.02
W88AX34		230VAC			4.54
W88AX5	DPDT	6VAC			4.70
W88AX6		12VAC			4.70
W88AX7		24VAC		3 VA	4.70
W88AX8		115VAC			4.70
W88AX32		230VAC			5.22
W88AX9	3PDT	6VAC			5.24
W88AX10		12VAC			5.24
W88AX11		24VAC		3 VA	5.24
W88AX12		115VAC			5.24
W88AX36		230VAC			5.78
Direct Current Voltage Actuated					
W88X2	SPDT	6VDC	25		3.60
W88X3		12VDC	100	1.5W	3.60
W88X4		24VDC	400	1.5W	3.60

Stock Part No.	Contacts 10 Amps.	COIL †Volt or ††Curr.	COIL *Res.	COIL Nominal Power	Prices 1-9
DC Voltage Specified Cont'd.					
W88X5	SPDT	110VDC	8000		4.24
W88X6	DPDT	6VDC	25		4.16
W88X7		12VDC	100		4.16
W88X8		24VDC	400	1.5W	4.16
W88X9		110VDC	8000		4.80
W88X10	3PDT	6VDC	25		4.64
W88X11		12VDC	100		4.64
W88X12		24VDC	400	1.5W	4.64
W88X13		110VDC	8000		5.24
DC Current Specified For Electronic Operation					
W88X14	SPDT	7.2 MA	2500		4.12
W88X15		5.0 MA	5000	125MW	4.22
W88X16		3.6 MA	10000		4.68
W88X17	DPDT	10 MA	2500		4.42
W88X18		7.2 MA	5000	250MW	4.52
W88X19		5.0 MA	10000		4.96
W88X20	3PDT	12.3 MA	2500		4.88
W88X21		8.7 MA	5000	375MW	5.00
W88X22		6.1 MA	10000		5.44

class 88CP plug in

AC or DC operation.
Crackproof, see through plastic dust cover.
SPDT, DPDT, 3PDT — 10 amps.



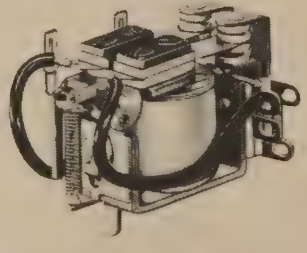
- Size: 2 1/8 x 1 3/8 x 1 3/8"
- Silver alloy, gold-flashed, contacts rated 10 amps at 115 volts AC or 32 volts DC, resistive load.
- Furnished with 8 or 11 pin std. octal plug.
- Rugged hinge-pin armature for long life and stability of operation.
- Weight: 3 oz. approx.

Stock Part No.	Contacts 10 Amps.	COIL †Volt or ††Curr.	COIL *Res. Ohms	COIL Nominal Power	Plug	Prices 1-9
AC Voltage Specified						
W88ACPX1	SPDT	6VAC				6.17
W88ACPX2		12VAC				6.17
W88ACPX3		24VAC		3 VA	8-pin	6.17
W88ACPX4		115VAC				6.17
W88ACPX76		230VAC				6.94
W88ACPX5	DPDT	6VAC				6.91
W88ACPX6		12VAC				6.91
W88ACPX7		24VAC		3 VA	8-pin	6.91
W88ACPX8		115VAC				6.91
W88ACPX32		230VAC				7.69
W88ACPX9	3PDT	6VAC				8.59
W88ACPX10		12VAC				8.59
W88ACPX11		24VAC		3 VA	11-pin	8.59
W88ACPX12		115VAC				8.59
W88ACPX39		230VAC				9.36
DC Voltage Specified						
W88CPX1	SPDT	6VDC	25			5.94
W88CPX2		12VDC	100	1.5W	8-pin	5.94
W88CPX3		24VDC	400	1.5W	8-pin	5.94

Stock Part No.	Contacts 10 Amps.	COIL †Volt or ††Curr.	COIL *Res. Ohms	COIL Nominal Power	Plug	Prices 1-9
DC Voltage Specified Cont'd.						
W88CPX4		110VDC	8000			6.55
W88CPX5	DPDT	6VDC	25			6.55
W88CPX6		12VDC	100			6.55
W88CPX7		24VDC	400	1.5W	8-pin	6.55
W88CPX8		110VDC	8000			7.16
W88CPX9	3PDT	6VDC	25			8.12
W88CPX10		12VDC	100			8.12
W88CPX11		24VDC	400	1.5W	11-pin	8.12
W88CPX12		110VDC	8000			8.75
DC Current Specified For Electronic Operation						
W88CPX13	SPDT	7.2 MA	2500			6.49
W88CPX14		5.0 MA	5000	125MW	8-pin	6.60
W88CPX15		3.6 MA	10000			7.04
W88CPX16	DPDT	10 MA	2500			6.93
W88CPX17		7.2 MA	5000	250MW	8-pin	7.04
W88CPX18		5.0 MA	10000			7.48
W88CPX19	3PDT	12.3 MA	2500			8.47
W88CPX20		8.7 MA	5000	375MW	11-pin	8.58
W88CPX21		6.1 MA	10000			9.02

class 88R power relays

DPDT 15 amps AC or DC operation.

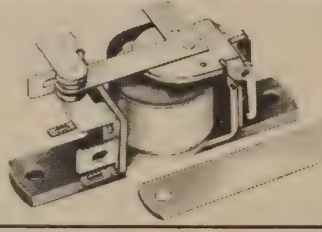


- Small Size: 1 7/8 x 1 3/4 x 1 3/32"
- Silver alloy, gold-flashed, contacts, rated at 15 amps at 115 volts AC, or 32 volts DC, resistive load.
- Solder terminals for easy wiring.
- Easy mounting: One #6-32 tapped mounting hole with locating boss.
- Designed for high current switching in small space.
- Rugged hinge pin armature for long life and stability of operation.
- Weight: 3 oz. approx.

Stock Part No.	Contacts 15 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
W88ARX-2	DPDT	12VAC	—	3VA	6.87
W88ARX-3		24VAC	—		6.87
W88ARX-4		115VAC	—		7.05
W88RX-2	DPDT	12VDC	100	1.5W	6.80
W88RX-3		24VDC	400		6.80

class 88K low cost relays

SPDT 15 amps AC or DC operation.

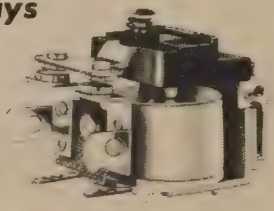


- Size: 2 5/8 x 1 3/16 x 1 1/4"
- Silver alloy, gold-flashed, contacts, SPDT rated at 15 amps, 115 volts AC or 32 VDC, resistive load.
- Mounting base insulator furnished.
- Terminals accept AMP Faston 250 Quick-Disconnect receptacles for contacts, 110 Series for coil, or equivalent, or solder connection can be used.
- Weight: 3 ozs. approx.

Stock Part No.	Contacts 15 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
W88AKX-1	SPDT	24VAC	—	3VA	5.12
W88AKX-2		115VAC	—		5.12
W88AKX-3		230VAC	—		6.20
W88KX-1	SPDT	6VDC	25	1.5W	4.90
W88KX-2		12VDC	100		4.90
W88KX-3		24VDC	400		4.90
W88KX-4		110VDC	8000		5.68

class 88KD low cost power relays

50 amps SPST-NO-DM, 1 HP. AC or DC operation.



- Size: 1 15/16 x 1 1/16 x 1 1/2"
- 50 amp resistive, heavy duty silver alloy contacts for power switching.
- Terminals accept AMP Faston 250 Quick-Disconnect receptacles for contacts, 110 Series for coil, or equivalent, or solder connections can be used.
- Easy mounting: One #6-32 tapped mounting hole and locating boss.

Stock Part No.	Contacts 50 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
W88KDX-1	SPST-NO-DM	6VDC	25	1.5W	4.70
W88KDX-2		12VDC	100		4.70
W88KDX-3		24VDC	400		4.70
W88KDX-4		110VDC	8000		5.58
W88KADX-1	SPST-NO-DM	24VAC	—	3VA	5.30
W88KADX-2		115VAC	—		5.30
W88KADX-3		230VAC	—		5.68

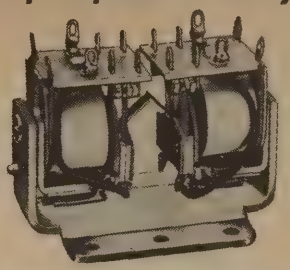
*Resistance Values ±10% at 25°C.
†Voltage Specified Relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25°C.
††Current Specified Relays pull in at Specified Value or less.

MAGNECRAFT® ELECTRIC COMPANY

Net
© United Technical Publications

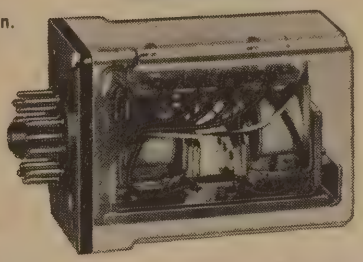
Magnecraft® general purpose relays

STOCK FOR IMMEDIATE DELIVERY



ass 88L latching relay

- or DC operation — 4PDT and 6PDT — 10 amps.
- ize: 3 x 1¾ x 1 13/16"
- ombination of two Class 88 Relays with interlocking latch-in evers mounted on a common base.
- ach armature latches when pulled in. Energizing one rmature releases or resets the other.
- ilver alloy, gold-flashed, contacts rated 10 amps at 115 volts C or 32 VDC resistive load.
- asy mounting with clearance holes for six #6-32 screws.
- ugged hinge pin armature for long life and stability of operation.
- eight: 6½ oz. approx.

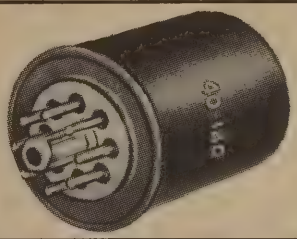


ass 88LCP enclosed plug-in tching relays — 4 PDT 10 amp

- or DC operation.
- ize: 2⅜ x 1¾ x 3 3/16"
- nclosure: Crackproof, see-through plastic dust cover.
- ounting: 20-pin octal style plug mates with std. mphenol 77-MIP-20 socket.
- eight: 8 oz. approx.

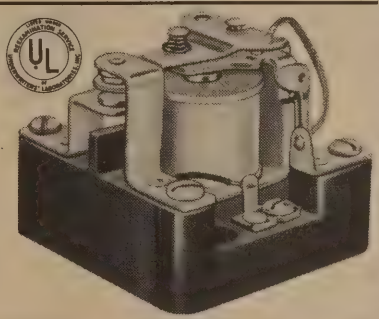
ass 88HP hermetically sealed ug-in relay

- or DC operation — DPDT or 3PDT — 10 amps.
- ize: 2 1/32 x 1 1/16 dia.
- ermetically sealed to afford maximum protection against severe mbient conditions.
- ilver alloy contacts, gold-flashed, rated 10 amps at 115 volts AC or 28 volts DC, resistive load.
- ounting: Standard 8 or 11-pin octal style plug.
- eight: 5 oz. approx.



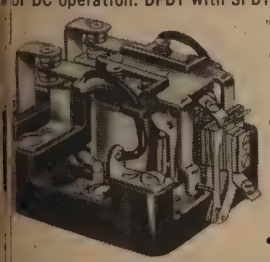
ass 99 heavy duty power relays, L listed

- or DC operation — 25 amps 1 HP.
- T, DPST-NO, and DPDT.
- ize: SPDT — 2½ x 2½ x 2 3/16", DPST-NO — 2½ x 2½ x 2⅜", DPDT — 3 3/16 x 2½ x 2⅜"
- versize silver alloy, gold-flashed contacts, rated at 25 amps t 115 VAC or 32 VDC, resistive load, or 1 HP, AC.
- eavy duty hinge-pin armature for long life and stability of peration. Screw type terminals and molded phenolic base.
- asy mounting: Two 3/16" diameter clearance holes on ⅞" centers.



ass 99/power relay ith aux. contacts

- or DC operation. DPDT with SPDT Aux. contacts.

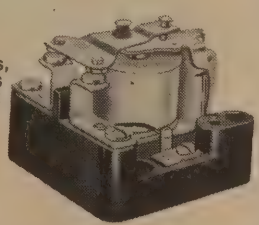


- Size: 4 3/32 x 2½ x 2⅜"
- Basic Class 99 Relay, equipped w/SPDT Auxiliary Contacts.
- DPDT power contacts rated 25 amps or 1 HP, SPDT auxiliary contacts rated 5 amps at 115 VAC or 32 VDC
- Screw type terminals.

class 99D power relay

50 amps — SPST-NO-DM — 2 HP.

- Size: 2½ x 2½ x 2 3/32"
- AC or DC operation
- Oversize silver alloy, gold-flashed, contacts, rated at 50 amps at 115 VAC or 32 VDC resistive load, or 2 HP.



ass 99S space saver ower relay

amps — SPDT — 1 HP.



- Size: 2⅞ x 2 x 1 13/16"
- Power switching in small space.
- One #6-32 tapped mtg. hole and locating boss.
- AC or DC operation.
- Screw terminals.
- SPDT silver alloy, gold-flashed, contacts rated at 25 amps or 1 HP.

class 99SD space saver power relay

50 amps — SPST-NO-DM — 2 HP.

- Size: 2½ x 2 x 1 13/16"
- 50 amp switching in small space.
- Screw terminals.
- One #6-32 tapped mtg. hole and locating boss.
- AC or DC operation.



sistance Values ±10% at 25°C.
ltage Specified Relays pull in at 80% of nominal or less for DC lays and 85% of nominal or less for AC relays at 25°C.

Stock Part No.	Contacts 10 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
CLASS 88L					
W88ALX-2	4PDT	6VAC	—	6VA prox.	11.98
W88ALX-3		24VAC	—		11.98
W88ALX-4		115VAC	—		11.98
W88ALX-5	6PDT	6VAC	—	6VA prox.	14.46
W88ALX-6		24VAC	—		14.46
W88ALX-7		115VAC	—		14.46
W88LX-1	4PDT	6VDC	12	3W	10.91
W88LX-2		12VDC	50		10.91
W88LX-3		24VDC	200		10.91
W88LX-4		110VDC	4000		12.26
W88LX-5	6PDT	6VDC	12	3W	13.28
W88LX-6		12VDC	50		13.28
W88LX-7		24VDC	200		13.28
W88LX-8		110VDC	4000		14.63
CLASS 88LCP					
W88ALCPX-10	4PDT (20 Pins)	6VAC	—	6VA prox.	17.26
W88ALCPX-11		24VAC	—		17.26
W88ALCPX-12		115VAC	—		17.26
W88LCPX-9	4PDT (20 Pins)	6VDC	12	3W	15.99
W88LCPX-10		12VDC	50		15.99
W88LCPX-11		24VDC	200		15.99
W88LCPX-12		110VDC	4000		16.26
CLASS 88HP					
W88AHPX-21	DPDT	6VAC	—	3VA	11.30
W88AHPX-22		12VAC	—		11.30
W88AHPX-23		24VAC	—		11.30
W88AHPX-24		115VAC	—		11.30
W88HPX-32	DPDT	6VDC	25	1.5W	10.77
W88HPX-33		12VDC	100		10.77
W88HPX-34		24VDC	400		10.77
W88HPX-35		110VDC	8000		11.92
W88AHPX-36	3PDT	115VAC	—	3VA	13.43
W88HPX-51		24VDC	400	1.5W	12.88

Stock Part No.	Contacts 25 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
CLASS 99					
W99AX-1	SPDT	24VAC	—	10VA	5.66
W99AX-2		115VAC	—		5.68
W99AX-3		230VAC	—		5.86
W99X-1	SPDT	6VDC	18	2.0W	5.42
W99X-2		12VDC	70		5.42
W99X-3		24VDC	290		5.44
W99X-4		110VDC	6000		5.83
W99AX-8	DPST-NO	24VAC	—	10VA	6.65
W99AX-9		115VAC	—		6.67
W99AX-10		230VAC	—		6.85
W99X-9	DPST-NO	6VDC	18	2.0W	6.36
W99X-10		12VDC	70		6.36
W99X-11		24VDC	290		6.38
W99X-12		110VDC	6000		6.77
W99AX-4	DPDT	24VAC	—	10VA	8.43
W99AX-5		115VAC	—		8.43
W99AX-6		230VAC	—		8.63
W99AX-7**		440VAC	—		8.68
W99X-5	DPDT	6VDC	18	2.0W	8.12
W99X-6		12VDC	70		8.12
W99X-7		24VDC	290		8.14
W99X-8		110VDC	6000		8.53
W99AX-15‡	DPDT (Relay)	115VAC	—	10VA	10.43
W99AX-16‡		230VAC	—		10.63

**W99AX-7 440VAC relay not UL Listed.
‡With Aux. contacts

Stock Part No.	Contacts	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
CLASS 99D					
W99ADX-1	SPST-NO-DM 50 Amps	24VAC	—	10VA	5.64
W99ADX-2		115VAC	—		5.64
W99ADX-3		230VAC	—		5.85
W99DX-1	SPST-NO-DM 50 Amps	6VDC	18	2.0W	5.35
W99DX-2		12VDC	70		5.35
W99DX-3		24VDC	290		5.37
W99DX-4		110VDC	6000		5.74
CLASS 99S					
W99SAX-1	SPDT 25 Amps at 115VAC	24VAC	—	10VA	7.35
W99SAX-2		115VAC	—		7.40
W99SAX-3		230VAC	—		7.62
W99SX-1	SPDT 25 Amps at 115VAC	6VDC	18	2.0W	7.11
W99SX-2		12VDC	70		7.13
W99SX-3		24VDC	290		7.15
W99SX-4		110VDC	6000		7.47
CLASS 99SD					
W99SADX-1	SPST-NO-DM 50 Amps at 115VAC	24VAC	—	10VA	6.26
W99SADX-2		115VAC	—		6.34
W99SADX-3		230VAC	—		6.56
W99SDX-1	SPST-NO-DM 50 Amps at 115VAC	6VDC	18	2.0W	6.10
W99SDX-2		12VDC	70		6.10
W99SDX-3		24VDC	290		6.14
W99SDX-4		110VDC	6000		6.44

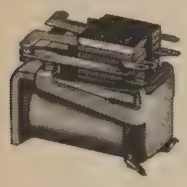
MAGNECRAFT® ELECTRIC COMPANY

Magnecraft® telephone type relays

IN STOCK FOR IMMEDIATE DELIVERY

class 33

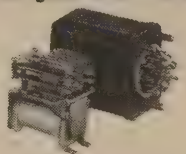
Sub-miniature 11/16 x 1¼ x 1¼"



- DPDT — 4PDT, 3 amp contacts.
- Hinge pin assures long life.
- Telephone type switching versatility.
- Fast operate and release time.
- Rigid mount — Four 4-40 mtg. holes.
- Weight: 1 oz.

class 33HS

Miniature Hermetically Sealed
Hermetically Sealed to Afford Maximum Protection Against Severe Ambient Conditions.



- Size: 31/32 x 1 11/32 x 1 41/64"
- DPDT — 4PDT 5 amp contacts.
- Telephone versatility and reliability.
- High resistance to shock and vibration.
- Widely used in military and civilian equipment.
- #4-40 3 stud mtg. — 8 or 14 pin solder terminal header.
- Weight: 3 oz.

CLASS 33

Stock Part No.	Contacts Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
W33X237	DPDT 3 Amps	6VDC	17	2.0W	4.87
W33X238		12VDC	75		4.87
W33X239		24VDC	280		4.92
W33X240		110VDC	6500		5.50
W33X241	4PDT 3 Amps	6VDC	17	2.0W	6.58
W33X242		12VDC	75		6.58
W33X243		24VDC	280		6.63
W33X244		110VDC	6500		7.23

CLASS 33HS

W33HSX177	DPDT 5 Amps	6VDC	17	2.0W	13.21
W33HSX178		12VDC	75		13.21
W33HSX179		24VDC	280		13.26
W33HSX180		110VDC	6500		13.87
W33HSX181	4PDT 5 Amps	6VDC	17	2.0W	16.65
W33HSX182		12VDC	75		16.65
W33HSX183		24VDC	280		16.70
W33HSX184		110VDC	6500		17.36

class 77CS

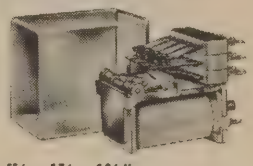
Miniature 5 amp 4PDT
See-thru Dust Cover and Sockets



- Size: 55/64 x 1 7/64 x 1 13/32"
- 70-161-1 solder terminal socket with retainer .58¢.
- 70-161-3 printed circuit terminal socket .58¢.

class 77PC

Miniature Printed Circuit Mtg.
5 amp 4PDT, See-thru Dust Cover



- Size: 55/64 x 1 7/64 x 1 13/32"
- Telephone type relays having greater contact forces, precision hinge-pin armature and unitized design assuring stabilized operation over very long life. Printed circuit type is assembled directly to P.C. board. Solder type can be soldered to directly or used with solder or P.C. socket.

CLASS 77CS

77CS Socket Terminal					
W77CSX-1‡	4PDT 5 Amps	6VDC	40	1.0W	5.30
W77CSX-2‡		12VDC	160		5.30
W77CSX-3‡		24VDC	600		5.40
W77CSX-4‡		48VDC	2500		5.55
W77CSX-5‡		110VDC	10000		5.97
W77ACSX-1‡		115VAC	—	3VA	5.96

CLASS 77PC

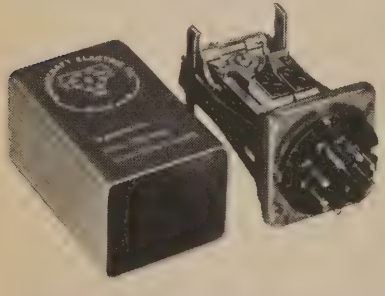
Stock Part No.**	†Nom. Coil Volt.	*Coil Ohms	Prices 1-
W77PCX-12	6VDC	40	5.60
W77PCX-13	12VDC	160	5.60
W77PCX-14	24VDC	600	5.69
W77PCX-15	48VDC	2500	5.84
W77PCX-16	110VDC	10000	6.25

** Do not order this part no. when socket is required.
‡ When relays are required to plug into sockets 7 161-1, 70-161-3, order from this table only. Socket ordered separately.

class 22CP

Plug-in Removable Dust Cover
Hinge Pin Telephone Type Relay

- Small: 1 7/16 x 1 49/64 x 3 33/32"
- 5 amp, DPDT, 3PDT — AC DC types.
- Long life and stable operation.
- Std. 8 or 11 pin octal plug.



class 22HS

Hermetically Sealed 5 amp 4PDT AC DC Types

- Small: 1 7/16 x 1 5/8 x 2 11/16"
- Long life hinge pin construction.
- Herm. sealed against severe ambient cond.
- #6-32 — 3 stud mtg.
- 14 pin solder terminals.



CLASS 22CP

Stock Part No.	Contacts 5 Amps	COIL †Volts	COIL *Ohms	Nominal Power	Prices 1-9
Alternating current voltage actuated					
W22ACPX60	DPDT	115VAC	—	5VA	10.23
Direct current voltage actuated					
W22CPX49	DPDT	12VDC	80	2.0W	9.85
W22CPX50		24VDC	375	1.5W	9.90
W22CPX51		110VDC	8000	1.5W	11.14
W22CPX54	3PDT	24VDC	375	1.5W	11.92
W22CPX56	DPDT	4.5MA	10000	200MW	11.14

CLASS 22HS

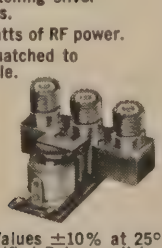
Alternating current voltage actuated					
W22AHSX32	4PDT	115VAC	—	5VA	17.30
Direct current voltage actuated					
W22HSX144	4PDT	6VDC	20	2.0W	17.00
W22HSX145		12VDC	80	2.0W	17.00
W22HSX146		24VDC	375	1.5W	17.05

Magnecraft® coaxial relays

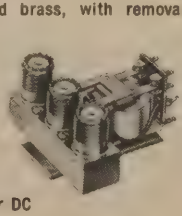
IN STOCK FOR IMMEDIATE DELIVERY

class 128

- Size: 2⅞ x 2⅝ x 1 7/16"
- SPDT RF switching silver alloy contacts.
- Rated 100 watts of RF power.
- Impedance matched to 50 ohms cable.
- Equipped with std. UHF connectors.
- VSWR 1.25: 1 max. from 0 to 500 MC.
- Operate Time: 25 ms. max.
- Long life hinge pin construction.
- Coaxial cavity, machined brass, with removable plug, for contact inspection.
- AC or DC operation.
- Release Time: 25 ms. max.
- 4-40 thd. — 4 mtg. holes.



CLASS 128 Coaxial Relay



CLASS 128 Coaxial Relay with 10 amp DPDT Aux. Contacts

*Resistance Values ±10% at 25°C.
†Voltage Specified Relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25°C.
††Current Specified Relays pull in at Specified Value or less.

CLASS 128

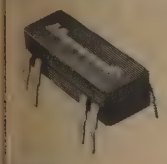
Stock Part No.	Coaxial Contacts	COIL †Volts	COIL *Ohms	Nominal Power	Price 1-9
Class 128 Relay					
W128AX-7	SPDT	115VAC	—	3VA	18.47
W128X-9	SPDT	12VDC	100	1.5W	18.13
W128X-10	SPDT	24VDC	400	1.5W	18.26
Class 128 Relay with DPDT Auxiliary Contacts					
W128AX-11	SPDT	115VAC	—	3VA	20.8
W128X-14	SPDT	12VDC	100	1.5W	20.0
W128X-15	SPDT	24VDC	400	1.5W	20.0

MAGNECRAFT® ELECTRIC COMPANY

Net © United Technical Publication

Magnecraft® dual-inline package reed relay

lass 107DIP



EW

Size: .750 x .250 x .187
Contact Load Rating: 3 VA at .5 amps max. or 28 VDC max. resistive
Contact Combination: SPST-NO (1 form A)
Operate Time: 200 microseconds typical
Dielectric Strength between Contacts: 200 VDC min.
Contact Resistance: 200 milliohms average
Typical Life at Rated Load: 10 million operations, longer at reduced loads
Epoxy molded construction

IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	COIL Max. Pickup Voltage	COIL Volts (VDC)	COIL Typical Power Req.	Internal Clamping Diode	Prices 1-24
W107DIP-1	4 VDC	5	50 MW	NO	4.00
W107DIP-2	4.8 VDC	6	500 MW	NO	3.50
W107DIP-3	9.6 VDC	12	500 MW	NO	3.50
W107DIP-4	19.2 VDC	24	500 MW	NO	3.50
W107DIP-5	4 VDC	5	50 MW	YES	4.70
W107DIP-6	4.8 VDC	6	500 MW	YES	4.20
W107DIP-7	9.6 VDC	12	500 MW	YES	4.20
W107DIP-8	19.2 VDC	24	500 MW	YES	4.20

lass 117DIP



EW

Size: .750 x .260 x .210
Contact Load Rating: 3 VA at .5 amp max. or 28 VDC max. resistive
Contact Combination: DPST-NO (2 form A)
Operate Time: 200 microseconds typical
Dielectric Strength Between Contacts: 200 VDC min.
Contact Resistance: 200 milliohms average
Typical Life at Rated Load: 10 million operations, longer at reduced loads
Epoxy molded construction

Stock Part No.	COIL Max. Pickup Voltage	COIL Volts	COIL Typical Power Req.	Internal Clamping Diode	Prices 1-24
W117DIP-9	4 VDC	5	150 MW	NO	4.68
W117DIP-10	4.8 VDC	6	300 MW	NO	4.20
W117DIP-11	9.6 VDC	12	300 MW	NO	4.20
W117DIP-12	19.2 VDC	24	300 MW	NO	4.20

ass 118DIP



EW

Size: .750 x .260 x .210
Contact Load Rating: 6 VA at .250 amps max. resistive
Contact Combination: SPDT (1 form C)
Operate Time: 500 microseconds typical
Dielectric withstanding Voltage between Contacts: 200 VDC min.
Contact Resistance: 150 milliohms average
Typical Life: 5 million at rated load. Longer at reduced loads. Higher rating up to .5 amp at reduced life
Epoxy molded construction

Stock Part No.	COIL Max. Pickup Voltage	COIL Volts	COIL Typical Power Req.	Internal Clamping Diode	Prices 1-24
W118DIP-1	4 VDC	5	150 MW	NO	7.80
W118DIP-2	4.8 VDC	6	300 MW	NO	7.30
W118DIP-3	9.6 VDC	12	300 MW	NO	7.30
W118DIP-4	19.2 VDC	24	300 MW	NO	7.30
W118DIP-5	4 VDC	5	150 MW	YES	8.50
W118DIP-6	4.8 VDC	6	300 MW	YES	8.00
W118DIP-7	9.6 VDC	12	300 MW	YES	8.00
W118DIP-8	19.2 VDC	24	300 MW	YES	8.00

Magnecraft reed relays

C compatible reed relays

lass/101M & 104M

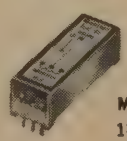


Miniature Size
2¼ x ½ x 7/16"

PST-NO, 101M — 10 VA @ 0.5 amp.
PDT, 104M — 3 V @ 0.25 amp.
-Line Axial Lead.
olded Bobbin.

Nom. Power: 40 MW
Life: 5 x 10⁶ at rated load.
Weight: 1 oz. approx.

lass 101MPC & 104MPC



Miniature Size
1⅛ x 11/32 x 3/8"

PST-NO 101MPC — 10 VA @ 0.5 amp.
PDT 104MPC — 3 VA @ 0.25 amp.
inted Circuit — Low Profile.
olded Bobbin and Steel Cover.

Nom. Power: 101MPC 40 MW, 104MPC 50 MW.
Life: 5 x 10⁶ at rated load.
Weight: 1 oz. approx.

IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	Contacts	Max. Pick-up Voltage	COIL — DC Volts	COIL — DC *Ohms	Prices 1-24
CLASS 101M					
W101MX-35	SPST-NO	4VDC	5	500	2.68
W101MX-41		2.4VDC	3	250	2.68
CLASS 104M					
W104MX-9	SPDT	4VDC	5	500	6.20
W104MX-10		2.4VDC	3	250	6.20
CLASS 101MPC					
W101MPCX-104	SPST-NO	4VDC	5	450	4.12
CLASS 104MPC					
W104MPCX-46	SPDT	4VDC	5	300	7.53

lass 105MPC



Micro-Miniature
5/8 x 3/16 x 11/32"

ST-NO 0.1 VA @ 10 MA.
nted Circuit Mtg. — Low Profile.
lded Bobbin — Steel Cover.

Nom. Power: 300 MW.
Life: 25 x 10⁶ at rated load.
Weight: 1 oz. approx.

Stock Part No.	Contacts	COIL — DC ‡MA	COIL — DC †Volts	COIL — DC *Ohms	Prices 1-24
W105MPCX-1	SPST-NO	—	6	120	5.45
W105MPCX-2		—	12	500	5.47
W105MPCX-3		—	24	2000	5.58

lass 105EP



Micro-Miniature
7/16 x 1/4" dia.

PST-NO 0.1 VA @ 10 MA.
ncapsulated-In-Line
xial Leads.

Nom. Power: 400 MW.
Life: 10 x 10⁶ at rated load.
Weight: 1 oz. approx.

W105EPX-1	SPST-NO	—	6	90	6.18
W105EPX-2		—	12	350	6.18
W105EPX-3		—	24	1300	6.30

lass 101MPC low cost!



Miniature Size
1⅛ x 3/8 x 3/8"

PST-NO 10VA @ .5 amp.
rinted Circuit Mtg.
olded Bobbin.

Nom. Pow: 500MW
Life: 5x10⁶ at rated load.
Weight: 1 oz. approx.

W101MPCX-122	SPST-NO	—	6	70	2.65
W101MPCX-123		—	12	300	2.65
W101MPCX-124		—	24	1100	2.65

lass 102MPC low cost!



Small Size
2⅝ x 5/8 x 23/32"

PST-NO 15VA @ 1 amp.
rinted Circuit Mtg.
olded Bobbin.

Nom. Pow: 500MW
Life: 20x10⁶ at rated load
Weight: 1 oz. approx.

W102MPCX-146	SPST-NO	—	6	70	2.50
W102MPCX-147		—	12	250	2.50
W102MPCX-145		—	24	1000	2.50

MAGNECRAFT® ELECTRIC COMPANY

Magnecraft® miniature dry reed relays

IN STOCK FOR IMMEDIATE DELIVERY

class 101M & 104M

Miniature 1 x ½ x 7/16"

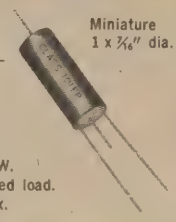


LOW COST

- 101M — SPST-NO — 10 VA @ .5 amp.
- 104M — SPDT — 3 VA @ .25 amp.
- In-line axial lead.
- Molded bobbin.
- Nom. Power: 101M, 600 MW 104M, 500 MW.
- Life: 10 x 10^6 at rated load.
- Weight: 1 oz. approx.

class 101EP & 104EP

Miniature 1 x 7/16" dia.

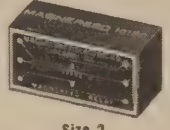


- 101EP — SPST-NO — 10 VA @ .5 amp.
- 104EP — SPDT — 3 VA @ .25 amp.
- In-line axial lead.
- Encapsulated.
- Nom. Power: 600 MW.
- Life: 10 x 10^6 at rated load.
- Weight: 1 oz. approx.

class 101PC & 104PC



Size 1
SPST-NO or SPDT
1½ x ½ x 7/16"

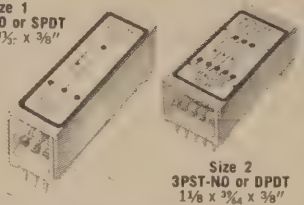


Size 2
DPST-NO or DPDT
1½ x 11/16 x 9/16"

- 101PC — 10 VA @ .5 amp.
- SPST-NO — DPST-NO.
- 104PC — 3 VA @ .25 amp.
- SPDT, DPDT.
- Encapsulated — Printed circuit mtg.
- Nom. Power: Size 1: 600 MW Size 2: 900 MW.
- Life: 10 x 10^6 at rated load.
- Weight: 1 oz. approx.

class 101MPC & 104MPC

Size 1
SPST-NO or SPDT
1⅛ x 1½ x ⅜"



Size 2
3PST-NO or DPDT
1⅛ x 3/4 x ⅜"

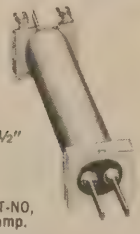
- 101MPC — 10 VA @ .5 amp.
- SPST-NO or 3PST-NO.
- 104MPC — 3 VA @ .25 amp.
- SPDT or DPDT.
- Printed circuit mtg. — Low profile.
- Nom. Power: Size 1: 500 MW Size 2: 700MW.
- Life: 10 x 10^6 at rated load.
- Weight: Size 1: 1 oz. Size 2: 2 oz. approx.

Stock Part No.	Contacts	COIL — DC ‡MA	†Volts	*Ohms	Prices 1-24
W101MX-1	SPST-NO	—	6	100	2.20
W101MX-2		—	12	250	2.25
W101MX-3		—	24	500	2.25
W101MX-4		9	—	2500	2.43
W104MX-1	SPDT	—	6	100	5.63
W104MX-2		—	12	250	5.68
W104MX-3		—	24	500	5.68
W104MX-4		9	—	2500	5.87
W101EPX-5	SPST-NO	—	6	65	3.62
W101EPX-6		—	12	225	3.62
W101EPX-7		—	24	1000	4.24
W101EPX-8		8	—	5000	4.68
W104EPX-2	SPDT	—	6	65	7.37
W104EPX-3		—	12	225	7.37
W104EPX-4		—	24	1000	8.05
W104EPX-5		8	—	5000	8.55
W101PCX-5	SPST-NO Size 1	—	6	65	5.11
W101PCX-6		—	12	250	5.16
W101PCX-7		—	24	1000	5.26
W101PCX-8		8	—	5000	5.68
W104PCX-7	SPDT Size 1	—	6	65	10.07
W104PCX-8		—	12	225	10.12
W104PCX-9		—	24	1000	10.22
W104PCX-10		8	—	5000	10.64
W101PCX-9	DPST-NO Size 2	—	6	40	7.15
W101PCX-10		—	12	150	7.18
W101PCX-11		—	24	650	7.24
W101PCX-12		8	—	5000	7.69
W104PCX-3	DPDT Size 2	—	6	40	14.59
W104PCX-4		—	12	150	14.62
W104PCX-5		—	24	650	14.68
W104PCX-6		8	—	5000	15.13
W101MPCX-1	SPST-NO	—	6	70	3.60
W101MPCX-2		—	12	300	3.60
W101MPCX-3		—	24	1100	3.63
W101MPCX-4		—	48	4300	3.77
W104MPCX-1	SPDT Size 1	—	6	70	6.82
W104MPCX-2		—	12	300	6.83
W104MPCX-3		—	24	1100	6.85
W104MPCX-4		—	48	4300	6.98
W101MPCX-5	3PST-NO Size 2	—	6	50	6.75
W101MPCX-6		—	12	220	6.75
W101MPCX-7		—	24	850	6.77
W101MPCX-8		—	48	3300	6.85
W104MPCX-5	DPDT Size 2	—	6	50	11.62
W104MPCX-6		—	12	220	11.63
W104MPCX-7		—	24	850	11.65
W104MPCX-8		—	48	3300	11.73

Magnecraft® standard reed relays

IN STOCK FOR IMMEDIATE DELIVERY

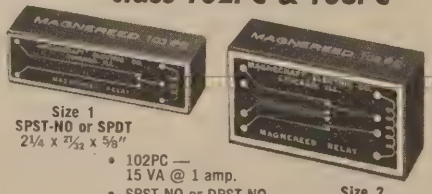
class 102M & 103M



Size
2⅛ x 1 3/32 x ½"

- 102M — SPST-NO, 15 VA @ 1 amp.
- 103M — SPDT, 10 VA @ .5 amp.
- In-line axial lead.
- Molded bobbin.
- Nom. Power: 300 MW.
- Life: 20 x 10^6 at rated load.
- Weight: 1 oz. approx.

class 102PC & 103PC



Size 1
SPST-NO or SPDT
2¼ x 2 7/32 x 5/8"

Size 2
DPST-NO or DPDT
2¼ x 1¼ x 5/8"

- 102PC — 15 VA @ 1 amp.
- SPST-NO or DPST-NO.
- 103PC — 10 VA @ .5 amp.
- SPDT or DPDT.
- Encapsulated — Printed circuit mtg.
- Nom. Power: Size 1: 400 MW. Size 2: 700 MW.

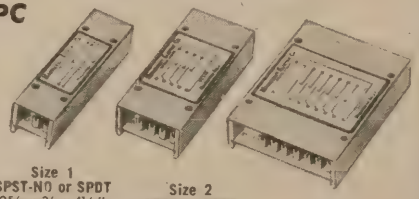
Life: 20 x 10^6 at rated load.
Weight: Size 1: 1 oz. — Size 2: 2 oz.

class 102MPC & 103MPC

- 102MPC — 15 VA @ 1 amp.
- Size 1: SPST-NO — Size 2: 3PST-NO — Size 3: 6PST-NO.
- 103MPC — 10 VA @ .5 amp.
- Size 1: SPDT — Size 2: DPDT — Size 3: 4PDT.
- Printed circuit mtg. — low profile.
- Nom. Power: Size 1: 500 MW — Size 2: 750 MW — Size 3: 1.5 W.

Life: 20 x 10^6 at rated load.

- Weight: Size 1: 1 oz. — Size 2: 2 oz. — Size 3: 3 oz. approx.



Size 1
SPST-NO or SPDT
2⅝ x ¾ x 4 1/64"

Size 2
3PST or DPDT
2⅝ x 1 13/16 x 4 1/64"

Size 3
6PST-NO or 4PDT
3⅝ x 1 3/32 x 4 1/64"

*Resistance Values ±10% at 25°C.
†Voltage Specified Relays pull in at 80% of nominal or less for DC relays at 25°C.
††Current Specified Relays pull in at Specified Value or less.

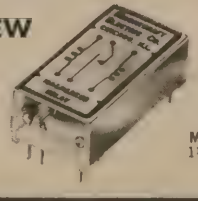
Stock Part No.	Contacts	COIL — DC ‡MA	†Volts	*Ohms	Prices 1-24
W102MX-1	SPST-NO	40	—	100	2.18
W102MX-2		—	6	200	2.25
W102MX-3		—	12	500	2.25
W102MX-4		—	24	2000	2.47
W102MX-5		5.5	—	5000	2.63
W103MX-1	SPDT	—	6	200	4.23
W103MX-2		—	12	500	4.23
W103MX-3		—	24	2000	4.45
W103MX-4		5.5	—	5000	4.62
W102PCX-1	SPST-NO Size 1	—	6	100	4.77
W102PCX-2		—	12	400	4.83
W102PCX-3		—	24	1500	4.87
W102PCX-4		6.5	—	5000	5.32
W103PCX-1	SPDT Size 1	—	6	100	7.22
W103PCX-2		—	12	400	7.27
W103PCX-3		—	24	1500	7.32
W103PCX-4		6.5	—	5000	7.76
W102PCX-5	DPST-NO Size 2	—	6	50	6.22
W102PCX-6		—	12	200	6.28
W102PCX-7		—	24	800	6.33
W102PCX-8		9	—	5000	6.78
W103PCX-5	DPDT Size 2	—	6	50	10.77
W103PCX-6		—	12	200	10.79
W103PCX-7		—	24	800	10.84
W103PCX-8		9	—	5000	11.31
W102MPCX-5	SPST-NO	140	—	30	3.29
W102MPCX-6		—	6	70	3.29
W102MPCX-7		—	12	250	3.29
W102MPCX-8		—	24	1000	3.29
W102MPCX-9		—	48	4000	3.46
W102MPCX-10		9	—	7000	4.14
W102MPCX-48	3PST-NO	—	6	50	5.62
W102MPCX-49		—	12	175	5.63
W102MPCX-50		—	24	750	5.77
W102MPCX-51		—	48	3000	5.97
W102MPCX-52	6PST-NO	—	6	25	9.18
W102MPCX-53		—	12	100	9.30
W102MPCX-54		—	24	375	9.35
W102MPCX-55		—	48	1500	9.43
W103MPCX-1	SPDT	140	—	30	5.83
W103MPCX-2		—	6	70	5.83
W103MPCX-3		—	12	250	5.83
W103MPCX-4		—	24	1000	5.83
W103MPCX-5		—	48	4000	6.00
W103MPCX-6		9	—	7000	6.68
W103MPCX-30	DPDT	—	6	50	8.33
W103MPCX-31		—	12	175	8.33
W103MPCX-32		—	24	750	8.47
W103MPCX-33		—	48	3000	8.67
W103MPCX-34	4PDT	—	6	25	14.60
W103MPCX-35		—	12	100	14.70
W103MPCX-36		—	24	375	14.77
W103MPCX-37		—	48	1500	14.88

Magnetic latching reed relay class 101LMPC

NEW

Uses no biasing magnet — no standby power

SPST 3 VA @ .010 amp. or 28 VDC max.
Double Wound Coil.
Molded Bobbin and Steel Cover.
Printed Circuit Mounting-Low Profile
Intermittent Duty, 50% Duty Cycle, 4 min. max. on time.
Life: 1 x 10^6 at rated load.
Vibration and Shock Resistant.



Miniature Size
1⅛ x ⅜ x 3/4"

Stock Part No.	Contacts	COIL Min. VDC	Nom. VDC	Max. VDC	*Ohms	Prices 1-24
W101LMPCX-9	SPST	2.4	3	3.5	5.5. 33	9.20
W101LMPCX-10		4	5	6	20 150	9.20
W101LMPCX-11		4	6	8	30/250	9.20
W101LMPCX-12		10	12	14	85/585	9.20
W101LMPCX-13		22	24	26	265/3200	9.20

MAGNECRAFT® ELECTRIC COMPANY

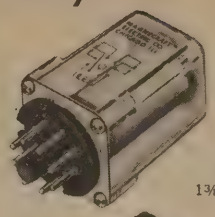
Net

© United Technical Publications

Magnecraft® reed relays

class 103CP plug-in mtg.

10 VA @ 0.5 amp.
DPDT or 3PDT.
8 or 11 Pin Octal Style Plug.
Nom. Power: DPDT 500 MW — 3PDT 800 MW.
Life: 25 x 10^6 at rated load.
Weight: 5 oz. approx.



Small Size
1⅜ x 1⅜ x 2⅜"

Stock Part No.	Contacts	COIL — DC ‡MA	†Volts	*Ohms	Prices 1-24
W103CPX-7	DPDT	—	6	75	12.92
W103CPX-8		—	12	300	12.95
W103CPX-9		—	24	1000	13.01
W103CPX-10		8	—	5000	13.57
W103CPX-11	3PDT	—	6	40	16.77
W103CPX-12		—	12	150	16.83
W103CPX-13		—	24	650	16.95
W103CPX-14		10	—	5000	17.50

††class 103LCP plug-in mtg.

Latching-Bi-Stable.
SPDT 10 VA @ 0.2 amp.
Single and Double Wound Coils.
8 or 11 Pin Octal Style Plug.
Nom. Power: Single Coil 150 MW — Double Coil 300 MW.
Life: 25 x 10^6 at rated load.
Weight: 5 oz. approx.

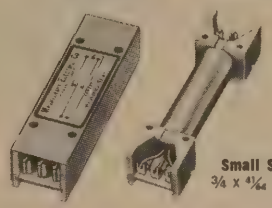


Small Size
1⅜ x 1⅜ x 2 11/16"

Stock Part No.	Contacts	‡MA	†Volts	*Ohms	Price 1-24
Single Wound Coils					
W103LCPX-7	SPDT	—	6	250	8.30
W103LCPX-8		—	12	1000	8.33
W103-LCPX-9		—	24	4000	8.57
W103LCPX-10		4	—	7000	8.80
Double Wound Coils					
W103LCPX-11	SPDT	—	6	120/120	9.87
W103LCPX-12		—	12	460/460	9.97
W103LCPX-13		—	24	1800/1800	10.02
W103LCPX-14		8	—	3000/3000	10.32

††class 103LMPC

Latching-Bi-Stable.
SPDT 10 VA @ 0.2 amp.
Single and Double Wound Coils.
Molded Bobbin and Steel Cover.
Printed Circuit Mtg. — Low Profile.
Nom. Power: Single Coil 150 MW — Double Coil 300 MW.
Life: 25 x 10^6 at rated load.
Weight: 1 oz. approx.

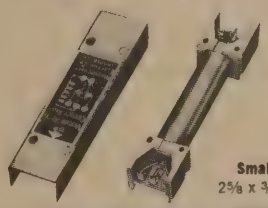


Small Size
¾ x 4¼ x 2⅝"

Stock Part No.	Contacts	‡MA	†Volts	*Ohms	Price 1-24
Single Wound Coils					
W103LMPCX-3	SPDT	40	—	70	7.07
W103LMPCX-4		—	6	250	7.07
W103LMPCX-5		—	12	1000	7.07
W103LMPCX-6		—	24	4000	7.26
W103LMPCX-7		4	—	7000	8.01
Double Wound Coils					
W103LMPCX-8	SPDT	80	—	30/30	8.22
W103LMPCX-9		—	6	120/120	8.33
W103LMPCX-10		—	12	460/460	8.33
W103LMPCX-11		—	24	1800/1800	9.00
W103LMPCX-12		8	—	3000/3000	10.04

††class 133LMPC

Latching-Bi-Stable.
SPDT 50 VA @ 2 amp.
Mercury Wetted Contacts.
Single and Double Wound Coils.
Molded Bobbin — Steel Cover.
Printed Circuit Mtg.
Nom. Power: Single Coil 150 MW — Double Coil 300 MW.
Life: 25 x 10^6 at rated load.



Small Size
2⅝ x ¾ x 4¼"

Stock Part No.	Contacts	‡MA	†Volts	*Ohms	Price 1-24
Single Wound Coils					
W133LMPCX-17	SPDT	40	—	70	9.87
W133LMPCX-18		—	6	250	9.88
W133LMPCX-19		—	12	1000	9.92
W133LMPCX-20		—	24	4000	10.07
W133LMPCX-21		4	—	7000	10.17
Double Wound Coils					
W133LMPCX-22	SPDT	80	—	30/30	11.23
W133LMPCX-23		—	6	120/120	11.25
W133LMPCX-24		—	12	460/460	11.32
W133LMPCX-25		—	24	1800/1800	11.42
W133LMPCX-26		8	—	3000/3000	11.50

*Resistance Values ±10% at 25°C. †Voltage Specified Relays pull in at 80% of nominal or less for DC relays at 25°C. ††Single Wound Coil — Switching by reversing polarity. Double Wound Coil — Switching by use of dual input. ‡Current specified relays pull-in at specified values or less.

Magnecraft® mercury wetted relays

class 131MPC



Size 1
SPST-NO
1⅛ x 13/32 x ⅜"



Size 2
DPST-NO
1⅛ x 3¾ x ⅜"

28 VA @ 1 amp.
Miniature.
Mercury Wetted Contacts.
Molded Bobbin and Steel Cover.
Printed Circuit Mtg. — Low Profile.
Operating Position: Upright.
Nom. Power: Size 1 — 500 MW, Size 2 — 700 MW.
Life: 25 x 10^6 at rated load.
Wt. Size 1: 1 oz. — Size 2: 2 oz.

class 131PC

Size 1
SPST-NO
1½ x ½ x 3/16"



Size 2
DPST-NO
1½ x 11/16 x 3/16"



28 VA @ 1 amp.
Encapsulated — Miniature.
Mercury Wetted Contacts.
Printed Circuit Mtg. — Low Profile.
Operation Position: Upright.
Nom. Power: Size 1 — 600 MW, Size 2 — 900 MW.
Life: 25 x 10^6 at rated load.
Wt. Size 1: 1 oz. — Size 2: 2 oz.

class 132MPC & 133MPC

132MPC — SPST-NO — 50 VA @ 3 amp.
133MPC — SPDT — 50 VA @ 2 amp.
Operating Position: Upright.
Printed Circuit Mtg.

Molded Bobbin and Steel Cover.
Nom. Power: 500 MW.
Life: 25 x 10^6 at rated load.
Weight: 2 oz. approx.



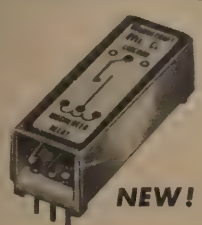
Size
2⅝ x ¾ x 4¼"

IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	Contacts	COIL—DC †Volts	*Ohms	PRICES 1-24
W131MPCX-2	SPST-NO	6	70	6.40
W131MPCX-3		12	300	6.48
W131MPCX-4		24	1100	6.53
W131MPCX-5		48	4300	6.98
W131MPCX-6	DPST-NO	6	50	11.53
W131MPCX-7		12	220	11.58
W131MPCX-8		24	850	11.65
W131MPCX-9		48	3300	11.93

Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	PRICES 1-24
W131PCX-8	SPST-NO	—	6	65	8.38
W131PCX-9		—	12	250	8.44
W131PCX-10		—	24	1000	8.55
W131PCX-11		8	—	5000	9.01
W131PCX-12	DPST-NO	—	6	40	10.62
W131PCX-13		—	12	150	10.66
W131PCX-14		—	24	650	10.71
W131PCX-15		8	—	5000	11.21
W132MPCX-1	SPST-NO	140	—	30	5.83
W132MPCX-2		—	6	70	5.83
W132MPCX-3		—	12	250	5.83
W132MPCX-4		—	24	1000	5.83
W132MPCX-5		—	48	4000	6.00
W132MPCX-6		9	—	7000	6.68
W133MPCX-1	SPDT	140	—	30	8.42
W133MPCX-2		—	6	70	8.42
W133MPCX-3		—	12	250	8.42
W133MPCX-4		—	24	1000	8.42
W133MPCX-5		—	48	4000	8.60
W133MPCX-6		9	—	7000	9.35

class 137MPC position-free mercury wetted reed relay



NEW!

Size: 1⅛ x 13/32 x ⅜
Contact Load Rating: 1 Volt-amperes max. at .100 amperes max. or 10 VDC max. resistive
Nominal Coil Power: 500 MW
Operate and Release Time: .5 millisecond average
Contact Bounce: None, with diode suppressed coil
Dielectric withstanding Voltage between Contacts: 500 VDC
Dielectric withstanding Voltage between Contacts and Coil: 500 VAC, RMS
Contact Resistance: 100 milliohms average
Typical Life at Rated Load: 20,000,000 operations; longer at reduced loads
Note: To Achieve Bounce-Free Operation Provide Diode Across Coil.

IN STOCK FOR IMMEDIATE DELIVERY

Cat. No.	Contact Combination	Max. Pickup Voltage	COIL DC Volts	Ohms	Price 1-24
W137MPCX-1	SPST-NO (1 Form A)	4.8 VDC	6	70	6.04
W137MPCX-2		9.6 VDC	12	300	6.04
W137MPCX-3		19.2 VDC	24	1100	6.04

Magnecraft® high voltage reed relays

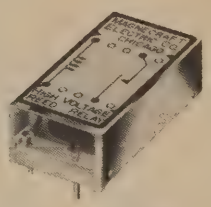
class 101VM



Miniature
1 x ½ x 7/16"

1,000 volts Peak @ .001 amp.
SPST-NO — Hi-Voltage.
In-Line Axial Leads.
Molded Bobbin.
Nom. Power 600 MW.
Life: 1 x 10^6 at rated load.
Weight: 1 oz. approx.

class 101VMPC



Miniature
1⅛ x 3¾ x ⅜"

1,000 volts Peak @ .001 amp.
SPST-NO — Hi-Voltage.
Printed Circuit Mtg. — Low Profile.
Nom. Power: 700 MW.
Life: 1 x 10^6 at rated load.
Weight: 2 oz. approx.

class 102V



Small
4½ x 1 5/16 x ⅞"

5,000 volts Peak or 50 VA @ 3 amp.
SPST-NO or SPST-NC.
Solder Terminals.
Nom. Power: SPST-NO — 500 MW, SPST-NC — 225 MW.
Life: 10 x 10^6 at rated load.
Weight: 3 oz. approx.

class 102HV & 102UHV



Small
4½ x ⅞ x ¾"

Molded Case — Encapsulated.
102HV — 10,000 volts Peak @ .001 amp.
102UHV — 20,000 volts Peak @ .001 amp.
SPST-NO — Hi-Voltage.
102HV Solder Terminals — 102UHV 6" Coil Leads.
Nom. Power: 1.5 W.
Life: 1 x 10^6 at rated load.
Weight: 2 oz. approx.

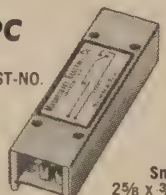
IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	Contacts	COIL — DC ‡MA	†Volts	*Ohms	Price 1-24
W101VMX-1	SPST-NO	—	6	100	10.9
W101VMX-2		—	12	250	10.9
W101VMX-3		—	24	500	10.9
W101VMX-4		9	—	2500	11.1
W101VMPCX-1	SPST-NO	—	6	50	11.9
W101VMPCX-2		—	12	220	11.9
W101VMPCX-3		—	24	850	12.0
W101VMPCX-4		—	48	3300	12.2
W102VX-49	SPST-NO	—	6	70	13.6
W102VX-50		—	12	250	13.7
W102VX-51		—	24	1000	13.7
W102VX-52		—	48	4000	14.1
W102HVX-1	SPST-NO	—	6	25	19.8
W102HVX-2		—	12	100	19.8
W102HVX-3		—	24	400	19.8
W102UHVX-1	SPST-NO	—	6	25	33.6
W102UHVX-2		—	12	100	33.6
W102UHVX-3		—	24	400	33.6

Magnecraft® power reed relays

IN STOCK FOR IMMEDIATE DELIVERY

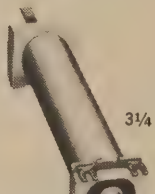
class 102RMPC



Small
2⅝ x ¾ x 1¼"

100 VA @ 3 amps — SPST-NO.
Printed Circuit Mtg. — Low Profile.
Molded Bobbin and Steel Cover.
Nom. Power: 500 MW.
Weight: 1 oz. approx.

class 102RM



Small
3¼ x 1 9/32 x ½"

100 VA @ 3 amps — SPST-NO.
Molded Bobbin.
In-Line Axial Leads
Nom. Power: 300 MW.
Weight: 1 oz. approx.

*Resistance Values ±10% at 25°C.
†Voltage Specified Relays pull in at 80% of nominal or less for DC relays at 25°C.
††Current Specified Relays pull in at Specified Value or less.

Stock Part No.	Contacts	COIL — DC †Volts	*Ohms	Nominal Power	Price 1-24
W102VX-55	SPST-NC	24	2900	225mw	16.7

Stock Part No.	Contacts	COIL — DC ‡MA	†Volts	*Ohms	Price 1-24
W102RMPCX-1	SPST-NO	—	6	70	7.8
W102RMPCX-2		—	12	250	7.8
W102RMPCX-3		—	24	1000	7.9
W102RMPCX-4		—	48	4000	8.1
W102RMX-5	SPST-NO	—	6	200	4.1
W102RMX-6		—	12	500	4.2
W102RMX-7		—	24	2000	4.3
W102RMX-8		—	48	5000	4.5

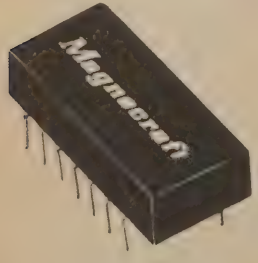
NEW Magnecraft® dual-inline all solid state relay

The Three-In-One Relay From Magnecraft

Switching — Latching — Timing

class 505QIC

SOLID STATE RELAY



Size: .890 x .400 x .380
Contact Load Rating: 1 amp @ 30 VDC at 25°C Case, maximum at any type of load
Contact Combination: DPDT (2 form C)
Sensitive Input Impedance: 50,000 ohms
Switching Time
Operate Time: 50 microseconds max.
Release Time: 50 microseconds max.
Transfer Time: 20-35 microseconds
Isolation Resistance: 30 x 10^6 ohms, minimum
Contact Resistance: 500 milliohms, maximum
Typical Life: Greater than 1 billion operations at rated load

IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	Must Operate Voltage	Must Release Voltage	Driver Supply Voltage (VDC) (MA)	†Contacts
W505QICX-1	2.5 VDC	1.1 VDC	3.6 @ 45	1 amp 30 VDC
W505QICX-3	9.0 VDC	4.5 VDC	12 @ 45*	750 MA 30 VDC

Price 1-9: $25.68 (for Both Part Numbers)

*To increase to 1 amp @ 30 VDC, merely connect in parallel a zener diode to pin 7 and 4, and connect a series limiting resistor to the driver supply.

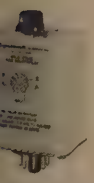
†Pins 4 and 11 must be connected on the printed circuit, providing switching on the low noise negative ground bus.

Net

© United Technical Publications

Magnecraft® time delay relays

solid state (hybrid) time delay relays



- Size 27/8 x 23/8 x 13/4".
- DPDT 10 amp output contacts.
- ±5% repeat accuracy.
- Adjustable delay up to 300 sec.
- 8 or 11 pin octal style plug.
- Solid state timing circuit.
- Weight: 10 oz. approx.

Stock Part No.	Contacts 10 Amps	Coil Voltage	Time Delay	Prices 1-9
Operate Delay				
11ACPSOX-18	DPDT	120 VAC	.2-1 Second	$18.98
11ACPSOX-5			1-10 Second	18.98
11ACPSOX-7			1-180 Second	18.98
11ACPSOX-8			2-300 Second	18.98
11CPSOX-10	DPDT	24 VDC	.2-1 Second	18.98
11CPSOX-1			1-10 Second	18.98
11CPSOX-3			1-180 Second	18.98
11CPSOX-4			2-300 Second	18.98
Release Delay				
11ACPSRX-14	DPDT WD-12	120 VAC	.2-1 Second	22.93
11ACPSRX-5			1-10 Second	22.93
11ACPSRX-7			1-180 Second	22.93
11ACPSRX-8			2-300 Second	22.93
11CPSRX-9	DPDT WD-12	24 VDC	.2-1 Second	22.93
11CPSRX-1			1-10 Second	22.93
11CPSRX-3			1-180 Second	22.93
11CPSRX-4			2-300 Second	22.93



NEW

Compact Size 2⅛ x 1⅜ x 1⅜"

CLASS 214CP

Now in the size of a general purpose relay, Magnecraft has developed a fully adjustable solid state time delay relay.

- Repeat Accuracy: ±5% at nominal voltage, 25°C.
- Contacts: DPDT, 5 amps at 32VDC or 115VAC, res.
- Steady State Current: 20 ma.
- Mode of Time Delay: Delay on operate.
- Convenient top screw driver time adjustment.
- Reset and Recycle Time: Typically 100 ms.
- Transient protection to twice input voltage for 8 ms.
- Enclosure: Molded dust cover.
- Mounting: Standard 8 pin octal style plug-in.
- Weight: 3 oz. approx.
- Polarity Protection (DC Models)

Stock Part No.	Contact	Input Volts	Timing Range	Price 1-9
W214ACPSOX-1	5 amp DPDT	120VAC	.3 to 30 sec.	21.27
W214ACPSOX-2		120VAC	3 to 240 sec.	21.27
W214CPSOX-3		24VDC	.3 to 30 sec.	21.27
W214CPSOX-4		24VDC	3 to 240 sec.	21.27

CLASS 211M



- Size 4½ x 4½ x 1½".
- DPDT 10 amp output contacts.
- ±5% repeat accuracy.
- Adjustable delay up to 300 sec.
- Mounting: Six ¾" holes ½" x 4⅛" centers.
- Solid state timing circuit.
- Weight: 10 oz. approx.

Stock Part No.	Cont. 10 Amp	Nominal Voltage	Timing Range	Prices 1-9
TIME DELAY ON OPERATE				
W211MASOX-1	DPDT	120 VAC	.2-1	$24.56
W211MASOX-2			1.0-10	24.56
W211MASOX-3			1.0-180	24.56
W211MASOX-4			2.0-300	24.56
W211MSOX-1	DPDT	24 VDC	.2-1	24.56
W211MSOX-2			1.0-10	24.56
W211MSOX-3			1.0-180	24.56
W211MSOX-4			2.0-300	24.56
TIME DELAY ON RELEASE				
W211MASRX-1	DPDT	120 VAC	.2-1	28.92
W211MASRX-2			1.0-10	28.92
W211MASRX-3			1.0-180	28.92
W211MASRX-4			2.0-300	28.92
W211MSRX-1	DPDT	24 VDC	.2-1	28.92
W211MSRX-2			1.0-10	28.92
W211MSRX-3			1.0-180	28.92
W211MSRX-4			2.0-300	28.92

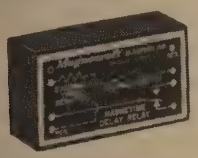
rinted circuit mounting

ASS 502PCSO & 503PCSO



Size 2¼ x 1¼ x ¾"
15 VA @ 1 amp SPST-NO, 10 VA @ 5 amp SPDT reed output contacts.
Repeat Accuracy: Slow operate ±5%.
Adjustable delay up to 5 minutes, using a remote pot, or fixed resistor.
Printed circuit mtg.
Encapsulated solid state timing circuit.

ASS 502PCSR & 503PCSR



Size 2¼ x 1¼ x ¾"
15 VA @ 1 amp SPST-NO, 10 VA @ .5 amp SPDT reed output contacts.
Repeat Accuracy: Slow release ±2%.
Adjustable delay up to 5 minutes, using a remote pot, or fixed resistor.
Printed circuit mtg.
Encapsulated solid state timing circuit.

SLOW OPERATE

Stock Part No.	Volts DC ± 15%	Timing Range	*External Adjustment	Prices 1-9
SPST-NO (Form A)				
W502PCSOX-2	12	100 m sec. to 100 sec.	60K ohm/sec.	18.96
W502PCSOX-3	24	100 m sec. to 100 sec.	60K ohm/sec.	18.96
W502PCSOX-5	12	3 sec. to 5 min.	10K ohm/sec.	21.30
W502PCSOX-6	24	3 sec. to 5 min.	10K ohm/sec.	21.30
SPDT (Form C)				
W503PCSOX-2	12	100 m sec. to 100 sec.	60K ohm/sec.	20.82
W503PCSOX-3	24	100 m sec. to 100 sec.	60K ohm/sec.	20.82
W503PCSOX-5	12	3 sec. to 5 min.	10K ohm/sec.	22.31
W503PCSOX-6	24	3 sec. to 5 min.	10K ohm/sec.	22.31

SLOW RELEASE

Stock Part No.	Volts DC ± 15%	Timing Range	*External Adjustment	Prices 1-9
SPST-NO (Form A)				
W502PCSRX-2	12	200 m sec. to 100 sec.	25K ohm/sec.	26.73
W502PCSRX-3	24	200 m sec. to 100 sec.	25K ohm/sec.	26.73
W502PCSRX-5	12	1 sec. to 5 min.	6.5K ohm/sec.	29.84
W502PCSRX-6	24	1 sec. to 5 min.	6.5K ohm/sec.	29.84
SPDT (Form C)				
W503PCSRX-2	12	200 m sec. to 100 sec.	25K ohm/sec.	28.59
W503PCSRX-3	24	200 m sec. to 100 sec.	25K ohm/sec.	28.59
W503PCSRX-5	12	1 sec. to 5 min.	6.5K ohm/sec.	31.70
W503PCSRX-6	24	1 sec. to 5 min.	6.5K ohm/sec.	31.70

*External Resistor and/or switch, not furnished.

surface mounting with screw type terminals



CLASS 212M

±1% Repeat Accuracy

Size 4½ x 4½ x 1½"

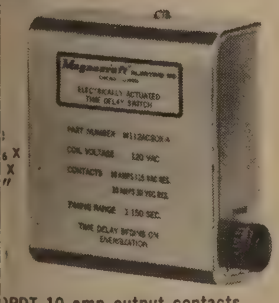
- DPDT 10 amp output contacts.
- ±1% repeat accuracy.
- Adjustable delay up to 500 sec.
- Mounting: Six ¾" holes ½" x 4⅛" centers.
- Solid state timing circuit
- Weight: 10 oz. approx.

Stock Part Number	Input Voltage	Time Delay	Mode Of Operation	Prices 1 — 9
W212MASOX-2	120VAC	.5 - 10 Sec.	Slow Operate	36.15
W212MASOX-3	120VAC	5 - 100 Sec.	Slow Operate	37.74
W212MASOX-4	120VAC	50 - 500 Sec.	Slow Operate	43.24
W212MASRX-2	120VAC	.5 - 10 Sec.	Slow Release	42.06
W212MASRX-3	120VAC	5 - 100 Sec.	Slow Release	43.82
W212MASRX-4	120VAC	50 - 500 Sec.	Slow Release	49.73

*Resistance Values ±10% at 25°C.
†Voltage Specified Relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25°C.

ir dashpot time delay relay

ASS 112C



)PDT 10 amp output contacts.
±10% repeat accuracy.
Adjustable delay 1 to 150 sec.*
Mounting: Two 3/16" holes on 3" centers.
Air dashpot delay mechanism.
Weight: 20 oz. approx.
* Mtd. in illustrated position.

CLASS 113C

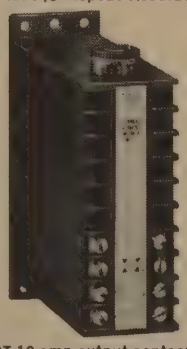


Size 3⅜ x 2 1/16 x 1 3/32"

- SPDT 10 amp output contacts.
- Manually operated.
- Push button . . . release bottom . . . time delay is on adjustable delay 1 to 180 sec.*
- Weight: 8 oz. approx.

CLASS 112M

±10% Repeat Accuracy



Size 4½ x 4 1/32 x 1½"

- DPDT 10 amp output contacts.
- ±10% repeat accuracy.
- Adjustable delay 1 to 150 sec.*
- Mounting: Six ¾" holes ½" x 4⅛" centers.
- Air dashpot delay mechanism.
- Weight: 14 oz. approx.

IN STOCK FOR IMMEDIATE DELIVERY

Stock Part No.	Contacts 10 Amps	COIL †Volts	COIL *Ohms	Prices 1-9
		SLOW OPERATE		
W112ACSOX-4	DPDT	120VAC	—	24.30
W112CSOX-3		24VDC	80	24.30
		SLOW RELEASE		
W112ACSRX-4	DPDT	120VAC	—	24.30
W112CSRX-3		24VDC	80	24.30

Operate and release delay adjustable 1-150 sec.

Stock Part No.	Contacts 10 Amps	COIL †Volts	COIL *Ohms	Adjustment Type	Prices 1-9
		SLOW OPERATE			
W112MASOX-1	DPDT	120VAC	—	Knob	28.23
W112MASOX-2		120VAC	—	Screw	28.23
W112MSOX-2		24VDC	80	Knob	28.23
W112MSOX-3		24VDC	80	Screw	28.23
		SLOW RELEASE			
W112MASRX-1	DPDT	120VAC	—	Knob	28.23
W112MASRX-2		120VAC	—	Screw	28.23
W112MSRX-1		24VDC	80	Knob	28.23
W112MSRX-2		24VDC	80	Screw	28.23

* Operate and Release Delay Adjustable 1-150 seconds.

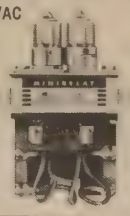
Stock Part No.	Contact Comb.	Contact Rating	Timing Range	Button Diameter	Prices 1 — 9
W113CX-1	SPDT	10 Amps	1-180 Sec.	½" Dia.	12.96

MAGNECRAFT® ELECTRIC COMPANY

Magnecraft® mercury displacement power relays

miniature "WMR" series

20 AMPERES — 120 VAC
(CSA Listed)



WMR-11

Compact units capable of handling loads nearly twice that of equal size ordinary armature type units. Hermetically sealed, mercury-to-mercury contacts. No contacts to pit, stick or corrode. Full 20 ampere rating (per pole) at 120 Vac with inductive or resistive loads.

Coil current at 120 V, 60 Hz:
WMR-1, -2, .042A WMR-11, .084A WMR-111, .120A

Dimensions (H x W x D):
WMR-1, 3½" x 1⅞" x 1¾" WMR-11, 4½" x 3" x 2"
WMR-2, 4" x 1⅞" x 1¾" WMR-111, 5" x 3¼" x 2¾"

Type	Description	1-9	10-49	50-99
WMR-1	Normally Open, SPST	$13.35	$11.68	$11.50
WMR-2	Normally Closed, SPST	13.90	12.16	10.95
WMR-11	2-Pole, Both N.O.	24.75	21.65	19.49
WMR-111	3-Pole, All N.O.	35.60	31.15	28.00

"WEM" series

35 AMPERES — 120 VAC
(UL and CSA Listed)



WEM-111

Rated 35A (per pole) at 120 Vac. Coil operating at 120 Vac 60 Hz: EM-1, EM-2, .050A; EM-11, .120A; EM-111, .200A.

Dimensions (H x W x D):
WEM-1, 4½" x 2⅝" x 2⅜" WEM-11, 5⅜" x 3⅜" x 2½"
WEM-2, 5⅛" x 2⅝" x 2⅜" WEM-111, 6¼" x 4" x 3⅜"

WEM-1	Single Pole, N.O.	$15.10	$13.20	$11.88
WEM-2	Single Pole, N.C.	16.50	14.45	13.00
WEM-11	2-Pole, Both N.O.	29.20	25.52	23.00
WEM-111	3-Pole, All N.O.	42.40	37.10	33.37

"WHD" series

60 AMPERES — 120 VAC
(CSA Listed)



WHD-111

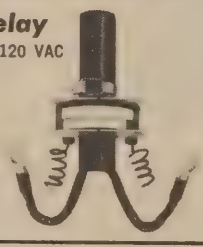
Type WHD load rated 60A for 120 Vac and 35A for 230 Vac, 60 Hz. per pole. Coils — 120 Vac 60 Hz.

Dimensions (H x W x D):
WHD-1, 5¼" x 4" x 2⅜" WHD-11, 5¾" x 4" x 2½"
WHD-2, 5¼" x 4" x 2⅜" WHD-111, 6¼" x 4" x 3⅜"

WHD-1	Single Pole, N.O.	$22.35	$19.50	$17.56
WHD-2	Single Pole, N.C.	22.50	19.68	17.73
WHD-11	2-Pole, Both N.O.	40.50	35.40	31.90
WHD-111	3-Pole, All N.O.	57.50	50.25	45.30

"W100" relay

100 AMPERES — 120 VAC
(CSA Listed)



"W100"

Rated 100A at 120 Vac or 12kW resistive load capacity. Coil operating current, .260A. Coils, 120 Vac, 60 Hz.

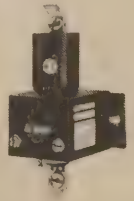
Dimensions: 6½"H x 3¼"W x 3½"D

W100-1	Single Pole, N.O.	$43.10	$37.70	$33.91

"HI-POWER" armored steel shell



WA-11



WB-1



WH-1

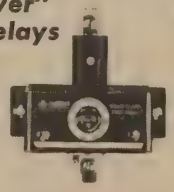


WS-1

High performance relays have hermetically sealed steel shells with ceramic lined electrode chamber, epoxy insulation. Similar to our standard mercury displacement relays, but with higher current capacity, maximum reliability. Impervious to physical or thermal shock, moisture and dirt. Types S and T completely epoxy encapsulated. Rated to switch loads up to 550 volts AC. Coils — 120 Vac, 60 Hz. Special coil voltage available.

Sizes	Type	Description	1-9	10-49	50-99
TYPE WA					
25 AMPERES/120 Vac	4 1/16" x 3" x 2 11/32"	WA-1	Single Pole, N.O.	$21.10	$18.47	$16.62
25 AMPERES/240 Vac	4 1/16" x 3" x 2 11/32"	WA-2	Single Pole, N.C.	25.10	22.00	19.80
	4 3/16" x 4 3/8" x 2 11/16"	WA-11	2-Pole, Both N.O.	40.75	35.60	32.10
	4 3/16" x 4 5/16" x 3½"	WA-111	3-Pole, All N.O.	54.75	47.90	43.10
TYPE WB					
50 AMPERES/120 Vac	4¾" x 3" x 2 11/32"	WB-1	Single Pole, N.O.	$24.65	$21.60	$19.40
35 AMPERES/240 Vac	4¾" x 4⅜" x 2 11/16"	WB-11	2-Pole, Both N.O.	48.00	42.00	37.80
	4¾" x 4 5/16" x 3½"	WB-111	3-Pole, Both N.O.	68.50	60.00	54.00
TYPE WH					
100 AMPERES/120 Vac	7½" x 4" x 3⅝"	WH-1	Single Pole, N.O.	$64.50	$56.50	$50.70
90 Amperes/240 Vac	7½" x 6½" x 4"	WH-11	2-Pole, Both N.O.	129.00	113.00	101.50
	7½" x 6½" x 5¼"	WH-111	3-Pole, All N.O.	181.00	158.10	142.50
COMPLETELY ENCAPSULATED						
TYPE WS 25 AMPERES						
120 Vac load rating						
TYPE WT 50 AMPERES	3½" x 1¾" x 2"	WS-1	Single Pole, N.O.	$23.00	$20.10	$18.10
120 Vac load rating	3⅞" x 2¼" x 2⅜"	WT-1	Single Pole, N.O.	28.50	25.00	22.45
Epoxy cast block construction:						
Molded terminals.						
No enclosure required.						

WTD "HI-Power" time delay relays



WTD

Single-pole, N.O. mercury-to-mercury contacts. The solid-state time delay circuit automatically resets upon completion of the delay. Load contacts are totally isolated from the delay circuit and are capable of switching loads to 60kW. Range, −10° to +65°C. Repeatability, ±2%. Epoxy-clad, hermetically sealed construction. Delay operates from 120 Vac. Preset or adjustable time delays from 100ms to 120 seconds are offered.

		Amperes at:				
Type	Description	120 VAC	550 VAC	1-9	10-49	50-99
WTD-A-1	.5-60S-120 Vac	25	15	$32.20	$28.20	$25.35
WTD-B-1	.5-60S-120 Vac	50	25	35.75	31.30	28.10
WTD-H-1	.5-60S-120 Vac	100	70	75.50	66.00	59.50

© United Technical Publications

PSG Industries, Inc.

MANUFACTURER OF PRECISION THERMO AND ELECTRONIC CONTROLS

FORMERLY PHILA. SCIENTIFIC GLASS CO.

SOLID STATE RELAYS

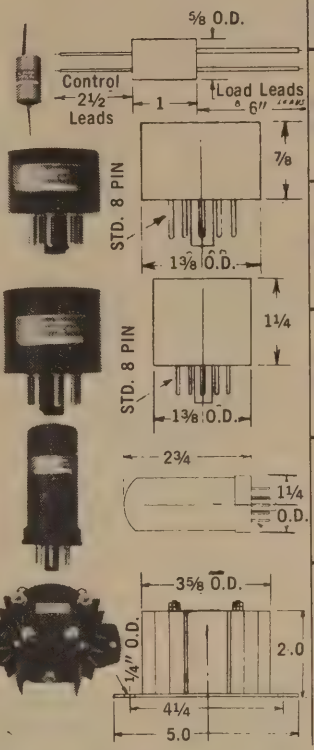
PSG Solid State Relays are full wave relays for controlling AC loads from an external contact; such as mercury thermostats, mercury switches, Reed Relays or any other opening or closing device. Since they conduct over the full 360 degree cycle, they are used in switching inductive, tungston and resistive loads, solinoids, heaters, etc.

GENERAL SPECIFICATIONS

Ambient Temperature Range: −65°F to 212°F
Operating Temperature Range: −65°F to 212°F
Voltage: 115 VAC
220 VAC (Add Suffix—2A)
28 VDC (Add Suffix—28DC) Only in 1.5 Amps
Arrangement: Normally Open or Normally Closed (Specify)
Control Current: 1.0 Milliamp Maximum (Resistive)

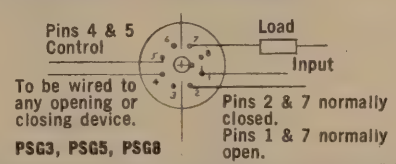
PSG SOLID STATE RELAYS HAVE THE FOLLOWING OUTSTANDING FEATURES

1. **HIGH RELIABILITY:** Each component used in these relays are inspected prior to assembly. Physical and final functional tests are made prior to shipping.
2. **LONG LIFE:** Since these relays have no moving parts eliminating arcing and bounce, they are basically maintenance free having a life expectancy of over 100 million cycles.
3. **HIGH SURGE CURRENT CAPABILITY:** All of these Solid State Relays have surge current rating of at least 10 times their rated load for one cycle. This is considerably greater than the surge handling capabilities of standard mechanical relays.
4. **FULLY ENCAPSULATED:** Each Relay is potted in thermally conductive epoxy lowering component temperature. Due to our encapsulation, the Relays are used in explosive, dusty and many other contaminated atmospheres.
5. **ZERO TURN-OFF:** Reduces R.F.I. and increases the reliability of the Relay.
6. **NO DRIVE POWER:** Any opening or closing device will activate these Solid State Relays. Control current of only 500 microamperes essentially eliminates arcing. Ideal for use with, mercury thermostats, reed relays or any other device requiring low power.
7. **NO MOVING PARTS:** No contacts, eliminates bounce and wear.
8. **LOW PRICE:** Due to our manufacturing methods and circuit design, we can offer you a high quality Solid State Relay at the most economical prices.

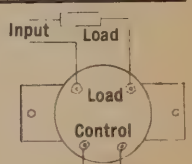


Catalog No.	Load at 115 VAC (Amps)	Arrangement (Normally)	Prices (1-24) 115 VAC	220 VAC
PSG2-O	1.5	Open	7.95	9.50
PSG2-C	1.5	Closed	9.95	10.50
PSG3-O	3	Open	11.95	12.50
PSG3-C	3	Closed	12.95	13.50
PSG5-O	5	Open	12.95	14.95
PSG5-C	5	Closed	13.95	15.95
PSG8-O	8	Open	13.95	16.95
PSG8-C	8	Closed	14.95	17.95
PSG15-O	15	Open	27.95	31.95
PSG15-C	15	Closed	29.95	33.95
PSG25-O	25	Open	32.95	36.95
PSG25-C	25	Closed	34.95	38.95

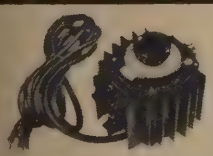
WIRING DIAGRAMS



PSG3, PSG5, PSG8



PSG15, PSG25



SOLID STATE VARIABLE TRANSFORMERS

MERCURY PLUNGER RELAYS

Model VPC15 • Model VP15
Dimensions: 3½ x 3½ x 3½
Weight: 1 lb. 5 oz.

VARI-POWER-TROL

MODEL NO. VPC15

A compact, completely Solid State AC Power Controller; will allow you to proportion power from a fraction of a watt up to 1800 watts at 115 VAC, 50/60 cycles.

Control Sensitivity: 10 Microamps

Vari-Power-Trol, comes complete with terminals for thermostat or any opening or closing device, fuse, 3 wire cord and plug.

Vernier Control Knob, output receptacle indicator light.

USES: Heaters, ovens, lamps, heating mantles, etc. **$110.00**



PR-5 & PR-6, MPR-5, MPR-6

VARI-POWER MODEL NO. VP15

Is dimensionally the same except it does not have control circuit; adjustable Solid State AC Power Control is complete with fuse, 3 wire cord and plug, vernier knob, and output receptacle.

Capacity: 1800 watts, 15 amps, 115 VAC, 50/60 cycles.

USE: Heaters, lamps, ovens, heating mantles, replaces the wire wound variable transformer. **$75.00**



PR-10; 11 & PR-SS 10 & PRSS 11 PR-25 & PR-26

CONTACT RATINGS ON PR SERIES TUBES

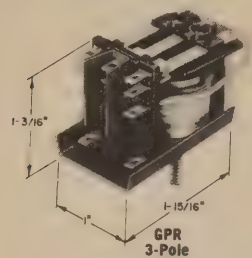
Model No.	Contact Rating	Milliamps Coil or Control	H/P		Prices (1-9)
MPR-5	115V. at 15 amps 220V. at 10 amps	53.5 31.0	1½	N/O	$11.20
MPR-6	115V. at 15 amps 220V. at 10 amps	53.5 31.0	1½	N/C	12.20
PR-5	115V. AC/35 amps	53.5	2	N/O	13.20
PR-10	115V. AC/35 amps	53.5	2	N/O	14.58
PR-15	220V. AC/25 amps	31.0	2	N/O	19.80
PR-6	115V. AC/35 amps	53.5	2	N/C	13.75
PR-11	115V. AC/35 amps	53.5	2	N/C	15.40
PR-16	220V. AC/25 amps	31.0	2	N/C	20.60
PRSS-10 Solid State Control	115 VAC/35 amps 220 VAC/25 amps	1 Milliamp (Max.) Resistive	2 2	N/O N/O	27.25 27.25
PRSS-11 Solid State Control	115 VAC/35 amps 220 VAC/25 amps	1 Milliamp (Max.) Resistive	2 2	N/C N/C	28.25 28.25
PR-25	115 VAC/50 amps 220 VAC/40 amps	53.5 31.0	7 7	N/O N/O	23.65 23.65
PR-26	115 VAC/50 amps 220 VAC/40 amps	53.5 31.0	7 7	N/C N/C	24.75 24.75
PRSS-25 Solid State Control	115 VAC/50 amps 220 VAC/40 amps	1 Milliamp (Max.) Resistive	7 7	N/O N/O	30.50 30.50
PRSS-26 Solid State Control	115 VAC/50 amps 220 VAC/40 amps	1 Milliamp (Max.) Resistive	7 7	N/C N/C	31.25 31.25

© United Technical Publications

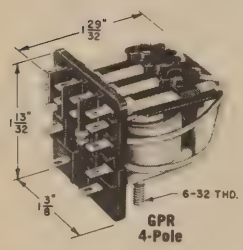
OHMITE general purpose relays

MODEL GPR — INDICATOR, PLATE, THYRATRON AND LATCHING VERSIONS IN UNENCLOSED AND ENCLOSED TYPES

Simple, rugged, low cost relays handling substantial power for small size. Uncomplicated design provides unusual flexibility for making and changing connections and mounting. Stock includes relays in versatile enclosures, some with indicator light, a plate, thyratron and latching versions. Wide commercial a industrial use where economy and versatility are important.



GPR
3-Pole



GPR
4-Pole

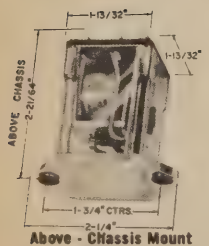
UNENCLOSED RELAYS

Basic (Unenclosed) Relay: All connections terminate on barrier-type terminal panel on combination solder — quick-connect (push-on) lugs which accept AMP 110 female connectors. The terminal panel is conveniently incorporated into printed circuit boards. Fixed contacts are integral inlay on terminal itself. Normally furnished with a 6-32 x ½" mounting stud and non-turn boss (or lug for 4-pole relays). A 6-32 threaded hole is optional. Unenclosed relays can also be mounted by plugging their panels into Ohmite SOG sockets. See "Socket" below.

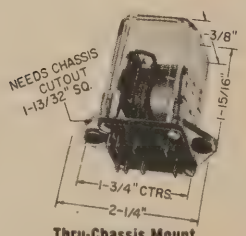
Contact Ratings: Two ratings — fine sil contacts, 5 amps at 115 VAC or 32 VDC sistive; silver-cadmium contacts, 10 am

Insulation: Tested at 1500 VAC.

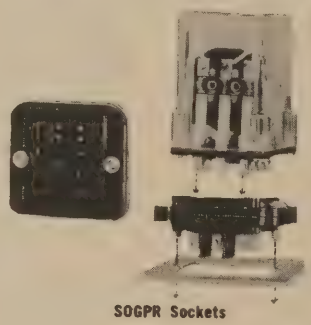
Coil Wattage: 1.4 watts DC operation; watts (2.0 volt-amps) AC except 2.4 wa (3.70 volt-amps) for 4-pole AC and AC lat ing relays.

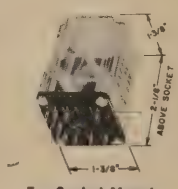


Above - Chassis Mount
GPRTA



Thru-Chassis Mount
GPRTT


SOGPR Sockets



For Socket Mount
GPRTS



For Octal Plug
GPRTP

ENCLOSED RELAYS

(GPRTA-, GPRTT-, GPRTS-, GPRTP-)
Four types of clear plastic enclosures as follows:

Chassis Mounting Types: "GPRTA"—("Terminals-Above-Chassis" type) has terminal panel opposite to mounting flange; "GPRTT" —("Terminals-Through-Chassis" type) has terminal panel on same end as mounting flange, requires chassis cutout; "GPRTS" type (Terminals for Socket Use) is similar to GPRTT but has no mounting flanges. It is intended strictly for plug-in mounting in Ohmite socket "SOGPR" (see "Socket" below).

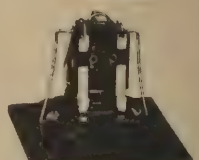
Plug Base Type: "GPRTP" — employs octal plug for 1 and 2 pole relays; 11-pin plug for 3-pole. The octal plug base is integral with relay for rigidity — is designed with recessed pins which meet UL spacing requirements (150V).

Socket (SOGPR): Unique socket fits the terminal panels of all GPR relays and provides over-the-surface spacing to meet UL requirements for 150 volts. Requires chassis cut-out to mount. Hold down springs (see illustration) for unenclosed and enclosed relays, are provided with each socket but are not required except under conditions of vibration or shock. Socket solder terminals will also accept AMP 11 quick-connectors. See socket listings.

SOCKETS FOR GPR, GPRTS RELAYS



For up to 3PDT: 1¾" square, requires 1¼" x 1½" cutout.* 2 holes (for No. 6 screws) on 1⅜" centers.
Catalog No. SOGPR-9



For 4-pole models, 1¾" x 2", requires 1½" x 1½" cutout.* 2 holes (for No. 6 screws) on 1⅝" centers.
Catalog No. SOGPR-12

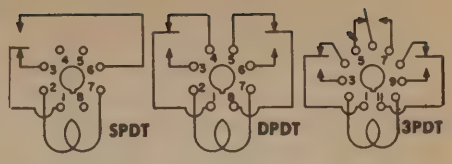
*Std. punches and dies from Ward Machinery Co., Chicago. No. 28, Style 22N, 1¼ x 1½, for SOGPR-9: No. 28, Style 14R, 1½ x 1½, for SOGPR-12.

Indicator Relay: Incorporates light bulb to indicate energized condition of coil. Stocked only in GPRTP enclosures described in preceding. Neon bulb furnished with coil ratings 70 volts and above; incandescent bulbs for coil ratings below 70 volts.

UL & CSA Approval: Column heads in the stock tables carry the UL (Underwriters' Laboratories) or CSA symbol (Canadian Standards Association) where applicable. The gray tint in the column indicates the relays are recognized under the "UL components program." The acceptability of such relays by UL depends upon their combination with other equipment such as sockets etc.

© United Technical Publications

OHMITE general purpose relays



Plug wiring schemes for plug base (GPRTP) relays

MODEL GPR — CONTINUED

STOCK GPR RELAYS*

Contacts	COIL DATA Volts	Amps	Ohms	5 AMP. CONTACTS: UL CSA UNENCLOSED Cat. No.[1] Prefix GPRX	ABOVE CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTAX-†	THRU-CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTTX-†	SOCKET MOUNT ENCLOSED (for SOGPR Socket)‡ UL CSA Cat. No.[1] Prefix GPRTSX-	PLUG BASE MT. ENCLOSED UL CSA Cat. No.[1] Prefix GPRTPX-	10 AMP. CONTACTS: UL CSA UNENCLOSED Cat. No.[1] Prefix GPRX-	SOCKET MOUNT ENCLOSED (for SOGPR Socket)‡ CSA Cat. No.[1] Prefix GPRTSX-	PLUG BASE MT. ENCLOSED CSA Cat. No.[1] Prefix GPRTPX-	INDICATOR-PLUG BASE ENCLOSED Cat. No.[1] Prefix GPRTPX-
SPDT	6VAC	.334	4.2	(-3T)	(-3T)	(-3T)		(-3T)	(-203T)		(-203T)	
DPDT	6VAC	.334	4.2	-6T	(-6T)	(-6T)	(-6T)	-6T	(-206T)	(-206T)	-206T	(-291T)
3PDT	6VAC	.334	4.2	(-9T)	(-9T)	(-9T)	(-9T)	-9T	(-209T)	(-209T)	-209T	
4PDT	6VAC	.650	2.5	-403T			(-403T)		(-433T)	(-433T)		
SPDT	12VAC	.167	17	(-12T)	(-12T)	(-12T)		(-12T)	(-212T)		(-212T)	
DPDT	12VAC	.167	17	-15T	(-15T)	(-15T)	(-15T)	-15T	(-215T)	(-215T)	-215T	(-292T)
3PDT	12VAC	.167	17	(-18T)	(-18T)	(-18T)	(-18T)	-18T	(-218T)	(-218T)	(-218T)	
4PDT	12VAC	.309	10	(-406T)			(-406T		(-436T)	(-436T)		
SPDT	24VAC	.084	65	(-21T)	(-21T)	(-21T)		(-21T)	(-221T)		(-221T)	
DPDT	24VAC	.084	65	**-24T**	**-24T**	(-24T)	(-24T)	-24T	(-224T)	(-224T)	**-224T**	(-293T)
3PDT	24VAC	.084	65	(-27T)	-27T	(-27T)	(-27T)	-27T	(-227T)	(-227T)	**-227T**	
4PDT	24VAC	.155	40	-409T			(-409T)		(-439T)	(-439T)		
SPDT	115VAC	.0174	1600	(-30T)	(-30T)	(-30T)		(-30T)	-230T		-230T	
DPDT	115VAC	.0174	1600	**-33T**	-33T	(-33T)	(-33T)	**-33T**	-233T	**-233T**	**-233T**	**-294T**
3PDT	115VAC	.0174	1600	-36T	-36T	(-36T)	(-36T)	**-36T**	(-236T)	(-236T)	**-236T**	
4PDT	115VAC	.0325	1000	-412T			**-412T**		**-442T**	**-442T**		
SPDT	230VAC	.0087	7000	(-39T)	(-39T)	(-39T)		(-39T)	(-239T)		(-239T)	
DPDT	230VAC	.0087	7000	-42T	(-42T)	(-42T)	(-42T)	-42T	-242T	(-242T)	-242T	(-295T)
3PDT	230VAC	.0087	7000	(-45T)	-45T	(-45T)	(-45T)	-45T	(-245T)	(-245T)	-245T	
4PDT	230VAC	.0147	4000	(-415T)			(-415T)		(-445T)	(-445T)		
SPDT	6VDC	.35	17	(-48T)	(-48T)	(-48T)		(-48T)	(-248T)		(-248T)	
DPDT	6VDC	.35	17	-51T	(-51T)	(-51T)	**-51T**	-51T	(-251T)	(-251T)	-251T	(-296T)
3PDT	6VDC	.35	17	(-54T)	(-54T)	(-54T)	(-54T)	-54T	(-254T)	(-254T)	-254T	
4PDT	6VDC	.35	17	(-418T)			(-418T)		(-448T)	(-448T)		
SPDT	12VDC	.185	65	-57T	(-57T)	(-57T)		(-57T)	(-257T)		(-257T)	
DPDT	12VDC	.185	65	**-60T**	-60T	(-60T)	(-60T)	**-60T**	**-260T**	(-260T)	-260T	(-297T)
3PDT	12VDC	.185	65	**-63T**	(-63T)	(-63T)	(-63T)	**-63T**	(-263T)	(-263T)	-263T	
4PDT	12VDC	.185	65	-421T			(-421T)		(-451T)	(-451T)		
SPDT	24VDC	.093	256	-66T	(-66T)	(-66T)		(-66T)	(-266T)		(-266T)	
DPDT	24VDC	.093	256	**-69T**	(-69T)	(-69T)	(-69T)	**-69T**	(-269T)	(-269T)	**-269T**	(-298T)
3PDT	24VDC	.093	256	-72T	(-72T)	(-72T)	-72T	-72T	(-272T)	(-272T)	**-272T**	
4PDT	24VDC	.093	256	-424T			(-424T)		-454T	**-454T**		
SPDT	110VDC	.022	5000	(-75T)	(-75T)	(-75T)		(-75T)	(-275T)		(-275T)	
DPDT	110VDC	.022	5000	(-78T)	(-78T)	(-78T)	(-78T)	-78T	(-278T)	(-278T)	-278T	(-299T)
3PDT	110VDC	.022	5000	**-81T**	-81T	-81T	**-81T**	-81T	-281T	(-281T)	-281T	
4PDT	110VDC	.022	5000	(-427T)			-427T		-457T	-457T		
Approx. weight				2.5 oz.	3.0 oz.	3.0 oz.	3.0 oz.	3.5 oz.	2.5 oz.	3.5 oz.	3.5 oz.	3.5 oz.

*Column heads carry symbols to indicate UL or CSA (Canadian Standards Assn.) approval. The grey tint indicates that relay is recognized under UL "components program" (File No. E33069, Guide No. 380W1.14C, Assignment No. 62C3559A). CSA File No. is 21309. See explanation in "UL and CSA Approval."

†4-Pole GPRTS relays are not covered by CSA.

‡GPRTA and GPRTT types as listed by UL, differ slightly from the stock versions above and consequently, are made to order. These UL versions have a "U" added to the catalog number, such as in "GPRTAU." They also have CSA approval.

STOCK GPR PLATE CIRCUIT RELAYS — 5 AMP CONTACTS

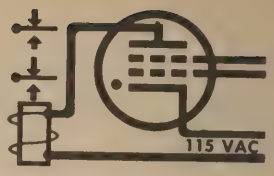
Plate Relays: Feature same physical construction as standard general purpose relays but are adjusted for greater sensitivity and can be used as electronic circuit controls, i.e., in the plate circuits of standard vacuum tubes.

Contacts	COIL DATA Ohms	Pull-in Max. ma.	UL UNENCLOSED Cat. No.[1] Prefix GPRX-	ABOVE CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTAX-†	THRU-CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTTX-†	SOCKET MOUNT ENCLOSED (for SOGPR Socket)‡ UL Cat. No.[1] Prefix GPRTSX-	UL CSA PLUG BASE MT. ENCLOSED Cat. No.[1] Prefix GPRTPX-
SPDT	2500	7.2	-82T	(-82T)	(-82T)		(-82T)
DPDT	2500	10	(-83T)	(-83T)	(-83T)		-83T
3PDT	2500	12.3	(-84T)	(-84T)	(-84T)		-84T
4PDT	2500	15.0	(-463T)			(-463T)	
SPDT	5000	5	(-85T)	(-85T)	(-85T)		(-85T)
DPDT	5000	7.2	(-86T)	(-86T)	(-86T)		**-86T**
3PDT	5000	8.7	(-87T)	(-87T)	(-87T)		(-87T)
4PDT	5000	11	(466T)			(-466T)	
SPDT	10,000	3.6	(-88T)	(-88T)	(-88T)		(-88T)
DPDT	10,000	5	-89T	(-89T)	(-89T)		-89T
3PDT	10,000	6.1	(-90T)	(-90T)	(-90T)		**-90T**
4PDT	10,000	7.5	(-469T)			(-469T)	
Approx. weight			2.5 oz.	3.0 oz.	3.0 oz.	3.0 oz.	3.5 oz.

[1] Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

OHMITE general purpose relays

Thyratron Plate Relay: Designed specifically for plate circuit of thyratron tubes 2050 and 2D21 with 115 VAC supply (see diagram). Also suitable for operation in series with silicon controlled rectifiers from a 115 VAC supply. Ready to work, no capacitors or adjustments required, no chatter. Available unenclosed and in most GPR enclosures.



Relay in circuit Showing Thyratron

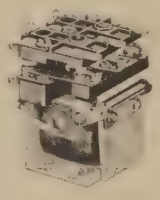
STOCK GPR THYRATRON RELAYS

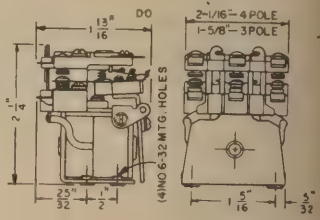
	5 AMP CONTACTS					10 AMP CONTACTS		
Contacts	UNEN-CLOSED Cat. No.[1] Prefix GPRX-	ABOVE CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTAX-†	THRU-CHASSIS MTG. ENCLOSED Cat. No.[1] Prefix GPRTTX-†	SOCKET MOUNT ENCLOSED (for SOGPR Socket)‡ Cat. No.[1] Prefix GPRTSX-	PLUG BASE MT. ENCLOSED Cat. No.[1] Prefix GPRTPX-	UNEN-CLOSED Cat. No.[1] Prefix GPRX-	SOCKET MOUNT ENCLOSED (for SOGPR Socket)‡ Cat. No.[1] Prefix GPRTSX-	PLUG BASE MT. ENCLOSED Cat. No.[1] Prefix GPRTPX-
SPDT	**-191T**	(-191T)	(-191T)		(-191T)	(-391T)		(-391T)
DPDT	**-192T**	(-192T)	(-192T)		(-192T)	-392T		(-392T)
3PDT	(-193T)	(-193T)	(-193T)		(-193T)	(-393T)		(-393T)
4PDT	(-473T)			(-473T)		(-483T)	(-483T)	

MODEL DO RELAYS AC or DC

Particularly adaptable to aircraft and mobile equipment applications where severe shock and vibration are encountered. Design of molded parts around contact arms protects against mechanical injury. Stocked in 3-pole or 4-pole type, and also in hermetic enclosures and in latching types.

Coil Wattage: 3.00 watts, DC operation; 6.00 watts, 60 cycle AC. Maximum temperature rise 45°C, DC operation; 75°C, AC.
Coil Operating Voltage: Any voltage up to 230 VDC or 440 VAC, 60 cycle. Stock voltages in table.
Contacts: 10 amps nominal. Ratings are for 115 VAC or 32 VDC, resistive load.
Weight: Unenclosed 3-pole, 5 oz.; 4-pole, 6 oz.



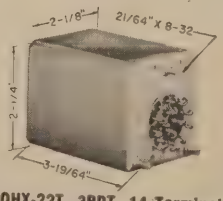


DO RELAYS IN HERMETIC ENCLOSURES

Stock DO relays with 115 volt coil in hermetically sealed metal enclosures, filled with dry nitrogen. Enclosures provide protection for relay under most adverse ambient conditions. Both 3 and 4-pole DO relays are supplied in these enclosures with plug (DOHPX-) or solder terminal (DOHX-) connectors as illustrated. See listings in stock table above.
Weights: 3-pole hermetic relay approx. 14 oz.; 4-pole approx. 15 oz.



DOHPX-16T, 3PDT, 11 Prongs
DOHPX-15T, 4PDT, 20 Prongs



DOHX-22T, 3PDT, 14 Terminals
DOHX-23T, 4PDT, 14 Terminals

WIRING FOR PLUG-BASE STOCK DO RELAYS



DOHPX-16T
Mates with Amphenol 77 MIP 11 Socket



DOHPX-15T
Mates with Amphenol 77 MIP 20 Socket

STOCK DO RELAYS — 10 AMP CONTACTS*

Catalog No.[1]	Type‡	Volts	Coil Data Amps	DC Ohms
UNENCLOSED				
DOX-50T	3PDT	6VAC	2.33	0.36
(DOX-183T)	4PDT	6VAC	2.33	0.36
(DOX-49T)	3PDT	12VAC	1.28	1.40
(DOX-184T)	4PDT	12VAC	1.28	1.40
DOX-181T	3PDT	24VAC	.57	5.50
(DOX-185T)	4PDT	24VAC	.57	5.50
(DOX-226T)	DPST*	115VAC	.110	145.0
(DOUX-34§)	DPST*	115VAC	.110	145.0
DOX-227T	3PST	115VAC	.110	145.0
(DOUX-28§)	3PST	115VAC	.110	145.0
DOX46T	3PDT	115VAC	.110	145.0
(DOUX-30§)	3PDT	115VAC	.110	145.0
DOX-228T	4PST	115VAC	.110	145.0
(DOUX-31§)	4PST	115VAC	.110	145.0
DOX-53T	4PDT	115VAC	.110	145.0
(DOUX-33§)	4PDT	115VAC	.110	145.0
DOX-61T	3PDT	230VAC	.070	550.0
(DOX-130T)	4PDT	230VAC	.070	550.0
(DOX-145T)	3PDT	6VDC	.487	12.3
(DOX-186T)	4PDT	6VDC	.487	12.3
DOX-51T	3PDT	12VDC	.231	51.8
DOX-102T	4PDT	12VDC	.231	51.8
DOX-141T	3PDT	24VDC	.105	230.0
DOX-137T	4PDT	24VDC	.105	230.0
DOX-93T	3PDT	110VDC	.022	5,000
DOX-187T	4PDT	110VDC	.022	5,000
(DOX-182T)	3PDT	220VDC	.014	16,100
(DOX-188T)	4PDT	220VDC	.014	16,100
IN HERMETIC ENCLOSURE				
(DOHPX-16T)	3PDT	115VAC	.110	145.0
(DOHPX-15T)	4PDT	115VAC	.110	145.0
(DOHX-22T)	3PDT	115VAC	.110	145.0
DOHX-23T	4PDT	115VAC	.110	145.0

*Except DOX-226T, DOUX-34 20 amps, double break contacts.
‡All single-throw (- - ST) relays are normally open.
§Listed by UL.

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

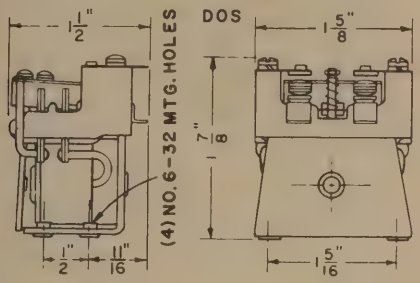
© United Technical Publications

OHMITE general purpose relays

MODEL DOS RELAYS AC or DC

Wide application, general purpose relay, compact and lightweight. Handles loads usually demanded of much larger relays. Meets rigorous aircraft relay standards.



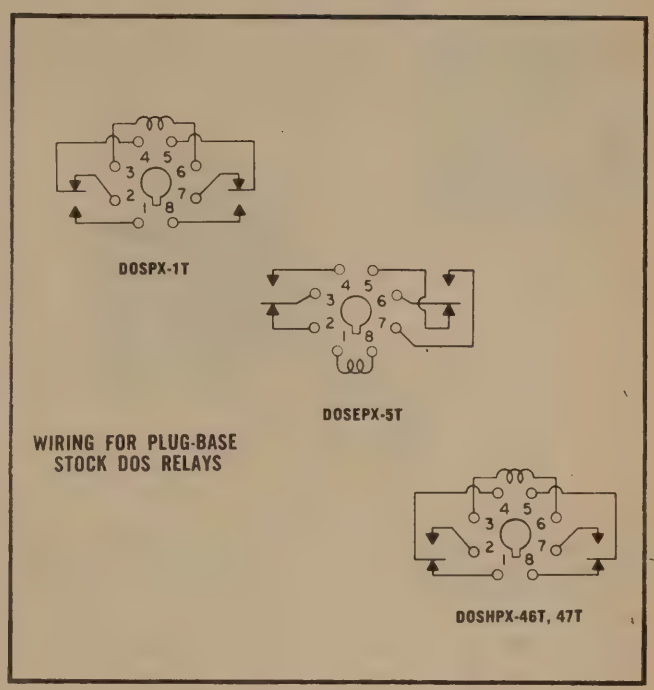


Coil Wattage: 2.5 watts, DC operation; 3 watts, 60 cycle AC. Maximum temperature rise 45°C, DC operation; 65°C, AC.

Coil Operating Voltage: Any voltage up to 230 VDC or 440 VAC, 60 cycles. Table lists stock voltages.

Contacts: 15 amps nominal. Rating is for 115 VAC or 32 VDC, resistive load.

Weight: Unenclosed, 4 ounces.



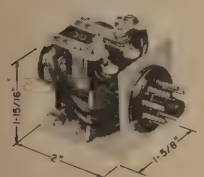
DOS RELAYS WITH PLUG-BASE OR IN DUST-TIGHT OR HERMETIC ENCLOSURES

DOS relays with 115 volt AC coils are available from stock with a standard octal plug base, unenclosed (DOSPX-1T) or with an octal plug base and drawn aluminum, removable dust-tight enclosure (DOSEPX-5T).

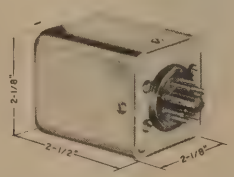
Weights: 8 oz. each.

Hermetically Sealed non-removable enclosures, filled with dry nitrogen, are also available to provide protection under adverse ambient conditions. DOS relays with 115 volt AC or DC coils are provided in these enclosures with either octal plug (DOSHPX-) or solder-terminal (DOSHX-) connectors as illustrated. See listings and prices in DOS stock table.

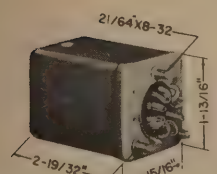
Weights: 8 oz. each approx.



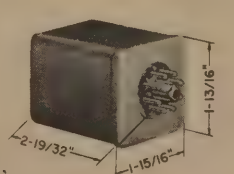
DOSPX-1T
Octal Plug-Base



DOSEPX-5T
Octal Plug Base with Dust Cover



Hermetic Enclosures with 8 Terminals
DOSHX-39T, 115VDC
DOSHX-40T, 115VAC



Hermetic Enclosures with Octal Plugs
DOSHPX-46T, 115VDC
DOSHPX-47T, 115VAC

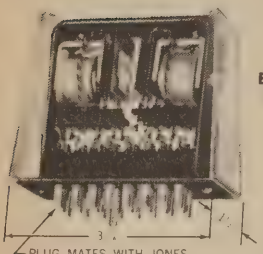
STOCK DOS RELAYS — 15 AMP CONTACTS*

Catalog No.[1]	Type‡	Volts	Coil Data Amps	DC Ohms
UNENCLOSED				
(DOSX-229T)	SPST*	6VAC	.890	1.07
(DOSX-230T)	DPST	6VAC	.890	1.07
(DOSX-30T)	DPDT	6VAC	.890	1.07
DOSX-16T	DPDT	12VAC	.460	4.20
(DOSX-231T)	SPST*	24VAC	.269	15.5
DOSX-232T	DPST	24VAC	.269	15.5
DOSX-162T	DPDT	24VAC	.269	15.5
DOSX-233T	SPST*	115VAC	.043	450
(DOSUX-34§)	SPST*	115VAC	.043	450
DOSX-234T	DPST	115VAC	.043	450
(DOSUX-31§)	DPST	115VAC	.043	450
DOSX-7T	DPDT	115VAC	.043	450
(DOSUX-33§)	DPDT	115VAC	.043	450
(DOSX-235T)	SPST*	230VAC	.030	1,450
(DOSX-236T)	DPST	230VAC	.030	1,450
DOSX-12T	DPDT	230VAC	.030	1,450
DOSX-158T	DPDT	6VDC	.450	13.4
DOSX-66T	DPDT	12VDC	.210	56.2
DOSX-9T	DPDT	24VDC	.105	230.0
DOSX-237T	SPST*	110VDC	.022	5,000
(DOSX-238T)	DPST	110VDC	.022	5,000
DOSX-59T	DPDT	110VDC	.022	5,000
(DOSX-177T)	DPDT	220VDC	.013	16,400
WITH PLUG BASE				
DOSPX-1T	DPDT	115VAC	.043	450
WITH DUST COVER				
DOSEPX-5T	DPDT	115VAC	.043	450
IN HERMETIC ENCLOSURE				
DOSHX-40T	DPDT	115VAC	.043	450
DOSHPX-47T	DPDT	115VAC	.043	450
(DOSHX-39T)	DPDT	110VDC	.022	5,000
(DOSHPX-46T)	DPDT	110VDC	.022	5,000

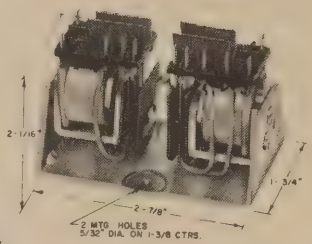
*Except relays with * which have double-break contacts — 25 amp rating.
‡Single throw relays (- - ST) are normally open.
§Listed by UL.

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

OHMITE latching relays



Enclosed Latching Relay (GPRLETP)



6PDT Latching Relay (GPRLE)

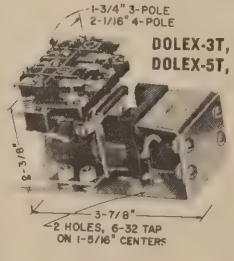
Latching Relay: Consists of two GPR relays with armatures linked so that the n.o. contacts of one are mechanically latched in closed position when, and after, this relay is energized. When 2nd relay is energized, first relay restores and latches 2nd. Permits switching of twice the number of circuits and holding without coil current. Unenclosed type "GPRLE." Enclosed type "GPRLETP" in clear plastic case with Jones plug P-324-SB fitting S-324-AB socket.

STOCK GPR LATCHING RELAYS — 5 AMP CONTACTS

Total Contacts	COIL DATA — (Each Coil) Volts	Amps	Ohms	Unenclosed GPRLE†	Enclosed Plug-Base GPRLETP†
4PDT 6PDT	6VAC 6VAC	.650 .650	2.5 2.5	(GPRLEX-1T) (GPRLEX-2T)	(GPRLETPX-1T) (PGRLETPX-2T)
4PDT 6PDT	12VAC 12VAC	.309 .309	10.0 10.0	GPRLEX-3T GPRLEX-4T	(GPRLETPX-3T) (GPRLETPX-4T)
4PDT 6PDT	24VAC 24VAC	.155 .155	40.0 40.0	(GPRLEX-5T) (GPRLEX-6T)	GPRLETPX-5T (GPRLETPX-6T)
4PDT 6PDT	115VAC 115VAC	.0325 .0325	1000 1000	**GPRLEX-7T** (GPRLEX-8T)	**GPRLETPX-7T** **GPRLETPX-8T**
4PDT 6PDT	230VAC 230VAC	.0147 .0147	4000 4000	(GPRLEX-9T) (GPRLEX-10T)	(GPRLETPX-9T) GPRLETPX-10T
4PDT 6PDT	6VDC 6VDC	.23 .23	26 26	(GPRLEX-11T) (GPRLEX-12T)	(GPRLETPX-11T) (GPRLETPX-12T)
4PDT 6PDT	12VDC 12VDC	.114 .114	105 105	(GPRLEX-13T) (GPRLEX-14T)	(GPRLETPX-13T) GPRLETPX-14T
4PDT 6PDT	24VDC 24VDC	.060 .060	400 400	**GPRLEX-15T** (GPRLEX-16T)	**GPRLETPX-15T** **GPRLETPX-16T**
4PDT 6PDT	110VDC 110VDC	.0110 .0110	10,000 10,000	(GPRLEX-17T) (GPRLEX-18T)	GPRLETPX-17T GPRLETPX-18T
Approx. weight				7.0 oz.	11.3 oz.

*Column heads carry symbols to indicate UL or CSA (Canadian Standa Assn.) approval. The gray tint indicates that relay is recognized under "components program" (File No. E33069, Guide No. 380W1.14C, Assi ment No. 62C3559A). CSA File No. is 21309. See explanation in "UL a CSA Approval."

MODEL DO LATCHING RELAY (DOLEX-)



Consists of Model DO relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset c is pulsed. Permits "holding" of circu without continuous coil current. Co of stock units (both relays and res coils) are 115 VAC. Available with or 4-pole DO relays

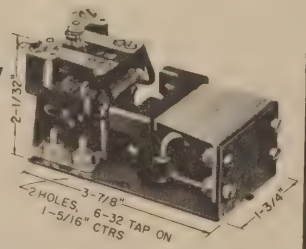
Weights: 3-pole — 16.5 oz.; 4-pole — 17 oz.

LATCHING TYPE

Catalog No.[1]	Type	Volts	Coil Data † Amps	DC Ohms
DOLEX-3T	3PDT	115VAC	.110	145.0
DOLEX-5T	4PDT	115VAC	.110	145.0

†Coil data applies to relay part of latching assembly. Reset magnet operates 115VAC, 60 cycle also.

MODEL DOS LATCHING RELAY (DOSLEX-)



Consists of Model DOS relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset coil is pulsed. Permits "holding" of circuits without continuous coil current. Coils of stock units (both relay and reset magnet) are 115VAC.

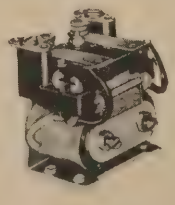
Weight: 14.2 oz.

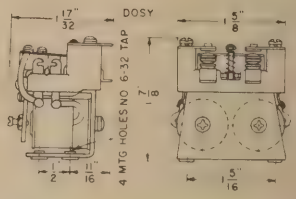
LATCHING TYPE

Catalog No.[1]	Type	Volts	Coil Data Amps †	DC Ohms
DOSLEX-1T	DPDT	115VAC	.043	450

†Coil data applies to relay part of latching assembly. Reset magnet operates on 115 VAC, 60 cycle also.

MODEL DOSY RELAY FOR PLATE CIRCUITS





Similar in construction to Model DOS relay but equipped with twin coils for increased sensitivity. The DOSY relay is adaptable to a wide range of electronic control appli cations such as plate circuit controls, or as overload or underload controls in D.C circuits to signal attainment of predetermined current levels.

Coil Wattage: 1.00 watt, with maximum temperature rise of 45°C. Lower wattages available.

Contacts: Stock combinations as listed. Ratings are for 115 VAC or 32 VDC, resistive load.

Weight: Approximately 4½ ounces.

Catalog No.[1]	Type	Coil Data DC Ohms	Max. Pull-in Current	Contact Amps
DOSYX-67T	DPDT	10,000	8 MA	15
(DOSYX-68T)	DPDT	5,000	11 MA	15
DOSYX-69T	SPDT	10,000	5 MA	15
(DOSYX-70T)	SPDT	5,000	7 MA	15

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

© United Technical Publications

QUALITY RELAYS
FOR EVERY APPLICATION

AMF | POTTER & BRUMFIELD

ALPHABETICAL INDEX

Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page
AB	10	HC, HCM	16	KL	5	KUR	17	PM Cover	10
ABC	10	HP, HPS	3	KLT	5	KUR Sockets	7	PR	11
AP	11	HP Socket	3	KM	12	LB	13	PR Cover	10
BS	14	JDA	20	KNP	5	LM	13	PW	14
BS Cover	14	JDB	20	KNP Sockets	5	LS, LSP	14	R10	8, 9
BU	11	JDT	19	KR3-H	6	MB	15	R10 Sockets	8
CD, CH, CK	23, 24, 25	JM Series	21	KRP3-H	6	MC	15	R12	24, 26
CU, CL, CJ	23, 24, 26	JR, JRA, JRM	18	KRP	6	MDP	15	R12 Sockets	26
CPF, CPS, CPV	28	JRL	19	KRP-N	6	MG	15	R40	9
CS	27	KA-KAP	3, 4	KRP Sockets	6	MH	15	R40 Sockets	9
EBA	17	KB-KBP	12	KRP Spring	4	ML	14	RS	14
EBT	17	KCP	13	KT	12	MR	10	SA	13
FC, FL	16	KCP Spring	4	KUA	17	MR Cover	10	SC, SCG	16
GA	3	KDP	4	KUL	12	MS	13	SL, SLG	16
GB	13	KDP Socket	4	KUL Socket	7	MS Cover	10	SM	14
GF	10	KHU, KHP, KHS	4	KUP	7	P Case	6	SS	14
GM	11	KHU Sockets	4	KUP Socket	7	PC	13	TL	16
GP	12	KHU Spring	4	KUP Spring	4	PM	10		

ACCESSORIES

Package Number	For Relay	Page	Socket	Hold Down Spring	Socket Retainer
9HP1[1]	HP	3	27E062		24A051
9KA1	KAP	4		20C206	
9KD2	KDP	4	27E093		
9KD3	KDP	4		20C238	
9KH1[2]	KHP	4	27E006		24A032
9KH2[2]	KHP	4	27E007		
9KH3[2]	KHP	4		20C217	
9KN1	KNP	5	27E118		
9KN2	KNP	5	27E119		
9KN3	KNP	5		20C246	
9KR15	KC/KR	4		20C217	
9KR31[3]	KRP	6	27E122		
9KR32[3]	KRP	6	27E123		
9KU1[4]	KUP	7	27E043		
9KU2[4]	KUP	7	27E046		
9KU3	KUP	7		20C228	
9KU5[4]	KUP	7	27E067		
9KU6[4]	KUP	7	27E121		
9KUL21	KUL	12		20C247	
9XR10-1	R10/2P	8	A10-10	R10-P28-1	
9XR10-2	R10/4P	8	A10-20	R10-P28-2	
9XR10-3	R10/6P	8	A10-30	R10-P28-3	
9XR10-4	R10/2P	8	A11-10	R10-P28-1	
9XR10-5	R10/4P	8	A11-20	R10-P28-2	
9XR10-6	R10/6P	8	A11-30	R10-P28-3	
9XR10-7	R10/2P	8	A10-40	R10-P28-1	
9XR10-8	R10/4P	8	A10-50	R10-P28-2	
9XR10-9	R10/6P	8	A10-60	R10-P28-3	
9XR10-10	R10-PC	8		R10-P49	
9XR12-1	R12	26	A10-3T	R10-P28-3	
9XR12-2	R12	26	A11-3T	R10-P28-3	
9XR40-1	R40	9	S-410		
9XR40-2	R40	9	S-420		
9XR40-3	R40	9	S-430		

Package Number	For Relay	Page	Enclosure	Adaptor Plate
9PM1	PM	10		37B370
9PM2	PM	10	35D203	
35D013	PR	10	35D013	
35D070	"P" Case	6	35D070	
35D072	"P" Case	6	35D072	
35D130	MS/MR	10	35D130	
35D188	BS	14	35D188	
35D227	PM	10	35D227	

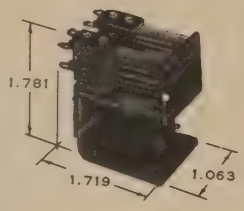
Notes:
1. For HP, HPS and HCM relays.
2. For KHP, KHS and KHU relays and CD-31 time delays.
3. For KRP, KRP3-H, KAP, KBP, KCP, EBT, and EBA relays; CD21 and 38, CH and CK time delays; CPF, CPS, CPV and CS-38 style sensors.
4. For KUP plain case, KUL, and KUR relays; CU and CL time delays.

© United Technical Publications

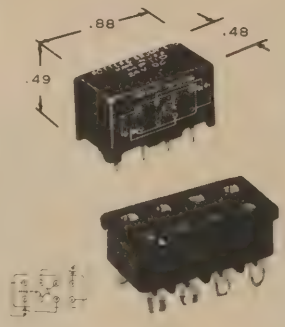
POTTER & BRUMFIELD RELAYS

GA SERIES Low cost, all purpose, multiple contact, voltage switching relay. Used for many industrial control applications. Tinned, pierced solder type terminals. Contacts: Silver, designed for maximum self-cleaning action. Mounting: No. 8-32 tapped core with locating boss. Weight: 3½ ozs.

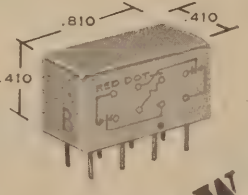
See GF Series for similar relays having 10 amp ratings.



HP SERIES This commercial miniature relay is recommended for applications requiring high reliability in minimum space, such as TV cameras, dictating machines, desk top computers, copying machines and others. For circuit board or socket mounting and encased in a nylon heat-sealed (non hermetic) cover, the HP is a half crystal case size relay with terminals on a .200" grid. Weight: .3 oz.



HPS SERIES Hermetically sealed version of commercial HP half-crystal case size relay above. HPS is designed for reliable performance in logic circuits or where prolonged submersion of pc boards in cleaning solvents may be required. Recommended for use in applications requiring more critical specifications than HP relay provides. HP socket may be used for mounting. Sealed metal enclosed relay weighs .25 oz.



HP SERIES SOCKETS
(For HP, HPS and HCM relays)

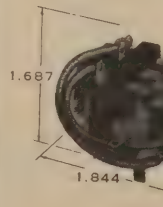
DPDT Solder terminal socket, 27E062
Socket retainer, 24A051
Box of 10 each, 9HP1 **NET $4.75**

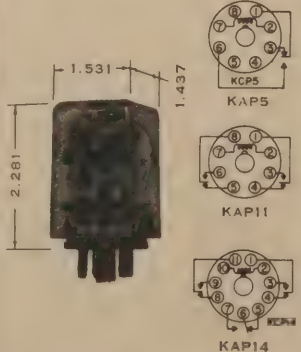
NEW

KA AND KAP SERIES Small, low cost, highly efficient general purpose relays for handling light power loads such as small motors, solenoids and other relays, and general automation work. All KA and KAP relays with "Y" suffix bear CSA listing (File No. LR-15734) and carry U/L component recognition (File No. E22575). Mechanical life expectancy: 10 million operations. Duty: Continuous Contacts: Movable, Gold-flashed silver; stationary, Silver overlay.

The KA is the open version of this series. Mounting: One No. 6-32 threaded stud and locating tab on .438 centers. Wt: 2 ozs. The KAP is the enclosed model and is protected by a clear polycarbonate dust cover. Terminals: 8 or 11-pin plug. Weight: 3 ozs.

"G" suffix indicates silver-cadmium oxide contacts on movable rated 10 amps.





GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Voltage or Current	Res. In Ohms	Nom. Power	Arrange-ment	Amp Rat-ing	
GA11A	6V 12V 24V 120V	1.7 6.8 24 690	6VA	DPDT	5	$3.85 3.85 3.85 3.85
GA11D	6V 12V 24V 110V	18 72 288 6,050	2.0W	DPDT	5	3.85 3.85 3.85 4.35
GA14A	24V 120V	24 690	6VA	3PDT	5	4.60 4.60
GA17A	6V 12V 24V 120V 240V	1.7 6.8 24 690 2,950	6VA	4PDT	5	5.55 5.55 5.55 5.55 5.95
GA17D	6V 12V 24V 110V	18 72 288 6,050	2.0W	4PDT	5	5.55 5.55 5.55 6.05
HP11D§	12V 24V 48V	218 870 3,480	.662W	DPDT	2	8.35 8.35 8.90
HPS11D†	12V 24V	218 870	.662W	DPDT	2	10.10 10.10
KA5AY	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	SPDT	5	3.70 3.70 3.70 3.70 4.20
KA5AG	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	SPDT	10	3.75 3.75 3.75 3.75 4.25
KA5DY	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	SPDT	5	3.55 3.55 3.55 4.25
KA5DG	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	SPDT	10	3.60 3.60 3.60 4.30
KA11AY	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	DPDT	5	4.50 4.50 4.50 4.50 4.90
KA11AG	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	DPDT	10	4.60 4.60 4.60 4.60 5.00
KA11DY	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	5	3.95 3.95 3.95 4.65
KA11DG	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	10	4.10 4.10 4.10 4.80
KA14AY	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	3PDT	5	4.90 4.90 4.90 4.90 5.40
KA14AG	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	3PDT	10	5.10 5.10 5.10 5.10 5.60
KA14DY	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	3PDT	5	4.45 4.45 4.45 5.15
KA14DG	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	3PDT	10	4.65 4.65 4.65 5.35

KA-KAP Series continued on page 4.

§ Enclosed Relay † Sealed Relay

Net

© United Technical Publications

POTTER & BRUMFIELD RELAYS

KA-KAP Series continued.

HOLD DOWN SPRINGS
Designed to insure secure mounting of relays in any position. Will accommodate machine screws or rivets.

KAP SERIES
Hold down spring, 20C206
Box of 50 each, 9KA1 **NET $5.80**

KCP AND KRP SERIES
Hold down spring, 20C217
Box of 50 each, 9KR15 **NET $5.80**

KUP SERIES (PLAIN CASE)
Hold down spring, 20C228
Box of 50 each, 9KU3 **NET $5.25**

KDP SERIES This compact, general purpose DC relay offers 8 Form C (8PDT) switching with bifurcated gold over silver contacts rated 1 amp @ 30V DC, resistive, or 0.5 amp @ 120V AC. Designed for dense packaging applications, the KDP provides electrical isolation on both the input and switching sides. Operate speed is 15 milliseconds @ nominal voltage @ 25°C. Mechanical life expectancy: in excess of 10 million operations. Duty: Continuous. Enclosure: Clear polycarbonate dust cover. Mounting: Solder terminal sockets with snap-lock spring for front insertion into chassis or panel. Approximate weight without socket: 1.3 ozs.

KDP SERIES SOCKETS
8PDT Solder terminal socket, 27E093
Box of 10 each, 9KD2 **NET $9.50**

Hold down spring, 20C238
Box of 50 each, 9KD3 **NET $5.50**

KHU/KHP/KHS SERIES Small, rugged, 4PDT relays available for AC or DC operation. Only KHU relays are recognized under the Component Program of Underwriters' Laboratories, Inc. KHU has clear polycarbonate and KHP has nylon dust cover; KHS is hermetically sealed in metal enclosure. Relays are designed to meet exacting requirements of data processing, computer and process control applications. Various contacts available: suffix "11" denotes gold-flashed silver rated 3 amps @ 30V DC or 120V AC, resistive; suffix "12" denotes silver-cadmium oxide rated 3 amperes; suffix "13" indicates gold alloy contacts for low level to 2 amp applications; suffix "16" indicates gold overlay on silver, bifurcated contacts rated 1 amp @ 30V DC, resistive, or 120V AC. Mounting: Solder terminals with No. 3-48 stud .312" long. All relays fit sockets (below) with printed circuit or solder lug terminals. Weight without sockets: KHU and KHP 1.12 oz.; KHS 1.63 oz.

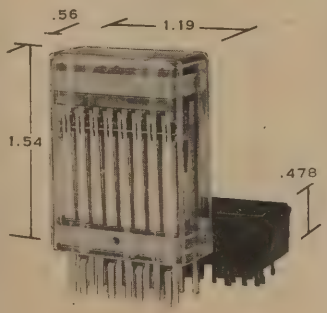
KHP SERIES SOCKETS
KHP, KHS, KHU relays and CD-31 time delays

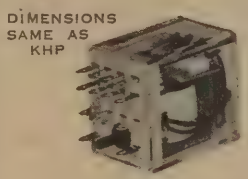
4PDT Solder terminal socket, 27E006
Socket retainer, 24A032
Box of 10 each, 9KH1 **NET $6.60**

4PDT Printed circuit terminal socket, 27E007
Box of 10 each, 9KH2 **NET $6.60**

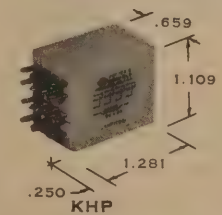
Hold down spring, 20C217
Similar to KCP/KRP on page 4
Box of 50 each, 9KH3 **NET $5.50**



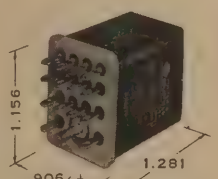




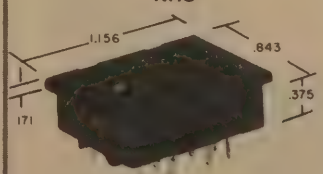
KHU

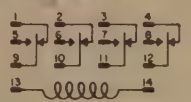


KHP



KHS





GENERAL PURPOSE RELAYS

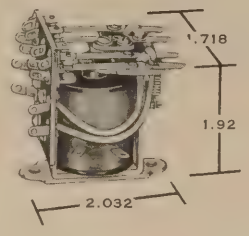
TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp. Rating	
KAP5AG§	24V 120V	75 2,250	2VA	SPDT	10	$6.40 6.40
KAP5DG§	24V 110V	472 10,000	1.2W	SPDT	10	6.30 7.00
KAP11AY§	24V 120V 240V	75 2,250 9,110	2VA	DPDT	5	7.05 7.05 7.45
KAP11AG§	6V 24V 120V	6 75 2,250	2VA	DPDT	10	7.15 7.15 7.15
KAP11DG§	24V 110V	472 10,000	1.2W	DPDT	10	7.10 7.80
KAP11DY§	12V 24V 110V	120 472 10,000	1.2W	DPDT	5	7.00 7.00 7.70
KAP14AY§	24V 120V 240V	75 2,250 9,110	2VA	3PDT	5	8.70 8.70 9.10
KAP14AG§	24V 120V	75 2,250	1.2W	3PDT	10	8.85 8.85
KAP14DG§	24V 110V	472 10,000	1.2W	3PDT	10	8.80 9.50
KAP14DY§	12V 24V 110V	120 472 10,000	1.2W	3PDT	5	8.60 8.60 9.30
KDP29D11§	24V	580	1W	8PDT	.5	9.35
SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING						
KHU17A11§	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	4PDT	3	5.55 5.55 5.55 6.05
KHU17D11§	6V 12V 24V 48V 90V 110V	40 160 650 2,600 9,000 11,000	900MW	4PDT	3	5.05 5.05 5.05 5.25 5.90 5.90
KHU17A12§	120V	3,900	1.2VA	4PDT	3	6.20
KHU17D12§	24V 110V	650 11,000	900MW	4PDT	3	5.20 6.05
KHU17D16§	12V 24V	160 650	900MW	4PDT	1	6.00 6.00
KHP17A11§	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	4PDT	3	5.55 5.55 5.55 6.05
KHP17A12§	120V	3,900	1.2VA	4PDT	3	6.20
KHP17D11§	6V 12V 24V 48V 90V 110V	40 160 650 2,600 9,000 11,000	900MW	4PDT	3	5.05 5.05 5.05 5.25 5.90 5.90
KHP17D12§	24V 110V	650 11,000	900MW	4PDT	3	5.20 6.05
KHP17D13§	24V	650	900MW	4PDT	2	7.10
KHP17D16§	12V 24V	160 650	900MW	4PDT	1	6.00 6.00
KHS17A11†	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	4PDT	3	9.55 9.55 9.55 9.90
KHS17A12†	120V	3,900	1.2VA	4PDT	3	10.10
KHS17D11†	6V 12V 24V 110V	40 160 650 11,000	900MW	4PDT	3	8.55 8.55 8.55 9.40
KHS17D12†	24V	650	900MW	4PDT	3	8.70

 † Sealed Relay § Enclosed Relay

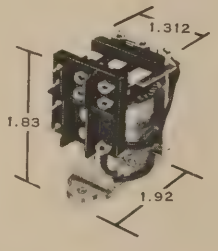
© United Technical Publications

POTTER & BRUMFIELD RELAYS

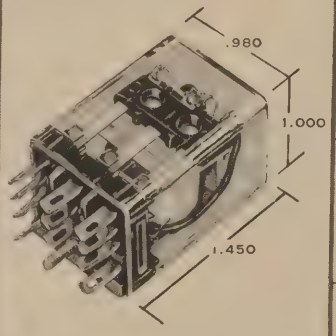
KL SERIES 4PDT relay has high dielectric phenolic insulation and affords broad versatility and utility. Widely used in such applications as industrial controls, elevator controls, communications equipment and electronic measuring devices. Contacts rated 5 or 10 amps @ 120 volts AC, 50/60 Hz resistive are available. Mounting: All models — two No. 6-32 tapped holes on 1.438″ centers. Weight: 5 ozs.



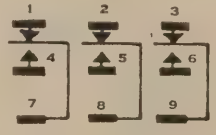
KLT SERIES relays are designed for DC applications that require sensitive coils to operate transistors. Contact arrangements to 3PDT are rated 3 amperes at 120 volts AC, 50/60 Hz resistive. Coils are designed for continuous duty @ 6 Watts @ +25°C on open types. Expected life is 10 million mechanical operations. Mounting: Same as KL Series. Weight: Approximately 4 ozs.

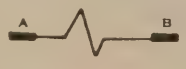


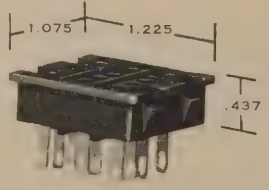
KNP SERIES A small general purpose relay designed for economizing chassis space. Recommended for a multitude of general purpose applications, these relays are recognized under the Component Program of Underwriters' Laboratories, Inc. for ratings of 1/10 HP @ 120V AC; 3 amps @ 32V DC, resistive, or 3 amps @ 240V AC, 80% PF. U/L File No. E22575. Contacts are fine silver cross bars for low resistance point contact. Terminals are .110″ quick-connect/solder designed to fit solder or printed circuit terminal sockets shown below. Direct-to-chassis mounting provided by No. 3-48 stud. Enclosed in a clear polycarbonate dust cover, the KNP measures 1.415″ max. high when seated. Weight: 1.4 ozs. approximately, without socket.



NEW







KNP SERIES SOCKETS

SPDT/DPDT/3PDT Solder terminal socket, 27E118
Box of 10 each, 9KN1 **NET $7.00**

SPDT/DPDT/3PDT Printed circuit terminal socket, 27E119
Box of 10 each, 9KN2 **NET $7.00**

Hold down spring, 20C246
Box of 50 each, 9KN3 **NET $5.00**

GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp. Rating	
KL17A	6V 12V 24V 120V	2.25 7.8 33 760	2.9VA	4PDT	5	$7.35 7.35 7.35 7.35
KL17D	6V 12V 24V 110V	36 140 600 10,000	1.0W	4PDT	5	6.95 6.95 6.95 7.65
KLT5D	12V 24V	1,080 4,320	132mW	SPDT	3	4.20 4.20
KLT11D	6V 12V 24V 48V	200 810 3,240 13,000	178mW	DPDT	3	5.35 5.35 5.35 5.75
KLT14D	12V 24V	540 2,160	266mW	3PDT	3	5.95 5.95

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

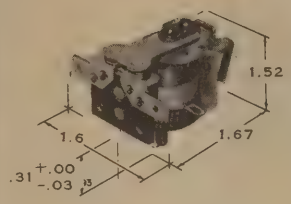
KNP5A21§	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	SPDT	3	3.75 3.75 3.75 3.75
KNP5D21§	6V 12V 24V 110V	40 160 650 11,000	.9W	SPDT	3	3.60 3.60 3.60 4.15
KNP11A21§	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	DPDT	3	4.45 4.45 4.45 4.45
KNP11D21§	6V 12V 24V 48V 110V	40 160 650 2,600 11,000	.9W	DPDT	3	4.00 4.00 4.00 4.15 4.65
KNP14A21§	6V 12V 24V 120V	10.5 43 160 3,900	1.2VA	3PDT	3	5.00 5.00 5.00 5.00
KNP14D21§	6V 12V 24V 48V 110V	40 160 650 2,600 11,000	.9W	3PDT	3	4.60 4.60 4.60 4.75 5.25

§ Enclosed Relay

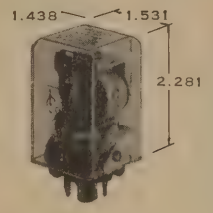
© United Technical Publications

POTTER & BRUMFIELD RELAYS

KR3-H SERIES Ruggedly constructed but of small size, KR3-H is a heavy duty relay especially designed for applications where limited space is a factor. Its heavy duty copper-alloy movable contact carrier has twin silver-cadmium oxide contacts rated 20 amps @ 120V AC 60 Hz, resistive, or 28V DC; 1 HP 120/240V 60 Hz. Contact arrangement is 1 Form X (SPST-NO-DM) only. Terminals: suitable for .250" quick connect, also solder; for contacts: solder only for coil. Size: 1.6" x 1.671" x 1.52". Seated height: 1.21". Mounting: One No. 6-32 stud and locating tab on .437" center. Weight: 2 ozs.



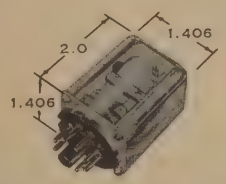
KRP3-H SERIES All electrical specifications listed above for the KR3-H series relays apply to the KRP3-H. However, the KRP3-H is enclosed in a clear polycarbonate dust cover and features an octal plug-in base. Weight: Approximately 3 ozs.



KRP3AH



KRP SERIES Versatile, multi-contact arrangement. Enclosed in a clear polycarbonate dust cover. Standard 8-pin octal-type plug for KRP5 and KRP11, 11-pin for KRP-14. Weight: Approx. 3 ozs. Contacts: 5 amp, Gold flashed silver, 10 amp silver-cadmium oxide. See KCP-KRP hold down spring for special mounting applications. See KRP-N indicator lamp relay for current monitoring applications.



KRP5 KRP11 KRP14



KRP-N INDICATOR LAMP RELAY A general purpose relay incorporating a lamp to indicate current or voltage availability in power circuit. Contacts: Silver-cadmium oxide. Enclosures: Clear, polycarbonate dust cover. Mounting: Standard octal plug.

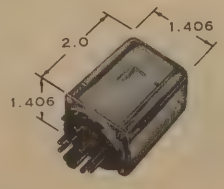
Weight: Approx. 3 ozs.

Hold down spring (Please see Page 4).



"P"—CASE A clear polycarbonate case for mounting rectifiers, capacitors, resistors, or a combination of these. Available with octal-type plug with 8 or 11-pins. Comes complete with four screws. Weight: .5 ozs. each. See KCP-KRP Hold Down Spring for special mounting applications.

35D070 Case (8-pin plug) **NET $.65**
35D072 Case (11-pin plug) **NET $.80**



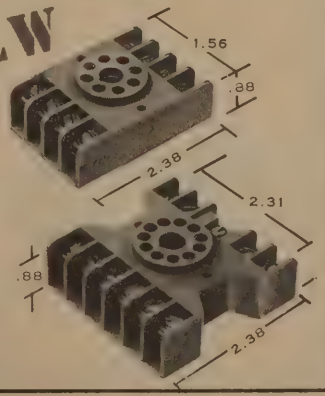
NEW

KR SERIES SOCKETS

(For KRP, KRP3-H, KAP, KBP, KCP, EBT, EBA relays; CD-21 and CD-38, CH and CK time delays; and CP and CS sensors.)

8-pin Screw terminal socket, 27E122
Rated 10 amperes; molded Lexan
Box of 5 each, 9KR31 **NET $12.50**

11-pin Screw terminal socket, 27E123
Rated 10 amperes; molded Lexan
Box of 5 each, 9KR32 **NET $18.75**



GENERAL PURPOSE RELAYS

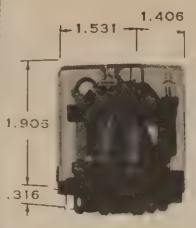
TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp. Rating	
KR3AH	12V 24V 120V	21 75 2,250	2VA	SPST-NO-DM	20	$4.55 4.55 4.55
KR3DH	12V 24V 110V	120 472 10,000	1.2W	SPST-NO-DM	20	4.35 4.35 4.95
KRP3AH§	12V 24V 120V	21 75 2,250	2VA	SPST-NO-DM	20	7.35 7.35 7.35
KRP3DH§	12V 24V 110V	120 472 10,000	1.2W	SPST-NO-DM	20	7.10 7.10 7.80
KRP5A§	6V 24V 120V	6 75 2,250	2VA	SPDT	5	6.30 6.30 6.30
KRP5AG§	6V 24V 120V	6 75 2,250	2VA	SPDT	10	6.45 6.45 6.45
KRP5D§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	SPDT	5	6.25 6.25 6.25 6.95
KRP5DG§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	SPDT	10	6.40 6.40 6.40 7.10
KRP11A§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	DPDT	5	7.00 7.00 7.00 7.00 7.45
KRP11AG§	6V 12V 24V 120V 240V	6 12 75 2,250 9,110	2VA	DPDT	10	7.25 7.25 7.25 7.25 7.70
KRP11D§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	5	6.95 6.95 6.95 7.65
KRP11DG§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	10	7.20 7.20 7.20 7.90
KRP14A§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	3PDT	5	8.70 8.70 8.70 8.70 9.15
KRP14AG§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	3PDT	10	9.05 9.05 9.05 9.05 9.50
KRP14D§	6V 12V 24V 110V	32.1 120 472 10,000	1.2VA	3PDT	5	8.60 8.60 8.60 9.30
KRP14DG§	6V 12V 24V 110V	32.1 120 472 10,000	1.2VA	3PDT	10	8.95 8.95 8.95 9.65
KRP11AN§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	DPDT	10	8.30 8.30 8.30 8.30 8.75
KRP11DN§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	10	8.20 8.20 8.20 8.95
KRP14AN§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	3PDT	10	10.10 10.10 10.10 10.10 10.55

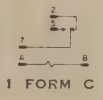
§ Enclosed Relay

© United Technical Publications

POTTER & BRUMFIELD RELAYS

KUP SERIES This reliable 10-ampere relay for industrial control is available with a socket that is also rated 10 amperes. The .187″ terminals of the relay are of the quick-connect/solder type. Sockets are priced separately. The KUP is enclosed in a clear polycarbonate dust cover. Silver-cadmium oxide contacts assure long contact life. Operation: Continuous.

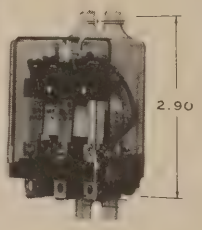



1 FORM C


2 FORM C


3 FORM C

KUP SERIES with slotted flange case for direct-to-chassis mounting. Identical in both electrical and mechanical specifications as the KUP described above, except that they are not suitable for socket mounting. The .187″ terminals are of the quick-connect/solder type. Slot width: .156″. Weight: 3 ozs. All models are recognized under the Component Program of Underwriters' Laboratories, Inc. (File No. E22575)



KU SERIES SOCKETS for use with KUP plain case, KUL, and KUR, Series relays; CU and CL time delays having .187″ quick-connect terminals and a rectangular base arrangement.

KUP SERIES SOCKETS
(For KUP plain case, KUL and KUR relays; CU and CL time delays.)

SPDT/DPDT/3PDT Pierced solder terminal socket, 27E043
Rated 10 amperes; molded nylon; (2) .165″ dia. mounting holes
Box of 5 each, 9KU1 **NET $3.95**

SPDT/DPDT/3PDT Printed circuit terminal socket, 27E046
Accepts .187″ terminals; molded nylon; (2) .165″ dia. mounting holes
Box of 5 each, 9KU2 **NET $4.75**

Hold down spring, 20C228
Box of 50 each, 9KU3 **NET $5.25**

SPDT/DPDT/3PDT Quick-connect .187″ terminal socket, 27E067
Rated 10 amperes; molded nylon; (2) .165″ dia. mounting holes
Box of 5 each, 9KU5 **NET $6.30**

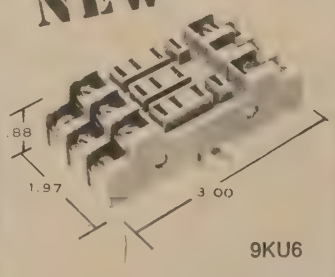
SPDT/DPDT/3PDT Screw terminal socket, 27E121
Rated 10 amperes; molded Lexan; (2) mounting slots for No. 6 screws. Accepts .187″ terminals
Box of 4 each, 9KU6 **NET $14.00**

All sockets except 9KU6 are included in the Underwriters' Laboratories, Inc. Component Recognition of KU Series relays. The 9KU6 is "a suitable mounting means" when used with a U/L recognized relay.

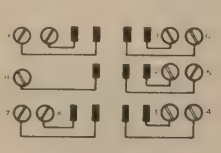


9KU1
9KU2
9KU5

NEW



9KU6



GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp Rating	
KUP5A15§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	SPDT	10	$4.10 4.10 4.10 4.10 4.55
KUP5D15§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	SPDT	10	3.95 3.95 3.95 4.60
KUP11A15§	6V 12V 24V 120V 240V	6 21 75 2,250 9,110	2VA	DPDT	10	5.00 5.00 5.00 5.00 5.45
KUP11D15§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	10	4.50 4.50 4.50 5.20
KUP14A15§	6V 12V 24V 120V 240V	4.2 18 72 1,700 7,200	2.75VA	3PDT	10	5.60 5.60 5.60 5.60 6.05
KUP14D15§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	3PDT	10	5.15 5.15 5.15 5.60
KUP5A55§	120V	2,250	2VA	SPDT	10	4.10
KUP5D55§	24V	472	1.2W	SPDT	10	3.95
KUP11A55§	24V 120V	75 2,250	2VA	DPDT	10	5.00 5.00
KUP11D55§	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	DPDT	10	4.50 4.50 4.50 5.20
KUP14A55§*	6V 12V 24V 120V 240V	4.2 18 72 1,700 7,200	2.75VA	3PDT	10	5.60 5.60 5.60 5.60 6.05
KUP14D55§*	6V 12V 24V 110V	32.1 120 472 10,000	1.2W	3PDT	10	5.15 5.15 5.15 5.60

*KUP55 with slotted flange case.

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

§ Enclosed Relay

© United Technical Publications

POTTER & BRUMFIELD RELAYS

R10-E1 SERIES industrial relays with solder terminals and No. 3-48 stud or sockets for plug-in mounting. U/L recognized, File No. E42810. Relays provide sensitivity of 125 mW per pole. DPDT to 6PDT contact arrangements for DC coils are available with three contact styles: "X" —5 amps, "Y"—2 amps, and "Z"—100 mA. Operating temperature: —55°C to +72°C. R10-E1 AC version also available with DPDT arrangement with "X" style contacts rated 5 amps. AC operation achieved by adding two 400 volt diodes in the motor assembly. Sockets shown below fit all R10 relays and provide grounded or ungrounded versions with solder or p. c. terminals. Grounding provisions are pre-installed and wire hold down spring is included. R10-E1-Z Series has bifurcated contacts for low level loads. "J" Sensitive Current Adjustment: 85 mW (DPDT); 175 mW (4PDT).

R10-E2 SERIES has printed circuit terminals for mounting on p. c. board without sockets. Available with "Y" or "Z" style contacts for DPDT, 4PDT or 6PDT. Other electrical and mechanical specifications same as R10-E1 above. Weight: .8 to 1.4 ozs.

R10 SERIES SOCKETS WITH GROUND

DPDT Solder terminal socket, A10-10
Hold down spring, R10-P28-1
Box of 10 each, 9XR10-1 **NET $5.50**

4PDT Solder terminal socket, A10-20
Hold down spring, R10-P28-2
Box of 10 each, 9XR10-2 **NET $7.00**

6PDT Solder terminal socket, A10-30
Hold down spring, R10-P28-3
Box of 10 each, 9XR10-3 **NET $9.00**

2PDT Printed circuit terminal socket, A11-10
Hold down spring, R10-P28-1
Box of 10 each, 9XR10-4 **NET $5.50**

4PDT Printed circuit terminal socket, A11-20
Hold down spring, R10-P28-2
Box of 10 each, 9XR10-5 **NET $7.00**

6PDT Printed circuit terminal socket, A11-30
Hold down spring, R10-P28-3
Box of 10 each, 9XR10-6 **NET $9.00**

R10 SERIES SOCKETS WITHOUT GROUND

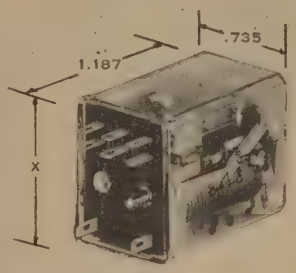
DPDT Solder terminal socket, A10-40
Hold down spring, R10-P28-1
Box of 10 each, 9XR10-7 **NET $5.50**

4PDT Solder terminal socket, A10-50
Hold down spring, R10-P28-2
Box of 10 each, 9XR10-8 **NET $7.00**

6PDT Solder terminal socket, A10-60
Hold down spring, R10-P28-3
Box of 10 each, 9XR10-9 **NET $9.00**

Strap hold down spring, R10-P49
For printed circuit sockets
Box of 50 each, 9XR10-10 **NET $2.50**

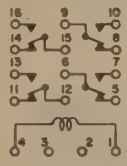
R10-E2 Series continued on page 9.



X = .950 (2PDT)
1.165 (4PDT)
1.375 (6PDT)



2 POLE



4 POLE



6 POLE

NEW





NEW

GENERAL PURPOSE RELAYS

TYPE	COILS		CONTACTS			SUGG. RESALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp Rating	
R10-E1-Y2						
-V52	6VDC	52				$3.25
-V185	12VDC	185				3.25
-V700	24VDC	700	690mW	2PDT	2	3.25
-V2.5K	48VDC	2500				3.25
-V15.0K	115VDC	15,000				4.95
R10-E1-Y4						
-V52	6VDC	52				3.60
-V185	12VDC	185				3.60
-V700	24VDC	700	690mW	4PDT	2	3.60
-V2.5K	48VDC	2500				3.60
-V15.0K	115VDC	15,000				5.30
R10-E1-Y6						
-V25	6VDC	25				4.65
-V90	12VDC	90				4.65
-V430	24VDC	430	1.4W	6PDT	2	4.65
-V1.5K	48VDC	1500				4.65
-V9.0K	115VDC	9000				5.55
R10-E1-X2						
-V52	6VDC	52				3.35
-V185	12VDC	185				3.35
-V700	24VDC	700	690mW	2PDT	5	3.35
-V2.5K	48VDC	2500				3.35
-V15.0K	115VDC	15,000				5.05
R10-E1-X4						
-V52	6VDC	52				3.85
-V185	12VDC	185				3.85
-V700	24VDC	700	690mW	4PDT	5	3.85
-V2.5K	48VDC	2500				3.85
-V15.0K	115VDC	15,000				5.55
R10-E1-X6						
-V25	6VDC	25				5.05
-V90	12VDC	90				5.05
-V430	24VDC	430	1.4W	6PDT	5	5.05
-V1.5K	48VDC	1500				5.05
-V9.0K	115VDC	9000				5.95
R10-E1-X2 -115VAC	115VAC	4.8K (Diodes)	2VA	2PDT	5	4.50
R10-E1-X4 -115VAC	115VAC	4.8K (Diodes)	2VA	4PDT	5	5.40
R10-E1-Z2						
-V52	6VDC	52				3.65
-V185	12VDC	185				3.65
-V700	24VDC	700	690mW	2PDT	100 mA	3.65
-V2.5K	48VDC	2500				3.65
-V15.0K	115VDC	15,000				5.35
R10-E1-Z4						
-V52	6VDC	52				4.10
-V185	12VDC	185				4.10
-V700	24VDC	700	690mW	4PDT	100 mA	4.10
-V2.5K	48VDC	2500				4.10
-V15.0K	115VDC	15,000				5.80
R10-E1-Z6						
-V25	6VDC	25				5.30
-V90	12VDC	90				5.30
-V430	24VDC	430	1.4W	6PDT	100 mA	5.30
-V1.5K	48VDC	1500				5.30
-V9.0K	115VDC	9000				6.20
R10-E1-Y2						
-J2.5K	5.8mA	2500				3.55
-J5.0K	4.1mA	5000	85mW	2PDT	2	4.05
-J10.0K	3.1mA	10,000				4.45
R10-E1-Y4						
-J2.5K	8.4mA	2500				3.95
-J5.0K	6.2mA	5000	175mW	4PDT	2	4.45
-J10.0K	4.5mA	10,000				4.85
R10-E1-Z4						
-J1.0K	13.0mA	1000				4.45
-J2.5K	8.4mA	2500	175mW	4PDT	100 mA	4.45
-J5.0K	6.2mA	5000				4.95
R10-E2-Y2						
-V185	12VDC	185	690mW	2PDT	2	3.25
-V700	24VDC	700				3.25
R10-E2-Y4						
-V185	12VDC	185	690mW	4PDT	2	3.60
-V700	24VDC	700				3.60
R10-E2-Y6						
-V90	12VDC	90				4.65
-V430	24VDC	430	1.4W	6PDT	2	4.65
-V1.5K	48VDC	1500				4.65

See ordering information on page 9.

© United Technical Publications

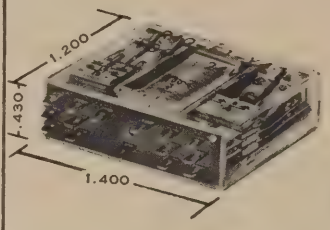
POTTER & BRUMFIELD RELAYS

R40 SERIES SLIMLINE DC operated 4PDT relays are designed for printed circuit board use. Features low profile—only .430" height. Allows easy circuit board layout and 6" board mounting centers. Also available with solder/plug-in terminals to fit sockets described below. A variety of contact styles provide switching dry circuit to 5 ampere loads. A wide range of coils for DC voltage are available. Nominal pick-up power is 720 mW. Weight: .8 to 1.05 ozs.

R40-E1 SERIES provides solder terminals or plug-in socket mounting. (See sockets below.) Bifurcated contacts for low level applications available or with cross bar contacts for dry circuit use.

R40-E2 SERIES has printed circuit pins for vertical mounting.

R40-E3 SERIES fits a socket for mounting flat on a printed circuit board. Weight: .8 to 1.05 ozs. without socket.





R40 SERIES SOCKETS

4PDT Right angle printed circuit terminal socket, R40-S410
Hold down spring, R40-P33
Box of 10 each, 9XR40-1 **NET $13.50**

4PDT Vertical printed circuit terminal socket, R40-S420
Hold down spring, R40-P33
Box of 10 each, 9XR40-2 **NET $9.50**

4PDT Chassis mount solder terminal socket, R40-S430
Hold down spring, R40-P33
Box of 10 each, 9XR40-3 **NET $10.00**



GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp Rating	
R10-E2-Z4						
-V185	12VDC	185	690mW	4PDT	100 mA	$4.10
-V700	24VDC	700				4.10
R10-E2-Z4						
-J2.5K	8.4mA	2500	175mW	4PDT	100mA	4.45
-J5.0K	6.2mA	5000				5.30
R10-E2-Z6						
-V90	12VDC	90				5.30
-V430	24VDC	430	1.4W	6PDT	100mA	5.30
-V1.5K	48VDC	1500				5.30
R40-E1-X4						
-V200	12VDC	200	720mW	4PDT	5	5.60
-V800	24VDC	800				5.60
R40-E1-Y4						
-V50	6VDC	50				5.35
-V200	12VDC	200				5.35
-V800	24VDC	800	720mW	4PDT	2	5.35
-V3.2K	48VDC	3.2K				5.35
R40-E1-Z4						
-V200	12VDC	200	720mW	4PDT	100mA	5.85
-V800	24VDC	800				5.85
R40-E1-L4						
-V200	12VDC	200				6.80
-V800	24VDC	800	720mW	4PDT	500μA	6.80
-V3.2K	48VDC	3.2K				6.80
R40-E2-X4						
-V50	6VDC	50				5.60
-V200	12VDC	200	720mW	4PDT	5	5.60
-V800	24VDC	800				5.60
R40-E2-Y4						
-V200	12VDC	200	720mW	4PDT	2	5.35
-V800	24VDC	800				5.35
R40-E2-Z4						
-V200	12VDC	200				5.85
-V800	24VDC	800	720mW	4PDT	100mA	5.85
-V3.2K	48VDC	3.2K				5.85
R40-E3-X4						
-V200	12VDC	200	720mW	4PDT	5	5.60
-V800	24VDC	800				5.60
R40-E3-Y4						
-V200	12VDC	200				5.35
-V800	24VDC	800	720mW	4PDT	2	5.35
-V3.2K	48VDC	3.2K				5.35
R40-E3-Z4						
-V200	12VDC	200				5.85
-V800	24VDC	800	720mW	4PDT	100mA	5.85
-V3.2K	48VDC	3.2K				5.85
R40-E3-L4						
-V200	12VDC	200				6.80
-V800	24VDC	800	720mW	4PDT	500μA	6.80
-V3.2K	48VDC	3.2K				6.80

ORDERING INFORMATION FOR R10 AND R40 SERIES RELAYS

To select your relay:

1. Decide on terminal type and mounting.
2. Select rating and contact arrangement.
3. Choose the proper coil resistance.
4. Pick a mating socket, if needed.

EXAMPLES:

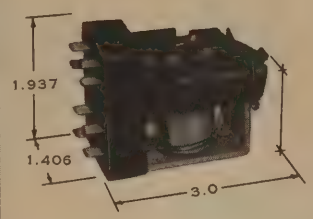
R10	E1	Y4	V700	9XR10-2 Socket
R10 Type Relay with Transparent Enclosure	Plug-in Solder Terminals and Mounting Stud	4 Form C Contacts Rated 2 Amps	700 ohm coil for 24V DC Operation or **J2.5K** Sensitive Current Adjustment	Chassis Mount Socket for a 4 Form C Relay

R40	E2	Z4	V200	9XR40-1 Socket
R40 Slimline Series Relay	Printed Circuit Terminals, No Stud Mounting	.100 amp Contacts 4 Form C Bifurcated	200 Ohm Coil for 12V DC Operation	Right Angle Printed Circuit Socket

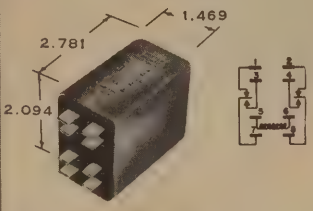
© United Technical Publications

POTTER & BRUMFIELD RELAYS

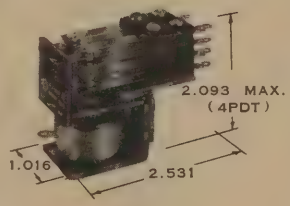
AB SERIES For appliance and general purpose applications where rugged construction, long life and quiet operation are required. All equipped with terminals to fit snap-on connectors and may be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models are recognized under the Component Program of U/L (File No. E29244) and are CSA listed (File No. LR-15734). Mounting: Two No. 8-32 tapped holes, on 1¼" centers. Silver contacts. Weight: Approx. 5 ozs.



ABC SERIES Medium duty power relay with dust cover. For small motors, industrial control and similar applications. All equipped with terminals to fit snap-on connectors and may be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models are recognized under the Component Program of U/L (File No. E29244) and are CSA listed (File No. LR-15734). Mounting: One No. 8-32 threaded stud ⅜" long and locating tab on .562" centers. Contacts: Silver. Weight: Approx. 7 ozs.



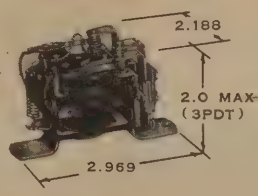
GF SERIES Medium duty power relay for industrial control applications. Long contact arms have silver contacts rated at 10 amps at 120V AC or 28VDC, resistive. Contacts have excellent wipe or self-cleaning action. Tinned, pierced solder terminals. Mounting: 8-32 tapped core with locating boss. Weight: 4.75 ozs. (See GA series on page 3 for similar voltage actuated relays.)



MR SERIES A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Mounting: Two .156" dia. holes on 2.250" centers for MR 3 and 11, 2.625" centers for MR2, 5 and 14. Contacts: Silver. Weight: 4 ozs.

MS/MR SERIES DUST COVER

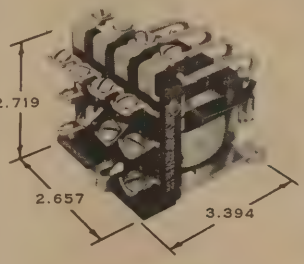
Metal dust cover, 35D130
Similar to PM/PR shown below
Box of 1 each, 35D130 **NET $2.20**



PM SERIES A compact 4PDT power relay for polyphase and heavy duty switching applications. Screw terminals. Has silver-cadium oxide contacts rated at 25 amps at 240V, 50/60 Hz resistive AC, 1 HP per movable arm at 120V or 240V, AC single phase, U/L (File No. E22575) and CSA* listed, except 480V. Mounts by one front key-hole and two rear channel slots for 8-32 screws on 2" x 2.5" triangular centers. Weight: 14 ozs.

PM SERIES ADAPTOR PLATE

Adaptor plate, 37B370
For mounting PM on PR mounting holes
Box of 10 each, 9PM1 **NET $1.75**





PM:
L: 5.313 MAX.
W: 3.812 MAX.
H: 3.812 MAX.

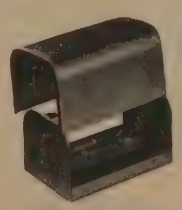
PR:
L: 5.312 MAX.
W: 3.175 MAX.
H: 3.125 MAX.

PM AND PR DUST COVERS These dust covers have a sheet metal base with knockouts for .5" dia. conduit and an aluminum cover fitted with two screws. Finished in gray hammertone. Mounting: Three No. 10 holes on 1.875" x 4.125" centers. Approx. weight: 1 lb.

Metal dust cover, 35D227
For PM only
Box of 1 each, 35D227 **NET $3.45**

Plastic dust cover, 35D203
For PM only
Box of 4 each, 9PM2 **NET $1.90**

Metal dust cover, 35D013
For PR only
Box of 1 each, 35D013 **NET $3.45**



POWER RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp. Rating	
AB11AY	6V 24V 120V 240V	1.3 23 510 2,050	6.4VA	DPDT	10	$6.15 6.15 6.15 6.65
AB11D	12V 24V 110V	72 288 6,050	2W	DPDT	10	6.00 6.00 6.50
ABC11AY	6V 24V 120V 240V	1.3 23 510 2,050	6.4VA	DPDT	10	7.40 7.40 7.40 7.90
ABC11D	6V 12V 24V 110V	18 72 288 6,050	2W	DPDT	10	7.30 7.30 7.30 7.80
GF17A	12V 24V 120V 240V	6.8 24 690 2,950	6VA	4PDT	10	7.60 7.60 7.60 8.05
GF17D	6V 12V 24V 110V	18 72 288 6,050	2W	4PDT	10	7.60 7.60 7.60 8.15

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

POWER RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrang.	Amp Rating	
MR3A	6V 24V 120V	2.75 50 1.250	3.25VA	SPST-NO-DM	10	$4.50 4.50 4.50
MR3D	6V 12V 24V	24 96 360	1.6W	SPST-NO-DM	10	4.10 4.10 4.10
MR5A	6V 12V 24V 120V 240V	2.75 13.25 50 1,250 4,600	3.25VA	SPDT	8	4.05 4.05 4.05 4.05 4.50
MR5D	6V 12V 24V 110V	24 96 360 8,000	1.6W	SPDT	8	3.75 3.75 3.75 4.30
MR11A	6V 12V 24V 120V 240V	2.75 13.25 50 1,250 4,600	3.25VA	DPDT	8	5.70 5.70 5.70 5.70 6.15
MR11D	6V 12V 24V 110V	24 96 360 8,000	1.6W	DPDT	8	5.40 5.40 5.40 5.95
MR14A	6V 12V 24V 120V 240V	2.75 13.25 50 1,250 4,600	3.25VA	3PDT	8	6.80 6.80 6.80 6.80 7.25
MR14D	6V 12V 24V 110V	24 96 360 8,000	1.6W	3PDT	8	6.40 6.40 6.40 6.95
PM17AY	6V 12V 24V 120V 240V	.37 1.4 5 120 587	14VA	4PDT	25	14.30 14.30 14.30 14.30 14 85
PM17A	480V	1,790	14VA	4PDT	25	15.75
PM17DY	6V 12V 24V 110V	8.2 33 132 2,760	4.4W	4PDT	25	13.65 13.65 13.65 14.25

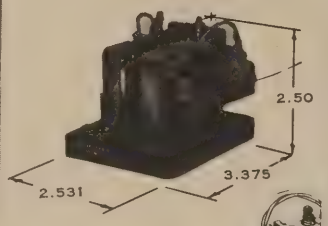
*Canadian Standards Association File No. LR-15734

§ Enclosed Relay

© United Technical Publications

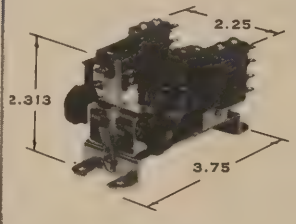
POTTER & BRUMFIELD RELAYS

PR SERIES Heavy duty relay for industrial control applications requiring long life and fast action. Heavy duty screw-type terminals. All AC and DC models except PR11AL5 carry U/L (File No. E22575) and CSA* listing. Mounting: Two .188" dia. holes on 1.875" centers. Weight: 11 ozs. max. Contacts: Silver. Enclosure: See "PR" cover. The PR11AL5 relay is equipped with silver SPDT auxiliary contacts rated at 5 amps, open only, auxiliary contact equipped relay will not fit inside cover.





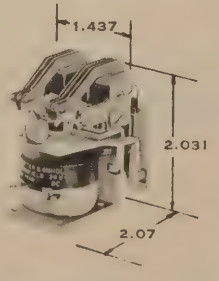
AP SERIES RATCHET, IMPULSE A reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 ms. Intermittent operation only. Mounting: Three .156" dia. holes on 3.375" x .875" triangular centers. Contacts: Silver. Weight: 7 ozs. Coils for intermittent duty only.



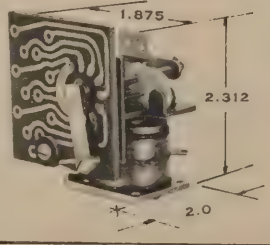
BU BUZZER AC operated coil with a spring steel armature which buzzes when coil is energized. Used extensively in test equipment, laboratories and a host of other applications where a small light weight, dependable buzzer is required. Recognized under the Component Program of Underwriters' Laboratories, Inc. (File No. S1154). Weight: 1⅝ ozs. Mounting: No. 6-32 tapped core.



GM SERIES Unusually versatile switching makes this impulse/sequencing relay especially suitable for single coil latching. The 2 Form C contact arrangement is switched alternately by cam action during drop-out of the armature. It can also be furnished with additional 2 Form C auxiliary contacts (designated by "L"). AC version operates on a 50% coil duty cycle (5 Min. max.). Mounting: 8-32 tapped core with locating boss. Weights: With aux. contacts 4¾ ozs. Without aux. contacts 4 ozs.



The **GM1N10** and **GM1N12** AC or DC use the basic GM structure with uni-directional printed circuit boards with 10 or 12-steps, respectively. The board is attached to an extension of the ratchet shaft. The movable contact arm advances one position each time the armature drops out. Contact rating: .25 amps. Contact arrangement: SP-10 pos. and SP-12 pos. Size: 2.312" x 1.875" x 2".



POWER RELAYS

TYPE	COILS Input	Res. in Ohms	Nom. Power	CONTACTS Arrang.	Amp Rate	SUGG. RE-SALE PRICE
PR1AY	24V	12	9.8VA	SPST-NO	25	4.70
PR3AY	6V 12V 24V 120V 208V 240V	.86 3.2 12 290 850 1,200	9.8VA	SPST-NO-DM	25	4.80 4.80 4.80 4.80 5.30 5.30
PR3DY	6V 12V 24V 110V	18 71 288 6,050	2W	SPST-NO-DM	25	4.80 4.80 4.80 5.50
PR5AY	6V 12V 24V 120V 208V 240V	.86 3.2 12 290 850 1,200	9.8VA	SPDT	25	5.05 5.05 5.05 5.05 5.55 5.55
PR5DY	6V 12V 24V 110V	18 71 288 6,050	2W	SPDT	25	5.05 5.05 5.05 5.75
PR7AY	6V 12V 24V 120V 208V 240V	.86 3.2 12 290 850 1,200	9.8VA	DPST-NO	25	5.65 5.65 5.65 5.65 6.15 6.15
PR7DY	6V 12V 24V 110V	18 71 288 6,050	2W	DPST-NO	25	5.70 5.70 5.70 6.40
PR11AY	6V 12V 24V 120V 208V 240V 480V	.86 3.2 12 290 850 1,200 4,500	9.8VA	DPDT	25	7.45 7.45 7.45 7.45 7.95 7.95 9.05
PR11AL5	6V 12V 24V 120V 240V	.86 3.2 12 290 1,200	9.8VA	DPDT	20	9.45 9.45 9.45 9.45 9.95
PR11DY	6V 12V 24V 110V	18 71 288 6,050	2W	DPDT	25	7.45 7.45 7.45 8.15

SPECIAL PURPOSE RELAYS

TYPE	COILS Input	Res. in Ohms	Nom. Power	CONTACTS Arrang.	Amp Rating	SUGG. RE-SALE PRICE
AP11A	6V 12V 24V 120V 240V	.6 2.28 8.8 240 900	18.5VA	DPDT	5	$10.15 10.15 10.15 10.15 10.70
AP11D	6V 24V 110V	4.0 65 1,350	9W	DPDT	5	10.15 10.15 10.90
AP17A	24V 120V	8.8 240	18.5VA	4PDT	5	12.30 12.30
AP17D	12V 24V 110V	15.5 65 1,350	9W	4PDT	5	12.30 12.30 13.05
BU	6V 12V 24V 120V	2.7 13.2 50 1,250	4.6VA	—	—	2.05 2.05 2.05 2.05
GM11A	24V 120V	16 420	9.4VA	DPDT	3	8.40 8.40
GM11AL11	120V	420	9.4VA	DPDT/DPDT	3	11.95
GM11D	12V 24V 110V	36 144 3,050	4W	DPDT	3	8.05 8.05 8.60
GM11DL11	12V 24V	36 144	4W	DPDT/DPDT	3	11.70 11.70
GM1N10A GM1N12A GM1N10D GM1N12D	120V 120V 24V 24V	510 510 144 144	9.4VA 9.4VA 4W 4W	SP-10 pos. SP-12 pos. SP-10 pos. SP-12 pos.	.25	10.35 10.50 10.10 10.25

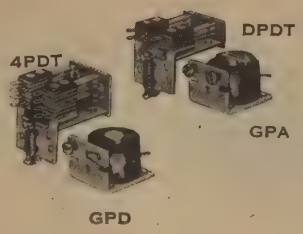
*Canadian Standards Association File No. LR-15734

© United Technical Publications

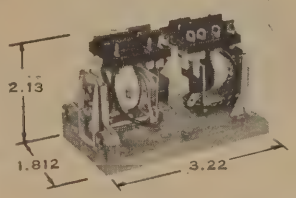
POTTER & BRUMFIELD RELAYS

GP SERIES Separate AC and DC coils to match with 2PDT or 4PDT switches. AC coils (GPA) available in 6, 12, 24, 120 and 240 volts. DC coils (GPD) available in 6, 12, 24 and 110 volts; current coils: 2,500, 5,000 and 10,000 ohms. Contacts: Silver.

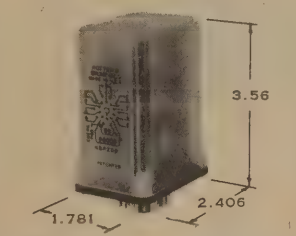
GP11 Switch Assembly DPDT 5 amps **$2.00**
GP17 Switch Assembly 4PDT 5 amps **3.40**

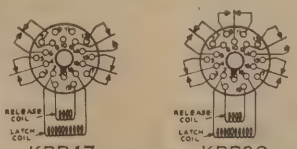


KB SERIES LATCHING RELAY Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: Two .156" dia. holes on 1.375" centers. Weight: 6 ozs. Contacts: Silver, rated 5 amps; "G" suffix indicates silver-cadium oxide contacts on movables rated 10 amps. AC relays with 5 amp. Contacts are recognized under Component Program of Underwriters' Laboratories, Inc. (File No. 29244) and are CSA* listed. AC coil for intermittent duty only.

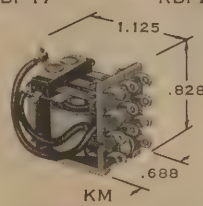


KBP SERIES LATCHING RELAY Enclosed in a translucent polypropylene dust cover, the KBP is furnished with 20-pin octal-type plugs for socket mounting. Contact arrangements of 4PDT and 5PDT are available. Otherwise all specifications are identical to the KB series described above. U/L component recognition does not apply to the KBP series. Weight: 8 ozs.

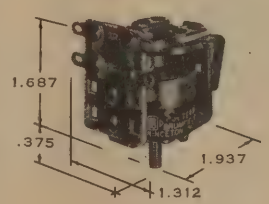




KM SERIES Subminiature relay for applications requiring unusually small relays with up to 3-poles. Contacts: Silver. Withstands 30g mechanical shock and .06" excursion 10 to 55 Hz mechanical vibration. Used extensively in small business machines, alarm systems, automatic toys and communications systems. Mounting: One 2-56 tapped core and locating .062" dia. half-punch on .187" centers. Solder terminals. Weight: .58 ozs.



KT SERIES ANTENNA SWITCHING RELAY Glass base insulation for minimum RF loss to switch 300 ohm line. Mounting: One No. 6-32 threaded stud and locating tab on .438" centers. Contacts: Gold-flashed silver. Weight: 1½ ozs.

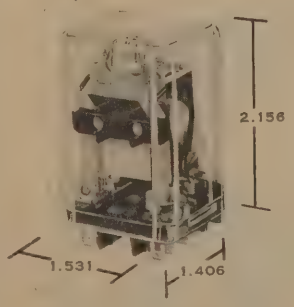


KUL SERIES Small, magnetic latching relay requiring approximately half the space needed for mechanical latching relays. Designed for continuous duty in applications demanding good memory stability, the KUL is ideal for machine tools, process controls and business machines. SPDT or DPDT silver-cadmium oxide contacts are rated 10 amps @ 28V DC, resistive or 120V AC, 80% PF. All AC DPDT relays include diodes inside the clear polycarbonate dust cover. Mounting: Various 10 amp rated nylon sockets available (see KU sockets page 7). Weight 3.4 ozs.

KUL SERIES SPRING

(For KUL relay, CU and CL 51 style time relays.)

Hold down spring, 20C247
Box of 25 each, 9KUL21 NET $4.50



SPECIAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrange.	Amp. Rating	
GPA	6V	1.7		None	—	$1.95
	12V	6.8				1.95
	24V	24	6VA			1.95
	120V	690				1.95
	240V	2,950				2.40
GPD	—	2,500	—	None	—	1.80
	—	5,000	—			2.05
	—	10,000	—			2.40
	6V	18	2W			2.40
	12V	72	2W			2.40
	24V	288	2W			2.40
	110V	6,050	2W			3.60
KB17AY	6V	2.3		4PDT	5	12.20
	12V	10				12.20
	24V	42	5VA			12.20
	120V	1,030				12.20
	240V	4,100				13.10
KB17AG	6V	2.3		4PDT	10	12.30
	12V	10				12.30
	24V	42	5VA			12.30
	120V	1,030				12.30
	240V	4,100				13.20
KB17D	6V	13.1		4PDT	5	10.95
	12V	52	2.7W			10.95
	24V	230				10.95
	110V	4,560				12.40
KB17DG	6V	13.1		4PDT	10	11.20
	12V	52	2.7W			11.20
	24V	230				11.20
	110V	4,560				12.65
KB23AY	24V	27	7.8VA	6PDT	5	14.60
	120V	700				14.60
KB23AG	24V	27	7.8VA	6PDT	10	14.80
	120V	700				14.80
KB23D	24V	230	2.7W	6PDT	5	13.25
KB23DG	24V	230	2.7W	6PDT	10	13.60
	110V	4,560				15.05
KBP17A§	120V	1,030	5VA	4PDT	5	17.15
KBP17AG§	120V	1,030	5VA	4PDT	10	17.35
KBP17D§	24V	230	2.7W	4PDT	5	15.90
KBP17DG§	12V	52	2.7W	4PDT	10	16.20
	24V	230				16.20
KBP20A§	120V	700	7.8VA	5PDT	5	17.65
KBP20AG§	120V	700	7.8VA	5PDT	10	17.90
KBP20DG§	12V	52	2.7W	5PDT	10	17.05
	24V	230				17.05

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

KM5D	6V	36	1.1W	SPDT	2	4.00
	12V	144				4.00
	24V	500				4.00
KM11D	6V	36	1.1W	DPDT	2	4.40
	12V	144				4.40
	24V	500				4.40
KM14D	6V	36	1.1W	3PDT	2	5.05
	12V	144				5.05
	24V	500				5.05
KT11A	6V	6	2VA	DPDT	5	4.30
	120V	2,250				4.30
KT11D	6V	32.1	1.2W	DPDT	5	4.30
	12V	120				4.30
KUL5A15S	120V	3,700	—	SPDT	10	6.30
KUL5D15S	24V	472	1.2W	SPDT	10	5.45
KUL11A15S	12V	37	—	DPDT	10	7.10
	24V	176				7.10
	120V	3,700				7.10
KUL11D15S	12V	120	1.2W	DPDT	10	6.05
	24V	472	1.2W			6.05

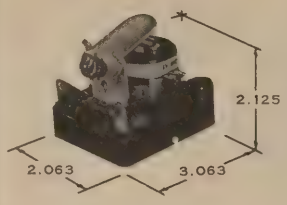
§ Enclosed Relay

© United Technical Publications

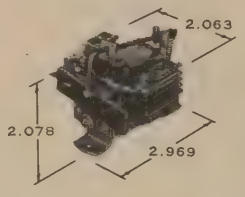
POTTER & BRUMFIELD RELAYS

MS SERIES MOTOR STARTING RELAYS For starting capacitor start, induction-run motors. Operates on back EMF of start winding. Armature gap can be altered to change pick-up. Recognized under Component Program of Underwriters' Laboratories, Inc. (File No. 29245). Mounting: Two .156″ dia. holes on 1.563″ centers. Contacts: ¾ HP, fine silver; 3 HP, silver cadmium. Weight: 5 ozs. max.

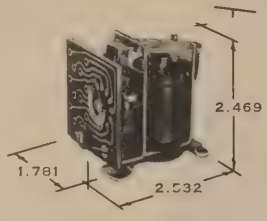
MS/MR SERIES DUST COVER
Metal dust cover, 35D130
Similar to PM/PR on page 10
Box of 1 each, 35D130 **NET $2.20**



PC SERIES Single coil impulse latching relay for on-off and current reversal switching on alternate pulses. Mounting: Two .156″ dia. holes on 2.625″ centers. Weight: 5 ozs. Contacts: Gold-flashed silver-cadmium oxide. Coils for intermittent duty only.



SA SERIES STEPPING SWITCH A twelve position stepping relay with printed circuit strips to switch currents up to 250 milliamps. Armature-driven pawl operates a ratchet wheel to drive the movable contact in steps of 30 degrees over 12 positions. Used widely for audio-level switching in TV remote control units, scoreboards and process controls. Mounting: Two 6-32 holes on 1.813″ centers. Weight: 4 ozs. AC coil for intermittent duty only.

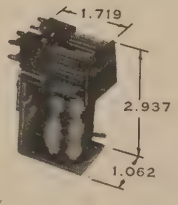


SPECIAL PURPOSE RELAYS

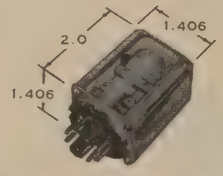
TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrange.	Amp. Rating	
MS2AY	120V 240V	530 2,100	5.9VA	SPST-NC	¾ HP	$4 20 4.70
MS4AY	120V 240V	530 2,100	5.9VA	SPST-NC-DB	3 HP	4.90 5.40
PC11A	6V 12V 24V 120V	.6 2.28 8.8 240	18.5VA	DPDT	7.5	6.55 6.55 6.55 6.55
PC11D	6V 12V 24V	4 15.5 65	9W	DPDT	7.5	6.30 6.30 6.30
PC17A	24V 120V	8.8 240	18.5VA	4PDT	7.5	9.00 9.00
PC17D	24V	65	9W	4PDT	7.5	8.80
SA-1N-12A	120V	140	20VA	12 Steps	.25	7.70

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

GB SERIES (See GA series page 3 for similar voltage actuated relays.) Sensitivity 115 milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay. Pick-up is not adjustable. Mounting: No. 8-32 tapped core and locating boss. Contacts: Silver. Weight: Approximately 5 ozs.



KCP SERIES Low cost sensitive relay enclosed in clear polycarbonate cover. Sensitivity 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: Standard octal plug-in type. Eight pin for KCP5 and KCP11. Eleven pin for KCP14. Contacts: Gold-flashed silver. Weight: Approximately 3 ozs. Use KCP-KRP hold down spring when vibration is a factor or when using inverted or horizontal mounting. (See page 4.)

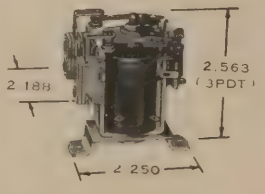




LB SERIES Designed for top performance, long life at an unusually low cost. Each coil is wound with a given coil resistance and factory adjusted to operate on minimum current requirements. Mounting: Two .188″ holes on 2.219″ centers. Contacts: Silver. Weight: Approximately 2 ozs.



LM SERIES (See KL page 5 for similar voltage actuated relays.) Sensitivity: 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with gold-flashed silver contacts. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 tapped holes on 1.813″ centers. Weight: Approximately 5 ozs. DC Coils only.



SENSITIVE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrange.	Amp. Rating	
GB5D	6.8mA 4.8mA 3.4mA	2,500 5,000 10,000	115mW	SPDT	5	$3.95 4.15 4.65
GB11D	7mA 5mA 3.53mA	2,500 5,000 10,000	125mW	DPDT	5	5.55 5.75 6.25
GB17D	10.5mA 7.4mA 5.25mA	2,500 5,000 10,000	275mW	4PDT	5	6.60 6.80 7.30
KCP5§	7.2mA 5.0mA 3.6mA	2,500 5,000 10,000	125mW	SPDT	2	6.85 6.95 7.40
KCP11§	10mA 7.2mA 5.0mA	2,500 5,000 10,000	250mW	DPDT	2	7.30 7.40 7.85
KCP14§	12.3mA 8.7mA 6.1mA	2,500 5,000 10,000	375mW	3PDT	2	9.00 9.10 9.55
LB5	9.0mA 6.3mA 4.5mA	2,500 5,000 10,000	200mW	SPDT	5	3.00 3.20 3.40
LM5	6.3mA 4.5mA 3.2mA	2,500 5,000 10,000	100mW	SPDT	5	4.55 4.80 5.15
LM11	9.0mA 6.3mA 4.5mA	2,500 5,000 10,000	200mW	DPDT	5	6.55 6.75 7.40

 § Enclosed Relay

Net
© United Technical Publications

POTTER & BRUMFIELD RELAYS

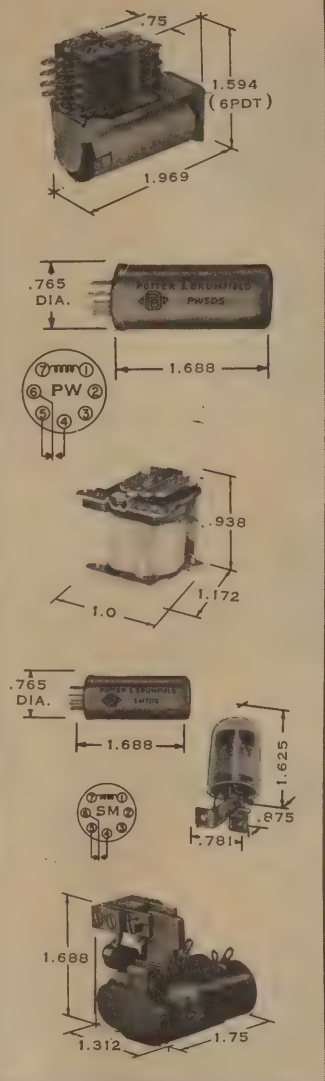
ML SERIES A small telephone type relay having excellent sensitivity and outstanding switching capabilities. Ideal for transistorized computer networks, telephone systems and battery powered communications equipment. Single contact arms have gold-flashed silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: Four 3-48 holes on .375″ centers. Weight: 2.5 ozs.

PW SERIES (In both voltage and current actuated models.) Sensitivity: 40 mw for current actuated models, 180 mw for voltage actuated models. Precision, lightweight, hermetically sealed relay for aircraft and missile applications. Will withstand 10g vibration to 500 Hz. Mounting: Standard 7-pin miniature tube base. Weight: Approx. 1 oz.

RS SERIES (In both voltage and current actuated models.) 60 mw sensitivity. Low-cost, small, lightweight, sensitive relay for radio-sonde, light immer and model applications. Mounting: Two No. 4-40 tapped holes on diagonal .75″ x .625″ centers. Contacts: Bar palladium. Weight: 1½ ozs.

SM SERIES (In both voltage and current actuated models.) Sensitivity 75 mw for current actuated models. Medium cost, lightweight, dust cover (right) or hermetically sealed (left) relay for light contact loads found in computers, model airplanes and similar applications. Extremely long mechanical life because of reed armature. Mounting: Sealed, standard 7-pin miniature tube socket; dust cover, two .094″ dia. holes on .531″ centers. Contacts: Stationary silver; movable rhodium. Weight: 1 oz. max.

SS SERIES Ultra sensitive precision relay. 10 mw sensitivity. Dual series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. Mounting: Two No. 6-32 tapped holes on .719″ centers. Contacts: Silver. Weight: Approx. 3½ ozs.



SENSITIVE RELAYS

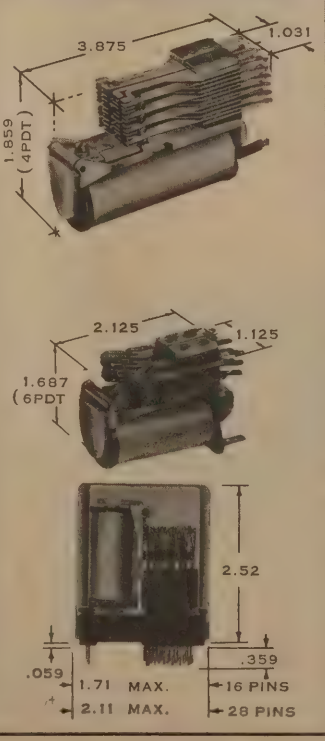
TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. In Ohms	Nom. Power	Arrang.	Amp. Rating	
ML11D	4.0mA 2.83mA 2.0mA	2,500 5,000 10,000	40mW	DPDT	3	$7.35 7.50 7.85
ML17D	5.65mA 4.0mA 2.83mA	2,500 5,000 10,000	80mW	4PDT	3	8.70 8.90 9.25
ML23D	6.93mA 3.4mA	2,500 10,000	120mW	6PDT	3	9.85 10.40
PW5DS†	6V 12V 24V	202 810 3,240	180mW	SPDT	2	12.45 12.45 12.45
PW5LS†	2.8mA 2.0mA	5,000 10,000	40mW	SPDT	2	12.90 13.35
RS5D	6V 12V 5mA 3.5mA 2.5mA	335 1,350 2,500 5,000 10,000	110mW 110mW 60mW 60mW 60mW	SPDT	2	3.05 3.20 3.30 3.60 4.20
SM5DS†	6V 12V 24V	80 360 900	500mW	SPDT	.25	7.65 7.65 7.65
SM5L§	2.7mA	10,000	75mW	SPDT	.25	7.25
SM5LS†	3.9mA 2.7mA	5,000 10,000	75mW	SPDT	.25	7.95 8.50
SS5D	1mA	10,000	10mW	SPDT	2	16.05

BS SERIES Long coil telephone type. Suited for computer and automatic test equipment applications requiring large numbers of poles. Tinned, pierced solder terminals for rear panel wiring. Mounting: Two No. 8-32 NC 2B tapped holes on .75″ centers. Contact arms: Bifurcated with twin palladium contacts. Weight: Approximately 9 ozs.

BS DUST COVER Sheet metal enclosures for BS relays up to 6 Form C (6PDT, BS23), measures: H: 2.188″, W: 1.250″, L: 3.844″ exclusive .625″ knob; weight: 6.5 ozs.
35D188 **NET $2.10**

LS SERIES Short springs and lightweight armature provide fast action without sacrificing reliability and long life. Stainless steel hinge bearing designed to give 100 million operations. Tinned, pierced solder terminals. Mounting: Two No. 6-32 tapped holes on .75″ centers. Bifurcated contact arms with twin palladium contacts. Weight: Approximately 4 ozs.

The LSP version has identical specifications as the LS, except that it is enclosed in a clear polycarbonate cover and is provided with a rectangular socket with combination taper tab or solder terminations. Enables plug-in like any other plug-in component. Two sizes of sockets and covers are available: 16-pin for 4 Form C (4PDT) or 28-pin for 6 Form C (6PDT). Dimensions: LSP17D: 1.71″ x 1.39″ x 2.52″ seated; weight 4 ozs. LSP23D 2.11″ x 1.39″ x 2.52″ seated; weight 4½ ozs.



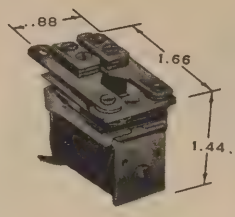
TELEPHONE TYPE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. In Ohms	Nom. Power	Arrange.	Amp. Rating	
BS17A	120V	103	16.5VA	4PDT	4	$10.65
BS17D	24V 110V	1,000 6,500	576mW 1.8 W	4PDT	4	8.75 9.45
BS17L	5.5mA	10,000	300mW	4PDT	4	9.45
BS23A	120V	103	16.5VA	6PDT	4	12.40
BS23D	24V 110V	1,000 6,500	576mW 1.8mW	6PDT	4	10.60 11.30
LS17D	24V 48V 110V	300 1,300 8,000	1.9W 1.8W 1.5W	4PDT	4	6.50 6.70 6.95
LS23D	24V 110V	300 8,000	1.9W 1.5W	6PDT	4	7.85 8.30
LSP17D§	24V 48V 110V	300 1,300 8,000	1.9W 1.8W 1.5W	4PDT	4	8.45 8.55 8.85
LSP23D§	24V 48V 110V	300 1,300 8,000	1.9W 1.8W 1.5W	6PDT	4	10.50 10.60 10.90

 † Sealed Relay § Enclosed Relay

POTTER & BRUMFIELD RELAYS

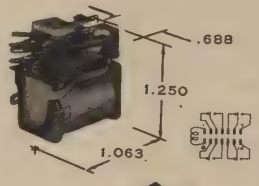
MB SERIES Miniature DC contactor. Designed for very high current applications. Extra rugged construction ensures long life. Contact arms: Stationary, heavy brass, silver contacts pierced solder terminals. Movable, silver bar contact. Mounting: Four No. 3-48 tapped holes on .375″ x .375″ centers. Weight: 2 ozs.

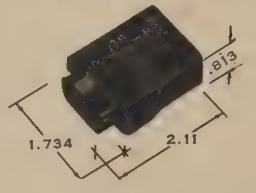


MC SERIES Built with ceramic contact spacer for RF switching to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. max. Tinned, pierced solder type terminals. Mounting: Four No. 3-48 tapped holes on .375″ x .375″ centers. Contacts: palladium. Weight 2 ozs.

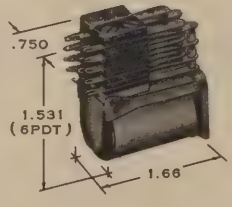


MG SERIES Sub-miniature telephone type relay can be furnished open, sealed or in nylon dust cover. Mounting: Open model has four No. 3-48 tapped holes on .375″ x .375″ centers. Sealed model has three No. 4-40 threaded studs on 1″ x .50″ centers. Dust cover model has plug-in header that fits Amphenol receptacle 57-20140 or similar. Contacts: Silver. Weight: Open 1.2 ozs.; Dust cover 2.0 ozs.; Sealed 2.75 ozs.





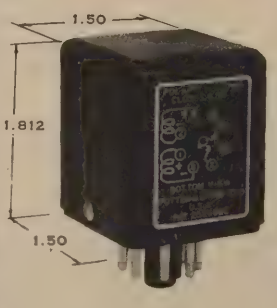
MH SERIES MINIATURE TYPE Ideal for applications where space and weight are factors. Mounting: Open model, MH11L, one No. 6-32 threaded stud .344″ long plus locating boss. All other open models have four No. 3-48 holes on .375″ x .375″ centers. Sealed models, M enclosures, three 6-32 NC 2 threaded studs on 1.250″ x .50″ centers. D enclosures, three 6-32 threaded studs on 1.188″ x .938″ centers. All sealed models have hook solder terminals.
All models have gold-flashed silver contacts. Weight: Open models 2½ oz. max. Sealed models 5 ozs. max.



TELEPHONE TYPE RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrange.	Amp. Rating	
MB3D	6V 12V 24V 110V	13.3 62.3 245 5,000	2.7W	SPST-NO-DM	60	$6.25 6.40 6.40 6.80
MC5A	6V	2.5	4.6VA	SPDT	1	6.10
MC5D	12V 24V	96 365	1.6W	SPDT	1	5.35 5.35
MC11A	120V	680	4.6VA	DPDT	1	8.40
MC11D	24V	365	1.6W	DPDT	1	7.70
MG11D	12V 24V 110V	90 365 7,560	1.6W	DPDT	2	6.00 6.00 6.45
MG17D	12V 24V	90 365	1.6W	4PDT	2	8.05 8.05
MG17DP§	12V 24V 110V	90 365 7,560	1.6W	4PDT	2	13.40 13.40 14.05
MG17DT†	24V 110V	365 7,560	1.6W	4PDT	2	14.60 15.25
MH11L	4.5mA	10,000	.2W	DPDT	3	6.90
MH11LM†	4.5mA	10,000	.2W	DPDT	3	11.70
MH17D	6V 12V 24V	23 96 365	1.6W	4DPDT	5	6.95 6.95 6.95
MH17DM†	12V 24V	96 365	1.6W	4DPDT	5	13.95 13.95
MH17AMR†	120V	6,200	2VA	4DPDT	5	22.80
MH23D	6V 12V 24V 110V	13.3 62.3 245 5,000	2.5W	6PDT	5	8.70 8.70 8.70 9.25
MH23DD†	12V 24V	62.3 245	2.5W	6PDT	5	18.55 18.55

MDP SERIES Small size, ultra-sensitive, polarized relays are characterized by high speed switching and efficient, bounce-free contact action. Their operation depends on both the magnitude and direction of the coil current. Two types of contact arrangements provide the following action when coils are de-energized: Bi-Stable—armature remains in its last energized position; Center-Stable—armature remains in center-off position with contacts open. Contact material as listed. Temperature: −60°C to +85°C. Relays are enclosed in a plastic dust cover and equipped with 8-pin plugs for mounting. MDP relays measure: 1.500″ square by 1.812″ high (when seated). Weight: 4.25 ozs.



SPECIAL RELAYS

TYPE	Coils			Contacts		SUGG. RE-SALE PRICE
	Pick-up in mA	Res. in Ohms*	Pick-up Power in μW	Arrange.	Rating in Amps Resist.	
Bi-stab. MDP -300-1	1.5	150 (2)	338	1 Form C (2)	.01-1A** 25-150V	$24.65
Cen. stab. MDP						
-1006	0.32	330 (1)	33.8			28.20
-1007	0.27	480 (1)	35.0			28.20
-1011	0.10	3500 (1)	35.0	1 Form K (1)	3A @ 28V DC	28.20
-1013	0.067	7200 (1)	32.3			28.20
-2009	0.32	1000 (2)	102.0			28.20
-2011	0.17	2300 (2)	66.5			28.20

*Each coil. Number of coils in ( ) parentheses.
**With suitable arc suppression.
Contact material shown in ○ circle.
(1) Silver (2) Tungsten and Paliney

† Sealed Relay § Enclosed Relay

Net

© United Technical Publications

POTTER & BRUMFIELD RELAYS

FC SERIES Conventional miniature relay lies flat on printed circuit board. Withstands 150g shock, 400g linear acceleration, 30g vibration to 2000 Hz. Ambient temperature range: − 65° to + 125°C. Hermetically welded. Bifurcated contacts. Plugs in on .2″ grid. Meets applicable sections of MIL-R-5757E and MSFC-SPEC-339. Weight: .75 oz.

FL SERIES Dual-coil latching relay has same specs as above, except operates by pulsing each coil alternately (observing coil polarity); or connecting the coils in series from a reversing (polarized) source. Remains latched without coil power.

HC SERIES A miniature, non-polarized, non-latching half-size crystal case relay for high reliability performance. Its high-torque motor structure and bifurcated, gold-plated silver DPDT contacts, rated dry circuit to 2 amps @ 28V DC resistive, provide positive performance in low level applications. Temperature range: − 65°C to + 125°C. Hermetically welded. HC11D has plug-in, plain case; HC11DA has hook-end solder terminals and shoulder brackets; HC11DB has hook-end solder terminals and flat mounting plate with 2 holes. The HC series meets or exceeds all applicable sections of MIL-R-5757E, and complies with MSFC-SPEC-339. Size: Plain case .8″ x .4″ x .4″ (seated). Weight: .5 oz.

HCM SERIES Military version of miniature HC relay. Same rugged construction features. Hermetically sealed and vibration tested for use in demanding applications such as aircraft and ground support equipment. Meets or exceeds appropriate sections of MIL-R-5757E. Straight pins or hook solder terminals. Shoulder bracket available. HCM has same mountings as HC Series above. Weight: .5 oz.

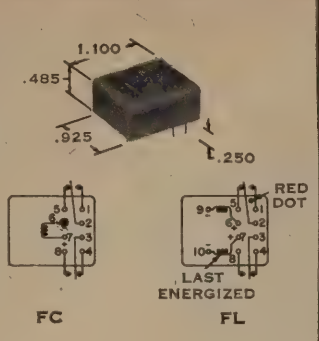
SC SERIES Miniature permanent magnet relay for low power, high shock/vibration applications. 200g shock, 30g vibration to 2000 Hz with no contact opening. Ambient temperature range: − 65°C to + 125°C. Features single coil action and conforms to standard miniature coil operation except polarized connections because of magnetic circuit. Positive terminal marked with red dot. Mounting: SC11D**, -DA, -DB, DC and DD correspond to similarly designed SL mountings. SCG11D has rectangular header with terminals on .2″ grid. Weight: ¾ oz.

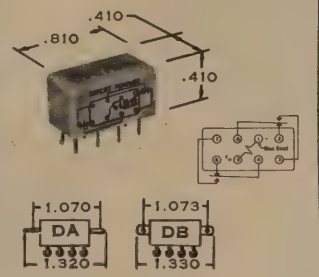
**Armel No. HRK-1, 8-pin receptacles available from distributors for plug-in applications.

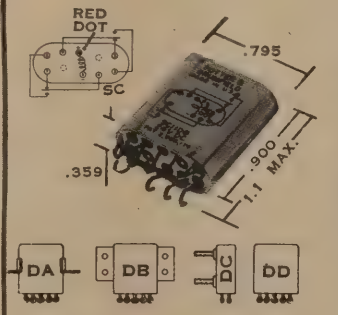
SL SERIES Dual coil miniature magnetic latching relay with same shock/vibration, resistance and ambient temperature range as SC. Coils may be connected in series for polar operation. Mounting: SL11D* for plug-in applications: -DA has shoulder flanges with two .104″ x .136″ holes on a 1.062″ center; -DB has a welded bracket with four .125″ dia. holes on 1.062″ x .281″ centers; -DC has two No. 4-40 NC 2A threaded studs on .488″ x .220″ diagonal centers; -DD has plain case with hook-end solder terminals. SLG11D has plug-in terminals on .2″ grid. Weight: 2 ozs.

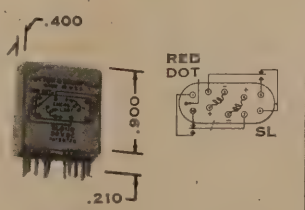
*Armel No. HRKB-1, 10-pin receptacles available from distributors for plug-in applications.

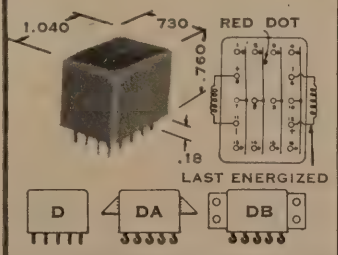
TL SERIES High reliability 4PDT miniature magnetic latching relay for severe environments. Hermetically welded relay case. Strong permanent magnetic forces keep the contacts locked in desired position when relay is de-energized. Approx. 0.5 ms transfer time. Temperature range: −65° to +125°C. Meets or exceeds applicable sections MIL-R-5757E and MSFC-SPEC-339. Weight: Approx. 1¼ ozs. Mountings: D-plain case, plug-in header. DA = shoulder bracket. 300″ from base, hook-end solder. DB = flat plate, .593″ wide x 1.60″ long, 4 -.125″ dia. holes on .281″ x .30″ centers, hook-end solder.







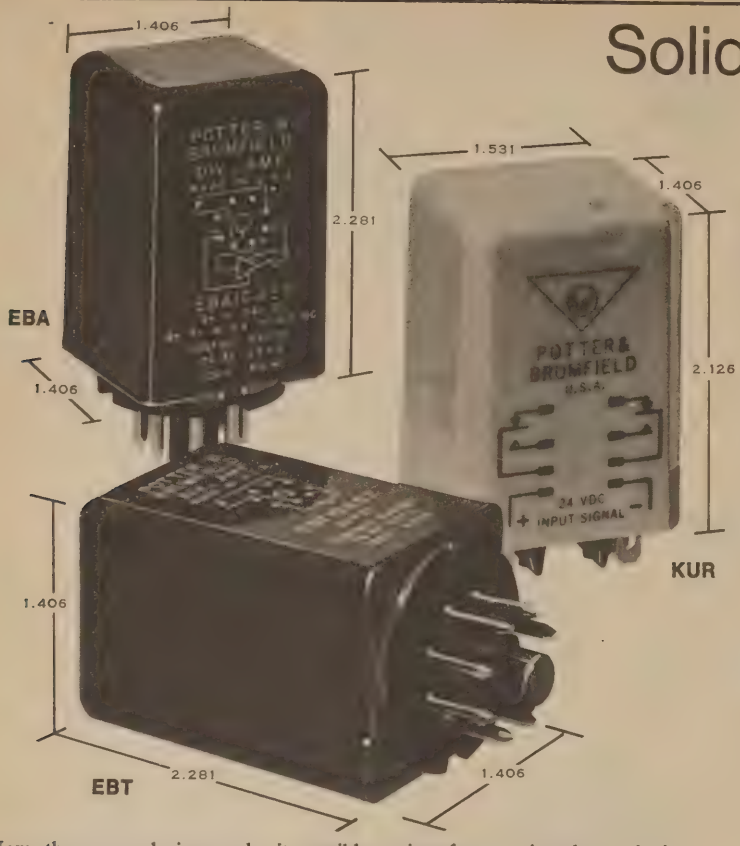


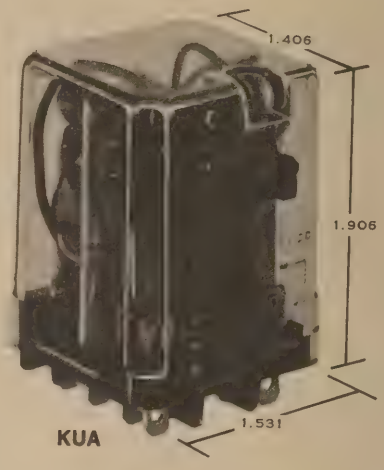


HIGH RELIABILITY RELAYS

TYPE	COILS			CONTACTS		SUGG. RE-SALE PRICE
	Input	Res. in Ohms	Nom. Power	Arrange-ment	Amp Rat-ing	
FC11D	6V 12V 24V	60 210 900	.65W	DPDT	3	$19.40 19.40 19.40
FL11D	6V 12V 24V	67.5 230 1,000	.65W	DPDT	3	21.75 21.75 21.75
HC11D HC11DA HC11DB	24V	814	.72W	DPDT	2	19.30 19.30 19.30
HCM11D HCM11DA HCM11DB	24V	814	.72W	DPDT	2	12.90 12.90 12.90
SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING						
SC11D	6V 12V 24V	35 135 550	1W	DPDT	2	19.60 19.60 19.60
SC11DA	12V 24V	135 550	1W	DPDT	2	19.60 19.60
SC11DB	6V 12V 24V	35 135 550	1W	DPDT	2	19.60 19.60 19.60
SC11DC	24V	550	1W	DPDT	2	19.60
SC11DD	24V	550	1W	DPDT	2	19.60
SCG11D	24V	550	1W	DPDT	2	19.60
SC7141	26.5V	MIL-R-1575E/10C-141 or RY4NA3B3L01				19.75
SL11D	6V 12V 24V	40 160 630	1W	DPDT	2	21.45 21.45 21.45
SL11DA	6V 12V 24V	40 160 630	1W	DPDT	2	21.45 21.45 21.45
SL11DB	6V 12V 24V	40 160 630	1W	DPDT	2	21.45 21.45 21.45
SL11DC	24V	630	1W	DPDT	2	21.45
SL11DD	24V	630	1W	DPDT	2	21.45
SLG11D	24V	630	1W	DPDT	2	21.45
TL17D	24V	600	1W	4PDT	3	31.75
TL17DA	24V	600	1W	4PDT	3	31.75
TL17DB	24V	600	1W	4PDT	3	31.75

Solid state hybrid relays solve many critical switching problems





Now, these new devices make it possible to interface semiconductor logic circuits with inductive loads such as motors, solenoids, or relays. Inputs as low as 60 microwatts switch 7 ampere loads. And they install conventionally, too! Look at tomorrow's switching devices today . . .

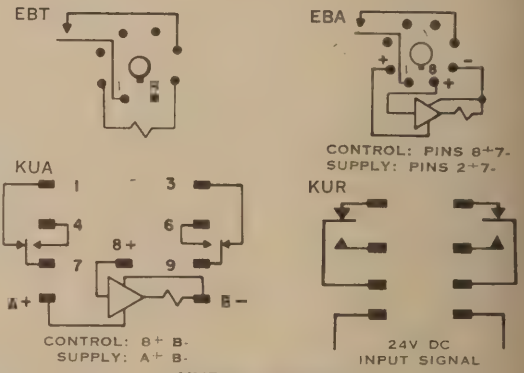
EBT SERIES combines input/output isolation of reed relay with inrush switching capabilities, long life of solid state switch. Switches 7 amps, 60 Hz @ 25°C ambient with nominal load voltage of 120V. Rated 5 amps rms 60 Hz @ 55°C ambient. Minimum operating current: 200 mA, 60 Hz. Expected life greater than 10 million operations. Bounce free. Operate time: 2 msec. maximum. Release time: 10 msec. maximum. Typical "Closed contact" voltage drop is 1.1 V. Octal terminals fit standard 8-pin socket on page 6. Weight 5.5 ozs. approx.

EBA SERIES has output switching characteristics, package, mounting of EBT, plus control signal amplifier. Operates from current sourcing output mode of DTL, TTL logic circuits, 60 microwatt signal switches 7 A load. Must Operate voltage: 2.4 V DC @ approx. 25 μamp at 24V DC supply. Maximum input is 30 V DC or 1 mA. Release occurs at 0.5 V DC or less. Rate of control voltage change: 1V/msec. min. Polarity protection provided. Operate Time: 2 msec. max. @ Must Operate control voltage; Release time: 10 msec. max. @ Must Release control voltage; both rated at nominal supply voltage.

KUA SERIES Amplifier-driven KUP relay, offers standard input sensitivity of 60 microwatts. Operated from low power signals associated with integrated circuits: DTL and TTL logic outputs in the current sourcing mode. Control signal of 2.4 V DC @ approx. 25 μA operates relay, at specified supply voltage. Maximum control signal: 30 V DC or 1 ma. Must Release control voltage: 0.5 V DC @ specified supply voltage. Polarity protection provided. Gold-flashed fine silver contacts switch 5 A @ 28 V DC. res.. or 120 V 60 Hz, 80% P.F. Terminals: .187"q.c./solder fit standard KU sockets on page 7. Clear polycarbonate case. Weight: 3.5 ozs. approx.

KUR SERIES Alternate direct-action, impulse relay employs permanent magnet latching relay plus flip-flop circuit that switches on leading edge of applied pulse. Recommended for pulse operation or alternate energizing of two loads, has permanent memory, alternate action features. Transfers DPDT contacts when specified input pulse (25 msec. min. duration and 1200 PPM max.) is received. Holds mode with or without power. Controlled from single DC source. Contacts: gold-flashed fine silver rated 5A @ 28 V DC, or 120 V AC, 80% P.F. Terminals: .187" q.c./solder. fit standard KU sockets on page 7. Has yellow plastic dust cover. Weight: 3.5 ozs. approx.

Other hybrid relays show on pages 18 and 19.



HYBRID RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Input	Res. In Ohms	Nom. Power	Arrange.	Amp Rating	
EBT1DA52§	6V 12V 24V	125 500 2000	290 mW	SPST-NO	7	$16.60 16.60 16.60

TYPE	INPUT				CONTACTS		SUGG. RESALE PRICE
	Control		Supply				
	DC Volt.	Nom. Power	DC Volt.	Nom. Power	Arrange.	Amp Rating	
EBA1GA52§	2.4V	60 μW	24 V	390 mW	SPST-NO	7	$23.40
KUA5G11§	2.4V	60 μW	24 V	1.2W	SPDT	5	13.70
KUA11G11§	2.4V	60 μW	24 V	1.2W	DPDT	5	14.15

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Input	Res. In Ohms	Nom. Power	Arrange.	Amp Rating	
KUR11D11§	24V	350	1.2W	DPDT	5	$15.00

§ Enclosed Relay

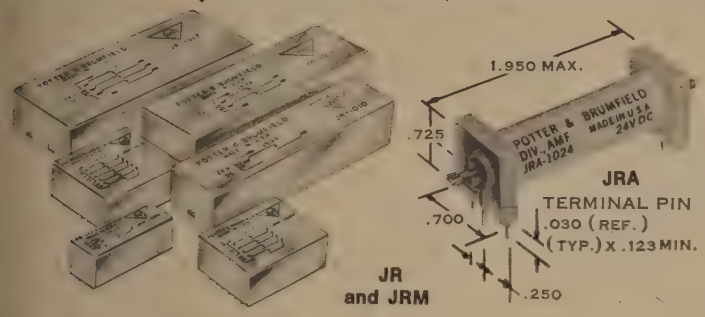
Net

© United Technical Publications

POTTER & BRUMFIELD RELAYS

DRY REED

JR STANDARD / JRA LOW COST / JRM MINIATURE



Fast response, reliable performance, high sensitivity and long life are characteristic of the JR Series dry reed relays. JR standard and JRM miniature relays are especially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits. The JRA Series low cost relays are limited to applications where stray magnetic fields and interaction of coils will not interfere with their operation. Adequate spacing (not less than .75" separation) is recommended.

TWO TYPES OF CAPSULES

The JRA Series is available only in a Form A (SPST-NO) contact arrangement. Both JR and JRM relays have reed switches with either Form A (SPST-NO) or Form C (SPDT) contact configuration. Biasing with a permanent magnet changes Form A to a Form B (SPST-NC). This arrangement requires that coil polarity be observed. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact. The movable contact is normally closed until the coil is energized.

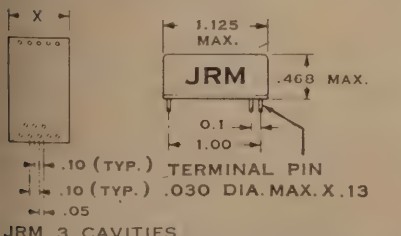
SPECIFICATIONS

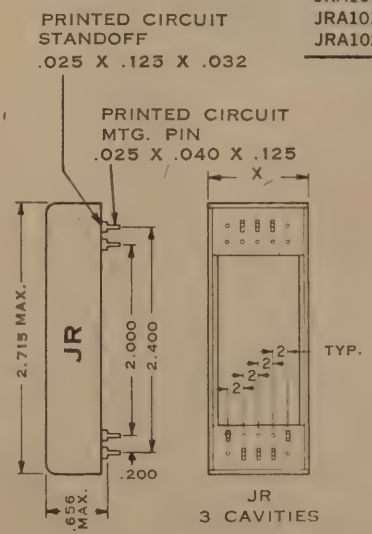
Pick-up: 75% of nominal @ 25°C.
Typical Operate Time: At nominal voltage @ 25°C.: JR: 3 ms. JRA: 1.5 ms. JRM: 1 ms.
Release Time: At 25°C: JR:.5 ms. JRM: .05ms.
Coil Power: Based on nominal voltage and resistance.
JR: 1 capsule—240mw; 2 capsules—360mw; 3 capsules—720mw; 4 capsules—960mw; 5 capsules—1.5w. **JRA:** 1 capsule—550mw. **JRM:** 1 capsule—180mw; 2 capsules—275mw; 3 capsules—420mw; 4 capsules—540mw; 5 capsules—720mw. For additional specifications see columnar listings and drawings.

OUTLINE DIMENSIONS

JR Standard Relays — **Weights**
X = 1 Cavity = .687" max.—1.50 ozs.
X = 2 Cavities = .890" max.—2.00 ozs.
X = 3 Cavities = 1.094" max.—2.50 ozs.
X = 4 Cavities = 1.297" max.—3.00 ozs.
X = 5 Cavities = 1.516" max.—3.50 ozs.

JRM Miniature Relays
X = 1 Cavity = .437" max.—.366 oz.
X = 2 Cavities = .562" max.—.395 oz.
X = 3 Cavities = .703" max.—.530 oz.
X = 4 Cavities = .813" max.—.620 oz.
X = 5 Cavities = .968" max.—.781 oz.





JR STANDARD SERIES

TYPE	COILS					SUGG. RESALE PRICE
	Contact Arrangement	Number of Cavities	Sugg. Nominal Voltage	Resistance In Ohms	Reed Rating Watts	
JR1000	1A	1	6	150	15	$3.20
JR1001	2A	2	6	100	15	4.30
JR1020	1A	1	6	150	50	4.50
JR1040	1C*	1	6	150	10	8.05
JR1041	2C*	2	6	100	10	8.80
JR1060	1B	2	6	100	15	4.30
JR1005	1A	1	12	600	15	3.20
JR1006	2A	2	12	400	15	4.30
JR1008	4A	4	12	150	15	6.00
JR1025	1A	1	12	600	50	4.50
JR1045	1C*	1	12	600	10	8.05
JR1046	2C*	2	12	400	10	8.80
JR1063	1B	2	12	400	15	4.30
JR1086	1A + 1B	3	12	200	15	5.30
JR1010	1A	1	24	2,400	15	3.75
JR1011	2A	2	24	1,600	15	4.55
JR1013	4A	4	24	600	15	6.30
JR1030	1A	1	24	2,400	50	4.85
JR1031	2A	2	24	1,600	50	7.25
JR1050	1C*	1	24	2,400	10	8.40
JR1051	2C*	2	24	1,600	10	8.90
JR1066	1B	2	24	1,600	15	4.35
JR1088	1A + 1B	3	24	800	15	5.65
JR1089	2A + 2B	5	24	384	15	8.75

*True Form C

JRM MINIATURE SERIES

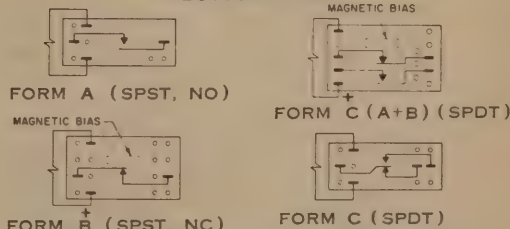
JRM1000	1A	1	6	200	10	$3.45
JRM1001	2A	2	6	130	10	5.05
JRM1003	4A	4	6	67	10	8.05
JRM1036	1B	2	6	130	10	4.40
JRM1037	2B	3	6	86	10	5.90
JRM1048	1A + 1B	3	6	86	10	5.90
JRM1049	2A + 2B	5	6	50	10	9.05
JRM1006	1A	1	12	800	10	3.45
JRM1007	2A	2	12	520	10	5.05
JRM1009	4A	4	12	268	10	8.05
JRM1040	1B	2	12	520	10	4.40
JRM1041	2B	3	12	344	10	5.90
JRM1050	1A + 1B	3	12	344	10	5.90
JRM1051	2A + 2B	5	12	200	10	9.05
JRM1012	1A	1	24	3,200	10	3.80
JRM1013	2A	2	24	2,080	10	5.20
JRM1015	4A	4	24	1,072	10	8.15
JRM1044	1B	2	24	2,080	10	4.50
JRM1045	2B	3	24	1,376	10	6.05
JRM1052	1A + 1B	3	24	1,376	10	6.05
JRM1053	2A + 2B	5	24	800	10	9.20

JRA LOW COST SERIES

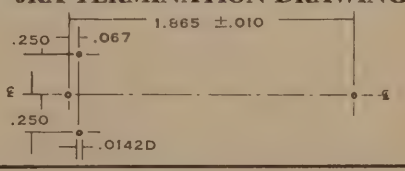
JRA1006	1A	1	6	74	25VA	$1.50
JRA1012	1A	1	12	290	25VA	1.50
JRA1024	1A	1	24	1,200	25VA	1.50

TYPICAL WIRING DIAGRAMS

BOTTOM VIEW



JRA TERMINATION DRAWING

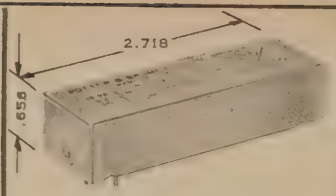


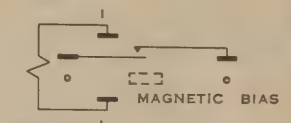
See ordering information on page 19.

DRY REED

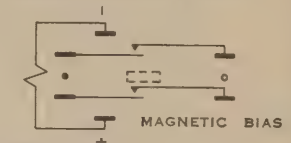
JRL LATCHING

This bi-stable dry reed latching relay requires no coil current to maintain contact in either position. Reversing the polarity of the coil causes the contacts to transfer. Designed for reliable memory work, JRL latching relays mount on p.c. board and are not position sensitive. 1 Form A and 2 Form A contacts are rated 15 watts, resistive. Operate time at 25°C is 1.0 millisecond (including bounce). Weight: 2.0 ozs.





JRL 1A +
SINGLE WOUND LATCH



JRL 2A +
SINGLE WOUND LATCH

JRL LATCHING SERIES

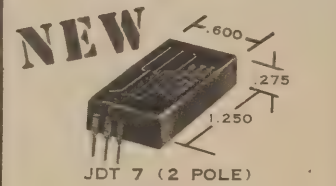
TYPE	Contact Arrangement	Number of Cavities	COILS: Sugg. Nominal Voltage	COILS: Resist. In Ohms	COILS: Reed Rating Watts	SUGG. RESALE PRICE
JRL1000	1A	2	6V DC	400	15	$4.75
JRL1001	1A	2	12V DC	1,600	15	4.75
JRL1002	1A	2	24V DC	6,400	15	5.25
JRL1012	2A	3	6V DC	300	15	6.75
JRL1013	2A	3	12V DC	1,200	15	6.75
JRL1014	2A	3	24V DC	4800	15	7.10

ORDERING INFORMATION
Select the desired nominal operating voltage and contact arrangement. Specify the corresponding P&B type number indicated under TYPE in the columnar listing.

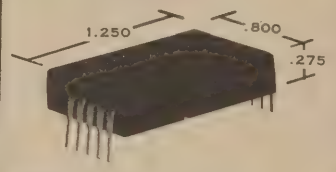
JDT DUAL THIN-LINE

Low profile (only 0.275" max. height) JDT Dual Thin-Line reed relays are ideal for high density packaging applications. Feature hermetically sealed glass capsules epoxy-encapsulated in four package sizes: JDT7 (2 pole), JDT15 (4 pole), JDT21 (6 pole), and JDT27 (8 pole). All have dual in-line terminals on .100" centers for pc board mounting. Contacts will switch 10 watts maximum, resistive (50V DC or 0.5 amp. max.). Operate time is 3.5 milliseconds including bounce. Release time is 3.5 milliseconds maximum. Approximate weights: JDT7-, .35 oz.; JDT15-, .55 oz.; JDT21-, .65 oz.; JDT27-, .70 oz.

NEW

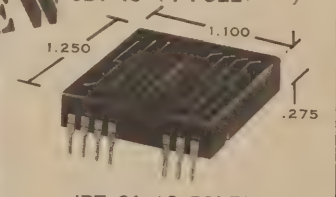


JDT 7 (2 POLE)

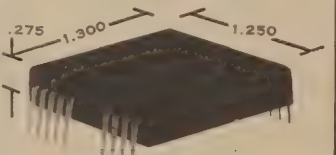


JDT 15 (4 POLE)

NEW



JDT 21 (6 POLE)

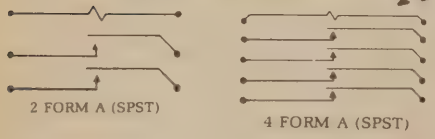


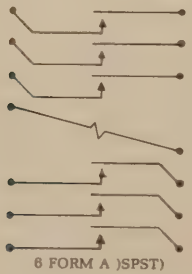
JDT 27 (8 POLE)

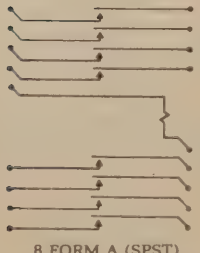
JDT DUAL THIN-LINE SERIES

TYPE	Contact Arrangement	Cavities	COILS: Sugg. Nominal Voltage	COILS: Res. In Ohms	COILS: Reed Rating Watts	SUGG. RESALE PRICE
JDT7DA1	2A	2	6V DC	115	10	$ 5.75
			12V DC	460		5.75
			24V DC	1840		6.40
JDT15DB1	4A	4	6V DC	115	10	7.65
			12V DC	460		7.65
			24V DC	1840		8.30
JDT21DC1	6A	6	6V DC	100	10	10.95
			12V DC	400		10.95
			24V DC	1600		11.60
JDT27DD1	8A	8	6V DC	60	10	12.95
			12V DC	240		12.95
			24V DC	960		13.70

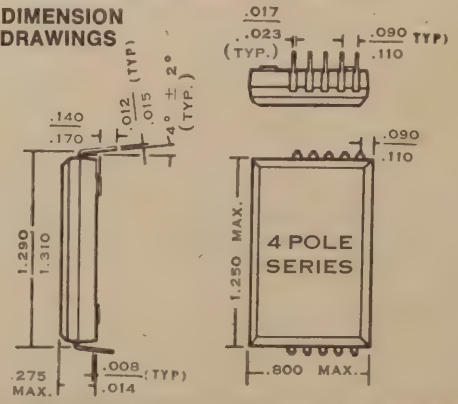
WIRING DIAGRAMS



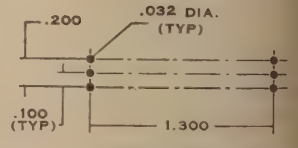




DIMENSION DRAWINGS

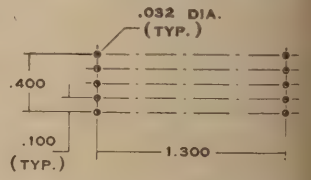


JDT7

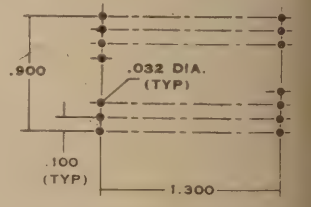


SUGGESTED HOLE LAYOUT TOL. ±.005

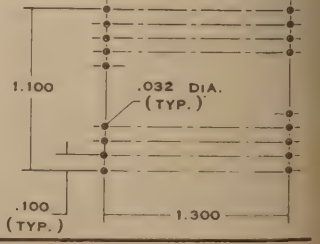
JDT15



JDT21



JDT27



Net

© United Technical Publications

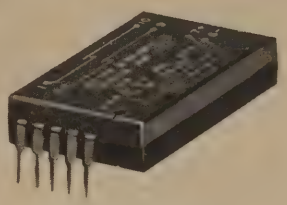
POTTER & BRUMFIELD RELAYS

SOLID STATE/REED HYBRID RELAYS

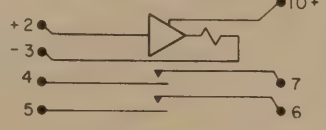
JDA SERIES Sensitive, amplifier-driven reed relay features same 0.275″ low profile, Dual Thin-Line design as JDT reed relays series. Control signal is amplified by solid state driver circuit with sensitivity of 100 microwatts. Designed to operate from output of DTL and TTL logic circuits in current sourcing mode. Control signals between 2.4 and 30 volts DC will operate the JDA relay when specified supply voltage is applied. Release occurs when control signal is reduced to 0.5V DC, or less. Nominal supply power requirement approximately 490 mW in the activated state. Relay is designed for control voltage change to exceed the rate of 1V msec. Contacts are 2 Form A (DPDT-NO) rated 10 watts maximum resistive (50V DC or 0.5 amp max. switching) per contact. Terminals are spaced on 0.1″ grid centers for printed circuit board mounting. Approximate weight: 0.4 oz.

JDB SERIES Solid state hybrid relay designed specially for interfacing from solid state circuits providing DC signals intended to control 120V 60 Hz loads, such as fractional HP motors, solenoids, and contactors. Expected life exceeds 10 million operations for any specified load current and ambient temperature combination. The SPST normally open solid state "contact" is designed to carry maximum load of 1.7 amps rms, 60 Hz @ 25°C ambient, or 1.0 amp rms, 60 Hz @ 55°C ambient. Internal RC network provides dv/dt suppression, yet results in less than 1 mA leakage current at 120V rms, 60 Hz. Operate time is 1 ms maximum @ nominal coil voltage @ 25°C. Release time is 10 ms maximum. Dual Thin-Line package design has terminals on 0.1″ grid centers for mounting capability on pc boards with other electronic components. Approximate weight: 0.6 oz.

NEW

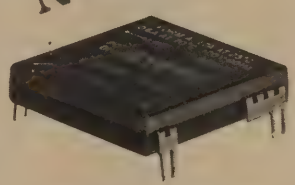


CONTROL: PINS 2+3-
SUPPLY: PINS 10+3-



JDA7GB1

NEW



LOAD LINE
1 FORM A (SPST-NO)



JDB1DD22

HYBRID RELAYS

TYPE	INPUT				CONTACTS		SUGG. RESALE PRICE
	Control		Supply		Arrange.	Amp Rating	
	DC Volt.	Nom. Power	DC Volt.	Nom. Power			
JDA7GB1	2.4V	100μW	24V	490mW	DPST-NO	10W (0.5A MAX.)	$15.25

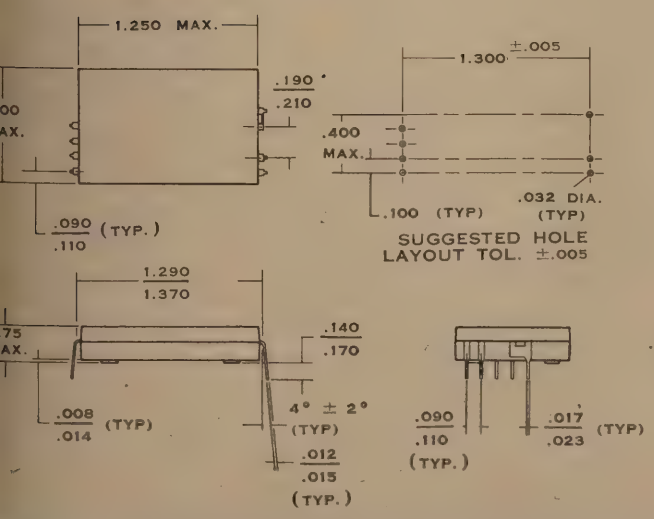
ORDERING INFORMATION
Select the desired nominal operating voltage and contact arrangement. Specify the corresponding P&B type number indicated under TYPE in the columnar listing.

HYBRID RELAYS

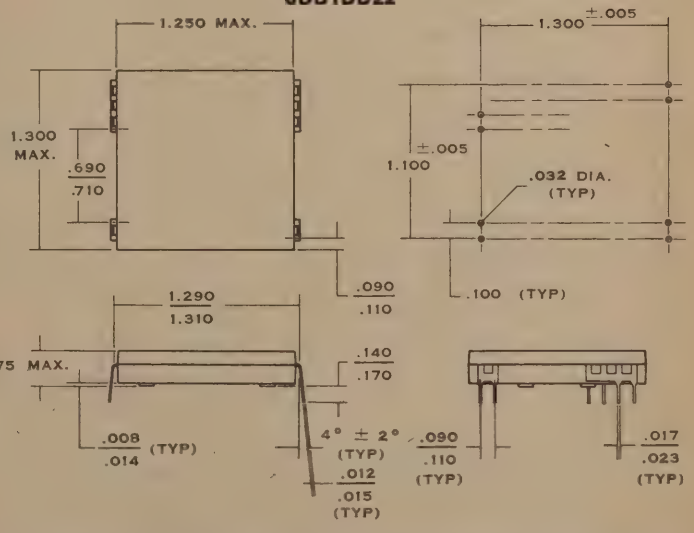
TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Input	Res. In Ohms	Nom. Power	Arrange.	Amp Rating	
JDB1DD22	6V 12V 24V	125 500 2000	290mW	SPST-NO	1.7	$13.80 13.80 14.40

DIMENSION DRAWINGS

JDA7GB1



JDB1DD22



JM SERIES
MERCURY-WETTED CONTACT RELAYS

Rare long life, high speed, and unvarying dependability—all are the result of the basic component of these relays: a hermetically sealed glass capsule. It contains the contact arrangement and a small reservoir of mercury sealed in a high pressure hydrogen atmosphere. A film of mercury is renewed for every operation—that's why you can think in terms of billions of operations without contact bounce, pits or welds.

TWO TYPES OF CAPSULES

The capsule used in JMF and JMF2 (with 2 capsules) modules and JML relays has a SPDT, break-before-make (Form C), non-bridging contact arrangement. Each capsule used in JMD, JMP, JMS and JM1 to JM4 relays has a SPDT, make-before-break (Form D), bridging contact arrangement. JMF, JMF2, JML, JMP and JMS Series achieve a high rate of sensitivity by factory-adjusted magnet biasing.

All JM Series mercury-wetted contact relays except the JMF2 relays may be operated up to 5 times the Must Operate current shown in the columnar listings. The JMF2 may be operated up to a maximum voltage of twice the Suggested DC Voltage shown.

Mounting Position: Upright mounting required, but deviation from upright to 30° causes only minor deviation in operating characteristics.

CONTACT RATINGS

JMF, JMF2, JML and JMS: 500V max., and 2 amps max., 100VA max.* JMP, JMD and JM1 to JM4: 500V max., and 5 amps max., 250 VA max.

*With contact protection unless used in a low level circuit. Details of a simple protection circuit consisting of resistor and capacitor in series are packed with each relay.

TERMINATIONS


FIG. 11


FIG. 12


FIG. 21


FIG. 22

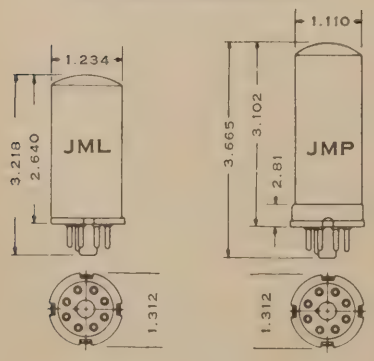

FIG. 31

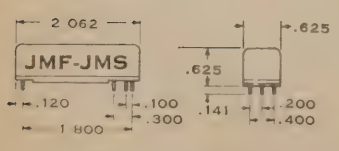

FIG. 41
14 PIN MINI. PLUG

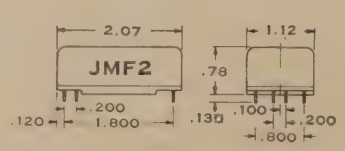

FIG. 81


FIG. 82

OUTLINE DIMENSIONS







APPROXIMATE WEIGHTS:

JMF - 1.25 OZS.

JMF2 - 3.25 OZS.

JMS - 1.25 OZS.

JM MERCURY-WETTED CONTACT RELAY SERIES

SERIES TYPE	Coil	Term.* Fig. No.	COIL CHARACTERISTICS: Res. in Ohms ±10% @25°C	Sugg. Min. Operate mA DC	Soak † mA DC	Must Operate DC	Must Release DC	SUGG. RE-SALE PRICE
JMF								
Printed Circuit Module Sensitive Form C Non-Bridg.	SINGLE-SIDE-STABLE							
	JMF 1070	— 61	450	16.13	—	12.9	2.1	$11.35
	JMF 1080	— 61	675	14.50	—	11.6	1.9	11.35
	JMF 1120	— 61	1425	10.50	—	8.4	1.4	11.35
	JMF 1150	— 61	2400	9.75	—	7.8	1.3	11.35
	JMF 1160	— 61	4000	5.00	—	4.0	0.67	11.90
	BI-STABLE							
	JMF 5080	— 61	675	+6.75	—	±5.4		11.35
JMF2								
Dual Capsule Form C Non-Bridg.	SINGLE-SIDE-STABLE							
	JMF2 1000	— 71	130	6V DC	—	3V DC	0.5V DC	21.75
	JMF2 1001	— 71	520	12V DC	—	6V DC	1.0V DC	21.75
	JMF2 1002	— 71	2200	24V DC	—	12V DC	2.0V DC	22.30

* See termination figures on this page.

† Current to be applied to the coil winding for at least 2 seconds just prior to current flow tests.

JM MERCURY-WETTED CONTACT RELAY SERIES

SERIES TYPE	Coil	Term.* Fig. No.	COIL CHARACTERISTICS: Res. in Ohms ±10% @25°C	Must Operate DCmA	Max. Volts DC @25°C	SUGG. RE-SALE PRICE
JMS	20 Milliwatts (per winding), Bi-Stable, Dual-Wound Coil					
Sensitive Form D Bridging	JMS 5040	— 62	325/325	±7.0	24	$11.35
	JMS 5070	— 62	1250/1250	±3.6	47	11.90
	40 Milliwatts, Single-Side-Stable, Single-Wound Coil					
	JMS 1070	— 61	34	32	7.7	11.35
	JMS 1130	— 61	620	7	33	11.35
	JMS 1160	— 61	2430	3.6	65	11.90
	JMS 1190	— 61	8600	2.0	122	11.90

JM MERCURY-WETTED CONTACT RELAY SERIES

SERIES TYPE	Coil	Term.* Fig. No.	COIL CHARACTERISTICS: Res. in Ohms ±10% @25°C	Sugg. Min. Operate mA DC	Soak † mA DC	Must Operate mA DC	Must Release mA DC	SUGG. RE-SALE PRICE
JML	SINGLE-SIDE-STABLE							
Sensitive Form C Non-Bridg.	JML 1061	— 81	40	12.19	36.0	9.75	1.68	$14.00
	JML 1110	— 81	350	4.45	13.1	3.56	0.61	14.00
	JML 1160	— 81	1,000	2.76	8.1	2.21	0.38	14.00
	JML 1190	— 81	2,500	1.79	4.0	1.43	0.17	14.95
	JML 1200	— 81	4,000	1.56	3.4	1.25	0.25	14.95
	JML 1240	— 81	11,000	.90	2.6	0.72	0.12	14.95
	JML 1260	— 81	25,000	.65	1.9	0.52	0.09	14.95
	BI-STABLE							
	JML 5200	— 81	4,000	+ .66	—	±0.53		14.95
	JML 5430	— 82	(1) 1,100 (2) 1,100	+2.20	—	±1.76		16.40
	CHOPPER					Voltage RMS 60 Hz		
	JML 8130	— 81	600		—	6.3V		14.60
JMP	SINGLE-SIDE-STABLE							
Polarized Form D Bridging	JMP 1160	— 11	1,000	7.0	16.2	5.60	0.40	18.40
	JMP 1200	— 11	4,000	3.70	8.55	2.96	0.24	19.70
	BI-STABLE							
	JMP 5200	— 11	4,000	+1.88	—	±1.5		19.70

* See Termination figures on this page.

† Current to be applied to the coil winding for at least 2 seconds just prior to current flow tests.


FIG. 61
JMF


FIG. 62
JMS


FIG. 71
JMF2

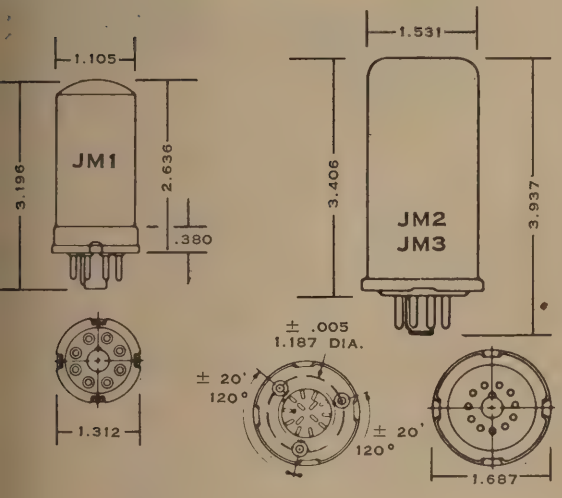
See ordering information on page 22

© United Technical Publications

POTTER & BRUMFIELD RELAYS

JM SERIES
MERCURY-WETTED CONTACT RELAYS

OUTLINE DIMENSIONS



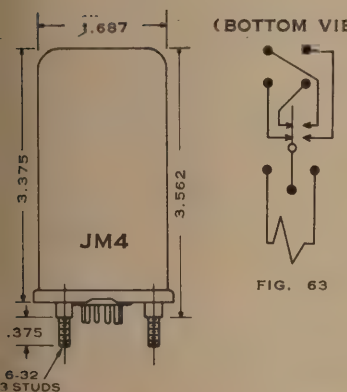
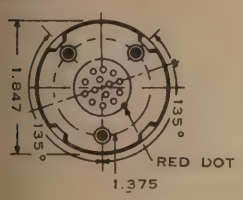
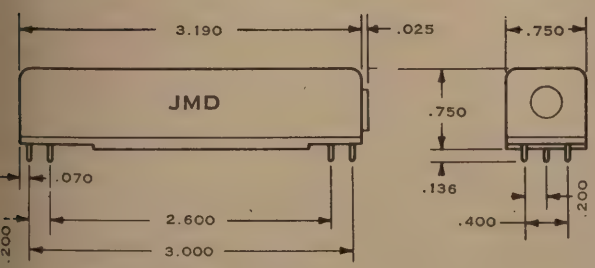


FIG. 63

APPROXIMATE WEIGHTS:
JM1 - 4.0 OZS.
JM4 - 10.0 OZS.
JM2 & 3 - 8.0 OZS.
JMD - 3.0 OZS.





PIN DIA., .040 MAX.

JM MERCURY-WETTED CONTACT RELAY SERIES

TYPE	SERIES Capsule	Coil	Term. Fig. No.*	COIL CHARACTERISTICS Res. in ohms ±10%	Sugg. Min. Operate mADC	MUST OPERATE Current mADC	MUST OPERATE Voltage DC @ 25°C	MAX. Voltage @ 35°C	SUGG. RESALE PRICE
JM1 Form D Bridging 1 capsule SPDT	SPDT SINGLE COIL								
	JM1	106 — 12		40	83.70	67.7	2.98	9.0	$16.95
	JM1	109 — 12		130	47.50	38.8	5.55	16.1	16.95
	JM1	112 — 11		500	25.00	20.1	11.10	31.6	16.95
	JM1	114 — 11		700	25.00	20.0	15.40	37.4	16.95
	JM1	114 — 12		700	25.00	20.0	15.40	37.4	16.95
	JM1	118 — 11		2,500	12.50	10.1	27.80	70.7	17.25
	JM1	119 — 11		4,000	10.00	8.1	35.60	89.5	8.55**
	JM1	120 — 11		7,000	10.00	6.0	46.20	117.0	17.85
	JM1	121 — 11		11,000	6.25	5.0	60.50	148.0	17.85
	JM1	123 — 11		25,000	4.50	3.6	99.00	224.0	17.85
JM2 Form D Bridging 2 capsules DPDT	DPDT SINGLE COIL								
	JM2	104 — 22		50	137.50	110.0	6.04	12.25	27.50
	JM2	106 — 21		140	81.25	66.5	10.00	20.5	27.50
	JM2	109 — 22		315	55.00	44.0	15.30	30.7	27.50
	JM2	110 — 22		500	42.25	34.8	19.20	38.7	27.50
	JM2	111 — 22		700	37.30	30.5	23.50	45.8	27.50
	JM2	112 — 22		1,250	27.50	22.1	30.40	61.2	27.50
	JM2	115 — 21		5,000	13.75	11.3	62.10	122.0	27.50
	JM2	115 — 22		5,000	13.75	11.3	62.10	122.0	27.50
JM3 Form D 3 capsules 3PDT	3PDT SINGLE COIL								
	JM3	109 — 31		315	55.00	44.0	15.30	30.7	35.60
	JM3	110 — 31		500	42.50	34.8	19.20	38.7	35.60
	JM3	111 — 31		700	37.30	30.5	23.50	45.8	35.60
	JM3	115 — 31		5,000	13.75	11.3	62.10	122.0	35.60
JM4 Form D Bridging 4 capsules 4PDT	4PDT SINGLE COIL								
	JM4	106 — 41		65	125.00	100.0	7.15	15.1	45.90
	JM4	110 — 41		390	52.50	42.0	18.00	37.0	45.90
	Octal style plugs, except Fig. 41 (14-pin miniature plug).								
JMD Form D Bridging Module 1 capsule SPDT	SPDT SINGLE COIL								
	JMD	1060 — 63		150	70.00	55.0	9.1	18	11.45
	JMD	1090 — 63		450	41.90	33.5	16.6	30	11.45
	JMD	1100 — 63		750	30.0	24.3	20.0	39	11.45

*See Termination Figures on Page 21.

**Single unit price. Regardless of quantity, discount does not apply.

JM SERIES ORDERING INFORMATION

EXAMPLE: ① JM ② P ③ 1160 — ④ 11

A JMP Series polarized, Form D, bridging, mercury wetted contact relay with an assigned 1160 coil and terminations as shown in Fig. 11.

① BASIC RELAY:
JM Series Mercury-wetted contacts

② TYPE:
F = PC module, Form C, Sensitive non-bridging
F2 = Dual capsule, Form C, non-bridging
L = Sensitive, Form C, non-bridging
P = Polarized, Form D, bridging
S = Sensitive, Form D, bridging

1 = Single capsule, Form D, SPDT, bridging
2 = 2 Capsules, Form D, DPDT, bridging
3 = 3 Capsules, Form D, 3PDT, bridging
4 = 4 Capsules, Form D, 4PDT, bridging
D = PC module, Form D, SPDT, bridging

③ COIL CODE NUMBER:
Factory assigned

④ TERMINATION FIGURE NUMBER:
11, 12, 21, 22, 23, 31, etc.

© United Technical Publications

SOLID STATE TIME DELAYS

- DELAY ON OPERATE
- DELAY ON RELEASE
- KNOB ADJUSTABLE
- RESISTOR ADJUSTABLE
- FIXED TIME DELAY

A wide selection of solid state time delay controls are represented by Potter & Brumfield. The differences are in their degree of accuracy, the variety available in each series, and their cost.

BASIC TIMING CIRCUIT

The basic timing circuit consists of a resistor in series with a capacitor. When the input voltage is applied to the resistor-capacitor circuit, the voltage across the capacitor slowly increases. When the firing level is reached a solid state circuit energizes a switching relay or external electrical load.

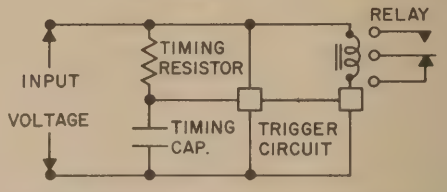
CD SERIES

Remarkably dependable, accurate and flexible, the CD series offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. The CD series is available for time delay on operate or on release.

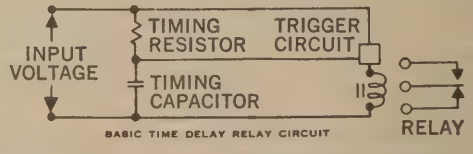
CH SERIES

The CH series is intended for a wide range of industrial applications where economy is of greater interest than highly critical performance. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. The CH series is available for time delay on either operate or on release.





CD, CK, CL AND CJ DELAY ON OPERATE CIRCUIT



CH AND CU DELAY ON OPERATE CIRCUIT

If the timing interval is interrupted, the switching contacts may momentarily transfer (pick up and drop out). Reset is accomplished by removal of the input voltage.

SOLID STATE TIME DELAY RELAY
ORDERING INFORMATION AND CODE EXPLANATION

	①	②	③	④	⑤	⑥	
EXAMPLE:	CD	C	38	— 6	0	003=	CD type, with fixed time value, DC input, 38 style enclosure, 110 volts, standard item, for 10 second delay.

PRODUCT DESIGNATION:
① TYPE (CD, CH, CK, CU, CL or CJ)

OPERATION
② A—Fixed Value .....AC Input
B—Knob Adjustable ..AC Input
C—Fixed Value .....DC Input
D—Knob Adjustable ..DC Input
F—Resistor Adj. .....AC Input
H—Resistor Adj. .....DC Input

ENCLOSURE STYLES:
③ CD—21, 31, 38, 45
CH and CK—38
CJ—01, 02, 03, 06 and 10
CU and CL—41, 42, 43, 44, 45, and 51

INPUT VOLTAGE VALUE
④ 0.....Special DC
1.....Special AC
2.....12 VAC or DC
3.....24 or 28 VAC or DC
4.....48 VDC
5.....90 VDC
6.....110 VDC
7.....120 VAC
8.....240 VAC
9.....Blank

DESIGNATION
⑤ 0 .....Standard
1 .....Special

TIMES:
⑥ Numbers assigned by manufacturer.
Please see Table

EXAMPLE:

R12 — 30	— 12	— X2	— E1	9XR12-1
TIME DELAY RANGE 1-30 SECONDS	LINE VOLTAGE 12V DC	5 AMP CONTACTS 2 FORM C	SOLDER TERMINALS STUD OR SOCKET MOUNTING	SOLDER TERMINAL SOCKET

© United Technical Publications

POTTER & BRUMFIELD RELAYS

MORE SOLID STATE TIME DELAYS

CK SERIES

The CK Series is similar to the CH with the exception that they will not false operate† and will time as low as 0.1 second. These time delays include an internally mounted DPDT KR relay rated 10 amperes to form a compact and convenient assembly. Enclosed in white nylon dust covers, CK relays are available in three types: fixed, resistor adjustable and knob adjustable for AC or DC operation. Mounting convenience is provided by plug-in octal type terminals.

CU SERIES

An outstanding value in solid state time delay relays. The low cost CU Series is designed for delay on operate application in machine tool controls, copiers, office equipment, coin-operated machines, process controls and many others. Relays are available in three types: Fixed time delay that is set at the factory and cannot be modified, Adjustable with an external resistor, and Knob-Adjustable with a reference scale. For minimum time (on external resistor types), two terminals, 2 and 5 must be shorted; for maximum time, the listed external resistor must be added between terminals 2 and 5. For intermediate times select a lesser value resistor or use a potentiometer. Either fixed or resistor adjustable models can be furnished in two types of enclosures with the relay mounted in the same case as the solid state circuit. The CUB series knob-adjustable time delay is offered in a slightly taller enclosure. All CU series time delays have an internal DPDT 10 amp relay of the KUP series featured on page 7. The cases for the CU and KUP are dimensionally the same.

CL SERIES

Designed for delay on operate the CL Series is similar to the CU with the exception that they don't false operate† and will time to 0.1 second. These solid state time delays are ideal for AC or DC applications. A DPDT KU relay rated 10 amperes is mounted in the same enclosure, forming a compact assembly. CL relays are enclosed in yellow polycarbonate dust covers and are available in three types: fixed, resistor adjustable and knob adjustable. Plug-in/quick-connect terminals facilitate handling and hook-up.

CJ SERIES

CJ Series time delay dry reed relays combine the basic timing characteristics of time delay relays with the long life and performance of miniature dry reed relays. Two series are available, the CJC fixed time delay on operate and the CJH external resistor adjustable time delay on operate.

R12 SERIES

The R12 Series time delay relays combine the field proved R10 Series basic relay with a high quality delay circuit. These small DC variable time delay relays do not false operate and will time as low as 0.1 second. Timing range of 0.1 to 120 seconds is spanned by three models: 0.1 to 2, 1.0 to 30 and 5.0 to 120 seconds. Each time range is varied with a high resolution 15-turn potentiometer. The internally mounted R10 Series relay is equipped with DPDT contacts rated 5 amperes. Solder terminals are provided and mounting may be accomplished by #3-48 stud or sockets offering solder or printed circuit board terminals.

COMPARISON OF SPECIFICATIONS OF TIME DELAY RELAYS

TYPE	DIAL SETTING	TEMP. RANGE	ACCURACY OR TOLERANCE	TRANSIENT PROTECTION	† INHERENT FALSE OPERATION	RESET TIME	REPEAT-ABILITY	POLARITY PROTECTION	APPROX. WEIGHT IN OZS.
CD	Time, calibrated ±5% of full scale	−40° to +55°C	Accuracy: ±5%	Tested to 1000V, ½ cycle surges (on all 120V AC models)*	None	60 Milli-seconds	CD-38 ±1% ±2%	Yes	CD-21 4.3 CD-31 2.0 CD-38 8.0 CD-45 9.0
CH	Reference scale	−10° to +55°C	Accuracy: ±10%	Twice rated input voltage for 8 milli-seconds	Contacts may transfer momentarily if timing interval is interrupted	150 Milli-seconds	±2%	Yes	6.0
CK	Reference scale	−10° to +55°C	Accuracy: ±10%	Twice rated input voltage for 8 milli-seconds	None	60 Milli-seconds	±2%	Yes	6.0
CU	Reference scale	Norm. room Temp.	Tolerance: Fixed ±5% adjustable ±10%	Twice rated input voltage for 8 milli-seconds	Contacts may transfer momentarily if timing interval is interrupted	200 Milli-seconds	±3%	Yes	3.5
CL	Reference scale	Norm. room Temp.	Tolerance: Fixed ±5% adjustable ±10%	Twice rated input voltage for 8 milli-seconds	None	150 Milli-seconds	±3%	Yes	3.5
R12	Not Available	+15° to +55°C	Accuracy: .25% change per 1% change of coil input voltage	200V neg. for 100μ sec. 2 x line pos. for 1 milli-second	None	100 Milli-seconds	±2%	Yes	1.5
CJ	Not applicable	−10° to +55°C	Tolerance: Fixed ±5% adjustable ±10%	Twice rated input voltage for 8 milli-seconds	None	60 Milli-seconds	±2%	No	CJC & CJH 01 1.3 02 1.4 03 1.6

*Except 31 style.

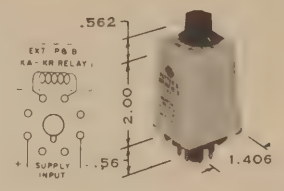
See ordering information on page 23.

© United Technical Publications

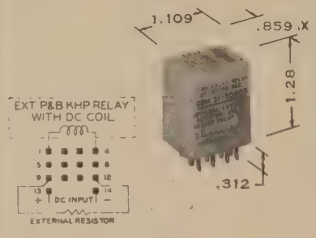
CHOOSE FROM A WIDE SELECTION OF TIME DELAYS

(FOR DELAY ON OPERATE)

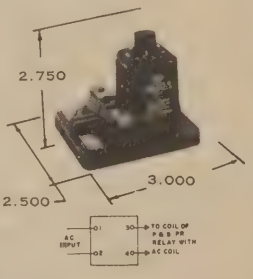
CD-21. Knob-adjustable. Use with P&B KRP relays (see page 6) as listed under Note 2.



CD-31. Adjustable with external resistor (not furnished). Use with KHP relay (see page 4), Note 4.



CD-45. Knob-adjustable. For heavy duty when used with PR power relay (see page 11) as listed under Note 6.



(DELAY ON OPERATE OR RELEASE)

CH-38 and CD-38. Knob-adjustable delay on operate with internally mounted DPDT relay. Contacts rated to 10 amps. Diagram A.

CH-38 delay on release requires auxiliary SPDT switch or relay contacts:

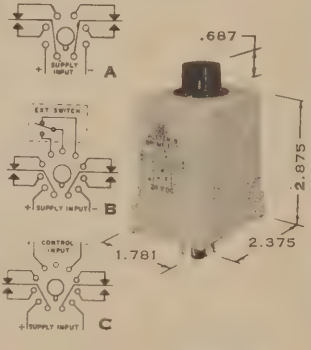
CHB-38-70011 CHD-38-30011
CHB-38-70013 CHD-38-30013

Refer to hook-up diagram B.

CD-38 delay on release occurs when "Control" circuit is de-energized; supply circuit must be on continuously.

CDB-38-70012
CDB-38-30012

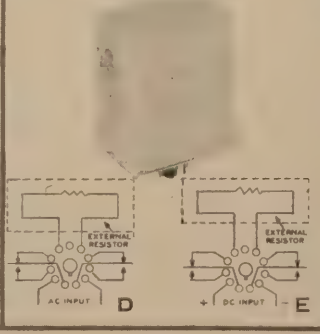
Refer to hook-up diagram C.



CK-38 DIMENSIONS SAME AS CH-38 ABOVE

CK-38 SERIES. Similar to CH.

Three types available: fixed, resistor adjustable, (external resistor not furnished) and knob adjustable. CKA-38-70010 and CKB-38-30010, -70010 and -70120: Diagram A. CKC-38-30010: Diagram A. CKF-38-70010: Diagram D. CKH-38-30010: Diagram E.



TYPE	Time Delay in Seconds	Input Voltage	Notes	SUGG. RESALE PRICE
CDB21-70003	0.1 - 10	120V AC	2	$39.15
CDB21-70001	1.8 - 180	120V AC	2	39.15
CDD21-30003	0.1 - 10	24V DC	3	38.80
CDD21-30001	1.8 - 180	24V DC	3	38.80
CDH31-30005	180 Max.	24V DC	4 & 5	39.35
CDB45-70002	0.6 - 60	120V AC	6	37.50
CHA38-70001	10	120V AC	1	18.90
CHB38-30001	1.0 - 10	24V AC	1	19.95
CHB38-30003	1.0 - 180	24V AC	1	19.95
CHB38-70001	1.0 - 10	120V AC	1	19.95
CHB38-70003	1.0 - 180	120V AC	1	19.95
CHB38-80001	1.0 - 10	240V AC	1	20.95
CHD38-30001	1.0 - 10	24V DC	1	18.95
CHD38-30003	1.0 - 180	24V DC	1	18.95
CHB38-70011	1.0 - 10	120V AC	1 & 7	23.95
CHB38-70013	1.0 - 180	120V AC	1 & 7	23.95
CHD38-30011	1.0 - 10	24V AC	1 & 7	21.95
CHD38-30013	1.0 - 180	24V AC	1 & 7	21.95
CDB38-70003	0.1 - 10	120V AC	1	44.25
CDB38-70004	0.6 - 60	120V AC	1	44.25
CDB38-70005	1.8 - 180	120V AC	1	44.25
CDD38-30003	0.1 - 10	24V DC	1	42.00
CDD38-30004	0.6 - 60	24V DC	1	42.00
CDD38-30005	1.8 - 180	24V DC	1	42.00
CDB38-70012	0.6 - 60	120V AC	1 & 7	52.90
CDD38-30012	0.6 - 60	24V DC	1 & 7	49.95
CKA38-70010	10	120V AC	1	21.90
CKC38-30010	10	24V DC	1	20.90
CKF38-70010	0.1 - 10	120V AC	1 & 9*	22.05
CKH38-30010	0.1 - 10	24V DC	1 & 9*	21.05
CKB38-30010	0.1 - 10	24V AC	1	22.95
CKB38-70010	0.1 - 10	120V AC	1	22.95
CKB38-70120	1.2 - 120	120V AC	1	22.95

*External resistor (not furnished) for maximum time. Recommend ¼ watt minimum resistor.

NOTES

1. Has internal relay with DPDT contacts rated at 10 amperes, 120V AC. **2.** Use with Potter & Brumfield relay KRP5AG- 120V AC, KRP11AG- 120V or KRP14AG- 120V AC. **3.** Use with Potter & Brumfield KRP5DG- 24V DC, KRP11DG- 24V DC or KRP14DG- 24V DC relay. **4.** Use with Potter & Brumfield KHP17D11- 24V DC relay. **5.** Supplied with 180 seconds delay; adjustable to 1.8 seconds with external resistor (not furnished). **6.** Use with Potter & Brumfield PR11AY—120V AC relay. **7.** Provides delay on release; all others have delay on operate. **8.** Internal relay contacts rated at 10 VA. **9.** Use 750K resistor for maximum time. **10.** Internal relay has 5 ampere rated contacts.

© United Technical Publications

POTTER & BRUMFIELD RELAYS

SOLID STATE TIME DELAYS

AS LOW AS $14.20

(FOR DELAY ON OPERATE)

CUA and CUC are fixed time delays. CUF and CUH are resistor adjustable delays. All with internal DPDT 10 amp contact relay.

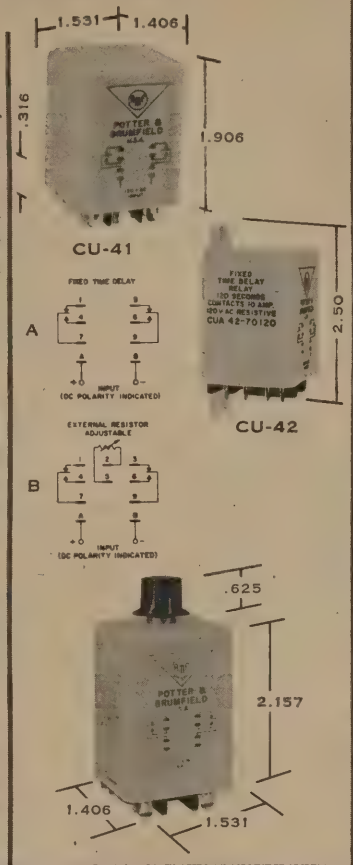
CU-41 is a plain case relay, **CU-42** has a slotted flange case. Diagram A is for fixed delays, diagram B for resistor adjustable delays.

SOCKETS FOR CU-41 PLAIN CASE RELAYS

The plain cases fit the same sockets (except CU resistor-adjustable type will not fit 9KU6) and the same hold down spring (9KU3) can be used. Please use KUP type designators (9KU1, 9KU2 and 9KU6) and prices on page 7 when ordering accessories.

CL-41 is a plain case relay similar to the CU-41 with the exception that it doesn't false operate. See page 7 for mounting accessories (9KU).

CUB/CLB-51. Knob-adjustable versions of CU enclosed in slightly taller 51 style case. Same mounting accessories as KUL on page 12. CLB does not false operate.



(FOR DELAY ON OPERATE)

R12. Variable time delay with high resolution 15-turn potentiometer. Calibrated timing capacitor. Fits sockets below. See note 10.

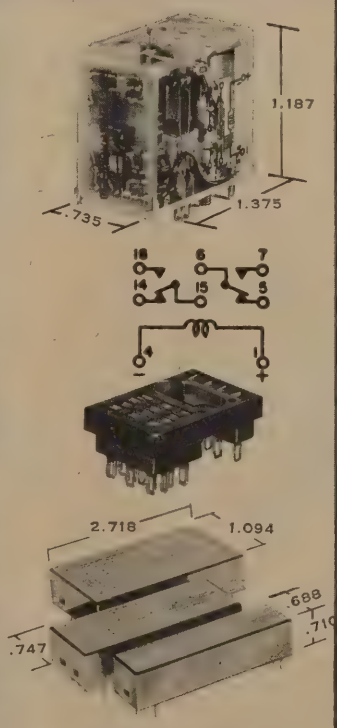
R12 SERIES SOCKETS

DPDT Solder terminal socket, A10-3T
Hold down spring, R10-P28-3
Box of 10 each, 9XR12-1 **NET $9.00**

DPDT Printed circuit terminal socket, All-3T
Hold down spring, R10-P28-3
Box of 10 each, 9XR12-2 **NET $9.00**

CJC SERIES. Fixed time delay that is factory set and cannot be modified.

CJH SERIES. Resistor adjustable type with terminal provisions for external resistor or potentiometer for adjusting time delay period to within ±10% at nominal voltage at 25°C ambient temperature. Pin terminations are for printed circuit board mounting.



CODE: 01 - 1 FORM A
02 - 1 FORM B
03 - 1 FORM C

TYPE	Time Delay in Seconds	Input Voltage	Notes	SUGG. RESALE PRICE
CUA41-70010	10	120V AC	1	$14.20
CUA41-70120	120	120V AC	1	15.75
CUC41-30010	10	24V DC	1	14.20
CUC41-30120	120	24V DC	1	15.75
CUA41-30010	10	24V AC	1	14.20
CUA42-70010	10	120V AC	1	14.20
CUA42-70120	120	120V AC	1	15.75
CUC42-30010	10	24V DC	1	14.20
CUC42-30120	120	24V DC	1	15.75
CUA42-30010	10	24V AC	1	14.20
CUF41-70010	1.0 - 10	120V AC	200K.*	15.00
CUF41-70120	1.0 - 120	120V AC	2.4 Meg.*	16.30
CUH41-30010	1.0 - 10	24V DC	160K.*	15.00
CUH41-30120	1.0 - 120	24V DC	2 Meg.*	16.30
CUF41-30010	1.0 - 10	24V AC	200K.*	15.00
CUF42-70010	1.0 - 10	120V AC	200K.*	15.00
CUF42-70120	1.0 - 120	120V AC	2.4 Meg.*	16.30
CUH42-30010	1.0 - 10	24V DC	160K.*	15.00
CUH42-30120	1.0 - 120	24V DC	2 Meg.*	16.30
CUF42-30010	1.0 - 10	24V AC	200K.*	15.00
CUB51-70010	1.0 - 10	120V AC	1	16.30
CUB51-70120	1.0 - 120	120V AC	1	17.85
CLA41-70010	10	120V AC	1	17.35
CLC41-30010	10	24V DC	1	17.35
CLF41-70010	0.1 - 10	120V AC	200K.*	18.85
CLH41-30010	0.1 - 10	24V DC	160K.*	18.85
CLB51-30010	0.1 - 10	24V AC	1	19.85
CLB51-70010	0.1 - 10	120V AC	1	19.85
CLB51-70120	1.2 - 120	120V AC	1	21.15
R12-2-12-X2-E1	0.1 - 2	12V DC	10	18.10
R12-2-24-X2-E1	0.1 - 2	24V DC	10	18.10
R12-30-12-X2-E1	1.0 - 30	12V DC	10	18.60
R12-30-24-X2-E1	1.0 - 30	24V DC	10	18.60
R12-120-12-X2-E1	5.0 - 120	12V DC	10	20.10
R12-120-24-X2-E1	5.0 - 120	24V DC	10	20.10
CJC01-20003	3	12V DC	8	19.30
CJC01-30003	3	24V DC	8	19.30
CJC02-20003	3	12V DC	8	19.95
CJC02-30003	3	24V DC	8	19.95
CJC03-20003	3	12V DC	8	21.20
CJC03-30003	3	24V DC	8	21.20
CJH01-20010	0.1 - 10	12V DC	750K.*	19.80
CJH01-20120	1 - 120	12V DC	1.8 Meg.*	22.55
CJH01-30010	0.1 - 10	24V DC	750K.*	19.80
CJH01-30120	1 - 120	24V DC	1.8 Meg.*	22.55
CJH02-20010	0.1 - 10	12V DC	750K.*	20.45
CJH02-20120	1 - 120	12V DC	1.8 Meg.*	23.20
CJH02-30010	0.1 - 10	24V DC	750K.*	20.45
CJH02-30120	1 - 120	24V DC	1.8 Meg.*	23.20
CJH03-20010	0.1 - 10	12V DC	750K.*	21.70
CJH03-20120	1 - 120	12V DC	1.8 Meg.*	24.45
CJH03-30010	0.1 - 10	24V DC	750K.*	21.70
CJH03-30120	1 - 120	24V DC	1.8 Meg.*	24.45

*External resistor (not furnished) for maximum time. Recommend ¼ watt minimum resistor.

NOTES

1. Has internal relay with DPDT contacts rated at 10 amperes, 120V AC. **2.** Use with Potter & Brumfield relay KRP5AG- 120V AC, KRP11AG- 120V or KRP14AG- 120V AC. **3.** Use with Potter & Brumfield KRP5DG- 24V DC, KRP11DG- 24V DC or KRP14DG- 24V DC relay. **4.** Use with Potter & Brumfield KHP17D11- 24V DC relay. **5.** Supplied with 180 seconds delay; adjustable to 1.8 seconds with external resistor (not furnished). **6.** Use with Potter & Brumfield PR11AY—120V AC relay. **7.** Provides delay on release; all others have delay on operate. **8.** Internal relay contacts rated at 10 VA. **9.** Use 750K resistor for maximum time. **10.** Internal relay has 5 ampere rated contacts.

See ordering information on page 23.

CS SERIES SOLID-STATE VOLTAGE SENSORS

• CLOSE-DIFFERENTIAL • UNDER-VOLTAGE

A voltage sensor is designed to energize and de-energize a relay at predetermined voltages. These solid state voltage sensors actuate an internally-mounted relay when a specific voltage level is reached. This pick-up level is either fixed or knob adjustable. Fixed sensors are factory set and cannot be changed. Knob-adjustable versions allow the pick-up levels to be varied over a predetermined range.

If the sensing voltage decreases to a pre-set level after pick-up occurs, the internal relay de-energizes. This is the drop-out level and may be fixed or knob-adjustable. The pick-up voltage point must be set higher than the drop-out voltage point.

Voltage sensors consist of a sensing circuit that acts to turn on a solid state switch, energizing the accompanying relay. Both the solid state switch and a DPDT relay rated at 3 amperes are enclosed in the same molded nylon dust cover.

Type 1. A series with factory fixed pick-up and single knob-adjustable drop-out voltage levels.

Type 2. A series with both knob-adjustable pick-up and drop-out for selecting desired voltage levels.

These reliable solid state voltage sensors can be used as protective devices in alarm circuits, motor controls and to activate or cut off a system automatically. It is possible to combine certain of the above sensors into a custom unit designed for specific individual control functions.

CONTACTS:
Load Switching Relay: Arrangement: 2 Form C (DPDT)
Rated: 3 amps @ 28V DC resistive: 120V AC resistive.

COILS:
Operate Power: DC: 1.5 watts approximate.
AC: 1.0 volt-ampere approximate.
Duty: Continuous.

GENERAL:
Operate Time @ 25°C: 25 milliseconds approximately at nominal voltage.
Temperature Range: −10°C to +55°C
Reverse Polarity Protection: Yes, on DC types
Size: 2.375″ x 1.750″ x 3.593″ seated height.
Approximate Weight: 8 ozs.
Mounting: Octal plug.
Enclosures: Nylon dust cover.



Fixed pick-up and adjustable drop-out. One knob for setting drop-out value.



Adjustable pick-up and drop-out. Two knobs for setting desired values.

FIXED PICK-UP AND ADJUSTABLE DROP-OUT*

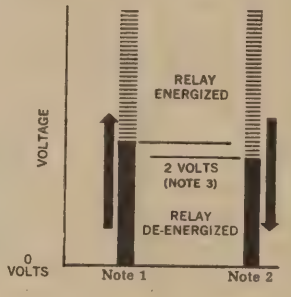
Type	Pick-up (Volts)	Drop-out Range (Volts)	Type of Voltage	Sugg. Resale Price
CSJ38-71010	105	90-103	AC(50/60 Hz)	$29.20
CSL38-31010	22	16-20	DC	23.15

ADJUSTABLE PICK-UP AND DROP-OUT*

Type	Pick-up Range (Volts)	Drop-out Range (Volts)	Type of Voltage	Sugg. Resale Price
CSJ38-30010	20-30	18-28	AC(50/60 Hz)	$30.20
CSJ38-70010	92-140	90-138	AC(50/60 Hz)	32.95
CSL38-30010	20-30	18-28	DC	26.20

Set point varies over temperature range.

ADJUSTABLE VOLTAGE SENSOR OPERATIONS



NOTE 1
As voltage increases, the relay will pick up at a predetermined point and remain energized while voltage is maintained at that level or higher.

NOTE 2
As voltage decreases, after pick up, the relay will drop out at a predetermined point.

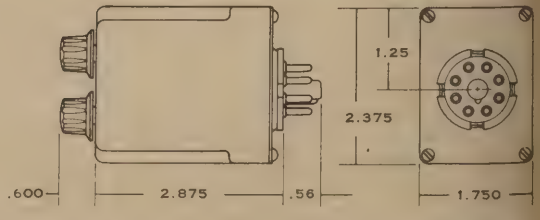
NOTE 3
Minimum difference between pick-up and drop-out points should not be set at less than 2 volts.

NOTE 4
Set point varies over temperature range.

SCHEMATICS



OUTLINE DIMENSIONS



SEE NEW SOLID STATE SENSORS LISTED ON BACK PAGE

© United Technical Publications

POTTER & BRUMFIELD RELAYS

SOLID STATE SENSORS

FREQUENCY SENSOR

CPF SERIES Solid state frequency sensor de-energizes its output relay when frequency of the AC input reaches upper or lower limit (62 or 58 Hz, for example) of an adjustable bandpass that brackets 60 Hz. The SPDT relay contacts rated 10 amps @ 120V, rms, 60 Hz will drop out to stop a process, sound an alarm, or perform other desired function. Bandpass adjusts continuously from 56-64 to 59-61 Hz. Tripping point tolerance is ±1% of bandpass limits. Relay chatter at threshold limits is prevented by fixed amount of hysteresis introduced between drop out and pick up. The sensor operates on 120V AC ±10%. Operating temperature: —10°C to +55°C. Solid state sensor circuit and general purpose relay are enclosed in 38-style nylon dust cover equipped with standard 8-pin plug for socket mounting. Weight: 8 ozs. approx.

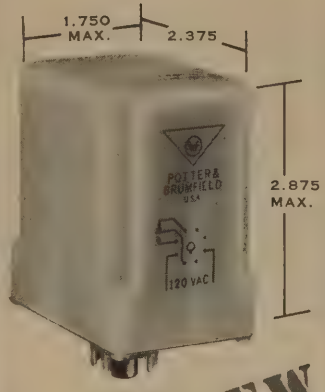
3ϕ SEQUENCE SENSOR

CPS SERIES Solid state 3-phase sequence sensor is designed to detect reverse phase sequence and provide positive control of conventional 3-phase, 4-wire, 60 Hz circuits. Output relay de-energizes on loss of one or more phases or when phase reversal causes a combination other than the normal A-B-C relationship. Rugged, long life general purpose relay provides SPDT isolated contacts rated 10 amps @ 120V rms, 60 Hz, resistive. Solid state sensor circuits and general purpose relay are enclosed in a 38-style nylon dust cover. SPDT silver-cadmium oxide contacts rated 10 amps @ 120 volts rms, 60 Hz resistive offer reliable switching. Operating Temperature: —10°C to +55°C. Coil is designed for continuous duty in 120/208 volt, 60 Hz, 3-phase, 4-wire systems. A standard 8-pin plug is provided for convenient socket mounting. Weight: 8 ozs. approx.

3ϕ VOLTAGE SENSOR

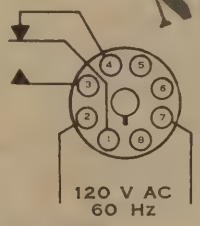
CPV SERIES Three-phase voltage sensor provides undervoltage protection. Designed to sense lower than normal 3-phase voltage, it responds by activating an alarm or by de-energizing a process under its control. The output relay de-energizes when average input voltage drops below a pre-determined level. Pick-up and drop-out levels are designed to prevent triggering on fractional voltage variations. Solid state sensor circuits and general purpose relay are enclosed in a 38-style nylon dust cover. SPDT silver-cadmium oxide contacts rated 10 amps @ 120 volts rms, 60 Hz resistive offer reliable switching. Operating Temperature: —10°C to +55°C. Coil is designed for continuous duty in 120/208 volt, 60 Hz, 3-phase, 4-wire systems. A standard 8-pin plug is provided for convenient socket mounting. Weight: 8 ozs. approx.

Sockets for sensors shown above may be found on page 6.



CPF-38

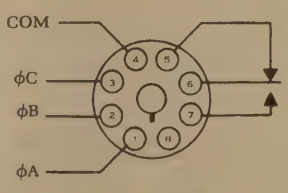
NEW



NEW



CPS-38
CPV-38
DIMENSIONS SAME AS CPF-38 ABOVE



CPS AND CPV

SOLID STATE SENSORS

Type	Input	Pick-up	Drop-out	Nom. Power	CONTACTS Arrangement	CONTACTS Amp Rating	SUGG. RESALE PRICE
CPF-38-70001	120V 60 Hz	Within Bandpass Adj.* 56-64 to 59-61 Hz	Outside Bandpass Limits*	3W	SPDT	10	$82.80
CPS-38-90001	120/208V 3ø, 4 Wire	120V ±20% ABC ø Relation	CBA ø Relation	2W	SPDT	10	35.50
CPV-38-90001	120/208V 3ø, 4 Wire	105 V MAX.	95 V MIN.	2.5W	SPDT	10	29.75

**Tripping point tolerance: ±1% of bandpass limits.*

WARRANTY

Potter & Brumfield Division of AMF Incorporated warrants its products, including but not limited to those manufactured to specifications supplied to it, for a period of one year from date of delivery to the retail purchaser to be free from defects in both workmanship and materials. Any defect appearing more than one year from the date of delivery to purchaser shall be deemed to be due to ordinary wear and tear. Potter & Brumfield Division of AMF Incorporated, however, assumes no risk or liability for results of the use of products purchased from it, including but without limiting the generality of the foregoing: (1) The use in combination with any electrical or electronic components, circuits, systems, assemblies or any other materials or substances; (2) unsuitability of any product for use in any circuit or assembly. Purchaser's rights under this warranty shall consist solely of requiring Potter & Brumfield Division of AMF Incorporated to repair, or in Potter & Brumfield Division of AMF Incorporated's sole discretion replace, free of charge, F.O.B. factory, any defective items received at said factory within said year and determined by Potter & Brumfield Division of AMF Incorporated to be defective. The giving of or failure to give any advice or recommendations by Potter & Brumfield Division of AMF Incorporated shall not constitute any warranty by or impose any liability upon Potter & Brumfield Division of AMF Incorporated. The foregoing constitutes the sole and exclusive remedy of the purchaser and the exclusive liability of Potter & Brumfield Division of AMF Incorporated, AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY AS TO MERCHANTABILITY, FITNESS FOR PURPOSE SOLD, DESCRIPTION, QUALITY PRODUCTIVENESS, OR ANY OTHER MATTER. In no event shall Potter & Brumfield Division of AMF Incorporated be liable for special or consequential damages or for delay in performance of this warranty.

SCHRACK RELAYS

RELAY	GENERAL PURPOSE	GENERAL PURPOSE	GENERAL PURPOSE	GENERAL PURPOSE
TYPE	CA*	CAF	CAD	RM*
ILLUSTRATION	* U.L. File E38891 			NEW  * U.L. File E38891
DESIGN	Open Type	Enclosed with clear Dust Cover or Open Frame	Enclosed with Clear Dust Cover	Enclosed with Clear Dust Cover (available with or without flanges)
TERMINALS	Pierced terminals (soldering or .110 faston) or printed circuit	Same as CA terminals also for plug-in socket No. RD78700	8 or 11 Pin Base to mate with standard tube sockets	Pierced .187 faston terminals for plug-in soldering or quick connect disconnect application
CONTACTS Number & Form	1, 2, or 3 form "C" (change over)	1, 2, or 3 form "C" (change over)	1, 2, or 3 form "C" (change over)	2 or 3 form C
Contact Rating	5 or 10 amp.	5 or 10 amp.	5 or 10 amp.	10 amps
Contact Material	AgCdO, Hard Silver	AgCdO, Hard Silver	AgCdO, Hard Silver	Silver Cadmium Oxide
COIL Coil Voltage	6-230 VAC 6-110 VDC	6-230 VAC 6-110 VDC	6-230 VAC 6-110 VDC	6-220 VAC 6-110 VDC
For more technical data see catalog No.	A69	A69	A69	S 418

RELAY	MIDGET RELAY	SINGLE COIL MINI-MAGNETIC LATCHING	MINI-SIX	SENSITIVE
TYPE	RA	RR	RE	CMD/CSD
ILLUSTRATION	 U.L. File #38891		NEW 	
DESIGN	Enclosed with dust cover	Plastic dust cover plug in	Enclosed with clear dust cover	Enclosed with Clear Dust Cover or Open Frame (CA)
TERMINALS	Plug-in relay Solder lugs Printed circuit	Same as RA	Plug in relay Solder lugs	Same as CA or CAD
CONTACTS Number & Form	4 form "C" contacts (change over)	4 form "C"	6 form "C" contacts (change over)	1, 2, or 3 form "C" (change over)
Contact Material	Fine silver Gold flashed	Same as RA	Fine silver Gold flashed	Gold-flashed Silver
Max. Rated Cont. Voltage	110 VDC (220 VAC)	Same as RA	60 VAC	—
Max. Rated Cont. Current	3A	3A	2A	2A
Max. Rated Contact Load	350 V. 90 W	Same as RA	120 VA (60 VAC) 90 W (30 VDC)	—
Special Contact Materials	AgCdO, AuNi/3 PdAg 60/40 PdAg 30/70	Same as RA	—	—
COIL Coil Voltage	6-110 VDC 6-220 VAC	24-220 VAC 12-110 VDC	6-60 VDC 6-60 VAC	5-200 VAC 4.9-100 VDC
For more technical data see catalog No.	S404	S404	S408E	A69

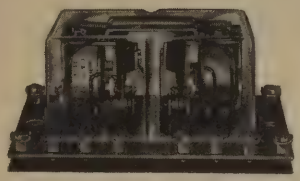
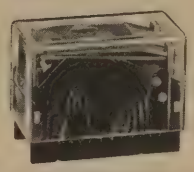
SEND FOR DISCOUNT SCHEDULES

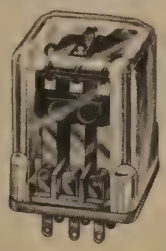
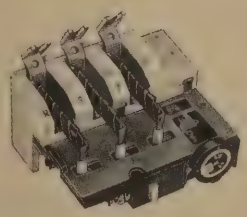
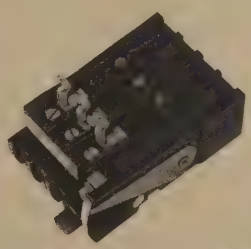
FOR FURTHER INFORMATION ASK FOR CATALOG

SCHRACK ELECTRICAL SALES CORPORATION

© United Technical Publications

SCHRACK RELAYS

RELAY	MECHANICAL LATCHING	PLUG-IN MECHANICAL LATCHING	ROTARY STEPPING	MINIATURE STEPPING
TYPE	CBT	CBF	RT	RTM
ILLUSTRATION		NEW 		NEW 
DESIGN	Enclosed with clear dust cover	Enclosed with clear dust cover	Plastic dust cover die cast metal frame	Plastic dust cover
TERMINALS	Screw type terminals	Plug in type (in 2 sockets) solder lugs	Pierced terminals suitable for soldering or .110 faston	Complete switch mates with three different types of sockets.
CONTACTS Number & Form	2 x 2 or 2 x 3 form "C" (change over)	Same as CBT	1 pole – 40 or 48 positions 2 pole – 20 or 24 positions 4 pole – 10 or 12 positions	2 pole – 10 position 2 pole – 12 position
Contact Material	AgCdO, hard silver	Same as CBT	—	Gold plated
Max. Rated Cont. Voltage	250 VAC	250 VAC	110 VDC-115 VAC	60 VDC 60 VAC
Max. Rated Cont. Current	10A	10A	.5A	400M 400M
COIL Coil Voltage	6-110 VDC 6-220 VAC	6-110 VDC 6-220 VAC	6-110 VDC	6-110 VDC
For more technical data see catalog No.	A69	A69	S401A	S413E

RELAY	SINGLE COIL MAGNETIC LATCHING	OVERLOAD WITH SINGLE PHASING PROTECTION		LIGHT DUTY CONTACTORS
TYPE	CRD/CRF	FA	FK	M
ILLUSTRATION				
DESIGN	Enclosed with clear dust cover	Open frame	Open frame	Open frame 2 screw mounting
TERMINALS	Plug-in relay CRD for Octal or 11 pin CRF pierced for Solder or .110 Faston or pc board	—	—	—
CONTACTS	2 or 3 form "C"	3 pole	3 pole	up to 8 pole
Max. Rated Cont. Voltage	250 VAC	500 VAC/220 VDC	230 VAC	500 VAC
Max. Rated Cont. Current	5 amps 10 amps*	.35 amps-100 amps	.12 amps-9.0 amps	10-15 amps
Max. Rated Contact Load	1250A 2500 VA	—	—	1.5-5.0 KW
COIL Coil Voltage	24-220 VAC 12-110 VDC	—	—	—
Voltage Range	—	—	—	48, 110, 220, 440 VDC 110, 220, 380, 500 VAC
For more technical data see catalog No.	S405A	HD 70	HD 70	HD 70

SEND FOR DISCOUNT SCHEDULES

FOR FURTHER INFORMATION ASK FOR CATALOG

SCHRACK ELECTRICAL SALES CORPORATION

SCHRACK RELAYS

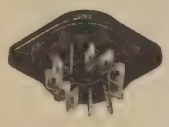


SCREW DOWN SOCKET WITH MOLDED TERMINAL STRIPS

No. RN 73301 — 8 Pin

No. RN 73302 — 11 Pin

For surface type installations and proto type work where screw terminals are convenient. Adequate barriers for hi-voltage installations.



STANDARD SOLDER LUG SOCKET

No. RN 78710 — 8 Pin

No. RN 78711 — 11 Pin

Conventional type molded socket with numbered pins — screw mounting.



PRINTED CIRCUIT LUG SOCKET

No. RN 78712 — 8 Pin

No. RN 78713 — 11 Pin

Standard type for conventional circuit board assemblies — black molded with numbered pins.

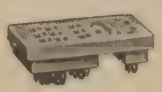


MINIATURE SOCKETS FOR RA RELAYS

No. RA 78700 — for screw mounting, made specially for mounting Schrack RA type relays but may be used for miniature modular circuitry with plug base and dust cover available on request. Precision type with spring-hold grounding terminal.

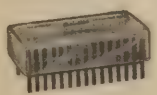
No. RA 78701 — for spring mounting.

No. RA 78702 — for printed circuit mounting.



SOCKETS AND ACCESSORIES FOR RE RELAYS

No. RE 78700 Standard Socket
RE 78702 Printed Circuit Socket
RE 28800 Hold-down Spring



SOCKET FOR TYPE RTM

No. RT 78700 for printed circuits
RT 78701 — w/solder lugs
RT 78703 — Screw type term



SPECIAL SOCKET FOR CAF SERIES

No. RD 78700 — 8 or 11 Pin

Exclusive with Schrack. This socket accommodates either 8 or 11 pin base. Its small size and design provides for strip mounting with no loss of space.



BASE FOR SCHRACK CAF SERIES

No. RD 78600 — 11 Pins

May be used with above socket and dust cover for building modular component requiring U. L. specs for spacing.
for 8 or 11 wiring

No. RD 78601 — same as above but with printed circuit pins.



STANDARD MOLDED PLUG

No. RN 78600 — 8 Pin

No. RN 78704 — 11 Pin

Accommodates RN 16035 or RN 16019 Dust Covers for building plug is modular circuitry.



SCHRACK TYPE HOODED PLUG

No. RN 78714 — 8 Pin

No. RN 78715 — 11 Pin

Permits any relay or component to be mounted remotely and to be plugged into standard socket in circuitry.



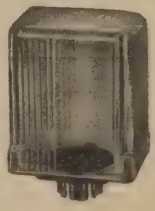
DUST COVER FOR CAD+CAF SERIES

No. RN 16035 POLYSTRENE
with holes in base for screw mounting.

No. RN 16019 — Same as above but molded of Macralone*.

METAL DUST COVER FOR CAF SERIES ONLY

No. RD 10701 on request.



LARGE DUST COVER FOR METAL PLATE

No. RN 16022 Polystyrene
Internal grooves provide means for mounting circuit boards with components.

No. RN 16034
Same as No. RN 16022 but made of Macralone*.

No. RN 16039
Same as No. RN 16022, but grey opaque.



PLUG MOUNTED ON METAL PLATE

No. RN 74221 — 8 Pin
No. RN 74104 — 11 Pin

Metal plate provides base for oversize dust cover in order to install components for modular circuitry.



HIGH POLYSTYRENE DUST COVER

No. RN 16020

May be used with CAD Series.
Two holes in top for ventilation.



HOLD DOWN SPRING

No. RN 28623

To hold relay in place—fastens to mounting screws of standard type socket.

HOLD DOWN CLIP—Formed piano wire. No. RN 28611

*Macralone is a polycarbonate resistant to high temperatures.

Self tapping screws for dust covers available on order.

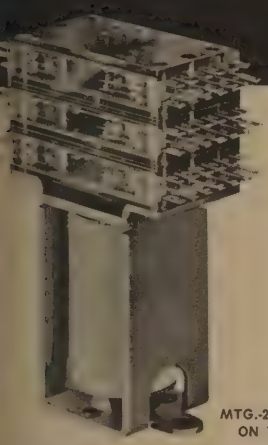
SEND FOR DISCOUNT SCHEDULES

FOR FURTHER INFORMATION ASK FOR CATALOG

SCHRACK ELECTRICAL SALES CORPORATION

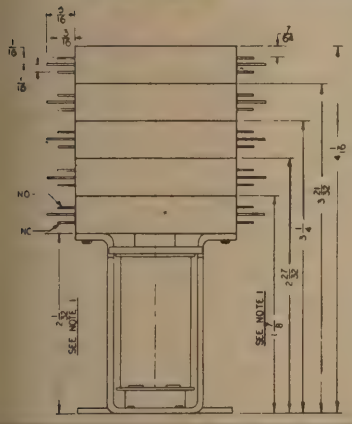
© United Technical Publications

T-BAR® Switch/Relays



T-BARS are for switching more circuits in less space ...up to 60 circuits simultaneously!

MTG.-2-#6-32 NF HOLES ON 1.375 CENTERS



SERIES 801 T-BAR RELAY COIL CHARACTERISTICS*

	12 POLES 1 WAFER RELAY Wt: 4.5 oz.			24 POLES 2 WAFER RELAYS Wt: 6.75 oz.			36 POLES 3 WAFER RELAYS Wt: 7.25 oz.			48 POLES*** 4 WAFER RELAYS Wt: 8.5 oz.			60 POLES 5 WAFER RELAYS Wt: 9 oz.		
Voltage	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts
6 VDC	11.9	0.504	3.01	11.09	0.541	3.24	7	0.857	5.06	5.5	1.09	6.54	5.5	1.09	6.54
12 VDC	49.1	0.244	2.96	45	0.267	3.19	28	0.429	5.16	22	.545	6.54	22	.545	6.54
24 VDC	193	0.124	2.98	174	0.138	3.32	111	0.216	5.15	94	.255	6.12	94	.255	6.12
28 VDC	258	0.109	3.03	227	0.123	3.44	150	0.187	5.23	120	.233	6.52	120	.233	6.52
48 VDC	778	0.062	2.98	674	0.071	3.41	438	0.110	5.26	350	.137	6.58	350	.137	6.58
110 VDC	3963	0.028	3.05	3450	0.032	3.54	2355	0.047	5.18	1930	.057	6.27	1930	.057	6.27
115 VAC**	3963	0.024	2.80	3450	0.027	3.10	2355	0.041	4.72	1930	.049	5.62	1930	.049	5.62

*All characteristics are nominal and subject to normal manufacturing tolerances, other voltages available on special order.
**115 VAC units are made with a full wave bridge rectifier and use the same coils as listed under 110 VDC units.
***Four-wafer relays with all "A" form contacts use three-wafer relay coils.
NOTE 1: ONE WAFER RELAYS USE A SHORTER ACTUATOR ASS'Y. — INSTEAD OF 2-1/32 AS SHOWN, THE ACTUATOR IS 1-15/32 HIGH.



SERIES 802
Bat Handle T-Bar Switches

SERIES 803
Push Button Switch



Series 802 & 803	
No. of Poles	Weights Oz. Approx.
12	2.0
24	2.5
36	3.0

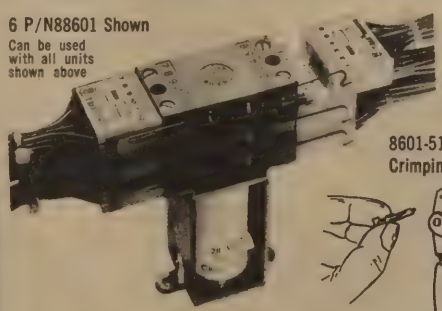
Ganged T-Bar Switches



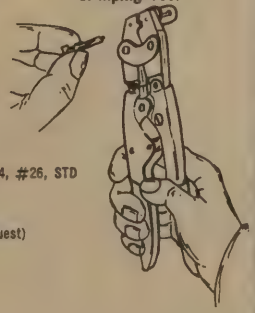
Toggles may be ganged for controlling additional circuits . . . 48, 72, 108, etc. Shown here, 108 poles.

T-BAR Connectors save time and reduce installation costs using individual snap-in crimp terminals crimped to pre-stripped wire and then snapped into a contact block, which forms the connector. The connector is pushed onto the wafer terminals, eliminating soldering. Because we offer a connector, rather than a receptacle, harness work can be completed outside the chassis and therefore no fancy chassis work is required to accept a receptacle. It not only makes the metal work simpler, but it also saves layout engineering and drafting time. Since T-Bar Switch/Relays are so easily mounted, they are often found on the back of meter panels or on their own brackets.

6 P/N88601 Shown
Can be used with all units shown above



8601-51 Crimping Tool



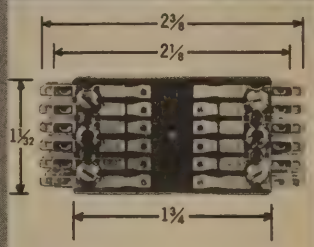
PHYSICAL PROPERTIES:
Wire Accommodated: (1) #18, #20, #22, #24, #26, STD (2) #22, #24, #26 STR
Connector Material: Lexan®
Snap-in Contact Material: Phosphor Bronze
Snap-in Contact Finish: Tin Plated (other on request)
Retaining Clip Material: Stainless Steel
Connector Weight: Approximately 0.3 oz.

MANUFACTURED BY:

T-Bar INCORPORATED SWITCHING TECHNOLOGY

Manufactured under 1 or more of the following patents: 3,206,990, 3,226,508

® "T-Bar" — Reg. T.M.



GENERAL FEATURES:

The series 801 T-Bar Relays are solenoid actuated multi-pole relays with a unique design permitting stack-up of enclosed contact "wafers." Each wafer has a maximum of 12 pole double throw contacts thereby allowing ECI to supply the 801 relay with any combination from 4 to 60 poles.

CONTACT RATING:
3 amp, resistive load 150 watt maximum make or break;
5 amp, 500 watt maximum carry.

CONTACT MATERIAL:
Gold bonded, fine silver, standard. Others available on special order.

CONTACT FORMS:
"A" single throw N.O.
"B" single throw N.C.
"C" double throw, break before make
"D" double throw, make before break

NUMBER OF POLES (RELAYS):
One Wafer — 12 poles
Two Wafers — 24 poles
Three Wafers — 36 poles
Four Wafers — 48 poles
Five Wafers — 60 poles
("A" form only)

OPERATE VOLTAGE:
Min. voltage: 80% of nominal at 25°C

RELEASE VOLTAGE:
Max. voltage: 20% of nominal at 25°C

OPERATE TIME:
One Wafer Relay — 15 ms. max.
Two Wafer Relay — 25 ms. max.
Three Wafer Relay — 30 ms. max.
Four Wafer Relay — 35 ms. max.
Five Wafer Relay — 40 ms. max.

RELEASE TIME:
5 ms. max. (36 pole) — 10 ms. max. (12 pole)

TERMINALS:
Solder tab that also mates with T-Bar connector P/N 88601 (two required per wafer)

ENCLOSURE:
Contacts enclosed in dust tight plastic enclosure that is separated from the actuator assembly. Withstands Mil. Std. — 202 method 106B moisture resistance test.

LIFE:
Mechanical — 20,000,000 operations minimum for relay
Electrical — 20,000,000 operations minimum at 100 milliamps to 100,000 minimum at 5 amps, 150 watts resistive load.

DIELECTRIC:
1000 vrms terminals to case at sea level and 25°C
1000 vrms terminal to terminal at sea level and 25°C
1000 vrms coil to case at sea level and 25°C

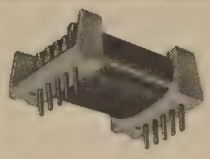
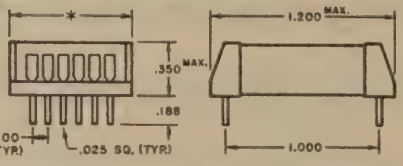
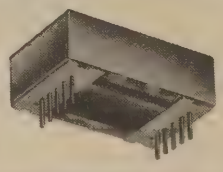
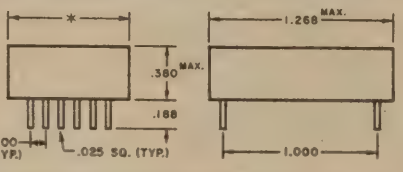
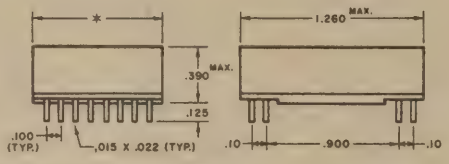
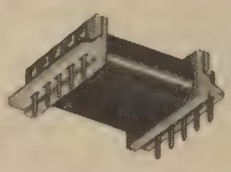
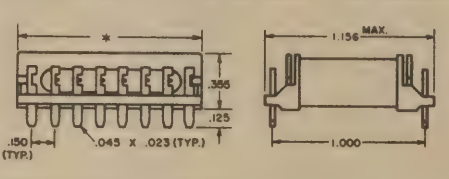
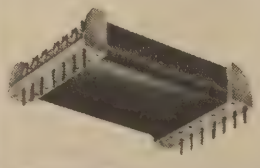
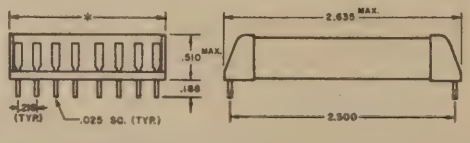
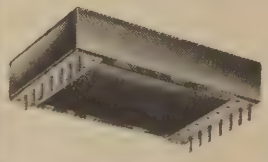
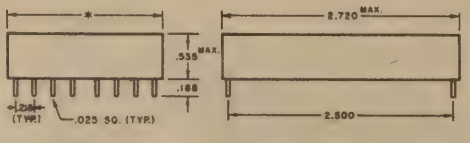
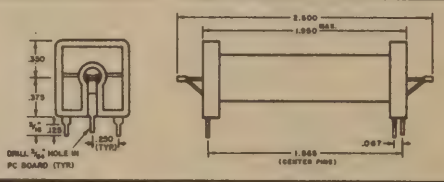
TEMPERATURE RANGE:
−55°C to +85°C

INSULATION RESISTANCE:
5,000 megohms @ 25°C minimum

ORDERING INFORMATION:
Specify Series No. — number of poles plus contact form letter-coil voltage. For example a 36 pole double throw relay with a 24 VDC coil is: 801-36C-24

NPE Controls Relay Manufacture from Switch to Finished Relay—for Greater Reliability-Better Performance

REED RELAYS

SERIES		END (TYP.) AND SIDE VIEWS	AVAILABLE CONTACT FORMS		
822† MINIATURE			1A 2A 3A 4A 5A 1B 2B 1A1B	1A2B 1A1C(2A1B) 2A1B 2A2B 1B1C(1A2B) 1C 2C 3C	1A(mag.latch) 2A(mag.latch)
823† MINIATURE			1A 2A 3A 4A 5A 1B 2B 1A1B	1A2B 1A1C(2A1B) 2A1B 2A2B 1B1C(1A2B) 1C 2C 3C	1A(mag.latch) 2A(mag.latch)
824 MINIATURE			1A 2A 3A 4A 5A 6A 1B 2B	1A1B 1A2B 1A1C(2A1B) 2A1B 3A1B 3A2B 4A1B 1B1C(1A2B)	1C 2C 3C 4C 1A(mag.latch) 2A(mag.latch)
832 MINIATURE			1A 2A 3A 4A 5A 6A 1B 2B	1A1B 1A2B 1A1C(2A1B) 2A1B 2A2B 3A1B 3A2B 4A1B	4A2B 1B1C(1A2B) 1C 2C 3C 4C 1A(mag.latch) 2A(mag.latch)
842† STANDARD			1A 2A 3A 4A 5A 6A 8A 1B	2B 1A1B 1A2B 1A1C(2A1B) 2A1B 2A2B 3A1B 3A2B	4A1B 5A2B 1B1C(1A2B) 1C 2C 1A(mag.latch) 2A(mag.latch)
843 STANDARD			1A 2A 3A 4A 5A 6A 8A 1B	2B 1A1B 1A2B 1A1C(2A1B) 2A1B 2A2B 3A1B 3A2B	4A1B 5A2B 1B1C(1A2B) 1C 2C 1A(mag.latch) 2A(mag.latch)
852 STANDARD			1A		

† UL Listed Series

*Variable dimension depending on series and contact configuration. (Range: 832 Series: .445 to 1.20; 822 Series: .405 to .810; 823 Series: .465 to .875; 824 Series: .382 to .882; 842 Series: .645 to 2.170; 843 Series: .700 to 2.216 inches.)

ALSO AVAILABLE: dry reed switches, proximity detectors, DIP reed relays, mercury reed relays, solid state relays.

OPERATING PARAMETERS	MINIATURE	STANDARD
Temperature:	−55°C to +105°C	−55°C to +105°C
Shock:	200G max., 11± 1 msec	100G max., 11± 1 msec
Vibration:	30G max. @ 0 to 1700 hertz	30G max. @ 0 to 600 hertz
Insulation resistance:	10^{12} ohms min.	10^{12} ohms min.
Capacitance:	.5 picofarad	1.5 picofarads

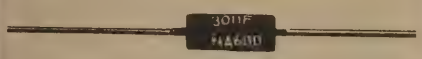
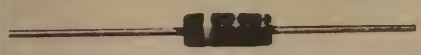
NEW PRODUCT ENGINEERING, INC. *A Subsidiary of Wabash Magnetics, Inc.*

wabash

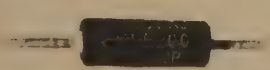
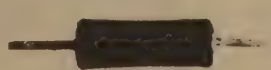
© United Technical Publications

CORNING Glass Tin Oxide Film Resistors

The unique construction of CORNING Tin Oxide Resistors provides the ultimate in stability and reliability. The fully oxidized metal film is moleculary bonded at red heat to a glass substrate, thus eliminating degradation normally experienced with films that are free to oxidize. The matched thermal expansions of the glass substrate and tin oxide film eliminate fatiguing stresses.

		CGW/MIL	RESISTANCE (ohms)		WATTAGE		TOLERANCE
NC	Low TC with ½% and 1% tolerances for precision performance. QPL to MIL-R-10509, char. C. ±50 ppm TC. 		±1%	±½%	70°C	125°C	
		NC3/RN50C	49.9 to 100K		1/10	1/20	±1%
		NC4/RN55C	10 to 301K	49.9 to 150K	1/8	1/10	±1/2, 1%
		NC5/RN60C	49.9 to 1 meg.	49.9 to 499K	1/4	1/8	±1/2, 1%
		NC6/RN65C	49.9 to 2 meg.	49.9 to 1 meg.	1/2	1/4	±1/2, 1%
NA	Stable ½% and 1% performance at 70°C and 125°C ratings. QPL to MIL-R-10509, char. D. ± 100ppm TC. 		±1%	±½%	70°C	125°C	
		NA55/RN55D	10 to 301K	49.9 to 150K	1/8	1/10	±1/2, 1%
		NA60/RN60D	10 to 1 meg.	49.9 to 499K	1/4	1/8	±1/2, 1%
		NA65/RN65D	10 to 2 meg.	49.9 to 1 meg.	1/2	1/4	±1/2, 1%
		NA70/RN70D	51.1 to 1 meg.	51.1 to 1 meg.	3/4	1/2	±1/2, 1%
C	Precision stability in unique multi-use parts for both MIL-R-22684 and MIL-R-10509. QPL to MIL-R-22684. 		100 ppm	200 ppm	70°C	70°C 125°C	
		C3	10 - 150 K	10 - 150K	1/8	1/20	±1, 2, 5, 10%
		C4/RL07S	10 - 301 K		1/4	1/8 1/10	±1, 2, 5%
		C5/RL20S	10 - 1 meg		1/2	1/4 1/8	±1, 2, 5%
		C6/RL32S	10 - 1.5 meg		1	1/2 1/4	±1, 2, 5%
C	General-purpose, low-cost film type. Film resistor performance characteristics at prices comparable to carbon composition types. TC ± 200 ppm. QPL to MIL-R-22684. 				70°C		
		C32/RL32S	10 to 1 meg.		1		±2%, 5%
		C42S/RL42S	10 to 1.5 meg.		2		±2%, 5%
FP	Flame proof resistors that won't burn, even under 100 times-rated overload. FP Style Resistors open up, fuse, but will not flame. Highly stable and non-inductive performance. 				40°C	70°C	
		FP 1/2	10 - 470 K			1/2	±2, 5, 10%
		FP 1	10 - 1 meg			1	±2, 5, 10%
		FP 2 (FP42)	9 - 1.5 meg		3	2	±2, 5, 10%
		FP 3	9 - 125K		4	3	±2, 5, 10%
		FP4	16 - 125K		5	4	±2, 5, 10%
		FP5	19 - 125K		7	5	±2, 5, 10%
		FP7	24 - 125K			7	±2, 5, 10%
		FP10	24 - 125K		10		±2, 5, 10%

ESTABLISHED RELIABILITY

HC	MIL-R-39017, semi-precision, established reliability specification, supersedes MIL-R-22684 for new design. QPL to MIL-R-39017. 			70°C	
		HC3/RLR05C	10 - 150 K	1/8	±2, 5%
		HC4/RLR07C	10 - 300 K	1/4	±2, 5%
		HC5/RLR20C	10 - 1 meg.	1/2	±2, 5%
		HC6/RLR32C	10 - 1 meg.	1	±2, 5%
HH HK	MIL-R-55182, precision, established reliability specification, supersedes MIL-R-10509 for new design. QPL to MIL-R-55182. 			125°C	
		HH4/RNC55H	50 ppm 49.9 - 100K	1/10	±1%
		HK4/RNC55K	100 ppm 49.9 - 100K	1/10	±1%
		HH5/RNC60H	50 ppm 49.9 - 499K	1/8	±1%
		HK5/RNC60K	100 ppm 49.9 - 499K	1/8	±1%

PASSIVE NETWORKS

COR-DIP

Infinite combinations of Resistors, Capacitors, and Diodes enclosed in standard 14 and 16 pin Dual In-Line Packages. Up to 20 components in a 14 pin package, up to 23 components in a 16 pin package.



SPECIFICATIONS

	Resistors	Capacitors	Diodes
Range	10Ω-150K	10-27,000 pf	Low signal silicon planar types
Tolerance	from 1%	from 5%	
TC	from 50 ppm	+2%, −10%	
Ratio	>15,000:1	>2,700:1	

CORNING GLASS WORKS • ELECTRONICS PRODUCTS DIVISION

© United Technical Publications

It's easy

to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

Thank you!



DALE for Optimum Value in Wirewound Resistors

INDUSTRIAL WIREWOUND POWER RESISTORS, SILICONE OR VITREOUS ENAMEL COATED

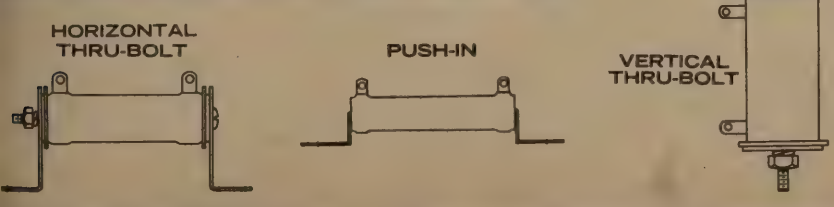
Dale's expanded industrial wirewound line provides both silicone and vitreous coated models. Silicone models are recommended where maintenance of tolerance and T.C. is of primary concern. Vitreous models are recommended where maximum resistance to chemical action is required.

CONTACT DISTRIBUTOR FOR PRICES.



TYPE	APPLICATION	APPLICABLE MIL SPEC AND TYPES	WATTAGE RATING	RESISTANCE RANGE	CORE SIZES	TERMINALS	MOUNTINGS	TOLERANCE
CW Axial Lead	Axial leads. For applications requiring high performance at low cost	MIL-R-26 RW-67, 68, 69	2.5-13 watts	.1 ohm to 100K ohms	Body Dia. .188 to .375" Body Length .500 to 1.781" Leads 1.5 to 2"	Leads	Terminals	±5% (10% below 1 ohm)
HL, VL Tubular	General purpose wirewound resistors with a broad power range.	MIL-R-26 RW-29, 30, 31, 32, 33, 35, 36, 37, 38, 47	5-225 watts	.1 ohm to 1.3 Megohms	O.D. 1/4 to 1-1/8" Length 1-10½"	Lugs	Push-in bracket or thru-bolt	±5% (10% below 1 ohm)
NHL Non-Inductive	High frequency circuits and applications requiring low inductive effect and minimum distributed capacity	None	5-225 watts	1 ohm to 90K ohms	O.D. 1/4 to 1-1/8" Length 1-10½"	Lugs or Leads	Push-in bracket or thru-bolt	±5%
HL, VL Flat	For limited space requiring high power-to-size ratio. Vertical or horizontal stacking.	MIL-R-26 RW-20 thru RW-24	30-95 watts	.1 ohm to 150K ohms	Length 1¼ to 6"	Lugs	Spring push-in	±5% (10% below 1 ohm)
HLM, VLM Miniature Flat	For limited space, high power-to-size requirements particularly in high vibration areas.	None	10-20 watts	.1 ohm to 51K ohms	Length 3/4 to 2-1/16"	Lugs	Thru mount with spacers	±5% (10% below 1 ohm)
HLA, VLA Adjustable	For resistance or voltage adjustment	MIL-R-19365C RX-29, 32, 33, 35, 36 37, 38, 47	12-225 watts	1 ohm to 100K ohms	O.D. 5/16 to 1-1/8" Length 1½ to 10½"	Lugs	Push-in bracket or thru-bolt	±5%
HLT, VLT Tapped	For voltage divider networks	MIL-R-26 RW-22, 23, 24, 33, 35, 36, 37, 38, 47	11-225 watts	.1 ohm to 1.1 Megohms	O.D. 5/16 to 1-1/8" Length 1½ to 10½"	Lugs	Push-in bracket or thru-bolt	±10% each section (±10% total)
HLW, VLW Tubular	General application where terminal wires are required for direct electrical connection	None	3-20 watts	.1 ohm to 80K ohms	O.D. 13/64 to 7/16" Length 7/16" to 2"	Lugs with terminal wires	Terminals, thru-bolt or push-in bracket	±5% (10% below 1ohm)
HLZ Edge-wound	For heavy duty requirements where space is at a premium. High thermal capacity.	None	35-375 watts	.05 ohm to 32 ohms	O.D. 9/16 to 1-1/8" Length 2 to 10-1/2"	Lugs	Push-in bracket or thru-bolt	±10%

MOUNTING BRACKETS for TUBULAR STYLES



EXCLUSIVE BRACKET DESIGN FOR MINIATURE FLAT STYLE



Mounting strap fits snugly through core and is bound tightly against unit by two eccentric spacers. Eliminates expensive cements and improves heat transfer and power handling capabilities.

DALE® for Optimum Value in Wirewound Resistors

WIREWOUND PRECISION RESISTORS, SILICONE COATED & MOLDED

TYPE RS

Coated and molded models meet applicable requirements of MIL-R-26E, MIL-R-26C and MIL-R-23379. Non-inductive styles available.



(Available with Weldable Leads)

DALE TYPE	MIL-R-26E TYPE*	DALE RATING U .05% thru 5%	DALE RATING V 3% & 5%	RESISTANCE RANGES (OHMS) .05%, .1%, .25%	RESISTANCE RANGES (OHMS) .5%, 1%, 3%, 5%	MAX.** WORKING VOLTAGE U	MAX.** WORKING VOLTAGE V	MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS)† ± 90 PPM	± 50 PPM	± 30 PPM	± 20 PPM
RS-¼	–	.4 W	–	10 to 950	1 to 3.4K	20	–	.21	Below 1 Ω	1 to 6.9	–	7 to 3.4K
RS-½	–	.75 W	–	10 to 1.3K	1 to 4.9K	29	–	.23	Below 1 Ω	1 to 9.9	–	10 to 4.9K
RS-1A	RW-70	1.0 W	–	.1 to 2.7K	.1 to 10.4K	52	–	.34	Below 1 Ω	1 to 9.9	10 to 19	20 to 10.4K
RS-1B	–	1.1 W	–	1 to 4.0K	.1 to 15K	62	–	.40	Below 1 Ω	1 to 9.9	10 to 29	30 to 15K
RS-2	–	4.0 W	5.5 W	1 to 12.7K	.1 to 47.1K	210	250	2.1	Below 1 Ω	1 to 9.9	10 to 79	80 to 47.1K
RS-2A	–	3.25 W	4.75 W	1 to 11.4K	.1 to 42.1K	185	220	.90	Below 1 Ω	1 to 9.9	10 to 79	80 to 42.1K
RS-2B	RW-79	3.0 W	3.75 W	.1 to 6.5K	.1 to 24.5K	140	157	.70	Below 1 Ω	1 to 9.9	10 to 49	50 to 24.5K
RS-2C	–	2.5 W	3.25 W	1 to 8.6K	.1 to 32.3K	138	157	1.6	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
RS-2C-23	RW-69	2.5 W	3.25 W	.1 to 8.6K	.1 to 32.3K	138	157	1.6	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
RS-5	–	5.0 W	6.5 W	.5 to 25.7K	.1 to 95.2K	360	410	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
RS-5-69	RW-74	5.0 W	6.5 W	.1 to 24.5K	.1 to 91.0K	350	400	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 91.0K
RS-5-70	RW-67	5.0 W	6.5 W	.1 to 25.7K	.1 to 95.2K	360	410	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
RS-7	–	7.0 W	9.0 W	.5 to 41.4K	.1 to 154K	504	576	4.7	Below 1 Ω	1 to 9.9	10 to 269	270 to 154K
RS-10	–	10 W	13 W	.5 to 73.4K	.1 to 273K	858	978	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K
RS-10-38	RW-78	10 W	13 W	.1 to 71.5K	.1 to 265K	846	966	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 265K
RS-10-39	RW-68	10 W	13 W	.1 to 73.4K	.1 to 273K	858	978	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K

**Max. working voltage determined at .0008 dia. wire resistance values.

†Consult factory for special T.C. requirements.

*NOTE: The following Dale RS series resistors meet requirements of MIL-R-26C (Char. G & V) and MIL-R-23379:

MIL-R-26C

DALE TYPE	RS-2C	RS-5	RS-10
MIL. TYPE	RW-69	RW-67	RW-68

MIL-R-23379

DALE TYPE	RS-1A	RS-2C-23	RS-5	RS-10
MIL. TYPE	RWP-18	RWP-20	RWP-21	RWP-23

WIREWOUND PRECISION RESISTORS, SILICONE COATED & MOLDED

Meets applicable requirements of MIL-R-26E, MIL-R-26C (Char. G & V) and MIL-R-23379. Non-inductive styles are available. Both RS and G types have established outstanding reliability records (write for test reports).



TYPE G

Beryllium oxide core for decreased size, increased stability. Meets applicable specifications of MIL-R-26 and MIL-R-23379.

(Available with Weldable Leads)

DALE TYPE	MIL-R-26E TYPE*	DALE RATING U .05% thru 5%	DALE RATING V 3% & 5%	RESISTANCE RANGES (OHMS) .05%, .1%, .25%	RESISTANCE RANGES (OHMS) .5%, 1%, 3%, 5%	MAX.** WORKING VOLTAGE U	MAX.** WORKING VOLTAGE V	MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS)† ± 90 PPM	± 50 PPM	± 30 PPM	± 20 PPM
G-1	RW-81	1.0 W	–	.1 to 950	1 to 3.4K	33	–	.20	Below 1 Ω	1 to 6.9	–	7 to 3.4K
G-2	–	1.5 W	–	10 to 1.3K	1 to 4.9K	42	–	.21	Below 1 Ω	1 to 9.9	–	10 to 4.9K
G-3	RW-80	2.25 W	–	.1 to 2.7K	.1 to 10.4K	80	–	.34	Below 1 Ω	1 to 9.9	10 to 19	20 to 10.4K
G-5	–	4.0 W	5 W	1 to 6.5K	.1 to 24.5K	162	184	.80	Below 1 Ω	1 to 9.9	10 to 49	50 to 24.5K
G-5A	–	4.5 W	6.5 W	1 to 11.4K	.1 to 42.1K	214	257	.95	Below 1 Ω	1 to 9.9	10 to 79	80 to 42.1K
G-5C	–	5 W	7 W	1 to 8.6K	.1 to 32.3K	194	230	1.2	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
G-6	–	6 W	8 W	1 to 12.7K	.1 to 47.1K	258	298	2.0	Below 1 Ω	1 to 9.9	10 to 79	80 to 47.1K
G-10	–	7 W	10 W	.5 to 25.7K	.1 to 95.2K	425	508	3.6	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
G-12	–	10 W	12 W	.5 to 41.4K	.1 to 154K	607	665	4.2	Below 1 Ω	1 to 9.9	10 to 269	270 to 154K
G-15	–	15 W	18 W	.5 to 73.4K	.1 to 273K	1050	1150	7.6	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K

**Maximum Working Voltage determined at .0008 dia. wire resistance values.

†Consult factory for special T.C. requirements.

*NOTE: The following Dale G series resistors meet requirements of MIL-R 26C (Char. G & V) and MIL R 23379:

MIL-R-26C

DALE TYPE	G-5C	G-10	G-15
MIL. TYPE	RW-69	RW-67	RW-68

MIL-R-23379

DALE TYPE	G-1	G-3	G-5C-2	G-10	G-15
MIL. TYPE	RWP-17	RWP-19	RWP-20	RWP-21	RWP-23

© United Technical Publications

WIREWOUND POWER RESISTORS, HEAT SINK ENCASED



YPE RH

tented design.
assis mounted.
l models exceed
IL-R-18546.

DALE TYPE	MIL-R-18546 TYPE	POWER RATING* (WATTS)		RESISTANCE RANGES (OHMS)		MAX. WORKING VOLTAGE	MAX.† WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) ††		
		DALE**	MIL	.05%, .1%, .25%	.5%, 1%, 3%			±50 PPM	±30 PPM	±20 PPM
RH-5	RE-60	7.5 (5)	5	1 to 6.5K	.1 to 24.5K	160	3	1 to 9.9	10 to 49	50 to 24.5K
RH-10	RE-65	12.5 (10)	10	1 to 12.7K	.01 to 47.1K	265	6	1 to 9.9	10 to 79	80 to 47.1K
RH-25	RE-70	25	20	.5 to 25.7K	.01 to 95.2K	550	13	1 to 9.9	10 to 169	170 to 95.2K
RH-50	RE-75	50	30	.5 to 73.4K	.01 to 273K	1250	28	1 to 9.9	10 to 469	470 to 273K

*Rating is based on chassis mounting area and stability.

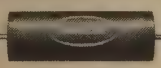
**NOTE: Figures in parentheses on RH-5 and RH-10 indicate wattage printed on these resistors. New construction allows them to be rated at 7.5 and 12.5 watts—but they will be printed with these higher ratings only upon customer request.

†A weight increase of 10% should be allowed for non-inductive types. ††Consult factory for special values and T.C.'s.

DALE® for Optimum Value in Metal Film Resistors

PRECISION METAL FILM RESISTORS

(Available with Weldable Leads)



YPE MF

oxy molded. Meets MIL-R-10509 and MIL-R-2684. TYPE EMF is the established reliability ounterpart to the MF Series and meets IL-R-55182.



YPE MFF

oxy conformal coated. Meets electrical and nvironmental characteristics of MIL-R-10509F, ut is dimensionally smaller.

DALE TYPE	MIL. TYPE	125° C RATING (Char. C&E)	70° C RATING (Char. D)	MIL-R-22684†		MAX. WT. (Grams)	MAX. WORKING VOLTAGE
				TYPE	RATING		
MF50	RN-50	1/20 w	–	–	–	.11	200
MF-1/10	RN-55	1/10 w	1/8 w	RL-07	1/4 w	.35	200
MF-1/8	RN-60	1/8 w	1/4 w	RL-20	1/2 w	.45	300
MF-1/4	RN-65	1/4 w	1/2 w	–	–	.84	350
MFS-1/2	RN-70	1/2 w	3/4 w	–	–	1.6	500
MF-3/4	RN-70F	3/4 w*	–	–	–	1.9	500
MF-1	RN-75	–	1 w**	–	–	4.4	500
MF-2	RN-80	–	2 w**	–	–	7.9	750
MFF-1/8	–	1/8 w	–	–	–	.40	300
MFF-1/4	–	1/4 w	–	–	–	.65	350
MFF-1/2	–	1/2 w	–	–	–	.95	500
MFF-1	–	–	1 w	–	–	2.7	500
MFF-2	–	–	2 w	–	–	4.7	750

haracteristic F **Characteristic B
lerance MIL-R-10509 ± 1%, ± .5%, ±0.25%, ±0.10%
andard, MIL-R-22684 ±2%, ±5%. Special tolerances
d matching on request.
MF-1/10 (RL-07), CMF-1/8 (RL-20),
MF-1/4 (RL-32).

RESISTANCE RANGE (OHMS) 1%, .5%, .25%, .1% Lower and higher resistance values available.

	T-0* (Char. D)	T-1* (Char. D)	T-2 (Char. C)	T-9 (Char. E)
MF50	24.9Ω-100KΩ	49.9Ω-100KΩ	100Ω-100KΩ	100Ω-100KΩ
MF-1/10	10Ω-301KΩ	30.1Ω-301KΩ	30.1Ω-301KΩ	30.1Ω-301KΩ
MF-1/8, MFF-1/8	10Ω-1 Meg.	24.9Ω-1 Meg.	30.1Ω-499KΩ	30.1Ω-499KΩ
MF-1/4, MFF-1/4	10Ω-2 Meg.	24.9Ω-2 Meg.	30.1Ω-1 Meg.	30.1Ω-1 Meg.
MFS-1/2, MFF-1/2	10Ω-2.49 Meg.	24.9Ω-2.49 Meg.	24.9Ω-1 Meg.	24.9Ω-1 Meg.
MF-3/4	10Ω-2.49 Meg.	24.9Ω-2.49 Meg.	100Ω-1 Meg.	100Ω-1 Meg.
MF-1, MFF-1	10Ω-5.11 Meg.	24.9Ω-4.02 Meg.	49.9Ω-2.61 Meg.	49.9Ω-2.61 Meg.
MF-2, MFF-2	30.1Ω-10 Meg.	100Ω-8 Meg.	100Ω-6 Meg.	200Ω-5.11 Meg.

-0 and T-1 are available
tolerance of ±.25% and
reater only. T.C.'s to
±10 ppm available.

DEPOSITED CARBON RESISTORS

Contact Distributor for Prices *(Available with Weldable Leads)*

Meet functional requirements of MIL-R-10509F.



YPE MC

olded housing. Completely insulated and protected against nvironmental or mechanical damage. Specially formulated olding compound gives best humidity protection available.



TYPE DC

Specially coated for complete insulation against moisture, salt spray and other severe environmental factors. Miniature size.

DALE TYPE	MIL. TYPE		POWER RATING (WATTS)		MINIMUM RESISTANCE (OHMS)	MAXIMUM 1% RESISTANCE (OHMS)	MAXIMUM 2% RESISTANCE (OHMS)	MAX. WT. (GRAMS)		MAXIMUM WORKING VOLTAGE
	MC	DC	B	D*				MC	DC	
MC-1/10, DC-1/10	RN-55	–	1/10	1/8	2	400K	400K	.35	.20	200
MC-1/8, DC-1/8	RN-60	–	1/8	1/4	1	3 Megohms	5 Megohms	.45	.30	300
MC-1/4, DC-1/4	RN-65	RN-10	1/4	1/2	2	5 Megohms	6 Megohms	.85	.35	350
MCS-1/2, DCS-1/2	RN-70	RN-20	1/2	3/4	1	10 Megohms	15 Megohms	1.50	.80	500

Tolerance: .5%, 1%, 2%
Operating Temp. Range: –55° C to +165° C
Temperature Coefficient: –200 PPM to –500 PPM, depending on value within normal resistance range.
*Applies to MC only.

Charles T. Gamble Industries

PRECISION WIRE WOUND RESISTORS & NETWORKS

Charles T. Gamble Industries has engineered and designed non-inductive precision wire wound resistors to meet the requirements of Mil-R-93D. These resistors are completely sealed against the effects of high humidity and salt water immersion cycling. The material used in the manufacture of our resistors has a very high dielectric strength. The bobbin material used in winding the resistors is one and the same as the encapsulating material. All resistors use resistance wire with very low thermal E.M.F. to the copper leads. Where thermal effects can be disregarded, welded construction with nickel alloy leads may be specified.

Standard temperature coeficient is ±10 PPM/°C. Lower T.C.'s, and T.C.'s as high as 6000 PPM/°C can be supplied.

Tolerance available (non power styles): 1%, 0.5%, 0.1%, 0.05%, 0.025%, 0.02% and 0.01%. Resistors with tolerances of 0.1% and below are stabilized by artificial aging and temperature cycling.

NETWORKS: RC NETWORKS, LADDER NETWORKS, VOLTAGE DIVIDERS, BINARY NETWORKS

Sub-miniature Axial lead Precision resistors have been designed for applications where space is a prime factor.

Encapsulated printed circuit resistors are designed for printed circuit board application, where space is a factor.

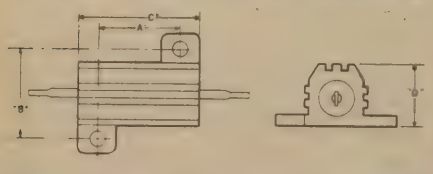
Radial lug type resistors have been designed to meet the requirements of Mil-R-93D.

All resistors are hermetically sealed with epoxy resin to protect the windings against the effects of high humidity and salt water immersion cycling. Resistors can either be inductive or non-inductive wound.

The materials used in the construction of radial lug type resistors are identical to those used in the construction of axial lead types.

These resistors are supplied with a thru hole for mounting to the chassis by means of a #6 thru bolt.

HEAT SINK MOUNTED PRECISION WIREWOUND POWER RESISTORS



POWER RATING	DIMENSIONS A	B	C	D	MAXIMUM OHMS
10 WATT	.562	.625	.750	.390	20,000
25 WATT	.718	.781	1.062	.542	60,000
50 WATT	1.563	.844	1.968	.610	70,000

Ratings shown are based upon use of appropriate chassis mounting.

STANDARD AXIAL LEAD PRECISION RESISTORS

Type	Military Specs. New	Old	Commercial Wattage Rating	Max. Resist. Based on .0007 E Alloy	Military Wattage Rating	Max. Volts	Size Length	Dia.
0808AL			.125W	300K		200V	¼"	¼"
1108AL	RB56		.125W	350K	.125W	250V	11/32"	¼"
1608AL	RB55	AFRT 10	.250W	400K	.15 W	184V	½"	¼"
1208AL			.200W	350K	.250W	225V	⅜"	¼"
2408AL	RB54	AFRT 11	.333W	1 meg.	.250W	300V	¾"	¼"
2412AL	RB53	AFRT 12	.500W	1.2 meg.	.333W	300V	¾"	⅜"
3212AL	RB52	AFRT 13	1.000W	2 meg.	.400W	600V	1"	⅜"
1616AL			.500W	1.3 meg.		300V	½"	½"
3216AL	RF57	AFRT 14	1.000W	3 meg.	.750W	600W	1"	½"
4816AL	RB58	AFRT 15	2.000W	6 meg.	1.000W	900V	1½"	½"
6416AL	RB59	AFRT 16	2.500W	10 meg.	1.250W	1200V	2"	½"
2008AL			.500W	.425 meg.		300V	⅝"	¼"
1612AL			.400W	.500 meg.		300V	½"	⅜"
2012AL			.750W	.600 meg.		600V	⅝"	⅜"
3208AL			.500W	1.1 meg.		300V	1"	¼"
2016AL			.750W	2 meg.		600V	⅝"	½"
1212AL			.250W	1 meg.		225V	⅜"	⅜"

SUB-MINIATURE AXIAL LEAD PRECISION RESISTORS

Type	Commercial Wattage Rating	Maximum Resistance based on .0007 E Alloy	Maximum Voltage	Size Length	Dia.
500156AL	.1W	70K	85 Volts	½"	5/32"
625156AL	.15W	100K	125 Volts	⅝"	5/32"
375125AL	.125	50K	72 Volts	⅜"	⅛"
109250AL	.120	25K	50 Volts	¼"	7/64"
375187AL	.1W	40K	65 Volts	⅜"	3/16"
375109AL	.120	30K	55 Volts	⅜"	7/64"
375093AL	.1	20K	55 Volts	⅜"	3/32"

ENCAPSULATED PRINTED CIRCUIT RESISTORS

Type	Military Specs.	Commercial Wattage	Military Wattage	Max. Volts	Max. Resist. Based on .0007	Sizes Length	Dia.	Lead Spacing	Lead Length
0808PC		.125W		90V	70K	¼"	¼"	.100	1"
1208PC		.200W		200V	200K	⅜"	¼"	.100	1"
1608PC		.250W		184V	400K	½"	¼"	.100	1"
2408PC		.333W		300V	1 meg.	¾"	¼"	.100	1"
3208PC		.500W		750V	1.1 meg.	1"	¼"	.100	1"
1008PC	RB71	.250W	.125W	240V	250K	5/16"	¼"	.200	1"
1612PC	RB70	.500W	.250W	150V	.301 meg.	½"	⅜"	.200	1"
3212PC		1.000W		1350V	1.75 meg.	1"	⅜"	.250	1"
3232PC		1.250W		1700V	2.50 meg.	1"	½"	.250	1"

STANDARD RADIAL LUG PRECISION RESISTORS

Type	Military Specs. New	Old	Commercial Wattage	Military Wattage Rating	Maximum Voltage	Max. Resist. Based on .0007	Size Length	Dia.
1616RLU	RB08	AFRT 17	.500	¼W	300V	885K	½"	½"
2020RLU	RB16	AFRT 18	.666	⅓W	300V	1 meg.	⅝"	⅝"
3220RLU	RB17	AFRT 19	1.000	½W	600V	2.5 meg.	1"	⅝"
4024RLU	RB18		1.500	¾W	600V	6.5 meg.	1¼"	¾"
6828RLU	RB19		2.000	1W	900V	12 meg.	2⅛"	⅞"

CHARLES T. GAMBLE INDUSTRIES
Precision Wire Wound Resistors

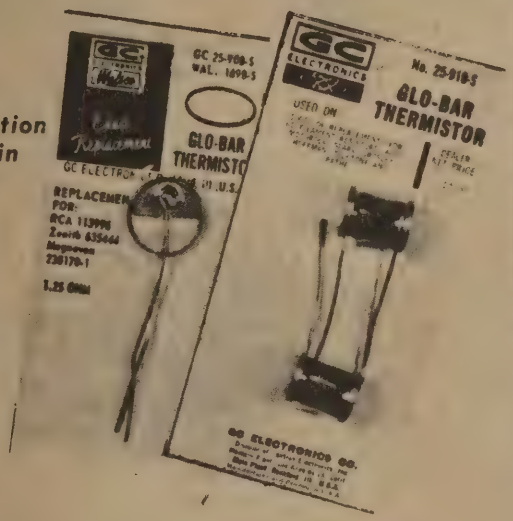
Net © United Technical Publications

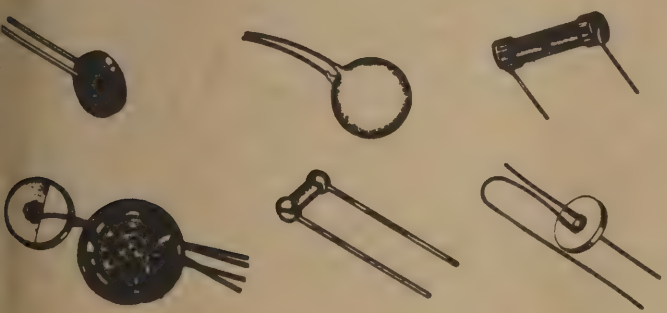
GC ELECTRONICS

RESISTIVE DEVICES

GLO-BAR THERMISTORS

omplete Selection
ndividually skin
arded on
aster
isplay
ards





Engineered to the original manufacturer's rigid specifications, GC Chemical Fuses are exact replacements for RCA, Emerson, Zenith, etc. All GC Chemical Fuses are visual packed for quick identification. U.L. approved.

RESISTORS

1/4, 1/2, 1 & 2 watt resistors (10% Tol.) in MOISTURE-PROOF packages EIA approved MIL-R-IIE.

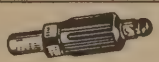
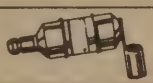
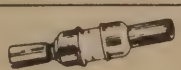
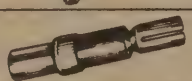
BULK RESISTOR PRICES

WATTAGE	EA. 1-9	10-49	50-99	100-UP
1/4 WATT	.13	.09	.06	$4.32/C
1/2 WATT	.12	.085	.05	$4.15/C
1 WATT	.17	.10	.07	$6.47/C
2 WATT	.22	.19	.14	$12.28/C

BEL® CHEMICAL FUSES

GC Part No.	Color	Orig. Mfrs. Part No.	Mfrs. Stock No.	Bel Fuse No.	SP	Net
25-929	Yellow	Emerson 808238		1700-1	10	.50
25-935	Pink	RCA 945392-4		450-1	10	.50
25-937	Green	Emerson 808238		1200-1	10	.50
25-954	Black	RCA 945392-1	RCA 109079	500-1	10	.50
25-956	Blue	RCA 945392-2	RCA 109588	400-1	10	.50
25-958	Red	RCA 945392-3	RCA 109860	3-1	10	.50
25-995	Maroon	Zenith 136-66		2000-1	10	.50
25-997	Gray	Emerson 808241		1400-1	10	.50
25-976	White	Zenith 136-71		1000-1	10	.50
25-1123	Kelly Green	Admiral 84B28-8			10	.50
25-897	Turquoise	Motorola 65C67985-A04			10	.50
25-887	Tan	Zenith 136-85 Zenith 136-91		3100-1	10	.50
25-899-S	Brown	Admiral 84B28-9 Zenith 136-76			10	.50
25-893	Ivory	RCA 945-392-5 Warwick 43-53-D			10	.50
25-884	Orchid	Zenith 136-92		2250-1	10	.50
25-885	Black	Zenith 136-89		500-1P	10	.63
25-886	Orange	Zenith 136-85		3250-2	10	.50
25-889	Blue	Zenith 136-86		400-1P	10	.63

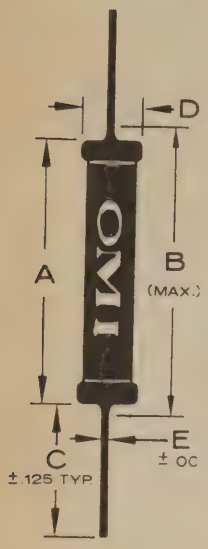
AUTO SUPPRESSORS

Illustration	Part No.	Description	Std. Pkg.	Net
	26-812	**SPARK PLUG CARBON SUPPRESSOR** Fits screw-on type terminals	1	.51
	26-814	**SLIP-ON TYPE SUPPRESSOR** Super wire wound	1	.93
	26-816	**DISTRIBUTOR MODEL SUPPRESSOR** Super wire wound	1	.93
	26-800	**DISTRIBUTOR TYPE SUPPRESSOR** Cable type for splicing cables	24	.42
	26-808	**SLIP-ON CARBON TYPE SUPPRESSOR** Fits all cars	1	.66
	26-810	**DISTRIBUTOR MODEL SUPPRESSOR** Carbon type	1	.33
	26-818 26-820	**SUPPRESSOR KITS** Everything necessary for complete noise suppression. Contains 6 spark plug suppressors, 1 suppressor for carbon type distributor interference, 1 generator type condenser. 6 cylinder kit ..... 8 cylinder kit	 10 10	 2.66 3.06

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

OMI RESISTORS T SERIES

PRECISION POWER RESISTORS, AXIAL LEADS



Highly reliable, silicone coated, precision resistors manufactured to meet MIL-R-26 specifications. There are 17 basic sizes with power ratings from ½ to 10 watts and resistance ranges from .05 ohms to 275K ohms. Resistance tolerances from .05% to 5% (1%, standard). Temperature coefficient of resistance 2PPM up (20PPM, standard).

OMI TYPE	MIL TYPE	OMI WATTAGE RATING		RESISTANCE RANGE		MAX. WORKING VOLTAGE*		Max. Weight Grams	PHYSICAL DIMENSIONS				
		U	V	Min.	Max.	U	V		A	B	C	D	E
T-½A	—	.4	—	.5	3.4K	18	—	.21	.210 ±.015	.265	1.500	.078 ±.015	.020
T-½	—	.75	—	.5	7.5K	31	—	.30	.330 ±.015	.390	1.500	.078 ±.015	.020
T-1A-20	RW-70 U	1.0	1.25	.1	10K	50	55	.36	.406 ±.031	.437	1.500	.093 ±.031	.020
T-1A	—	1.0	1.25	.1	10K	50	55	.36	.406 ±.031	.437	1.500	.093 ±.031	.020
T-1B	—	1.1	1.30	.1	12K	62	67	.40	.530 ±.015	.590	1.500	.093 ±.031	.020
T-1C	—	1.0	—	.1	5K	28	33	.33	.265 ±.015	.335	1.500	.093 ±.031	.020
T-2	—	1.5	—	.1	10K	72	79	.95	.343 ±.015	.410	1.500	.187 ±.031	.032
T-2A	—	3.0	3.75	.1	22K	135	148	.70	.560 ±.062	.622	1.500	.187 ±.031	.032
T-2A-20	RW-79 U	3.0	3.75	.1	22K	135	148	.70	.560 ±.062	.622	1.500	.187 ±.031	.032
T-2B	—	3.0	—	.1	40K	170	200	.92	.812 ±.062	.890	1.500	.188 ±.031	.032
T-2C	—	2.5	3.00	.05	32K	138	157	1.5	.500 ±.062	.593	2.000	.218 ±.032	.040
T-2C-20	RW-69 V	2.5	3.00	.05	32K	138	157	1.5	.500 ±.062	.593	2.000	.218 ±.032	.040
T-3	—	4.0	5.50	.05	40K	210	250	2.3	625 ±.062	.765	2.000	.250 ±.032	.040
T-5	—	5.0	6.00	.05	90K	300	365	4.3	.875 ±.062	.937	2.000	.312 ±.031	.040
T-5-20	RW-74 U	5.0	6.00	.05	90K	300	365	4.3	.875 ±.062	.937	2.000	.312 ±.031	.040
T-6	—	6.0	6.50	.05	95K	330	376	4.8	1.000 ±.094	1.094	2.000	.312 ±.031	.040
T-6-20	RW-67 V	6.0	6.5	.05	95K	330	376	4.8	1.000 ±.094	1.094	2.000	.312 ±.031	.040
T-7	—	7.0	8.00	.05	100K	350	390	5.2	1.185 ±.062	1.247	2.000	.312 ±.031	.040
T-7A	—	7.0	9.00	.05	150K	504	576	7.0	1.375 ±.094	1.469	2.000	.469 ±.094	.040
T-7A-20	RW-55 V	7.0	9.00	.05	150K	504	576	7.0	1.375 ±.094	1.469	2.000	.469 ±.094	.040
T-10	—	10.0	11.00	.05	250K	788	898	9.0	1.780 ±.062	1.842	2.000	.375 ±.031	.040
T-10-20	RW-78 U	10.0	11.00	.05	250K	788	898	9.0	1.780 ±.062	1.842	2.000	.375 ±.031	.040
T-10B-20	RW-68 V	10.0	11.00	.05	250K	788	898	9.0	1.875 $^{+.063}_{-.125}$	1.875	2.000	.344 ±.094	.040
T-10A	—	10.5	14.00	.05	275K	799	911	10.0	1.925 ±.062	2.094	2.000	.375 ±.062	.040
T-10A-20	RW-56 V	10.5	14.00	.05	275K	799	911	10.0	2.000 ±.094	2.094	2.000	.469 ±.094	.040

* Max. working voltage determined at .0008 wire.

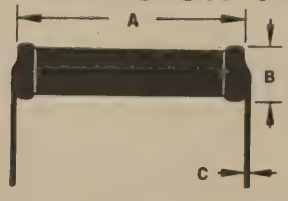


SPECIAL FEATURES

• Close tolerances (to .01% available). • Extremely high stability. Low TC of resistance (to 2PPM). • Welded construction terminal to terminal. • Wide temperature range; from −65° to 275° C. • A specially formulated silicone coating makes OMI T-series resistors impervious to moisture, salt spray, abrasion and expanded temperatures.

PRECISION POWER RESISTORS, RADIAL LEADS

TR SERIES



Type	Dim. A	Dim. B	Dim. C
TR-1A	.406 ±.031	.093 ±.031	.020
TR-1B	.531 ±.031	.093 ±.031	.020
TR-2A	.562 ±.062	.187 ±.031	.020
TR-2C	.500 ±.062	.218 ±.031	.032
TR-2B	.812 ±.062	.187 ±.031	.020
TR-3	.625 ±.062	.250 ±.031	.032
TR-5	.875 ±.062	.312 ±.031	.032
TR-7	1.218 ±.062	.312 ±.031	.032
TR-10	1.780 ±.062	.375 ±.031	.032

SPECIFICATIONS

TR electrical, mechanical, material, power rating and derating specifications are identical to models of equivalent wattage and size in the OMI T Series. Also available, non-inductively wound, and identified as the "NR" Series.

N
HN
NR
HFN

ALUMINUM HOUSED, NON-INDUCTIVE

OMI models of equivalent physical and electrical specs are available with non-inductive windings. For the "T" Series, specify "N"; for the "TR" Series, specify "NR"; for the "HT" Series, specify "HN"; and for the "HF" Series, specify "HFN". **NOTE:** In ordering non-inductively wound resistors, (1) Maximum resistant values must be divided by 2, (2) Maximum working voltage must be multiplied by .707 and (3) Maximum weights may slightly exceed those shown.

OMTRONICS MANUFACTURING, INC.

© United Technical Publications

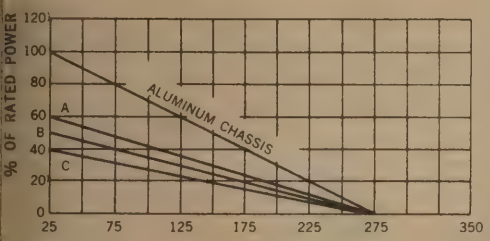
OMI RESISTORS HT HF



HT-5 through HT-75

HT Models are anodized, aluminum-housed, precision wirewound resistors, designed to chassis mount for maximum heat dissipation. They are manufactured to meet or exceed MIL-R-18546 specifications. Four sizes: 5 to 50 watts (mounted), resistance ranges from .1 ohm to 250K, depending on size. Tolerances—1% standard—.05% to 5% available. Temperature coefficient from 2PPM up. (20PPM, standard.)

HF Models are identical in dimensions, resistance ranges, tolerance and temperature coefficients with those of the HT Series, but offer a great increase in their power ratings as similar size through the use of beryllium oxide cores for increases heat dissipation. These are manufactured to exceed MIL-R-18546 power ratings.



STANDARD ELECTRICAL SPECIFICATIONS

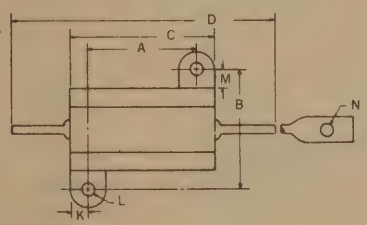
OMI Type		MIL Type	Power Rating (Watts)*			Resistance Range		Max. Working Voltage		Max. Weight Grams
			HF (OMI)	HT	MIL	MIN.	MAX.	HF	HT	
HF-5	HT-5	RE-60	15	5	5	.1	22K	220	160	3
HF-10	HT-10	RE-65	20	10	10	.1	47K	340	265	7
HF-25	HT-25	RE-70	35	25	20	.1	90K	650	550	14
HF-50	HT-50	RE-75	50	50	30	.1	250K	1400	1250	29
	HT-75			75		.1	75K		1500	120
	HT-100	RE-77		100	75	.1	50K		1900	400
	HT-250	RE-80		250	120	.1	75K		2500	800

*Rating is based on chassis mounting area and stability

DERATING

OMI, HT and HF resistors have an operating temperature range of −55°C to +275°C. Derating is required for reduced chassis mounting area and for high ambient temperatures. The graph curves shown apply to operation of unmounted resistors. Free air rating.

A = HT5, HT-10
B = HT-25
C = HT-50, all HF Series and HT-75, HT-100, and HT-250

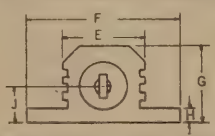


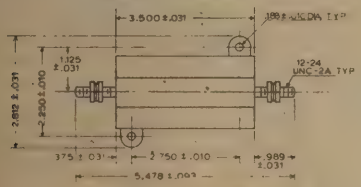
Chassis Dimensions:

HT-5, HF-5, HT-10 and HF-10 — 6x4x2x .04", Aluminum Chassis.

HT-25, HF-25, HT-50 and HF-50 — 7x5x 2x.04". Aluminum Chassis.

HT-75 — 12"x12"x.062, Aluminum Panel.

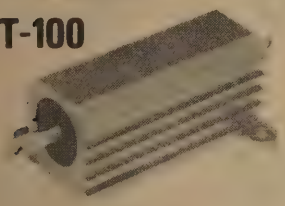


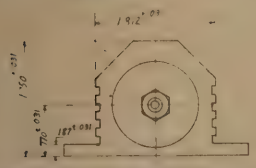


DIMENSIONAL SPECIFICATIONS — HOUSED TYPE

TYPE		A	B	C	D	E	F	G	H	J	K	L	M	N
HF-5	HT-5	.444 ±.005	.490 ±.005	.600 ±.031	1.125 ±.062	.334 ±.015	.646 ±.015	.320 ±.015	.065 ±.010	.140 ±.010	.078 ±.010	.093 ±.005	.078 ±.015	.050 ±.005
HF-10	HT-10	.562 ±.005	.625 ±.005	.750 ±.031	1.375 ±.062	.430 ±.015	.800 ±.015	.400 ±.015	.075 ±.010	.190 ±.010	.093 ±.010	.093 ±.005	.102 ±.015	.086 ±.005
HF-25	HT-25	.719 ±.005	.781 ±.005	1.062 ±.031	1.938 ±.062	.530 ±.015	1.080 ±.015	.560 ±.015	.085 ±.010	.260 ±.010	.172 ±.010	.125 ±.005	.115 ±.015	.086 ±.005
HF-50	HT-50	1.563 ±.005	.844 ±.005	1.968 ±.031	2.781 ±.062	.615 ±.015	1.140 ±.015	.615 ±.015	.085 ±.010	.300 ±.010	.196 ±.010	.125 ±.005	.107 ±.015	.086 ±.005
	HT-75	2.125 ±.005	1.500 ±.005	2.500 ±.031	3.375 ±.093	1.125 ±.031	1.875 ±.031	1.125 ±.031	.125 ±.015	.625 ±.015	.187 ±.015	.172 ±.005	.187 ±.015	.095 ±.005

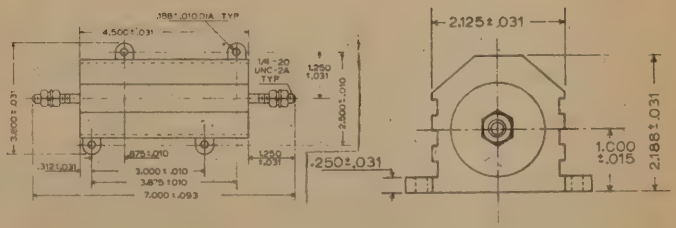
HT-100





HT-250





TEMPERATURE COEFFICIENT

Although all OMI, T, F, HT and HF resistors are manufactured with a temperature coefficient of ±20PPM/°C over the full temperature range and resistance range as standard production, closer temperature coefficients are available.

Special Close T.C. Availability: All styles can be supplied with temperature coefficients of ±10PPM, ±5PPM, and ±2PPM. Non-inductively wound styles can be supplied with ±10PPM.

Temperature Range: −65°C to +275°C.

Tolerance Range: 0.05% to 5%.

Resistance Range: 0 to 2 watts, 25 ohms to maximum for each size.
Over 2 watts, 50 ohms to maximum for each size.

Code to Designate Special T.C:

10PPM	C-10
5PPM	C-5
2PPM	C-2

To Order Resistors with Special T.C., Specify:
(example)

Resistor Type	Resistance Value	Tolerance	T.C. Code
T-5	4700 ohms	0.5%	C-5

OMTRONICS MANUFACTURING, INC.

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

OHMITE radial lead resistors for P.C. boards

LASS PC-58





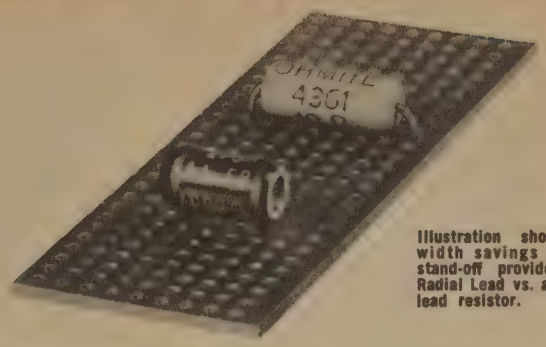


Illustration showing overall width savings and built-in stand-off provided by PC-58 Radial Lead vs. a typical axial lead resistor.

Increases productivity 28.1% — Saves circuit board space

f you are manually inserting axial lead resistors in printed circuit boards, it will pay you to examine the new Ohmite PC-58 resistor.

DVANTAGES:

BOR SAVING: Radial Leads eliminate cutting, bending, and forming of ads. Productivity is increased 28.1%. You achieve a 21.9% savings in bor cost. (Time Study Publication No. 163 available on request.)

PACE SAVING: Radial leads reduce total length dimension required com- red to axial lead types, increases packaging density possibilities.

SITIVE POSITIONING: Built in stand-off automatically provides correct acing between resistor and P.C. board.

ST SAVING: PC-58 resistors are priced lower than comparable axial lead pes. This is in addition to savings in labor as explained above.

ANDARD SIZE: PC-58 Radial Leads fit standard .1 inch matrix boards with andard .046 inch diameter holes.

ARKINGS ALWAYS VISIBLE: Value and Ohmite code markings are always sible from the top of the PC-58. Eliminates time consuming orientation rmally required of axial lead types.

OICE OF COATINGS: PC-58 resistors are available in ±5% tolerance with treous Enamel (Type 270) for resistance values to 3300 ohms for 3-watt d to 6800 ohms for 5¼-watt or Ohmicone® silicone-ceramic (Type 470) r values over 3300 ohms and 6800 ohms for 3 and 5¼-watt sizes, spectively. For tolerances of ±3% and closer or for low T.C., specify micone® Type 474.

AILABILITY: Now standard PC-58 resistors are in stock at your local mite authorized stocking distributor.

SPECIFICATIONS:

MECHANICAL

Coating: Vitreous Enamel or Ohmicone® (silicone-ceramic), depending on Type.

Terminals: Radial, solder-dipped.

Markings: Ohmite Code and Resistance (Ohms) Value.

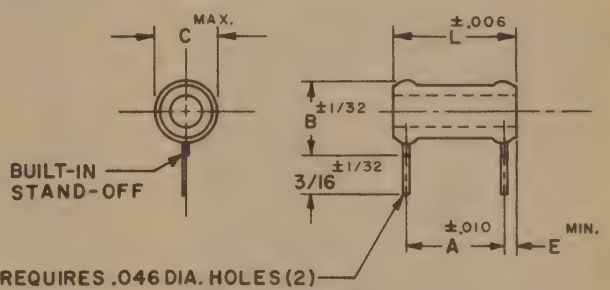
Weight: 3-Watt: .002 lbs.; 5¼ Watt: .003 lbs.

ELECTRICAL

Tolerance: ±5% for 1 ohm and above; ±10% below 1 ohm.

Wattage: 3-Watt, derated to 0 at 350°C—5¼-Watt, derated to 0 at 350°C

Temperature Coefficient: Less than 260 ppm/°C.



Rated Watts @ 25°C	DIMENSIONS (Inches)				
	A ±.010	B ±1/32	C Max.	E Min.	L ±.006
3	.300	.335	3/32	3/64	7/16
5¼	.500	.375	5/16	1/32	5/8

3-WATT

ee air rating thru 10K ohms.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	5800	1.73	120	5817	.158	1200	5834	.0500
1.5	5801	1.41	150	5818	.141	1500	5835	.0447
2.0	5802	1.22	200	5819	.122	1800	5836	.0408
2.4	5803	1.12	250	5820	.110	2000	5837	.0387
3.0	5804	1.00	270	5821	.105	2500	5838	.0346
4.0	5805	.866	300	5822	.100	2700	5839	.0333
5.0	5806	.774	330	5823	.0953	3000	5840	.0316
7.5	5807	.632	400	5824	.0866	4000	5841*	.0274
10.0	5808	.548	450	5825	.0816	4700	5842*	.0253
15	5809	.447	500	5826	.0775	5000	5843*	.0245
20	5810	.387	560	5827	.0732	5600	5844*	.0231
30	5811	.316	600	5828	.0707	6200	5845*	.0220
50	5812	.245	620	5829	.0696	7000	5846*	.0209
56	5813	.231	750	5830	.0632	7500	5847*	.0200
68	5814	.210	800	5831	.0612	9000	5848*	.0182
82	5815	.191	900	5832	.0577	10000	5849*	.0173
100	5816	.173	1000	5833	.0548			

NOTE: These resistors are Ohmicone® Coated, Type 470.

5¼-WATT

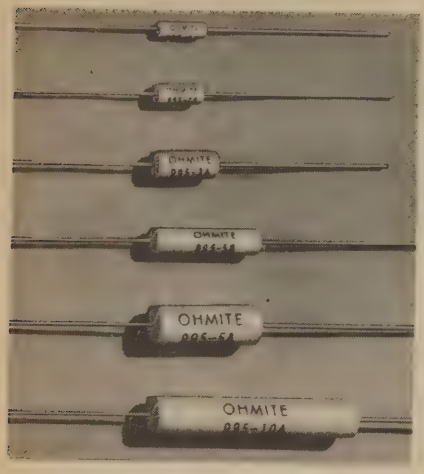
Free air rating thru 15K ohms.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	5850	2.29	100	5864	.229	1800	5882	.0540
1.5	5850A	1.87	120	5865	.209	2000	5883	.0512
2.0	5851	1.62	150	5866	.187	2200	5883A	.0488
3.0	5851A	1.32	160	5867	.181	2500	5884	.0458
4.0	5851B	1.15	200	5868	.162	3000	5885	.0418
5.0	5852	1.02	220	5869	.154	3300	5885A	.0399
5.6	5852A	.968	250	5870	.145	3900	5885B	.0367
10.0	5853	.725	270	5870A	.139	4000	5886	.0362
15	5854	.592	300	5871	.132	4500	5887	.0341
18	5855	.540	330	5872	.126	5000	5888	.0324
20	5856	.512	350	5873	.122	5600	5889	.0306
22	5856A	.489	400	5874	.115	6000	5890	.0296
25	5857	.458	500	5875	.102	7500	5891*	.0265
30	5858	.418	510	5875A	.101	8200	5892*	.0253
40	5859	.362	560	5875B	.0968	9000	5893*	.0241
50	5860	.324	600	5876	.0935	9100	5893A*	.0240
51	5860A	.321	750	5877	.0837	10000	5894*	.0229
56	5860B	.306	800	5878	.0810	12000	5895*	.0209
68	5861	.278	1000	5879	.0725	15000	5896*	.0187
75	5862	.265	1200	5880	.0661	20000	5897*	.0152
82	5863	.253	1300	5881	.0635			

*NOTE: These resistors are Ohmicone® Coated, Type 470.

All standard values shown above are popular values and are stocked by authorized OHMITE stocking distributors.

OHMITE type 995 MOLDED axial lead vitreous enameled resistors

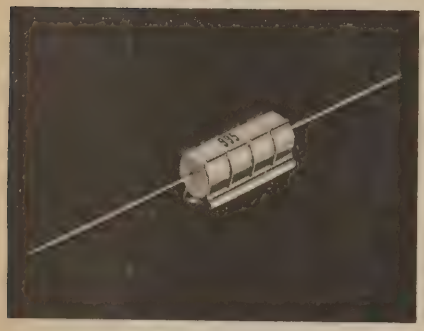


- **FIRST MOLDED WIREWOUND, VITREOUS ENAMEL RESISTOR**
- **INSULATED! Meets 1000 VAC Test**
- **WITHSTANDS 1500°F Temperatures without Distortion**
- **RESISTS Chipping, Breaking**
- **VITRIFIED MARKINGS, Resist Abrasion and Active Solvents**
- **UNIFORM SIZE Permits Clip-Mounting with Significant Heat Sink Benefits**
- **HIGH OVERLOAD CAPABILITY**

An exclusive technique (U. S. Patent No.'s 3,229,237 and 3,489,828) permits application of the vitreous enamel coating by **molding** instead of the conventional "dip" process. The dimensionally consistent and thicker coating that results, guarantees a 1000 VAC insulation rating plus unparalleled capability for withstanding very high temperatures, high humidity and immersion in salt solution.

These resistors are normally mounted by their axial leads. However, their consistent form also permits mounting in clips with heat sink benefits up to 100% (see "Clips" lower left). Resistor markings are also vitreous and will not burn off even under extreme overloads. Resistance tolerance is ±5%. Series 99 resistors meet the requirements of MIL-R-26 for "insulated" resistors

MOUNTING CLIPS



Uniform shape and consistent dimensions of Series 99 and 88 (page 6) resistors, permits them to be conveniently mounted in clips. If the clip is on a metal surface, the wattage capability of the resistor can increase by as much as 100%. Holes in clip base permit fastening to chassis by means of machine screws, eyelets or rivets.

CLIPS for TYPE 995 and 884* RESISTORS

Resistor Watts	Resistor Series	Clip Stock No.
1½	99	5900
2¼	99	5902
3	88	5904
3¼	99	5904
5	88	5905
5	99	5906
10	88	5909
11	99	5908

* See page 6 for Type 884 resistors.

1½ WATT

.422"x.125" Dia. Style 995-1A Avg. Wt., .0009 lb.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	**4030**	1.24	75	4087	.141
1.1	(4031)	1.17	82	4089	.135
1.2	4032	1.12	91	**4091**	.128
1.3	4033	1.08	100	**4092**	.123
1.5	**4034**	1.00	110	**4093**	.117
1.6	4035	.97	120	4094	.112
1.8	4036	.91	130	4095	.108
2.0	**4037**	.87	150	(4096)	.100
2.2	**4038**	.83	160	(4097)	.097
2.4	4039	.79	180	4098	.091
2.7	4041	.75	200	**4099**	.087
3.0	**4042**	.71	220	**4100**	.083
3.3	4043	.67	240	(4101)	.079
3.6	4044	.65	250	(4102)	.077
3.9	4045	.62	270	(4103)	.075
4.0	4046	.61	300	**4104**	.071
4.3	(4047)	.59	330	**4105**	.067
4.7	(4048)	.56	350	(4105A)	.065
5.0	**4049**	.55	360	4106	.064
5.1	(4050)	.54	390	(4107)	.062
5.6	4051	.52	400	(4108)	.061
6.2	4053	.49	430	4109	.059
6.8	4054	.47	450	4109A	.058
7.5	4056	.45	470	**4110**	.056
8.2	4058	.43	500	**4111**	.055
9.1	(4060)	.41	510	**4112**	.054
10	**4061**	.39	560	4113	.052
11	4062	.37	600	**4114**	.050
12	4063	.35	620	4115	.049
13	4064	.34	680	4116	.047
15	(4065)	.32	700	4117	.046
16	4066	.31	750	4118	.045
18	(4067)	.29	800	4119	.043
20	4068	.27	820	(4120)	.043
22	4069	.26	900	(4121)	.041
24	4070	.25	910	(4122)	.041
25	(4071)	.25	1000	**4123**	.039
27	4072	.24	1100	(4124)	.037
30	4073	.22	1200	4125	.035
33	4074	.21	1300	4126	.034
35	(4074A)	.207	1400	(4126A)	.033
36	(4075)	.200	1500	**4127**	.032
39	4076	.196	1600	4128	.031
40	4077	.193	1800	4129	.029
43	(4078)	.187	2000	**4130**	.027
47	(4079)	.179	2200	4131	.026
50	**4080**	.173	2400	(4132)	.025
51	(4081)	.171	2500	4133	.025
56	4082	.164	2700	(4134)	.024
62	4084	.156	3000	**4135**	.022
68	4085	.149			

2¼ WATT

.375"x.188" Dia. Style 995-2A Avg. Wt., .0018 lb.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	3860	1.50	68	(3916)	.18
1.1	(3861)	1.43	75	(3918)	.17
1.2	(3862)	1.37	82	(3920)	.16
1.3	(3863)	1.31	91	(3922)	.16
1.5	(3864)	1.22	100	3923	.15
1.6	3865	1.18	110	(3924)	.14
1.8	(3866)	1.11	120	(3925)	.14
2.0	(3867)	1.05	130	3926	.13
2.2	3868	1.01	150	**3927**	.12
2.4	(3869)	.97	160	3928	.12
2.7	(3871)	.91	180	**3929**	.11
3.0	3872	.86	200	(3930)	.10
3.3	3873	.82	220	3931	.10
3.6	(3874)	.79	240	(3932)	.097
3.9	(3875)	.76	250	3933	.094
4.0	3876	.73	270	3934	.091
4.3	(3877)	.72	300	3935	.086
4.7	3878	.69	330	(3936)	.082
5.0	3879	.67	350	3937	.080
5.1	3880	.66	360	(3938)	.079
5.6	3881	.63	390	(3939)	.076
6.2	3883	.60	400	(3940)	.075
6.8	3884	.57	430	(3941)	.072
7.5	(3886)	.55	450	(3942)	.071
8.2	3888	.52	470	3943	.069
9.1	(3890)	.50	500	3944	.067
10	3891	.47	510	(3945)	.066
11	3892	.45	560	(3946)	.063
12	3893	.43	600	(3947)	.061
13	(3894)	.41	620	(3948)	.060
15	3895	.39	680	(3949)	.057
16	(3896)	.37	700	**3950**	.056
18	(3897)	.35	750	(3951)	.055
20	3898	.33	800	(3952)	.053
22	3899	.32	820	3953	.052
24	(3900)	.31	900	(3954)	.050
25	3901	.30	910	(3955)	.050
27	3902	.29	1000	**3956**	.047
30	(3903)	.27	1100	3957	.045
33	(3904)	.26	1200	**3958**	.043
35	(3905)	.25	1300	3959	.041
36	(3906)	.25	1400	(3960)	.040
39	**3907**	.24	1500	(3961)	.039
40	(3908)	.24	1600	(3962)	.037
43	3909	.23	1800	(3963)	.035
47	3910	.22	2000	3964	.033
50	(3911)	.21	2200	3965	.032
51	(3912)	.21	2400	(3966)	.031
56	(3913)	.20	2500	3967	.030
62	3915	.19	2700	(3968)	.028
			3000	(3969)	.027

Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

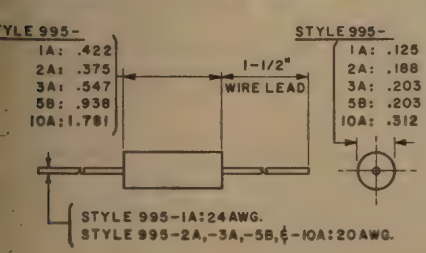
© United Technical Publications

OHMITE type 995 MOLDED axial lead vitreous enameled resistors

3¼ WATT

".203" Dia. Style 995-3A Avg. Wt., .003 lb.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	**4330**	1.80	200	**4399**	.13
1.1	(4331)	1.71	220	**4400**	.12
1.2	(4332)	1.65	240	**4401**	.11
1.3	(4333)	1.58	250	**4402**	.11
1.5	**4334**	1.47	270	**4403**	.109
1.6	(4335)	1.42	300	**4404**	.100
1.8	4336	1.34	330	**4405**	.099
2.0	**4337**	1.27	350	(4405A)	.096
2.2	4338	1.22	360	4406	.095
2.4	4339	1.16	390	**4407**	.091
2.7	**4341**	1.09	400	**4408**	.090
3.0	**4342**	1.04	430	4409	.087
3.3	4343	.99	450	**4409A**	.084
3.6	4344	.95	470	**4410**	.083
3.9	(4345)	.91	500	**4411**	.081
4.0	**4346**	.90	510	4412	.080
4.3	4347	.87	560	**4413**	.076
4.7	4348	.83	600	**4414**	.073
5.0	**4349**	.81	620	**4415**	.072
5.1	4350	.80	680	**4416**	.069
5.6	4351	.76	700	**4417**	.068
6.2	4353	.72	750	**4418**	.065
6.8	**4354**	.69	800	**4419**	.064
7.5	**4356**	.65	820	4420	.063
8.2	4358	.63	900	**4421**	.060
9.1	4360	.60	910	4422	.060
0	**4361**	.56	1000	**4423**	.056
1	4362	.54	1100	**4424**	.054
2	4363	.52	1200	**4425**	.052
3	4364	.50	1300	**4426**	.050
5	**4365**	.47	1400	(4426A)	.048
6	(4366)	.45	1500	**4427**	.047
8	**4367**	.42	1600	4428	.045
0	**4368**	.40	1800	**4429**	.042
2	**4369**	.39	2000	**4430**	.040
4	(4370)	.36	2200	**4431**	.039
5	**4371**	.36	2400	4432	.036
7	4372	.35	2500	**4433**	.036
0	**4373**	.30	2700	**4434**	.035
3	**4374**	.31	3000	**4435**	.033
5	4374A	.30	3300	**4436**	.031
6	(4375)	.30	3500	4436A	.030
9	**4376**	.29	3600	(4437)	.030
0	**4377**	.28	3900	4438	.029
3	(4378)	.27	4000	**4439**	.028
7	**4379**	.26	4300	(4440)	.027
0	**4380**	.25	4500	(4440A)	.027
1	4381	.25	4700	**4441**	.026
6	**4382**	.24	5000	**4442**	.025
2	4384	.23	5100	(4443)	.025
8	**4385**	.22	5600	4444	.024
5	4387	.21	6000	4445	.023
2	**4389**	.20	6200	4446	.023
1	4391	.19	6800	4447	.022
0	**4392**	.18	7000	**4448**	.021
0	(4393)	.17	7500	**4449**	.021
0	**4394**	.16	8000	4450	.020
0	4395	.16	8200	**4451**	.020
0	**4396**	.15	9000	4452	.019
0	4397	.14	9100	(4453)	.019
0	4398	.13	10000	**4454**	.018



5 WATT

.938"x.203" Dia. Style 995-5B Avg. Wt., .004 lb.

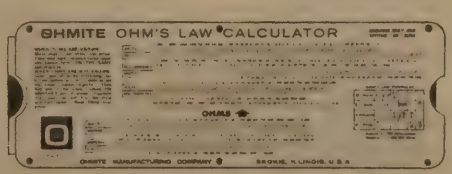
Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	**4530**	2.24	330	**4605**	.12
1.1	4531	2.13	350	**4605A**	.12
1.2	**4532**	2.04	360	(4606)	.12
1.3	(4533)	1.96	390	**4607**	.11
1.5	**4534**	1.83	400	**4608**	.11
1.6	4535	1.77	430	(4609)	.11
1.8	4536	1.67	450	4609A	.11
2.0	**4537**	1.58	470	**4610**	.10
2.2	4538	1.51	500	**4611**	.10
2.4	4539	1.44	510	**4612**	.10
2.7	4541	1.36	560	**4613**	.094
3.0	**4542**	1.29	600	**4614**	.091
3.3	(4543)	1.23	620	4615	.090
3.6	4544	1.18	680	4616	.086
3.9	(4545)	1.13	700	4617	.084
4.0	**4546**	1.11	750	**4618**	.082
4.3	(4547)	1.07	800	**4619**	.079
4.7	4548	1.03	820	**4620**	.078
5.0	**4549**	1.00	900	4621	.074
5.1	4550	.99	910	(4622)	.074
5.6	**4551**	.94	1000	**4623**	.071
6.2	4553	.90	1100	4624	.067
6.8	(4554)	.86	1200	**4625**	.065
7.5	4556	.82	1300	**4626**	.062
8.2	4558	.78	1400	(4626A)	.059
9.1	(4560)	.74	1500	**4627**	.058
10	**4561**	.71	1600	4628	.056
11	(4562)	.67	1800	**4629**	.053
12	**4563**	.65	2000	**4630**	.050
13	4564	.62	2200	**4631**	.048
15	**4565**	.58	2400	4632	.046
16	4566	.56	2500	**4633**	.045
18	**4567**	.53	2700	**4634**	.043
20	**4568**	.50	3000	**4635**	.041
22	**4569**	.48	3300	**4636**	.039
24	4570	.46	3500	4636A	.038
25	**4571**	.45	3600	(4637)	.037
27	4572	.43	3900	**4638**	.036
30	**4573**	.41	4000	**4639**	.035
33	4574	.39	4300	**4640**	.034
35	4574A	.38	4500	**4640A**	.033
36	(4575)	.37	4700	**4641**	.033
39	**4576**	.36	5000	**4642**	.032
40	**4577**	.35	5100	(4643)	.031
43	4578	.34	5600	**4644**	.030
47	**4579**	.33	6000	**4645**	.029
50	**4580**	.32	6200	(4646)	.028
51	**4581**	.31	6800	**4647**	.027
56	**4582**	.30	7000	4648	.027
62	4584	.28	7500	**4649**	.026
68	**4585**	.27	8000	**4650**	.025
75	**4587**	.26	8200	**4651**	.025
82	**4589**	.25	9000	**4652**	.024
91	(4591)	.23	9100	**4653**	.023
100	**4592**	.22	10000	**4654**	.022
110	4593	.21	11000	(4655)	.021
120	**4594**	.20	12000	**4656**	.020
130	4595	.20	13000	(4657)	.020
150	**4596**	.18	14000	(4657A)	.018
160	**4597**	.18	15000	**4658**	.018
180	4598	.17	16000	4659	.018
200	**4599**	.16	17000	4659B	.017
220	**4600**	.15	18000	4660	.017
240	4601	.14	20000	**4661**	.016
250	**4602**	.14	22000	**4662**	.015
270	**4603**	.14	24000	(4663)	.014
300	**4604**	.13	25000	**4664**	.014

11 WATT

1.781"x.312" Dia. Style 995-10A Avg. Wt., .015 lb.

Ohms	Catalog No.[1]	Max. Amps	Ohms	Catalog No.[1]	Max. Amps
1.0	**4730**	3.32	450	(4809A)	.16
1.1	4731	3.16	470	**4810**	.15
1.2	(4732)	3.03	500	**4811**	.15
1.3	(4733)	2.91	510	4812	.15
1.5	4734	2.71	560	(4813)	.14
1.6	(4735)	2.62	600	4814	.14
1.8	4736	2.42	620	(4815)	.13
2.0	**4737**	2.34	680	4816	.13
2.2	(4738)	2.24	700	4817	.12
2.4	(4739)	2.14	750	**4818**	.12
2.7	4741	2.02	800	(4819)	.12
3.0	**4742**	1.92	820	4820	.12
3.3	(4743)	1.83	900	4821	.11
3.6	4744	1.75	910	4822	.11
3.9	(4745)	1.67	1000	**4823**	.11
4.0	**4746**	1.66	1100	4824	.10
4.3	4747	1.60	1200	4825	.096
4.7	4748	1.53	1300	(4826)	.092
5.0	**4749**	1.48	1400	4826A	.089
5.1	(4750)	1.47	1500	**4827**	.086
5.6	(4751)	1.40	1600	4828	.083
6.2	4753	1.33	1800	4829	.078
6.8	4754	1.27	2000	**4830**	.074
7.5	**4756**	1.21	2200	4831	.071
8.2	4758	1.16	2400	(4832)	.068
9.1	(4760)	1.10	2500	**4833**	.066
10	**4761**	1.05	2700	**4834**	.064
11	4762	1.00	3000	**4835**	.061
12	(4763)	.96	3300	4836	.058
13	4764	.92	3500	4836A	.056
15	**4765**	.86	3600	4837	.055
16	4766	.83	3900	(4838)	.053
18	4767	.78	4000	**4839**	.052
20	**4768**	.74	4300	4840	.050
22	**4769**	.71	4500	4840A	.049
24	(4770)	.68	4700	4841	.048
25	**4771**	.66	5000	**4842**	.047
27	4772	.64	5100	(4843)	.046
30	**4773**	.61	5600	4844	.044
33	**4774**	.58	6000	**4845**	.043
35	4774A	.56	6200	(4846)	.042
36	(4775)	.55	6800	**4847**	.040
39	**4776**	.53	7000	4848	.040
40	**4777**	.52	7500	4849	.038
43	4778	.50	8000	(4850)	.037
47	4779	.48	8200	4851	.037
50	**4780**	.47	9000	(4852)	.035
51	(4781)	.46	9100	(4853)	.035
56	4782	.44	10000	**4854**	.033
62	(4784)	.42	11000	4855	.031
68	**4785**	.40	12000	4856	.030
75	**4787**	.38	13000	(4857)	.029
82	**4789**	.37	14000	(4857B)	.028
91	(4791)	.35	15000	**4858**	.027
100	**4792**	.33	16000	(4859A)	.026
110	(4793)	.31	17000	(4859C)	.025
120	4794	.30	18000	(4860)	.024
130	4795	.29	20000	4861	.023
150	**4796**	.27	22000	4862	.022
160	4797	.26	24000	4863	.021
180	4798	.24	25000	**4864**	.021
200	**4799**	.23	27000	4865	.020
220	**4800**	.22	30000	4866	.019
240	4801	.21	33000	(4867)	.018
250	**4802**	.21	35000	(4867A)	.018
270	(4803)	.20	36000	4868	.017
300	**4804**	.19	39000	(4869)	.017
330	4805	.18	40000	**4870**	.016
350	**4805A**	.18	43000	4871	.016
360	(4806)	.17	45000	4871A	.016
390	(4807)	.17	47000	4872	.015
400	4808	.16	50000	**4873**	.015
430	4809	.16	51000	**4874**	.015

OHM'S LAW CALCULATOR . . .

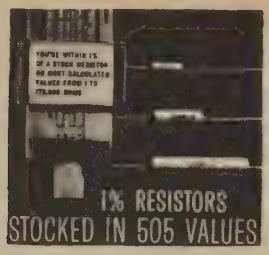


Solve Ohm's Law/Parallel Resistance problems with Ohmite's pocket-sized calculator. Also convenient A, B, C, and D slide rule scales for supplementary calculations. Resistance scales from 0.01 ohm to 100 megohms. Varnished cardboard or deluxe plastic model.

Type	Stock No.	Price
Cardboard	5180	$0.30
Plastic	5182	$1.65

Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

OHMITE type 884 Riteohm® Resistors—1% tolerance



molded for uniform shape and size

miniature precision resistors—1% tolerance

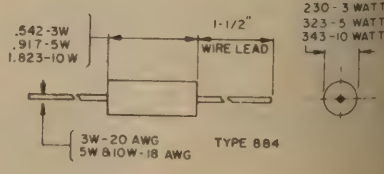
OHMICONE® molded • wirewound • aged for stability • insulated for 1000 volts • low T.C.

Type 884 Riteohm® Resistors are stocked in power ratings of 3, 5 and 10 watts. Single layer wound on ceramic cores, Riteohm resistors feature a pressure-molded coating of tough, resillient Ohmicone® silicone-ceramic material which meets the MIL-R-26, 1000 VAC insulation test. Riteohms are aged for long term stability and exhibit negligible inductance at audio frequencies. Temperature coefficient of resistance is 0±10ppm/°C[1] for most values. Values shown are based on the MIL-Bell system of standard values. For non-standard values, closer tolerances, etc. contact your local Ohmite office.

Resistance (Ohms)	3 WATTS Style 884-3 Cat. No.[2]	Max. Amps (Emax= 200)	5 WATTS Style 884-5 Cat. No.[2]	Max. Amps (Emax= 460)	10 WATTS Style 884-10 Cat. No.[2]	Max. Amps (Emax= 1100)
.1	**80013**	5.48	80015	7.07	80010	10.0
.121	80023	4.98	80025	6.43	80020	9.09
.150	80033	4.47	80035	5.77	80030	8.16
.200	80053	3.87	80055	5.00	80050	7.07
.221	80063	3.68	80065	4.76	80060	6.73
.249	80073	3.47	80075	4.48	80070	6.34
.274	80083	3.31	80085	4.27	80080	6.04
.392	80103	2.77	80105	3.57	80100	5.05
.475	80113	2.51	80115	3.24	80110	4.59
.499	80123	2.45	80125	3.17	80120	4.78
.681	80143	2.10	80145	2.71	80140	3.83
.750	80153	2.00	80155	2.58	80150	3.65
.825	80163	1.91	80165	2.46	80160	3.48
1.00	**80173**	1.73	80175	2.24	80170	3.16
1.10	80213	1.65	80215	2.13	80210	3.02
1.2	(80253)	1.58	80255	2.04	80250	2.89
1.43	80323	1.45	80325	1.87	80320	2.64
1.5	(80343)	1.41	80345	1.83	80340	2.58
1.58	(80363)	1.38	80365	1.78	80360	2.52
1.82	80423	1.28	80425	1.66	80420	2.34
2.0	80463	1.22	80465	1.58	80460	2.24
2.21	(80503)	1.17	80505	1.50	80500	2.13
2.49	80553	1.10	80555	1.42	80550	2.00
2.74	(80593)	1.05	80595	1.35	80590	1.91
3.01	(80633)	.998	80635	1.29	80630	1.82
3.32	(80673)	.951	80675	1.23	80670	1.74
4.02	(80753)	.864	80755	1.12	80750	1.58
4.42	80793	.824	80795	1.06	80790	1.50
4.53	80803	.814	80805	1.05	80800	1.49
4.99	80843	.775	80845	1.00	80840	1.42
5.11	(80853)	.766	80855	.989	80850	1.40
6.19	(80933)	.696	80935	.899	80930	1.27
6.81	(80973)	.664	80975	.857	80970	1.21
7.50	81013	.632	81015	.816	81010	1.15
8.06	81043	.610	81045	.788	81040	1.12
9.09	81093	.574	81095	.742	81090	1.05
10.0	**81133**	.548	81135	.707	81130	1.00
11.0	81173	.522	81175	.674	81170	.953
12.1	81213	.498	81215	.643	81210	.909
13.0	81243	.480	81245	.620	81240	.877
14.0	81273	.463	81275	.598	81270	.845
15.0	81303	.447	81305	.577	81300	.816
18.2	(81383)	.406	81385	.524	81380	.741
20.0	81423	.387	81425	.500	81420	.707
22.1	81463	.368	81465	.476	81460	.673
24.3	81503	.351	81505	.454	81500	.642
24.9	81513	.347	81515	.448	81510	.634
27.4	81553	.331	81555	.427	81550	.604
30.1	81593	.316	81595	.408	81590	.576
33.2	81633	.301	81635	.388	81630	.549
34.8	(81653)	.294	81655	.379	81650	.536
38.3	81693	.280	81695	.361	81690	.511
39.2	81703	.277	81705	.357	81700	.505
40.2	**81713**	.273	81715	.353	81710	.499
43.2	81743	.264	81745	.340	81740	.481
47.5	81783	.251	81785	.324	81780	.459
49.9	81803	.245	81805	.317	81800	.448
51.1	81813	.242	81815	.313	81810	.442
56.2	(81853)	.231	81855	.298	81850	.422
59.0	81873	.225	81875	.291	81870	.412
60.4	81883	.223	81885	.288	81880	.407
61.9	81893	.220	81895	.284	81890	.402
68.1	81933	.210	81935	.271	81930	.383
75.0	81973	.200	81975	.258	81970	.365
82.5	82013	.191	82015	.246	82010	.348
88.7	82043	.184	82045	.237	82040	.336
90.9	82053	.182	82055	.235	82050	.332
100	**82093**	.173	82095	.224	82090	.316
115	82153	.162	82155	.209	82150	.295
121	82173	.157	82175	.203	82170	.287
130	82203	.152	82205	.196	82200	.277
150	82263	.141	82265	.183	82260	.258
162	82293	.136	82295	.176	82290	.248
169	82313	.133	82315	.172	82310	.243
174	82323	.131	82325	.170	82320	.240
178	82333	.130	82335	.168	82330	.237
182	82343	.128	82345	.166	82340	.234
200	82383	.122	82385	.158	82380	.224
205	82393	.121	82395	.156	82390	.221
215	82413	.118	82415	.152	82410	.216
221	82423	.117	82425	.150	82420	.213
249	82473	.110	82475	.142	82470	.200
255	82483	.108	82485	.140	82480	.198
274	82513	.105	82515	.135	82510	.191
301	82553	.0998	82555	.129	82550	.182
332	82593	.0951	82595	.123	82590	.174
340	82603	.0939	82605	.121	82600	.171
365	(82633)	.0907	82635	.117	82630	.166
374	82643	.0896	82645	.116	82640	.164
383	82653	.0885	82655	.114	82650	.162
392	82663	.0875	82665	.113	82660	.160
402	82673	.0864	82675	.112	82670	.158
432	(82703)	.0833	82705	.108	82700	.153
453	82723	.0814	82725	.105	82720	.149
475	82743	.0795	82745	.103	82740	.145
499	82763	.0775	82765	.100	82760	.142
511	**82773**	.0766	82775	.0989	82770	.140
562	82813	.0731	82815	.0943	82810	.133
604	82843	.0705	82845	.0910	82840	.129
619	82853	.0696	82855	.0899	82850	.127
681	82893	.0664	82895	.0857	82890	.121
715	82913	.0648	82915	.0836	82910	.118
750	82933	.0632	82935	.0816	82930	.115
806	82963	.0610	82965	.0788	82960	.111
825	82973	.0603	82975	.0778	82970	.110
909	83013	.0574	83015	.0742	83010	.105
953	83033	.0561	83035	.0724	83030	.102
1000	**83053**	.0548	83055	.0707	83050	.100
1100	83093	.0522	83095	.0674	83090	.0953
1180	**83123**	.0504	83125	.0650	83120	.0921
1300	83163	.0480	83165	.0620	83160	.0877
1470	83213	.0452	83215	.0583	83210	.0825
1500	83223	.0447	83225	.0577	83220	.0816
1620	83253	.0430	83255	.0556	83250	.0786
1780	83293	.0411	83295	.0530	83290	.0750
1820	83303	.0406	83305	.0524	83300	.0741
2000	83343	.0387	83345	.0500	83340	.0707
2150	83373	.0374	83375	.0482	83370	.0682
2210	83383	.0368	83385	.0476	83380	.0673
2260	83393	.0364	83395	.0470	83390	.0665
2430	83423	.0351	83425	.0454	83420	.0641
2490	83433	.0347	83435	.0448	83430	.0634
2740	83473	.0331	83475	.0427	83470	.0604
2940	83503	.0319	83505	.0412	83500	.0583
3010	83513	.0316	83515	.0408	83510	.0576
3090	83523	.0312	83525	.0402	83520	.0569
3160	**83533**	.0308	83535	.0398	83530	.0563
3240	83543	.0304	83545	.0393	83540	.0556
3320	83553	.0301	83555	.0388	83550	.0549
3480	83573	.0294	83575	.0379	83570	.0536
3920	83623	.0277	83625	.0357	83620	.0505
4020	83633	.0273	83635	.0353	83630	.0499
4750	83703	.0251	83705	.0324	83700	.0459
4870	83713	.0248	83715	.0320	83710	.0453
4990	83723	.0245	83725	.0317	83720	.0448
5110	83733	.0242	83735	.0313	83730	.0442
5490	83763	.0234	83765	.0302	83760	.0427
5620	83773	.0231	83775	.0298	83770	.0422
6040	83803	.0223	83805	.0288	83800	.0407
6190	83813	.0220	83815	.0284	83810	.0402
6650	83843	.0214	83845	.0275	83840	.0390
6810	83853	.0212	83855	.0274	83850	.0388
6980	83863	.0210	83865	.0271	83860	.0383
7500	83893	.0200	83895	.0258	83890	.0365
8060	83923	.0193	83925	.0249	83920	.0352
8250	83933	.0191	83935	.0246	83930	.0348
8870	83963	.0184	83965	.0237	83960	.0336
10,000	**84013**	.0173	84015	.0224	84010	.0316
15,000	84183	.0133	84185	.0183	84180	.0258
20,000	84303	.0100	84305	.0158	84300	.0224
20,500	84313	.00976	84315	.0156	84310	.0221
22,100	84343	.00905	84345	.0150	84340	.0213
23,700			84375	.0145	84370	.0205
24,900			84395	.0142	84390	.0200
25,000			84405	.0140	84400	.0198
27,400			84435	.0135	84430	.0191
30,100			84475	.0129	84470	.0182
34,000			84525	.0121	84520	.0171
36,500			84555	.0117	84550	.0166
40,200			84595	.0112	84590	.0158
43,200			84625	.0106	84620	.0152
45,300			84645	.0102	84640	.0149
47,500			84665	.00968	84660	.0145
49,900			84685	.00929	84680	.0142
51,100			84695	.00900	84690	.0140
80,600			84885	.00571	84880	.0111
82,500					84890	.0110
90,900					84930	.0105
100,000					84970	.0100
150,000					85140	.00733
174,000					85200	.00632
200,000					85260	.00550



Uniform shape of Riteohms permits clip mounting for extra heat dissipation. The wattage capability can be increased by as much as 100% when clip is mounted to a metal surface. See Series 99 listings for clip ordering information.



[1]T.C. of values in 3 Watt size under 97.6 ohms is as follows: From 97.6 thru 10 ohms, 0±20ppm/°C; from 9.76 thru 1.0 ohms, 0±50ppm/°C; below 1 ohm, 0±90ppm/°C.

[2] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

© United Technical Publications

OHMITE type 270 vitreous enameled fixed resistors

These lug type resistors are wire-wound on high quality ceramic cores, protected and insulated by Ohmite vitreous enamel — the time-proved standard covering that is the best conductor of heat for a material which must also be a good electrical insulator.

Resistance tolerance is ±5% for values 1 ohm or higher; ±10% below 1 ohm.

Wattage ratings are for use in free air. When resistors are mounted in closed spaces or where the circulation of air is restricted, they should not be used at more than one-half rating. Currents and voltages for reduced ratings can be obtained by multiplying full rating by the following factors: 75% load = .86, 66% = .81, 50% = .71, 33% = .57, 25% = .50.

Mounting brackets are automatically supplied in individual unit packs; supplied only when specified in bulk pack orders. See page 18, "Mounting Brackets for Tubular Resistors" to specify other brackets.







12 WATT Free air rating to 5600 Ohms Core: 1¾"x⅜" Mtg. Ctr: 2⅜"—Av. Wt. .02 lb. Std. Mtg. Brkt.: Cat. No. 5			25 WATT Free air rating to 12,000 Ohms. Core: 2"x⅝" Mtg. Ctr: 2¾" — Av. Wt. .05 lb. Std. Mtg. Brkt.: No. 9		50 WATT Free air rating to 25,000 Ohms. Core: 4"x⅝" Mtg. Ctr:4¾" — Av. Wt. .09 lb. Std. Mtg. Brkt.: No. 9		100 WATT Free air rating to 60,000 Ohms. Core: 6½"x¾" Mtg. Ctr: 7⅜" — Av. Wt. .20 lb. Std. Mtg. Brkt.: No. 12		175 WATT Free air rating for All Values Core; 8½"x1⅛" Mtg. Ctr: 9⅜" — Av. Wt. .50 lb. Std. Mtg. Brkt.: No. 18		225 WATT Free air rating for All Values Core: 10½"x1⅛" Mtg. Ctr: 11⅜" — Av. Wt. .62 lb. Std. Mtg. Brkt.: No. 18	
Resist. Ohms.	Cat. No.[1]	Max. Amps.	Ohms Res.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.
.5	**3723**	4.86	1	**0200J**	5.00	**0400J**	7.07	**0600C**	10.00	**0700C**	13.2	**0900C**	15.00
1.0	**3730**	3.46	2	**0200K**	3.54	**0400K**	5.00	**0600D**	7.07	0700D	9.35	**0900D**	10.60
1.5	3734	2.83	3	**0200L**	2.88	**0400L**	4.07	**0600E**	5.77	0700E	7.63	**0900E**	8.67
2.2	(3738)	2.34	4	**0200N**	2.50	**0400N**	3.53	**0600F**	5.00	(0700F)	6.6	**0900F**	7.50
3.3	3742	1.91	5	**0200A**	2.24	**0400A**	3.16	**0600A**	4.47	**0700A**	5.92	**0900A**	6.72
4.7	3746	1.60	10	**0200B**	1.58	**0400B**	2.23	**0600B**	3.16	**0700B**	4.18	**0900B**	4.74
6.8	3750	1.33	15	**0200R**	1.29								
10	**3754**	1.10	25	**0200C**	1.00	**0400C**	1.41	**0601**	2.00	**0701**	2.64	**0901**	3.00
12	3756	1.00	50	**0200D**	.71	**0400D**	1.00	**0602**	1.41	**0702**	1.87	**0902**	2.12
15	3758	.89	75	**0200E**	.58	**0400E**	.82	**0603**	1.15	0703	1.52	**0903**	1.73
18	3760	.82	100	**0200F**	.50	**0400F**	.71	**0604**	1.00	**0704**	1.32	**0904**	1.50
22	3762	.74	125					0604B	.90	0704B	1.18		
27	3764	.67	150	**0200G**	.41	**0400G**	.58	**0605**	.82	**0705**	1.08	**0905**	1.25
33	3766	.60	200	**0200H**	.35	**0400H**	.50						
39	3768	.55	250	**0201**	.32	**0401**	.45	**0606**	.63	**0706**	.84	**0906**	.95
47	3770	.53	500	**0202**	.22	**0402**	.32	**0607**	.45	0707	.59	**0907**	.67
56	3772	.46	750	**0203**	.18	**0403**	.26	**0608**	.37	0708	.48	**0908**	.55
68	3774	.42	800	**0204**	.17	**0404**	.25						
82	**3776**	.38	1,000	**0205**	.16	**0405**	.22	**0609**	.32	0709	.42	**0909**	.47
100	**3778**	.35	1,500	**0206**	.13	**0406**	.18	0610	.26	0710	.34	**0910**	.39
120	3780	.32	2,000	**0207**	.12	**0407**	.16	**0611**	.22	0711	.30	**0911**	.34
150	3782	.28	2,500	**0208**	.10	**0408**	.14	**0612**	.20	(0712)	.26	**0912**	.30
180	3784	.26	3,000	**0209**	.091	0409	.13	**0613**	.18	0713	.24	**0913**	.27
220	3786	.23	3,500	0210	.084								
270	3788	.21	4,000	0211	.079	0410	.11						
330	3790	.19	5,000	**0212**	.070	**0411**	.10	**0614**	.14	0714	.19	**0914**	.21
390	3792	.18	6,000	**0213**	.064								
470	3794	.16	7,500	**0214**	.057	0412	.081	0615	.12	(0715)	.15	0915	.17
560	3796	.15	8,000			0413	.079						
680	(3798)	.13	10,000	**0215**	.050	**0414**	.071	0616	.10	0716	.13	**0916**	.15
820	3800	.12	12,000	**0216**	.045	(0415)	.064						
1,000	**3802**	.11	15,000	**0217**	.036	**0416**	.057	0617	.081	0717	.11	**0917**	.13
1,200	3804	.10	20,000	**0218**	.031	(0417)	.050	0618	.071	0718	.094	**0918**	.11
1,500	**3806**	.089	25,000	**0219**	.028	0418	.045	0619	.063	0719	.083	0919	.095
1,800	(3808)	.082	30,000	0220	.026			0620	.058	(0720)	.076	0920	.087
2,200	3810	.074	35,000	(0221)	.024	0419	.032						
2,700	3812	.067	40,000	0222	.022			0621	.050	(0721)	.066	**0921**	.075
3,300	3814	.060	50,000	**0224**	.019	**0420**	.026	**0622**	.045	(0722)	.059	**0922**	.067
3,900	3816	.055	60,000	**0225**	.016			0623	.041	(0723)	.054	(0923)	.061
4,700	**3818**	.051	70,000	0226	.013								
5,600	3820	.046	75,000			0421	.021	0624	.032	(0724)	.048	(0924)	.055
6,800	(3822)	.038	80,000	0227	.012								
8,200	(3824)	.035	100,000	**0229**	.0094	**0422**	.018	**0625**	.028	0725	.042	**0925**	.047
10,000	**3826**	.032	125,000			0423	.017						
12,000	3828	.029	150,000			0424	.015						
15,000	3830	.026	175,000			(0425)	.014						
18,000	(3832)	.024	200,000			0426	.012						
22,000	3834	.021	250,000			**0428**	.010						
27,000	3836	.019											
33,000	(3838)	.017											
39,000	(3840)	.016											
47,000	(3842)	.015											
51,000	**3843**	.014											

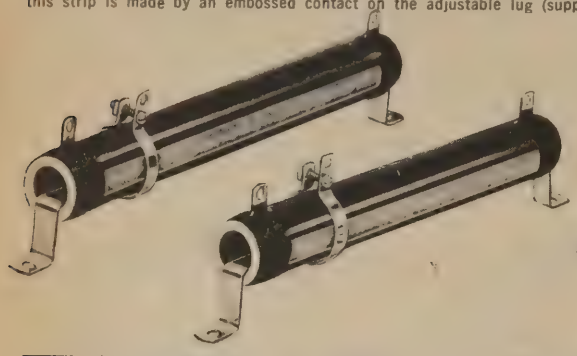
Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

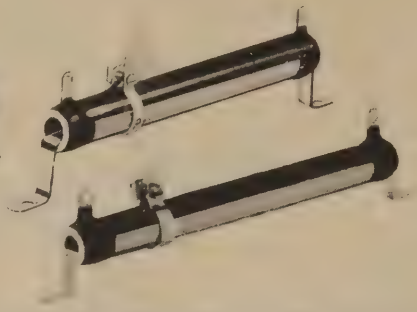
OHMITE dividohm® type 210 adjustable vitreous enameled resistors

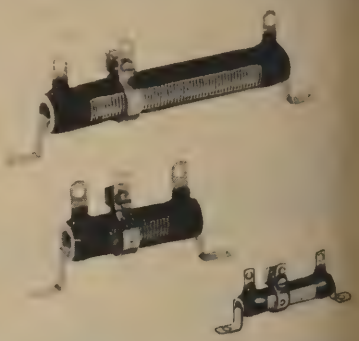
"Dividohm" resistors make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. Such tapped "bleeders" are made by using one or more adjustable lugs, as required. "Dividohms" are also handy for obtaining odd resistance values, for adjusting circuits, and for use on equipment which must be set to meet various line voltages.

"Dividohm" resistors are vitreous enameled resistors on which a narrow strip has been left uncovered to expose a portion of each turn. Contact to any wire in this strip is made by an embossed contact on the adjustable lug (supplied).

WATT RATING: **The stated wattage rating applies only when the entire resistance is in the circuit.** When the adjustable lug is set at an intermediate point, the wattage rating is reduced in approximately the same portion, i.e., if the lug is set at half the resistance, the wattage is reduced by one-half. A safe rule to follow is to make sure that the maximum rated current is not exceeded. This should be carefully checked particularly if the resistor will be used as a voltage divider with several adjustable lugs. Resistance tolerance is ±10% for the total resistance value.







Resist. Ohms	12 WATT Core: 1¾"x¾"D. Mtg. Ctr: 2¾"— Av. Wt. .02 lb. Std. Mtg. Brkt.* No. 5		25 WATT Core: 2"x⅝"D. Mtg. Ctr: 2¾"— Av. Wt. .05 lb. Std. Mtg. Brkt.* No. 9		50 WATT Core: 4"x⅝"D. Mtg. Ctr: 4¾"— Av. Wt. .09 lb. Std. Mtg. Brkt.* No. 9		75 WATT Core: 6"x⅝"D. Mtg. Ctr: 6¾"— Av. Wt. .15 lb. Std. Mtg. Brkt.* No. 9		100 WATT Core: 6½"x¾"D. Mtg. Ctr: 7⅜"— Av. Wt. .20 lb. Std. Mtg. Brkt.* No. 12		175 WATT Core: 8½"x1⅛"D. Mtg. Ctr: 9⅜"— Av. Wt. .50 lb. Std. Mtg. Brkt.* No. 18		225 WATT Core: 10½"x1⅛"D. Mtg. Ctr: 11⅜"— Av. Wt. .62 lb. Std. Mtg. Brkt.* No. 18	
	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.	Catalog No.[1]	Max. Amps.
1	**1001**	3.46	**0360**	5.00	**0560A**	7.07	0769A	8.66	**0956A**	10.0	**1156A**	13.2	**1356A**	15.00
2	**1002**	2.45	**0360B**	3.54	**0560B**	5.00	0769B	6.12	**0956B**	7.07	1156B	9.35	**1356B**	10.60
3	**1003**	2.00	**0361**	2.88	**0560C**	4.07	0769C	5.00	**0956C**	5.77	1156C	7.63	**1356C**	8.67
4					0560D	3.53	0769D	4.33	**0956D**	5.00	1156D	6.60	**1356D**	7.50
5	**1004**	1.54	**0362**	2.24	**0560**	3.16	**0769**	3.87	**0956**	4.47	**1156**	5.92	**1356**	6.72
7.5	1005	1.26	**0362B**	1.82										
10	**1006**	1.09	**0363**	1.58	**0561**	2.23	**0770**	2.74	**0957**	3.16	**1157**	4.18	**1357**	4.74
15	**1007**	.89	**0364**	1.29			**0771**	2.24						
20	**1008**	.77	**0364B**	1.12										
25	**1009**	.69	**0365**	1.00	**0562**	1.41	**0772**	1.73	**0958**	2.00	**1158**	2.64	**1358**	3.00
50	**1010**	.49	**0366**	.71	**0563**	1.00	**0773**	1.22	**0959**	1.41	**1159**	1.87	**1359**	2.12
75	**1011**	.40	**0367**	.58	**0564**	.82								
100	**1012**	.34	**0368**	.50	**0565**	.71	**0774**	.86	**0960**	1.00	**1160**	1.32	**1360**	1.50
150	**1013**	.28	**0369**	.41	**0566**	.58								
200	**1014**	.24	**0370**	.35	**0567**	.50	0774B	.61						
250	**1015**	.22	**0371**	.32	**0568**	.45	0775	.55	**0960B**	.63	**1160B**	.84	**1360B**	.95
300	**1016**	.20	**0371B**	.29	**0568B**	.41	**0775B**	.50						
350	1017	.18												
400	**1018**	.17	**0371C**	.25	**0568C**	.35	0775C	.43						
500	**1019**	.15	**0372**	.22	**0569**	.32	**0776**	.39	**0961**	.45	**1161**	.59	**1361**	.67
600	1020	.14												
750	**1021**	.13	**0373**	.18	**0570**	.26	0777	.32						
800	1022	.12	0374	.17	(0571)	.25	(0777B)	.30						
1000	**1023**	.11	**0375**	.16	**0572**	.22	0778	.27	**0962**	.32	**1162**	.42	**1362**	.47
1250	1024	.098	0375B	.14	0572B	.20	0778B	.24						
1500	**1025**	.089	**0376**	.13	**0573**	.18	0779	.22	**0962B**	.26	1162B	.34	**1362B**	.39
2000	**1026**	.077	**0377**	.12	**0574**	.16	0780	.19						
2250	1027	.073	0377B	.11	(0574B)	.15	(0780B)	.18						
2500	**1028**	.069	**0378**	.10	**0575**	.14	(0781)	.17	**0963**	.20	1163	.26	**1363**	.30
3000	**1029**	.063	**0379**	.091	**0576**	.13	(0781B)	.16						
3500	1030	.058	0380	.084	0576B	.12	(0782)	.15						
4000	1031	.055	**0381**	.079	0577	.11	0782B	.14						
4500	1032	.052	0381B	.074	0577B	.10	(0782C)	.13						
5000	**1033**	.049	**0382**	.070	**0578**	.10	0783	.12	**0964**	.14	1164	.19	**1364**	.21
6000	1034	.045	0383	.064	0578B	.091	(0783B)	.11						
7000	**1035**	.042	(0383B)	.060	(0578C)	.084	(0783C)	.10						
7500	1036	.040	**0384**	.057	(0579)	.081	(0784)	.10						
8000	**1037**	.039	0384B	.055	**0580**	.079	(0784B)	.096						
8500	(1038)	.037												
9000	(1039)	.036	0384C	.052	(0580B)	.074	(0784C)	.091						
10000	**1040**	.035	**0385**	.050	**0581**	.071	0785	.086	**0965**	.10	1165	.13	**1365**	.15
12000			0386	.042	0582	.064	(0785B)	.079						
15000			**0387**	.036	**0583**	.057	(0786)	.070	(0966)	.081	(1166)	.11	1366	.13
20000			**0388**	.031	0584	.050	0787	.061	0967	.071	(1167)	.094	1367	.11
25000			**0389**	.028	**0585**	.045	0788	.054	0968	.063	(1168)	.083	1368	.095
30000					0586	.036	(0789)	.050	(0969)	.058	(1169)	.076	1369	.087
35000							(0790)	.046						
40000					0587	.029	(0791)	.043	0970	.050	(1170)	.066	(1370)	.075
45000							(0792)	.035						
50000					**0588**	.026	(0793)	.033	**0971**	.045	(1171)	.059	1371	.067
60000					(0589)	.024	(0794)	.030						
75000									(0972)	.032	(1172)	.048	(1372)	.055
80000					(0590)	.021	(0795)	.026						
100000					0591	.018	(0796)	.023	**0973**	.028	1173	.042	1373	.047

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

* **Mounting brackets are automatically supplied in individual unit packs; supplied only when specified in bulk packs.**

adjustable lugs

One "Screw Driver Type Adjustable Lug" is supplied with each unit. Lugs with a silver contact button can be ordered from the table shown below.

MOVING THE LUGS: Lugs always should be loosened completely before moving and not moved except while the current is off, in order to protect the exposed wire from mechanical or electrical injury and to protect the operator from dangerous voltages.



STANDARD

Core Diam. Inches	Screw Driver Type New Cat. No.	Screw Driver Type Old Cat. No.	Bakelite Knob Type New Cat. No.	Bakelite Knob Type Old Cat. No.
⅜	2115	1058	—	—
⅝	2121	0358	2122	0359
¾	2125	1958	2126	1959
1⅛	2133	2158	2134	2159

With SILVER CONTACT BUTTONS

Core Diam. Inches	Screw Driver Type New Cat. No.	Screw Driver Type Old Cat. No.	Bakelite Knob Type New Cat. No.	Bakelite Knob Type Old Cat. No.
⅜	2116	2161	—	—
⅝	2123	2164	2124	2165
¾	2127	2166	2128	2167
1⅛	2135	2170	2136	2171

DOUBLE THUMB SCREW ADJUSTABLE LUG

This adjustable lug, which is illustrated above, features two advantages — ease of adjustment and less chance of damaging the resistance wire while moving lugs. Available for 1⅛" cores.
Catalog No. **2160**

© United Technical Publications

OHMITE type 200 *brown devil*® fixed resistors



BROWN DEVIL® (Type 200) resistors, are vitreous enameled, wirewound units long famous for ruggedness and durability in small power resistors. With the emphasis towards miniaturization and the current industry trend towards higher operating temperatures, Ohmite has been able to increase the ratings on two Brown Devil sizes. The 5 watt size is now rated **8 watts** and the 10 watt size is now rated **12 watts**. The 20 watt unit retains the same rating. The higher ratings may be confidently applied to any 5 or 10 watt unit now in the possession of users or distributors. At this time also, to meet the demand for lower wattage units, Ohmite introduces two, new, small stock sizes — 3 and 5¼ watts.

Standard resistance tolerance is ±5% for values 1 ohm or higher; ±10% for values below 1 ohm. Tinned leads 1½" long: 3 and 5¼ watt, 20 AWG; 8, 12 and 20 watt, 18 AWG.

DIMENSIONS, WEIGHTS, CODES

Rating	3W	5¼W	8W	12W	20W
Core Dimen.	7/16x.210	5/8x1/4D	1x3/8D	1¾x3/8D	2x7/16D
Weight (lbs.)	.003	.005	.01	.015	.03

Ohms	3 WATT Cat. No.[1]	3 WATT Amps.	5¼ WATT Cat. No.[1]	5¼ WATT Amps.	8 WATT Cat. No.[1]	8 WATT Amps.	12 WATT Cat. No.[1]	12 WATT Amps.	20 WATT Cat. No.[1]	20 WATT Amps.
0.5							1700A	4.90	1800A	6.32
1.0	2712	1.73	2822	2.29	1500	2.83	1701	3.46	1802A	4.47
1.1	(2713)	1.65	(2823)	2.19						
1.2	(2714)	1.58	(2824)	2.09						
1.3	(2715)	1.52	(2825)	2.01						
1.5	(2716)	1.41	2826	1.87	1500B	2.30	1704	2.82		
1.6	(2717)	1.37	(2827)	1.81						
1.8	(2718)	1.29	(2828)	1.71						
2.0	2719	1.22	2829	1.62	1501	2.00	1705	2.45	1802B	3.16
2.2	(2720)	1.17	2830	1.54						
2.4	(2721)	1.12	(2831)	1.48						
2.7	2722	1.05	(2832)	1.39						
3.0	2723	1.00	2833	1.32	1502	1.63	1706	2.00	1802C	2.58
3.3	2724	.95	2834	1.24						
3.6	2725	.91	2835	1.21						
3.9	(2726)	.88	2836	1.16						
4.0					1503	1.41	1707	1.73	1802D	2.24
4.3	(2727)	.83	2837	1.10						
4.7	2728	.80	2838	1.06						
5.0					1504	1.26	1708	1.54	1803	2.00
5.1	2729	.77	2839	1.01						
5.6	2730	.73	2840	.97						
6.2	2731	.69	(2841)	.92						
6.8	(2732)	.66	(2842)	.88						
7.5	2733	.63	2843	.84	1505	1.00	1709	1.26		
8.2	(2734)	.60	2844	.80						
9.1	2735	.57	(2845)	.76						
10	2736	.55	2846	.72	1506	.89	1710	1.09	1804	1.41
11	(2737)	.52	2847	.69						
12	(2738)	.50	2848	.66	1507	.81	1711	1.00		
13	(2739)	.48	(2849)	.64						
15	2740	.45	2850	.59	1508	.73	1712	.89		
16	(2741)	.43	2851	.57						
18	2742	.42	(2852)	.54						
20	2743	.39	2853	.51	1509	.63	1713	.77		
22	2744	.37	2854	.49						
24	(2745)	.35	2855	.47						
25					1510	.56	1714	.69	1805	.89
27	(2746)	.33	2856	.44						
30	2747	.32	2857	.42	1511	.51	1715	.63		
33	2748	.30	(2858)	.40						
35					1512	.47	1716	.58		
36	(2749)	.29	(2859)	.38						
39	2750	.28	2860	.37						
40					1513	.44	1717	.54		
43	(2751)	.26	(2861)	.35						
47	(2752)	.25	2862	.33						
50					1514	.40	1718	.49	1806	.63
51	2753	.24	2863	.32						
56	2754	.23	2864	.31						
62	2755	.22	2865	.29						
68	2756	.21	2866	.28						
75	2757	.20	2867	.27	1515	.32	1719	.40	1807	.52
82	(2758)	.19	2868	.25						
91	2759	.18	2869	.24						
100	2760	.17	2870	.23	1516	.28	1720	.34	1808	.45
110	(2761)	.16	2871	.22						
120	2762	.16	2872	.21						
125					1517	.25	1721	.31		
130	(2763)	.15	(2873)	.20						
150	2764	.14	2874	.19	1518	.23	1722	.28	1809	.36
160	(2765)	.14	2875	.18						
180	2766	.13	2876	.17						
200	2767	.12	2877	.16	1519	.20	1723	.24	1810	.32
220	2768	.12	2878	.16						
225					1520	.18	1724	.23		
240	2769	.11	2879	.15						
250					1521	.17	1725	.22	1811	.28
270	2770	.11	2880	.14						
300	2771	.10	2881	.13	1522	.16	1726	.20	1812	.26
330	2772	.095	2882	.12						
350					1523	.15	1727	.18	1813	.24
360	2773	.091	(2883)	.12						
390	(2774)	.088	2884	.12						
400					1524	.14	1728	.17	1814	.22
430	2775	.083	2885	.11						
450					1525	.13	1729	.16		
470	2776	.080	2886	.11						
500										
510	2777	.077	2887	.10						
560	2778	.073	2888	.097						
600					1526	.12	1730	.15	1815	.20
620	(2779)	.070	2889	.092						
650					1527	.11	1731	.14		
680	2780	.067	2890	.088						
700					1528	.11	1732	.13	1816	.18
750	2781	.063	2891	.084	1529	.10	1733	.12	1817	.17
800					1530	.10	1734	.12	1818	.16
820	(2782)	.060	2892	.080					1819	.15
900					1531	.094	1735	.11	1820A	.15
910	2783	.057	2893	.076						
1000	2784	.055	2894	.072	1532	.089	1736	.11	1821	.14
1100	(2785)	.052	2895	.069	1533	.085	(1737)	.10		
1200	2786	.050	2896	.066	1534	.081	1738	.10	1822	.13
1250					1535	.080	1739	.097	1823	.12
1300	(2787)	.048	2897	.063						
1500	2788	.045	2898	.059	1536	.073	1740	.089	1824	.12
1600	2789	.043	(2899)	.057						
1750					1537	.067	1741	.082	1825	.11
1800	(2790)	.042	2900	.050						
2000	(2791)	.039	2901	.047	1538	.063	1742	.077	1827	.10
2200	2792	.037	2902	.045						
2250					1539	.059	1743	.073	(1828)	.094
2400	(2793)	.035	2903	.043						
2500					1540	.056	1744	.069	1830	.089
2700	(2794)	.033	2904	.041						
2750									1831	.085
3000	2795	.032	2905	.039	1541	.046	1745	.063	1832	.081
3300	2796	.030	2906	.037						
3500					1542	.043	1746	.058	1833	.075
3600	(2797)	.029	2907	.035						
3900	2798	.028	2908	.034						
4000					1543	.040	1747	.054	1834	.070
4300	(2799)	.026	(2909)	.032						
4500					1544	.038	1748	.051	1835	.066
4700	2800	.025	2910	.031						
5000					1545	.036	1749	.049	1836	.063
5100	(2801)	.024	2911	.030						
5600	(2802)	.023	2912	.028						
6000					1546	.033	1750	.044	1837	.057
6200	2803	.022	2913	.027						
6800	(2804)	.021	2914	.026						
7000					1547	.030	1751	.041	(1838)	.053
7500	(2805)	.020	2915	.025	1548	.029	1752	.036	1839	.051
8000					1549	.029	1753	.035	(1840)	.050
8200	2806	.019	2916	.023						
8500							(1754)	.034		
9000					1550	.027	1754A	.033	(1840A)	.047
9100	(2807)	.018	(2917)	.022						
10K	2808	.016	2918	.021	1551	.026	1755	.032	1841	.043
11K			(2919)	.020			(1756)	.030		
12K			2920	.019			1757	.029		
12.5K					1552	.023	1758	.028	1842	.032
13K			(2921)	.019						
13.5K							(1759)	.027		
15K			2922	.017	1553	.021	1761	.026	1843	.029
16K			2923	.017			(1762)	.025		
17.5K					1554	.019	1763	.024		
18K			2924	.016			1764	.024		
20K			2925	.014	1555	.018	1765	.022	1844	.026
22.5K					1556	.017	1766	.021		
25K					1557	.015	1767	.020	1845	.023
30K							1768	.018	1846	.021
35K							1769	.017	1847	.019
40K							1770	.016	1848	.018
45K							1771	.015	(1849)	.017
50K							1772	.014	1850	.016
55K									(1851)	.015
60K									1852	.015
65K									1853	.014
70K									1854	.014
75K									(1855)	.013
80K									(1856)	.013
85K									(1857)	.012
90K									(1858)	.012
95K									1859	.012
100K									1860	.011

Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

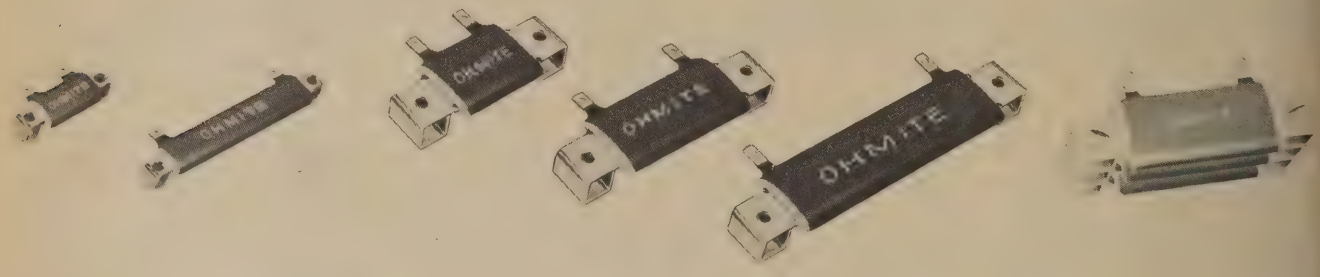
OHMITE type 250 "THIN" vitreous enameled resistors

Ohmite "Thin" Resistors are intended for use in equipment where space is at a premium. They are wound on flat, oval shaped ceramic cores, and covered with Ohmite's exclusive vitreous enamel coating. Resistance tolerance. ±5%.

Integral mounting brackets extend through the resistor core to equalize heat distribution and to conduct heat directly to the mounting surface — provides equivalent wattage with less bulk and in less space. Wattage ratings assume the use of a metal mounting surface. Reduce ratings 15% for non-metallic surfaces.

"Thin" resistors are mounted or compactly stacked by means of bracket studs which are hollow to receive assembly bolts. The load should be reduced for each unit when resistors are stacked or used in confined, poorly ventilated spaces. Total height from bottom of mounting stud to top of resistor is approximately 9/16" for the Standard units and 11/32" for the Miniature units.

For other sizes, closer tolerances, non-stacking brackets, Dividohm adjustable or other features, consult factory.



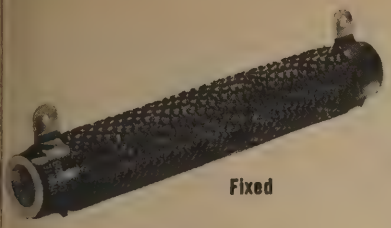
	MINIATURE SIZES						STANDARD SIZES								
	10 WATT* Core: 3/4"x3/8"x1/8"— Mtg. Ctr. 1" Stud Hole .125"— Av. Wt. .007 lb.			20 WATT* Core: 2"x3/8"x1/8"— Mtg. Ctr. 2 1/4" Stud Hole .125"— Av. Wt. .015 lb.			30 WATT* Core: 1 1/4"x1"x1/4"— Mtg. Ctr. 2" Stud Hole .196"— Av. Wt. .037 lb.			40 WATT* Core: 2"x1"x1/4"— Mtg. Ctr. 2 3/4" Stud Hole .196"— Av. Wt. .052 lb.			55 WATT* Core: 3 1/2"x1"x1/4"— Mtg. Ctr. 4 1/4" Stud Hole .196"— Av. Wt. .095 lb.		
Resist. Ohms	Cat. No.[1]	Max. Volts	Max. Amps	Cat. No.[1]	Max. Volts	Max. Amps	Cat. No.[1]	Max. Volts	Max. Amps	Cat. No.[1]	Max. Volts	Max. Amps	Cat. No.[1]	Max. Volts	Max. Amps
1	**F101**	3.16	3.16	F201	4.47	4.47	F301	5.47	5.47	**F401**	6.32	6.32	**F501**	7.42	7.42
1.5							(F302)	6.70	4.47	F402	7.74	5.16	F502	8.25	6.05
2	F102	4.47	2.24	**F202**	6.32	3.16	(F303)	7.74	3.88	**F403**	8.94	4.47	**F503**	10.4	5.24
3							F304	9.45	3.17	F404	10.9	3.65	F504	12.8	4.28
4										(F405)	12.6	3.16	F505	14.8	3.70
5	**F103**	7.07	1.41	**F203**	10.0	2.00	**F305**	12.2	2.46	F406	14.1	2.83	F506	16.6	3.32
7.5	F104	8.66	1.15							F407	17.3	2.31	(F507)	20.6	2.72
10	F105	10.0	1.00	**F204**	14.1	1.41	F306	17.3	1.73	**F408**	20.0	2.00	F508	23.4	2.34
15	(F106)	12.2	0.82	**F205**	17.3	1.16	**F307**	21.2	1.42						
20	**F107**	14.1	0.71												
25	F108	15.8	0.63	F206	22.3	0.89	F308	27.4	1.10	**F409**	31.6	1.26	**F509**	37.1	1.48
30	F109	17.3	0.58												
40	F110	20.0	0.50	F207	28.3	0.71	F309	34.6	0.87	**F410**	40.0	1.00	**F510**	46.9	1.17
50	**F111**	22.3	0.45	**F208**	31.6	0.63	F310	38.7	0.77	F411	44.7	0.89	**F511**	52.4	1.05
75	**F112**	27.4	0.36	F209	38.7	0.52	F311	47.4	0.63	(F412)	54.8	0.73	(F512)	64.2	0.86
100	**F113**	31.6	0.32	**F210**	44.7	0.45	F312	54.8	0.55	F413	63.2	0.63	F513	74.1	0.74
125	F114	35.3	0.28												
150	**F115**	38.7	0.26	**F211**	54.8	0.36	(F313)	67.0	0.45	(F414)	77.4	0.52	F514	82.5	0.61
200	F116	44.7	0.22	**F212**	63.2	0.32	(F314)	77.4	0.39	(F415)	89.4	0.45	F515	104.0	0.52
250	**F117**	50.0	0.20	F213	70.7	0.28	F315	86.6	0.35	(F416)	100.0	0.40	F516	117.0	0.47
300	F118	54.8	0.18	F214	77.4	0.26									
400	**F119**	63.2	0.16	**F215**	89.4	0.22	(F316)	108.0	0.28	(F417)	126.0	0.32	F517	148.0	0.37
500	**F120**	70.7	0.14	**F216**	100.0	0.20	F317	122.0	0.25	F418	141.0	0.28	F518	166.0	0.33
600	(F121)	77.4	0.13												
750	F122	86.6	0.12				(F318)	150.0	0.20	F419	173.0	0.23	(F519)	206.0	0.27
800				F217	126.0	0.16									
1000	F123	100.0	0.10	F218	141.0	0.14	F319	173.0	0.17	(F420)	200.0	0.20	(F520)	234.0	0.23
1250	(F124)	111.0	0.089	**F219**	158.0	0.12									
1500	F125	122.0	0.081	**F220**	173.0	0.12	F320	212.0	0.14	(F421)	245.0	0.16	(F521)	287.0	0.19
1750	F126	132.0	0.075												
2000	F127	141.0	0.071	(F221)	200.0	0.10	(F321)	245.0	0.12	F422	283.0	0.14	(F522)	332.0	0.17
2500	**F128**	158.0	0.063	(F222)	223.0	0.089	F322	274.0	0.11	(F423)	316.0	0.13	(F523)	371.0	0.15
3000	**F129**	173.0	0.057	(F223)	245.0	0.081	(F323)	300.0	0.10	(F424)	345.0	0.12	(F524)	406.0	0.14
3500				(F224)	264.0	0.075									
4000	F130	200.0	0.050	(F225)	283.0	0.070	F324	346.0	0.087	(F425)	400.0	0.10	(F525)	469.0	0.12
5000	(F131)	223.0	0.045	F226	316.0	0.063	(F325)	387.0	0.076	(F426)	447.0	0.089	(F526)	524.0	0.10
6000				(F227)	346.0	0.058									
7500				(F228)	387.0	0.052	(F326)	424.0	0.057	(F427)	548.0	0.073	(F527)	642.0	0.086
10000				**F229**	445.0	0.045	(F327)	490.0	0.049	F428	632.0	0.063	F528	741.0	0.074
12500				(F230)	500.0	0.040									
15000				**F231**	555.0	0.036				(F429)	670.0	0.045	(F529)	825.0	0.061
20000				(F232)	625.0	0.032				(F430)	774.0	0.039	(F530)	1040.0	0.052
25000				(F233)	715.0	0.028				(F431)	866.0	0.035	(F531)	1170.0	0.047
30000				(F234)	770.0	0.026							(F532)	1210.0	0.040
35000				(F235)	835.0	0.024									
40000				(F236)	910.0	0.022									
50000				F237	990.0	0.020									

[1] Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

*Ratings are based on use of steel panel mounting and should be reduced on non-metallic mounting surface because of reduced thermal conductivity.

© United Technical Publications

OHMITE corrib® HIGH CURRENT LOW OHMS resistors



Fixed



Dividohm® Adjustable

High current, low resistance, heavy duty units used in motor starting, dynamic braking, etc. "Corrib" type units employ a corrugated ribbon of resistance alloy. This is space-wound edge-wise around a ceramic tube. Vitreous enamel is fused around the alloy ribbon to lock the turns securely in place. Heavy lug terminals. Resistance tolerance is ±10%.

Available in fixed or Dividohm® adjustable types. Dividohm® type is similar to fixed and includes one adjustable lug. Rating of Fixed or Dividohm® stock units—300 watts—reduce unit load for stack-mounted resistors; core size (bare) 8½" long x1⅛" diameter. Other sizes made to order.

STOCK CORRIBS — 300 WATT SIZE
Type 280 Fixed; 230 Dividohm®

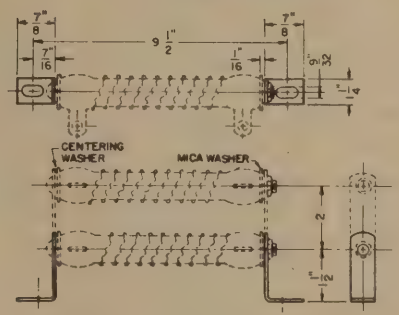
Core: 8½x1⅛" Fixed or Adjustable (DIVIDOHM)
Avg. Weight (Fixed) .61 lb.; (Dividohm) .64 lb.

Ohms	Amps.	Fixed[1] Catalog No.	Dividohm*[1] Catalog No.
.10	54.7	**2501**	2601
.12	50.0	**2502**	(2602)
.16	43.3	2503	2603
.20	38.7	**2504**	(2604)
.25	34.6	**2505**	**2605**
.31	31.1	**2506**	2606
.40	27.4	(2507)	2607
.50	24.5	**2508**	**2608**
.63	21.8	2509	2609
.80	19.3	2510	2610
1.0	17.3	**2511**	2611
1.2	15.8	**2512**	(2612)
1.6	13.7	2513	2613
2.0	12.2	**2514**	2614
2.5	10.9	2515	2615
3.1	9.8	**2516**	2616
4.0	8.6	2517	2617
5.0	7.7	**2518**	2618
6.3	6.9	2519	2619
8.0	6.1	2520	2620
10.0	5.5	**2521**	2621
12.0	5.0	2522	**2622**
16.0	4.3	2523	2623
20.0	3.8	**2524**	**2624**

*Adjustable Lug Stk. No. 1974 supplied with Dividohm.

THRU-BOLT MOUNTING BRACKETS FOR CORRIBS
Includes 2 brackets; bolt; centering, mica, and lock washers; nuts. Diagram below.

No. of Resistors	Catalog No.
1	6126P8½
2	6127P8½
3	6128P8½
4	6129P8½



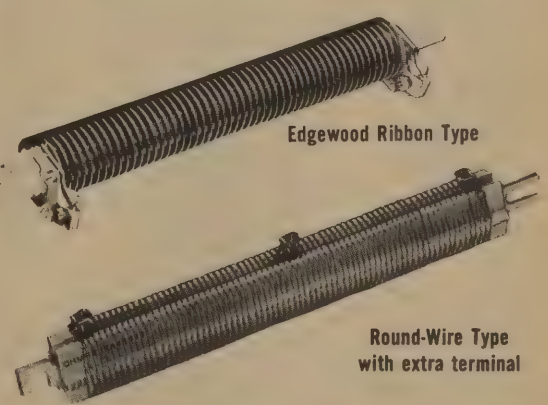
EXTRA ADJUSTABLE LUGS FOR CORRIBS

For Dividohm	Lug Catalog No.
2601 to 2618	1974-B
2619 to 2624	1974-A

powr-rib® HIGH CURRENT LOW OHMS resistors

Even higher power handling capability—approximately 700 to 1000 watts—is available in stock, "Powr-Rib" resistors. These are UNCOATED types and are wound either edgewise with ribbon ("Edgewound" type) or with round wire (Round-Wire type).

The core of these units consists of ceramic segments on a metal bar which is slotted on both ends for rapid installation. Standard resistance tolerance is ±10%. Terminals clamp onto the resistor wire and may be moved in from the ends for intermediate resistance values. Extra terminals available for use as taps. See diagrams for terminals. Terminal Stk. No. 2172G (not shown) has screw connections.

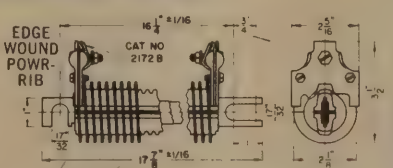


Edgewood Ribbon Type

Round-Wire Type with extra terminal

STYLE 080-5 EDGEWOUND POWR-RIBS

Ohms*	H ±⅛	D +⅛ −0
.10-.22	3⅝	2⅛
.25-1.00	3⅛	1⅞
1.30-1.60	2⅝	1⅞
2.2, 2.8, 4.5, 5.4	2½	1¾
3.5, 6.8, 8.5	2⅜	1⅝

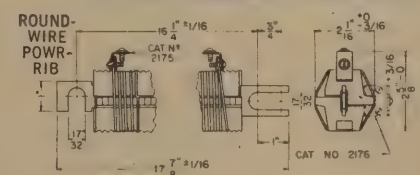


*.10 to 1.00 Ω with terminal No. 2172B
1.3 to 8.5 Ω with terminal No. 2172G

Avg. Weight .18Ω or less, 4 lbs.; .22Ω and up, 2 lbs.

Catalog No.[1]	Ohms	Max. Amps.	Catalog No.[1]	Ohms	Max. Amps.
2301	.10	100	**2318**	.67	41
2302	.12	91	**2311**	.75	39
2303A	.14	89	**2312**	1.00	33
2304A	.16	78	**2319**	1.30	29
2305A	.18	75	**2313**	1.60	26
2306A	.22	68	**2331A**	2.20	18.4
2306	.25	63	**2332A**	2.80	16.3
2308A	.30	57	**2333A**	3.50	14.6
2308	.33	54	**2334A**	4.50	12.7
2309A	.37	50	**2335A**	5.40	11.8
2310	.50	47	**2336A**	6.80	10.3
2317	.60	43	**2337A**	8.50	9.4

STYLE 082-5 ROUND-WIRE POWR-RIBS



Avg. Weight 3¼ lbs.

Catalog No.[1]	Ohms	Max. Amps.
2338	11.0	8.3
2339	13.0	7.6
2340	17.0	6.6
2341	20.0	5.9
2342	25.0	5.1

EXTRA TERMINALS

For Round Wire Powr-Rib		For Edgewound Powr-Rib	
Descrip	Catalog No.	Descrip	Catalog No.
In-Line Mtg.	2175	30 Amps & more	2172B
90° Mtg.	(2176)	29 Amps & less	2172G

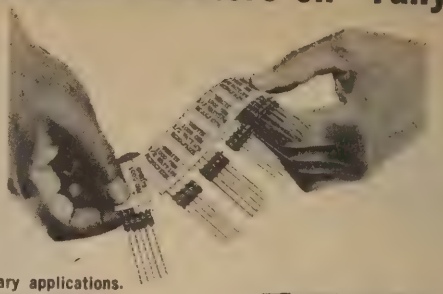
Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

© United Technical Publications

OHMITE *Little Devil*® molded composition resistors on "Tally Tape"



"Tally Tape," Ohmite's wonderfully convenient packaging presently provides for ¼, ½, 1 and 2-watt resistors. Each perforated segment holds 5 resistors — prevents spilling or tangling — simplifies counting — is printed for quick identification — guarantees original, factory-fresh stock.



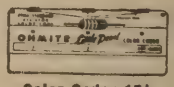
Now Includes MIL-R-II Types

Also available per MIL-R-39008 for ⅛, ¼, ½ and 1 Watt, ±5% Tol.

Little Devils, Ohmite's famous molded composition resistors, find broad use in commercial and military applications. The ⅛, ¼, ½, 1 and 2-watt sizes, which conform respectively to Styles RC05, RC07, RC20, RC32 and RC42 of MIL-R-11, meet all the stringent requirements of this military specification. The five sizes available satisfy a wide range of design and service needs.

Little Devils have molded insulation for high dielectric strength. Noted advantages of these units are great stability, low noise level, low voltage coefficient, high insulation breakdown voltage and rapid heat dissipation. They may be used at full rated wattage at 70°C (158°F) ambient temperature.

Little Devils are available from stock in standard EIA resistance values in the tolerances and resistance ranges shown in the price table. Ratings for maximum continuous RMS voltage drop are high: 150 volts for ⅛ watt units, 250 volts for ¼ watt, 350 volts for ½ watt, 500 volts for 1 watt, and 750 volts for 2 watt units. See "Little Devil" Resistor Assortments page 16.



Color Coder 15¢

CATALOG NO. 5190

⅛ WATT — MIL Type: RC 05* Size: .145"L.x .062"D. Leads: .015" D. x 1" L.

Resistance	Catalog Number ±5%	±10%
2.7 ohms	OB27G5	OB27G1
3.0 ohms	OB30G5	
3.3 ohms	OB33G5	OB33G1
3.6 ohms	OB36G5	
3.9 ohms	OB39G5	OB39G1
4.3 ohms	OB43G5	
4.7 ohms	OB47G5	OB47G1
5.1 ohms	OB51G5	
5.6 ohms	OB56G5	OB56G1
6.2 ohms	OB62G5	
6.8 ohms	OB68G5	OB68G1
7.5 ohms	OB75G5	
8.2 ohms	OB82G5	OB82G1
9.1 ohms	OB91G5	
10. ohms	OB1005	OB1001
11. ohms	OB1105	
12. ohms	OB1205	OB1201
13. ohms	OB1305	
15. ohms	OB1505	OB1501
16. ohms	OB1605	
18. ohms	OB1805	OB1801
20. ohms	OB2005	
22. ohms	OB2205	OB2201
24. ohms	OB2405	
27. ohms	OB2705	OB2701
30. ohms	OB3005	
33. ohms	OB3305	OB3301
36. ohms	OB3605	
39. ohms	OB3905	OB3901
43. ohms	OB4305	
47. ohms	OB4705	OB4701
51. ohms	OB5105	
56. ohms	OB5605	OB5601

⅛ WATT — MIL Type: RC 05* Size: .145"L.x .062"D. Leads: .015" D. x 1" L.

Resistance	Catalog Number ±5%	±10%
62. ohms	OB6205	
68. ohms	OB6805	OB6801
75. ohms	OB7505	
82. ohms	OB8205	OB8201
91. ohms	OB9105	
100. ohms	OB1015	OB1011
110. ohms	OB1115	
120. ohms	OB1215	OB1211
130. ohms	OB1315	
150. ohms	OB1515	OB1511
160. ohms	OB1615	
180. ohms	OB1815	OB1811
200. ohms	OB2015	
220. ohms	OB2215	OB2211
240. ohms	OB2415	
270. ohms	OB2715	OB2711
300. ohms	OB3015	
330. ohms	OB3315	OB3311
360. ohms	OB3615	
390. ohms	OB3915	OB3911
430. ohms	OB4315	
470. ohms	OB4715	OB4711
510. ohms	OB5115	
560. ohms	OB5615	OB5611
620. ohms	OB6215	
680. ohms	OB6815	OB6811
750. ohms	OB7515	
820. ohms	OB8215	OB8211
910. ohms	OB9115	
1,000. ohms	OB1025	OB1021
1,100. ohms	OB1125	
1,200. ohms	OB1225	OB1221
1,300. ohms	OB1325	

⅛ WATT — MIL Type: RC 05* Size: .145"L.x .062"D. Leads: .015" D. x 1" L.

Resistance	Catalog Number ±5%	±10%
1,500. ohms	OB1525	OB1521
1,600. ohms	OB1625	
1,800. ohms	OB1825	OB1821
2,000. ohms	OB2025	
2,200. ohms	OB2225	OB2221
2,400. ohms	OB2425	
2,700. ohms	OB2725	OB2721
3,000. ohms	OB3025	
3,300. ohms	OB3325	OB3321
3,600. ohms	OB3625	
3,900. ohms	OB3925	OB3921
4,300. ohms	OB4325	
4,700. ohms	OB4725	OB4721
5,100. ohms	OB5125	
5,600. ohms	OB5625	OB5621
6,200. ohms	OB6225	
6,800. ohms	OB6825	OB6821
7,500. ohms	OB7525	
8,200. ohms	OB8225	OB8221
9,100. ohms	OB9125	
10,000. ohms	OB1035	OB1031
11,000. ohms	OB1135	
12,000. ohms	OB1235	OB1231
13,000. ohms	OB1335	
15,000. ohms	OB1535	OB1531
16,000. ohms	OB1635	
18,000. ohms	OB1835	OB1831
20,000. ohms	OB2035	
22,000. ohms	OB2235	OB2231
24,000. ohms	OB2435	
27,000. ohms	OB2735	OB2731
30,000. ohms	OB3035	
33,000. ohms	OB3335	OB3331

⅛ WATT — MIL Type: RC 05* Size: .145"L.x .062"D. Leads: .015" D. x 1" L.

Resistance	Catalog Number ±5%	±10%
36,000. ohms	OB3635	
39,000. ohms	OB3935	OB3931
43,000. ohms	OB4335	
47,000. ohms	OB4735	OB4731
51,000. ohms	OB5135	
56,000. ohms	OB5635	OB5631
62,000. ohms	OB6235	
68,000. ohms	OB6835	OB6831
75,000. ohms	OB7535	
82,000. ohms	OB8235	OB8231
91,000. ohms	OB9135	
0.1 megs	OB1045	OB1041
0.11 megs	OB1145	
0.12 megs	OB1245	OB1241
0.13 megs	OB1345	
0.15 megs	OB1545	OB1541
0.16 megs	OB1645	
0.18 megs	OB1845	OB1841
0.20 megs	OB2045	
0.22 megs	OB2245	OB2241
0.24 megs	OB2445	
0.27 megs	OB2745	OB2741
0.30 megs	OB3045	
0.33 megs	OB3345	OB3341
0.36 megs	OB3645	
0.39 megs	OB3945	OB3941
0.43 megs	OB4345	
0.47 megs	OB4745	OB4741
0.51 megs	OB5145	
0.56 megs	OB5645	OB5641
0.62 megs	OB6245	
0.68 megs	OB6845	OB6841
0.75 megs	OB7545	

⅛ WATT — MIL Type: RC 05* Size: .145"L.x .062"D. Leads: .015" D. x 1" L.

Resistance	Catalog Number ±5%	±10%
0.82 megs	OB8245	OB8241
0.91 megs	OB9145	
1. megs	OB1055	OB1051
1.1 megs	OB1155	
1.2 megs	OB1255	OB1251
1.3 megs	OB1355	
1.5 megs	OB1555	OB1551
1.6 megs	OB1655	
1.8 megs	OB1855	OB1851
2.0 megs	OB2055	
2.2 megs	OB2255	OB2251
2.4 megs	OB2455	
2.7 megs	OB2755	OB2751
3.0 megs	OB3055	
3.3 megs	OB3355	OB3351
3.6 megs	OB3655	
3.9 megs	OB3955	OB3951
4.3 megs	OB4355	
4.7 megs	OB4755	OB4751
5.1 megs	OB5155	
5.6 megs	OB5655	OB5651
6.2 megs	OB6255	
6.8 megs	OB6855	OB6851
7.5 megs	OB7555	
8.2 megs	OB8255	OB8251
9.1 megs	OB9155	
10. megs	OB1065	OB1061
11. megs	OB1165	
12. megs	OB1265	OB1261
13. megs	OB1365	
15. megs	OB1565	OB1561
16. megs	OB1665	
18. megs	OB1865	OB1861
20. megs	OB2065	
22. megs	OB2265	OB2261

¼ WATT — MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
2.7 ohms	**OC27G5**	**OC27G1**
3.0 ohms	**OC30G5**	
3.3 ohms	**OC33G5**	OC33G1
3.6 ohms	OC36G5	
3.9 ohms	**OC39G5**	OC39G1
4.3 ohms	OC43G5	
4.7 ohms	**OC47G5**	**OC47G1**
5.1 ohms	**OC51G5**	
5.6 ohms	**OC56G5**	**OC56G1**
6.2 ohms	OC62G5	
6.8 ohms	**OC68G5**	OC68G1
7.5 ohms	**OC75G5**	
8.2 ohms	**OC82G5**	OC82G1
9.1 ohms	OC91G5	
10. ohms	**OC1005**	**OC1001**
11. ohms	OC1105	
12. ohms	OC1205	OC1201
13. ohms	OC1305	
15. ohms	**OC1505**	**OC1501**
16. ohms	OC1605	
18. ohms	OC1805	OC1801
20. ohms	**OC2005**	
22. ohms	**OC2205**	**OC2201**
24. ohms	**OC2405**	
27. ohms	**OC2705**	OC2701
30. ohms	OC3005	
33. ohms	**OC3305**	**OC3301**
36. ohms	OC3605	
39. ohms	**OC3905**	OC3901
43. ohms	OC4305	
47. ohms	**OC4705**	**OC4701**
51. ohms	**OC5105**	
56. ohms	**OC5605**	OC5601
62. ohms	**OC6205**	

¼ WATT — MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
68. ohms	**OC6805**	**OC6801**
75. ohms	**OC7505**	
82. ohms	**OC8205**	**OC8201**
91. ohms	**OC9105**	
100. ohms	**OC1015**	**OC1011**
110. ohms	**OC1115**	
120. ohms	**OC1215**	OC1211
130. ohms	OC1315	
150. ohms	**OC1515**	**OC1511**
160. ohms	**OC1615**	
180. ohms	**OC1815**	**OC1811**
200. ohms	**OC2015**	
220. ohms	**OC2215**	**OC2211**
240. ohms	OC2415	
270. ohms	**OC2715**	**OC2711**
300. ohms	**OC3015**	
330. ohms	**OC3315**	**OC3311**
360. ohms	**OC3615**	
390. ohms	**OC3915**	**OC3911**
430. ohms	**OC4315**	
470. ohms	**OC4715**	**OC4711**
510. ohms	**OC5115**	
560. ohms	**OC5615**	**OC5611**
620. ohms	**OC6215**	
680. ohms	**OC6815**	**OC6811**
750. ohms	OC7515	
820. ohms	**OC8215**	**OC8211**
910. ohms	OC9115	
1,000. ohms	**OC1025**	**OC1021**
1,100. ohms	**OC1125**	
1,200. ohms	**OC1225**	**OC1221**
1,300. ohms	**OC1325**	
1,500. ohms	**OC1525**	**OC1521**
1,600. ohms	**OC1625**	

¼ WATT — MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
1,800. ohms	**OC1825**	**OC1821**
2,000. ohms	**OC2025**	
2,200. ohms	**OC2225**	**OC2221**
2,400. ohms	**OC2425**	
2,700. ohms	**OC2725**	**OC2721**
3,000. ohms	**OC3025**	
3,300. ohms	**OC3325**	**OC3321**
3,600. ohms	**OC3625**	
3,900. ohms	**OC3925**	**OC3921**
4,300. ohms	**OC4325**	
4,700. ohms	**OC4725**	**OC4721**
5,100. ohms	**OC5125**	
5,600. ohms	**OC5625**	**OC5621**
6,200. ohms	**OC6225**	
6,800. ohms	**OC6825**	**OC6821**
7,500. ohms	**OC7525**	
8,200. ohms	**OC8225**	**OC8221**
9,100. ohms	OC9125	
10,000. ohms	**OC1035**	**OC1031**
11,000. ohms	**OC1135**	
12,000. ohms	**OC1235**	**OC1231**
13,000. ohms	OC1335	
15,000. ohms	**OC1535**	**OC1531**
16,000. ohms	OC1635	
18,000. ohms	**OC1835**	**OC1831**
20,000. ohms	**OC2035**	
22,000. ohms	**OC2235**	**OC2231**
24,000. ohms	**OC2435**	
27,000. ohms	**OC2735**	**OC2731**
30,000. ohms	**OC3035**	
33,000. ohms	**OC3335**	**OC3331**
36,000. ohms	**OC3635**	
39,000. ohms	**OC3935**	**OC3931**
43,000. ohms	OC4335	

¼ WATT — MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
47,000. ohms	**OC4735**	**OC4731**
51,000. ohms	**OC5135**	
56,000. ohms	**OC5635**	**OC5631**
62,000. ohms	**OC6235**	
68,000. ohms	**OC6835**	**OC6831**
75,000. ohms	**OC7535**	
82,000. ohms	**OC8235**	**OC8231**
91,000. ohms	OC9135	
0.1 megs	**OC1045**	**OC1041**
0.11 megs	**OC1145**	
0.12 megs	**OC1245**	OC1241
0.13 megs	OC1345	
0.15 megs	**OC1545**	**OC1541**
0.16 megs	**OC1645**	
0.18 megs	OC1845	**OC1841**
0.20 megs	**OC2045**	
0.22 megs	**OC2245**	**OC2241**
0.24 megs	OC2445	
0.27 megs	**OC2745**	**OC2741**
0.30 megs	OC3045	
0.33 megs	**OC3345**	**OC3341**
0.36 megs	OC3645	
0.39 megs	**OC3945**	OC3941
0.43 megs	OC4345	
0.47 megs	**OC4745**	**OC4741**
0.51 megs	OC5145	
0.56 megs	**OC5645**	**OC5641**
0.62 megs	**OC6245**	
0.68 megs	**OC6845**	OC6841
0.75 megs	**OC7545**	
0.82 megs	**OC8245**	OC8241
0.91 megs	OC9145	
1. megs	**OC1055**	**OC1051**
1.1 megs	**OC1155**	

¼ WATT — MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1¼"L.

Resistance	Catalog Number ±5%	±10%
1.2 megs	**OC1255**	OC1251
1.3 megs	**OC1355**	
1.5 megs	**OC1555**	**OC1551**
1.6 megs	**OC1655**	
1.8 megs	**OC1855**	OC1851
2.0 megs	**OC2055**	
2.2 megs	**OC2255**	**OC2251**
2.4 megs	OC2455	
2.7 megs	**OC2755**	**OC2751**
3.0 megs	**OC3055**	
3.3 megs	**OC3355**	**OC3351**
3.6 megs	**OC3655**	
3.9 megs	**OC3955**	OC3951
4.3 megs	OC4355	
4.7 megs	**OC4755**	OC4751
5.1 megs	**OC5155**	
5.6 megs	OC5655	OC5651
6.2 megs	OC6255	
6.8 megs	**OC6855**	**OC6851**
7.5 megs	OC7555	
8.2 megs	OC8255	OC8251
9.1 megs	OC9155	
10. megs	**OC1065**	**OC1061**
11. megs	OC1165	
12. megs	OC1265	OC1261
13. megs	OC1365	
15. megs	**OC1565**	OC1561
16. megs	OC1665	
18. megs	OC1865	**OC1861**
20. megs	**OC2065**	
22. megs	**OC2265**	**OC2261**

[1] **Items appearing in BOLD print are popular values and are usually stocked by authorized OHMITE distributors. Items appearing in LIGHT FACE print are available from stocking distributors but normally are not stocked in depth.**

© United Technical Publications

½ WATT — MIL Type: RC 20‡ — Size: ⅜"L. x ¾"D. — Leads: .033"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
1. ohms	OE10G5	OE10G1
1.1 ohms	OE11G5	
1.2 ohms	OE12G5	OE12G1
1.3 ohms	OE13G5	
1.5 ohms	OE15G5	OE15G1
1.6 ohms	OE16G5	
1.8 ohms	OE18G5	OE18G1
2. ohms	OE20G5	
2.2 ohms	OE22G5	OE22G1
2.4 ohms	OE24G5	
2.7 ohms	OE27G5	OE27G1
3.0 ohms	OE30G5	
3.3 ohms	OE33G5	OE33G1
3.6 ohms	OE36G5	
3.9 ohms	OE39G5	OE39G1
4.3 ohms	OE43G5	
4.7 ohms	OE47G5	OE47G1
5.1 ohms	OE51G5	
5.6 ohms	OE56G5	OE56G1
6.2 ohms	OE62G5	
6.8 ohms	OE68G5	OS68G1
7.5 ohms	OE75G5	
8.2 ohms	OE82G5	OE82G1
9.1 ohms	OE91G5	
10. ohms	OE1005	OE1001
11. ohms	OE1105	
12. ohms	OE1205	OE1201
13. ohms	OE1305	
15. ohms	OE1505	OE1501
16. ohms	OE1605	
18. ohms	OE1805	OE1801
20. ohms	OE2005	
22. ohms	OE2205	OE2201
24. ohms	OE2405	
27. ohms	OE2705	OE2701
30. ohms	OE3005	
33. ohms	OE3305	OE3301
36. ohms	OE3605	
39. ohms	OE3905	OE3901
43. ohms	OE4305	
47. ohms	OE4705	OE4701
51. ohms	OE5105	
56. ohms	OE5605	OE5601
62. ohms	OE6205	
68. ohms	OE6805	OE6801
75. ohms	OE7505	
82. ohms	OE8205	OE8201
91. ohms	OE9105	
100. ohms	OE1005	OE1011
110. ohms	OE1115	
120. ohms	OE1215	OE1211
130. ohms	OE1315	
150. ohms	OE1515	OE1511
160. ohms	OE1615	
180. ohms	OE1815	OE1811
200. ohms	OE2015	
220. ohms	OE2215	OE2211
240. ohms	OE2415	
270. ohms	OE2715	OE2711
300. ohms	OE3015	
330. ohms	OE3315	OE3311
360. ohms	OE3615	
390. ohms	OE3915	OE3911
430. ohms	OE4315	
470. ohms	OE4715	OE4711
510. ohms	OE5115	
560. ohms	OE5615	OE5611
620. ohms	OE6215	
680. ohms	OE6815	OE6811
750. ohms	OE7515	
820. ohms	OE8215	OE8211
910. ohms	OE9115	
1,000. ohms	OE1025	OE1021
1,100. ohms	OE1125	
1,200. ohms	OE1225	OE1221
1,300. ohms	OE1325	
1,500. ohms	OE1525	OE1521
1,600. ohms	OE1625	
1,800. ohms	OE1825	OE1821
2,000. ohms	OE2025	
2,200. ohms	OE2225	OE2221
2,400. ohms	OE2425	
2,700. ohms	OE2725	OE2721
3,000. ohms	OE3025	
3,300. ohms	OE3325	OE3321
3,600. ohms	OE3625	
3,900. ohms	OE3925	OE3921
4,300. ohms	OE4325	
4,700. ohms	OE4725	OE4721
5,100. ohms	OE5125	
5,600. ohms	OE5625	OE5621
6,200. ohms	OE6225	
6,800. ohms	OE6825	OE6821
7,500. ohms	OE7525	
8,200. ohms	OE8225	OE8221
9,100. ohms	OE9125	
10,000. ohms	OE1035	OE1031
11,000. ohms	OE1135	
12,000. ohms	OE1235	OE1231
13,000. ohms	OE1335	
15,000. ohms	OE1535	OE1531
16,000. ohms	OE1635	
18,000. ohms	OE1835	OE1831
20,000. ohms	OE2035	
22,000. ohms	OE2235	OE2231
24,000. ohms	OE2435	
27,000. ohms	OE2735	OE2731
30,000. ohms	OE3035	
33,000. ohms	OE3335	OE3331
36,000. ohms	OE3635	
39,000. ohms	OE3935	OE3931
43,000. ohms	OE4335	
47,000. ohms	OE4735	OE4731
51,000. ohms	OE5135	
56,000. ohms	OE5635	OE5631
62,000. ohms	OE6235	
68,000. ohms	OE6835	OE6831
75,000. ohms	OE7535	
82,000. ohms	OE8235	OE8231
91,000. ohms	OE9135	
0.1 megs	OE1045	OE1041
0.11 megs	OE1145	
0.12 megs	OE1245	OE1241
0.13 megs	OE1345	
0.15 megs	OE1545	OE1541
0.16 megs	OE1645	
0.18 megs	OE1845	OE1841
0.20 megs	OE2045	
0.22 megs	OE2245	OE2241
0.24 megs	OE2445	
0.27 megs	OE2745	OE2741
0.30 megs	OE3045	
0.33 megs	OE3345	OE3341
0.36 megs	OE3645	
0.39 megs	OE3945	OE3941
0.43 megs	OE4345	
0.47 megs	OE4745	OE4741
0.51 megs	OE5145	
0.56 megs	OE5645	OE5641
0.62 megs	OE6245	
0.68 megs	OE6845	OE6841
0.75 megs	OE7545	
0.82 megs	OE8245	OE8241
0.91 megs	OE9145	
1. megs	OE1055	OE1051
1.1 megs	OE1155	
1.2 megs	OE1255	OE1251
1.3 megs	OE1355	
1.5 megs	OE1555	OE1551
1.6 megs	OE1655	
1.8 megs	OE1855	OE1851
2.0 megs	OE2055	
2.2 megs	OE2255	OE2251
2.4 megs	OE2455	
2.7 megs	OE2755	OE2751
3.0 megs	OE3055	
3.3 megs	OE3355	OE3351
3.6 megs	OE3655	
3.9 megs	OE3955	OE3951
4.3 megs	OE4355	
4.7 megs	OE4755	OE4751
5.1 megs	OE5155	
5.6 megs	OE5655	OE5651
6.2 megs	OE6255	
6.8 megs	OE6855	OE6851
7.5 megs	OE7555	
8.2 megs	OE8255	OE8251
9.1 megs	OE9155	
10. megs	OE1065	OE1061
11. megs	OE1165	
12. megs	OE1265	OE1261
13. megs	OE1365	
15. megs	OE1565	OE1561
16. megs	OE1665	
18. megs	OE1865	OE1861
20. megs	OE2065	
22. megs	OE2265	OE2261

1 WATT — MIL Type: RC 32 — Size: ⅜"L. x ³⁄₃₂"D. — Leads: .041"D. x 1½"L.

Resistance	Catalog Number ±5%	±10%
2.7 ohms	OG27G5	OG27G1
3.0 ohms	OG30G5	
3.3 ohms	OG33G5	OG33G1
3.6 ohms	OG36G5	
3.9 ohms	OG39G5	OG39G1
4.3 ohms	OG43G5	
4.7 ohms	OG47G5	OG47G1
5.1 ohms	OG51G5	
5.6 ohms	OG56G5	OG56G1
6.2 ohms	OG62G5	
6.8 ohms	OG68G5	OG68G1
7.5 ohms	OG75G5	
8.2 ohms	OG82G5	OG82G1
9.1 ohms	OG91G5	
10. ohms	OG1005	OG1001
11. ohms	OG1105	
12. ohms	OG1205	OG1201
13. ohms	OG1305	
15. ohms	OG1505	OG1501
16. ohms	OG1605	
18. ohms	OG1805	OG1801
20. ohms	OG2005	
22. ohms	OG2205	OG2201
24. ohms	OG2405	
27. ohms	OG2705	OG2701
30. ohms	OG3005	
33. ohms	OG3305	OG3301
36. ohms	OG3605	
39. ohms	OG3905	OG3901
43. ohms	OG4305	
47. ohms	OG4705	OG4701
51. ohms	OG5105	
56. ohms	OG5605	OG5601
62. ohms	OG6205	
68. ohms	OG6805	OG6801
75. ohms	OG7505	
82. ohms	OG8205	OG8201
91. ohms	OG9105	
100. ohms	OG1015	OG1011
110. ohms	OG1115	
120. ohms	OG1215	OG1211
130. ohms	OG1315	
150. ohms	OG1515	OG1511
160. ohms	OG1615	
180. ohms	OG1815	OG1811
200. ohms	OG2015	
220. ohms	OG2215	OG2211
240. ohms	OG2415	
270. ohms	OG2715	OG2711
300. ohms	OG3015	
330. ohms	OG3315	OG3311
360. ohms	OG3615	
390. ohms	OG3915	OG3911
430. ohms	OG4315	
470. ohms	OG4715	OG4711
510. ohms	OG5115	
560. ohms	OG5615	OG5611
620. ohms	OG6215	
680. ohms	OG6815	OG6811
750. ohms	OG7515	
820. ohms	OG8215	OG8211
910. ohms	OG9115	
1,000. ohms	OG1025	OG1021
1,100. ohms	OG1125	
1,200. ohms	OG1225	OG1221
1,300. ohms	OG1325	
1,500. ohms	OG1525	OG1521
1,600. ohms	OG1625	
1,800. ohms	OG1825	OG1821
2,000. ohms	OG2025	
2,200. ohms	OG2225	OG2221
2,400. ohms	OG2425	
2,700. ohms	OG2725	OG2721
3,000. ohms	OG3025	
3,300. ohms	OG3325	OG3321
3,600. ohms	OG3625	
3,900. ohms	OG3925	OG3921
4,300. ohms	OG4325	
4,700. ohms	OG4725	OG4721
5,100. ohms	OG5125	
5,600. ohms	OG5625	OG5621
6,200. ohms	OG6225	
6,800. ohms	OG6825	OG6821
7,500. ohms	OG7525	
8,200. ohms	OG8225	OG8221
9,100. ohms	OG9125	
10,000. ohms	OG1035	OG1031
11,000. ohms	OG1135	
12,000. ohms	OG1235	OG1231
13,000. ohms	OG1335	
15,000. ohms	OG1535	OG1531
16,000. ohms	OG1635	
18,000. ohms	OG1835	OG1831
20,000. ohms	OG2035	
22,000. ohms	OG2235	OG2231
24,000. ohms	OG2435	
27,000. ohms	OG2735	OG2731
30,000. ohms	OG3035	
33,000. ohms	OG3335	OG3331
36,000. ohms	OG3635	
39,000. ohms	OG3935	OG3931
43,000. ohms	OG4335	
47,000. ohms	OG4735	OG4731
51,000. ohms	OG5135	
56,000. ohms	OG5635	OG5631
62,000. ohms	OG6235	
68,000. ohms	OG6835	OG6831
75,000. ohms	OG7535	
82,000. ohms	OG8235	OG8231
91,000. ohms	OG9135	
0.1 megs	OG1045	OG1041
0.11 megs	OG1145	
0.12 megs	OG1245	OG1241
0.13 megs	OG1345	
0.15 megs	OG1545	OG1541
0.16 megs	OG1645	
0.18 megs	OG1845	OG1841
0.20 megs	OG2045	
0.22 megs	OG2245	OG2241
0.24 megs	OG2445	
0.27 megs	OG2745	OG2741
0.30 megs	OG3045	
0.33 megs	OG3345	OG3341
0.36 megs	OG3645	
0.39 megs	OG3945	OG3941
0.43 megs	OG4345	
0.47 megs	OG4745	OG4741
0.51 megs	OG5145	
0.56 megs	OG5645	OG5641
0.62 megs	OG6245	
0.68 megs	OG6845	OG6841
0.75 megs	OG7545	
0.82 megs	OG8245	OG8241
0.91 megs	OG9145	
1. megs	OG1055	OG1051
1.1 megs	OG1155	
1.2 megs	OG1255	OG1251
1.3 megs	OG1355	
1.5 megs	OG1555	OG1551
1.6 megs	OG1655	
1.8 megs	OG1855	OG1851
2.0 megs	OG2055	
2.2 megs	OG2255	OG2251
2.4 megs	OG2455	
2.7 megs	OG2755	OG2751
3.0 megs	OG3055	
3.3 megs	OG3355	OG3351
3.6 megs	OG3655	
3.9 megs	OG3955	OG3951
4.3 megs	OG4355	
4.7 megs	OG4755	OG4751
5.1 megs	OG5155	
5.6 megs	OG5655	OG5651
6.2 megs	OG6255	
6.8 megs	OG6855	OG6851
7.5 megs	OG7555	
8.2 megs	OG8255	OG8251
9.1 megs	OG9155	
10. megs	OG1065	OG1061
11. megs	OG1165	
12. megs	OG1265	OG1261
13. megs	OG1365	
15. megs	OG1565	OG1561
16. megs	OG1665	
18. megs	OG1865	OG1861
20. megs	OG2065	
22. megs	OG2265	OG2261

2 WATT — MIL Type: RC 42 — Size: ¹¹⁄₁₆"L. x ⅜"D. — Leads: .046"D. x 1½"L.

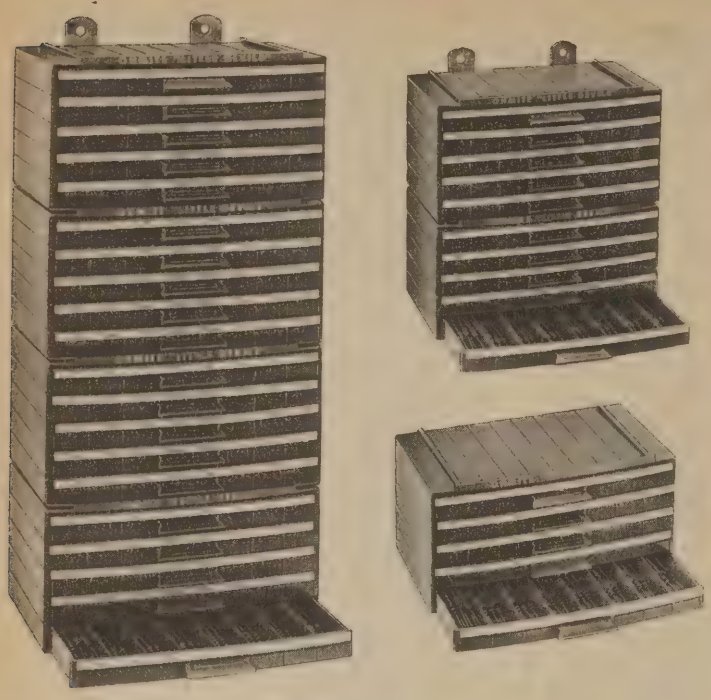
Resistance	Catalog Number ±5%	±10%
10. ohms	OH1005	OH1001
11. ohms	OH1105	
12. ohms	OH1205	OH1201
13. ohms	OH1305	
15. ohms	OH1505	OH1501
16. ohms	OH1605	
18. ohms	OH1805	OH1801
20. ohms	OH2005	
22. ohms	OH2205	OH2201
24. ohms	OH2405	
27. ohms	OH2705	OH2701
30. ohms	OH3005	
33. ohms	OH3305	OH3301
36. ohms	OH3605	
39. ohms	OH3905	OH3901
43. ohms	OH4305	
47. ohms	OH4705	OH4701
51. ohms	OH5105	
56. ohms	OH5605	OH5601
62. ohms	OH6205	
68. ohms	OH6805	OH6801
75. ohms	OH7505	
82. ohms	OH8205	OH8201
91. ohms	OH9105	
100. ohms	OH1015	OH1011
110. ohms	OH1115	
120. ohms	OH1215	OH1211
130. ohms	OH1315	
150. ohms	OH1515	OH1511
160. ohms	OH1615	
180. ohms	OH1815	OH1811
200. ohms	OH2015	
220. ohms	OH2215	OH2211
240. ohms	OH2415	
270. ohms	OH2715	OH2711
300. ohms	OH3015	
330. ohms	OH3315	OH3311
360. ohms	OH3615	
390. ohms	OH3915	OH3911
430. ohms	OH4315	
470. ohms	OH4715	OH4711
510. ohms	OH5115	
560. ohms	OH5615	OH5611
620. ohms	OH6215	
680. ohms	OH6815	OH6811
750. ohms	OH7515	
820. ohms	OH8215	OH8211
910. ohms	OH9115	
1,000. ohms	OH1025	OH1021
1,100. ohms	OH1125	
1,200. ohms	OH1225	OH1221
1,300. ohms	OH1325	
1,500. ohms	OH1525	OH1521
1,600. ohms	OH1625	
1,800. ohms	OH1825	OH1821
2,000. ohms	OH2025	
2,200. ohms	OH2225	OH2221
2,400. ohms	OH2425	
2,700. ohms	OH2725	OH2721
3,000. ohms	OH3025	
3,300. ohms	OH3325	OH3321
3,600. ohms	OH3625	
3,900. ohms	OH3925	OH3921
4,300. ohms	OH4325	
4,700. ohms	OH4725	OH4721
5,100. ohms	OH5125	
5,600. ohms	OH5625	OH5621
6,200. ohms	OH6225	
6,800. ohms	OH6825	OH6821
7,500. ohms	OH7525	
8,200. ohms	OH8225	OH8221
9,100. ohms	OH9125	
10,000. ohms	OH1035	OH1031
11,000. ohms	OH1135	
12 000. ohms	OH1235	OH1231
13,000. ohms	OH1335	
15,000. ohms	OH1535	OH1531
16,000. ohms	OH1635	
18,000. ohms	OH1835	OH1831
20,000. ohms	OH2035	
22,000. ohms	OH2235	OH2231
24,000. ohms	OH2435	
27,000. ohms	OH2735	OH2731
30,000. ohms	OH3035	
33,000. ohms	OH3335	OH3331
36,000. ohms	OH3635	
39 000. ohms	OH3935	OH3931
43.000. ohms	OH4335	
47.000. ohms	OH4735	OH4731
51.000. ohms	OH5135	
56,000. ohms	OH5635	OH5631
62,000. ohms	OH6235	
68,000. ohms	OH6835	OH6831
75,000. ohms	OH7535	
82,000. ohms	OH8235	OH8231
91,000. ohms	OH9135	
0.1 megs	OH1045	OH1041
0.11 megs	OH1145	
0.12 megs	OH1245	OH1241
0.13 megs	OH1345	
0.15 megs	OH1545	OH1541
0.16 megs	OH1645	
0.18 megs	OH1845	AH1841
0.20 megs	OH2045	
0.22 megs	OH2245	OH2241
0.24 megs	OH2445	
0.27 megs	OH2745	OH2741
0.30 megs	OH3045	
0.33 megs	OH3345	OH3341
0.36 megs	OH3645	
0.39 megs	OH3945	OH3941
0.43 megs	OH4345	
0.47 megs	OH4745	OH4741
0.51 megs	OH5145	
0.56 megs	OH5645	OH5641
0.62 megs	OH6245	
0.68 megs	OH6845	OH6841
0.75 megs	OH7545	
0.82 megs	OH8245	AH8241
0.91 megs	OH9145	
1. megs	OH1055	OH1051
1.1 megs	OH1155	
1.2 megs	OH1255	OH1251
1.3 megs	OH1355	
1.5 megs	OH1555	OH1551
1.6 megs	OH1655	
1.8 megs	OH1855	OH1851
2.0 megs	OH2055	
2.2 megs	OH2255	OH2251
2.4 megs	OH2455	
2.7 megs	OH2755	OH2751
3.0 ohms	OH3055	
3.3 megs	OH3355	OH3351
3.6 megs	OH3655	
3.9 megs	OH3955	OH3951
4.3 megs	OH4355	
4.7 megs	OH4755	OH4751
5.1 megs	OH5155	
5.6 megs	OH5655	OH5651
6.2 megs	OH6255	
6.8 megs	OH6855	OH6851
7.5 megs	OH7555	
8.2 megs	OH8255	OH8251
9.1 megs	OH9155	
10. megs	OH1065	OH1061
11. megs	OH1165	
12. megs	OH1265	OH1261
13. megs	OH1365	
15. megs	OH1565	OH1561
16. megs	OH1665	
18. megs		OH1861
22. megs		OH2261

*Min. Resistance under MIL-R-11 is 10 ohms.
‡Min. Resistance under MIL-R-11 is 2.7 ohms.

¹ Items appearing in BOLD print are popular values and are usually stocked by authorized OHMITE distributors. Items appearing in LIGHT FACE print are available from stocking distributors but normally are not stocked in depth.

© United Technical Publications

OHMITE *Little Devil*® industrial and service resistor assortments



RESISTORS AND HANDY CABINET FOR THE PRICE OF THE RESISTORS ALONE

Select the composition resistor you need, right on the job from time-saving Little Devil® Assortments. Ohmite now offers **seven industrial** assortments in addition to the four service assortments that have been so popular for many years. In this complete line, there is an assortment to fill every industrial and service need. An attractive plastic cabinet or cabinet assembly is furnished at no extra cost with each assortment. Each drawer of a single 5-drawer cabinet has eight compartments all individually labeled. Dimensions of the single cabinet are 9" long, 4¾" high, 5¼" deep. Dovetail tops and bottoms facilitate stacking. Cabinet assemblies for industrial assortments are riveted to metal strips which afford rigidity and permit hanging of the unit on the wall.

Of the seven industrial assortments, there are three ±10% tolerance assortments of ¼, ½ or 1 watt sizes each containing 80 values. A two-cabinet assembly is furnished for these assortments. Four 5% tolerance assortments provide 160 values each of resistors in the ⅛, ¼, ½, or 1 watt sizes. A four-cabinet assembly is furnished for each of these assortments.

The four popular **service** assortments provide ±10% tolerance resistors in a single cabinet in ¼, ½, 1 or 2 watt sizes.

Cabinets are factory packed in accordance with the tables shown below.

11 ASSORTMENTS

Assortment	Catalog No.	Quantity of Resistors	Wattage Size	Net Price
INDUSTRIAL ±10% Tolerance 80 Resistance Values 2 Cabinets	**CAB-25**	1000	¼	$ 70.00
	CAB-26	1000	½	60.00
	CAB-27	600	1	54.00
INDUSTRIAL ±5% Tolerance 160 Resistance Values 4 Cabinets	**CAB-45**	1000	⅛	225.00
	CAB-46	1500	¼	210.00
	CAB-47	1500	½	180.00
	CAB-48	900	1	160.00
RADIO & TV SERVICE KITS ±10% Tolerance 37 Values—CAB-4 40 Values—Others 1 Cabinet	**CAB-4**	150	¼	19.50
	CAB-10	150	½	18.00
	CAB-2	125	1	22.50
	CAB-3	125	2	30.00

Prices Subject to Change Without Notice

10% TOLERANCE ASSORTMENTS

10% Resistance Values	Quantities In Each Assortment — Service Assortments CAB-4, ¼ W	CAB-10, ½ W	CAB-2, 1 W	CAB-3, 2 W	Industrial Assortments CAB-25, ¼ W	CAB-26, ½ W	CAB-27, 1 W
2.7					5	5	10
3.3					5	5	5
3.9					5	5	5
4.7					5	5	10
5.6					5	5	5
6.8					5	5	10
10		1	1	1	20	20	10
12					5	5	5
15		1	1	1	5	5	10
18					5	5	5
22					5	5	10
27		1	1	1	5	5	10
33					5	5	10
39					5	5	5
47	5	1	1	1	20	20	10
56					5	5	5
68					5	5	5
82					5	5	5
100	5	5	1	1	30	30	10
120					5	5	5
150	1	1	1	1	20	15	10
180					5	5	5
220					20	20	10
270	3	3	1	1	30	15	10
330	1	1	1	1	20	15	10
390					5	5	10
470	3	3	1	1	20	30	10
560					5	15	10
680	1	1	1	1	20	15	10
820					5	5	5
1,000	10	5	3	3	5	30	10
1,200					5	5	10
1,500	5	1	1	1	20	20	10
1,800					5	15	5
2,200	10	1	1	1	30	30	10
2,700	5	3	3	3	20	15	10
3,300					30	20	10
3,900					20	5	10
4,700	10	10	5	5	30	30	10
5,600					5	20	5
6,800					30	15	10
8,200					20	5	5
10,000					30	30	10
12,000					20	15	5
15,000					30	5	10
18,000					20	5	5
22,000					30	30	10
27,000					20	20	10
33,000					20	20	10
39,000					5	15	10
47,000					30	30	10
56,000					20	15	5
68,000					20	20	5
82,000					5	15	5
0.10 meg.					30	30	10
0.12 meg.					5	5	5
0.15 meg.					5	15	10
0.18 meg.					5	5	5
0.22 meg.					20	20	10
0.27 meg.					5	20	10
0.33 meg.					20	15	5
0.39 meg.					5	5	5
0.47 meg.					20	30	10
0.56 meg.					5	5	5
0.68 meg.					5	5	5
0.82 meg.					5	5	5
1.0 meg.					30	30	10
1.2 meg.					5	5	5
1.5 meg.					5	5	5
1.8 meg.					5	5	5
2.2 meg.					5	15	5
2.7 meg.					5	5	5
3.3 meg.					5	5	5
3.9 meg.					5	5	5
4.7 meg.					5	5	5
5.6 meg.					5	5	5
6.8 meg.					5	5	5
10.0 meg.					5	5	5
15.0 meg.					5	5	5
22.0 meg.					5	5	5

5% TOLERANCE ASSORTMENTS

5% Resistance Values	Quantities In Each Assortment — Industrial Assortments CAB-45, ⅛ W	CAB-48, ¼ W	CAB-47, ½ W	CAB-48, 1 W
2.7	5	5	5	5
3.0	5	5	5	5
3.3	5	5	5	5
3.6	5	5	5	5
3.9	5	5	5	5
4.7	5	5	5	5
5.1	5	5	5	5
5.6	5	5	5	5
6.8	5	5	5	5
7.5	5	5	5	5
8.2	5	5	5	5
9.1	5	5	5	5
10	20	25	30	10
11	5	5	5	5
12	5	5	5	5
15	5	5	5	5
16	5	5	5	5
18	5	5	5	5
20	5	5	5	5
22	5	5	5	5
24	5	5	5	5
27	5	5	15	5
30	5	5	5	5
33	5	5	5	5
36	5	5	5	5
39	5	5	5	5
43	5	5	5	5
47	10	10	5	5
51	10	10	15	10
56	5	5	5	5
62	5	5	5	5
68	5	5	5	5
75	5	5	20	5
82	5	5	5	5
91	5	5	5	5
100	20	30	30	10
110	5	5	5	5
120	5	5	5	5
130	5	5	5	5
150	5	10	15	10
160	5	5	5	5
180	20	5	5	5
200	5	5	15	10
220	10	25	15	10
240	5	5	5	5
270	5	10	15	10
300	5	5	5	5
330	5	25	15	10
360	5	5	5	5
390	5	10	15	5
430	5	5	5	5
470	10	25	20	10
510	5	10	15	10
560	5	10	15	5
620	5	5	15	5
680	5	10	5	10
750	5	5	5	5
820	5	10	5	5
910	5	5	5	5
1,000	20	30	30	10
1,100	5	5	5	5
1,200	10	25	15	10
1,300	5	5	5	5
1,500	20	10	20	5
1,600	5	5	5	5
1,800	5	25	15	5
2,000	20	25	30	10
2,200	20	30	30	10
2,400	5	10	5	5
2,700	10	25	15	5
3,000	5	10	15	5
3,300	5	25	30	5
3,600	5	5	5	5
3,900	10	25	15	5
4,300	5	5	5	5
4,700	20	30	30	10
5,100	10	25	15	5
5,600	5	25	15	5
6,200	5	10	5	5
6,800	5	30	20	5
7,500	5	5	5	5
8,200	5	25	15	5
9,100	5	5	5	5
10,000	20	30	30	10
11,000	5	5	5	5
12,000	10	25	20	5
13,000	5	5	5	5
15,000	5	30	30	5
16,000	5	5	5	5
18,000	5	10	15	5
20,000	5	25	15	5
22,000	5	25	30	10
24,000	5	5	15	5
27,000	5	10	15	5
30,000	5	10	5	5
33,000	5	25	20	5
36,000	5	5	5	5
39,000	5	10	15	5
43,000	5	5	5	5
47,000	10	25	20	10
51,000	5	10	15	5
56,000	5	5	15	5
62,000	5	5	5	5
68,000	5	10	15	5
75,000	5	5	5	5
82,000	5	10	5	5
91,000	5	5	5	5
0.10 meg.	20	30	30	10
0.11 meg.	5	5	5	5
0.12 meg.	5	5	5	5
0.13 meg.	5	5	5	5
0.15 meg.	5	10	15	5
0.16 meg.	5	5	5	5
0.18 meg.	5	5	5	5
0.20 meg.	5	10	5	5
0.22 meg.	5	5	15	5
0.24 meg.	5	5	5	5
0.27 meg.	5	5	5	5
0.30 meg.	5	5	5	5
0.33 meg.	5	5	5	5

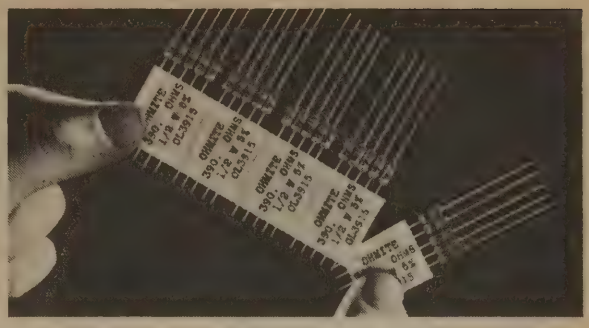
5% Resistance Values	Quantities In Each Assortment — Industrial Assortments CAB-45, ⅛ W	CAB-46, ¼ W	CAB-47, ½ W	CAB-48, 1 W
0.36 meg.	5	5	5	5
0.39 meg.	5	5	5	5
0.43 meg.	5	5	5	5
0.47 meg.	5	10	20	5
0.51 meg.	5	5	5	5
0.56 meg.	5	5	5	5
0.62 meg.	5	5	5	5
0.68 meg.	5	5	5	5
0.75 meg.	5	5	5	5
0.82 meg.	5	5	5	5
0.91 meg.	5	5	5	5
1.0 meg.	5	25	20	5
1.1 meg.	5	5	5	5
1.2 meg.	5	5	5	5
1.3 meg.	5	5	5	5
1.5 meg.	5	10	5	5
1.6 meg.	5	5	5	5
1.8 meg.	5	5	5	5
2.0 meg.	5	5	5	5
2.2 meg.	5	5	5	5
2.4 meg.	5	5	5	5
2.7 meg.	5	5	5	5
3.0 meg.	5	5	5	5
3.3 meg.	5	5	5	5
3.6 meg.	5	5	5	5
3.9 meg.	5	5	5	5
4.3 meg.	5	5	5	5
4.7 meg.	5	5	5	5
5.1 meg.	5	5	5	5
5.6 meg.	5	5	5	5
6.2 meg.	5	5	5	5
6.8 meg.	5	5	5	5
7.5 meg.	5	5	5	5
8.2 meg.	5	5	5	5
10.0 meg.	5	5	5	5
12.0 meg.	5	5	5	5
15.0 meg.	5	5	5	5
18.0 meg.	5	5	5	5
20.0 meg.	5	5	5	5
22.0 meg.	5	5	5	5

ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS.

© United Technical Publications

OHMITE *Little Rebel*™ carbon film resistors

high stability • low noise • extra long life



Tally Tape® is Ohmite's exclusive convenient packaging of ¼ and ½ watt Little Rebel resistors that prevents spilling or tangling, simplifies counting, decodes ohmic value for quick identification, and guarantees original, factory-fresh stock. Each perforated segment holds 5 resistors; 10 segments packaged in poly bag 50 pack.

High stability, very low noise level, and exceptionally long life make these resistors ideal for applications requiring a steady low power drop. Their accuracy and consistency are relatively unaffected by adverse environmental conditions.

Resistors of 10Ω to 1MΩ have a homogenous film of pure carbon deposited on a high grade ceramic body by cracking a hydrocarbon gas. Resistors having values lower than 10Ω have a nickel film instead of cracked carbon.

Contact caps of special alloy are pressed onto the ends of the resistor body to which the tin coated electrolytic copper connecting wires are welded. Finally the resistors are coated with three or more layers of a special lacquer for electrical, mechanical and environmental protection. This special lacquer will withstand regular industrial cleaning solutions used for cleansing printed circuit boards.

SPECIFICATIONS

Ratings

	⅛W	¼W	½W
Power rating P_{nom}			
T_A 70°C	0.125W	0.25W	0.5W
Maximum voltage AC or DC	150V	250V	350V
Voltage (RMS) that may be applied for 1 sec. across insulated coat	300V	500V	700V
Insulation resistance	10^4MΩ	10^4MΩ	10^4MΩ
	ALL TYPES		
Ambient temperature	−55°C to +155°C		
Temperature coefficient	see figure 2		
Noise voltage	see figure 1		

Voltage Breakdown
2x limiting voltage for 1 min. between terminals of resistor and metal foil ..... no breakdown or flashover

Short Term Overload (Room Temperature)
Loaded 5 sec. at 6.25 P_{max} at 25°C (not to exceed 2x maximum voltage)
10 cycles: 5 sec. on, 10 sec. off
$\triangle R_{max}$ 1%

Shelf Test
At 25°C$_{nom}$ for 12 months
$\triangle R_{max}$ for R 1MΩ 1.5%
R >1MΩ 3%

Temperature Cycling
5 cycles: 3 hours −55°C, 3 hours +155°C
$\triangle R_{max}$ ..... 0.5% or 0.5Ω

Humidity Specifications
After long-term exposure to damp heat at 40°C, 5 VDC
RH = 90-95% for 56 days with no drying 5 VDC
$\triangle R_{max}$ for R_{nom} = 10Ω to 100 kΩ 1%
R_{nom} = 100 kΩ to 1 MΩ 2%
R_{nom} = 1 MΩ or higher 3%

Solder Test (thermal shock)
Terminations immersed for 3 sec. up to .24 inches from end cap in solder bath at 350°C
$\triangle R_{max}$ ..... 0.5% or 0.5Ω

Lead Test
a. Tensile
diameter .024-.032 inches; load 2.20 lbs.; 10 sec.
diameter >.032 inches; load 4.41 lbs; 10 sec. ..... no damage
b. Bending
diameter .024-.032 inches; load 1.10 lbs; 4 x 90°
diameter >.032 inches; load 2.20 lbs.; 4 x 90° ..... no damage
c. Torsion
2 x 360° in opposite directions ..... no damage
$\triangle R_{max}$ (for all tests) ..... 0.5% or 0.5Ω

Shock Test
3 x 1500 shocks in three directions: 50 G:
$\triangle R_{max}$ ..... 0.5% or 0.5Ω

Vibration
Frequency: 10-500 Hz
Displacement 0.06 inches or acceleration 10 G; three directions; total 9 hrs.
$\triangle R_{max}$ ..... 0.5% or 0.5Ω

Voltage Coefficient 5PPM/Volt (0.0005%/Volt)

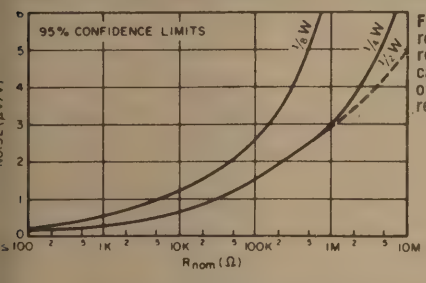


Figure 1. Noise as a function of the resistance value, applicable to all resistor wattages (as per IEC specifications 195; Method of measurement of current noise generated in fixed resistors).

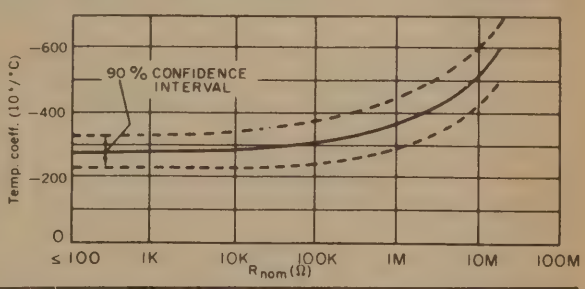


Figure 2. Temperature coefficient as a function of the resistance value, applicable to all resistor wattages.

Resistance (Ohms) ±5%	Size: .161″L x .059″D Leads: .015″D x 1⅛″L — ⅛ Watt Type OJ	Size: .250″L x .090″D Leads: .024″D x 1⅛″L — ¼ Watt Type OK	Size: .365″L x .142″D Leads: .028″D x 1½″L — ½ Watt Type OL
1		OK10G5	OL10G5
1.2		OK12G5	OL12G5
1.5		OK15G5	OL15G5
1.8		OK18G5	OL18G5
2.2		OK22G5	OL22G5
2.7		OK27G5	OL27G5
3.3		OK33G5	OL33G5
3.9		OK39G5	OL39G5
4.3		OK43G5	OL43G5
4.7		OK47G5	OL47G5
5.1		OK51G5	OL51G5
5.6		OK56G5	OL56G5
6.2		OK62G5	OL62G5
6.8		OK68G5	OL68G5
7.5		OK75G5	OL75G5
8.2		OK82G5	OL82G5
9.1		OK91G5	OL91G5
10.0	OJ1005	OK1005	OL1005
11	OJ1105	OK1105	OL1105
12	OJ1205	OK1205	OL1205
13	OJ1305	OK1305	OL1305
15	OJ1505	OK1505	OL1505
16	OJ1605	OK1605	OL1605
18	OJ1805	OK1805	OL1805
20	OJ2005	OK2005	OL2005
22	OJ2205	OK2205	OL2205
24	OJ2405	OK2405	OL2405
27	OJ2705	OK2705	OL2705
30	OJ3005	OK3005	OL3005
33	OJ3305	OK3305	OL3305
36	OJ3605	OK3605	OL3605
39	OJ3905	OK3905	OL3905
43	OJ4305	OK4305	OL4035
47	OJ4705	OK4705	OL4705
51	OJ5105	OK5105	OL5105
56	OJ5605	OK5605	OL5605
62	OJ6205	OK6205	OL6205
68	OJ6805	OK6805	OL6805
75	OJ7505	OK7505	OL7505
82	OJ8205	OK8205	OL8205
91	OJ9105	OK9105	OL9105
100	OJ1015	OK1015	OL1015
110	OJ1115	OK1115	OL1115
120	OJ1215	OK1215	OL1215
130	OJ1315	OK1315	OL1315
150	OJ1515	OK1515	OL1515
160	OJ1615	OK1615	OL1615
180	OJ1815	OK1815	OL1815
200	OJ2015	OK2015	OL2015
220	OJ2215	OK2215	OL2215
240	OJ2415	OK2415	OL2415
270	OJ2715	OK2715	OL2715
300	OJ3015	OK3015	OL3015
330	OJ3315	OK3315	OL3315
360	OJ3615	OK3615	OL3615
390	OJ3915	OK3915	OL3915
430	OJ4315	OK4315	OL4315
470	OJ4715	OK4715	OL4715
510	OJ5115	OK5115	OL5115
560	OJ5615	OK5615	OL5615
620	OJ6215	OK6215	OL6215
680	OJ6815	OK6815	OL6815
750	OJ7515	OK7515	OL7515
820	OJ8215	OK8215	OL8215
910	OJ9115	OK9115	OL9115
1000	OJ1025	OK1025	OL1025
1100	OJ1125	OK1125	OL1125
1200	OJ1225	OK1225	OL1225
1300	OJ1325	OK1325	OL1325
1500	OJ1525	OK1525	OL1525
1600	OJ1625	OK1625	OL1625
1800	OJ1825	OK1825	OL1825
2000	OJ2025	OK2025	OL2025
2200	OJ2225	OK2225	OL2225
2400	OJ2425	OK2425	OL2425
2700	OJ2725	OK2725	OL2725
3000	OJ3025	OK3025	OL3025
3300	OJ3325	OK3325	OL3325
3600	OJ3625	OK3625	OL3625
3900	OJ3925	OK3925	OL3925
4300	OJ4325	OK4325	OL4325
4700	OJ4725	OK4725	OL4725
5100	OJ5125	OK5125	OL5125
5600	OJ5625	OK5625	OL5625
6200	OJ6225	OK6225	OL6225
6800	OJ6825	OK6825	OL6825
7500	OJ7525	OK7525	OL7525
8200	OJ8225	OK8225	OL8225
9100	OJ9125	OK9125	OL9125
10K	OJ1035	OK1035	OL1035
11K	OJ1135	OK1135	OL1135
12K	OJ1235	OK1235	OL1235
13K	OJ1335	OK1335	OL1335
15K	OJ1535	OK1535	OL1535
16K	OJ1635	OK1635	OL1635
18K	OJ1835	OK1835	OL1835
20K	OJ2035	OK2035	OL2035
22K	OJ2235	OK2235	OL2235
24K	OJ2435	OK2435	OL2435
27K	OJ2735	OK2735	OL2735
30K	OJ3035	OK3035	OL3035
33K	OJ3335	OK3335	OL3335
36K	OJ3635	OK3635	OL3635
39K	OJ3935	OK3935	OL3935
43K	OJ4335	OK4335	OL4335
47K	OJ4735	OK4735	OL4735
51K	OJ5135	OK5135	OL5135
56K	OJ5635	OK5635	OL5635
62K	OJ6235	OK6235	OL6235
68K	OJ6835	OK6835	OL6835
75K	OJ7535	OK7535	OL7535
82K	OJ8235	OK8235	OL8235
91K	OJ9135	OK9135	OL9135
100K	OJ1045	OK1045	OL1045
110K	OJ1145	OK1145	OL1145
120K	OJ1245	OK1245	OL1245
130K	OJ1345	OK1345	OL1345
150K	OJ1545	OK1545	OL1545
160K	OJ1645	OK1645	OL1645
180K	OJ1845	OK1845	OL1845
200K	OJ2045	OK2045	OL2045
220K	OJ2245	OK2245	OL2245
240K		OK2445	OL2445
270K		OK2745	OL2745
300K		OK3045	OL3045
330K		OK3345	OL3345
360K		OK3645	OL3645
390K		OK3945	OL3945
430K		OK4345	OL4345
470K		OK4745	OL4745
510K		OK5145	OL5145
560K		OK5645	OL5645
620K		OK6245	OL6245
680K		OK6845	OL6845
750K		OK7545	OL7545
820K		OK8245	OL8245
910K		OK9145	OL9145
1.0M		OK1055	OL1055

© United Technical Publications

OHMITE 0.1% precision Determ-Ohm® resistance box



The new Ohmite Precision Determ-ohm® is a resistance decade box with an accuracy of ±0.1%. Four models cover the resistance range from 1 ohm to 1 megohm in a choice of three-4 decade and one-6 decade models.

Simplified selection of resistance values is accomplished by operation of rocker-type thumbwheel switches. Resistance setting is indicated by a direct in-line numeric readout. Unique switch feature (pat. pend.) allows advancing or decreasing of values directly from 9 thru 0 to 1 or vice versa, without retracing all the other values.

The housing is a functional sloping panel metal case equipped with universal binding posts and a grounded metallic binding post for effective shielding.

SPECIFICATIONS

Accuracy: 0.1% (plus .01Ω max. contact and ci cuit resistance per decade).

Selection: Rocker-type thumbwheel switches, cor tinuous rotation in either direction.

Switch Life: In excess of 50,000 operations.

Power: ¼ Watt per resistor.

Operating Temperature: +15 to +35°C.

T.C. of Resistors: ±10 ppm/°C, max. 20 ppm/°C

MAXIMUM CURRENT RATINGS

(Do not exceed 500 Volts.)

Resistance Range (Ohms)	Maximum Current (Milliamps)
1-9	710
10-99	220
100-999	71
1000-9999	22
10,000-99,999	7.1
100,000-999,999	1.1

SELECTION AND PRICING

Resistance Range (Ohms)	Ohms Per Step	Number of Decades	Catalog Number	Net Price
0 to 9.999K	1	4	3405	$85.00
0 to 99.99K	10	4	3406	85.00
0 to 999.9K	100	4	3407	90.00
0 to 999.999K	1	6	3410	125.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

wire-wound

resistor assortments

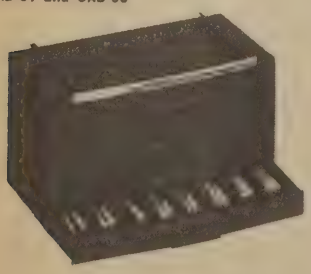
of type 995 axial lead MOLDED vitreous enamel

- Perfect for R & D and Prototype Labs
- All popular values included.
- Resistors and handy cabinet for the price of the resistors alone.
- 4 Wattage sizes to choose from.
- Contents clearly marked on front of each drawer segment.

Select the wire-wound resistor you need, right on the job. All the popular resistance values, as determined by national usage, are contained in these handy, compact assortments.

The attractive plastic cabinet is furnished at no extra cost with each assortment. Cabinets are factory packed in accordance with the table (shown at right) which states the quantities of each resistance value per assortment. Each drawer segment is individually labeled. Dovetail tops and bottoms of cabinets facilitate stacking. Dimensions for single cabinets are 9″ long x 4¾″ high x 5¼″ deep; double cabinets are 10″ high, including wall hanging brackets.

Single Cabinets for CAB-91 and CAB-99



Double Cabinets for CAB-93 and CAB-95



SPECIFICATIONS AND PRICING

Nominal Wattage Size	Catalog Number	Number of Res. Values	Quantity of Resistors	Net Price
1½ W.	CAB-91	40	167	$110.00
3½ W.	CAB-93	71	325	205.00
5 W.	CAB-95	75	355	240.00
11 W.	CAB-99	40	185	140.00

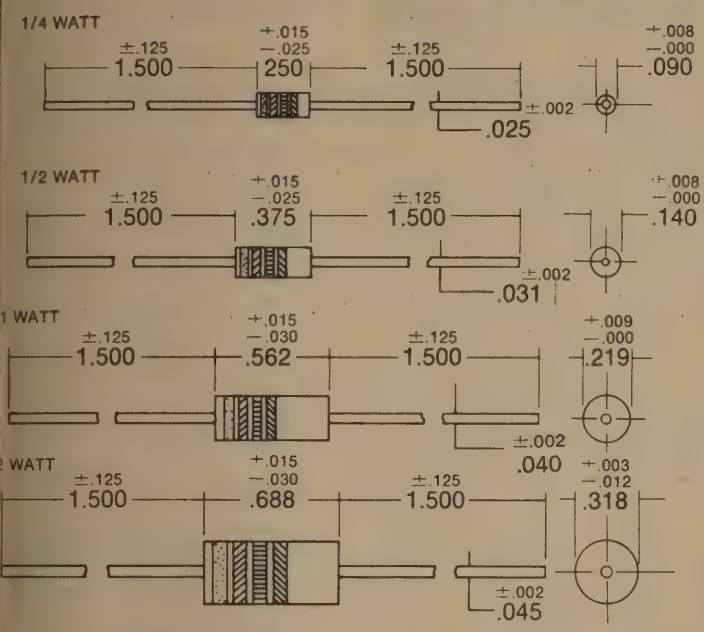
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

±5% Resistance Values	QUANTITIES AND RESISTANCE FOR EACH ASSORTMENT 1½ Watt CAB-91	3¼ Watt CAB-93	5 Watt CAB-95	11 Watt CAB-99	±5% Resistance Values	QUANTITIES AND RESISTANCE FOR EACH ASSORTMENT 1½ Watt CAB-91	3¼ Watt CAB-93	5 Watt CAB-95	11 Watt CAB-99
1.0	10	7	7	5	470	5	7	4	4
1.2	—	—	4	—	500	5	7	7	5
1.5	5	4	4	—	510	5	—	4	—
2.0	5	4	4	5	560	—	4	4	—
2.2	5	—	—	—	600	5	7	4	—
2.7	—	4	—	—	620	—	4	—	—
3.0	5	4	4	5	680	2	7	—	—
4.0	3	4	4	5	700	—	4	—	—
5.0	5	7	7	5	750	2	7	7	5
5.6	—	1	4	—	800	2	4	4	—
6.8	—	4	—	—	820	—	—	4	—
7.5	3	4	1	5	900	—	4	—	—
10.0	10	4	7	5	1000	5	7	7	5
12	—	1	4	—	1200	2	4	4	—
15	5	7	7	5	1300	—	7	7	—
18	—	1	4	—	1500	5	7	4	4
20	3	4	7	5	1800	2	4	4	—
22	2	7	4	5	2000	5	7	7	4
25	—	4	7	5	2200	2	4	4	—
30	3	4	4	5	2500	2	4	4	4
33	—	4	—	—	2700	—	4	1	—
39	—	4	4	5	3000	5	4	7	4
40	3	4	4	5	3300	—	4	4	—
47	—	4	4	—	3900	—	1	1	—
50	5	7	7	5	4000	—	4	4	4
51	—	—	7	—	4300	—	—	4	—
56	2	4	4	—	4500	—	—	—	—
68	2	4	4	5	4700	—	4	4	—
75	2	7	4	4	5000	—	4	7	4
82	—	4	4	5	5600	—	1	4	—
91	5	—	—	—	6000	—	—	4	—
100	5	7	7	5	6800	—	1	5	4
110	5	—	—	—	7000	—	4	—	—
120	—	7	4	—	7500	—	3	—	—
150	—	4	4	5	8000	—	—	4	—
160	—	1	4	—	8200	—	4	4	—
200	5	7	7	5	9000	—	—	4	—
220	5	7	7	—	9100	—	—	—	—
250	—	4	7	5	10,000	—	7	7	4
270	—	4	4	—	12,000	—	—	4	—
300	5	7	7	5	15,000	—	—	4	4
330	5	4	4	—	20,000	—	—	4	—
350	—	—	4	4	22,000	—	—	4	—
390	—	4	4	—	25,000	—	—	4	4
400	—	4	4	—	40,000	—	—	—	4
450	—	4	—	—	50,000	—	—	—	4

Net

© United Technical Publications

STACKPOLE® FIXED COMPOSITION RESISTORS



Stackpole Resistors offer superior performance in terms of load life, moisture resistance, shelf life, and other important characteristics. Available in ¼, ½, 1 and 2 watt insulated types in resistance values with 5%, 10% and 20% tolerances as shown below.

EASIEST SOLDERING

Soldering is assured thanks to an exclusive extra solder coating applied after the usual tin dipping. Leads of Stackpole Resistors solder readily by any method — dip or iron — stay tarnish-free even after months in storage. And, their baked-on color codes resist solvent scrubbing operations . . . maintain uniform, attractive appearance.

MILITARY APPROVED

Resistors approved to MIL-R-39008 have failure rates expressed as percentages per 1000 hours based on load life data generated at 50 percent full load operation and an ambient temperature of 70°C. The failure rates are established at a 60 percent confidence level on the basis of the life test.

All Stackpole Resistors are qualified to the R level of MIL-R-39008 which corresponds to a failure rate of 0.01 percent per 1000 hours.

STANDARD VALUES FOR MODERN CIRCUITRY

±20%	±10%	±5%
10	10	10
		11
	12	12
		13
15	15	15
		16
	18	18
		20
22	22	22
		24
	27	27
		30
33	33	33
		36
	39	39
		43
47	47	47
		51
	56	56
		62
68	68	68
		75
	82	82
		91

Table gives basic numbers for standard values. All values are decade multiples of these numbers. Example: 82 x 1000 = 82000 Ohms.

STACKPOLE RESISTORS

MILITARY

SPECIFICATION	IDENTIFICATION	MAX. POWER RATING	RESISTANCE RANGE*	MAX. OPERATING VOLTAGE
MIL-R-39008	RCR 07	¼ w	10 ohms to 1 megohm	250 v
MIL-R-39008	RCR 20	½ w	10 ohms to 22 megohms	350 v
MIL-R-39008	RCR 32	1 w	10 ohms to 22 megohms	500 v
MIL-R-39008	RC 42	2 w	10 ohms to 22 megohms	500 v

COMMERCIAL

RS-172A	RC 20	½ w	2.7 ohms to 22 megohms	350 v

* Resistance values above or below those indicated are available upon request.

STACKPOLE® CARBON COMPANY
ELECTRONIC COMPONENTS DIV.

RESISTORS AVAILABLE THROUGH LEADING INDUSTRIAL ELECTRONIC PARTS DISTRIBUTORS

© United Technical Publications

SPRAGUE RESISTORS

KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS



Call Your Sprague Industrial Distributor For Current Quantity Prices

- Feature Improved Internal Construction in Which Windings and Leads are Welded to End-Cap for Superior Mechanical Strength
- Special Insulated Wire is Space Wound and Cemented, to Prevent Turn-to-Turn Shorting. Permits Higher Resistance Values in a Given Size Than in Conventional Resistors
- Non-Porous Tubular Ceramic Shells Sealed With High Temperature Silicone Cement
- Unexcelled Insulation and Mechanical Protection. Can be Mounted in Direct Contact With Chassis
- For Complete Technical Details, Refer to Latest Issue of Sprague Engineering Bulletin 7300

KOOLOHM STANDARD RESISTORS

Ohms	CATALOG NUMBER				
	Type 450E 3 WATTS ¼" x 9/16"	Type 452E 5 WATTS ¼" x 1"	Type 454E 7 WATTS 15/32" x 15/16"	Type 456E 10 WATTS 15/32" x 1 23/32"	Type 458E 14 WATTS 15/32" x 1 23/32"
1	450E1R05	452E1R05	454E1R05	456E1R05	458E1R05
1.5	450E1R55	452E1R55	454E1R55	456E1R55	458E1R55
2	450E2R05	452E2R05	454E2R05	456E2R05	458E2R05
3	450E3R05	452E3R05	454E3R05	456E3R05	458E3R05
4	450E4R05	452E4R05	454E4R05	456E4R05	458E4R05
5	450E5R05	452E5R05	454E5R05	456E5R05	458E5R05
7.5	450E7R55	452E7R55	454E7R55	456E7R55	458E7R55
10	450E1005	452E1005	454E1005	456E1005	458E1005
12	450E1205	452E1205	454E1205	456E1205	458E1205
15	450E1505	452E1505	454E1505	456E1505	458E1505
18	450E1805	—	—	—	—
20	450E2005	452E2005	454E2005	456E2005	458E2005
22	450E2205	—	—	—	—
25	450E2505	452E2505	454E2505	456E2505	458E2505
27	450E2705	—	—	—	—
30	450E3005	452E3005	454E3005	456E3005	458E3005
33	450E3305	—	—	—	—
35	—	452E3505	454E3505	456E3505	458E3505
39	450E3905	—	—	—	—
40	450E4005	452E4005	454E4005	456E4005	458E4005
47	450E4705	—	—	—	—
50	450E5005	452E5005	454E5005	456E5005	458E5005
56	450E5605	—	—	—	—
68	450E6805	—	—	—	—
75	450E7505	452E7505	454E7505	456E7505	458E7505
82	450E8205	—	—	—	—
100	450E1015	452E1015	454E1015	456E1015	458E1015
120	450E1215	452E1215	454E1215	456E1215	458E1215
150	450E1515	452E1515	454E1515	456E1515	458E1515
180	450E1815	—	—	—	—
200	450E2015	452E2015	454E2015	456E2015	458E2015
220	450E2215	452E2215	454E2215	456E2215	458E2215
250	450E2515	452E2515	454E2515	456E2515	458E2515
270	450E2715	—	—	—	—
300	450E3015	452E3015	454E3015	456E3015	458E3015
330	450E3315	—	—	—	—
350	—	452E3515	454E3515	456E3515	458E3515
390	450E3915	—	—	—	—
400	450E4015	452E4015	454E4015	456E4015	458E4015
450	—	452E4515	—	—	—
470	450E4715	—	—	—	—
500	450E5015	452E5015	454E5015	456E5015	458E5015
560	450E5615	—	—	—	—
600	450E6015	452E6015	454E6015	456E6015	458E6015
680	450E6815	—	—	—	—
700	450E7015	452E7015	454E7015	456E7015	458E7015
750	—	452E7515	454E7515	—	458E7515

Ohms	CATALOG NUMBER				
	Type 450E 3 WATTS ¼" x 9/16"	Type 452E 5 WATTS ¼" x 1"	Type 454E 7 WATTS 15/32" x 15/16"	Type 456E 10 WATTS 15/32" x 1 23/32"	Type 458E 14 WATTS 15/32" x 1 23/32"
800	450E8015	452E8015	454E8015	456E8015	458E8015
820	450E8215	—	—	—	—
900	450E9015	452E9015	454E9015	456E9015	458E9015
1000	450E1025	452E1025	454E1025	456E1025	458E1025
1100	—	452E1125	454E1125	456E1125	458E1125
1200	450E1225	452E1225	454E1225	456E1225	458E1225
1400	450E1425	452E1425	454E1425	456E1425	458E1425
1500	450E1525	452E1525	454E1525	456E1525	458E1525
1800	450E1825	452E1825	454E1825	456E1825	458E1825
2000	450E2025	452E2025	454E2025	456E2025	458E2025
2200	450E2225	452E2225	454E2225	456E2225	458E2225
2500	450E2525	452E2525	454E2525	456E2525	458E2525
2700	450E2725	—	—	—	—
3000	450E3025	452E3025	454E3025	456E3025	458E3025
3300	450E3325	—	454E3325	456E3325	458E3325
3500	—	452E3525	454E3525	456E3525	458E3525
3900	450E3925	—	454E3925	456E3925	458E3925
4000	450E4025	452E4025	454E4025	456E4025	458E4025
4500	—	452E4525	454E4525	456E4525	458E4525
4700	450E4725	—	—	—	—
5000	450E5025	452E5025	454E5025	456E5025	458E5025
5600	450E5625	—	—	—	—
6000	450E6025	452E6025	454E6025	456E6025	458E6025
6800	450E6825	—	—	—	—
7000	—	452E7025	454E7025	456E7025	458E7025
7500	450E7525	452E7525	454E7525	456E7525	458E7525
8000	450E8025	452E8025	454E8025	456E8025	458E8025
8200	450E8225	—	—	—	—
9000	450E9025	452E9025	454E9025	456E9025	458E9025
10000	450E1035	452E1035	454E1035	456E1035	458E1035
11000	—	—	454E1135	456E1135	458E1135
12000	—	452E1235	454E1235	456E1235	458E1235
14000	—	452E1435	454E1435	456E1435	458E1435
15000	—	452E1535	454E1535	456E1535	458E1535
16000	—	—	454E1635	456E1635	458E1635
18000	—	452E1835	454E1835	456E1835	458E1835
20000	—	452E2035	454E2035	456E2035	458E2035
22000	—	—	454E2235	456E2235	—
25000	—	—	454E2535	456E2535	—
30000	—	—	454E3035	456E3035	—
35000	—	—	454E3535	456E3535	—
40000	—	—	454E4035	456E4035	—
45000	—	—	—	456E4535	—
50000	—	—	—	456E5035	—
60000	—	—	—	456E6035	—
70000	—	—	—	456E7035	—

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

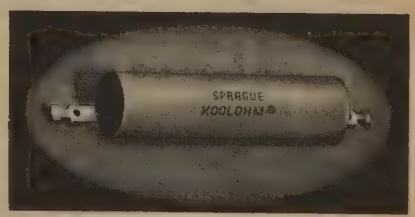
SPRAGUE RESISTORS

KOOLOHM® NON-INDUCTIVE RESISTORS

Ohms	CATALOG NUMBER					Ohms	CATALOG NUMBER				
	Type 451E 3 WATTS ¼" x 9/16"	Type 453E 5 WATTS ¼" x 1"	Type 455E 7 WATTS 15/32" x 15/16"	Type 457E 10 WATTS 15/32" x 1 29/32"	Type 459E 14 WATTS 15/32" x 1 29/32"		Type 451E 3 WATTS ¼" x 9/16"	Type 453E 5 WATTS ¼" x 1"	Type 455E 7 WATTS 15/32" x 15/16"	Type 457E 10 WATTS 15/32" x 1 29/32"	Type 459E 14 WATTS 15/32" x 1 29/32"
1	451E1R05	453E1R05	455E1R05	457E1R05	459E1R05	250	451E2515	453E2515	455E2515	457E2515	459E2515
1.5	451E1R55	453E1R55	455E1R55	457E1R55	459E1R55	270	451E2715	—	—	—	—
2	451E2R05	453E2R05	455E2R05	457E2R05	459E2R05	300	451E3015	453E3015	455E3015	457E3015	459E3015
3	451E3R05	453E3R05	455E3R05	457E3R05	459E3R05	330	451E3315	—	—	—	—
4	451E4R05	453E4R05	455E4R05	457E4R05	459E4R05	350	451E3515	453E3515	455E3515	457E3515	459E3515
5	451E5R05	453E5R05	455E5R05	457E5R05	459E5R05	390	451E3915	—	—	—	—
7.5	451E7R55	453E7R55	455E7R55	457E7R55	459E7R55	400	451E4015	453E4015	455E4015	457E4015	459E4015
10	451E1005	453E1005	455E1005	457E1005	459E1005	450	451E4515	453E4515	—	—	—
12	451E1205	453E1205	455E1205	457E1205	459E1205	470	451E4715	—	—	—	—
15	451E1505	453E1505	455E1505	457E1505	459E1505	500	451E5015	453E5015	455E5015	457E5015	459E5015
18	451E1805	—	—	—	—	560	451E5615	—	—	—	—
20	451E2005	453E2005	455E2005	457E2005	459E2005	600	—	453E6015	455E6015	457E6015	459E6015
22	451E2205	—	—	—	—	700	—	453E7015	455E7015	457E7015	459E7015
25	451E2505	453E2505	455E2505	457E2505	459E2505	750	—	453E7515	455E7515	457E7515	459E7515
27	451E2705	—	—	—	—	800	—	453E8015	455E8015	457E8015	459E8015
30	451E3005	453E3005	455E3005	457E3005	459E3005	900	—	453E9015	455E9015	457E9015	459E9015
33	451E3305	—	—	—	—	1000	—	453E1025	455E1025	457E1025	459E1025
35	451E3505	453E3505	455E3505	457E3505	459E3505	1100	—	453E1125	455E1125	457E1125	459E1125
39	451E3905	—	—	—	—	1200	—	453E1225	455E1225	457E1225	459E1225
40	451E4005	453E4005	455E4005	457E4005	459E4005	1400	—	—	455E1425	457E1425	459E1425
47	451E4705	—	—	—	—	1500	—	—	455E1525	457E1525	459E1525
50	451E5005	453E5005	455E5005	457E5005	459E5005	1800	—	—	455E1825	457E1825	459E1825
56	451E5605	—	—	—	—	2000	—	—	455E2025	457E2025	459E2025
68	451E6805	—	—	—	—	2200	—	—	455E2225	457E2225	459E2225
75	451E7505	453E7505	455E7505	457E7505	459E7505	2500	—	—	455E2525	457E2525	459E2525
82	451E8205	—	—	—	—	3000	—	—	—	457E3025	459E3025
100	451E1015	453E1015	455E1015	457E1015	459E1015	3300	—	—	—	457E3325	459E3325
120	451E1215	453E1215	455E1215	457E1215	459E1215	3500	—	—	—	457E3525	459E3525
150	451E1515	453E1515	455E1515	457E1515	459E1515	3900	—	—	—	457E3925	459E3925
180	451E1815	—	—	—	—	4000	—	—	—	457E4025	459E4025
200	451E2015	453E2015	455E2015	457E2015	459E2015	4500	—	—	—	457E4525	459E4525
220	451E2215	453E2215	455E2215	457E2215	459E2215	5000	—	—	—	457E5025	459E5025

KOOLOHM® TAB-TERMINAL WIREWOUND RESISTORS

- Extremely High Insulation Resistance—10,000 Volts From Surface of Ceramic Jacket to Inner Resistance Elements
- Insulated Wire Permits Winding Higher Values in Layers Which Means Much Smaller Physical Sizes for Each Wattage Rating
- Standard Resistance Tolerance: ±5%
- These Resistors Are Also Available in 5 and 10 Watt Ratings, Axial-Lead Style. See Latest Issue of Sprague Catalog C-619
- For Technical Data, See Latest Issue of Sprague Engineering Bulletin 7310



TYPE KT STANDARD RESISTORS

Ohms	CATALOG NUMBER			Ohms	CATALOG NUMBER		
	Type 25KT 25 WATTS 23/32" x 2 7/8"	Type 50KT 50 WATTS 7/8" x 4"	Type 120KT 120 WATTS 1 1/16" x 8 15/16"		Type 25KT 25 WATTS 23/32" x 2 7/8"	Type 50KT 50 WATTS 7/8" x 4"	Type 120KT 120 WATTS 1 1/16" x 8 15/16"
5	25KT5R05	50KT5R05	120KT5R05	2000	25KT2025	50KT2025	120KT2025
10	25KT1005	50KT1005	120KT1005	2500	25KT2525	50KT2525	120KT2525
25	25KT2505	50KT2505	120KT2505	3000	25KT3025	50KT3025	120KT3025
50	25KT5005	50KT5005	120KT5005	4000	25KT4025	50KT4025	—
75	25KT7505	50KT7505	120KT7505	5000	25KT5025	50KT5025	120KT5025
100	25KT1015	50KT1015	120KT1015	7500	25KT7525	50KT7525	120KT7525
150	25KT1515	50KT1515	120KT1515	10000	25KT1035	50KT1035	120KT1035
200	25KT2015	50KT2015	120KT2015	12000	25KT1235	50KT1235	120KT1235
250	25KT2515	50KT2515	120KT2515	15000	25KT1535	50KT1535	120KT1535
390	—	—	120KT3915	20000	25KT2035	50KT2035	120KT2035
500	25KT5015	50KT5015	120KT5015	25000	25KT2535	50KT2535	120KT2535
600	25KT6015	50KT6015	120KT6015	40000	25KT4035	—	—
750	25KT7515	50KT7515	120KT7515	50000	25KT5035	50KT5035	120KT5035
1000	25KT1025	50KT1025	120KT1025	75000	25KT7535	50KT7535	120KT7535
1500	25KT1525	50KT1525	120KT1525	100000	25KT1045	50KT1045	120KT1045

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE RESISTORS

TYPE NIT NON-INDUCTIVE RESISTORS

Ohms	CATALOG NUMBER			Ohms	CATALOG NUMBER		
	Type 25NIT 25 WATTS 23/32" x 2 7/8"	Type 50NIT 50 WATTS 7/8" x 4"	Type 120NIT 120 WATTS 1 1/16" x 8 15/16"		Type 25NIT 25 WATTS 23/32" x 2 7/8"	Type 50NIT 50 WATTS 7/8" x 4"	Type 120NIT 120 WATTS 1 1/16" x 8 15/16"
5	25NIT5R05	50NIT5R05	120NIT5R05	1500	25NIT1525	50NIT1525	120NIT1525
10	25NIT1005	50NIT1005	120NIT1005	2000	25NIT2025	50NIT2025	120NIT2025
25	25NIT2505	50NIT2505	120NIT2505	2500	25NIT2525	50NIT2525	120NIT2525
50	25NIT5005	50NIT5005	120NIT5005	3000	25NIT3025	50NIT3025	120NIT3025
75	25NIT7505	50NIT7505	120NIT7505	4000	25NIT4025	50NIT4025	—
100	25NIT1015	50NIT1015	120NIT1015	5000	25NIT5025	50NIT5025	120NIT5025
150	25NIT1515	50NIT1515	120NIT1515	7500	25NIT7525	50NIT7525	120NIT7525
200	25NIT2015	50NIT2015	120NIT2015	10000	25NIT1035	50NIT1035	120NIT1035
250	25NIT2515	50NIT2515	120NIT2515	12000	—	50NIT1235	—
390	—	—	120NIT3915	15000	—	50NIT1535	120NIT1535
500	25NIT5015	50NIT5015	120NIT5015	20000	—	50NIT2035	120NIT2035
600	25NIT6015	50NIT6015	120NIT6015	25000	—	50NIT2535	120NIT2535
750	25NIT7515	50NIT7515	120NIT7515	50000	—	—	120NIT5035
1000	25NIT1025	50NIT1025	120NIT1025				

BLUE JACKET® VITREOUS-ENAMEL WIREWOUND RESISTORS



- Improved Minified Resistors Designed for Thorough Reliability and Stability Under Extreme Operating Conditions
- Matched Coefficient of Expansion Allows Uniform Expansion of Vitreous Enamel Coating, Ceramic Base, and End Caps, Eliminating Crazing, Cracks, and Protects From Fumes and Humidity
- Windings and Leads Welded to End-Caps for Superior Mechanical Strength
- For 2BJ, 3BJ, 5BJ and 10BJ Commercial or Service Equivalents to These Resistors, Refer to the Latest Issue of Sprague Catalog C-619
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 7410

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

Ohms	CATALOG NUMBER						Ohms	CATALOG NUMBER					
	239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 13/64" x 17/32"	243E 5 WATTS 13/64" x 13/16"	244E 7 WATTS 3/16" x 1"	247E 10 WATTS 3/16" x 1 3/4"		239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 13/64" x 17/32"	243E 5 WATTS 13/64" x 15/16"	244E 7 WATTS 3/16" x 1"	247E 10 WATTS 5/16" x 1 3/4"
1	239E1R05	240E1R05	242E1R05	243E1R05	244E1R05	247E1R05	35	—	—	—	243E3505	244E3505	247E3505
1.2	239E1R25	—	—	—	—	—	39	239E3905	240E3905	242E3905	—	—	—
1.5	239E1R55	240E1R55	242E1R55	243E1R55	244E1R55	247E1R55	40	239E4005	240E4005	242E4005	243E4005	244E4005	247E4005
1.8	239E1R85	—	—	—	—	—	47	239E4705	240E4705	242E4705	—	—	—
2	239E2R05	240E2R05	242E2R05	243E2R05	244E2R05	247E2R05	50	239E5005	240E5005	242E5005	243E5005	244E5005	247E5005
2.2	239E2R25	—	—	—	—	—	56	239E5605	240E5605	242E5605	—	—	—
2.7	239E2R27	—	—	—	—	—	68	239E6805	240E6805	242E6805	—	—	—
3	239E3R05	240E3R05	242E3R05	243E3R05	244E3R05	247E3R05	75	239E7505	240E7505	242E7505	243E7505	244E7505	247E7505
3.3	239E3R35	—	—	—	—	—	82	239E8205	240E8205	242E8205	—	—	—
3.9	239E3R95	—	—	—	—	—	100	239E1015	240E1015	242E1015	243E1015	244E1015	247E1015
4	239E4R05	240E4R05	242E4R05	243E4R05	244E4R05	247E4R05	120	239E1215	240E1215	242E1215	244E1215	244E1215	247E1215
4.7	239E4R75	—	—	—	—	—	150	239E1515	240E1515	242E1515	243E1515	244E1515	247E1515
5	239E5R05	240E5R05	242E5R05	243E5R05	244E5R05	247E5R05	180	239E1815	240E1815	242E1815	—	—	—
5.6	239E5R65	—	—	—	—	—	200	239E2015	240E2015	242E2015	243E2015	244E2015	247E2015
5.8	239E6R85	—	—	—	—	—	220	239E2215	240E2215	242E2215	243E2215	244E2215	247E2215
7.5	239E7R55	240E7R55	242E7R55	243E7R55	244E7R55	247E7R55	250	239E2515	240E2515	242E2515	243E2515	244E2515	247E2515
8.2	239E8R25	—	—	—	—	—	270	239E2715	240E2715	242E2715	—	—	—
10	239E1005	240E1005	242E1005	243E1005	244E1005	247E1005	300	239E3015	240E3015	242E3015	243E3015	244E3015	247E3015
12	239E1205	240E1205	242E1205	243E1205	244E1205	247E1205	330	239E3315	240E3315	242E3315	—	—	—
15	239E1505	240E1505	242E1505	243E1505	244E1505	247E1505	350	—	—	—	243E3515	244E3515	247E3515
18	239E1805	240E1805	242E1805	—	—	—	390	239E3915	240E3915	242E3915	—	—	—
20	239E2005	240E2005	242E2005	243E2005	244E2005	247E2005	400	239E4015	240E4015	242E4015	243E4015	244E4015	247E4015
22	239E2205	240E2205	242E2205	—	—	—	450	—	—	—	243E4515	—	—
25	239E2505	240E2505	242E2505	243E2505	244E2505	247E2505	470	239E4715	240E4715	242E4715	—	—	—
27	239E2705	240E2705	242E2705	—	—	—	500	239E5015	240E5015	242E5015	243E5015	244E5015	247E5015
30	239E3005	240E3005	242E3005	243E3005	244E3005	247E3005	560	239E5615	240E5615	242E5615	—	—	—
33	239E3305	240E3305	242E3305	—	—	—	600	239E6015	240E6015	242E6015	243E6015	244E6015	247E6015

Copyright 1971, Sprague Products Company

IND-REM-58-EBAP

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE RESISTORS

BLUE JACKET® VITREOUS-ENAMEL WIREWOUND RESISTORS, continued

Ohms	CATALOG NUMBER 239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 13/64" x 17/32"	243E 5 WATTS 13/64" x 15/16"	244E 7 WATTS 5/16" x 1"	247E 10 WATTS 5/16" x 1 3/4"
680	239E6815	240E6815	242E6815	—	—	—
700	239E7015	240E7015	242E7015	243E7015	244E7015	247E7015
750	—	—	—	243E7515	244E7515	247E7515
800	239E8015	240E8015	242E8015	243E8015	244E8015	247E8015
820	239E8215	240E8215	242E8215	—	—	—
900	239E9015	240E9015	242E9015	243E9015	244E9015	247E9015
1000	239E1025	240E1025	242E1025	243E1025	244E1025	247E1025
1100	—	—	—	243E1125	244E1125	247E1125
1200	239E1225	240E1225	242E1225	243E1225	244E1225	247E1225
1400	239E1425	240E1425	242E1425	243E1425	244E1425	247E1425
1500	239E1525	240E1525	242E1525	243E1525	244E1525	247E1525
1800	239E1825	240E1825	242E1825	243E1825	244E1825	247E1825
2000	239E2025	240E2025	242E2025	243E2025	244E2025	247E2025
2200	239E2225	240E2225	242E2225	243E2225	244E2225	247E2225
2500	239E2525	240E2525	242E2525	243E2525	244E2525	247E2525
2700	—	240E2725	242E2725	—	—	—
3000	—	240E3025	242E3025	243E3025	244E3025	247E3025
3300	—	240E3325	242E3325	—	244E3325	247E3325
3500	—	240E3525	—	243E3525	244E3525	247E3525
3900	—	240E3925	242E3925	—	244E3925	247E3925
4000	—	—	242E4025	243E4025	244E4025	247E4025
4200	—	—	—	—	244E4225	—
4500	—	—	—	243E4525	244E4525	247E4525
4700	—	—	242E4725	—	—	—
5000	—	—	242E5025	243E5025	244E5025	247E5025

Ohms	CATALOG NUMBER 239E 1 WATT 1/8" x 3/8"	240E 2 WATTS 3/16" x 3/8"	242E 3 WATTS 13/64" x 17/32"	243E 5 WATTS 13/64" x 15/16"	244E 7 WATTS 5/16" x 1"	247E 10 WATTS 5/16" x 1 3/4"
5600	—	—	242E5625	—	—	—
6000	—	—	242E6025	243E6025	244E6025	247E6025
6800	—	—	242E6825	—	—	—
7000	—	—	—	243E7025	244E7025	247E7025
7500	—	—	242E7525	243E7525	244E7525	247E7525
8000	—	—	242E8025	243E8025	244E8025	247E8025
8200	—	—	242E8225	—	—	—
9000	—	—	242E9025	243E9025	244E9025	247E9025
10000	—	—	242E1035	243E1035	244E1035	247E1035
11000	—	—	—	—	244E1135	247E1135
12000	—	—	—	243E1235	244E1235	247E1235
14000	—	—	—	243E1435	244E1435	247E1435
15000	—	—	—	243E1535	244E1535	247E1535
16000	—	—	—	—	244E1635	247E1635
17000	—	—	—	—	244E1735	—
18000	—	—	—	243E1835	244E1835	247E1835
20000	—	—	—	243E2035	244E2035	247E2035
22000	—	—	—	243E2235	244E2235	247E2235
25000	—	—	—	243E2535	244E2535	247E2535
30000	—	—	—	243E3035	244E3035	247E3035
35000	—	—	—	—	244E3535	247E3535
40000	—	—	—	—	244E4035	247E4035
45000	—	—	—	—	—	247E4535
50000	—	—	—	—	—	247E5035
55000	—	—	—	—	—	247E5535

TYPE RW67, RW68, RW69 BLUE JACKET® WIREWOUND RESISTORS

- This series of Blue Jacket Resistors meet all performance characteristics of Military Specification MIL-R-26E, Characteristics V & G.
- For additional technical data, see latest issue of Sprague Engineering Bulletin 7410.1.

Ohms	CATALOG NUMBER RW69 3 WATTS 3/16" x 1/2"	RW67 6.5 WATTS 5/16" x 1"	RW68 11 WATTS 11/32" x 1 7/8"
1.0	RW69V1R0	RW67V1R0	RW68V1R0
1.1	RW69V1R1	RW67V1R1	RW68V1R1
1.2	RW69V1R2	RW67V1R2	RW68V1R2
1.3	RW69V1R3	RW67V1R3	RW68V1R3
1.5	AW69V1R5	RW67V1R5	RW68V1R5
1.6	RW69V1R6	RW67V1R6	RW68V1R6
1.8	RW69V1R8	RW67V1R8	RW68V1R8
2.0	RW69V2R0	RW67V2R0	RW68V2R0
2.2	RW69V2R2	RW67V2R2	RW68V2R2
2.4	RW69V2R4	RW67V2R4	RW68V2R4
2.7	RW69V2R7	RW67V2R7	RW68V2R7
3.0	RW69V3R0	RW67V3R0	RW68V3R0
3.3	RW69V3R3	RW67V3R3	RW68V3R3
3.6	RW69V3R6	RW67V3R6	RW68V3R6
3.9	RW69V3R9	RW67V3R9	RW68V3R9
4.3	RW69V4R3	RW67V4R3	RW68V4R3
4.7	RW69V4R7	RW67V4R7	RW68V4R7
5.1	RW69V5R1	RW67V5R1	RW68V5R1
5.6	RW69V5R6	RW67V5R6	RW68V5R6
6.2	RW69V6R2	RW67V6R2	RW68V6R2
6.8	RW69V6R8	RW67V6R8	RW68V6R8
7.5	RW69V7R5	RW67V7R5	RW68V7R5
8.2	RW69V8R2	RW67V8R2	RW68V8R2
9.1	RW69V9R1	RW67V9R1	RW68V9R1
10	RW69V100	RW67V100	RW68V100
11	RW69V110	RW67V110	RW68V110
12	RW69V120	RW67V120	RW68V120
13	RW69V130	RW67V130	RW68V130
15	RW69V150	RW67V150	RW68V150
16	RW69V160	RW67V160	RW68V160
18	RW69V180	RW67V180	RW68V180
20	RW69V200	RW67V200	RW68V200
22	RW69V220	RW67V220	RW68V220
24	RW69V240	RW67V240	RW68V240
27	RW69V270	RW67V270	RW68V270

Ohms	CATALOG NUMBER RW69 3 WATTS 3/16" x 1/2"	RW67 6.5 WATTS 5/16" x 1"	RW68 11 WATTS 11/32" x 1 7/8"
30	RW69V300	RW67V300	RW68V300
33	RW69V330	RW67V330	RW68V330
36	RW69V360	RW67V360	RW68V360
39	RW69V390	RW67V390	RW68V390
43	RW69V430	RW67V430	RW68V430
47	RW69V470	RW67V470	RW68V470
51	RW69V510	RW67V510	RW68V510
56	RW69V560	RW67V560	RW68V560
62	RW69V620	RW67V620	RW68V620
68	RW69V680	RW67V680	RW68V680
75	RW69V750	RW67V750	RW68V750
82	RW69V820	RW67V820	RW68V820
91	RW69V910	RW67V910	RW68V910
100	RW69V101	RW67V101	RW68V101
110	RW69V111	RW67V111	RW68V111
120	RW69V121	RW67V121	RW68V121
130	RW69V131	RW67V131	RW68V131
150	RW69V151	RW67V151	RW68V151
160	RW69V161	RW67V161	RW68V161
180	RW69V181	RW67V181	RW68V181
200	RW69V201	RW67V201	RW68V201
220	RW69V221	RW67V221	RW68V221
240	RW69V241	RW67V241	RW68V241
270	RW69V271	RW67V271	RW68V271
300	RW69V301	RW67V301	RW68V301
330	RW69V331	RW67V331	RW68V331
360	RW69V361	RW67V361	RW68V361
390	RW69V391	RW67V391	RW68V391
430	RW69V431	RW67V431	RW68V431
470	RW69V471	RW67V471	RW68V471
510	RW69V511	RW67V511	RW68V511
560	RW69V561	RW67V561	RW68V561
620	RW69V621	RW67V621	RW68V621
680	RW69V681	RW67V681	RW68V681
750	RW69V751	RW67V751	RW68V751

Ohms	CATALOG NUMBER RW69 3 WATTS 3/16" x 1/2"	RW67 6.5 WATTS 5/16" x 1"	RW68 11 WATTS 11/32" x 1 7/8"
820	RW69V821	RW67V821	RW68V821
910	RW69V911	RW67V911	RW68V911
1000	RW69V102	RW67V102	RW68V102
1100	RW69V112	RW67V112	RW68V112
1200	RW69V122	RW67V122	RW68V122
1300	RW69V132	RW67V132	RW68V132
1500	RW69V152	RW67V152	RW68V152
1600	RW69V162	RW67V162	RW68V162
1800	RW69V182	RW67V182	RW68V182
2000	RW69V202	RW67V202	RW68V202
2200	—	RW67V222	RW68V222
2400	—	RW67V242	RW68V242
2700	—	RW67V272	RW68V272
3000	—	RW67V302	RW68V302
3300	—	RW67V332	RW68V332
3600	—	RW67V362	RW68V362
3900	—	RW67V392	RW68V392
4300	—	RW67V432	RW68V432
4700	—	RW67V472	RW68V472
5100	—	RW67V512	RW68V512
5600	—	RW67V562	RW68V562
6200	—	RW67V622	RW68V622
6800	—	RW67V682	RW68V682
7500	—	RW67V752	RW68V752
8200	—	RW67V822	RW68V822
9100	—	—	RW68V912
10,000	—	—	AW68V103
11,000	—	—	RW68V113
12,000	—	—	RW68V123
13,000	—	—	RW68V133
15,000	—	—	RW68V153
16,000	—	—	RW68V163
18,000	—	—	RW68V183
20,000	—	—	RW68V203

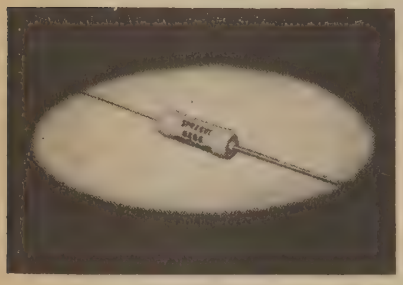
Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE RESISTORS

ACRASIL® PRECISION/POWER WIREWOUND RESISTORS



- Exclusive Silicone Coating Has Such Excellent Protective Qualities That Extremely Fine Diameter Wire is Used in Winding Resistor Body —Result is Higher Values of Resistance Than Were Previously Available.
- Extended Range of Resistance Values In No Way Impairs the Stability or Reliability of These Resistors, Even Under Extreme Operating Conditions.
- Small Size—Ideal for High-Density Circuitry.
- Both Standard and Non-Inductive Windings Are Available.
- Designed to Meet the Stringent Requirements of MIL-R-26E.
- Standard Resistance Tolerance, ±1%.
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 7450.

Call Your Sprague Industrial Distributor For Current Quantity Prices

STANDARD RESISTANCE VALUES (Ohms)

.100	.287	.825	2.37	6.81	19.6	56.2	162	464	1.33 K	3.83 K	11.0 K	31.6 K	102 K
.102	.294	.845	2.43	6.98	20.0	57.6	165	475	1.37 K	3.92 K	11.3 K	32.4 K	100 K
.105	.301	.866	2.49	7.15	20.5	59.0	169	487	1.40 K	4.02 K	11.5 K	33.2 K	97.6 K
.107	.309	.887	2.55	7.32	21.0	60.4	174	499	1.43 K	4.12 K	11.8 K	34.0 K	95.3 K
.110	.316	.909	2.61	7.50	21.5	61.9	178	511	1.47 K	4.22 K	12.1 K	34.8 K	93.1 K
.113	.324	.931	2.67	7.68	22.1	63.4	182	523	1.50 K	4.32 K	12.4 K	35.7 K	90.9 K
.115	.332	.953	2.74	7.87	22.6	64.9	187	536	1.54 K	4.42 K	12.7 K	36.5 K	105 K
.118	.340	.976	2.80	8.06	23.2	66.5	191	549	1.58 K	4.53 K	13.0 K	37.4 K	107 K
.121	.348	1.0	2.87	8.25	23.7	68.1	196	562	1.62 K	4.64 K	13.3 K	38.3 K	110 K
.124	.357	1.02	2.94	8.45	24.3	69.8	200	576	1.65 K	4.75 K	13.7 K	39.2 K	113 K
.127	.365	1.05	3.01	8.66	24.9	71.5	205	590	1.69 K	4.87 K	14.0 K	40.2 K	115 K
.130	.374	1.07	3.09	8.87	25.5	73.2	210	604	1.74 K	4.99 K	14.3 K	41.2 K	118 K
.133	.383	1.10	3.16	9.09	26.1	75.0	215	619	1.78 K	5.11 K	14.7 K	42.2 K	121 K
.137	.392	1.13	3.24	9.31	26.7	76.8	221	634	1.82 K	5.23 K	15.0 K	43.2 K	124 K
.140	.402	1.15	3.32	9.53	27.4	78.7	226	649	1.87 K	5.36 K	15.4 K	44.2 K	127 K
.143	.412	1.18	3.40	9.76	28.0	80.6	232	665	1.91 K	5.49 K	15.8 K	45.3 K	130 K
.147	.422	1.21	3.48	10.00	28.7	82.5	237	681	1.96 K	5.62 K	16.2 K	46.4 K	133 K
.150	.432	1.24	3.57	10.2	29.4	84.5	243	698	2.00 K	5.76 K	16.5 K	47.5 K	137 K
.154	.442	1.27	3.65	10.5	30.1	86.6	249	715	2.05 K	5.90 K	16.9 K	48.7 K	140 K
.158	.453	1.30	3.74	10.7	30.9	88.7	255	732	2.10 K	6.04 K	17.4 K	49.9 K	143 K
.162	.464	1.33	3.83	11.0	31.6	90.9	261	750	2.15 K	6.19 K	17.8 K	51.1 K	147 K
.165	.475	1.37	3.92	11.3	32.4	93.1	267	768	2.21 K	6.34 K	18.2 K	52.3 K	150 K
.169	.487	1.40	4.02	11.5	33.2	95.3	274	787	2.26 K	6.49 K	18.7 K	53.6 K	154 K
.174	.499	1.43	4.12	11.8	34.0	97.6	280	806	2.32 K	6.65 K	19.1 K	54.9 K	158 K
.178	.511	1.47	4.22	12.1	34.8	100	287	825	2.37 K	6.81 K	19.6 K	56.2 K	162 K
.182	.523	1.50	4.32	12.4	35.7	102	294	845	2.43 K	6.98 K	20.0 K	57.6 K	165 K
.187	.536	1.54	4.42	12.7	36.5	105	301	866	2.49 K	7.15 K	20.5 K	59.0 K	169 K
.191	.549	1.58	4.53	13.0	37.4	107	309	887	2.55 K	7.32 K	21.0 K	60.4 K	174 K
.196	.562	1.62	4.64	13.3	38.3	110	316	909	2.61 K	7.50 K	21.5 K	61.9 K	178 K
.200	.576	1.65	4.75	13.7	39.2	113	324	931	2.67 K	7.68 K	22.1 K	63.4 K	182 K
.205	.590	1.69	4.87	14.0	40.2	115	332	953	2.74 K	7.87 K	22.6 K	64.9 K	187 K
.210	.604	1.74	4.99	14.3	41.2	118	340	976	2.80 K	8.06 K	23.2 K	66.5 K	191 K
.215	.619	1.78	5.11	14.7	42.2	121	348	1.0 K	2.87 K	8.25 K	23.7 K	68.1 K	196 K
.221	.634	1.82	5.23	15.0	43.2	124	357	1.02 K	2.94 K	8.45 K	24.3 K	69.8 K	200 K
.226	.649	1.87	5.36	15.4	44.2	127	365	1.05 K	3.01 K	8.66 K	24.9 K	71.5 K	205 K
.232	.665	1.91	5.49	15.8	45.3	130	374	1.07 K	3.09 K	8.87 K	25.5 K	73.2 K	210 K
.237	.681	1.96	5.62	16.2	46.4	133	383	1.10 K	3.16 K	9.09 K	26.1 K	75.0 K	215 K
.243	.698	2.00	5.76	16.5	47.5	137	392	1.13 K	3.24 K	9.31 K	26.7 K	76.8 K	221 K
.249	.715	2.05	5.90	16.9	48.7	140	402	1.15 K	3.32 K	9.53 K	27.4 K	78.7 K	226 K
.255	.732	2.10	6.04	17.4	49.9	143	412	1.18 K	3.40 K	9.76 K	28.0 K	80.6 K	232 K
.261	.750	2.15	6.19	17.8	51.1	147	422	1.21 K	3.48 K	10.00 K	28.7 K	82.5 K	237 K
.267	.768	2.21	6.34	18.2	52.3	150	432	1.24 K	3.57 K	10.2 K	29.4 K	84.5 K	243 K
.274	.787	2.26	6.49	18.7	53.6	154	442	1.27 K	3.65 K	10.5 K	30.1 K	86.6 K	249 K
.280	.806	2.32	6.65	19.1	54.9	158	453	1.30 K	3.74 K	10.7 K	30.9 K	88.7 K	250 K

INDUSTRIAL TYPES

1 WATT	1.25 WATT	3 WATTS
TYPE 219E	TYPE 221E	TYPE 223E
.093"D. x 250"L.	.093"D x .406"L.	.187"D x .562"L.
.511 ohm thru 3k	.1 ohm thru 10K	.1 ohm thru 25K

5 WATTS	10 WATTS
TYPE 225E	TYPE 227E
.312"D x .875"L.	.375"D. x 1.781"L.
.511 ohm thru 3K	.1 ohm thru 250K

MILITARY TYPES

1 WATT	3 WATTS
TYPE RW70U	TYPE RW79U
.093"D. x .406"L.	.187"D. x .562"L.
.1 ohm thru 3.16K	.1 ohm thru 10.5K

5 WATTS	10 WATTS
TYPE RW74U	TYPE RW78U
.312"D. x .875"L.	.375"D x 1.781"L.
.1 ohm thru 38.3K	.1 ohm thru 99.9K

Copyright 1971, Sprague Products Company

IND-REM-63-EBAP

Sizes subject to change without notice.

© United Technical Publications

WORKMAN Electronic PRODUCTS, INC.
subsidiary of IPM TECHNOLOGY INC.

REPLACEMENT COMPONENTS

GLOBAR RESISTORS

DEL	DESCRIPTION	LIST	DLR.
	.49Ω at 3 amps.	1.94	1.17
	600kΩ Hot 1 Meg Ω Cold	1.97	1.18
	Replaces Fil Resistors	3.28	1.97
	3.5Ω Cold	1.33	.80
	3.8Ω Cold	1.33	.80
	4.5Ω Cold	1.33	.80
	500KΩ at 25°C	1.57	.94
	5-8Ω at 450 ma.	1.83	1.10
	8Ω Hot-600 ma.	2.00	1.20
	9Ω Hot-600 ma.	2.00	1.20
	10Ω Cold	1.33	.80
	11Ω Hot-600 ma.	2.82	1.62
	11Ω-450 ma. 9.2Ω-600 ma.	1.88	1.15
9	12.9Ω Cold	1.30	.78
	13Ω Cold	1.30	.78
	19Ω Hot-600 ma.	1.82	1.09
5	26.5Ω Cold Thermistor	2.66	1.60
	50Ω Hot-150 ma.	1.57	.94
	75Ω Hot-300 ma.	2.10	1.26
	20Ω Hot-600 ma.	1.82	1.09
	For Color TV	1.83	1.10
	14KΩ at 140 Volts	2.62	1.57
	50Ω Hot-150 ma.	1.57	.94
	120Ω Cold	2.04	1.22
	79Ω Cold 47Ω Hot	1.57	.94
	25Ω @ 25°C	2.62	1.57
	For Color TV	1.57	.94
	100Ω Hot to 200Ω Hot	2.24	1.34
	Hvy Duty Univ. Globar Res.	2.42	1.45
	Resistor Kit for color TV	3.50	2.28
1	Resistor Kit for color TV	3.50	2.28
7			
9	Resistor kit for color TV	4.45	2.67
	.05 to 1.0 ma. @100V to 175V	1.10	.70
	1.0 ma. @ 500V to 600V	1.10	.70
	4.5Ω to 5Ω @ 23°C to 25°C	1.10	.70
	15Ω @ 25°C	1.10	.70
	150KΩ @ 5 Volts	1.10	.70
	1.0 ma. @ 7.5 Volts	1.10	.70
	2 ma. @ 950 Volts	1.10	.70
	120KΩ to 150KΩ @ 25°C	1.10	.70
	1.0 ma. @ 110V to 120V	1.10	.70
	1.0 ma. @ 220 Volts	1.10	.70
	1.0 ma. @ 870 Volts to 1K V.	1.10	.70
	20Ω @ 37.8°C	1.10	.67
	10 ma. @ 560 volts	1.10	.67
	1.0 ma. @ 290 volts to 340 V.	1.10	.67
	10 ma. @ 680 Volts to 700 V.	1.10	.67
	10Ω @ 25°C	1.10	.67
	2.0 ma. @ 870 volts	1.10	.67
	1.5 meg @ 25°C	1.10	.67
7	30 ma. @ 72 volts	1.10	.67
0	1.0 ma. @ 34 Volts	1.10	.67
3	.05 ma. @ 34 volts to 40 volts	1.10	.67
4	.05 ma. @ 100 volts to 137 volts	1.10	.67
5	.05 ma. @ 80 volts	1.10	.67
0	.2 ma. @ 400 volts	1.10	.67
2	1.4KΩ @ 25°C	1.10	.67

SANS-A-FUSE

1	Color Coded - Red	2.00	1.20
5-1	Color Coded - Ivory	2.00	1.20
0-1	Color Coded - Kelly Green	2.00	1.20
0-1	Color Coded - Blue	2.00	1.20
0-1	Color Coded - Pink	2.00	1.20
0-1	Color Coded - Black	2.00	1.20
0-1	Color Coded - Turquoise	2.00	1.20
00-1	Color Coded - White	2.00	1.20
00-1	Color Coded - Green	2.00	1.20
00-1	Color Coded - Grey	2.00	1.20
00-1	Color Coded - Yellow	2.00	1.20
00-1	Color Coded - Maroon	2.00	1.20
00-1	Color Coded - Brown	2.00	1.20
00-1	Color coded Tan	2.00	1.20

COLOR TV CONTROLS

2-4 WATT WIREWOUND CONTROLS
• HORIZONTAL CENTERING
CONVERGENCE • AUDIO • COLOR •
G.C. DELAY • FOCUS • BRIGHTNESS •
NSITIVITY • HORIZONTAL FREQUENCY
• VERTICAL LINEARITY
• VERTICAL CENTERING
OR ALL MAJOR MANUFACTURERS
105 DIFFERENT CONTROLS

SQUARE OHMS

SQ	5W 81 Values 1-10KΩ	.53	.32
SQ	10W 87 values 1Ω-25KΩ	.58	.35
SQ	20W 87 values 1Ω-35KΩ	.96	.58
SQ	25W 121 values 1-50KΩ	1.10	.66

FUSED RESISTORS

F4.7	4.7Ω-5 Watt	.61	.36
F5	5Ω-5 Watt	.61	.36
F5.6	5.6Ω-5 Watt	.61	.36
F6	6Ω-5 Watt	.61	.36
F7	7.5Ω-3 Amp.	.79	.47
F7-3.6	3.6Ω Watt	.61	.36
F7-5	5Ω-7 Watt	.79	.47
F9	9Ω-5 Watt	.61	.36
F10	10Ω-5 Watt	.61	.36
F10-4.5	4.5Ω-10 Watt	.83	.50
F12A	150Ω-0.12 Amp	.61	.36
F15-7.5	7.5Ω-15 Watt	1.06	.64
F18	18Ω-5 Watt	.61	.36
F22	22Ω-5 Watt	.61	.36
F26	AWG 26 Wire Fused (5 pcs.)	.28	.17
F28	AWG 28 Wire Fuse (5 pcs.)	.28	.17
F47	47Ω-5 Watt	.61	.36
F80	7.5Ω-3 Amp.	.61	.36
F100	100Ω-5 Watt	.61	.36
F145	1.45Ω Philco	.79	.47
F150	150Ω-5 Watt	.61	.36
FB1	Universal Fuse Replmt.	2.36	1.42
FJ4.7	4.7Ω-3.5 Amp.	.83	.50
FJ5.6	5.6Ω3.5 Amp.	.83	.50
FJ7.5	7.5Ω3.5 Amp.	.83	.50
FJR4.7	4.7Ω-3.5 Amp.	.83	.50
FJR5.6	5.6Ω-3.5 Amp.	.83	.50
FJR7.5	7.5Ω-3.5 Amp.	.83	.50

WIREWOUND RESISTORS

6W-B	6W Bendohms, 34 values	.52	.31
25W	25W, 42 values 3.4Ω to 1KΩ	1.00	.61
30W	30W, 18 values 19Ω to 196Ω	1.18	.71
50W-5	50 Watt-5Ω for color	1.81	1.09
50WJ-5	50 Watt-5Ω heavy duty	2.80	1.68
148	41Ω - 25 watt	1.00	.60
151	51Ω - 30 Watt	1.05	.63
389	1400Ω - 20 watt	.97	.58
792	910Ω - 20 watt	1.05	.63
MO1	59Ω - 25 watt	.94	.56
WR	5-15W 50 values each univ.	.75	.45
WS	2W 21 values .22 to 10.Ω	.52	.31

AMP FUSES

W3-1	RCA #945392-3	.75	.45
W200-10	RCA #945309-1	.75	.45
W225-1	Rca #945392-5, Warwick #43-53-0	.75	.45
W350-1	Admiral 84B28-8, Zenith 136-75	.75	.45
W400-1	Mot.65C67985-AC1,RCA 945392-2	.75	.45
W450-1	RCA #945392-4	.75	.45
W500-1	Emerson, Olympic, RCA	.75	.45
W500-1P	Zenith #136-89	.85	.51
W700-1	Motorola #65C67985-AO4	.75	.45
W1000-1	Mot. #65C67985-AO3, Zen. 136-71	.75	.45
W1200-1	Em. #808236, Zenith 136-63	.75	.45
W1400-1	Em#808241, Mot.#65C67985-AO2	.75	.45
W1700-1	Em.#808238, Zenith 136-62	.75	.45
W2000-1	Zenith 136-66	.75	.45
W2700-1	Zenith #136-76	.75	.45
W3100-1	Zenith #136-85	.75	.45
W3250-2	Zenith #136-85	.80	.48

CIRCUIT BREAKERS

FA1	Break 1 amp. carry .65 amp.	1.31	.79
FA1.5	Break 1.5 amp. carry 1 amp.	1.31	.79
FA2	Break 2 amp. carry 1.25 amp.	1.27	.76
FA2.5	Break 2.5 amp. carry 1.6 amp.	1.27	.76
FA2.75	Break 2.75 amp. Color TV	1.27	.76
FA3	Break 3 amp. carry 1.9 amp.	1.27	.76
FA3.5	Break 3.5 amp. carry 3.2 amp.	1.27	.76
FA3.25	Break 3.25 amp. Color TV	1.27	.76
FA4	Break 4 amp. carry 2.5 amp.	1.27	.76
FA4.5	Break 4.5 amp. carry 3 amp.	1.27	.76
FA5	Break 5 amp. carry 3.25 amp.	1.27	.76
FA5.5	Break 5.5 amp. carry 3.6 amp.	1.27	.76
FA6	Break 6 amp. carry 3.9 amp.	1.27	.76
FA7	Break 7 amp. carry 4 amp.	1.31	.79
FAD	For Color TV	1.57	.94

COLOR RESISTORS

3G	100Ω thru 39KΩ-3 Watt	.94	.56
4G	73Ω thru 39KΩ-4 Watt	.99	.59
5G	1KΩ thru 39KΩ-5 Watt	1.15	.69
6G	3.3KΩ and 5KΩ-6 Watt	.94	.56
7G	50Ω thru 16KΩ-7 Watt	1.07	.64
8G	5.1KΩ - 8 Watt	1.18	.71
10G	800Ω thru 12KΩ - 10 Watt	1.34	.80

CHEMICALS

H6	"Wissh" cleaner 6 oz.	1.83	1.09
HF6	"Freez-It" cooler 6 oz.	1.83	1.09
HF15	Extra Dry Super Freez-It 15 oz.	4.58	2.75
HL6	Lubrite cleaner 6 oz.	2.75	1.65
HG24	"Miracle Mist" cleaner 24 oz.	5.40	3.24
HT6	Magnetic Tape Head Cleaner 6 oz.	2.01	1.21
R50	"Reco Kleen" record cleaner 1/2 oz	1.20	.72
S6	Super Wissh" 6 oz.	1.65	.99
S24	Super "Wissh" 24 oz. tank	4.17	2.50
SC6A	Ultra Wissh 6 oz.	2.01	1.21
SG6	Silicone-Lube	1.44	.86
SG7	Tuner Rouge	1.44	.86

SUPER BRIGHTENERS

W2	9V, parallel, standard base	2.92	1.75
W3	9V, series, standard base	3.19	1.91
W4	8.5V Std. Isolation	4.07	2.44
W5	9V RCA Parallel	4.29	2.57
W6	9V RCA Series	4.29	2.57
W7	9V Sylvania Parallel	4.29	2.57
W8	9V Sylvania Series	4.29	2.57
W9	9V Std. Series-Parallel	4.57	2.74
W10	3.5V RCA Series	3.85	2.31
W11	3.5V Sylvnaia Series	3.85	2.31
W12	9V RCA Series-Parallel	4.95	2.97
W14	9V Sylvania Series-Parallel	4.95	2.97
W15	9V 23EP4 Parallel	4.29	2.57
W16	8.5V RCA Isolation	4.29	2.57
W17	8.5V, Isolation, Sylvania	4.29	2.57
W20	8.5V 70° Color Parallel	10.73	6.44
W21	8.5V 90° Color Parallel	10.73	6.44
W22	6.2V 70° Color Par. Iso.	11.00	6.60
W23	6.2V 90° Color Par. Iso.	11.00	6.60
W24	11SP22 G.E. Porta. Color	10.73	6.44
W25	4.5 and 6.3V Series	3.30	1.98

TRANSISTORS

AA1	PNP Osc. Mixer Converter	1.65	.99
AA2	NPN Osc. Mixer Converter	1.82	1.09
AA3	PNP Hi Freq. Osc. Mixer	2.86	1.72
AA4	PNP Output TO3 Base	2.34	1.41
AA5	PNP Output TO36 Base	4.68	2.81

SERVICE AIDS

BZ1	Buzit	15.97	9.57
C200	Line Matching transformer	3.28	1.97
D1	RCA 110° CRT to Std.	3.49	2.10
D2	Sylva. 110° CRT to Std.	3.49	2.10
D3	RCA 110° CRT to Sylv.	3.49	2.10
D4	Sylv. 110° CRT to RCA	3.49	2.10
D5	23EP4 to Sylv. 8YP4	3.49	2.10
D6	110° to Standard	3.49	2.10
D7	90° Color CRT to 70°	6.66	3.99
D8	70° to 90° Color CRT	6.66	3.99
D9	Duo Decal Stand. to 7GR	3.49	2.10
D10	G.E. 11SP22 to 70° color TV	6.66	3.99
RS1	110° RCA CRT Socket	1.41	.85
RS2	110° Sylvania CRT Socket	1.41	.85
RS3	Standard Socket	1.41	.85
RS4	70° Color CRT Rpl. Socket	2.64	1.58
RS5	23EP4 CRT Repl. Socket	1.41	.85
RS6	90° Color CRT Repl. Socket	3.30	1.98
RS7	7 GR-CRT Repl. Socket	1.41	.85
TM3	Coll. Insulator TO36 Base	.92	.55
TM5	Coll. Insulator TO3 Base	.92	.55
TMA	Alum. Insulator TO3 Base	1.31	.79
TMK	Power Trans. Mtg Kit	1.26	.76
TMM	Mica Insulator	.92	.55
TMN	TO3 Nylon Screw Insul.	.92	.55
TMS	Trans. Socket diam'd base	.79	.47
WG1	One Gun Booster	8.50	5.10
WJ2	Gozinta with adapter	3.30	1.98
X1	RCA 110° CRT Xtend-it	2.88	1.73
X2	Sylv. 110° CRT Xtend-it	2.88	1.73
X3	Std. CRT Xtend-it	2.88	1.73
X4	70° Color CRT Xtend-it	4.19	2.51
X5	23EP4 CRT Xtend-it	2.88	1.73
X6	70° Color CRT Xtend-it	4.51	2.71
X7	90° Color CRT Xtend-it	4.51	2.71
X8	11 SP22 Color CRT Xtend-it	4.51	2.71

AUDIO CABLES
BATTERY HOLDERS
DIAL LAMPS
REPLACEMENT ANTENNAS
REPLACEMENT BULBS
TEST ACCESSORIES

Prices subject to change without notice.

COILS

Over 5000 Numbers
IN STOCK
Exact Replacements
FOR OVER 200 MANUFACTURERS
SPECIALIZING IN SHORT RUNS

Workman part numbers for Coils, Fusing Devices, Amp Fuses, Circuit Breakers, Wirewound and Special Purpose Resistors are listed in Howard W. Sams' Photofacts and Counterfacts.

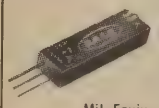
© United Technical Publications

DALE® for Optimum Value in Potentiometers

TRIMMER QUICK REFERENCE GUIDE

- New fastpack DIP models for automatic and hand insertion
- Expanded low-priced Econo-Trim series with sealability for pennies more
- Mil-style construction methods used throughout
- Panel mount models available in most series

MILITARY GRADE TRIMMER POTENTIOMETERS (High Temperature, Precision)

SERIES	ILLUSTRATION	MODEL	SEAL† TYPE	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
600	 Mil. Equiv. RT-10	691 680 690* 697* 692*	1 1 2 2 2	• Alternate position Printed Circuit Pins 22 AWG • Printed Circuit Pins 22 AWG • Hook Type Wire Solder Terminal • 28 AWG Stranded Teflon Leads • 26 AWG Solid Leads	10 ohms to 100K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	15±2	.18	.32	1.00
1200	 Mil. Equiv. RT-11	1287 1288* 1299*	1 2 1	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Spade Type Solder Lug	10 ohms to 100K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	25±2	.28	.31	1.25
1600	 Mil. Equiv. RT-12	1680 1697* 1692* 1690*	1 2 2 2	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • 22 AWG Solid Wire • Solder Lug	10 ohms to 100K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	22±3	.19	.32	1.25
1800	 Mil. Equiv. RTR-12	1880 1897	3 3	• Printed Circuit Pins, Gold Plated Nickel • 28 AWG Stranded Teflon Insulated Leads	10 ohms to 20K ohms ±5%	.75 watt at 85° C, derated to 0 at 150° C	–65° C to 150° C	22±3	.19	.32	1.25
5000	 Mil. Equiv. RT-22	5050 5080 5091 5087	2 1 1 1	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 21 AWG, Edge Mount • Printed Circuit Pins 21 AWG • Printed Circuit Pins 21 AWG, Side Adjust	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	25±2	.19 .22 .22 .22	.50 .50 .50 .50	.50 .50 .50 .50
5800	 Mil. Equiv. RT-24	5850 5891 5880 5887	2 1 1 1	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 22 AWG, Base Mount • Printed Circuit Pins 22 AWG, Edge Mount • Printed Circuit Pins 22 AWG, Side Adjust	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	25±3	.145 .150 .145 .150	.375 .375 .375 .375	.375 .375 .375 .375

*Indicates model is also available in Panel Mount version.

COMMERCIAL/INDUSTRIAL GRADE POTENTIOMETERS

WIREWOUND ELEMENT

SERIES	ILLUSTRATION	MODEL	SEAL† TYPE	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
2100		2187 2188* 2199*	4 4 4	• Printed Circuit Pins 21 AWG • Stranded Vinyl Leads 28 AWG • Spade Type Solder Lug	10 ohms to 100K ohms ±10%	1 watt at 70° C, derated to 0 at 125° C	–65° C to 125° C	25±2	.28	.31	1.25
2300		2387 2317 2389 2319	4 5 4 5	} Printed Circuit Terminals, Gold Plated } Hook-type Solder Lugs, Gold Plated	10 ohms to 50K ohms ±10%	0.5 watt at 25° C, derated to 0 at 105° C	–55° C to 105° C	15 turns nominal	.36	.28	1.00
2400		2487 2417	4 5	} Printed Circuit Terminals, Gold Plated	10 ohms to 50K ohms ±10%	1 watt at 40° C, derated to 0 at 125° C	–55° C to 125° C	20 turns nominal	.31	.16	.75
2600		2699 2619 2687 2617	4 5 4 5	} Printed Circuit Terminals, Gold plated, machine insertable } Printed Circuit Terminals, Gold plated, hand insertable	10 ohms to 50K ohms ±10%	1 watt at 40° C, derated to 0 at 125° C	–65° C to 125° C	20 turns nominal	.19	.25	.75
1100	Same configuration as corresponding 1200 Series models. Humidity proof for industrial/commercial applications.										
2200	Same configuration as corresponding Models 680, 692 and 697. Humidity proof for industrial/commercial applications.										

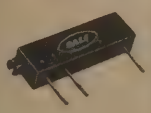
*Indicates model is also available in Panel Mount version.

© United Technical Publications

DALE® for Optimum Value in Potentiometers

COMMERCIAL/INDUSTRIAL GRADE POTENTIOMETERS

CERMET ELEMENT

SERIES	ILLUSTRATION	MODEL	SEAL† TYPE	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMP. RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
3300		8387 8317 8389 8319	4 5 4 5	Printed Circuit Terminals, Gold Plated Hook-type Solder Lugs, Gold Plated	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	.75 watt at 25° C, derated to 0 at 105° C	−55° C to 105° C	15 turns nominal	.36	.28	1.00
3400		8487 8417	4 5	Printed Circuit Terminals, Gold Plated	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	.75 watt at 25° C, derated to 0 at 125° C	−55° C to 125° C	20 turns nominal	.31	.16	.75
3600		8699 8619 8687 8617	4 5 4 5	Printed Circuit Terminals, Gold plated, machine insertable Printed Circuit Terminals, Gold plated, hand insertable	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	.75 watt at 25° C, derated to 0 at 125° C	−55° C to 125° C	20 turns nominal	.19	.25	.75
800		887 817	4 6	Printed Circuit Pins 26 AWG	10 ohms to 2 Megohms ±10% 100Ω thru 500K ±20% all other values	.3 watt at 25° C, derated to 0 at 150° C	−65° C to 150° C	10 turns nominal	.15	.10	.50
85		85 85A	5 5	• Printed Circuit Terminals, Gold Plated, machine insertable • Printed Circuit Terminals, Gold Plated, hand insertable	10 ohms to 1 Megohm ±20%	.5 watt at 25° C, derated to 0 at 125° C	−55° C to 125° C	12 turns nominal	.19	.265	.28
87		87 87A	5 5	• Printed Circuit Terminals, Gold Plated, machine insertable • Printed Circuit Terminals, Gold Plated, hand insertable	10 ohms to 1 Megohm ±20%	.5 watt at 25°C, derated to 0 at 125° C	−55° C to 125° C	Single turn	.19	.265	.28

SEAL TYPE IDENTIFICATION

1. Immersion proof per MIL-R-27208
2. Humidity proof per MIL-STD-202, Method 106
3. Sealed per MIL-R-39015
4. Humidity proof per MIL-STD-202, Method 103, Condition B
5. Immersion proof—sealed for board washing, leak tested in 70° C water
6. Immersion proof per MIL-R-22097

PRECISION POTENTIOMETERS—SINGLE TURN *(Write for Catalog B)*



• Precision machined anodized aluminum cups • Molded Diallyl Phthalate liners • Welded tap and terminal construction • Precious metal wipers and slip rings • Flush clamp bands • Gold-plated terminals • Precision sleeve or ball bearings • Centerless ground stainless steel shafts • Single or ganged units.

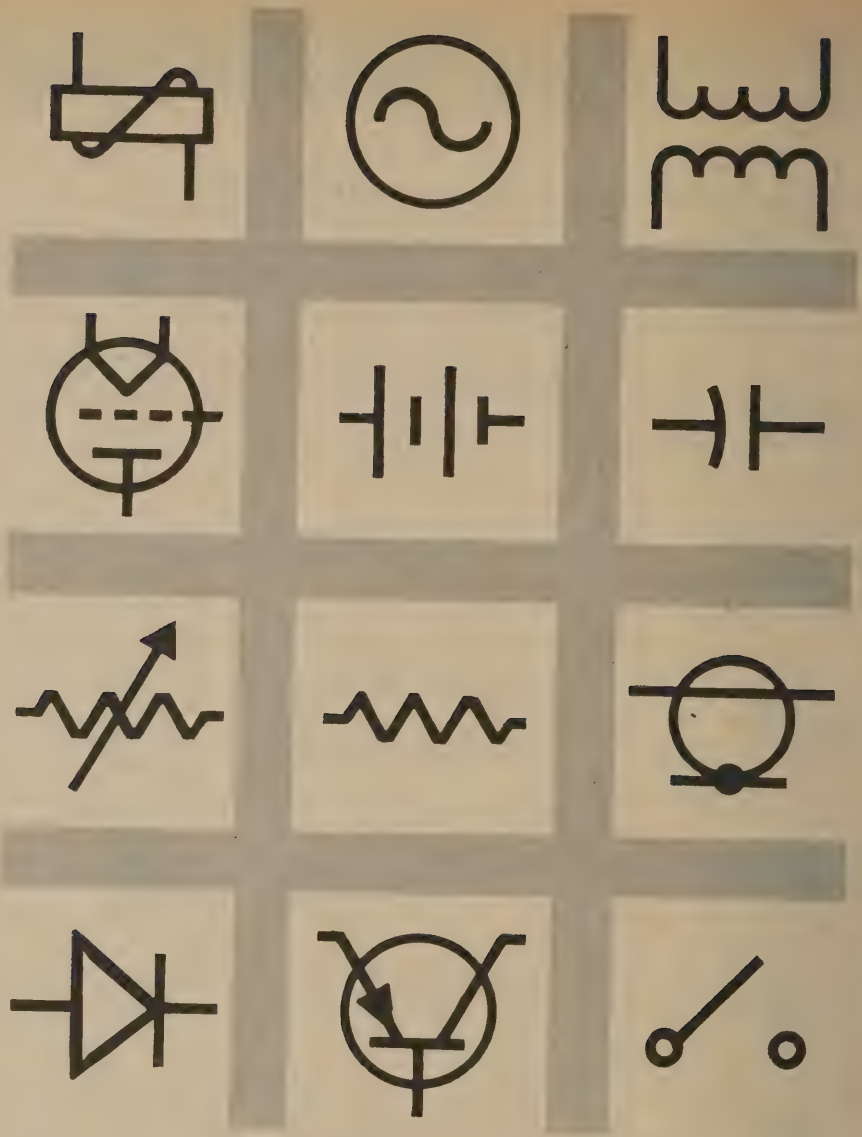
SPECIFICATIONS:

- Meet requirements of MIL-R-12934 and NAS-710
- Eight physical sizes, 3/4" to 3" diameter
- Electrical angles and functions to specification
- Special mechanical configurations available

CONTACT DISTRIBUTOR FOR PRICES

Other Dale Products listed in this edition include:

■ RESISTORS ■ INDUCTORS ■ CONNECTORS
■ STEPPING RELAYS ■ GEARHEAD MOTORS



Select the electronic products you need from

THE '72 RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

Then...

call your local distributor for fast, reliable service!

OHMITE Resistance Trimmers

ot molded single-turn immers

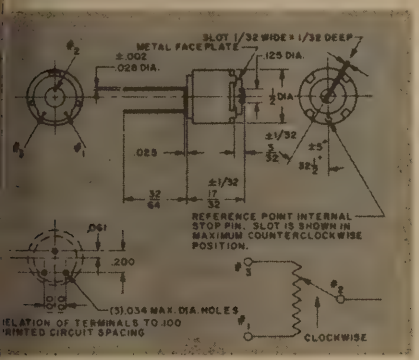


TYPE AFR
SINGLE TURN

MITE type AFR Trimmers are single-turn controls lt to withstand severe environmental conditions. eir unique design includes a hot-molded resistor ck bridged by a single moving molded contact sh. Resistance material, collector track material, ulation material and metal terminals are all lded together at one time into a single, solid, egral structure. There are no cracks or crevices admit moisture.

Enclosure of the Ohmite type AFR is non-magnetic, rosion resistant, and splash-proof. Type AFR mmers are designed for screwdriver adjustment. ed stops withstand a maximum shaft torque of inch-pounds.

In excess of 50,000 operational cycles with low oise" level initially — decreasing with use — can expected in conventional applications.



HARACTERISTICS

wer Rating: ¼ watt @ +70°C ambient temperature. Derate power linearly to zero at +120°C ambient for resistance values to 0.5 megohms. Additional derating required for resistance values over 0.1 megohms at ambients higher than 70°C.

sistance Range: 100 ohms to 5.0 megohms. Resistance change is nominally linear with shaft rotation.

ierance: ±20% standard.

mperature Range: −55°C to +120°C.

orking Voltage: 350 volts ,RMS, maximum.

electric Strength: 750 VAC, RMS, at sea level.

djustment: Single turn, 295 ±5°.

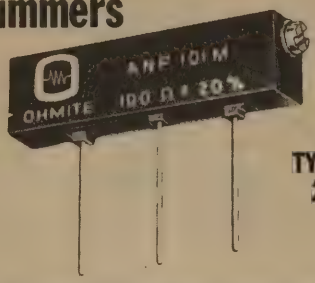
rque: 0.25 to 3.0 inch-ounces.

ads: Designed for mounting directly on printed wiring boards using the terminal leads which are spaced to fit the 0.1" printed wiring board standard spacing.

TYPE AFR TRIMMERS

Ohms ±20%	Catalog Number	Ohms ±20%	Catalog Number
100	AFR-101M	25,000	AFR-253M
250	AFR-251M	50,000	AFR-503M
500	AFR-501M	.1 meg	AFR-104M
1,000	AFR-102M	.25 meg	AFR-254M
2,500	AFR-252M	.5 meg	AFR-504M
5,000	AFR-502M	1.0 meg	AFR-105M
10,000	AFR-103M	2.5 meg	AFR-255M
		5.0 meg	AFR-505M

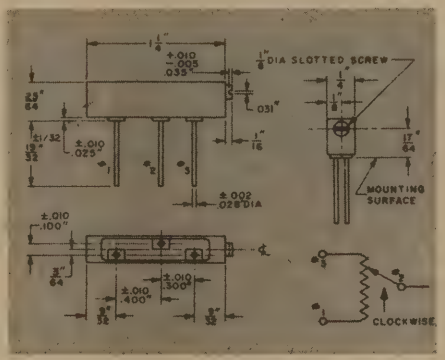
hot molded 25-turn trimmers



TYPE ANP
25-TURN

Ohmite type ANP Hot-Molded Trimmers are continuously adjustable 25-turn variable resistors intended primarily for trimmer applications. Designed for use on printed circuit boards, these dependable three-terminal devices can be applied as either rheostats or potentiometers with equally satisfactory results. Stepless and relatively non-inductive regardless of resistance value. Unexcelled stability of setting in normal environmental conditions.

The type ANP Trimmer is produced by a hot-molding process using a high insulation material together with a hot molded resistance track, low resistance collector track and terminal pins — all combined into a single, solid, integral structure. The type ANP is splash-proof, dust-tight and can be mounted by its own rugged terminals.



CHARACTERISTICS

Power Rating: ⅓ watt @ 50°C ambient temperature. Derate power linearly to zero at 100°C.

Resistance Range: 100 ohms to 0.1 megohms. Resistance change is nominally linear with shaft rotation.

Tolerance: Standard resistance tolerance is ±20%.

Temperature Range: −55°C to +100°C.

Working Voltage: 350 volts RMS, maximum at sea level.

Dielectric Strength: 700 volts RMS maximum, at sea level.

Insulation Resistance: 1000 megohms minimum.

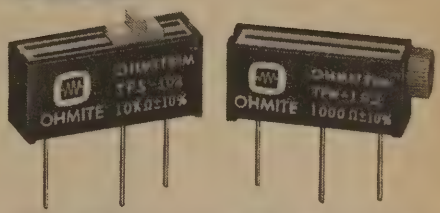
Adjustment: 25 ±3 turns for continuous resistance change. Mechanical release at end positions. Turning torque is 0.10 to 8 inches-ounce. Slotted for screwdriver adjustment.

Leads: Pin type terminals, spaced in accordance with 0.1" printed wiring board grid system.

TYPE ANP TRIMMERS

Ohms ±20%	Catalog Number	Ohms ±20%	Catalog Number
100	ANP-101M	5,000	ANP-502M
250	ANP-251M	10,000	ANP-103M
500	ANP-501M	25,000	ANP-253M
1,000	ANP-102M	50,000	ANP-503M
2,500	ANP-252M	.1 meg	ANP-104M

Ohmitrim™ wirewound trimmers



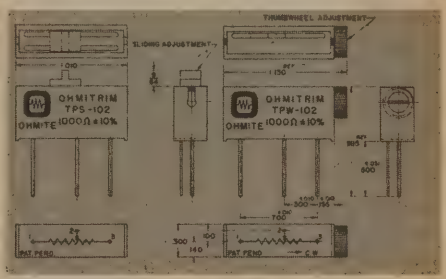
TPW and TPS series, Ohmitrim™ wirewound trimmers have a nominal 1 watt rating and are offered in resistance values ranging from 10 to 20K ohms. Leads are printed circuit type, spaced for standard 0.1 inch matrix hole patern. They are available in screwdriver / thumbwheel (TPW series) and slider (TPS series) actuator styles.

Model TPW is lead-screw operated (approximately 35 turns) and provides clutching action at either end of the winding. Trimming is accomplished by either screwdriver or hand via a thumbwheel.

Model TPS is slide operated. It permits fast approximate placement of the slide actuator to a predetermined position and subsequent fine adjustment by an additional small movement. This model is especially useful where a number of trimmers, stacked side by side, can be quickly positioned to their approximate location by using a single template.

Both models are of a new "open" design and are not "sealed." A number of openings in the enclosure permit cleaning solvents to enter and readily leave. Thorough testing has assured that when the cleaning process is properly performed in a vapor degreaser, there is no danger of contamination of either the winding or the contact.

Both models meet the requirements outlined in EIA Standard RS-345 "Resistors, Variable, Wirewound" for characteristic "A." They both have the exact lead spacing of style CRT 11 of the EIA Standard. While they deviate slightly in dimensions, both models conform closest in this respect to style CRT 13.



FEATURES

Ohmitrim™ trimmers offer four features, especially important in view of their economical price:

1. **Gold plated** leads for excellent solderability.
2. **Gold plated** contact for excellent oxidation-free long life service.
3. Resistance wire is welded to leads for noiseless connection.
4. Choice of thumbwheel or slider for easy adjustment without tools.

CHARACTERISTICS

Temperature Rating: 40°C maximum ambient. (For full wattage rating.)
Power Rating: 1 watt.
Resistance Tolerance: ±10%.
Temperature Coefficient: 0 ±.010% per °C.
Dielectric Strength: 500 Volts AC.
Insulation Resistance: 100 megohms.
Torque: 0.1 to 0.8 oz.-inches.
End Resistance: 2% maximum.
Number of Turns: 35, approximately.
Leads: Gold Plated, 0.1 grid spacing.
Contacts: Gold Plated.
For △ R = ±10%: Thermal Shock: −55 to ±85°C.
Rotational Life: 200 cycles.
Electrical Life: 1000 hours.

TYPES TPW AND TPS TRIMMERS

Ohms ±10%	Catalog Number	
	Thumbwheel Type	Slide Type
10	TPW-100	TPS-100
20	TPW-200	TPS-200
50	TPW-500	TPS-500
100	TPW-101	TPS-101
200	TPW-201	TPS-201
500	TPW-501	TPS-501
1,000	TPW-102	TPS-102
2,000	TPW-202	TPS-202
5,000	TPW-502	TPS-502
10K	TPW-103	TPS-103
20K	TPW-203	TPS-203

OHMITE vitreous enameled rheostats (potentiometers)

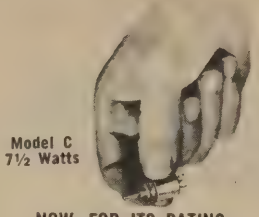
Now, Ohmite offers TWELVE sizes in its line of famous rheostats ranging from 7.5 to 1000 watts. Nothing to shrink or burn, all models are metal and ceramic construction and coated with Ohmite's exclusive vitreous enamel or Ohmicone® silicone ceramic. The revolutionary Model C, 7½ watt miniature unit, **the smallest rheostat of its rating available,** employs this same construction! All Model C stock units and the enclosed Model E unit, are normally supplied in a corrosion-resistant dust-proof case. Model C units are stocked in both standard and locking type bushings.

In all Ohmite rheostats, the resistance wire is wound on a solid ceramic core. The turns are locked in place with tough, protective vitreous enamel or Ohmicone® silicone ceramic. Pivoted, universal action mounting of the brush, assures perfect contact. Metal-graphite contact brushes, varied to fit current and resistance, insure good contact with negligible wear of the wire. Terminals at each end of the winding permit connection of the unit as a potentiometer.

Models H, J, G, K, L, P, and N, marked "Series A," are listed under the Underwriter's Laboratories Reexamination Service. RHEOSTAT KNOBS are listed on page 20. Rheostats can be supplied to meet military specification MIL-R-22.

RATINGS: Current ratings shown, assume use in free air. If units are enclosed, currents should be reduced to as much as 50% depending upon ventilation. The rated current causes the rheostat to dissipate its rated wattage when its full resistance is in the circuit.

SPECIAL RHEOSTAT FEATURES: Hundreds of features to meet your special rheostat requirements can be furnished. Submit your specifications.



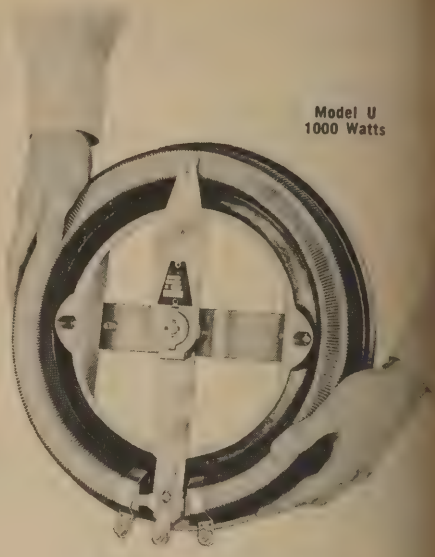
Model C
7½ Watts

NOW, FOR ITS RATING INDUSTRY'S SMALLEST RHEOSTAT!



Unenclosed
Model E
12½ Watts

Enclosed
Model E
12½ Watts



Model U
1000 Watts

MODEL "C" — 7½ WATT* — STANDARD & LOCKING BUSHINGS

Diameter .515" max. — Depth behind panel ⅞" — Shaft ⅛" diameter, slotted for both types; Std. shaft accommodates knob — Rotation 300° — Mounting for panels up to ⅛" by means of ¼"-32 bushing and hex. nut — Non-turn lug requires ⅛" hole ¼" below center of shaft — No. 5151 knob recommended — Solder terminals also fit EIA type TS-E3R100 transistor socket — Wt. 0.27 oz.

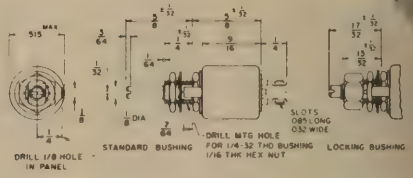
Ohms	Amps.	Standard Shaft Catalog No.[1]	Locking Shaft Catalog No.[1]
10	.86	4908	4948
15	.71	4909	(4949)
25	.55	4910	(4950)
35	.46	(4911)	(4951)
50	.39	4912	(4952)
75	.32	(4913)	(4953)
100	.27	4914	4954
150	.22	(4915)	(4955)
200	.19	(4916)	(4956)
250	.17	4917	(4957)
350	.15	4918	4958
500	.12	4919	(4959)
750	.10	(4920)	(4960)
1000	.086	4921	4961
1500	.071	(4922)	(4962)
2500	.055	(4923)	4963
3500	.046	(4924)	(4964)
5000	.039	4925	4965

*Rating on metal panel — unit is silicone-ceramic coated.

Locking-type Model C mounted in socket on panel. Solder terminals fit transistor socket.



MODEL C



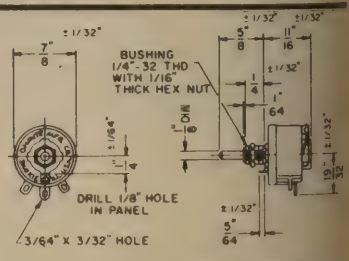
MODEL "E" — 12½ WATT* — UNENCLOSED & ENCLOSED

Diameter ⅞"; Diameter with dust-tight aluminum enclosure 1¾₆₄" — Depth behind panel 1¹⁵⁄₁₆"; for enclosed, 1³⁄₃₂" — Rotation 300° — Mounts on panels up to ⅛" by means of ¼"-32 bushing and hex nut — Non-turn lug requires ⅛" hole ¼" below center of shaft. No. 5151 knob recommended—Wt. 0.6 oz.; enclosed 0.85 oz.

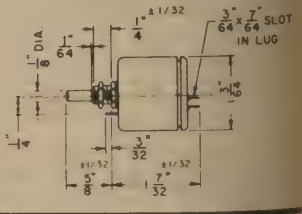
Total Ohms	Max. Amps	Steps Appr.	Unenclosed Catalog No.[1]	Enclosed Catalog No[1]
1	3.53	28	0101	(W0101)
2	2.50	29	0102	(W0102)
2.5	2.24	29	(0102A)	(W0102A)
3	2.04	38	0103	(W0103)
5	1.58	51	0103A	(W0103A)
6	1.44	35	0104	(W0104)
8	1.25	53	0105	(W0105)
10	1.12	50	0106	W0106
15	.91	70	0107	(W0107)
25	.71	72	0108	W0108
35	.60	82	0109	(W0109)
50	.50	92	0110	(W0110)
75	.41	105	0111	(W0111)
100	.35	102	0112	W0112
125	.32	110	0113	(W0113)
150	.29	130	(0113A)	(W0113A)
175	.27	155	0114	(W0114)
200	.25	135	0114A	(W0114A)
250	.22	170	0115	W0115
350	.19	190	0116	(W0116)
500	.16	210	0117	(W0117)
750	.13	200	0118	(W0118)
1,000	.11	260	0119	W0119
1,500	.091	209	0120	(W0120)
2,500	.071	323	0121	W0121
3,500	.060	400	0122†	(W0122†)
5,000	.050	340	0123†	W0123†
7,500	.041*	420	4190†	W4190†
10,000	.035*	560	4191†	(W4191†)
12,500	.031*	480	(4192†)	W4192†)
15,000	.029*	490	4193†	(W4193†)

*Rating on metal panel. †Silicone-ceramic coating. Max. volts for 7500Ω = 305V.; for 10K, 12.5K and 15KΩ = 350V.

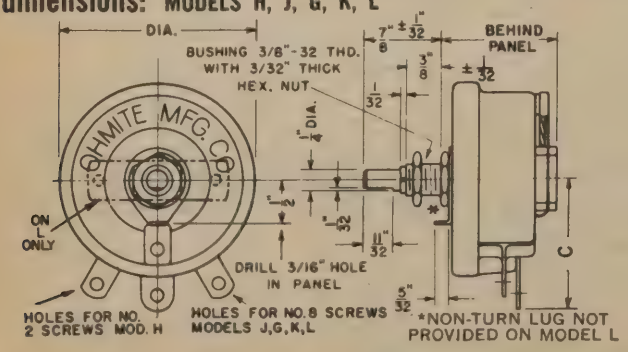
MODEL E



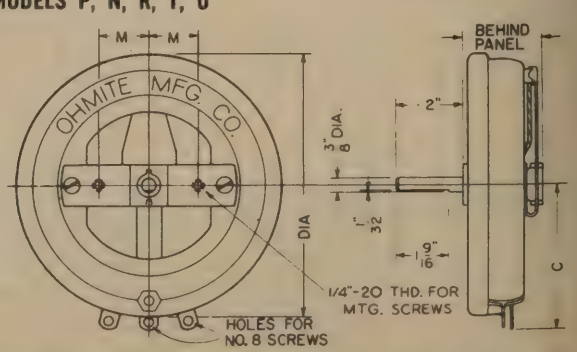
MODEL E ENCLOSED



dimensions: MODELS H, J, G, K, L*



MODELS P, N, R, T, U



Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

© United Technical Publications

OHMITE vitreous enameled rheostats (potentiometers)

WATT

DEL "H," SERIES A

1⅛" — Depth behind panel — Shaft ¼" dia. Rotation — Mounts on panels up to by means of ⅜"-32 Bushing Hex. Nut — Non-turn lug ires ¾" hole ½" below ctr. haft — No. 5150 knob recom. dimension is 1⅝" — Weight lb.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
0140	1	5.000	30
0141	2	3.540	29
0142	3	2.880	51
0143	6	2.040	50
0144	8	1.770	52
0145	10	1.580	52
0146	15	1.290	74
0147	25	1.000	95
0148	35	.845	107
0149	50	.707	97
0150	75	.575	117
0151	100	.500	123
0152	125	.445	155
0153	175	.375	171
0154	250	.316	195
0155	350	.267	210
0156	500	.222	245
0157	750	.182	286
0158	1,000	.155	305
0159	1,500	.129	380
0160	2,500	.100	300
0161	3,500	.084	335
0162	5,000	.070	380
4200†	7,500	.058	590
4201†	10,000	.050	525
4202†	15,000	.041	750
4203†	20,000	.035	750
4204†	25,000	.032	700

† Silicone-ceramic coating, 500V max. Not listed UL Ser. A.

50 WATT

MODEL "J," SERIES A

Dia. 2¾" — Depth behind panel 1⅜" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ¾" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1⅜" — Weight 0.32 lb.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
0308	0.5	10.000	25
0309	1	7.070	44
0310	2	5.000	44
0311	4	3.530	44
0312	6	2.880	74
0313	8	2.500	82
0314	12	2.040	85
0315	16	1.760	89
0316	22	1.500	98
0317	35	1.190	126
0318	50	1.000	111
0319	80	.790	143
0320	125	.630	177
0321	150	.575	175
0322	225	.470	203
0323	300	.408	215
0324	500	.316	286
0325	800	.250	286
0326	1,000	.224	360
0327	1,600	.176	368
0328	2,500	.141	463
0329	3,500	.119	510
0330	5,000	.100	442
0331	8,000	.079	560
0332	10,000	.070	567
4210†	15,000	.058	700
4211†	20,000	.050	850
4212†	25,000	.045	950
4213†	30,000	.041	900
(4214†)	40,000	.035	950
4215†	50,000	.032	1130

† Silicone-ceramic coating, 750V max. Not listed UL Ser. A.

75 WATT

MODEL "G," SERIES A

Dia. 2¾" — Depth behind panel 1¾" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ⅝" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1²³⁄₃₂" — Weight 0.52 lb.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
1100	0.5	12.300	28
(1101)	1	8.660	27
1102	2	6.120	28
1103	3	5.000	53
1104	5	3.880	54
1105	7.5	3.160	51
1106	10	2.740	55
1107	16	2.170	131
1108	25	1.730	113
1109	50	1.230	143
1110	75	1.000	134
1111	100	.866	180
1112	200	.612	186
1113	300	.500	217
1114	400	.433	230
1115	500	.388	291
(1116)	750	.316	345
1117	1,000	.274	351
(1118)	1,500	.224	434
1119	2,000	.194	450
(1120)	2,500	.173	448
(1121)	5,000	.123	590
(1122)	7,500	.100	544
1123	10,000	.087	568

100 WATT

MODEL "K," SERIES A

Dia. 3⅛" — Depth behind panel 1¾" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ¾" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1²³⁄₃₂" — Weight 0.64 lb.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx
0440	0.5	14.100	33
0441	1	10.000	33
0442	2	7.070	33
0443	3	5.750	30
0444	5	4.470	57
0445	7.5	3.650	60
0446	10	3.160	57
0447	16	2.500	124
0448	25	2.000	107
0449	50	1.410	135
0450	75	1.150	158
0451	100	1.000	168
0452	200	.707	213
0453	300	.575	259
0454	400	.500	270
0455	500	.447	269
0456	750	.365	319
0457	1,000	.316	330
0458	1,500	.258	402
0459	2,000	.224	417
0460	2,500	.200	515
0461	5,000	.141	560
0462	7,500	.115	495
0463	10,000	.100	673

150 WATT

MODEL "L," SERIES A

Dia. 4" — Depth behind panel 2" — Shaft ¼" diameter. Rotation 300° — Mounting for panels up to ¼", ⅜"-32 Bushing and Hex. Nut or two 10-32 flat head screws, mounting centers ⅞" each side of center of shaft on line perpendicular to center terminal. — Stock No. 5150 knob recom. — C dimension is 2³⁄₃₂" — Weight 1.1 lbs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
0524	0.5	17.300	28
0525	1	12.300	44
0526	2	8.650	43
0527	3	7.070	74
0528	5	5.480	78
0529	7.5	4.470	81
0530	10	3.880	77
0531	15	3.163	130
0532	25	2.450	114
0533	35	2.070	125
0534	50	1.735	142
0535	75	1.415	170
0536	100	1.225	177
0537	150	1.000	215
0538	200	.865	229
0539	250	.775	285
0540	350	.655	315
0541	500	.548	366
0542	750	.447	335
0543	1,250	.346	453
0544	1,800	.288	497
0545	2,250	.259	511
0546	3,000	.224	526
0547	4,500	.182	630
0548	7,500	.141	894
0549	10,000	.122	929

5 WATT

ODEL "P," SERIES A

5" — Depth behind panel — Shaft ⅜" dia. Rotation — Mounting for panels up 1¼" by two ¼"-20 screws, unting centers (M) ⅞" each e of center of shaft on cen- line of cross-bar. — Stock 5105 Knob Recommended — dimension is 2³¹⁄₃₂" — Weight bs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
1250)	1.0	15.000	42
1251	2.0	10.600	42
1252	3.0	8.660	43
1253)	4.0	7.500	57
1254	5.0	6.710	57
1255)	7.5	5.490	61
1256	10.0	4.740	103
1257	15.0	3.870	109
1258	25.0	3.000	115
1259	50.0	2.120	183
1260	75.0	1.730	192
1261	100	1.500	268
1262	150	1.220	256
1263	200	1.060	337
1264	300	.866	323
1265	400	.750	343
1266	700	.567	484
1267	900	.500	493
1268	1,200	.433	520
1269	1,500	.387	647
1270	1,750	.358	603
1270A	2,000	.336	650
1271	2,500	.300	652

300 WATT

MODEL "N," SERIES A

Dia. 6" — Depth behind panel 2⅜" — Shaft ⅜" dia. Rotation 320° — Mounting for panels up to 1¼" by two ¼"-20 screws, mounting centers (M) 1¾" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 3⅛" — Weight 2.6 lbs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
0650	1.0	17.320	50
0651	2.0	12.240	52
0652	3.0	10.000	52
0653	4.0	8.660	78
0654	5.0	7.750	78
0655	7.5	6.320	72
0656	10.0	5.480	78
0657	15.0	4.470	144
0658	25.0	3.460	135
0659	50.0	2.450	218
0660	75.0	2.000	225
0661	100	1.730	285
0662	150	1.410	342
0663	200	1.220	363
0664	300	1.000	424
0665	400	.866	454
0666	700	.655	504
0667	900	.578	528
0668	1,200	.500	546
0669	1,500	.447	678
(0670)	1,750	.414	626
(0670A)	2,000	.387	700
0671	2,500	.346	708

500 WATT

MODEL "R"

Dia. 8" — Depth behind panel 2⅛" — Shaft ⅜" dia. Rotation 325° — Mounting for panels up to 1¼" by two ¼"-20 screws, mounting centers (M) 1½" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 4⅝" — Weight 4 lbs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
0849	1.0	22.300	69
0850	1.5	18.200	79
(0851)	2.0	15.800	75
(0852)	2.5	14.100	76
0853	3.0	12.900	78
0854	4.0	11.200	73
0855	5.0	10.000	103
0856	8.0	7.900	103
0857	12.5	6.300	103
0858	16.0	5.600	188
0859	25.0	4.470	204
0860	40.0	3.540	206
0872	50.0	3.160	206
0861	80.0	2.520	327
0862	125	2.000	327
0863	175	1.690	423
0864	250	1.410	488
0865	325	1.240	500
0866	500	1.000	609
0867	750	.817	727
0868	1,000	.707	771
0869	1,500	.577	925
0870	2,000	.500	980
0871	2,500	.447	968

750 WATT

MODEL "T"

Dia. 10" — Depth behind panel 3" — Shaft ⅜" dia. Rotation 330° — Mounting for panels up to 1¼" by two ¼"-20 screws, mounting centers (M) 1⅞" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — is 5⅛" — Weight 7.6 lbs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
1300	1.0	27.400	71
(1301)	1.5	22.300	91
1302	2.0	19.400	103
(1303)	2.5	17.300	99
(1304)	3.0	15.800	94
(1305)	4.0	13.600	91
1306	5.0	12.200	102
1307	8.0	9.650	98
1308	10.0	8.650	138
(1309)	12.5	7.750	138
1310	16.0	6.820	140
1311	25.0	5.470	138
1312	50.0	3.870	248
1313	80.0	3.060	250
1314	100	2.740	248
1315	160	2.170	446
1316	200	1.940	442
1317	300	1.580	540
1318	400	1.370	583
(1319)	600	1.117	684
(1320)	750	1.000	686
1321	1,200	.791	870
(1322)	1,800	.646	1,042
(1322A)	2,000	.610	900
(1323)	2,500	.547	1,170

1000 WATT

MODEL "U"

Dia. 12" — Depth behind panel 3" — Shaft ⅜" dia. Rotation 335° — Mounting for panels up to 1¼" by two ¼"-20 screws, mounting centers (M) 3" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 6⅜" — Weight 10 lbs.

Catalog No.[1]	Total Ohms	Max. Amps	Steps Approx.
1450	1.0	31.600	86
1451	1.5	25.800	89
1452	2.0	22.400	115
1453	2.5	20.000	122
1454	3.0	18.300	125
1455	4.0	15.800	118
1456	5.0	14.100	122
1457	8.0	11.200	116
1458	10.0	10.000	114
(1459)	12.5	8.950	181
1460	16.0	7.900	164
1461	25.0	6.330	181
1462	50.0	4.470	321
1463	75.0	3.650	301
1464	100	3.160	321
1465	175	2.390	520
1466	225	2.110	608
1467	300	1.830	640
1468	400	1.580	685
1469	500	1.410	687
1470	750	1.150	806
1471	1,000	1.000	855
1472	1,500	.816	1,026
1473	2,500	.633	1,097

lar items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking butors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

OHMITE molded composition potentiometers

Ohmite molded composition potentiometers are used in commercial and military electronic applications where high quality and dependable performance are important. Type AB is rated 2 watts at 70°C ambient and is available with ⅞" slotted shaft (CMU), 2" unslotted shaft (CU, CA, CB, CCU) and locking type bushing with slotted shaft (CLU). Type AS is a miniature unit rated ½ watt. It is available with locking type bushing and slotted shaft (Style AS) and standard bushing with longer (slotted) shaft for knob control (Style ASM).

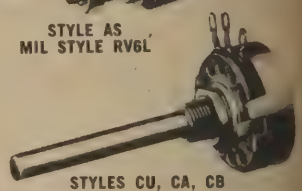
Because the resistance element is a thick, solid-molded ring — not a sprayed film or paint-type resistor — longer life and smoother operation are obtained. This is due also to the molded composition contact. Units are dust and splash proof, fungus and corrosion resistant and meet the requirements of military specification MIL-R-94. Styles CMU, CLU, AS and ASM conform respectively to MIL-R-94, Styles RV4N, RV4L, RV6L and RV6N.

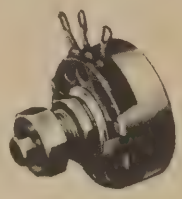
Styles and tapers are listed in table. Dimensions of all stock units are shown below.


STYLE CMU
MIL STYLE RV4N


STYLE ASM
MIL STYLE RV6N


STYLE AS
MIL STYLE RV6L


STYLES CU, CA, CB

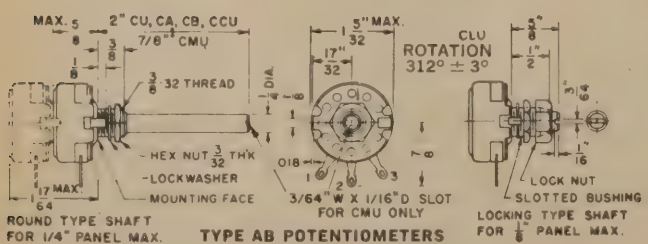

STYLE CLU
MIL STYLE RV4L


STYLE CCU

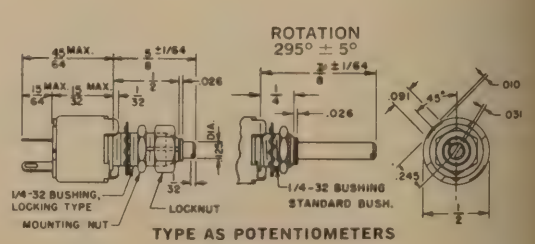
STOCK "POTS" — MIL Units are Stamped with MIL and Commercial Designations

Resistance	TYPE AB (1⅝" Dia.) Rated 2 Watts[1]								TYPE AS (½" Dia.) Rated ½ Watt[1]			
	Single Unit ⅞" Shaft		Single Unit 2" Shaft			Locking		Dual	Miniature Locking		Miniature ⅞" Shaft	
Ohms Except As Noted Tol. ±10% except * ±20%	Style CMU Linear	MIL Designation	Style CU Linear	Style CA CW log	Style CB CCW log	Style CLU Linear	MIL Designation	Style CCU Linear	Style AS Linear	MIL Designation	Style ASM Linear	MIL Designation
50	**CMU5001**	500A	**CU5001**			**CLU5001**	500A					
100	**CMU1011**	101A	**CU1011**			**CLU1011**	101A		**AS3601**	101A	ASM6661	101A
150	CMU1511	151A	CU1511			CLU1511	151A					
250	**CMU2511**	251A	**CU2511**			**CLU2511**	251A		AS3602	251A	ASM6662	251A
350	CMU3511	351A	CU3511			CLU3511	351A					
500	**CMU5011**	501A	**CU5011**			**CLU5011**	501A	Resistance Shown is for Each Unit	**AS3603**	501A	**ASM6663**	501A
750	CMU7511	751A	CU7511			CLU7511	751A					
1,000	**CMU1021**	102A	**CU1021**			**CLU1021**	102A		**AS3604**	102A	**ASM6664**	102A
1,500	CMU1521	152A	**CU1521**			**CLU1521**	152A					
2,500	**CMU2521**	252A	**CU2521**			**CLU2521**	252A		**AS3605**	252A	**ASM6665**	252A
3,500	CMU3521	352A	CU3521			CLU3521	352A					
5,000	**CMU5021**	502A	**CU5021**			**CLU5021**	502A		**AS3606**	502A	**ASM6666**	502A
7,500	CMU7521	752A	CU7521			CLU7521	752A					
10,000	**CMU1031**	103A	**CU1031**		CB1031	**CLU1031**	103A	**CCU1031**	**AS3607**	103A	**ASM6667**	103A
15,000	**CMU1531**	153A	CU1531			CLU1531	153A					
25,000	**CMU2531**	253A	**CU2531**		CB2531	**CLU2531**	253A	**CCU2531**	**AS3608**	253A	ASM6668	253A
35,000	CMU3531	353A	CU3531			CLU3531	353A					
50,000	**CMU5031**	503A	**CU5031**		**CB5031**	**CLU5031**	503A	**CCU5031**	**AS3609**	503A	**ASM6669**	503A
75,000	CMU7531	753A	CU7531			CLU7531	753A					
.1 meg.	**CMU1041**	104A	**CU1041**	**CA1041**		**CLU1041**	104A	**CCU1041**	**AS3610**	104A	**ASM6670**	104A
.15 meg.	CMU1541	154A	CU1541			CLU1541	154A					
.25 meg.	**CMU2541**	254A	**CU2541**	CA2541		**CLU2541**	254A	CCU2541	**AS3611**	254A	ASM6671	254A
.35 meg.	CMU3541	354A	CU3541			CLU3541	354A					
.5 meg.	**CMU5041**	504A	**CU5041**	CA5041		**CLU5041**	504A	CCU5041	AS3612	504A	ASM6672	504A
.75 meg.*	CMU7542	754B	CU7542			CLU7542	754B					
1.0 meg.*	**CMU1052**	105B	**CU1052**	CA1052		**CLU1052**	105B	CCU1052	**AS3613**	105B	ASM6673	105B
1.5 meg.*	CMU1552	155B	CU1552			CLU1552	155B					
2.0 meg.*	CMU2052	205B	CU2052			CLU2052	205B		AS3684	205B	ASM6674	205B
2.5 meg.*	CMU2552	255B	**CU2552**	CA2552		CLU2552	255B		AS3614	255B	ASM6675	255B
3.5 meg.*	CMU3552	355B	CU3552			CLU3552	355B					
5.0 meg.*	CMU5052	505B	CU5052			CLU5052	505B		AS3615	505B	ASM6676	505B
Weight	.064 lb.		.084 lb.			.070 lb.		.123 lb.	.017 lb.		.017 lb.	

Cat. No. Prefix RV4N-AYSD- (Single Unit ⅞" Shaft)
Cat. No. Prefix RV4L-AYSA- (Locking)
Cat. No. Prefix RV6L-AYSA- (Miniature Locking)
Cat. No. Prefix RV6N-AYSD- (Miniature ⅞" Shaft)



TYPE AB POTENTIOMETERS



TYPE AS POTENTIOMETERS

[1] Items appearing in BOLD print are popular values and are usually stocked by authorized OHMITE distributors. Items appearing in LIGHT FACE print are available from stock distributors but normally are not stocked in depth.

© United Technical Publications



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

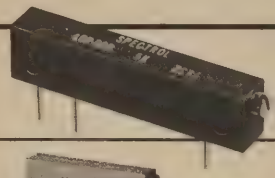
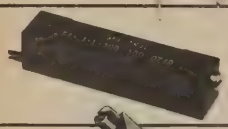
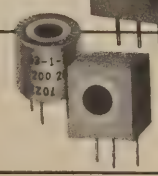
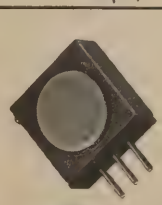
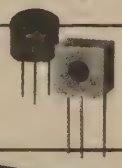
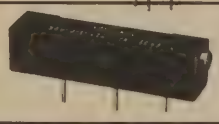
Trade discounts apply in most cases where LIST PRICES are shown.

Spectrol

TRIMMING POTENTIOMETERS

A complete selection of industrial and MIL-approved models is available. Cermet and wirewound units offer excellent quality and performance characteristics to meet your most demanding application.

Spectrol distributors offer immediate delivery and low competitive prices in all popular trimmer designs. MIL-approved units per MIL-R-27208 and cermet designs exceeding the specifications of MIL-R-22097 are available from stock.

	Model Number	Description	Element Type	Temp. Coef. of Resistivity (PPM/°C)	Resistance Tolerance	Max. Power Rating (watts)	No. of Turns	Size (inches)	Standard Resist. Range (ohms)	Price 1-9
	RT12C2P and L (40)	L, PC	WIREWOUND	±50	±5%	1 @ 70°C	22	H .315 W .190 L 1.250	50Ω-10K 20K 50K 100K	$2.95 3.50 6.30 7.70
	41	PC	CERMET	±100	±20% (±10% also available)	.5 @ 70°C	15	H .310 W .160 L .750	10Ω to 1 Meg	1.85
	42	L, PC	WIREWOUND	±50	±5%	1 @ 70°C	22	H .315 W .190 L 1.250	10Ω-10K 20K 50K 100K	5.75 6.44 6.95 8.62
	43	PC	CERMET	±100	±10%	.75 @ 25°C	20	H .250 W .190 L .750	10Ω to 2 Meg	1.35
	44	L, PC, SH	WIREWOUND	±50	±5%	1 @ 70°C	22	H .315 W .280 L 1.250	10Ω-10K 20K 50K 100K	5.56 6.22 6.73 8.35
	50	L, PC	WIREWOUND	±50	±5%	.75 @ 70°C	23	H .375 W .190 L .405	10Ω-10K 20K 50K	6.80 7.62 8.23
	RT24 (51)	PC	WIREWOUND	±50	±5%	.75 @ 85°C	23	H .375 W .190 L .375	10 to 10K 20K	4.81 5.28
	53	PC	CERMET	±100	±20% (±10% also available)	0.5 @ 85°C	1	Top Adjust H .343 Dia. .343 Side Adjust H .355 W .313 L .344	10Ω to 1 Meg 10Ω to 1 Meg	1.65 1.65
	55	L, PC	WIREWOUND	±50	±5%	1.5 @ 70°C	23	H .500 W .190 L .530	10Ω-10K 20K 50K	5.78 6.48 6.99
	RT22 (55)	L, PC	WIREWOUND	±50	±5%	1.5 @ 70°C	23	H .500 W .190 L .530	50Ω-10K 20K	5.35 5.84
	62 (RJ50 Style)	PC	CERMET	±100	±20% (±10% also available)	.75 @ 25°C	1	Top Adjust H .180 Dia. .250 Side Adjust H .250 W .250	10Ω to 1 Meg 10Ω to 1 Meg	1.72 1.72
	74	L, PC, SH	WIREWOUND	±50	±10%	1 @ 70°C	22	H .315 W .280 L 1.250	10Ω-10K 20K 50K	4.93 5.53 5.97

TERMINATIONS: **L** — Color Coded Lead Wires, **SH** — Solder Hooks, **PC** — Printed Circuit Pins.

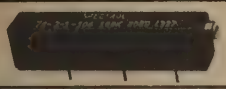
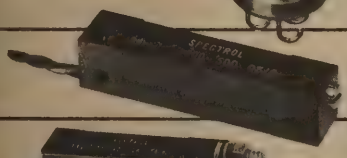
© United Technical Publication

Spectrol

TRIMMING POTENTIOMETERS (CONTINUED)

pectrol Trimming Potentiometer designs bring features to ur systems that are measurable in dollar savings and long e. Cost saving designs, calling for increased reliability, fewer rts, and low industrial prices are standard in every Spectrol mming potentiometer.

A complete line of **Industrial** cermet and wirewound trimmers highlight the Spectrol product line featuring space-saving designs with excellent settability and high-performance characteristics. **Military** configurations such as the RT 12, 22, and 24 are even better examples of the quality and reliability built into every Spectrol trimming potentiometer.

	Model Number	Description	Element Type	Temp. Coef. of Resistivity (PPM/°C)	Resistance Tolerance	Max. Power Rating (watts)	No. of Turns	Size (inches)	Standard Resist. Range (ohms)	Price 1-9
	78	L, PC, SH	CERMET	±100	±20%	.75 @ 70°C	22	H .320 W .195 L 1.250	10Ω to 1 Meg	$3.00
	80	PC	WIREWOUND	±50	±5%	1 @ 50°C	1	H .241 Dia. .345	10Ω-10K 20K 50K	3.74 4.18 4.52
	84-3-8	PC	WIREWOUND	±50	±5%	1.5 @ 70°C	1	H .180 Dia. .500	10Ω-10K 20K 50K	3.32 3.71 4.01
	84-3-10	PC	WIREWOUND	±50	±5%	1.5 @ 70°C	1	H .270 Dia. .550	10Ω-10K 20K 50K	4.00 4.47 4.83
	84-5-6	SH	WIREWOUND	±50	±5%	1.5 @ 70°C	1	H .470 Dia. .500	10Ω-10K 20K 50K	5.10 5.71 6.17
	94	L, PC, SH	WIREWOUND	±100	±10%	.5 @ 70°C	22	H .313 W .281 L 1.250	50Ω-10K 20K	3.15 3.52
	949	L, PC, SH	CERMET	±100	±20%	.75 @ 70°C	22	H .313 W .281 L 1.250	100Ω to 1 Meg	3.03

ERMINATIONS: L — Color Coded Lead Wires, SH — Solder Hooks, PC — Printed Circuit Pins.

PRECISION POTENTIOMETERS

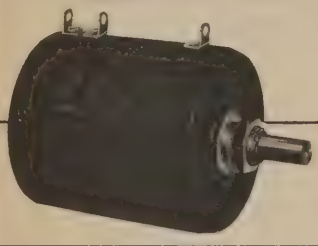
he complete Spectrol series of single-turn, three-turn, and en-turn precision potentiometers offers you wide design flexiility in sizes ranging from ½ inch to 1⅝ inches in diameter. ach unit is designed and manufactured to Spectrol rigid uality standards. Wirewound, conductive plastic, or cermet lements may be provided in any of the many single-turn odels.

Other quality features include extra long resistance elements to provide the best electrical resolution available and "whisker" slip-ring brush that assures positive contact under severe shock and vibration to offer long-term reliability, low torque, and long rotational life. Servo, bushing, and screw mountings are available as standard options. All models meet or exceed applicable military and commercial specifications for rotational load life, temperature range, shock, vibration, humidity and salt spray.

	Model Number	Resistance Range (ohms)	Resistance Tolerance	Linearity Tolerance	Max. Power Rating (watts)	Operating Temperature Range	Size (inches)	Mounting Available	Price 1-9
SINGLE-TURN WIREWOUND INDUSTRIAL	132	100Ω to 30K	±3%	200Ω to 30K ±0.5% <200Ω ±1.0%	2.75 @ 40°C	−55°C to +105°C	Dia. 1.312 Length .625 Shaft Dia. .250	Bushing	$7.00
	140	50Ω to 50K	±5%	±1.0%	2 @ 40°C	−55°C to +125°C	Dia. .500 Length .305 Shaft Dia. .125	Bushing	8.65
	162	100Ω to 50K	±5%	±.30%	2 @ 40°C	−55°C to +125°C	Dia. .500 Length 1.000[3] Shaft Dia. .094[4]	Bushing	10.00

Spectrol

PRECISION POTENTIOMETERS (CONTINUED)

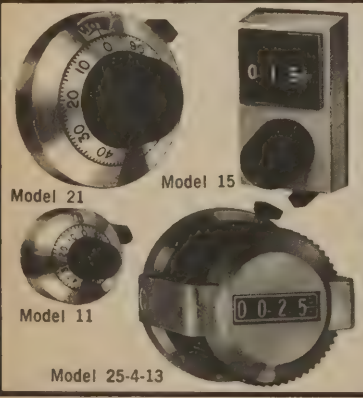
	Spectrol Model Number	Resistance Range (ohms)	Resistance Tolerance	Linearity Tolerance	Maximum Power Rating (watts)	Operating Temperature Range	Size (inches)	Mounting Available	Price 1-9
	500	100Ω to 100K	±3%	±.25%	3 @ 40°C	−55°C to +125°C	Dia. .875 Length 1.448 Shaft Dia. .125	Bushing	$15.00
	534	100Ω to 100K	±5%	±.25%	2 @ 70°C	−55°C to +125°C	Dia. .875 Length .750 Shaft Dia. .250	Bushing	5.95
	830	100Ω to 50K	±3%	±.25%	3 @ 40°C	−55°C to +125°C	Dia. 1.812 Length 1.220 Shaft Dia. .250	Bushing	10.00
	860	25Ω to 100K	±3% (±5% below 200Ω)	±.25%	8 @ 40°C	−55°C to +125°C	Dia. 1.812 Length 2.000 Shaft Dia. .250	Bushing	10.00

SWITCHES AND MULTIDIALS®

The Spectrol Model 87 Rotary Switch introduces a new dimension of flexibility to discrete component circuitry. The Model 87 is available in volume quantities at production line prices for mounting directly on printed circuit boards or for panel mounting. Designed with only two moving parts, this unique half-inch switch has application wherever printed circuit boards are used and can be used to make other components perform multiple duties. The Model 87 is offered in either continuous or stop models with up to ten positions for single-pole, up to five positions for double pole, and up to three positions for three-pole units.

Multidials: Spectrol also offers a complete line of precision concentric and digital turns-counting dials for use on multiturn potentiometers and other rotating devices .

		Description	Model Number	Switch Action	Contact Current Rating	Life at Rated Current	Contact Resistance	Operating Temperature Range	Size (inches)	Price 1-9*
	ROTARY SELECTOR SWITCHES*	Screwdriver Adjust	87-11-XX	Positive Detent 36° Indexing, Stops	250MA @ 28VDC	4,000 Switching operations, per position	.05Ω Max.	−65° to +150°C	H .190 Dia. .500	$4.13
		Knob Adjust	87-21-XX	Positive Detent 36° Indexing, Stops	250MA @ 28VDC	4,000 Switching operations, per position	.05Ω Max.	−65° to +150°C	H .280 Dia. .550	4.79
		Bushing Panel Mounting	87-31-XX	Positive Detent 36° Indexing, Stops	250MA @ 28VDC	4,000 Switching operations, per position	.05Ω Max.	−65° to +150°C	H .480 Dia. .500	5.29

		Model Number	Number of Turns	Minor Scale Division	Shaft Bore (inches)	Finish	Size (inches)	Price 1-9
	MULTI-TURN TURNS COUNTING DIALS	11-1-31	11	1/50 Turn	.250	Brushed Chrome†	Dia. 1.000 Depth 812	$7.75
		15-1-11	10	1/500 Turn	.250	Satin Chrome	H 1.750 W 1.000 Depth 1.000	9.00
		21-1-31	15	1/100 Turn	.250	Brushed Chrome†	Dia. 1.812 Depth 1.000	5.75
		25-1-13	11 3 Digit)	1/500 Turn	.250	Satin Chrome	Dia. 1.812 Depth 1.625	14.25
		25-4-13	100 (4 Digit)	1/500 Turn	.250	Satin Chrome	Dia. 1.812 Depth 1.625	19.75

(1) Last Two Digits Denote Pole/Position, E.G., Single Pole Up to 10 Positions 2 Pole Up to 5 Positions, and 3 Pole Up to 3 Positions.

† Models 11 and 21 Also Available with Satin Chrome Finish. (11-1-11/21-1-11).

* Prices Shown for Single Pole/10 Position Only.

Net

© United Technical Publications

1972 JEDEC DIRECTORY



DISCRETE SEMICONDUCTOR DEVICES

■ More than 12,000 types of semiconductors: transistors, diodes, zeners, Darlingtons, FET's, phototransistors, rectifiers, SCR's, tetrodes, unijunctions, and light-sensitive devices . . . JAN and MIL Types.

■ Cross-references JEDEC type numbers to leading manufacturers.

See the last page of this section for the guide to JEDEC type numbers and a list of the participating manufacturers of semiconductors.

NOTE: Information in this directory has been carefully checked and every precaution has been taken to assure accuracy. However, the publisher cannot be responsible for manufacturers' claims and representations; nor can any guarantee be made against the possibility of error or omission.

THE '72 MASTER 18th EDITION	AMPEREX ELECT.	CONTINENTAL SEMI.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N 21 A										*
1N 21 B										*
1N 21 C										*
1N 21 D										*
1N 21 E										*
1N 21 F										*
1N 21 G										*
1N 21BM										*
1N 21BMR										*
1N 21CM										*
1N 21DM										*
1N 21DMR										*
1N 21DR										*
1N 21EM										*
1N 21EMR										*
1N 21ER										*
1N 21FM										*
1N 21FMR										*
1N 21GM										*
1N 21GMR										*
1N 21GR										*
1N 21RB										*
1N 21RC										*
1N 21RF										*
1N 21WE										*
1N 21WEM										*
1N 21WEMR										*
1N 23										*
1N 23 A										*
1N 23 B										*
1N 23 C										*
1N 23 D										*
1N 23 E										*
1N 23 F										*
1N 23 G										*
1N 23BM										*
1N 23BMR										*
1N 23CM										*
1N 23CMR										*
1N 23DM										*
1N 23DMR										*
1N 23EM										*
1N 23EMR										*
1N 23ER										*
1N 23FM										*
1N 23FMR										*
1N 23GM										*
1N 23GMR										*
1N 23GR										*
1N 23RB										*
1N 23RC										*
1N 23RD										*
1N 23RF										*
1N 23WE										*
1N 23WEM										*
1N 23WEMR										*
1N 25										*
1N 25 A										*
1N 25 B										*
1N 25 C										*
1N 25 M										*
1N 25 R										*
1N 25AM										*
1N 25AMR										*
1N 25AR										*
1N 25BM										*
1N 25BMR										*
1N 25CR										*
1N 25MR										*
1N 25RB										*
1N 26										*
1N 26 A										*
1N 26 B										*
1N 26 C										*
1N 31										*
1N 31 A										*
1N 31 M										*
1N 31 R										*
1N 31AR										*
1N 32										*
1N 32 M										*
1N 32 R										*
1N 32MR										*
1N 34	*		*	*		*	*		*	*
1N 34 A	*		*	*	*	*	*	*	*	*
1N 35						*	*			*
1N 36			*						*	*
1N 38	*		*			*	*		*	*
1N 38 A	*		*			*			*	*
1N 38 B			*			*			*	*
1N 39										*
1N 40										*
1N 41										*
1N 42			*							*
1N 43		*								*
1N 44		*	*			*			*	*
1N 45		*	*			*			*	*
1N 45 A					*					
1N 46		*	*			*			*	*
1N 47		*	*			*				*
1N 48	*	*	*			*			*	*
1N 48 A					*					

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	SARKES TARZIAN	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N 49		*	*			*				*	*
1N 50		*	*			*				*	*
1N 51		*	*			*				*	*
1N 52		*	*			*				*	*
1N 52 A		*				*				*	
1N 53		*									*
1N 53 A		*									
1N 53 B		*									
1N 53 C		*									
1N 53 D		*									
1N 53 M		*									
1N 53 R		*									
1N 53AM		*									
1N 53AMR		*									
1N 53AR		*									
1N 53BM		*									
1N 53BMR		*									
1N 53BR		*									
1N 53CM		*									
1N 53CMR		*									
1N 53CR		*									
1N 53DM		*									
1N 53DMR		*									
1N 53DR		*									
1N 53MR		*									
1N 54	*	*	*			*				*	*
1N 54 A	*	*				*				*	*
1N 55		*	*			*					*
1N 55 A		*	*			*					
1N 55 B		*	*			*					
1N 56		*	*			*			*	*	*
1N 56 A		*	*			*		*		*	*
1N 57		*	*			*				*	*
1N 57 A		*	*							*	*
1N 58	*	*	*			*				*	*
1N 58 A	*	*	*			*				*	*
1N 60	*	*	*		*	*				*	*
1N 60 A		*				*				*	*
1N 60 C		*									
1N 60 D		*									
1N 61		*	*			*				*	*
1N 62		*	*			*				*	*
1N 63	*	*	*			*				*	*
1N 63 A		*	*			*				*	*
1N 64	*	*			*						*
1N 64 A		*									*
1N 65		*	*			*		*		*	*
1N 65 A		*									
1N 66		*	*			*				*	*
1N 66 A		*				*				*	*
1N 67		*	*	*		*				*	*
1N 67 A	*	*	*	*	*	*		*	*	*	*
1N 67 B		*									
1N 68		*	*			*				*	*
1N 68 A	*	*	*			*				*	*
1N 69		*	*			*				*	*
1N 69 A		*				*			*	*	*
1N 70		*	*			*				*	*
1N 70 A		*				*				*	*
1N 71		*	*			*					*
1N 72		*									
1N 73		*	*								*
1N 74		*	*								*
1N 75		*	*			*				*	*
1N 76		*									*
1N 76 A		*									
1N 76 C		*									*
1N 76 R		*									*
1N 76CR		*									*
1N 78		*									*
1N 78 A		*									*
1N 78 B		*									*
1N 78 C		*									*
1N 78 D		*									*
1N 78 E		*									*
1N 78 F		*									*
1N 78 M		*									*
1N 78AM		*									*
1N 78AMR		*									*
1N 78AR		*									*
1N 78BM		*									*
1N 78BMR		*									*
1N 78BR		*									
1N 78CM		*									*
1N 78CMR		*									*
1N 78CR		*									*
1N 78DM		*									*
1N 78DMR		*									*
1N 78DR		*									*
1N 78EM		*									*
1N 78EMR		*									*
1N 78ER		*									*
1N 78FM		*									*
1N 78FMR		*									*
1N 78FR		*									*
1N 78MR		*									*
1N 78R		*									*
1N 78RB											*
1N 79		*									*
1N 81		*	*			*			*	*	*
1N 81 A		*				*			*	*	*
1N 82		*									*

JEDEC TYPE	AMPEREX ELECT.	CODI SEMICONDUCTOR	CONTINENTAL SEMI.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORNE	TELEDYNE/MT. VIEW	TRANSITRON
1N 82 A			*													
1N 82AG			*				*									
*1N 82AG					*											
1N 84			*		*				*			*				
1N 86			*		*				*				*			
1N 87			*		*				*							
1N 87 A	*		*		*		*	*	*			*				
1N 88	*		*		*				*				*			
1N 89	*		*		*				*				*			
1N 90	*		*		*	*			*			*	*			
1N 91			*							*	*					
1N 92			*							*	*					
1N 93			*							*	*					
*1N 93 A				*												
1N 95			*		*				*			*	*			*
1N 96			*		*	*			*			*	*			*
1N 96 A			*		*	*			*				*			*
1N 97			*		*				*							*
1N 97 A			*		*											*
1N 98			*		*	*			*				*			*
1N 98 A			*		*	*			*				*			*
1N 99			*		*	*			*				*			*
1N 99 A			*													
1N 100			*		*	*			*				*	*		*
1N 100 A			*		*	*			*				*			*
1N 102			*		*				*							
1N 103			*		*				*							*
1N 104			*		*				*							*
1N 105			*													
1N 106			*													
1N 107			*		*				*							*
1N 108			*		*				*							*
1N 109			*													
1N 110			*													
1N 111			*		*				*							*
1N 112			*		*				*							*
1N 113			*		*				*							*
1N 114			*		*				*							*
1N 115			*		*				*				*			*
1N 115 R													*			
1N 116	*		*		*				*				*			*
1N 116 A			*													
1N 117	*		*		*				*				*			*
1N 117 A			*		*											
1N 118			*		*	*			*				*			*
1N 118 A			*		*	*			*				*			*
1N 118 R													*			
1N 119			*						*				*			*
1N 119 R													*			
1N 120			*		*				*				*			*
1N 120 R													*			
1N 126	*		*		*				*				*			*
1N 126 A	*		*						*				*			
1N 127			*		*				*				*			*
1N 127 A			*		*				*							*
1N 127RA													*			
1N 128	*		*		*				*				*			
*1N 128					*											
1N 128 A			*		*				*							
1N 133			*		*				*							
1N 134			*													
1N 135			*		*											*
1N 136RA			*													
1N 137																
1N 137 A		*	*								*			*	*	
1N 137 B		*	*								*					
1N 138																
1N 138 A		*	*								*			*	*	
1N 138 B		*	*													
1N 139			*		*				*	*			*			*
1N 140			*		*				*	*			*			*
1N 141			*		*				*				*			
1N 142			*		*				*							
1N 143			*		*				*							
1N 144			*		*				*							*
1N 145			*		*				*			*				*
1N 146			*													
1N 147			*													
1N 147 A			*													
1N 148			*													
1N 149			*													
1N 149 M			*													
1N 149 R			*													
1N 149MR			*													
1N 150			*													
1N 150 M			*													
1N 150 R			*													
1N 150MR			*													
1N 160			*													
1N 160 A			*													
1N 160 M			*													
1N 160 R			*													
1N 160MR			*													
1N 175			*		*											*
1N 191	*		*		*	*			*			*	*			*
1N 192			*		*	*			*			*	*			*
1N 194		*	*						*							
1N 194 A		*	*						*							
1N 195		*	*						*							
1N 196		*	*						*							
1N 198	*		*		*	*			*			*	*			*
*1N 198					*											

*JAN Ty

THE '72 MASTER 36th EDITION	CODI SEMI.	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLTRON DEV./CAL.	SOLTRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N 198 A		*				*	*														*	*	
1N 198 B		*					*									*					*	*	
1N 198 M		*																					
1N 200	*	*												*				*	*			*	
1N 201	*	*												*				*	*			*	
1N 201 A																*							
1N 202	*	*												*				*	*			*	
1N 203	*	*												*				*	*			*	
1N 204	*	*												*				*	*			*	
*1N 204 A															*								
1N 205	*	*												*				*	*			*	
*1N 205															*								
1N 206	*	*												*				*	*			*	
1N 207	*	*												*				*	*			*	
1N 207B			*																				
1N 208	*	*												*				*	*			*	
1N 209	*	*												*				*	*			*	
1N 209RB			*																				
1N 210	*	*												*				*	*			*	
1N 211	*	*												*				*	*			*	
1N 211 A													*										
1N 212	*	*												*				*	*			*	
1N 212 A													*										
1N 213	*	*												*				*	*			*	
1N 214	*	*												*				*	*			*	
1N 215	*	*												*				*	*			*	
1N 216	*	*												*				*	*			*	
1N 217	*	*												*				*	*			*	
1N 218	*	*												*				*	*			*	
1N 219	*	*												*				*	*			*	
1N 220	*	*												*				*	*			*	
1N 221	*	*												*				*	*			*	
1N 222	*	*												*				*	*			*	
1N 225	*	*												*				*	*			*	
1N 225 A	*	*												*				*				*	
1N 226	*	*												*				*	*			*	
1N 226 A	*	*												*				*				*	
1N 227	*	*												*				*	*			*	
1N 227 A	*	*												*				*				*	
1N 228	*	*												*				*	*			*	
1N 228 A	*	*												*				*				*	
1N 229	*	*												*				*	*			*	
1N 229 A	*	*												*				*				*	
1N 230	*	*												*				*	*			*	
1N 230 A	*	*												*								*	
1N 231	*	*												*				*	*			*	
1N 231 A	*	*												*				*				*	
1N 232	*	*												*				*	*			*	
1N 232 A	*	*												*				*				*	
1N 233	*	*												*				*	*			*	
1N 233 A	*	*												*				*				*	
1N 234		*																				*	
1N 234 A		*																					
1N 235		*																				*	
1N 235 A		*																					
1N 236		*																					
1N 237		*																					
1N 238		*																					
1N 239		*																					
1N 240		*																					
1N 240 A		*																					
1N 241		*																					
1N 246 A							*																
1N 248		*	*				*							*	*		*				*	*	
1N 248 A		*	*				*	*						*	*		*				*	*	*
1N 248 B		*	*		*		*	*		*				*	*		*				*		*
1N 248 C		*	*				*	*		*			*	*	*		*						*
1N 248 R			*				*																
1N 248AR							*																*
1N 248BR							*			*													*
1N 248CR							*			*													*
1N 248RA			*																				
1N 248RB			*																				
1N 248RC			*																				
1N 249		*	*				*	*						*	*	*	*				*	*	
1N 249 A		*	*				*	*		*				*	*		*				*	*	*
1N 249 B			*		*		*	*		*				*	*		*				*		*
*1N 249 B					*																		*
1N 249 C		*	*				*	*		*			*	*	*		*						*
1N 249 R			*				*																
1N 249AR							*																*
1N 249BR							*			*													*
*1N 249BR																							*
1N 249CR							*			*													*
1N 250		*	*				*	*						*	*		*				*	*	
1N 250 A		*	*				*	*		*				*	*		*				*	*	*
1N 250 B		*	*		*		*	*		*				*	*	*	*				*	*	*
*1N 250 B					*																		*
1N 250 C		*	*				*	*		*			*	*	*		*						*
1N 250 R			*				*																
1N 250AR							*																*
1N 250BR							*			*													*
*1N 250BR																							*
1N 250CR		*					*			*													*
1N 250RA			*																				
1N 250RB			*																				
1N 250RC			*																				
1N 251	*	*		*	*				*		*					*	*		*		*	*	
*1N 251				*							*												
1N 251 A	*	*		*														*				*	
1N 252	*	*		*	*						*					*		*			*	*	
1N 252 A	*																						

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLTRON DEV./CAL.	SOLTRON DEV./N.Y.	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N 253		*		*		*		*		*				*		*
*1N 253				*												
1N 254		*	*	*		*		*	*	*				*	*	*
*1N 254				*												
1N 255		*	*	*		*		*	*	*				*	*	*
*1N 255				*												
1N 256		*	*	*		*		*	*	*				*	*	*
*1N 256				*												
1N 265		*		*			*	*								*
1N 265 A					*											
1N 266		*		*			*									*
1N 267		*		*			*									*
1N 268		*		*			*									*
1N 269		*														
1N 270		*		*	*		*				*	*			*	*
*1N 270					*		*								*	
1N 271		*														
1N 272		*														
1N 273		*		*	*		*				*	*			*	*
1N 274		*														
1N 275		*														
1N 276		*		*	*		*				*	*			*	*
*1N 276				*	*		*								*	
1N 277	*	*		*	*		*				*	*			*	*
*1N 277					*		*								*	
1N 277 A											*					
1N 277 M				*												
1N 278		*		*			*					*			*	*
1N 279		*		*			*					*			*	*
1N 280		*														
1N 281		*		*	*		*				*	*			*	*
*1N 281				*												
1N 282		*		*											*	*
1N 283		*		*	*		*					*			*	*
1N 285		*														
1N 286		*														
1N 286 A		*														
1N 286 M		*														
1N 286AM		*														
1N 287		*		*			*					*			*	*
1N 288		*		*			*					*			*	*
1N 289		*		*			*					*			*	*
1N 290		*		*			*					*			*	*
1N 291		*		*			*					*			*	*
1N 292		*		*			*				*	*				*
1N 294		*		*		*	*								*	*
1N 294 A		*					*								*	
1N 295	*	*		*		*									*	*
1N 295 A		*														
1N 296		*														
1N 297		*		*			*								*	*
1N 297 A		*		*			*								*	
1N 298		*		*			*					*			*	*
1N 298 A		*		*			*								*	
1N 300		*								*			*			*
1N 300 A		*								*			*			
1N 300 B		*								*			*			
1N 301		*								*						*
1N 301 A		*								*						*
1N 301 B		*								*						
1N 302		*								*						*
1N 302 A		*								*						*
1N 302 B		*								*						
1N 303		*	*							*						*
1N 303 A		*	*							*						*
1N 303 B		*	*							*						
1N 304		*		*											*	*
1N 305		*		*											*	*
1N 306		*		*											*	*
1N 307		*		*											*	
1N 308		*		*											*	*
1N 308 B											*					
1N 309		*		*											*	*
1N 310		*		*											*	*
1N 312		*		*											*	*
1N 313		*		*											*	*
1N 314		*		*				*							*	
1N 315		*								*						*
1N 316		*	*			*				*					*	*
1N 316 A		*	*							*					*	*
1N 317		*	*			*				*					*	*
1N 317 A		*	*							*					*	*
1N 318		*	*			*				*					*	*
1N 318 A		*	*							*					*	*
1N 319		*	*			*				*					*	*
1N 319 A		*	*							*					*	*
1N 320		*	*			*				*					*	*
1N 320 A		*	*							*					*	
1N 321		*	*							*					*	*
1N 321 A		*	*							*					*	
1N 322		*	*							*					*	*
1N 322 A		*	*							*					*	
1N 323		*	*												*	*
1N 323 A		*	*												*	*
1N 324		*	*												*	*
1N 324 A		*	*												*	*
1N 325		*	*												*	*
1N 325 A		*	*												*	*
1N 326		*	*							*					*	*
1N 326 A		*	*							*					*	*
1N 327		*	*							*					*	*
1N 327 A		*	*							*					*	*

THE '72 MASTER 16th EDITION	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N 328	*	*							*						*	*
1N 328 A	*	*							*						*	*
1N 329	*	*							*						*	*
1N 329 A	*	*							*						*	*
1N 330	*												*			
1N 331	*															
1N 332	*	*			*		*	*	*		*			*	*	*
1N 333	*	*			*		*	*	*		*			*	*	*
1N 334	*	*			*		*	*	*	*	*			*	*	*
1N 335	*	*			*		*	*	*		*			*	*	*
1N 336	*	*			*		*	*	*		*			*	*	*
1N 337	*	*			*		*	*	*		*			*	*	*
1N 338	*	*			*		*	*	*		*			*	*	*
1N 339	*	*			*		*	*	*		*			*	*	*
1N 340	*	*			*		*	*	*		*			*	*	*
1N 341	*	*			*		*	*	*		*			*	*	*
1N 341 A										*						
1N 342	*	*			*		*	*	*		*			*	*	*
1N 343	*	*			*		*	*	*	*	*			*	*	*
1N 343RA				*												
1N 344	*	*			*		*	*	*		*			*	*	*
1N 345	*	*			*		*	*	*		*			*	*	*
1N 346	*	*			*		*	*	*		*			*	*	*
1N 347	*	*			*		*	*	*	*	*			*	*	*
1N 348	*	*			*		*		*		*			*	*	*
1N 349	*	*			*		*		*	*	*			*	*	*
1N 350	*								*							*
1N 351	*								*							*
1N 352	*								*							*
1N 353	*								*							*
1N 354	*								*							*
1N 355	*		*			*			*						*	*
1N 358	*															
1N 358 A	*															*
1N 358 R	*															
1N 358AM	*															
1N 358AR	*															
1N 359	*	*							*						*	*
1N 359 A	*	*							*						*	*
1N 360	*	*							*						*	*
1N 360 A	*	*							*						*	*
1N 361	*	*							*						*	*
1N 361 A	*	*							*						*	*
1N 362	*	*							*						*	*
1N 362 A	*	*							*						*	
1N 363	*	*							*						*	*
1N 363 A	*	*							*						*	
1N 364	*	*							*						*	*
1N 364 A	*	*							*						*	*
1N 365	*	*							*						*	*
1N 365 A	*	*							*						*	*
1N 366	*															
1N 367	*		*			*										*
1N 369	*															*
1N 369 A	*															*
1N 369 R	*															
1N 370	*															*
1N 371	*															*
1N 372	*															*
1N 373	*															*
1N 374	*															*
1N 375	*															*
1N 376	*															*
1N 377	*															*
1N 378	*															*
1N 379	*	*				*										*
1N 380	*	*	*			*										*
1N 381	*	*	*			*										*
1N 382	*	*	*			*										*
1N 383	*	*	*			*										*
1N 384	*	*	*			*										*
1N 385	*	*	*			*										*
1N 386	*	*	*			*										*
1N 387	*	*	*			*										*
1N 388	*	*	*			*										*
1N 389	*		*			*										*
1N 390	*		*			*										*
1N 391	*		*			*										*
1N 392			*			*										*
1N 393	*		*			*										*
1N 394	*	*	*													*
1N 411 B									*		*					
1N 412 B									*		*					
1N 413 B									*		*					
1N 415 B	*															*
1N 415 C	*															*
1N 415 D	*															*
1N 415 E	*															*
1N 415 F	*															*
1N 415 G	*															*
1N 415 M	*															
1N 415 S	*															
1N 415AMR	*															
1N 415BM																*
1N 415BMR																*
1N 415BR	*															
1N 415CM	*															*
1N 415CMR	*															*
1N 415DM	*															*
1N 415DMR	*															*
1N 415EM	*															*
1N 415EMR	*															*

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	RAYTHEON	RCA	SARKES TARZIAN	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N 415FM				*																					*
1N 415FMR				*																					*
1N 415FR				*																					
1N 415GM				*																					*
1N 415GMR				*																					*
1N 416 B				*																					*
1N 416 C				*																					*
1N 416 D				*																					*
1N 416 E				*																					*
1N 416 F				*																					*
1N 416 G				*																					*
1N 416BM				*																					*
1N 416BMR				*																					*
1N 416CM				*																					*
1N 416CMR				*																					*
1N 416DM				*																					*
1N 416DMR				*																					*
1N 416EM				*																					*
1N 416EMR				*																					*
1N 416FM				*																					*
1N 416FMR				*																					*
1N 416GM				*																					*
1N 416GMR				*																					*
1N 417				*					*			*												*	*
1N 418				*					*			*						*						*	*
1N 419				*					*			*												*	*
1N 428 A																							*		
1N 429			*	*							*						*					*		*	*
*1N 429					*																				
1N 430		*		*							*						*					*			*
1N 430 A		*		*							*						*					*			*
1N 430 B		*		*													*					*			*
1N 431				*																					*
1N 432				*																				*	*
1N 432 A																									*
1N 433				*																					*
1N 433 A				*																					*
1N 433 B				*																					
1N 434				*																				*	*
1N 434 A				*																					*
1N 435																									*
1N 440				*		*			*		*									*				*	*
1N 440 B				*		*			*		*			*	*					*		*		*	*
1N 441				*		*			*		*									*				*	*
1N 441 B				*		*			*		*			*	*					*				*	*
1N 442				*		*			*		*				*					*				*	*
1N 442 B				*		*			*		*			*	*					*		*		*	*
1N 443				*		*			*		*				*					*				*	*
1N 443 B				*		*			*		*			*	*					*		*		*	*
1N 443R											*														
1N 444				*		*			*		*									*				*	*
1N 444 B				*		*			*		*			*	*					*		*		*	*
1N 445				*		*			*		*				*					*				*	*
1N 445 B				*		*			*		*			*	*					*		*		*	*
1N 446				*																					
1N 446 R				*																					
1N 447				*					*			*								*				*	*
1N 448				*					*			*							*	*				*	*
1N 449				*					*			*							*	*				*	*
1N 450				*					*			*							*	*				*	*
1N 451				*					*			*												*	*
1N 452				*					*			*												*	*
1N 453				*					*			*												*	*
1N 454				*					*			*												*	*
1N 455				*					*			*												*	*
1N 456	*		*	*		*	*	*	*			*	*										*	*	*	*
1N 456 A			*	*			*		*			*	*						*					*	*	*
1N 457	*		*	*		*	*		*			*	*						*				*	*	*	*
*1N 457							*		*				*													
1N 457 A			*	*			*		*			*	*						*					*	*	*
1N 458	*		*	*		*	*		*			*	*						*				*	*	*	*
*1N 458							*		*				*													
1N 458 A			*	*			*		*			*	*						*					*	*	*
1N 459	*		*	*		*	*		*	*		*	*										*	*	*	*
*1N 459							*		*				*													
1N 459 A			*	*			*		*	*		*	*											*	*	*
1N 460				*								*														*
1N 460 A				*								*														
1N 460 B				*																						
1N 461	*		*	*			*	*	*			*	*							*			*	*	*	*
1N 461 A			*	*			*		*			*	*											*	*	*
1N 462	*		*	*			*		*			*	*										*	*	*	*
1N 462 A			*	*			*		*			*	*											*	*	*
1N 463	*		*	*			*		*			*	*										*	*	*	*
1N 463 A			*	*			*		*				*											*	*	*
1N 464	*		*	*			*		*	*		*	*										*	*	*	*
1N 464 A			*	*			*		*	*														*	*	*
1N 465			*	*						*	*						*					*			*
1N 465 A			*	*						*	*						*				*				*	*
1N 465 B			*	*						*							*				*					*
1N 465R											*															
1N 466			*	*						*	*						*				*	*				*
1N 466 A			*	*						*	*						*				*					*
1N 466 B			*	*						*							*				*					*
1N 467			*	*						*	*						*				*	*				*
1N 467 A			*	*						*	*						*				*					*
1N 467 B			*	*						*							*				*					*
1N 467R											*															
1N 468			*	*						*	*						*				*	*				*
1N 468 A			*	*						*	*						*				*					*
1N 468 B			*	*						*							*				*					*
1N 468R											*															

*JAN Ty

THE '72 MASTER 36th EDITION

	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
469		*	*					*	*						*				*				*
469 A		*	*					*	*						*				*				*
469 B		*	*					*							*				*				*
469R									*														
470		*	*					*	*						*				*	*			*
470 A		*	*					*	*						*				*				*
470 B		*	*					*							*				*				*
470R									*														
471		*	*					*							*				*	*			*
471 A		*	*					*							*								*
471 B		*	*					*							*								
472		*	*												*				*	*			*
472 A		*	*												*								*
472 B		*	*												*								
473		*	*												*				*	*			*
473 A		*	*												*								*
473 B		*	*												*								
474		*	*												*				*	*			*
474 A		*	*												*								*
474 B		*	*												*								
475		*	*												*				*	*			*
475 A		*	*												*								*
475 B		*	*												*								
476	*		*				*			*											*		
477			*				*			*											*		
478	*		*				*			*											*		
479			*				*			*											*		
479 A			*																				
480	*		*				*			*													*
481			*																				
482		*	*		*	*	*			*		*							*	*	*	*	*
482 A		*	*		*	*	*			*		*							*	*	*	*	*
482 B		*	*		*	*	*			*		*							*	*	*	*	*
482 C		*	*																				
482R									*														
483		*	*			*	*			*		*							*	*	*	*	*
483 A		*	*			*	*			*		*				*			*	*	*	*	*
483 B		*	*			*	*			*		*				*			*	*	*	*	*
483 B						*	*					*							*				
483 C		*																					
484		*	*		*	*	*			*		*							*	*	*	*	*
484 A		*	*		*	*	*			*		*							*	*	*	*	*
484 B		*	*		*	*	*			*		*							*	*	*	*	*
484 C		*																					
485		*	*		*	*	*	*		*		*			*	*			*	*	*	*	*
485 A		*	*		*	*	*	*		*		*			*				*	*	*	*	*
485 B		*	*		*	*	*	*		*		*			*				*	*	*	*	*
485 B						*	*					*							*				
485R									*														
486		*			*	*	*			*		*			*				*	*		*	*
486 A		*	*		*	*	*					*			*							*	*
486 B		*	*			*	*			*		*			*	*			*	*		*	*
486 B						*	*					*							*				
486R									*														
487		*	*		*		*	*				*			*							*	*
487 A		*	*		*		*	*				*			*							*	*
487 B		*	*					*							*								
487R									*														
488		*	*		*		*	*				*			*							*	*
488 A		*	*		*		*	*				*			*							*	*
488 B			*					*							*								*
488R									*														
490	*		*				*			*													
497			*				*	*		*												*	*
498			*				*			*								*				*	*
499			*				*			*								*				*	*
500			*				*			*								*				*	*
501			*				*			*												*	*
502			*				*			*												*	*
507							*																
527			*							*												*	*
530			*		*		*		*												*	*	*
531			*		*		*		*												*	*	*
532			*		*		*		*						*						*	*	*
533			*		*		*		*						*						*	*	*
534			*		*		*		*						*						*	*	*
535			*		*		*		*						*						*	*	*
536			*		*		*		*					*	*			*			*	*	*
537			*		*		*		*					*	*			*			*	*	*
538			*		*		*		*					*	*						*	*	*
538							*																
539			*		*		*		*					*	*			*			*	*	*
540			*		*		*		*					*	*	*		*			*	*	*
540							*																
541	*		*						*	*													*
542	*		*						*	*						*							*
543			*														*						
543 A																	*						
547			*		*		*		*					*	*			*			*	*	*
547							*																
548			*																				
549			*																				
550			*		*				*		*			*	*						*	*	*
551			*		*				*		*			*	*						*	*	*
552			*		*				*					*	*						*	*	*
553			*		*				*					*	*						*	*	*
554			*		*				*					*	*						*	*	*
555			*		*				*		*			*	*						*	*	*
560			*	*	*		*		*		*			*	*			*				*	*
560				*			*		*														
561			*	*	*		*		*		*			*	*			*				*	*
561				*			*		*														

JEDEC TYPE	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N 562			*	*	*					*		*			*							*	*
1N 563			*	*	*					*		*			*							*	*
1N 564			*																				
1N 565			*																				
1N 566			*																				
1N 567			*								*												
1N 568			*								*												
1N 569			*								*												
1N 570		*	*	*						*					*		*						*
1N 571			*					*			*				*							*	*
1N 573																							
1N 574																							
1N 575																							
1N 581																							
1N 582																							
1N 583																							
1N 584																							
1N 588			*												*		*						*
1N 588 A			*														*						
1N 589			*												*		*						*
1N 589 A			*														*						
1N 590															*								
1N 591															*								
1N 596			*												*		*						*
1N 596 A			*														*						
1N 597			*												*		*						*
1N 597 A			*														*						
1N 598			*												*		*						*
1N 598 A			*														*						
1N 599			*		*			*		*					*			*			*	*	*
1N 599 A			*		*			*		*					*			*			*	*	*
1N 600			*		*			*		*					*			*			*	*	*
1N 600 A			*		*			*		*					*			*			*	*	*
1N 601			*		*			*		*					*			*			*	*	*
1N 601 A			*		*			*		*					*			*			*	*	*
1N 602			*		*			*		*					*			*			*	*	*
1N 602 A			*		*			*		*					*			*			*	*	*
1N 603			*		*			*		*					*			*			*	*	*
1N 603 A			*		*			*		*					*			*			*	*	*
1N 604			*		*		*	*		*					*			*			*	*	*
1N 604 A			*		*			*		*					*			*			*	*	*
1N 605			*		*		*	*		*					*			*			*	*	*
1N 605 A			*		*			*		*					*			*			*	*	*
1N 606			*		*		*	*		*					*			*			*	*	*
1N 606 A			*		*			*		*					*			*			*	*	*
1N 607			*		*					*		*		*	*	*	*				*	*	*
1N 607 A			*		*					*		*		*	*		*				*	*	*
1N 607 R					*												*				*		
1N 607AR																					*		
1N 607RA																	*						
1N 608			*		*					*		*		*	*	*	*				*	*	*
1N 608 A			*		*							*		*	*		*				*	*	*
1N 608 R					*												*				*		
1N 608AR																					*		
1N 608RA					*												*						
1N 609			*		*					*		*		*	*	*	*				*	*	*
1N 609 A			*		*					*		*		*	*		*				*	*	*
1N 609 R					*												*				*		
1N 609AR																					*		
1N 609RA					*												*						
1N 610			*		*					*		*		*	*		*				*	*	*
1N 610 A			*		*					*		*		*	*		*				*	*	*
1N 610 R					*												*				*		
1N 610AR																					*		
1N 610RA					*												*						
1N 611			*		*					*		*		*	*		*				*	*	*
1N 611 A			*		*					*		*		*	*		*				*	*	*
1N 611 R					*												*				*		
1N 611AR																					*		
1N 611RA					*												*						
1N 612			*		*					*		*		*	*		*				*	*	*
1N 612 A			*		*					*		*		*	*		*				*	*	*
1N 612 R					*												*				*		
1N 612AR																					*		
1N 612RA					*												*						
1N 613			*		*					*		*		*	*		*				*	*	*
1N 613 A			*		*					*		*		*	*		*				*	*	*
1N 613 R					*							*					*				*		
1N 613AR																					*		
1N 613RA					*												*						
1N 614			*		*					*		*		*	*	*	*				*	*	*
1N 614 A			*		*					*		*		*	*		*				*	*	*
1N 614 R					*												*				*		
1N 614AR																					*		
1N 614RA					*												*						
1N 615																					*		
1N 616	*		*					*				*									*	*	*
1N 617	*		*					*				*									*	*	*
1N 618	*		*					*				*									*	*	*
1N 619			*			*						*									*		*
1N 622		*	*			*		*													*		*
1N 625		*	*			*	*					*		*			*	*	*		*	*	*
1N 625 A		*	*						*								*						*
1N 626		*	*			*	*					*		*			*		*		*	*	*
1N 626 A		*	*						*								*						*
1N 627		*	*			*						*		*			*		*		*	*	*
1N 627 A		*	*						*														
1N 628		*	*			*						*		*					*		*	*	*
1N 628 A		*	*																				
1N 629		*	*			*								*						*	*	*	*
1N 629 A			*																				
1N 630			*																		*		

THE '72 MASTER 36th EDITION

	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLTRON DEV./CAL.	SOLTRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
1N 630 R				*																				
1N 631				*				*			*										*	*		*
1N 632				*				*			*										*	*		*
1N 633				*				*			*										*	*		*
1N 634				*				*			*						*					*		*
1N 635				*				*			*													
1N 636				*							*											*		*
1N 636 A										*														
1N 643			*	*		*	*		*		*		*			*			*	*	*	*		*
*1N 643							*		*				*						*					
1N 643 A			*	*		*	*		*		*		*			*			*					*
1N 644				*		*																		
1N 645			*	*		*		*	*		*				*	*	*				*	*	*	*
*1N 645								*	*		*												*	
1N 645 A			*	*		*					*				*	*					*			*
1N 645 B				*											*	*								
1N 646			*	*		*		*			*				*	*					*	*	*	*
1N 646 A				*																				
1N 647			*	*		*		*	*		*				*	*					*	*	*	*
*1N 647								*	*		*												*	
1N 647 A				*																				
1N 648			*	*				*			*				*	*					*	*	*	*
1N 648 A				*																				
1N 649			*	*				*	*		*				*	*					*	*	*	*
*1N 649								*	*		*												*	
1N 658			*	*			*				*		*			*			*	*		*		*
*1N 658													*						*					
1N 658 A			*	*			*				*		*			*								*
1N 658 M			*																					
1N 659			*	*			*				*		*					*	*	*		*		*
1N 659 A			*	*									*											
1N 660			*	*			*				*		*						*	*		*		*
1N 660 A			*	*																				
1N 661			*	*			*		*		*		*						*	*		*		*
1N 661 A			*	*					*															
1N 662			*	*			*		*		*		*					*	*			*		*
*1N 662							*		*				*						*					
1N 662 A			*	*			*		*		*		*					*	*	*				*
1N 663			*	*			*		*		*		*					*	*			*		*
*1N 663							*						*						*					
1N 663 A			*	*			*		*		*							*	*	*				*
1N 664				*												*								*
1N 665				*												*								*
1N 666				*												*								*
1N 667				*												*								*
1N 668				*												*								*
1N 669				*												*								*
1N 670				*												*								*
1N 671				*												*								*
1N 672				*												*								*
1N 673				*												*						*		*
1N 674				*												*								*
1N 675				*												*								*
1N 676			*	*		*	*	*			*		*			*						*		*
1N 677			*	*				*			*					*						*		*
1N 678			*	*		*	*	*			*		*			*						*		*
1N 679			*	*		*					*					*						*		*
1N 681			*	*		*		*			*					*						*		*
1N 682			*	*		*		*			*					*						*		*
1N 683			*	*		*		*			*					*						*		*
1N 684			*	*		*		*			*					*						*		*
1N 685			*	*				*								*						*		*
1N 686			*	*				*								*						*		*
1N 687			*	*		*		*								*						*		*
1N 688																*								
1N 689			*	*				*								*						*		*
1N 690			*	*							*	*				*			*					*
1N 691			*	*							*	*				*			*					*
*1N 691												*												
1N 692			*	*							*	*				*								*
1N 693			*	*								*				*								*
1N 694				*																				
1N 695				*				*	*		*						*					*		*
1N 695 A				*				*	*		*							*				*		*
1N 696			*	*					*		*					*						*		*
1N 697			*						*		*		*			*						*		*
*1N 697									*				*											
1N 698	*																							*
1N 699								*										*				*		*
1N 702			*	*	*	*	*			*	*		*				*	*	*	*	*	*	*		*
1N 702 A			*	*	*	*	*			*	*		*				*		*			*			*
1N 703			*	*	*	*	*			*	*		*				*		*	*	*	*	*		*
1N 703 A			*	*	*	*	*			*	*		*				*		*	*		*			*
1N 704			*	*	*	*	*			*	*		*				*		*	*	*	*			*
1N 704 A			*	*	*	*	*			*	*		*				*		*	*		*			*
1N 705			*	*	*	*	*			*	*		*				*		*	*	*	*	*		*
1N 705 A			*	*	*	*	*			*	*		*				*	*	*	*		*			*
1N 706			*	*	*	*	*			*	*		*				*		*	*	*	*	*		*
1N 706 A			*	*	*	*	*			*	*		*				*	*	*	*		*			*
1N 707			*	*	*	*	*			*	*		*				*		*	*	*	*			*
1N 707 A			*	*	*	*	*			*	*		*				*		*	*		*			*
1N 708			*	*	*	*	*			*	*		*		*		*		*	*	*	*			*
1N 708 A			*	*	*	*	*			*	*		*		*		*	*	*	*		*			*
1N 709			*	*	*	*	*			*	*		*		*		*		*	*	*	*			*
1N 709 A			*	*	*	*	*			*	*		*		*		*	*	*	*		*			*
1N 710			*	*	*	*	*			*	*		*		*		*	*	*	*	*	*			*
1N 710 A			*	*	*	*	*			*	*		*		*		*	*	*	*		*			*
1N 711			*	*	*	*	*			*	*		*		*		*		*	*	*	*			*
1N 711 A			*	*	*	*	*			*	*		*		*		*	*	*	*		*			*
1N 712			*	*	*	*	*			*	*		*		*		*		*	*	*	*			*
1N 712 A			*	*	*	*	*			*	*		*		*		*	*	*	*		*			*
1N 713			*	*	*	*	*			*	*		*		*		*	*	*	*	*	*			*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLTRON DEV./CAL.	SOLTRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
1N 713 A	*	*	*	*	*		*	*	*	*	*	*	*	*		*			
1N 714	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*		*	
1N 714 A	*	*	*	*	*		*	*	*	*	*		*	*					
1N 715	*	*	*	*	*		*	*	*	*	*		*	*	*	*		*	
1N 715 A	*	*	*	*	*		*	*	*	*	*	*	*	*		*			
1N 716	*	*	*	*	*		*	*	*	*	*		*	*	*	*		*	
1N 716 A	*	*	*	*	*		*	*	*	*	*	*	*	*		*			
1N 717	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 717 A	*	*	*	*	*		*	*	*	*			*	*					
1N 718	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 718 A	*	*	*	*	*		*	*	*	*			*	*					
1N 719	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 719 A	*	*	*	*	*		*	*	*	*			*	*					
1N 720	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 720 A	*	*	*	*	*		*	*	*	*			*	*					
1N 721	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 721 A	*	*	*	*	*		*	*	*	*			*	*					
1N 722	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 722 A	*	*	*	*	*		*	*	*	*			*	*					
1N 723	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 723 A	*	*	*	*	*		*	*	*	*			*	*					
1N 724	*	*	*	*	*		*	*	*	*			*	*	*			*	
1N 724 A	*	*	*	*	*		*	*	*	*			*	*					
1N 725	*	*	*	*			*	*	*	*			*	*	*			*	
1N 725 A	*	*	*	*			*	*	*	*			*	*					
1N 726	*		*	*			*	*	*	*			*	*	*			*	
1N 726 A	*		*	*			*	*	*	*				*					
1N 727	*		*	*			*		*	*				*	*				
1N 727 A	*		*	*			*		*	*				*					
1N 728	*		*	*			*		*	*				*	*				
1N 728 A	*		*	*			*		*	*				*					
1N 729	*		*	*			*		*	*				*	*				
1N 729 A	*		*	*			*		*	*				*					
1N 730	*		*	*			*		*	*				*	*				
1N 730 A	*		*	*			*		*	*				*					
1N 731	*		*	*			*		*	*				*	*				
1N 731 A	*		*	*			*		*	*				*					
1N 732	*		*	*			*		*	*				*	*				
1N 732 A	*		*	*			*		*	*				*					
1N 733	*		*	*			*		*	*				*	*				
1N 733 A	*		*	*			*		*	*				*					
1N 734	*		*	*			*		*	*									
1N 734 A	*		*	*			*		*	*				*					
1N 735	*		*	*			*		*	*				*					
1N 735 A	*		*	*					*	*				*					
1N 736	*		*	*			*		*	*				*					
1N 736 A	*		*	*			*		*	*				*					
1N 737	*		*	*			*		*	*									
1N 737 A	*		*	*			*		*	*									
1N 738	*		*	*			*		*	*									
1N 738 A	*		*	*			*		*	*									
1N 739	*		*	*			*		*	*									
1N 739 A	*		*	*			*		*	*									
1N 740	*		*	*			*		*	*									
1N 740 A	*		*	*			*		*	*									
1N 741	*		*	*			*		*	*									
1N 741 A	*		*	*			*		*	*									
1N 742	*		*	*			*		*	*									
1N 742 A	*		*	*			*		*	*									
1N 743	*		*	*			*		*	*									
1N 743 A	*		*	*			*		*	*									
1N 744	*		*	*			*		*	*									
1N 744 A	*		*	*			*		*	*									
1N 745	*		*	*			*		*	*									
1N 745 A	*		*	*			*		*	*									
1N 746	*	*	*	*	*		*	*	*			*	*	*	*	*	*	*	
1N 746 A	*	*	*	*	*		*	*	*			*	*	*		*		*	
*1N 746 A	*	*		*				*	*			*							
1N 747	*	*	*	*	*		*	*	*			*	*		*	*	*	*	
1N 747 A	*	*	*		*		*	*	*			*	*					*	
*1N 747 A	*	*		*				*	*										
1N 748	*	*	*	*	*		*	*	*			*	*		*	*	*	*	
1N 748 A	*	*	*		*		*	*	*			*	*					*	
*1N 748 A	*	*		*				*	*				*						
1N 749	*	*	*	*	*		*	*	*			*	*		*	*	*	*	
1N 749 A	*	*	*		*		*	*	*			*	*					*	
*1N 749 A	*	*		*				*	*				*						
1N 750	*	*	*	*	*		*	*	*				*		*	*	*	*	
*1N 750												*							
1N 750 A	*	*	*		*		*	*	*			*	*					*	
*1N 750 A	*	*		*				*	*				*						
1N 751	*	*	*	*	*		*	*	*			*	*		*	*	*	*	
1N 751 A	*	*	*		*		*	*	*				*					*	
*1N 751 A	*	*		*				*	*			*	*						
1N 752	*	*	*	*	*		*	*	*	*		*	*		*	*	*	*	
1N 752 A	*	*	*		*		*	*	*			*	*					*	
*1N 752 A	*	*		*				*	*			*	*						
1N 753	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	
1N 753 A	*	*	*		*		*	*	*	*		*	*					*	
*1N 753 A	*	*		*				*	*			*	*						
1N 754	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	
*1N 754						*													
1N 754 A	*	*	*		*	*	*	*	*	*		*	*					*	
*1N 754 A	*	*		*				*	*			*	*						
1N 755	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	
*1N 755						*													
1N 755 A	*	*	*		*	*	*	*	*	*		*	*					*	
*1N 755 A	*	*		*				*	*			*	*						
1N 756	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	
*1N 756						*													
1N 756 A	*	*	*		*	*	*	*	*	*		*	*					*	
*1N 756 A	*	*		*				*	*			*	*						

*JAN Ty

THE '72 MASTER 16th EDITION

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
1N 757	*	*	*	*	*	*		*	*		*		*			*		*	*	*	*	*
1N 757						*																
1N 757 A	*	*	*		*	*		*	*		*		*		*	*			*		*	*
1N 757 A	*	*		*					*		*				*	*						
1N 758	*	*	*	*	*	*		*	*		*		*			*		*	*	*	*	*
1N 758						*																
1N 758 A	*	*	*		*	*		*	*		*		*		*	*			*		*	*
1N 758 A	*	*		*					*		*				*	*						
1N 759	*	*	*	*	*	*		*	*		*		*		*	*		*	*	*	*	*
1N 759						*																
1N 759 A	*	*	*		*	*		*	*		*		*		*	*			*		*	*
1N 759 A	*	*		*					*		*				*	*						
1N 760																						*
1N 760 A																						*
1N 761	*	*	*	*				*	*		*			*		*			*	*	*	*
1N 761 A	*	*	*					*	*		*											*
1N 761-1				*																*		
1N 761-2				*																*		
1N 762	*	*	*	*				*	*		*		*	*		*			*	*	*	*
1N 762 A	*	*	*					*	*		*		*									*
1N 762-1				*																*		
1N 762-2				*																*		
1N 763	*	*	*	*				*	*		*		*	*		*			*	*	*	*
1N 763 A	*	*	*					*	*		*		*									*
1N 763-1				*																*		
1N 763-2				*																*		
1N 763-3				*																*		
1N 764	*	*	*	*				*	*		*		*	*		*			*	*	*	*
1N 764 A	*	*	*					*	*		*		*									*
1N 764-1				*																*		
1N 764-2				*																*		
1N 764-3				*																*		
1N 764-4				*																*		
1N 765	*	*	*	*				*	*		*		*	*		*			*	*	*	*
1N 765 A	*	*	*					*	*		*		*									*
1N 765-1				*																*		
1N 765-2				*																*		
1N 766	*	*	*	*				*	*		*		*	*	*	*	*		*	*	*	*
1N 766 A	*	*	*					*	*		*		*				*					*
1N 766-1				*																*		
1N 766-2				*																*		
1N 766-3				*																*		
1N 767	*	*	*	*				*	*		*		*	*		*	*				*	*
1N 767 A	*	*	*					*	*		*		*	*			*					*
1N 767-1				*																*		
1N 767-2				*																*		
1N 767-3				*																*		
1N 768	*	*	*	*				*	*		*		*			*	*					*
1N 768 A	*	*	*					*	*		*		*				*					*
1N 768-1				*																*		
1N 768-2				*																*		
1N 768-3				*																*		
1N 769	*	*	*	*				*	*		*		*			*	*					*
1N 769 A	*	*	*					*	*		*		*				*					*
1N 769-1				*																*		
1N 769-2				*																*		
1N 769-3				*																*		
1N 769-4				*																*		
1N 770			*					*	*		*					*				*		*
1N 771			*					*			*					*				*		*
1N 771 A			*					*	*		*					*				*		*
1N 771 B			*					*	*		*					*				*		*
1N 772			*					*	*		*					*				*		*
1N 772 A			*						*		*					*				*		*
1N 773			*					*	*		*					*				*		*
1N 773 A			*						*		*					*				*		*
1N 774			*					*	*		*					*				*		*
1N 774 A			*						*		*					*				*		*
1N 775			*					*	*		*					*				*		*
1N 776			*					*	*		*					*				*		*
1N 777			*					*	*		*									*		*
1N 778		*	*			*					*		*				*					*
1N 779		*	*			*							*				*					*
1N 780			*																			
1N 781			*					*	*		*					*				*		*
1N 781 A			*					*	*		*					*						
1N 782			*						*													
1N 788								*	*													
1N 789		*	*			*			*		*		*				*					*
1N 790			*			*			*		*		*				*					*
1N 791			*			*		*	*		*		*				*					*
1N 792			*			*		*	*		*		*				*					*
1N 793			*			*		*	*		*		*				*					*
1N 794			*			*		*	*		*		*				*					*
1N 795			*			*		*	*		*		*				*					*
1N 796			*			*		*	*		*		*				*					*
1N 797			*			*		*	*		*		*				*					*
1N 798			*					*	*		*		*				*					*
1N 799			*			*		*			*		*				*					*
1N 800			*						*		*		*				*					*
1N 801			*			*					*		*				*					*
1N 802			*								*		*				*	*				*
1N 803			*								*		*				*	*				*
1N 804			*			*					*		*				*					*
1N 805		*					*				*									*		*
1N 806		*				*					*		*				*			*		*
1N 807		*				*					*		*				*			*		*
1N 808		*				*				*			*				*					*
1N 809		*				*							*									*
1N 810										*						*						*
1N 811		*				*				*			*			*	*			*		*
1N 812		*				*				*			*			*	*			*		*
1N 813		*				*					*											
1N 814		*				*	*				*		*				*					*
1N 815		*				*					*		*				*					*
1N 816		*				*						*				*	*	*		*		*
1N 817																	*					*
1N 818		*				*					*		*				*	*				
1N 821	*	*	*	*					*	*		*		*	*			*		*		*
*1N 821	*	*		*					*			*		*				*				
1N 821 A	*	*	*	*					*	*		*		*	*			*		*		*
*1N 821 A										*												
1N 822	*	*	*	*										*	*							*
1N 822 A															*							
1N 823	*	*	*	*					*	*		*		*	*				*			*
*1N 823	*	*		*					*	*		*		*				*				
1N 823 A	*	*	*	*					*	*		*		*	*			*		*		*
1N 824	*	*	*	*					*					*	*							*
1N 824 A															*							
1N 825	*	*	*	*					*	*		*		*				*		*		*
*1N 825	*	*		*					*	*		*		*				*				
1N 825 A	*	*	*	*					*	*		*		*	*			*		*		*
1N 826		*	*	*						*					*			*				*
1N 826 A															*							
1N 827	*	*	*	*					*	*		*		*	*			*		*		*
*1N 827	*	*		*					*	*		*		*				*				
1N 827 A	*	*	*	*					*	*		*		*	*			*		*		*
1N 828		*		*						*					*							*
1N 828 A															*							
1N 829	*	*	*	*					*	*		*		*	*							*
*1N 829	*	*		*					*			*		*								
1N 829 A	*	*	*						*	*					*							*
1N 830																						*
1N 830 A							*															*
*1N 830 A							*															
1N 830AM																						*
1N 831																						*
1N 831 A																						*
1N 831 B																						*
1N 831 C																						*
1N 831 M																						*
1N 831AM																						*
1N 831BM																						*
1N 831CM																						*
1N 832																						*
1N 832 A																						*
1N 832 B																						*
1N 832 C																						*
1N 832 M																						*
1N 832AM																						*
1N 832BM																						*
1N 832CM																						*
1N 833																						*
1N 833 A																						*
1N 835							*	*														
1N 837		*				*			*		*						*	*				*
1N 837 A		*				*			*		*						*	*	*			*
1N 838		*				*			*		*							*	*			*
1N 839		*				*					*											*
1N 840		*				*			*		*						*	*	*			*
1N 841		*				*			*		*							*	*			*
1N 842		*				*					*											*
1N 843		*				*					*											*
1N 844		*				*					*						*					*
1N 845		*				*					*											*
1N 846		*						*										*				*
1N 847																		*				*
1N 848								*										*				*
1N 849								*										*				*
1N 850								*								*						*
1N 851																*						*
1N 852								*														*
1N 853								*														*
1N 854																						*
1N 855																						*
1N 856																						*
1N 857								*										*				*
1N 858								*										*				*
1N 859								*										*				*
1N 860								*										*				*
1N 861								*														*
1N 862								*														*
1N 863								*														*
1N 864								*														*
1N 865																						*
1N 866																						*
1N 867																						*
1N 868								*														*
1N 869								*														*
1N 870																						*
1N 871								*														*
1N 872								*														*
1N 873																						*
1N 874								*														*
1N 875								*														*
1N 876																						*
*1N 876											*											
1N 877																						*
1N 878																						*
1N 879								*										*	*			*
1N 880								*											*			*
1N 881								*											*			*
1N 882								*											*			*
1N 883								*														*

THE '72 MASTER 16th EDITION	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N 884									*												*	*
1N 885									*												*	*
1N 886									*												*	*
1N 887																					*	*
1N 888																					*	*
1N 889																*					*	*
1N 890							*		*													*
1N 891							*					*	*				*	*	*		*	*
1N 892												*	*					*	*			*
1N 893			*											*								*
1N 897			*																			*
1N 898			*																			*
1N 899			*																			*
1N 900			*																			*
1N 901			*																			*
1N 902			*																			*
1N 903			*				*	*				*	*				*	*	*		*	*
1N 903 A			*				*	*				*	*				*	*	*		*	*
1N 904			*				*	*				*	*				*	*	*		*	*
1N 904 A			*				*					*	*				*	*	*		*	*
1N 905			*				*					*	*				*	*	*		*	*
1N 905 A			*				*					*	*				*	*	*		*	*
1N 906			*				*					*	*				*	*	*		*	*
1N 906 A			*				*					*	*				*	*	*		*	*
1N 907			*				*					*	*				*	*	*		*	*
1N 907 A			*				*					*	*				*	*	*		*	*
1N 908			*	*			*					*	*				*	*	*		*	*
1N 908 A			*									*	*				*	*	*		*	*
1N 909				*					*			*										*
1N 910				*					*			*										*
1N 911				*					*			*				*					*	*
1N 912			*	*														*	*			*
1N 912 A			*															*	*			*
1N 913			*	*														*	*			*
1N 913 A			*															*	*			*
1N 914	*		*	*	*		*	*	*	*		*	*			*	*	*	*	*	*	*
*1N 914							*		*	*		*	*									
1N 914 A	*		*		*		*	*	*	*		*	*			*			*	*	*	*
*1N 914 A																		*				
1N 914 B	*		*		*		*	*	*	*		*	*					*	*	*	*	*
1N 915			*	*													*			*		*
1N 916	*			*			*	*	*			*	*			*	*	*	*	*	*	*
1N 916 A	*		*				*	*	*			*	*			*	*	*	*	*	*	*
1N 916 B	*		*				*	*	*			*	*			*		*	*	*	*	*
1N 917			*	*												*			*			*
1N 919				*											*			*	*		*	*
1N 920			*	*								*	*	*				*	*			*
1N 921			*	*								*	*	*				*	*			*
1N 922			*	*								*	*	*				*	*			*
1N 923			*	*									*	*								*
1N 924				*																		
1N 925			*	*			*					*		*				*	*		*	*
1N 926			*	*			*					*		*				*	*		*	*
1N 927			*	*			*					*		*				*	*		*	*
1N 928			*	*			*					*		*				*	*		*	*
1N 929				*		*			*								*					*
1N 930			*	*		*						*					*					*
1N 931			*	*		*			*			*					*					*
1N 932			*	*		*			*								*					*
1N 933				*					*			*					*					*
1N 934			*	*								*		*								*
1N 935		*	*	*	*					*		*		*		*			*		*	*
1N 935 A		*	*		*					*		*		*				*	*		*	*
1N 935 B		*	*		*					*		*		*				*	*		*	*
*1N 935 B		*			*							*		*				*				
1N 936		*	*	*	*					*		*		*		*			*		*	*
1N 936 A		*	*		*					*		*		*					*		*	*
1N 936 B		*	*		*					*		*		*					*		*	*
1N 937		*	*	*	*					*		*		*					*		*	*
1N 937 A		*	*		*					*		*		*					*		*	*
1N 937 B		*	*		*							*		*					*		*	*
*1N 937 B		*			*					*		*		*					*			
1N 938		*	*	*	*					*		*		*					*		*	*
1N 938 A		*	*		*					*		*		*					*		*	*
1N 938 B		*	*		*					*		*		*					*		*	*
*1N 938 B					*					*		*		*								
1N 939		*	*	*	*					*		*		*					*		*	*
1N 939 A		*	*		*					*		*		*					*		*	*
1N 939 B		*	*		*					*		*		*					*		*	*
*1N 939 B		*			*							*		*								
1N 940			*	*	*					*				*					*		*	*
1N 940 A			*		*					*				*					*		*	*
1N 940 B			*		*					*				*					*		*	*
*1N 940 B					*									*								
1N 941		*	*	*	*					*				*					*		*	*
*1N 941					*																	
1N 941 A		*	*		*					*				*					*		*	*
1N 941 B		*	*		*					*				*					*		*	*
*1N 941 B					*									*								
1N 942		*	*	*	*					*				*					*		*	*
1N 942 A		*	*		*					*				*					*		*	*
1N 942 B		*	*		*					*				*					*		*	*
*1N 942 B														*								
1N 943		*	*	*	*					*				*							*	*
1N 943 A		*	*		*					*				*					*		*	*
1N 943 B		*	*		*					*				*					*		*	*
*1N 943 B					*									*								
1N 944		*	*	*	*					*				*							*	*
1N 944 A		*	*		*					*				*					*		*	*
1N 944 B		*	*		*					*				*					*		*	*
*1N 944 B					*									*								
1N 945		*	*	*	*					*				*							*	*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED PAGE
1N 945 A	*	*			*				*			*				*		*		
1N 945 B	*	*			*				*			*				*		*		
*1N 945 B					*															
1N 946		*	*		*				*		*	*				*		*		
1N 946 A		*			*				*			*				*		*		
1N 946 B		*			*				*			*				*		*		
1N 948			*												*			*		
1N 949			*					*							*			*		
1N 950		*	*	*								*		*	*				*	
1N 950 A		*																		
1N 951		*	*	*								*			*				*	
1N 951 A		*																		
1N 951 B		*																		
1N 952		*	*	*								*			*				*	
1N 952 A		*												*						
1N 952 B		*																		
1N 953		*	*	*								*			*				*	
1N 953 A		*																		
1N 953 B		*																		
1N 954		*	*	*								*		*	*				*	
1N 954 A		*																		
1N 954 B		*																		
1N 955		*	*	*								*			*				*	
1N 956		*	*	*								*		*	*				*	
1N 957	*	*	*			*	*		*	*		*			*		*	*			
1N 957 A	*	*				*	*		*	*		*	*		*	*	*				
1N 957 B	*	*			*	*	*		*	*		*	*		*		*				
1N 958	*	*	*			*	*		*	*		*			*			*			
1N 958 A	*	*				*	*		*	*		*	*		*	*	*				
1N 958 B	*	*			*	*	*		*	*		*	*		*		*				
*1N 958 B												*									
1N 959	*	*	*				*	*	*	*		*			*			*			
1N 959 A	*	*					*	*	*	*		*	*		*	*	*				
1N 959 B	*	*			*	*	*	*	*	*		*	*		*		*				
1N 960	*	*	*				*	*	*	*		*		*	*			*			
1N 960 A	*	*					*	*	*	*		*	*		*	*	*				
1N 960 B	*	*			*		*	*	*	*		*	*		*		*				
1N 961	*	*	*				*	*	*	*		*			*			*			
1N 961 A	*	*					*	*	*	*		*	*		*	*	*				
1N 961 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 961 B												*									
1N 962	*	*	*				*	*	*	*		*			*			*			
1N 962 A	*	*					*	*	*	*		*	*		*	*	*				
1N 962 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 962 B	*				*		*		*			*									
1N 963	*	*	*				*	*	*	*		*		*	*			*			
1N 963 A	*	*					*	*	*	*		*	*		*	*	*				
1N 963 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 963 B	*				*		*		*			*									
1N 964	*	*	*				*	*	*	*		*		*	*						
1N 964 A	*	*					*	*	*	*		*	*		*	*	*				
1N 964 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 964 B	*				*		*		*			*									
1N 965	*	*	*				*	*	*	*		*			*			*			
1N 965 A	*	*					*	*	*	*		*	*	*	*	*	*				
1N 965 B	*	*			*		*	*	*	*		*		*	*						
*1N 965 B	*				*		*		*			*									
1N 966	*	*	*				*	*	*	*		*			*			*			
1N 966 A	*	*					*	*	*	*		*	*		*	*	*				
1N 966 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 966 B	*				*		*		*			*									
1N 967	*	*	*				*	*	*	*		*			*			*			
1N 967 A	*	*					*	*	*	*		*	*		*	*	*				
1N 967 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 967 B	*				*		*		*			*									
1N 968	*	*	*				*	*	*	*		*			*			*			
1N 968 A	*	*					*	*	*	*		*	*		*	*	*				
1N 968 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 968 B	*				*		*		*			*									
1N 969	*	*	*				*	*	*	*		*			*			*			
1N 969 A	*	*					*	*	*	*		*	*		*	*	*				
1N 969 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 969 B	*				*		*		*			*									
1N 970	*	*	*				*	*	*	*		*			*			*			
1N 970 A	*	*					*	*	*	*		*	*		*	*	*				
1N 970 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 970 B	*				*		*		*			*									
1N 971	*	*	*				*	*	*	*		*			*			*			
1N 971 A	*	*					*	*	*	*		*	*		*	*	*				
1N 971 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 971 B	*				*		*		*			*									
1N 972	*	*	*				*	*	*	*		*			*			*			
1N 972 A	*	*					*	*	*	*		*	*		*	*	*				
1N 972 B	*	*			*		*	*	*	*		*	*		*		*				
*1N 972 B	*				*		*		*			*									
1N 973	*		*				*	*	*	*		*			*			*			
1N 973 A	*						*	*	*	*		*	*		*	*	*				
1N 973 B	*				*		*	*	*	*		*	*		*		*				
*1N 973 B	*				*		*		*			*									
1N 974	*		*				*	*	*			*			*			*			
1N 974 A	*						*	*	*			*	*		*	*	*				
1N 974 B	*				*		*	*	*			*	*		*		*				
*1N 974 B					*							*									
1N 975	*		*				*	*	*			*			*			*			
1N 975 A	*						*	*	*			*	*		*	*	*				
1N 975 B	*				*		*	*	*			*	*		*		*				
*1N 975 B					*				*			*									
1N 976	*		*				*	*	*			*			*						
1N 976 A	*						*	*	*			*	*			*					
1N 976 B	*				*		*	*	*			*	*								
*1N 976 B					*							*									
1N 977	*		*				*	*	*			*									

*JAN Typ

THE '72 MASTER 36th EDITION

	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE
1N 977 A	*				*		*	*		*	*					*		*
1N 977 B	*			*			*	*		*	*							*
*1N 977 B				*				*		*								
1N 978	*		*		*			*		*					*			*
1N 978 A	*				*			*		*	*				*	*		*
1N 978 B	*			*				*		*	*				*			*
*1N 978 B				*				*		*					*			
1N 979	*		*		*			*		*					*			*
1N 979 A	*				*			*		*	*				*	*		*
1N 979 B	*			*				*		*	*		*		*			*
*1N 979 B				*				*		*					*			
1N 980	*		*		*			*		*					*			*
1N 980 A	*				*			*		*	*				*	*		*
1N 980 B	*			*				*		*	*				*			*
*1N 980 B				*				*		*					*			
1N 981	*		*		*			*		*					*			*
1N 981 A	*				*			*		*	*				*	*		*
1N 981 B	*			*				*		*	*				*			*
*1N 981 B				*				*		*					*			
1N 981R															*			
1N 982	*							*		*					*			*
1N 982 A	*		*					*		*					*	*		*
1N 982 B	*			*				*		*					*			*
*1N 982 B				*				*		*					*			
1N 983	*		*					*		*					*			*
1N 983 A	*							*		*					*	*		*
1N 983 B	*			*				*		*					*			*
*1N 983 B				*				*		*					*			
1N 984	*		*					*		*						*		*
1N 984 A	*							*		*								*
1N 984 B	*			*				*		*								*
*1N 984 B				*				*		*					*			
1N 985	*		*					*		*					*			*
1N 985 A	*							*		*	*					*		*
1N 985 B	*			*				*		*	*							*
*1N 985 B										*								
1N 986	*		*					*		*					*			*
1N 986 A	*							*		*	*					*		*
1N 986 B	*			*				*		*	*							*
*1N 986 B								*		*								
1N 987	*		*					*		*					*			*
1N 987 A	*							*		*	*					*		*
1N 987 B	*			*				*		*	*							*
*1N 987 B								*		*								
1N 988	*		*					*		*					*			*
1N 988 A	*							*		*	*					*		*
1N 988 B	*			*				*		*	*							*
*1N 988 B								*		*								
1N 989	*		*					*		*					*			*
1N 989 A	*							*		*	*					*		*
1N 989 B	*			*				*		*	*							*
*1N 989 B								*		*								
1N 990	*		*					*		*					*			*
1N 990 A	*							*		*	*					*		*
1N 990 B	*			*				*		*	*							*
*1N 990 B								*		*								
1N 991	*		*					*		*					*			*
1N 991 A	*							*		*	*					*		*
1N 991 B	*			*				*		*	*							*
*1N 991 B								*		*								
1N 992	*		*					*		*	*				*			*
1N 992 A	*							*		*	*					*		*
1N 992 B	*			*				*		*	*							*
*1N 992 B								*		*								
1N 993		*	*						*			*	*	*	*	*	*	*
1N 994			*				*		*			*		*			*	*
1N 995			*				*	*	*			*	*	*			*	*
*1N 995							*										*	
*1N 995 B								*										
1N 996			*				*	*	*			*		*			*	*
1N 997		*	*									*						*
1N 998			*									*						*
1N 999												*						*
1N1028			*					*				*		*				*
1N1029			*					*				*		*				*
1N1030			*									*		*				*
1N1031			*									*		*				*
1N1032			*									*		*				*
1N1033			*									*		*				*
1N1034			*									*		*				*
1N1035			*									*		*				*
1N1036			*									*	*	*				*
1N1037			*									*		*				*
1N1038			*									*		*				*
1N1039			*									*		*				*
1N1040			*									*		*				*
1N1041			*									*		*				*
1N1042			*									*		*				*
1N1043			*									*		*				*
1N1044			*									*		*				*
1N1045			*									*		*				*
1N1046			*									*						*
1N1047												*						*
1N1048												*						*
1N1049												*						*
1N1050												*						*
1N1051												*						*
1N1052			*									*		*				*
1N1053			*									*		*				*
1N1054			*									*		*				*
1N1055			*									*		*				*
1N1056			*									*		*				*

JEDEC TYPE

	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1057	*									*		*				*	
1N1058	*									*		*				*	
1N1059	*									*		*				*	
1N1060	*									*	*	*				*	
1N1061	*									*		*				*	
1N1062	*									*		*				*	
1N1063	*									*		*				*	
1N1064	*									*		*	*			*	
1N1065	*									*		*	*			*	
1N1066	*									*		*	*			*	
1N1067	*									*		*	*			*	
1N1068	*									*		*	*			*	
1N1069	*									*		*	*			*	
1N1070	*									*		*				*	
1N1071	*									*		*				*	
1N1072	*									*		*				*	
1N1073	*									*		*				*	
1N1074	*									*		*				*	
1N1075	*									*		*				*	
1N1076										*						*	
1N1077	*															*	
1N1078	*															*	
1N1079	*															*	
1N1080	*															*	
1N1081	*					*			*							*	
1N1082	*					*			*			*				*	
1N1083	*					*			*		*	*				*	
1N1084	*					*			*			*				*	
1N1085	*											*				*	
1N1085 A									*								
1N1086	*											*				*	
1N1086 A									*							*	
1N1087	*											*				*	
1N1087 A									*								
1N1088	*											*				*	
1N1088 A									*							*	
1N1089	*								*			*				*	
1N1090	*								*			*				*	
1N1091	*								*			*				*	
1N1092	*								*			*				*	
1N1093	*															*	
1N1095	*		*	*		*		*	*				*	*	*	*	
1N1096	*		*	*		*			*				*	*	*	*	
1N1100	*		*	*		*			*				*	*	*	*	
1N1101	*		*	*		*			*				*	*	*	*	
1N1102	*		*	*		*			*				*	*	*	*	
1N1103	*		*	*		*			*				*	*	*	*	
1N1104	*		*	*		*			*					*	*	*	
1N1105	*		*	*		*			*					*	*	*	
1N1108	*		*		*				*	*		*			*	*	
1N1109	*				*				*	*		*				*	
1N1110	*				*				*	*		*				*	
1N1111	*				*				*	*		*				*	
1N1112	*				*				*	*		*				*	
1N1113	*				*				*	*		*				*	
1N1115	*		*		*	*	*		*	*	*	*		*	*	*	
1N1115 R			*				*										
1N1116	*		*		*	*	*		*	*	*	*		*	*	*	
1N1116 R			*				*										
1N1117	*		*		*	*	*		*	*	*	*		*	*	*	
1N1117 R			*				*										
1N1118	*		*		*	*	*		*	*	*	*		*	*	*	
1N1118 R			*				*										
1N1119	*		*		*	*	*		*	*		*		*	*	*	
1N1119 R			*				*										
1N1120	*		*			*	*		*	*		*		*	*	*	
1N1120 A											*						
1N1120 R			*				*										
1N1124	*		*	*	*	*	*		*	*	*	*		*	*	*	*
1N1124 A		*	*	*	*	*	*		*	*				*	*	*	*
*1N1124 A											*	*					
1N1124AR														*			
1N1124AUSN							*										
1N1124R			*		*		*										*
1N1124RA		*	*		*		*							*			*
*1N1124RA											*	*					
1N1125	*		*	*	*	*	*		*	*				*	*	*	*
1N1125 A		*	*	*	*	*	*		*	*				*	*	*	*
*1N1125 A												*					
1N1125AR					*									*			*
1N1125R			*		*		*										*
1N1125RA		*	*				*										
*1N1125RA													*				
1N1126	*		*	*	*	*	*			*		*	*	*		*	*
1N1126 A		*	*	*	*	*	*			*	*			*	*	*	*
*1N1126 A		*									*	*					
1N1126AR														*			
1N1126AUSN							*										
1N1126R			*		*		*										*
1N1126RA		*	*		*		*										*
*1N1126RA		*										*					
1N1127	*		*	*	*	*	*			*		*	*	*		*	*
1N1127 A		*	*	*	*	*	*			*				*	*	*	*
*1N1127 A												*					
1N1127AR					*									*			*
1N1127R			*		*		*										*
1N1127RA		*	*				*										
*1N1127RA													*				
1N1128	*		*	*	*	*	*			*			*	*		*	*
1N1128 A		*	*	*	*	*	*		*	*	*			*	*	*	*
*1N1128 A		*									*	*					
1N1128AR														*			

THE '72 MASTER 34th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1128AUSN									*										*
1N1128R					*		*		*										*
1N1128RA				*	*		*		*										*
*1N1128RA				*											*				
1N1130		*		*			*							*			*	*	
*1N1130				*															
1N1131		*		*			*							*				*	
*1N1131				*															
1N1132		*																*	
1N1132 R																		*	
1N1133	*	*	*				*	*			*		*		*		*	*	
1N1134	*	*	*				*	*			*		*		*		*	*	
1N1135	*	*	*				*	*			*		*		*		*	*	
1N1136	*	*	*				*	*			*		*		*		*	*	
1N1137	*	*	*				*	*			*		*		*		*	*	
1N1138	*	*	*				*	*			*		*		*		*	*	
1N1139	*	*	*				*	*			*		*		*		*	*	
1N1140	*	*	*				*	*			*		*		*		*	*	
1N1141	*	*	*				*	*			*		*		*		*	*	
1N1142	*	*	*				*	*			*		*		*		*	*	
1N1143	*	*	*				*	*			*		*		*		*	*	
1N1143 A	*		*				*	*			*		*				*	*	
1N1144	*	*	*				*	*			*		*		*		*	*	
1N1145	*	*	*				*	*			*		*		*		*	*	
1N1146	*	*	*				*	*			*		*		*		*	*	
1N1147	*	*	*				*	*			*		*		*		*	*	
1N1148	*	*	*				*	*			*		*		*		*	*	
1N1149	*	*	*				*	*			*		*		*		*	*	
1N1150		*									*		*		*			*	
1N1150 A				*				*			*		*					*	
1N1157		*																*	
1N1158		*																*	
1N1159		*																*	
1N1160		*																*	
1N1161		*																	
1N1162		*																*	
1N1163		*																*	
1N1164		*																	
1N1165		*																*	
1N1166		*																*	
1N1167		*																*	
1N1168		*																*	
1N1169		*						*			*				*			*	
1N1169 A					*						*						*	*	
1N1170 A								*											
1N1170RA								*											
1N1171 A								*											
1N1171RA								*											
1N1172 A								*											
1N1172RA								*											
1N1173 A								*											
1N1173RA								*											
1N1174 A								*											
1N1174RA								*											
1N1175		*																	
1N1175 A								*											
1N1175RA								*											
1N1176		*																	
1N1177		*																	
1N1178		*																	
1N1179		*																	
1N1180		*																	
1N1181		*																	
1N1182		*																	
1N1183		*				*	*	*	*	*	*	*	*	*	*	*	*	*	*
1N1183 A							*	*	*	*	*	*	*	*			*	*	*
1N1183 R						*		*	*			*							*
1N1183AR								*		*									*
1N1184		*				*	*	*	*	*		*	*	*	*	*	*	*	*
*1N1184							*												*
1N1184 A						*	*	*	*	*	*	*	*	*			*	*	*
1N1184 R						*		*	*	*			*						
*1N1184 R																			*
1N1184AR								*		*									*
1N1184RA						*													
1N1185		*				*	*	*	*	*		*	*	*	*	*	*	*	*
1N1185 A							*	*	*			*	*	*			*	*	*
1N1185 R						*		*	*	*			*						
1N1185AR								*											
1N1185RA						*													
1N1186		*				*	*	*	*	*		*	*	*	*	*	*	*	*
*1N1186																			*
1N1186 A						*	*	*	*		*	*	*	*	*		*	*	*
1N1186 R						*		*	*	*			*						*
*1N1186 R																			*
1N1186AR								*											*
1N1186RA						*													
1N1187		*				*	*	*	*	*		*	*	*		*	*	*	*
1N1187 A						*	*	*	*		*	*	*	*			*	*	*
1N1187 R						*		*	*	*			*						*
1N1187AR								*											*
1N1187RA						*													
1N1188		*				*	*	*	*	*		*	*	*	*	*	*	*	*
*1N1188																			*
1N1188 A						*	*	*	*		*	*	*	*			*	*	*
1N1188 R						*		*	*	*			*						*
*1N1188 R																			*
1N1188AR							*												*
1N1188RA						*													
1N1189		*				*	*	*	*	*		*	*	*		*	*	*	*
1N1189 A						*	*	*	*		*	*	*			*	*		*
1N1189 R						*		*	*	*			*						*

JEDEC TYPE	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1189AR						*												*
1N1189RA			*					*										
1N1190	*		*	*		*	*	*		*	*	*	*	*	*	*	*	*
*1N1190																		*
1N1190 A				*		*	*		*	*	*	*			*	*	*	*
1N1190 R						*	*	*			*							*
*1N1190 R																		*
1N1190AR						*												*
1N1191	*		*			*	*	*		*	*	*		*	*	*	*	*
1N1191 A			*			*				*	*	*					*	*
1N1191 R			*			*	*	*			*							*
1N1191AR						*												*
1N1191RA			*															
1N1192	*		*			*	*	*		*	*	*		*	*	*	*	*
1N1192 A			*			*				*	*	*					*	*
1N1192 R			*			*	*	*			*							*
1N1192AR						*												*
1N1192RA			*															
1N1193	*		*		*	*	*	*		*	*	*		*	*	*	*	*
1N1193 A			*			*				*	*	*					*	*
1N1193 B																	*	
1N1193 R			*			*	*	*			*							*
1N1193AR						*												*
1N1193RA			*															
1N1194	*		*			*	*	*		*	*	*		*	*	*	*	*
1N1194 A			*			*				*	*	*					*	*
1N1194 R			*			*	*	*			*							*
1N1194AR						*												*
1N1194RA			*															
1N1195	*		*			*	*	*		*	*	*		*	*	*	*	*
1N1195 A			*	*		*		*	*	*	*	*					*	*
1N1195 R			*			*	*	*			*							*
1N1195AR						*												*
1N1195RA			*					*										
1N1196	*		*			*	*	*		*	*	*	*	*	*	*	*	*
1N1196 A			*	*		*		*	*	*	*	*					*	*
1N1196 R			*			*	*	*			*							*
1N1196AR						*												*
1N1196RA			*					*										
1N1197	*		*			*	*	*		*	*	*		*	*	*	*	*
1N1197 A			*	*		*		*	*	*	*	*					*	*
1N1197 R			*			*	*	*			*							*
1N1197AR						*												*
1N1197RA			*					*										
1N1198	*					*	*	*		*	*	*		*	*	*	*	*
1N1198 A				*		*		*	*	*	*	*					*	*
*1N1198 A																		*
1N1198 R						*	*	*			*							*
1N1198AR						*												*
*1N1198AR																		*
1N1198RA								*										
1N1199	*		*			*	*	*		*	*	*	*	*	*	*	*	*
1N1199 A		*	*	*		*	*	*		*	*	*	*	*	*	*	*	*
1N1199 B			*			*	*			*		*	*				*	*
1N1199 R			*			*	*	*			*			*				*
1N1199BR						*												*
1N1199RA		*	*			*	*	*					*	*				*
1N1200	*	*	*			*	*	*		*	*	*	*	*	*	*	*	*
1N1200 A		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*
1N1200 B			*			*	*			*		*					*	*
1N1200 R			*			*	*	*			*							*
1N1200BR						*												*
1N1200RA		*	*			*	*	*						*				*
1N1201	*		*			*	*	*		*	*	*	*	*	*	*	*	*
1N1201 A		*	*	*		*	*	*		*	*	*	*	*	*	*	*	*
1N1201 B			*			*	*			*		*					*	*
1N1201 R			*			*	*	*			*							*
1N1201BR						*												*
1N1201RA		*	*			*	*	*						*				*
1N1202	*		*			*	*	*		*	*	*	*	*	*	*	*	*
*1N1202														*				
1N1202 A		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*
*1N1202 A				*										*	*			*
1N1202 B			*			*	*			*		*					*	*
1N1202 R			*			*	*	*			*			*				*
*1N1202AR																		*
1N1202BR						*												*
1N1202RA		*	*			*	*	*						*	*			*
*1N1202RA															*			
1N1203	*		*			*	*	*		*	*	*	*	*	*	*	*	*
*1N1203							*											
1N1203 A		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*
*1N1203 A							*											
1N1203 B			*			*	*			*		*					*	*
1N1203 R			*			*	*	*			*							*
*1N1203 R							*											
1N1203BR						*												*
1N1203RA		*	*			*	*	*							*			*
*1N1203RA							*											
1N1204	*		*			*	*	*		*	*	*	*	*	*	*	*	*
1N1204 A		*	*	*		*	*	*	*	*	*	*		*	*	*	*	*
*1N1204 A				*			*								*			*
1N1204 B			*			*	*			*		*					*	*
1N1204 R			*			*	*	*			*				*			*
*1N1204AR																		*
1N1204BR						*												*
1N1204RA		*	*			*	*	*							*			*
*1N1204RA															*			
1N1205	*		*			*	*	*		*		*		*	*	*	*	*
*1N1205							*											
1N1205 A		*	*	*		*	*	*	*	*		*	*	*	*	*	*	*
*1N1205 A							*											

*JAN Ty

THE '72 MASTER 16th EDITION

	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORNE	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1205 B					*		*	*			*		*					*	*	*
1N1205 R					*		*	*	*						*					*
*1N1205 R								*												
1N1205BR							*													*
1N1205RA				*	*		*	*	*						*					*
*1N1205RA								*												
1N1206			*		*		*	*	*			*	*	*	*			*	*	*
1N1206 A				*	*	*	*	*	*	*	*	*	*	*	*			*	*	*
*1N1206 A						*		*						*	*					*
1N1206 B					*		*	*			*		*					*	*	*
1N1206 R					*		*	*	*			*			*					*
*1N1206AR																				*
1N1206BR							*													*
1N1206RA				*	*		*	*	*						*					*
*1N1206RA															*					
1N1207														*						
1N1217			*		*			*			*					*		*	*	
1N1217 A					*			*			*					*		*	*	
1N1217 B					*														*	
1N1218			*		*			*			*					*		*	*	
1N1218 A					*			*			*					*		*	*	
1N1218 B					*														*	
1N1219			*		*			*			*					*		*	*	
1N1219 A					*			*			*					*		*	*	
1N1219 B					*														*	
1N1220			*		*			*			*					*		*	*	
1N1220 A					*			*			*					*		*	*	
1N1220 B					*														*	
1N1221			*		*			*			*					*		*	*	
1N1221 A					*			*			*					*		*	*	
1N1221 B					*														*	
1N1222			*		*			*			*					*		*	*	
1N1222 A					*			*			*					*		*	*	
1N1222 B					*														*	
1N1223			*		*			*			*					*		*	*	
1N1223 A					*			*			*					*		*	*	
1N1223 B					*														*	
1N1224			*		*			*			*					*		*	*	
1N1224 A					*			*			*					*		*	*	
1N1224 B					*														*	
1N1225			*		*			*			*					*		*	*	
1N1225 A					*			*											*	
1N1225 B					*														*	
1N1226	*		*		*			*			*					*		*	*	
1N1226 A					*			*											*	
1N1226 B					*														*	
1N1227			*				*							*					*	
1N1227 A							*												*	
1N1227 B																			*	
1N1228			*				*						*	*					*	
1N1228 A							*						*						*	
1N1228 B																			*	
1N1229			*				*												*	
1N1229 A							*												*	
1N1229 B																			*	
1N1230			*				*												*	
1N1230 A							*												*	
1N1230 B																			*	
1N1231			*				*												*	
1N1231 A							*												*	
1N1231 B																			*	
1N1232			*				*												*	
1N1232 A							*												*	
1N1232 B																			*	
1N1233			*				*							*					*	
1N1233 A							*							*					*	
1N1233 B														*					*	
1N1234			*				*							*					*	
1N1234 A							*							*					*	
1N1234 B														*					*	
1N1235			*				*							*					*	
1N1235 A														*					*	
1N1235 B														*					*	
1N1236			*				*							*					*	
1N1236 A														*					*	
1N1236 B														*					*	
1N1237		*	*	*				*			*		*		*				*	
1N1238		*	*	*				*			*		*	*	*				*	
1N1239		*	*	*				*			*		*	*	*				*	
1N1251			*		*								*						*	
1N1252			*		*								*						*	
1N1253			*		*								*						*	
1N1254			*		*								*						*	
1N1255			*		*								*						*	
1N1255 A													*						*	
1N1256			*		*								*						*	
1N1257			*		*								*						*	
1N1258			*		*								*						*	
1N1259			*		*								*						*	
1N1260			*		*								*						*	
1N1261			*		*								*						*	
1N1262			*	*				*			*		*	*	*				*	
1N1263			*																	
1N1264			*																	
1N1265			*																	
1N1266			*														*			
1N1266 A																	*			
1N1267			*																	
1N1268			*																	
1N1269			*																	
1N1270			*																	
1N1281			*		*								*						*	

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORNE	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1282		*			*								*						*	
1N1283		*			*								*						*	
1N1284		*			*								*						*	
1N1285		*			*								*						*	
1N1286		*			*								*						*	
1N1287													*							
1N1291													*							
1N1292													*							
1N1293													*							
1N1294													*							
1N1295													*							
1N1296													*							
1N1297													*							
1N1301		*			*		*						*		*	*			*	
1N1302		*			*		*						*		*	*			*	
1N1304		*			*		*						*		*	*			*	
1N1306		*			*		*						*		*	*			*	
1N1313	*	*	*					*	*				*				*		*	
1N1313 A	*							*	*				*				*		*	
1N1314	*	*	*					*	*				*				*		*	
1N1314 A	*							*	*				*				*		*	
1N1315	*	*	*					*	*				*				*		*	
1N1315 A	*							*	*				*				*		*	
1N1316	*	*	*					*	*				*				*		*	
1N1316 A	*							*	*				*				*		*	
1N1317	*	*	*					*	*				*				*		*	
1N1317 A	*							*	*				*				*		*	
1N1318	*	*	*					*	*				*				*		*	
1N1318 A	*							*	*				*				*		*	
1N1319	*	*	*					*	*				*				*		*	
1N1319 A	*							*	*				*				*		*	
1N1320		*	*					*	*				*				*		*	
1N1320 A								*	*				*				*		*	
1N1321		*	*						*				*				*		*	
1N1321 A									*				*				*		*	
1N1322		*	*						*				*				*		*	
1N1322 A									*				*				*		*	
1N1323		*	*						*				*				*		*	
1N1323 A									*				*				*		*	
1N1324		*	*						*				*				*		*	
1N1324 A									*				*				*		*	
1N1325		*	*						*				*				*		*	
1N1325 A									*				*				*		*	
1N1326		*	*						*				*				*		*	
1N1326 A									*				*				*		*	
1N1327		*	*						*				*				*		*	
1N1327 A									*				*				*		*	
1N1330													*							
1N1331													*							
1N1332													*							
1N1333													*							
1N1334													*							
1N1335													*							
1N1336													*							
1N1341		*			*			*	*			*			*			*	*	*
1N1341 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1341 B					*			*	*	*			*		*	*		*	*	*
1N1341 R								*	*						*					*
1N1341BR								*												*
1N1341RA				*	*			*	*						*					*
1N1341RB					*										*					
1N1342		*			*			*	*			*		*	*	*			*	*
1N1342 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1342 B					*			*	*	*			*	*	*	*		*	*	*
1N1342 R								*	*						*					*
1N1342BR								*												*
1N1342RA				*	*			*	*						*					*
1N1342RB					*										*					
1N1343		*			*			*	*			*		*	*	*			*	*
1N1343 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1343 B					*			*	*				*		*	*		*	*	*
1N1343 R								*	*						*					*
1N1343BR								*												*
1N1343RA				*	*			*	*						*					*
1N1343RB					*										*					
1N1344		*			*			*	*			*		*	*	*			*	*
1N1344 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1344 B					*			*	*	*			*	*	*	*		*	*	*
1N1344 R								*	*						*					*
1N1344BR								*												*
1N1344RA				*	*			*	*						*					*
1N1344RB					*										*					
1N1345		*			*			*	*			*		*	*	*			*	*
1N1345 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1345 B					*			*	*	*			*		*	*		*	*	*
1N1345 R								*	*						*					*
1N1345BR								*												*
1N1345RA				*	*			*	*						*					*
1N1345RB					*										*					
1N1346		*			*			*	*			*		*	*	*			*	*
1N1346 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1346 B					*			*	*	*			*		*	*		*	*	*
1N1346 R								*	*						*					*
1N1346BR								*												*
1N1346RA				*	*			*	*						*					*
1N1346RB					*										*					
1N1347		*			*			*	*			*		*	*	*			*	*
1N1347 A				*	*	*	*	*	*		*	*	*	*	*	*		*	*	*
1N1347 B					*			*	*	*			*		*	*		*	*	*
1N1347 R								*	*						*					*
1N1347BR								*												*
1N1347RA				*	*			*	*						*					*

THE '72 MASTER 16th EDITION

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1347RB				*										*				
1N1348	*			*		*	*	*		*		*	*	*		*	*	*
1N1348 A			*	*	*	*	*	*		*	*	*	*	*	*	*	*	*
1N1348 B				*		*	*	*	*			*		*	*	*	*	*
1N1348 R						*	*	*						*				*
1N1348BR						*		*										*
1N1348RA			*	*		*	*	*						*				*
1N1348RB				*										*				
1N1351	*	*		*			*	*		*		*		*		*	*	
1N1351 A		*		*			*			*		*					*	
1N1351 B												*						
1N1351 C		*																
1N1351R		*					*			*								
1N1351RA		*					*			*								
1N1352	*	*		*			*	*		*		*		*		*	*	
1N1352 A		*		*			*	*		*		*					*	
1N1352 B												*						
1N1352 C		*																
1N1352R		*					*	*		*								
1N1352RA		*					*	*		*								
1N1353	*	*		*			*	*		*		*		*		*	*	
1N1353 A		*		*			*	*		*		*					*	
1N1353 B												*						
1N1353 C		*																
1N1353R		*					*	*		*								
1N1353RA		*					*	*		*								
1N1354	*	*		*			*	*		*		*		*		*	*	
1N1354 A		*		*			*	*		*		*					*	
1N1354 B												*						
1N1354 C		*																
1N1354R		*					*	*		*								
1N1354RA		*					*	*		*								
1N1355	*	*		*			*	*		*		*		*		*	*	
1N1355 A		*		*			*	*		*		*					*	
1N1355 B												*						
1N1355 C		*																
1N1355R		*					*	*		*								
1N1355RA		*					*	*		*								
1N1356	*	*		*			*	*		*		*		*		*	*	
1N1356 A		*		*			*	*		*		*					*	
1N1356 B												*						
1N1356 C		*																
1N1356R		*					*	*		*								
1N1356RA		*					*	*		*								
1N1357	*	*		*			*	*		*		*		*		*	*	
1N1357 A		*		*			*	*		*		*					*	
1N1357 B												*						
1N1357 C		*																
1N1357R		*					*	*		*								
1N1357RA		*					*	*		*								
1N1358	*	*					*	*		*		*		*		*	*	
1N1358 A		*		*			*	*		*		*					*	
1N1358 B												*						
1N1358 C		*																
1N1358R		*					*	*		*								
1N1358RA		*					*	*		*								
1N1359	*	*		*			*	*		*		*	*	*		*	*	
1N1359 A		*		*			*	*		*		*					*	
1N1359 B												*						
1N1359 C		*																
1N1359R		*					*	*		*								
1N1359RA		*					*	*		*								
1N1360	*	*		*			*	*		*		*		*		*	*	
1N1360 A		*		*			*	*		*		*					*	
1N1360 B												*						
1N1360 C		*																
1N1360R		*					*	*		*								
1N1360RA		*					*	*		*								
1N1361	*	*		*			*	*		*		*		*		*	*	
1N1361 A		*		*			*	*		*		*					*	
1N1361 B												*						
1N1361 C		*																
1N1361R		*					*	*		*								
1N1361RA		*					*	*		*								
1N1362	*	*		*			*	*		*		*		*		*	*	
1N1362 A		*		*			*	*		*		*					*	
1N1362 B												*						
1N1362 C		*																
1N1362R		*					*	*		*								
1N1362RA		*					*	*		*								
1N1363	*	*		*			*	*		*		*		*		*	*	
1N1363 A		*		*			*	*		*		*					*	
1N1363 B												*						
1N1363 C		*																
1N1363R		*					*	*		*								
1N1363RA		*					*	*		*								
1N1364	*	*		*			*	*		*		*		*		*	*	
1N1364 A		*		*			*	*		*		*					*	
1N1364 B												*						
1N1364 C		*																
1N1364R		*					*	*		*								
1N1364RA		*					*	*		*								
1N1365	*	*		*			*	*		*		*		*		*	*	
1N1365 A		*		*			*	*		*		*	*				*	
1N1365 B												*						
1N1365 C		*																
1N1365R		*					*	*		*								
1N1365RA		*					*	*		*								
1N1366	*	*		*			*	*		*		*		*		*	*	
1N1366 A		*		*			*	*		*		*					*	
1N1366 B												*						
1N1366 C		*																

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N1366R			*			*	*	*					
1N1366RA			*			*	*	*					
1N1367		*	*		*	*	*	*	*	*		*	*
1N1367 A			*		*	*	*	*	*				*
1N1367 B									*				
1N1367 C			*										
1N1367R			*			*	*	*					
1N1367RA			*			*	*	*					
1N1368		*	*		*	*	*	*	*	*		*	*
1N1368 A			*		*	*	*	*	*				*
1N1368 B									*				
1N1368 C			*										
1N1368R			*			*	*	*					
1N1368RA			*			*	*	*					
1N1369		*	*		*	*	*	*	*	*		*	*
1N1369 A			*		*	*	*	*	*				*
1N1369 B									*				
1N1369 C			*										
1N1369R			*			*	*	*					
1N1369RA			*			*	*	*					
1N1370		*	*		*	*	*	*	*	*		*	*
1N1370 A			*		*		*		*				*
1N1370 B									*				
1N1370 C			*										
1N1370R			*			*	*	*					
1N1370RA			*				*						
1N1371		*	*		*	*	*	*	*	*		*	*
1N1371 A			*		*		*	*	*				*
1N1371 B									*				
1N1371 C			*										
1N1371R			*			*	*	*					
1N1371RA			*				*	*					
1N1372		*	*		*	*	*	*	*	*		*	*
1N1372 A			*		*		*	*	*				*
1N1372 B									*				
1N1372 C			*										
1N1372R			*			*	*	*					
1N1372RA			*				*	*					
1N1373		*	*		*	*	*	*	*	*		*	*
1N1373 A			*		*		*	*	*				*
1N1373 B									*				
1N1373 C			*										
1N1373R			*			*	*	*					
1N1373RA			*				*	*					
1N1374		*	*		*	*	*	*	*	*		*	*
1N1374 A			*		*		*	*	*				*
1N1374 B									*				
1N1374 C			*										
1N1374R			*			*	*	*					
1N1374RA			*				*	*					
1N1375		*	*		*	*	*	*	*	*		*	*
1N1375 A			*		*		*	*	*				*
1N1375 C			*										
1N1375R			*			*	*	*					
1N1375RA			*				*	*					
1N1376		*			*				*				*
1N1377		*			*				*				*
1N1378		*			*				*				*
1N1379		*			*				*				*
1N1380		*			*				*				*
1N1381		*			*				*				*
1N1382									*				*
1N1387				*									
1N1387 R				*									
1N1388				*									
1N1388 R				*									
1N1389				*									
1N1389 R				*									
1N1390				*									
1N1390 R				*									
1N1396		*							*	*		*	*
1N1397		*							*	*		*	*
1N1398		*							*	*		*	*
1N1399		*							*	*		*	*
1N1400		*							*	*		*	*
1N1401		*							*	*		*	*
1N1402		*							*	*		*	*
1N1403		*							*	*		*	*
1N1406	*	*			*				*			*	*
1N1407	*	*			*				*			*	*
1N1408	*	*			*				*			*	*
1N1409	*	*							*	*			*
1N1410	*	*							*	*			*
1N1411	*	*							*	*			*
1N1412	*								*	*			*
1N1413	*	*							*	*			*
1N1414		*							*				
1N1415		*							*				*
1N1416		*							*				*
1N1417		*							*				*
1N1418		*							*				*
1N1419		*							*				*
1N1420		*							*				*
1N1421		*							*				*
1N1422		*							*				*
1N1423		*							*				*
1N1424		*							*				*
1N1425		*							*				*
1N1426		*							*				*
1N1427		*							*				*
1N1428		*							*				*
1N1429		*							*				*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SYNTRON	TEXAS INSTR. TRANSITRON
1N1430		*							*		
1N1431		*							*		
1N1432		*							*		
1N1433		*							*		
1N1434		*		*	*				*	*	
1N1435		*		*	*				*	*	
1N1436		*		*	*				*	*	*
1N1437		*		*	*				*	*	*
1N1438		*							*	*	*
1N1440		*		*					*		
1N1441		*		*							
1N1443		*		*	*				*	*	*
1N1443 A				*					*		
1N1443 B											
1N1444		*			*				*		*
1N1444 A									*		
1N1444 B									*		
1N1446		*									
1N1447		*									
1N1448		*									
1N1449		*							*		
1N1450		*									
1N1451		*									
1N1452		*									
1N1453		*									
1N1454		*							*		
1N1455		*							*		
1N1456		*							*		
1N1457		*							*		
1N1458		*							*		
1N1459		*							*		
1N1460		*							*		
1N1461		*							*		
1N1462									*		
1N1463									*		
1N1464									*		
1N1465									*		
1N1466		*							*		
1N1467		*							*		
1N1468		*							*		
1N1469		*							*		
1N1470									*		
1N1471									*		
1N1472									*		
1N1473									*		
1N1474									*		
1N1475									*		
1N1476									*		
1N1477									*		
1N1478		*							*		
1N1479		*							*		
1N1480		*							*		
1N1481		*							*		
1N1482		*							*		
1N1483		*							*		
1N1484		*							*		
1N1485		*							*		
1N1486		*		*					*		*
1N1487		*		*		*		*		*	* *
1N1488		*		*		*		*		*	* *
1N1489		*		*		*		*		*	* *
1N1490		*		*		*		*		*	* *
1N1491		*		*		*		*		*	* *
1N1492		*		*		*		*		*	* *
1N1506		*									
1N1507	*	*				*	*		*		
1N1507 A	*		*			*	*		*		
1N1508	*	*				*	*		*		
1N1508 A	*		*			*	*		*		
1N1509	*	*				*	*	*	*		
1N1509 A	*		*			*	*	*	*		
1N1510	*	*				*	*	*	*		
1N1510 A	*		*			*	*	*	*		
1N1511	*	*				*	*	*	*		
1N1511 A	*		*			*	*	*	*		
1N1512	*	*				*	*	*	*		
1N1512 A	*		*			*	*	*	*		
1N1513	*	*				*	*	*	*		
1N1513 A	*		*			*	*	*	*		
1N1513CHIP							*				
1N1514	*	*				*	*	*	*		
1N1514 A	*		*			*	*	*	*		
1N1515	*	*				*	*	*	*		
1N1515 A	*		*			*	*	*	*		
1N1516	*	*				*	*	*	*		
1N1516 A	*		*			*	*	*	*		
1N1517	*	*				*	*	*	*		
1N1517 A	*		*			*	*	*	*		
1N1518	*	*				*	*		*		
1N1518 A	*		*			*	*		*		
1N1519	*	*				*	*		*		
1N1519 A	*		*			*	*		*		
1N1520	*	*				*	*	*	*		
1N1520 A	*		*			*	*	*	*		
1N1521	*	*				*	*	*	*		
1N1521 A	*		*			*	*	*	*		
1N1522	*	*				*	*	*	*		
1N1522 A	*		*			*	*	*	*		
1N1523	*	*				*	*	*	*		
1N1523 A	*		*			*	*	*	*		
1N1524	*	*				*	*	*	*		
1N1524 A	*		*			*	*	*	*		

THE '72 MASTER 16th EDITION

	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORNE	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1525		*	*					*	*	*	*								*	
1N1525 A		*	*	*				*	*	*	*								*	
1N1526		*	*					*	*	*	*								*	
1N1526 A		*		*				*	*	*	*								*	
1N1527		*	*					*	*	*	*								*	
1N1527 A		*		*				*	*	*	*								*	
1N1528		*	*					*	*	*	*								*	
1N1528 A		*		*				*	*	*	*								*	
1N1530	*	*	*					*	*		*				*	*			*	
*1N1530									*											
1N1530 A	*	*						*	*		*				*	*				
*1N1530 A				*																
1N1537			*			*	*	*	*	*	*		*						*	*
1N1537 R						*	*						*							
1N1538			*			*	*	*	*	*	*	*	*						*	*
1N1538 R						*	*						*							
1N1539			*			*	*	*	*	*	*		*						*	*
1N1539 R						*	*						*							
1N1540			*			*	*	*	*	*	*		*						*	*
1N1540 R						*	*						*							
1N1541			*			*	*	*	*	*	*		*						*	*
1N1541 R						*	*						*							
1N1542			*			*	*	*	*	*	*	*	*						*	*
1N1542 R						*	*						*							
1N1543			*			*	*	*	*	*	*		*						*	*
1N1543 R						*	*						*							
1N1544			*			*	*	*	*	*	*	*	*						*	*
1N1544 R						*	*						*							
1N1551			*			*	*				*								*	*
1N1552			*			*	*				*								*	*
1N1553			*			*	*				*								*	*
1N1554			*			*	*				*								*	*
1N1555			*			*	*				*								*	*
1N1556			*			*	*												*	*
1N1557			*			*	*												*	*
1N1558			*			*	*												*	*
1N1559			*			*	*												*	*
1N1560			*			*	*												*	*
1N1563			*								*								*	
1N1563 A																			*	
1N1564			*								*								*	
1N1564 A																			*	
1N1565			*								*								*	
1N1565 A																			*	
1N1566			*								*								*	
1N1566 A																			*	
1N1567			*								*								*	
1N1567 A											*								*	
1N1568			*																*	
1N1568 A																			*	
1N1575											*									
1N1576											*									
1N1577											*									
1N1578											*									
1N1581			*			*	*	*		*	*	*	*	*			*	*	*	*
1N1581 R						*	*						*							*
1N1582			*			*	*	*		*	*	*	*	*			*	*	*	*
1N1582 R						*	*						*							*
1N1583			*			*	*	*		*	*	*	*	*			*	*	*	*
1N1583 R						*	*						*							*
1N1584			*			*	*	*		*	*	*	*	*			*	*	*	*
1N1584 R						*	*						*							*
1N1585			*		*	*	*	*		*	*	*	*	*			*	*	*	*
1N1585 C												*								
1N1585 R						*	*						*							*
1N1586			*		*	*	*	*		*	*		*	*			*	*	*	*
1N1586 R						*	*						*							*
1N1587			*		*	*	*	*		*	*	*	*	*			*	*	*	*
1N1587 R						*	*						*							*
1N1588			*	*				*	*		*								*	
1N1588 A				*				*	*		*								*	
1N1589			*	*				*	*		*								*	
1N1589 A				*				*	*		*								*	
1N1590			*	*				*	*	*	*								*	
1N1590 A				*				*	*		*								*	
1N1590RA									*											
1N1591			*	*				*	*	*	*		*						*	
1N1591 A				*				*	*		*								*	
1N1591RA									*											
1N1592			*	*				*	*	*	*		*						*	
1N1592 A				*				*	*		*								*	
1N1593			*	*				*	*	*	*	*	*						*	
1N1593 A				*				*	*		*								*	
1N1594			*					*	*	*	*		*						*	
1N1594 A				*				*	*		*								*	
1N1594 R									*											
1N1594RA									*											
1N1595			*	*				*	*	*	*		*						*	
1N1595 A				*				*	*		*								*	
1N1596			*	*				*	*	*	*		*						*	
1N1596 A				*				*	*		*								*	
1N1597			*	*				*	*	*	*		*						*	
1N1597 A				*				*	*		*								*	
1N1598			*	*				*	*	*	*		*						*	
1N1598 A				*				*	*		*								*	
1N1599			*	*				*	*		*		*						*	
1N1599 A				*				*	*		*								*	
1N1599 R									*											
1N1599RA									*											
1N1600			*	*				*	*		*		*						*	
1N1600 A				*				*	*		*								*	
1N1600 R									*											

JEDEC TYPE

	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N1600RA								*										
1N1601	*	*					*	*		*	*		*				*	
1N1601 A		*					*	*			*						*	
1N1601 R								*										
1N1601RA								*										
1N1602	*	*					*	*		*	*		*				*	
1N1602 A		*					*	*			*						*	
1N1602 R								*										
1N1602RA								*										
1N1603		*					*	*		*	*		*				*	
1N1603 A		*					*	*			*						*	
1N1603 R								*										
1N1603RA								*										
1N1604		*		*			*	*		*	*		*				*	
1N1604 A		*		*			*	*			*						*	
1N1604 R								*										
1N1604RA								*										
1N1605		*		*			*	*		*	*		*				*	
1N1605 A		*		*			*	*			*						*	
1N1605 R								*										
1N1605RA								*										
1N1606	*	*		*			*	*		*	*		*				*	
1N1606 A		*		*			*	*			*						*	
1N1606 R								*										
1N1606RA								*										
1N1607	*	*		*			*	*		*	*	*	*				*	
1N1607 A		*		*			*	*			*						*	
1N1607 R								*										
1N1607RA								*										
1N1608	*	*		*			*	*		*	*		*				*	
1N1608 A		*		*			*	*			*						*	
1N1608 R								*										
1N1608RA								*										
1N1609	*	*		*			*	*		*	*		*				*	
1N1609 A		*		*			*	*			*						*	
1N1609 R								*										
1N1609RA								*										
1N1610	*																	
1N1611	*																*	
1N1611 A																	*	
1N1611 B																	*	
1N1611 R																	*	
1N1611RA																	*	
1N1612	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1N1612 A				*							*	*		*			*	
1N1612 R				*	*		*		*			*		*				*
1N1612RA					*													
1N1613	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1N1613 A					*						*	*		*			*	
1N1613 R				*	*		*		*					*				*
1N1613RA					*													
1N1614	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*1N1614						*							*					*
1N1614 A					*						*	*		*			*	
1N1614 R				*	*		*		*					*				*
*1N1614 R														*				*
1N1614RA					*													
1N1615	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*1N1615						*							*					*
1N1615 A					*						*	*		*			*	
1N1615 R				*	*		*							*				*
*1N1615 R														*				*
1N1615RA					*													
1N1616	*			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*1N1616						*							*					*
1N1616 A					*						*	*		*			*	
1N1616 R				*	*		*							*				*
*1N1616 R														*				*
1N1616RA					*													
1N1617	*									*							*	
1N1618	*									*							*	
1N1619	*									*							*	
1N1620	*									*							*	
1N1621	*									*				*			*	
1N1622	*									*				*			*	
1N1623	*									*				*			*	
1N1624	*									*				*			*	
1N1625																	*	
1N1626																	*	
1N1626 A																	*	
1N1627	*							*									*	
1N1628	*							*									*	
1N1629	*							*									*	
1N1630	*							*									*	
1N1631	*							*									*	
1N1632	*							*									*	
1N1633	*							*									*	
1N1634	*							*									*	
1N1635	*							*									*	
1N1636	*							*									*	
1N1637	*							*									*	
1N1638	*							*									*	
1N1639	*							*									*	
1N1640	*							*									*	
1N1641	*							*									*	
1N1642	*							*									*	
1N1644	*			*												*	*	
1N1645	*			*												*	*	
1N1646	*			*												*	*	
1N1647	*			*												*	*	
1N1648	*			*												*	*	
1N1649	*			*												*	*	

THE '72 MASTER 36th EDITION	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N1650			*			*								*			*			*	*	*
1N1651			*			*								*			*			*	*	*
1N1652			*			*								*			*			*	*	*
1N1653			*			*								*			*			*	*	*
1N1660			*			*								*			*					*
1N1661			*			*								*			*					*
1N1662			*			*								*			*					*
1N1663			*			*								*			*					*
1N1664			*			*								*			*					*
1N1665			*			*								*			*					*
1N1666														*								*
1N1670			*			*				*				*			*					*
1N1671			*			*				*				*			*					*
1N1672			*			*				*				*			*					*
1N1673			*			*				*				*			*					*
1N1674			*			*				*				*			*					*
1N1675			*			*				*				*			*					*
1N1676			*							*				*								*
1N1680														*								
1N1681														*								
1N1682														*								
1N1683														*								
1N1684														*								
1N1685														*								
1N1686														*								
1N1687														*								
1N1688														*								
1N1689														*								
1N1690														*								
1N1691														*								
1N1692				*			*		*		*			*				*		*	*	*
1N1693				*			*		*		*			*				*		*	*	*
1N1694				*			*		*		*			*				*		*	*	*
1N1695				*			*		*		*			*				*		*	*	*
1N1696				*			*		*		*			*				*		*	*	*
1N1697				*			*		*		*			*				*		*	*	*
1N1698				*													*					*
1N1699				*													*					*
1N1700				*													*					*
1N1701				*										*							*	*
1N1702				*										*							*	*
1N1703				*										*							*	*
1N1704				*										*							*	*
1N1705				*										*							*	*
1N1706				*										*							*	*
1N1707				*										*							*	*
1N1708				*										*							*	*
1N1709				*										*							*	*
1N1710				*										*							*	*
1N1711				*										*							*	*
1N1712				*										*							*	*
1N1730		*	*	*	*		*	*	*	*	*		*	*								*
1N1730 A								*		*					*		*					*
1N1731		*	*	*	*			*	*	*	*		*	*								*
1N1731 A								*	*	*				*	*		*					*
1N1731 A*								*														
1N1732		*	*	*	*			*	*	*	*		*	*								*
1N1732 A								*							*		*					*
1N1733		*	*	*	*			*	*	*	*		*	*								*
1N1733 A								*	*						*		*					*
1N1733 A*								*														
1N1734		*	*	*	*			*	*	*	*		*	*								*
1N1734 A								*	*	*					*		*					*
1N1734 A*								*														
1N1735	*	*	*							*	*											
1N1736	*	*	*							*	*			*	*			*	*			*
1N1736 A	*	*								*	*			*				*	*			*
1N1737	*	*	*							*	*			*				*	*			*
1N1737 A	*	*								*	*			*				*	*			*
1N1738	*	*	*							*	*			*				*	*			*
1N1738 A	*	*								*	*			*				*	*			*
1N1739	*	*	*							*	*			*				*	*			*
1N1739 A	*	*								*	*			*				*	*			*
1N1740	*	*	*							*	*			*				*	*			*
1N1740 A	*									*	*			*				*	*			*
1N1741	*	*	*							*	*			*				*	*			*
1N1741 A	*	*								*	*			*				*	*			*
1N1742	*	*	*							*	*			*				*	*			*
1N1742 *											*											
1N1742 A	*	*								*	*			*				*	*			*
1N1742 A*				*														*				
1N1744			*																			
1N1745				*						*	*			*			*					*
1N1746			*	*						*	*			*			*					*
1N1747			*	*						*	*			*			*					*
1N1748			*	*						*	*			*			*					*
1N1749			*	*						*	*			*			*					*
1N1750			*	*						*	*			*			*					*
1N1751			*	*						*	*			*			*					*
1N1751 A															*							
1N1752				*	*					*	*			*			*					*
1N1753				*	*					*	*			*			*					*
1N1754				*	*					*	*			*			*					*
1N1755				*	*					*	*			*			*					*
1N1756				*	*					*	*			*			*					*
1N1757				*	*					*	*			*			*					*
1N1758				*	*					*	*			*			*					*
1N1759				*	*					*	*			*			*					*
1N1760				*	*					*	*			*			*					*
1N1761				*	*					*	*			*			*					*
1N1762				*	*					*	*			*			*					*
1N1763				*				*		*			*	*								

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N1763 A					*	*	*			*				*
1N1764		*				*	*			*				*
1N1764 A				*		*	*		*					*
1N1765	*	*	*	*	*			*		*	*		*	*
1N1765 A	*			*	*			*		*				*
1N1766	*	*	*	*	*			*		*	*		*	*
1N1766 A	*			*	*			*		*				*
1N1767	*	*	*	*	*			*		*	*	*	*	*
1N1767 A	*			*	*			*		*				*
1N1768	*	*	*	*				*		*	*	*	*	*
1N1768 A	*			*	*			*		*				*
1N1769	*	*	*	*	*			*		*	*	*	*	*
1N1769 A	*			*	*			*		*				*
1N1770	*	*	*	*	*			*		*	*	*	*	*
1N1770 A	*			*	*			*		*				*
1N1771	*	*	*	*	*			*		*	*	*	*	*
1N1771 A	*			*	*			*		*				*
1N1772	*	*	*	*	*			*		*	*	*	*	*
1N1772 A	*			*	*			*		*				*
1N1773	*	*	*	*	*			*		*	*	*	*	*
1N1773 A	*			*	*			*		*				*
1N1774	*	*	*	*	*			*		*	*	*	*	*
1N1774 A	*			*	*			*		*				*
1N1775	*	*	*	*	*			*		*	*	*	*	*
1N1775 A	*			*	*			*		*				*
1N1776	*	*	*	*	*			*		*	*	*	*	*
1N1776 A	*			*	*			*		*				*
1N1777	*	*	*	*				*		*	*	*	*	*
1N1777 A	*			*				*		*				*
1N1778	*	*	*	*				*		*	*	*	*	*
1N1778 A	*			*				*		*				*
1N1779	*	*	*	*				*		*	*	*	*	*
1N1779 A	*			*				*		*				*
1N1780	*	*	*	*				*		*	*	*	*	*
1N1780 A	*			*				*		*				*
1N1781	*	*	*	*				*		*	*	*	*	*
1N1781 A	*			*				*		*				*
1N1782	*	*	*	*				*		*	*	*	*	*
1N1782 A	*			*				*		*				*
1N1783		*	*	*				*		*	*	*	*	*
1N1783 A				*				*		*				*
1N1784		*	*	*				*		*	*	*	*	*
1N1784 A				*				*		*				*
1N1785		*	*	*				*		*	*	*	*	*
1N1785 A				*				*		*				*
1N1786		*	*	*				*		*	*	*	*	*
1N1786 A				*				*		*				*
1N1787		*	*	*				*		*	*	*	*	*
1N1787 A				*				*		*				*
1N1788		*	*	*				*		*	*	*	*	*
1N1788 A				*				*		*				*
1N1789		*	*	*				*		*	*	*	*	*
1N1789 A				*				*		*				*
1N1790		*	*	*				*		*	*	*	*	*
1N1790 A				*				*		*				*
1N1791		*	*	*				*		*	*	*	*	*
1N1791 A				*				*		*				*
1N1792		*	*	*				*		*	*	*	*	*
1N1792 A				*				*		*				*
1N1793		*	*	*				*		*	*	*	*	*
1N1793 A				*				*		*				*
1N1794		*	*	*				*		*	*	*	*	*
1N1794 A				*				*		*				*
1N1795		*	*	*				*		*	*	*	*	*
1N1795 A				*				*		*				*
1N1796		*	*	*				*		*	*	*	*	*
1N1796 A				*				*		*				*
1N1797		*	*	*				*		*	*	*	*	*
1N1797 A				*				*		*				*
1N1798		*	*	*				*		*	*	*	*	*
1N1798 A				*				*		*				*
1N1799		*	*	*				*		*	*	*	*	*
1N1799 A				*				*		*				*
1N1800		*	*	*				*		*	*	*	*	*
1N1800 A				*				*		*				*
1N1801		*	*	*				*		*	*	*	*	*
1N1801 A				*				*		*				*
1N1802		*	*	*				*		*	*	*	*	*
1N1802 A				*				*		*				*
1N1803		*	*					*		*	*		*	*
1N1803 A				*				*		*	*			*
1N1803 C				*										
1N1803R				*						*	*			
1N1803RA				*						*				
1N1804		*	*					*		*	*		*	*
1N1804 A				*				*		*	*			*
1N1804 C				*										
1N1804R				*						*	*			
1N1804RA				*						*				
1N1805		*	*					*		*	*		*	*
1N1805 A				*				*		*	*			*
1N1805 C				*										
1N1805R				*						*	*			
1N1805RA				*						*				
1N1806		*	*					*		*	*		*	*
1N1806 A				*				*		*	*			*
1N1806 C				*										
1N1806R				*						*	*			
1N1806RA				*						*				
1N1807		*	*					*		*	*		*	*
1N1807 A				*				*		*	*			*
1N1807 C				*										

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N1807R		*		*	*	*				
1N1807RA		*			*	*				
1N1808	*	*		*	*	*			*	*
1N1808 A		*		*	*	*	*			*
1N1808 C		*								
1N1808R		*		*	*	*				
1N1808RA		*			*	*				
1N1809	*	*	*	*	*	*		*	*	*
1N1809 A		*	*	*	*		*			*
1N1809 C		*								
1N1809R		*		*	*	*				
1N1809RA		*			*	*				
1N1810	*	*	*	*	*	*		*	*	*
1N1810 A		*	*	*	*	*	*			*
1N1810 C		*								
1N1810R		*		*	*	*				
1N1810RA		*			*	*				
1N1811	*	*	*	*	*	*		*	*	*
1N1811 A		*	*	*	*	*	*			*
1N1811 C		*								
1N1811R		*		*	*	*				
1N1811RA		*			*	*				
1N1812	*	*	*	*	*	*		*	*	*
1N1812 A		*	*	*	*	*	*			*
1N1812 C		*								
1N1812R		*		*	*	*				
1N1812RA		*			*	*				
1N1813	*	*	*	*	*	*		*	*	*
1N1813 A		*	*	*	*	*	*			*
1N1813 C		*								
1N1813R		*		*	*	*				
1N1813RA		*			*	*				
1N1814	*	*	*	*	*	*		*	*	*
1N1814 A		*	*	*	*	*	*			*
1N1814 C		*								
1N1814R		*		*	*	*				
1N1814RA		*			*	*				
1N1815	*	*	*	*	*	*		*	*	*
1N1815 A		*	*	*	*	*	*			*
1N1815 C		*								
1N1815R		*		*	*	*				
1N1815RA		*			*	*				
1N1816	*	*	*	*	*	*	*	*	*	*
1N1816 A		*	*	*	*	*	*	*		*
1N1816 C		*			*			*		
1N1816CA					*			*		
1N1816R		*			*	*				
1N1816RA		*			*	*				
1N1817	*	*	*	*	*	*	*	*	*	*
1N1817 A		*	*	*	*	*	*	*		*
1N1817 C		*			*			*		
1N1817CA					*			*		
1N1817R		*			*	*				
1N1817RA		*			*	*				
1N1818	*	*	*	*	*	*	*	*	*	*
1N1818 A		*	*	*	*	*	*	*		*
1N1818 C		*			*			*		
1N1818CA					*			*		
1N1818R		*			*	*				
1N1818RA		*			*	*				
1N1819	*	*	*	*	*	*	*	*	*	*
1N1819 A		*	*	*	*	*	*	*		*
1N1819 C		*			*			*		
1N1819CA					*			*		
1N1819R		*			*	*				
1N1819RA		*			*	*				
1N1820	*	*	*	*	*	*	*	*	*	*
1N1820 A		*	*	*	*	*	*	*		*
1N1820 C		*			*			*		
1N1820CA					*			*		
1N1820R		*			*	*				
1N1820RA		*			*	*				
1N1821	*	*	*	*	*	*	*	*	*	*
1N1821 A		*	*	*	*	*	*	*		*
1N1821 C		*			*			*		
1N1821CA					*			*		
1N1821R		*			*	*				
1N1821RA		*			*	*				
1N1822	*	*	*	*	*	*	*	*	*	*
1N1822 A		*	*	*	*	*	*	*		*
1N1822 C		*			*			*		
1N1822CA					*			*		
1N1822R		*			*	*				
1N1822RA		*			*	*				
1N1823	*	*	*	*	*	*	*	*	*	*
1N1823 A		*	*	*	*	*	*	*		*
1N1823 C		*			*			*		
1N1823CA					*			*		
1N1823R		*			*	*				
1N1823RA		*			*	*				
1N1824	*	*	*	*	*	*	*	*	*	*
1N1824 A		*	*	*	*	*	*	*		*
1N1824 C		*			*			*		
1N1824CA					*			*		
1N1824R		*			*	*				
1N1824RA		*			*	*				
1N1825	*	*	*	*	*	*	*	*	*	*
1N1825 A		*	*	*	*	*	*			*
1N1825 C		*			*			*		
1N1825CA					*			*		
1N1825R		*			*	*				
1N1825RA		*			*	*				

*JAN Type

THE '72 MASTER 56th EDITION

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL ELEC.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N1826		*	*	*		*	*	*	*		*	*	*
1N1826 A			*	*		*	*	*	*		*		*
1N1826 C			*				*				*		
1N1826CA							*				*		
1N1826R			*				*	*					
1N1826RA			*				*	*					
1N1827		*	*	*		*	*	*	*		*	*	*
1N1827 A			*	*		*	*	*	*		*		*
1N1827 C			*				*				*		
1N1827CA							*				*		
1N1827R			*				*	*					
1N1827RA			*				*	*					
1N1828		*	*	*		*	*	*	*		*	*	*
1N1828 A			*	*		*	*	*	*		*		*
1N1828 C			*				*				*		
1N1828CA							*				*		
1N1828R			*				*	*					
1N1828RA			*				*	*					
1N1829		*	*	*		*	*	*	*		*	*	*
1N1829 A			*	*		*	*	*	*		*		*
1N1829 C			*				*				*		
1N1829CA							*				*		
1N1829R			*				*	*					
1N1829RA			*				*	*					
1N1830		*	*	*		*	*	*	*		*	*	*
1N1830 A			*	*		*	*	*	*		*		*
1N1830 C			*				*				*		
1N1830CA							*				*		
1N1830R			*				*	*					
1N1830RA			*				*	*					
1N1831		*	*	*		*	*	*	*		*	*	*
1N1831 A			*	*		*	*	*	*		*		*
1N1831 C			*				*				*		
1N1831CA							*				*		
1N1831R			*				*	*					
1N1831RA			*				*	*					
1N1832		*	*	*		*	*	*	*		*	*	*
1N1832 A			*	*		*	*	*	*		*		*
1N1832 C			*				*				*		
1N1832CA							*				*		
1N1832R			*				*	*					
1N1832RA			*				*	*					
1N1833		*	*	*		*	*	*	*		*	*	*
1N1833 A			*	*		*	*	*	*		*		*
1N1833 C			*				*				*		
1N1833CA							*				*		
1N1833R			*				*	*					
1N1833RA			*				*	*					
1N1834		*	*	*		*	*	*	*		*	*	*
1N1834 A			*	*		*	*	*	*		*		*
1N1834 C			*				*				*		
1N1834CA							*				*		
1N1834R			*				*	*					
1N1834RA			*				*	*					
1N1835		*	*	*		*	*	*	*		*	*	*
1N1835 A			*	*		*	*	*	*		*		*
1N1835 C			*				*				*		
1N1835CA							*			*	*		
1N1835R			*				*	*					
1N1835RA			*				*	*					
1N1836		*	*	*		*	*	*	*		*	*	*
1N1836 A			*	*		*	*	*	*		*		*
1N1836 C			*				*				*		
1N1836CA							*				*		
1N1836R			*				*	*					
1N1836RA			*				*	*					
1N1839		*							*				
1N1840		*							*				
1N1841		*							*				
1N1842		*							*				
1N1843		*							*				
1N1844		*							*				
1N1845		*							*				
1N1846		*							*				
1N1847		*							*				
1N1848		*							*				
1N1849		*							*				
1N1850		*							*				
1N1868					*								
1N1875	*	*	*				*		*				*
1N1875 A	*		*				*						*
1N1875 B			*										
1N1876	*	*	*				*		*				*
1N1876 A	*		*				*						*
1N1876 B			*										
1N1877	*	*	*				*		*				*
1N1877 A	*		*				*						*
1N1877 B			*										
1N1878	*	*	*				*		*				*
1N1878 A	*		*				*						*
1N1878 B			*										
1N1879	*	*	*				*		*				*
1N1879 A	*		*				*						*
1N1879 B			*										
1N1880	*	*	*				*		*				*
1N1880 A	*		*				*						*
1N1880 B			*										
1N1881	*	*	*				*		*				*
1N1881 A	*		*				*						*
1N1881 B			*										
1N1882		*	*				*		*				*
1N1882 A			*				*						*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLTRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORNE	UNITED-PAGE
1N1882 B											
1N1883		*	*	*		*	*				*
1N1883 A			*	*							*
1N1883 B			*								
1N1884		*	*	*		*	*				*
1N1884 A			*	*							*
1N1884 B			*								
1N1885		*	*	*		*	*				*
1N1885 A			*	*							*
1N1885 B			*								
1N1886		*	*	*		*	*				*
1N1886 A			*	*							*
1N1886 B			*								
1N1887		*	*	*		*	*				*
1N1887 A			*	*							*
1N1887 B			*								
1N1888		*	*	*		*	*				*
1N1888 A			*	*							*
1N1888 B			*								
1N1889		*					*				
1N1890		*					*				
1N1891		*			*		*				
1N1891 A					*						
1N1892		*			*		*				
1N1892 A					*						
1N1893		*			*		*				
1N1893 A					*						
1N1894		*			*		*				
1N1894 A					*						
1N1895		*			*		*				
1N1895 A					*						
1N1896		*			*		*				
1N1896 A					*						
1N1897		*			*		*				
1N1897 A					*						
1N1898		*			*		*				
1N1898 A					*						
1N1899		*			*		*				
1N1899 A					*						
1N1900		*			*		*				
1N1900 A					*						
1N1901		*			*						
1N1901 A					*						
1N1902		*			*		*				
1N1902 A					*						
1N1903		*			*		*				
1N1903 A					*						
1N1904		*			*		*				
1N1904 A					*						
1N1905					*						
1N1905 A					*						
1N1906					*						
1N1906 A					*						
1N1907		*		*			*				*
1N1908		*		*			*		*		*
1N1909		*		*			*		*		*
1N1910		*		*			*		*		*
1N1911		*		*			*		*		*
1N1912		*		*			*		*		*
1N1913		*		*			*		*		*
1N1914		*		*			*		*		*
1N1915		*		*			*		*		*
1N1916		*		*			*		*		
1N1917							*				
1N1927	*	*					*				
1N1927 A	*						*				
1N1927 B	*						*				
1N1928	*	*					*				
1N1928 A	*						*				
1N1928 B	*						*				
1N1929	*	*					*	*		*	*
1N1929 A	*							*		*	*
1N1929 B	*									*	
1N1930	*	*					*	*		*	*
1N1930 A	*							*		*	*
1N1930 B	*									*	
1N1931	*	*					*	*		*	*
1N1931 A	*							*		*	*
1N1931 B	*									*	
1N1932	*	*					*	*		*	*
1N1932 A	*							*		*	*
1N1932 B	*									*	
1N1933	*	*					*	*		*	*
1N1933 A	*							*		*	*
1N1933 B	*									*	
1N1934	*	*					*	*		*	*
1N1934 A	*							*		*	*
1N1934 B	*									*	
1N1935	*	*					*	*		*	*
1N1935 A	*							*		*	*
1N1935 B	*									*	
1N1936	*	*					*	*		*	*
1N1936 A	*							*		*	*
1N1936 B	*									*	
1N1937	*	*					*	*		*	*
1N1937 A	*							*		*	*
1N1937 B	*									*	
1N1938		*					*	*			*
1N1938 A								*			
1N1938 B											
1N1939		*					*	*			*
1N1939 A								*			

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	INTL. RECTIFIER	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./N. Y.	UNITED-PAGE
1N1939 B						*		
1N1940		*				*	*	*
1N1940 A						*	*	
1N1940 B						*		
1N1941		*				*		*
1N1941 A						*		
1N1941 B						*		
1N1942		*				*		*
1N1942 A						*		
1N1942 B						*		
1N1943		*				*		*
1N1943 A						*		
1N1943 B						*		
1N1944		*				*		
1N1944 A						*		
1N1944 B						*		
1N1954	*							
1N1954 A	*							
1N1954 B	*							
1N1955	*							
1N1955 A	*							
1N1955 B	*							
1N1956	*	*		*	*			*
1N1956 A	*			*				*
1N1956 B	*							
1N1957	*	*		*	*			*
1N1957 A	*			*				*
1N1957 B	*							
1N1958	*	*		*	*			*
1N1958 A	*			*				*
1N1958 B	*							
1N1959	*	*		*	*			*
1N1959 A	*			*				*
1N1959 B	*							
1N1960	*	*		*	*			*
1N1960 A	*			*				*
1N1960 B	*							
1N1961	*	*		*	*			*
1N1961 A	*			*				*
1N1961 B	*							
1N1962	*	*		*	*			*
1N1962 A	*			*				*
1N1962 B	*							
1N1963	*	*		*	*			*
1N1963 A	*			*				*
1N1963 B	*							
1N1964	*	*		*	*			*
1N1964 A	*			*				*
1N1964 B	*							
1N1965		*		*	*			*
1N1965 A				*				*
1N1981	*	*	*				*	*
1N1981 A	*		*				*	*
1N1981 B	*		*				*	
1N1982	*	*	*				*	*
1N1982 A	*		*				*	
1N1982 B	*		*				*	
1N1983	*	*	*				*	*
1N1983 A	*		*				*	*
1N1983 B	*		*				*	
1N1984	*	*	*				*	*
1N1984 A	*		*				*	
1N1984 B	*		*				*	
1N1985	*	*	*				*	
1N1985 A	*		*				*	
1N1985 B	*		*				*	
1N1986	*	*	*				*	
1N1986 A	*		*				*	
1N1986 B	*		*				*	
1N1987	*	*	*				*	
1N1987 A	*		*				*	
1N1987 B	*		*				*	
1N1988	*	*	*				*	
1N1988 A	*		*				*	
1N1988 B	*		*				*	
1N1989	*	*	*				*	
1N1989 A	*		*				*	
1N1989 B	*		*				*	
1N1990	*	*	*				*	
1N1990 A	*		*				*	
1N1990 B	*		*				*	
1N1991	*	*	*				*	
1N1991 A	*		*				*	
1N1991 B	*		*				*	
1N1992		*	*				*	
1N1992 A			*				*	
1N1992 B			*				*	
1N1993		*	*				*	
1N1993 A			*				*	
1N1993 B			*				*	
1N1994		*	*				*	
1N1994 A			*				*	
1N1994 B			*				*	
1N1995		*	*				*	
1N1995 A			*				*	
1N1995 B			*				*	
1N1996		*	*				*	
1N1996 A			*				*	
1N1996 B			*				*	
1N1997		*	*				*	
1N1997 A			*				*	
1N1997 B			*				*	

THE '72 MASTER 36th EDITION

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N1998		*	*					*					
1N1998 A			*					*					
1N1998 B			*					*					
1N1999		*	*					*					
1N1999 A			*					*					
1N1999 B			*					*					
1N2000		*	*					*					
1N2000 A			*					*					
1N2000 B			*					*					
1N2001		*	*					*					
1N2001 A			*					*					
1N2001 B			*					*					
1N2002		*	*					*					
1N2002 A			*					*					
1N2002 B			*					*					
1N2003		*	*					*					
1N2003 A			*					*					
1N2003 B			*					*					
1N2004		*						*					
1N2004 A								*					
1N2004 B								*					
1N2005		*						*					
1N2005 A								*					
1N2005 B								*					
1N2006		*						*					
1N2006 A								*					
1N2006 B								*					
1N2007		*					*	*					
1N2007 A								*					
1N2007 B								*					
1N2008		*	*	*	*	*	*	*					*
1N2008 A				*	*	*	*	*					*
1N2008 C						*							
1N2008 R			*				*						
1N2008CA						*							
1N2008R						*	*						
1N2008RA						*							
1N2009		*	*	*	*	*	*	*					*
1N2009 A			*	*	*	*	*	*					*
1N2009 C			*			*							
1N2009 R			*				*						
1N2009CA						*							
1N2009R						*	*						
1N2009RA			*			*							
1N2010		*	*	*	*	*	*	*					*
1N2010 A			*	*	*	*	*						*
1N2010 C			*			*							
1N2010 R			*				*						
1N2010CA						*							
1N2010R						*	*						
1N2010RA			*			*							
1N2011		*	*	*	*	*	*	*					*
1N2011 A			*	*	*	*		*					*
1N2011 C			*			*							
1N2011 R			*				*						
1N2011CA						*							
1N2011R						*	*						
1N2011RA			*			*							
1N2012		*	*	*	*	*	*	*					*
1N2012 A			*	*	*	*		*					*
1N2012 C			*			*							
1N2012 R			*				*						
1N2012CA						*							
1N2012R						*	*						
1N2012RA			*			*							
1N2013		*						*					*
1N2014		*						*					*
1N2015		*						*					*
1N2016		*						*					*
1N2017		*						*					*
1N2018		*						*					*
1N2019		*						*					*
1N2020		*						*					*
1N2021		*		*				*		*	*	*	*
1N2022		*		*				*		*	*	*	*
1N2023		*		*				*		*	*	*	*
1N2024		*		*				*		*	*	*	*
1N2025		*		*				*		*	*	*	*
1N2026		*		*	*			*	*	*		*	*
1N2026 R				*						*			
1N2027		*		*	*			*	*	*		*	*
1N2027 R				*						*			
1N2028		*		*	*			*	*	*		*	*
1N2028 R				*						*			
1N2029		*		*	*			*		*		*	*
1N2029 R										*			
1N2030		*		*	*			*		*		*	*
1N2030 R				*						*			
1N2031		*		*	*			*		*		*	*
1N2031 R				*						*			
1N2032	*	*	*			*		*				*	*
1N2032 A	*					*							
1N2032 B	*												
1N2032-1												*	
1N2032=2								*				*	
1N2033	*	*	*			*	*	*				*	*
1N2033 A	*					*							
1N2033 B	*												
1N2033=1												*	
1N2033=2								*				*	
1N2034	*	*	*			*	*	*				*	*
1N2034 A	*					*							

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N2034 B	*									
1N2034=1									*	
1N2034=2							*		*	
1N2034=3							*		*	
1N2035	*	*	*		*	*	*		*	*
1N2035 A	*				*					
1N2035 B	*									
1N2035=1									*	
1N2035=2							*		*	
1N2035=3							*		*	
1N2035=4							*		*	
1N2036	*	*	*		*	*	*		*	*
1N2036 A	*				*					
1N2036 B	*									
1N2036=1									*	
1N2036=2							*		*	
1N2037	*	*	*		*	*	*		*	*
1N2037 A	*				*					
1N2037 B	*									
1N2037=1									*	
1N2037=2							*		*	
1N2037=3							*		*	
1N2038	*	*	*		*	*	*		*	*
1N2038 A	*				*					
1N2038 B	*									
1N2038=1									*	
1N2038=2							*		*	
1N2038=3							*		*	
1N2039	*	*	*		*	*	*		*	*
1N2039 A	*				*					
1N2039 B	*									
1N2039=1									*	
1N2039=2							*		*	
1N2039=3							*		*	
1N2040	*	*	*		*	*	*		*	*
1N2040 A	*				*					
1N2040 B	*									
1N2040=1									*	
1N2040=2							*		*	
1N2040=3							*		*	
1N2040=4							*			
1N2041		*	*	*	*		*		*	*
1N2041 A				*	*		*			
1N2041 B							*			
1N2041 C							*			
1N2041 R						*				
1N2041=1									*	
1N2041=2									*	
1N2041RA						*				
1N2042		*	*	*	*	*	*		*	*
1N2042 A				*	*		*			
1N2042 B							*			
1N2042 C							*			
1N2042 R						*				
1N2042=1									*	
1N2042=2									*	
1N2042RA						*				
1N2043		*	*	*	*	*	*	*	*	*
1N2043 A				*	*		*			
1N2043 B							*			
1N2043 C							*			
1N2043 R						*				
1N2043=1							*		*	
1N2043=2							*		*	
1N2043=3							*		*	
1N2043RA						*				
1N2044		*	*	*	*	*	*	*	*	*
1N2044 A				*	*		*			
1N2044 B							*			
1N2044 C							*			
1N2044 R						*				
1N2044=1									*	
1N2044=2									*	
1N2044=3									*	
1N2044=4									*	
1N2044RA						*				
1N2045		*	*	*	*	*	*	*	*	*
1N2045 A				*	*		*			
1N2045 B							*			
1N2045 C							*			
1N2045 R						*				
1N2045=1									*	
1N2045=2									*	
1N2045RA						*				
1N2046		*	*	*	*	*	*	*	*	*
1N2046 A				*	*		*			
1N2046 B							*			
1N2046 C							*			
1N2046 R						*				
1N2046=1									*	
1N2046=2									*	
1N2046=3									*	
1N2046RA						*				
1N2047		*	*	*	*	*	*	*	*	*
1N2047 A				*	*		*			
1N2047 B							*			
1N2047 C							*			
1N2047 R						*				
1N2047=1									*	
1N2047=2									*	
1N2047=3									*	
1N2047RA						*				

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL	SOLITRON DEV./N.Y.	SYNTRON	TEXAS INSTR.	TRANSITRON
1N2048		*	*					*		*	*		*		*			*
1N2048 A								*		*			*					
1N2048 B													*					
1N2048 C													*					
1N2048 R										*								
1N2048-1																		*
1N2048-2																		*
1N2048-3																		*
1N2048RA										*								
1N2049		*	*					*		*	*		*		*			*
1N2049 A								*		*			*					
1N2049 B													*					
1N2049 C													*					
1N2049 R										*								
1N2049-1													*					*
1N2049-2													*					*
1N2049-3													*					*
1N2049-4													*					
1N2049RA										*								
1N2054		*			*			*			*		*			*		
1N2054 R								*										
1N2055		*			*			*			*		*			*		
1N2055 R								*										
1N2056		*			*			*			*		*			*		
1N2056 R								*										
1N2057		*			*			*			*		*			*		
1N2057 R								*										
1N2058		*			*			*			*		*			*		
1N2058 R								*										
1N2059		*			*			*			*		*			*		
1N2059 R								*										
1N2060		*			*			*			*		*			*		
1N2060 R								*										
1N2061		*			*			*			*		*			*		
1N2061 R								*										
1N2062		*						*			*		*			*		
1N2062 R								*										
1N2063		*						*			*		*			*		
1N2063 A										*								
1N2063 R								*										
1N2066		*						*			*		*					
1N2066 A										*								
1N2066 R								*										
1N2067		*						*			*		*					
1N2067 A										*								
1N2067 R								*										
1N2068		*						*			*		*					
1N2068 A										*								
1N2068 R								*										
1N2069	*	*		*	*	*	*	*			*	*			*	*	*	
1N2069 A	*			*	*	*	*	*	*		*	*				*	*	
1N2070	*	*		*	*	*	*	*	*		*	*		*	*	*	*	
1N2070 A	*			*	*	*	*	*	*		*	*				*	*	
1N2071	*	*		*	*	*	*	*	*		*	*			*	*	*	
1N2071 A	*			*	*	*	*	*	*		*	*				*	*	
1N2072		*			*								*					
1N2073		*			*								*					
1N2074		*			*								*					
1N2075		*			*								*					
1N2076		*			*								*					
1N2077		*			*								*					
1N2078		*			*								*					
1N2079		*			*								*					
1N2080		*			*								*					
1N2081		*			*								*					
1N2082		*			*								*					
1N2083		*			*								*					
1N2084		*			*								*					
1N2085		*			*								*					
1N2086		*			*								*					
1N2090		*																
1N2091		*																
1N2092		*																
1N2093		*																
1N2094		*																
1N2095		*																
1N2096		*																
1N2102		*																
1N2103		*			*			*			*							
1N2104		*			*			*			*							*
1N2105		*			*			*			*							*
1N2106		*			*			*			*							*
1N2107		*			*			*			*							*
1N2108		*			*			*			*							*
1N2115					*													
1N2116		*											*					
1N2117					*								*					
1N2127																		
1N2128		*			*			*					*					*
1N2128 A					*			*					*					
1N2128 R					*			*										
1N2128RA					*													
1N2129		*			*			*					*					*
1N2129 A					*			*										
1N2129 R					*			*										
1N2129RA					*													

THE 72 MASTER 16th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
2130		*		*			*				*			*		*	*	*
2130 A				*			*				*					*	*	
2130 R				*			*											*
2130RA				*														
2131		*		*			*				*			*		*	*	*
2131 A				*			*				*					*	*	
2131 R				*			*											*
2131RA				*														
2132		*		*			*				*			*		*	*	
2132 A				*			*				*					*	*	
2132 R				*			*											
2132RA				*														
2133		*		*			*				*			*		*	*	*
2133 A				*			*				*					*	*	
2133 R				*			*											*
2133RA				*														
2134		*		*			*				*			*		*	*	
2134 A				*			*				*					*	*	
2134 R				*			*											
2134RA				*														
2135		*		*			*				*			*		*	*	*
2135 A				*			*				*					*	*	
2135 A					*													*
2135 R				*			*											*
2135AR																		*
2135RA				*														
2136		*		*			*				*			*		*		
2136 A				*			*				*							
2136 R				*			*											
2136RA				*														
2137		*		*			*				*			*			*	*
2137 A				*			*				*						*	
2137 R				*			*											*
2137RA				*														
2138		*					*				*			*			*	*
2138 A							*				*						*	
2138 R							*											*
2139		*									*						*	
2147		*									*						*	
2147 A											*							
2148		*									*						*	
2148 A											*						*	
2149		*									*						*	
2149 A											*						*	
2150		*									*						*	
2150 A											*						*	
2151		*									*						*	
2151 A											*						*	
2151 R						*												
2152		*									*		*				*	
2152 A											*		*				*	
2153		*									*		*				*	
2153 A											*						*	
2154		*		*	*	*	*		*	*	*		*	*		*	*	*
2154R				*		*				*								*
2155		*		*	*	*	*		*	*	*	*	*	*		*	*	*
2155R				*		*				*								*
2156		*		*	*	*	*		*	*	*	*	*	*		*	*	*
2156R				*		*				*								*
2157		*		*	*	*	*		*	*	*		*	*		*	*	*
2157R				*		*				*								*
2158		*		*	*	*	*		*	*	*	*	*	*		*	*	*
2158R				*		*				*								*
2159		*		*	*	*	*		*	*	*		*	*		*	*	*
2159R				*		*				*								*
2160		*			*	*	*		*	*	*		*	*		*	*	*
2160R						*				*								*
2163	*	*	*					*			*						*	
2163 A	*		*					*			*						*	
2164	*	*	*					*			*						*	
2164 A	*		*					*			*						*	
2165	*	*	*					*			*						*	
2165 A	*		*					*			*						*	
2166	*	*	*					*			*						*	
2166 A	*		*					*			*						*	
2167	*	*	*					*			*						*	
2167 A	*		*					*			*						*	
2168	*	*	*					*			*						*	
2168 A	*		*					*			*						*	
2169	*	*	*					*			*						*	
2169 A	*		*					*			*						*	
2170	*	*	*					*			*						*	
2170 A	*		*					*			*						*	
2171	*	*	*					*			*						*	
2171 A	*		*					*			*						*	
2172		*									*							
2173											*							
2174											*							
2175		*													*		*	
2214		*									*							
2216		*		*							*		*			*	*	
2217		*									*		*			*	*	
2218		*		*							*		*			*	*	
2218 R				*									*					
2219		*									*		*			*	*	
2220		*		*							*		*			*	*	
2220 R				*									*					
2221		*									*		*			*	*	
2222		*		*							*		*			*	*	
2222 A				*							*					*	*	
2223		*									*		*			*	*	
2223 A											*					*	*	

JEDEC TYPE	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	MOTOROLA SEMI.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N2224	*		*		*		*		*	*
1N2224 A			*		*				*	*
1N2225	*				*		*		*	*
1N2225 A					*				*	*
1N2226	*				*		*		*	*
1N2226 A					*				*	*
1N2227	*				*		*		*	*
1N2227 A					*				*	*
1N2228	*		*		*		*	*	*	*
1N2228 A			*		*		*			*
1N2228 R			*				*			
1N2228RA			*				*			
1N2229	*				*		*		*	*
1N2229 A					*					*
1N2230	*			*	*	*	*	*	*	*
1N2230 A				*	*		*			*
1N2230 R							*			
1N2230RA							*			
1N2231	*				*		*		*	*
1N2231 A					*					*
1N2232	*		*	*	*	*	*	*	*	*
1N2232 A			*	*	*	*	*			*
1N2232 R							*			
1N2232RA							*			
1N2233	*				*		*		*	*
1N2233 A					*					*
1N2234	*		*	*	*		*	*	*	*
1N2234 A			*	*	*		*			*
1N2234 R			*				*			
1N2234RA			*				*			
1N2235	*				*		*		*	*
1N2235 A					*					*
1N2236	*		*	*	*		*	*	*	*
1N2236 A			*	*	*		*			*
1N2236 R			*				*			
1N2236RA			*				*			
1N2237	*				*		*		*	*
1N2237 A					*					*
1N2238	*		*	*	*		*	*	*	*
1N2238 A			*	*	*		*			*
1N2238 R			*				*			
1N2238RA			*				*			
1N2239	*				*		*		*	*
1N2239 A					*					*
1N2240	*	*	*	*	*	*	*	*		*
1N2240 A			*	*	*					*
1N2240 R		*	*							
1N2240RA			*							
1N2241	*				*		*			*
1N2241 A					*					*
1N2242	*	*	*	*	*	*	*			*
1N2242 A			*	*	*					*
1N2242 R		*	*							
1N2242RA			*							
1N2243	*				*		*			*
1N2243 A					*		*			*
1N2244	*	*			*					*
1N2244 A					*					*
1N2244 R		*								
1N2245	*				*					*
1N2245 A					*					
1N2246	*		*		*		*	*		*
1N2246 A			*		*	*	*			*
1N2246 R			*				*			
1N2246RA			*				*			
1N2247	*				*					*
1N2247 A					*					
1N2248	*		*		*		*	*		*
1N2248 A			*		*		*			*
1N2248 R			*				*			
1N2248RA			*				*			
1N2249	*				*					*
1N2249 A					*					
1N2250	*		*		*	*	*	*		*
1N2250 A			*		*	*	*			*
1N2250 R			*				*			
1N2250RA			*				*			
1N2251	*				*					
1N2251 A					*					
1N2252	*		*		*		*	*		*
1N2252 A			*		*		*			*
1N2252 R			*				*			
1N2252RA			*				*			
1N2253	*				*					
1N2253 A					*					
1N2254	*		*		*		*	*		*
1N2254 A			*		*	*	*			*
1N2254 R			*				*			
1N2254RA			*				*			
1N2255	*				*					
1N2255 A					*					
1N2256	*		*		*		*	*		*
1N2256 A			*		*		*			*
1N2256 R			*				*			
1N2256RA			*				*			
1N2257	*				*					
1N2257 A					*					
1N2258	*		*		*		*	*		*
1N2258 A			*		*		*			*
1N2258 R			*				*			
1N2258RA			*				*			
1N2259	*				*					

JEDEC TYPE	CONTINENTAL SEMI.	ELECTRONIC DEV	ELECT. TRANS.	INTL. RECTIFIER	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N2259 A							*					
1N2260	*	*	*				*	*		*		*
1N2260 A			*				*		*			*
1N2260 R		*	*									
1N2260RA			*									
1N2261	*						*					
1N2261 A							*					
1N2262	*	*	*				*			*		*
1N2262 A			*				*		*			*
1N2262 R		*	*									
1N2262RA			*									
1N2263	*						*					
1N2263 A							*					
1N2264	*	*					*					*
1N2264 A							*		*			*
1N2264 R		*										
1N2265							*					
1N2265 A							*					
1N2266	*		*				*		*		*	*
1N2267	*						*		*		*	*
1N2268	*		*				*		*		*	*
1N2269	*						*		*		*	*
1N2270	*		*				*		*		*	*
1N2271	*						*		*		*	*
1N2272	*		*				*		*		*	*
1N2272 R			*									
1N2273	*		*				*		*		*	*
1N2273 R			*									
1N2274	*		*				*		*		*	*
1N2274 R			*									
1N2275	*		*				*		*		*	*
1N2276	*		*				*		*		*	*
1N2276 R			*									
1N2277	*		*				*		*		*	*
1N2278	*		*				*		*		*	*
1N2278 R			*									
1N2279	*		*				*		*		*	*
1N2279 R			*									
1N2280	*		*				*		*			*
1N2280 R			*									
1N2281	*						*		*			*
1N2282							*		*	*		*
1N2283	*		*				*		*	*		*
1N2283 R			*									
1N2284							*		*	*		*
1N2285							*		*	*		*
1N2286							*		*	*		*
1N2287							*		*	*		*
1N2288							*		*	*		*
1N2289	*						*					*
1N2289 A			*				*					*
1N2290	*						*					*
1N2290 A			*				*					*
1N2291	*						*					*
1N2291 A			*				*					*
1N2292	*						*					*
1N2292 A			*				*					*
1N2293	*						*					*
1N2293 A			*				*					
1N2326	*				*							*
1N2327	*											
1N2328	*						*					
1N2348	*			*			*					
1N2349	*			*			*					
1N2350	*			*			*					
1N2357	*	*					*			*		*
1N2358	*	*					*			*		*
1N2359	*	*					*					*
1N2360	*	*					*					*
1N2361	*	*					*					*
*1N2361		*										
1N2362	*						*		*			*
1N2362 A							*					*
1N2362 B							*					*
1N2363	*						*		*			*
1N2363 A							*					*
1N2363 B							*					
1N2364	*						*		*			*
1N2364 A							*					*
1N2364 B							*					*
1N2365							*		*			*
1N2365 A							*					*
1N2365 B							*					*
1N2366	*						*		*			*
1N2366 A							*					*
1N2366 B							*					*
1N2367	*						*		*			*
1N2367 A							*					*
1N2367 B							*					*
1N2368	*	*					*		*			*
1N2368 A							*					*
1N2368 B							*					*
1N2369	*						*		*			*
1N2369 A							*					*
1N2369 B							*					*
1N2370	*	*					*					*
1N2370 A							*					
1N2370 B							*					
1N2371	*						*					*
1N2371 A							*					
1N2371 B							*					
1N2372	*		*				*					*

THE '72 MASTER 36th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N2373		*		*	*			*		*	*		*			*
1N2374	*	*	*	*	*			*		*	*		*		*	*
1N2375	*	*	*	*				*		*	*		*			*
1N2376	*	*	*	*				*		*	*		*			*
1N2377	*	*	*	*				*		*	*		*			*
1N2378	*	*	*	*				*		*	*		*			*
1N2379	*	*	*	*				*		*	*		*			*
1N2380	*	*	*	*				*		*	*		*			*
1N2381	*	*	*	*				*		*		*	*			*
1N2382	*		*	*		*	*	*	*	*	*					*
1N2382 A	*						*	*			*					*
1N2383	*	*	*	*			*	*	*	*	*					*
1N2383 A	*						*	*			*					*
1N2384	*		*	*			*	*	*	*	*	*				*
1N2384 A	*						*	*			*					*
1N2385	*		*	*			*	*	*	*	*					*
1N2385 A	*						*	*			*	*				
1N2387											*					
1N2389	*	*		*				*		*	*	*	*			*
1N2390											*		*			
1N2391											*					
1N2392											*					
1N2393											*					
1N2394											*					
1N2395											*					
1N2396											*					
1N2397											*					
1N2398											*					
1N2399											*					
1N2400											*					
1N2401											*					
1N2402											*					
1N2403											*					
1N2404											*					
1N2405											*					
1N2406											*					
1N2407											*					
1N2408											*					
1N2409											*					
1N2410											*					
1N2411											*					
1N2412											*					
1N2413											*					
1N2414											*					
1N2415											*					
1N2416											*					
1N2417											*					
1N2418											*					
1N2419											*					
1N2420											*					
1N2421											*					
1N2422											*					
1N2423											*					
1N2424											*					
1N2425											*					
1N2426											*			*		
1N2427											*			*		
1N2428											*			*		
1N2429											*			*		
1N2430											*			*		
1N2431											*			*		
1N2432											*			*		
1N2433											*			*		
1N2434											*			*		
1N2435											*			*		
1N2436											*			*		
1N2437											*			*		
1N2438											*			*		
1N2439											*			*		
1N2440											*			*		
1N2441											*			*		
1N2442											*			*		
1N2443											*			*		
1N2444											*			*		
1N2445											*			*		
1N2446		*			*		*				*		*		*	*
1N2446 R					*		*									
1N2447		*			*		*				*		*		*	*
1N2447 R					*		*									
1N2448		*			*		*				*		*		*	*
1N2448 R					*		*									
1N2449		*			*		*				*		*		*	*
1N2449 R					*		*									
1N2450		*			*		*				*		*		*	*
1N2450 R					*		*									
1N2451		*			*		*				*		*		*	*
1N2451 R					*		*									
1N2452		*			*		*				*		*		*	*
1N2452 R					*		*									
1N2453		*			*		*				*		*		*	*
1N2453 R					*		*									
1N2454		*					*				*		*		*	*
1N2454 R							*									
1N2455		*					*				*		*		*	*
1N2455 R							*									
1N2456		*					*				*		*		*	*
1N2456 R							*									
1N2457		*					*				*		*		*	*
1N2457 R							*									
1N2458		*			*						*			*		*
1N2459		*			*						*			*		*
1N2460		*			*						*			*		*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TRANSITRON	UNITED-PAGE
1N2461		*			*					*			*		
1N2462		*			*					*			*		
1N2463		*			*					*			*		
1N2464		*			*					*			*		
1N2465		*			*					*			*		
1N2466		*			*					*			*		
1N2467										*			*		
1N2468										*					
1N2469										*					
1N2482	*	*		*	*	*			*	*		*		*	*
1N2483		*		*	*	*			*	*		*		*	*
1N2484		*		*	*	*			*	*		*		*	*
1N2485		*			*	*			*					*	*
1N2486		*			*	*			*					*	*
1N2487		*			*	*			*					*	*
1N2488		*			*	*			*					*	*
1N2489		*			*	*			*					*	*
1N2490	*	*		*			*		*	*		*			*
1N2491		*			*					*	*	*	*	*	*
1N2491 R					*							*			
1N2492		*			*					*	*	*	*	*	*
1N2492 R					*							*			
1N2493		*			*					*	*	*	*	*	*
1N2493 R					*							*			
1N2494		*			*					*	*	*	*	*	*
1N2494 R					*							*			
1N2495		*			*					*	*	*	*	*	*
1N2495 R					*							*			
1N2496		*			*					*	*	*	*	*	*
1N2496 R					*							*			
1N2497		*			*					*	*	*	*	*	*
1N2497 R					*							*			
1N2498		*	*		*	*	*	*	*						*
1N2498 A			*		*	*	*	*	*						*
1N2498 C							*								
1N2498CA							*								
1N2498R			*						*						
1N2498RA			*						*						
1N2499		*	*		*	*	*	*	*						*
1N2499 A			*		*	*	*	*	*						*
1N2499 C							*								
1N2499CA							*								
1N2499R			*				*	*							
1N2499RA			*				*	*							
1N2500		*	*		*	*	*	*	*						*
1N2500 A			*		*	*	*	*	*						*
1N2500 C							*								
1N2500CA							*								
1N2500R			*				*	*							
1N2500RA			*				*	*							
1N2501		*			*					*				*	*
1N2502		*			*					*				*	*
1N2503		*								*					*
1N2504		*								*					*
1N2505		*			*					*				*	*
1N2506		*			*					*				*	*
1N2507		*								*					*
1N2508		*								*					*
1N2510		*													*
1N2510 M															*
1N2510MR															*
1N2510R															*
1N2512		*			*					*	*	*			*
1N2512R					*							*			
1N2513		*			*					*		*			*
1N2513R					*							*			
1N2514		*			*					*	*	*			*
1N2514R					*							*			
1N2515		*			*					*		*			*
1N2515R					*							*			
1N2516		*			*					*		*			*
1N2516R					*							*			
1N2517		*			*					*		*			*
1N2517R					*							*			
1N2518		*								*		*			*
1N2519		*								*					*
1N2520		*								*					*
1N2521		*			*					*					*
1N2522		*								*					*
1N2523		*			*					*					*
1N2524		*								*					*
1N2525		*								*					*
1N2526		*								*					*
1N2527		*								*					*
1N2528		*								*					*
1N2529		*								*					*
1N2530		*								*		*			*
1N2531		*								*		*			*
1N2532		*								*		*			*
1N2533		*								*		*			*
1N2534		*								*		*			*
1N2535		*								*		*			*
1N2536		*								*		*			*
1N2537		*								*		*			*
1N2538		*								*		*			*
1N2539		*								*		*			*
1N2540		*								*		*			*
1N2541		*								*		*			*
1N2542		*								*		*			*
1N2543		*								*		*			*
1N2544		*								*		*			*
1N2545		*								*		*			*

*JAN Ty

THE '72 MASTER 16th EDITION

	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN.	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE
2546			*								*		*					*
2547			*								*		*					*
2548			*								*		*					*
2549			*								*		*					*
2550			*								*		*					*
2551			*								*		*					*
2552			*								*		*					*
2553			*								*		*					*
2554			*								*		*					*
2555			*								*		*					*
2556			*								*		*					*
2557			*								*		*					*
2558			*								*		*					*
2559			*								*		*					*
2560			*								*		*					*
2561			*								*		*					*
2562			*								*		*					*
2563			*								*		*					*
2564			*								*		*					*
2565			*								*		*					*
2566			*								*		*					*
2567			*								*		*					*
2568			*								*		*					*
2569			*								*		*					*
2570	*		*								*		*					*
2571			*								*		*					*
2572			*								*		*					*
2573			*								*		*					*
2574			*								*		*					*
2575			*								*		*					*
2576			*								*		*					*
2577			*								*		*					*
2578			*								*		*					*
2579			*								*		*					*
2580			*								*		*					*
2581			*								*		*					*
2582			*								*		*					*
2583			*								*		*					*
2584			*								*		*					*
2585			*								*		*					*
2586			*								*		*					*
2587			*								*		*					*
2588			*								*		*					*
2589			*								*		*					*
2590			*								*		*					*
2591			*								*		*					*
2592			*								*		*					*
2593			*								*		*					*
2594			*								*		*					*
2595			*								*		*					*
2596			*								*		*					*
2597			*								*		*					*
2598			*			*					*		*					*
2599			*								*		*					*
2600			*								*		*					*
2601			*								*		*					*
2602			*								*		*					*
2603			*								*		*					*
2604			*								*		*					*
2605			*								*		*					*
2606			*								*							*
2607			*								*							*
2608			*								*							*
2609			*				*										*	*
2610			*				*	*		*				*			*	*
2611			*				*	*		*				*			*	*
2612			*				*	*		*				*			*	*
2613			*				*	*		*				*			*	*
2614			*					*		*				*			*	*
2615			*				*	*		*				*			*	*
2616			*				*	*		*				*			*	*
2617			*				*	*		*				*			*	*
2618			*															
2619			*								*							
1N2620		*	*	*					*		*							*
1N2620 A		*		*					*		*							*
1N2620 B		*		*					*		*							*
1N2621		*	*	*					*		*							*
1N2621 A		*		*					*		*							*
1N2621 B		*		*					*		*							*
1N2622			*	*					*		*							*
1N2622 A				*					*		*							*
1N2622 B				*					*		*							*
1N2623		*	*	*					*		*							*
1N2623 A		*		*					*		*							*
1N2623 B		*		*					*		*							*
1N2624		*	*	*					*		*							*
1N2624 A		*		*					*		*							*
1N2624 B		*		*					*		*							*
1N2630		*	*		*			*		*	*		*					*
1N2631		*	*		*			*		*	*	*	*					*
1N2632		*	*		*			*		*	*	*	*					*
1N2633		*	*		*			*		*	*		*					*
1N2634		*	*		*			*		*	*		*					*
1N2635		*	*		*			*		*	*		*					*
1N2636		*	*		*			*		*	*		*					*
1N2637			*		*			*		*		*	*					*
1N2638											*							
1N2641												*						
1N2765		*	*	*					*		*				*	*		*
1N2765 A		*		*					*		*				*	*		*
1N2766		*	*	*					*		*				*	*		*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	MOTOROLA SEMI.	SOLID STATE DEVICES	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE
1N2766 A	*		*			*	*			*	*		*
1N2767	*	*	*				*			*			*
1N2767 A	*		*				*			*			*
1N2768	*	*	*				*			*	*		*
1N2768 A	*		*				*			*	*		*
1N2769	*	*	*				*			*	*		*
1N2769 A	*		*				*			*	*		*
1N2770	*	*	*				*			*	*		*
1N2770 A	*		*				*			*	*		*
1N2771		*											*
1N2771 R													*
1N2772							*						
1N2773							*						
1N2774							*						
1N2775							*						
1N2776							*						
1N2777							*						
1N2778							*						
1N2779							*						
1N2780							*						
1N2781							*						
1N2784		*		*			*	*	*				
1N2784R				*									
1N2785		*		*			*	*	*				*
1N2785R				*									
1N2786							*	*					
1N2787							*	*					
1N2788							*	*	*				
1N2789							*	*	*				
1N2790		*					*						
1N2791		*					*						
1N2793		*		*			*	*	*			*	*
1N2793 R				*									
1N2794		*		*			*	*	*			*	*
1N2795		*		*			*	*	*			*	*
1N2796		*		*			*	*	*			*	*
1N2797		*		*			*	*	*			*	*
1N2798		*		*			*	*	*			*	*
1N2799		*		*			*	*	*			*	*
1N2800		*		*			*		*			*	*
1N2802		*											
1N2804		*	*	*		*						*	*
1N2804 A			*	*	*	*							*
1N2804 B			*	*	*	*							*
*1N2804 B					*	*							
1N2804R			*	*		*							
1N2804RA			*	*	*	*							
1N2804RB			*	*	*	*							
*1N2804RB						*							
1N2805		*	*	*		*						*	*
1N2805 A			*	*	*	*							*
1N2805 B			*	*	*	*							*
*1N2805 B					*	*							
1N2805R			*	*		*							
1N2805RA			*	*	*	*							
1N2805RB			*	*	*	*							
*1N2805RB						*							
1N2806		*	*	*		*						*	*
1N2806 A			*	*	*	*							*
1N2806 B			*	*	*	*							*
*1N2806 B			*		*	*							
1N2806R			*	*		*							
1N2806RA			*	*	*	*							
1N2806RB			*	*	*	*							
*1N2806RB			*			*							
1N2807		*	*	*		*						*	*
1N2807 A			*	*	*	*							*
1N2807 B			*	*	*	*							*
*1N2807 B			*		*	*							
1N2807R			*	*	*	*							
1N2807RA			*	*	*	*							
1N2807RB			*	*	*	*							
*1N2807RB			*			*							
1N2808		*	*	*	*	*						*	*
1N2808 A			*	*	*	*							*
1N2808 B			*	*	*	*							*
*1N2808 B			*		*	*							
1N2808R			*	*	*	*							
1N2808RA			*	*	*	*							
1N2808RB			*	*	*	*							
*1N2808RB			*			*							
1N2809		*	*	*	*	*						*	*
1N2809 A			*	*	*	*							*
1N2809 B			*	*	*	*							*
*1N2809 B			*		*	*							
1N2809R			*	*	*	*							
1N2809RA			*	*	*	*							
1N2809RB			*	*	*	*							
*1N2809RB			*			*							
1N2810		*	*	*	*	*						*	*
1N2810 A			*	*	*	*							*
1N2810 B			*	*	*	*							*
*1N2810 B			*		*	*							
1N2810R			*	*	*	*							
1N2810RA			*	*	*	*							
1N2810RB			*	*	*	*							
*1N2810RB			*			*							
1N2811		*	*	*	*	*						*	*
1N2811 A			*	*	*	*							*
1N2811 B			*	*	*	*							*
*1N2811 B			*		*	*							
1N2811R			*	*	*	*							

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	MOTOROLA SEMI.	TRANSITRON	UNITED-PAGE
1N2811RA		*	*	*	*		
1N2811RB		*	*	*	*		
*1N2811RB		*		*			
1N2812	*	*	*	*	*	*	*
1N2812 A		*	*	*	*		*
1N2812 B		*	*	*	*		*
*1N2812 B				*			
1N2812R		*	*	*	*		
1N2812RA		*	*	*	*		
1N2812RB		*	*	*	*		
1N2813	*	*	*	*	*	*	*
1N2813 A		*	*	*	*		*
1N2813 B		*	*	*	*		*
*1N2813 B		*		*	*		
1N2813R		*	*	*	*		
1N2813RA		*	*	*	*		
1N2813RB		*	*	*	*		
*1N2813RB		*			*		
1N2814	*	*	*	*	*	*	*
1N2814 A		*	*	*	*		*
1N2814 B		*	*	*	*		*
*1N2814 B		*		*	*		
1N2814R		*	*	*	*		
1N2814RA		*	*	*	*		
1N2814RB		*	*	*	*		
*1N2814RB		*			*		
1N2815	*	*	*	*	*	*	*
1N2815 A		*	*	*	*		*
1N2815 B		*	*	*	*		*
*1N2815 B		*		*			
1N2815R		*	*	*	*		
1N2815RA		*	*	*	*		
1N2815RB		*	*	*	*		
*1N2815RB		*					
1N2816	*	*	*	*	*	*	*
1N2816 A		*	*	*	*		*
1N2816 B		*	*	*	*		*
*1N2816 B		*		*	*		
1N2816R		*	*	*	*		
1N2816RA		*	*	*	*		
1N2816RB		*	*	*	*		
*1N2816RB		*			*		
1N2817	*	*	*	*	*	*	*
1N2817 A		*	*	*	*		*
1N2817 B		*	*	*	*		*
*1N2817 B				*			
1N2817R		*	*	*	*		
1N2817RA		*	*	*	*		
1N2817RB		*	*	*	*		
1N2818	*	*	*	*	*	*	*
1N2818 A		*	*	*	*		*
1N2818 B		*	*	*	*		*
*1N2818 B		*		*	*		
1N2818R		*	*	*	*		
1N2818RA		*	*	*	*		
1N2818RB		*	*	*	*		
*1N2818RB		*			*		
1N2819	*	*	*	*	*	*	*
1N2819 A		*	*	*	*		*
1N2819 B		*	*	*	*		*
*1N2819 B		*		*	*		
1N2819R		*	*	*	*		
1N2819RA		*	*	*	*		
1N2819RB		*	*	*	*		
*1N2819RB		*			*		
1N2820	*	*	*	*	*	*	*
1N2820 A		*	*	*	*		*
1N2820 B		*	*	*	*		*
*1N2820 B		*		*	*		
1N2820R		*	*	*	*		
1N2820RA		*	*	*	*		
1N2820RB		*	*	*	*		
*1N2820RB		*			*		
1N2821	*	*	*	*	*	*	*
1N2821 A		*	*	*	*		*
1N2821 B		*	*	*	*		*
*1N2821 B				*			
1N2821R		*	*	*	*		
1N2821RA		*	*	*	*		
1N2821RB		*	*	*	*		
1N2822		*	*	*	*	*	*
1N2822 A		*	*	*	*		*
1N2822 B		*	*	*	*		*
*1N2822 B		*		*	*		
1N2822R		*	*	*	*		
1N2822RA		*	*	*	*		
1N2822RB		*	*	*	*		
*1N2822RB		*			*		
1N2823	*	*	*	*	*	*	*
1N2823 A		*	*	*	*		*
1N2823 B		*	*	*	*		*
*1N2823 B		*		*	*		
1N2823R		*	*	*	*		
1N2823RA		*	*	*	*		
1N2823RB		*	*	*	*		
*1N2823RB		*			*		
1N2824	*	*	*	*	*	*	*
1N2824 A		*	*	*	*		*
1N2824 B		*	*	*	*		*
*1N2824 B		*		*	*		
1N2824R		*	*	*	*		
1N2824RA		*	*	*	*		

THE '72 MASTER 16th EDITION	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	MOTOROLA SEMI.	TRANSITRON	UNITED-PAGE
1N2824RB		*	*	*	*		
*1N2824RB		*			*		
1N2825	*	*	*	*	*	*	*
1N2825 A		*	*	*	*		*
1N2825 B		*	*	*	*		*
*1N2825 B		*		*	*		
1N2825R		*	*	*	*		
1N2825RA		*	*	*	*		
1N2825RB		*	*	*	*		
*1N2825RB		*			*		
1N2826	*	*	*	*	*	*	*
1N2826 A		*	*	*	*		*
1N2826 B		*	*	*	*		*
*1N2826 B		*		*	*		
1N2826R		*	*	*	*		
1N2826RA		*	*	*	*		
1N2826RB		*	*	*	*		
*1N2826RB		*			*		
1N2827	*	*	*	*	*	*	*
1N2827 A		*	*	*	*		*
1N2827 B		*	*	*	*		*
*1N2827 B		*		*	*		
1N2827R		*	*	*	*		
1N2827RA		*	*	*	*		
1N2827RB		*	*	*	*		
*1N2827RB		*			*		
1N2828	*	*	*	*	*	*	*
1N2828 A		*	*	*	*		*
1N2828 B		*	*	*	*		*
*1N2828 B				*			
1N2828R		*	*	*	*		
1N2828RA		*	*	*	*		
1N2828RB		*	*	*	*		
1N2829	*	*	*		*	*	*
1N2829 A		*	*		*		*
1N2829 B		*	*		*		*
*1N2829 B		*		*	*		
1N2829R		*	*		*		
1N2829RA		*	*		*		
1N2829RB		*	*		*		
*1N2829RB		*			*		
1N2830	*	*	*		*	*	*
1N2830 A		*	*		*		*
1N2830 B		*	*		*		*
*1N2830 B				*	*		
1N2830R		*	*		*		
1N2830RA		*	*		*		
1N2830RB		*	*		*		
1N2831	*	*	*		*	*	*
1N2831 A		*	*		*		*
1N2831 B		*	*		*		*
*1N2831 B		*		*	*		
1N2831R		*	*		*		
1N2831RA		*	*		*		
1N2831RB		*	*		*		
*1N2831RB		*			*		
1N2832	*	*	*		*	*	*
1N2832 A		*	*		*		*
1N2832 B		*	*		*		*
*1N2832 B		*		*	*		
1N2832R		*	*		*		
1N2832RA		*	*		*		
1N2832RB		*	*		*		
*1N2832RB		*			*		
1N2833	*	*	*		*	*	*
1N2833 A		*	*		*		*
1N2833 B		*	*		*		*
*1N2833 B		*		*	*		
1N2833R		*	*		*		
1N2833RA		*	*		*		
1N2833RB		*	*		*		
*1N2833RB		*			*		
1N2834	*	*	*		*	*	*
1N2834 A		*	*		*		*
1N2834 B		*	*		*		*
*1N2834 B		*		*	*		
1N2834R		*	*		*		
1N2834RA		*	*		*		
1N2834RB		*	*		*		
*1N2834RB		*			*		
1N2835	*	*	*		*	*	*
1N2835 A		*	*		*		*
1N2835 B		*	*		*		*
*1N2835 B		*		*	*		
1N2835R		*	*		*		
1N2835RA		*	*		*		
1N2835RB		*	*		*		
*1N2835RB		*			*		
1N2836	*	*	*		*	*	*
1N2836 A		*	*		*		*
1N2836 B		*	*		*		*
*1N2836 B		*		*	*		
1N2836R		*	*				
1N2836RA		*	*		*		
1N2836RB		*	*		*		
*1N2836RB		*			*		
1N2837	*	*	*		*	*	*
1N2837 A		*	*		*		*
1N2837 B		*	*		*		*
*1N2837 B		*		*	*		
1N2837R		*	*		*		
1N2837RA		*	*		*		

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N2837RB			*		*			*						
*1N2837RB			*					*						
1N2838		*	*		*			*					*	*
1N2838 A			*		*			*						*
1N2838 B			*		*			*						*
*1N2838 B								*						
1N2838R			*		*			*						
1N2838RA			*		*			*						
1N2838RB			*		*			*						
*1N2838RB								*						
1N2839		*	*		*		*	*					*	*
1N2839 A			*		*		*	*						*
1N2839 B			*		*		*	*						*
*1N2839 B								*						
1N2839R			*		*		*	*						
1N2839RA			*		*		*	*						
1N2839RB			*		*		*	*						
1N2840		*	*		*		*	*					*	*
1N2840 A			*		*		*	*						*
1N2840 B			*		*		*	*						*
*1N2840 B								*						
1N2840R			*		*		*	*						
1N2840RA			*		*		*	*						
1N2840RB			*		*		*	*						
*1N2840RB								*						
1N2841		*	*		*		*	*					*	*
1N2841 A			*		*		*	*						*
1N2841 B			*		*		*	*						*
*1N2841 B								*						
1N2841R			*		*		*	*						
1N2841RA			*		*		*	*						
1N2841RB			*		*		*	*						
*1N2841RB								*						
1N2842		*	*		*		*	*					*	*
1N2842 A			*		*		*	*						*
1N2842 B			*		*		*	*						*
*1N2842 B								*						
1N2842R			*		*		*	*						
1N2842RA			*		*		*	*						
1N2842RB			*		*		*	*						
*1N2842RB								*						
1N2843		*	*		*		*	*					*	*
1N2843 A			*		*		*	*						*
1N2843 B			*		*		*	*						*
*1N2843 B								*						
1N2843R			*		*		*	*						
1N2843RA			*		*		*	*						
1N2843RB			*		*		*	*						
*1N2843RB								*						
1N2844		*	*		*		*	*					*	*
1N2844 A			*		*		*	*						*
1N2844 B			*		*		*	*						*
*1N2844 B								*						
1N2844R			*		*		*	*						
1N2844RA			*		*		*	*						
1N2844RB			*		*		*	*						
*1N2844RB								*						
1N2845			*		*		*	*					*	*
1N2845 A			*		*		*	*						*
1N2845 B			*		*		*	*						*
*1N2845 B								*						
1N2845R			*		*		*	*						
1N2845RA			*		*		*	*						
1N2845RB			*		*		*	*						
*1N2845RB								*						
1N2846			*		*		*	*					*	*
1N2846 A			*		*		*	*						*
1N2846 B			*		*		*	*						*
*1N2846 B								*						
1N2846R			*		*		*	*						
1N2846RA			*		*		*	*						
1N2846RB			*		*		*	*						
*1N2846RB								*						
1N2847											*		*	*
1N2848											*		*	*
1N2849													*	*
1N2850													*	*
1N2851											*		*	*
1N2852		*									*		*	*
1N2858		*			*					*	*		*	*
1N2858 A		*		*	*				*		*			*
1N2859		*			*					*	*		*	*
1N2859 A		*		*	*				*		*			*
1N2860		*			*					*	*		*	*
1N2860 A				*					*		*			*
1N2861		*			*					*	*		*	*
1N2861 A		*		*	*				*		*			*
1N2862		*			*					*	*		*	*
1N2862 A		*		*	*				*		*			*
1N2863		*			*					*	*		*	*
1N2863 A				*	*				*		*			*
1N2864		*								*	*		*	*
1N2864 A		*		*	*				*		*			*
1N2865		*												
1N2866		*												
1N2878	*					*					*	*		*
1N2879	*	*				*					*	*		*
1N2880	*										*	*		*
1N2881	*	*									*	*		*
1N2882	*										*	*		*
1N2883	*	*									*	*		*
1N2884	*										*	*		*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N2885		*	*							*		*			*
1N2886		*								*		*			*
1N2887		*	*							*		*			*
1N2888		*										*			*
1N2889		*	*							*		*			*
1N2890		*								*		*			*
1N2891		*	*							*		*			*
1N2892		*								*		*			*
1N2893		*	*							*		*			*
1N2894		*								*		*			*
1N2895		*	*							*		*			*
1N2896		*								*		*			*
1N2897		*	*							*		*			*
1N2898		*								*		*			*
1N2899		*	*							*		*			*
1N2900		*								*		*			*
1N2901		*	*							*		*			*
1N2902		*										*			*
1N2903		*	*									*			*
1N2904		*										*			*
1N2905		*	*									*			*
1N2906		*										*			*
1N2907		*	*									*			*
1N2908		*										*			*
1N2909		*	*									*			*
1N2910		*										*			*
1N2911		*	*									*			*
1N2912		*										*			*
1N2913		*	*									*			*
1N2914		*										*			*
1N2915		*	*									*			*
1N2916		*										*			*
1N2917		*	*									*			*
1N2918		*										*			*
1N2919		*	*									*			*
1N2920		*										*			*
1N2921		*	*									*			*
1N2922		*										*			*
1N2923		*	*									*			*
1N2924		*										*			*
1N2925		*	*												*
1N2926															
1N2927	*											*			
1N2927 A	*											*			
1N2928	*											*			
1N2928 A	*											*			
1N2929	*											*			
1N2929 A	*											*			
1N2930	*											*			
1N2930 A	*											*			
1N2931	*											*			
1N2931 A	*											*			
1N2932	*											*			
1N2932 A	*											*			
1N2933	*											*			
1N2933 A	*											*			
1N2934	*											*			
1N2934 A	*											*			
1N2937												*	*		
1N2938												*	*		
1N2939															
1N2939 A															
1N2940															
1N2940 A															
1N2941															
1N2941 A															
1N2969															
1N2969 A															
1N2970			*	*	*	*	*	*		*		*	*	*	
1N2970 A			*	*	*	*	*	*	*	*		*		*	
1N2970 B			*	*	*	*	*	*	*	*	*			*	
*1N2970 B				*		*		*							
1N2970 R				*	*	*	*	*							
1N2970RA				*	*	*		*							
1N2970RB					*	*		*							
*1N2970RB				*				*							
1N2971			*	*	*	*	*	*		*		*	*	*	
1N2971 A			*	*	*	*	*	*	*	*				*	
1N2971 B			*	*	*	*	*	*	*	*				*	
*1N2971 B				*		*		*							
1N2971 R				*	*	*	*	*							
1N2971RA				*	*	*		*							
1N2971RB					*	*		*							
*1N2971RB				*				*							
1N2972			*	*	*	*	*	*		*		*	*	*	
1N2972 A				*	*	*	*	*	*	*				*	
1N2972 B					*	*	*	*	*	*				*	
*1N2972 B				*		*		*							
1N2972 R					*	*	*	*							
1N2972RA					*	*		*							
1N2972RB						*		*							
*1N2972RB				*				*							
1N2973				*	*	*	*	*		*		*	*	*	
1N2973 A				*	*	*	*	*	*	*				*	
1N2973 B			*	*	*	*	*	*	*	*				*	
*1N2973 B				*		*		*							
1N2973 R				*	*	*	*	*							
1N2973RA				*	*	*		*							
1N2973RB					*	*		*							
*1N2973RB				*				*							
1N2974				*	*	*	*	*		*		*	*	*	
1N2974 A				*	*	*	*	*	*	*				*	

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2974 B		*	*	*	*	*	*	*	*		*		*
2974 B		*		*		*							
2974 R		*	*	*	*	*							
2974RA		*		*		*							
2974RB				*		*							
2974RB		*				*							
2975		*	*	*	*	*		*		*	*	*	*
2975 A		*	*	*	*	*	*	*			*		*
2975 B		*	*	*	*	*	*	*			*		*
2975 B		*		*		*							
2975 R		*		*	*	*							
2975BR									*				
2975RA		*		*		*							
2975RB				*		*							
2975RB		*				*							
2976		*	*	*	*	*		*		*	*	*	*
2976 A		*	*	*	*	*	*	*			*		*
2976 B		*	*	*	*	*	*	*			*		*
2976 B		*		*		*							
2976 R		*		*	*	*							
2976RA		*		*		*							
2976RB				*		*							
2976RB		*				*							
2977	*	*	*	*	*	*		*		*	*	*	*
2977 A		*	*	*	*	*	*	*			*		*
2977 B		*	*	*	*	*	*	*			*		*
2977 B		*		*		*							
2977 R		*		*	*	*							
2977RA		*		*		*							
2977RB				*		*							
2977RB		*				*							
2978	*	*	*	*	*	*		*		*	*		*
2978 A	*	*	*	*	*	*	*	*			*		*
2978 B	*	*	*	*	*	*	*	*			*		*
2978 B				*									
2978 R		*		*	*	*							
2978RA		*		*		*							
2978RB				*		*							
2979		*	*	*	*	*		*		*	*	*	*
2979 A	*	*	*	*	*	*	*	*			*		*
2979 B	*	*	*	*	*	*	*	*	*		*		*
2979 B		*		*		*							
2979 R		*		*	*	*							
2979RA		*		*		*							
2979RB				*		*							
2979RB		*				*							
2980	*	*	*	*	*	*		*		*	*	*	*
2980 A		*	*	*	*	*	*	*			*		*
2980 B		*	*	*	*	*	*	*			*		*
2980 B		*		*		*							
2980 R		*		*	*	*							
2980RA		*		*		*							
2980RB				*		*							
2980RB		*				*							
2981	*	*	*	*	*	*		*		*	*		*
2981 A	*	*	*	*	*	*	*	*			*		*
2981 B	*	*	*	*	*	*	*	*			*		*
2981 B				*									
2981 R		*		*	*	*							
2981RA		*		*		*							
2981RB				*		*							
2982	*	*	*	*	*	*		*		*	*	*	*
2982 A	*	*	*	*	*	*	*	*			*		*
2982 B	*	*	*	*	*	*	*	*	*		*		*
2982 B		*		*		*							
2982 R		*		*	*	*							
2982RA		*		*		*	*						
2982RB				*		*	*						
2982RB		*				*							
2983	*	*	*	*	*	*		*		*	*		*
2983 A	*	*	*	*	*	*	*	*			*		*
2983 B	*	*	*	*	*	*	*	*			*		*
2983 B				*									
2983 R		*		*	*	*							
2983RA		*		*		*	*						
2983RB				*		*	*						
2984		*	*	*	*	*		*		*	*	*	*
2984 A		*	*	*	*	*	*	*			*		*
2984 B		*	*	*	*	*	*	*	*		*		*
2984 B		*		*		*							
2984 R		*		*	*	*							
2984RA		*		*		*	*						
2984RB				*		*	*						
2984RB		*				*							
2985		*	*	*	*	*		*		*	*	*	*
2985 A		*	*	*	*	*	*	*			*		*
2985 B		*	*	*	*	*	*	*	*		*		*
2985 B		*		*		*							
2985 R		*		*	*	*							
2985RA		*		*		*	*						
2985RB				*		*	*						
2985RB		*				*							
2986	*	*	*	*	*	*		*	*	*	*	*	*
2986 A	*	*	*	*	*	*	*	*			*		*
2986 B		*	*	*	*	*	*	*			*		*
2986 B		*		*		*							
2986 R		*		*	*	*							
2986RA		*		*		*	*						
2986RB				*		*	*						
2986RB		*				*							
2987	*	*	*	*	*	*		*		*	*		*
2987 A	*	*	*	*	*	*	*	*			*		*

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N2987 B	*	*	*	*	*	*	*	*			*		*
*1N2987 B				*									
1N2987 R		*		*	*	*							
1N2987RA		*				*	*						
1N2987RB				*		*	*						
1N2988	*	*	*	*	*	*		*	*	*	*	*	*
1N2988 A	*	*	*	*	*	*	*	*			*		*
1N2988 B	*	*	*	*	*	*	*	*			*		*
*1N2988 B		*		*		*							
1N2988 R		*		*	*	*							
1N2988RA		*		*		*	*						
1N2988RB				*		*	*						
*1N2988RB		*				*							
1N2989	*	*	*	*	*	*		*	*	*	*	*	*
1N2989 A	*	*	*	*	*	*	*	*			*		*
1N2989 B	*	*	*	*	*	*	*	*			*		*
*1N2989 B		*		*		*							
1N2989 R		*		*	*	*							
1N2989RA		*		*		*	*						
1N2989RB				*		*	*						
*1N2989RB		*				*							
1N2990	*	*	*	*	*	*		*		*	*	*	*
1N2990 A	*	*	*	*	*	*	*	*			*		*
1N2990 B	*	*	*	*	*	*	*	*			*		*
*1N2990 B		*		*		*							
1N2990 R		*		*	*	*							
1N2990RA		*		*		*	*						
1N2990RB				*		*	*						
*1N2990RB		*				*							
1N2991	*	*	*	*	*	*		*		*	*	*	*
1N2991 A	*	*	*	*	*	*	*	*			*		*
1N2991 B	*	*	*	*	*	*	*	*			*		*
*1N2991 B		*		*		*							
1N2991 R		*		*	*	*							
1N2991RA		*		*		*	*						
1N2991RB				*		*	*						
*1N2991RB		*				*							
1N2992	*	*	*	*	*	*		*		*	*	*	*
1N2992 A	*	*	*	*	*	*	*	*			*		*
1N2992 B	*	*	*	*	*	*	*	*			*		*
*1N2992 B		*		*		*							
1N2992 R		*		*	*	*							
1N2992RA		*		*		*	*						
1N2992RB				*		*	*						
*1N2992RB		*				*							
1N2993	*	*	*	*	*	*		*		*	*	*	*
1N2993 A	*	*	*	*	*	*	*	*			*		*
1N2993 B	*		*	*	*	*	*	*			*		*
*1N2993 B		*		*		*							
1N2993 R		*		*	*	*							
1N2993RA		*		*		*	*						
1N2993RB				*		*	*						
*1N2993RB		*				*							
1N2994	*	*	*	*	*	*		*		*	*		*
1N2994 A	*	*	*	*	*	*	*	*			*		*
1N2994 B	*	*	*	*	*	*	*	*			*		*
*1N2994 B		*		*									
1N2994 R		*		*	*	*							
1N2994RA		*		*		*	*						
1N2994RB				*		*	*						
1N2995	*	*	*	*	*	*		*		*	*	*	*
1N2995 A	*	*	*	*	*	*	*	*			*		*
1N2995 B	*	*	*	*	*	*	*	*			*		*
*1N2995 B		*		*		*							
1N2995 R		*		*	*	*							
1N2995RA		*		*		*	*						
1N2995RB				*		*	*						
*1N2995RB		*				*							
1N2996	*	*	*	*	*	*		*		*	*		*
1N2996 A	*	*	*	*	*	*	*	*			*		*
1N2996 B	*	*	*	*	*	*	*	*			*		*
*1N2996 B		*		*									
1N2996 R		*		*	*	*							
1N2996RA		*		*		*	*						
1N2996RB				*		*	*						
1N2997	*	*	*	*	*	*		*		*	*	*	*
1N2997 A	*	*	*	*	*	*	*	*			*		*
1N2997 B	*	*	*	*	*	*	*	*			*		*
*1N2997 B		*		*		*							
1N2997 R		*		*	*	*							
1N2997RA		*		*		*	*						
1N2997RB				*		*	*						
*1N2997RB		*				*							
1N2998	*	*	*	*	*	*		*		*	*		*
1N2998 A	*	*	*	*	*	*	*	*			*		*
1N2998 B	*	*	*	*	*	*	*	*			*		*
*1N2998 B				*									
1N2998 R		*		*	*	*							
1N2998RA		*		*		*	*						
1N2998RB				*		*	*						
1N2999	*	*	*	*	*	*		*		*	*	*	*
1N2999 A	*	*	*	*	*	*	*	*			*		*
1N2999 B	*	*	*	*	*	*	*	*			*		*
*1N2999 B		*		*		*							
1N2999 R		*		*	*	*							
1N2999RA		*		*		*	*						
1N2999RB				*		*	*						
*1N2999RB		*				*							
1N3000	*	*	*	*	*	*		*		*	*	*	*
1N3000 A	*	*	*	*	*	*	*	*			*		*
1N3000 B	*	*	*	*	*	*	*	*			*		*
*1N3000 B		*		*		*							

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N3000 R		*		*	*	*							
1N3000RA		*		*		*	*						
1N3000RB						*	*						
*1N3000RB		*				*							
1N3001	*	*		*	*	*		*		*	*	*	*
1N3001 A	*	*	*	*	*	*	*	*			*		*
1N3001 B	*	*	*	*	*	*	*	*			*		*
*1N3001 B		*		*		*							
1N3001 R		*		*	*	*							
1N3001RA		*		*		*	*						
1N3001RB				*		*	*						
*1N3001RB		*				*							
1N3002	*	*	*	*	*	*		*		*	*	*	*
1N3002 A	*	*	*	*	*	*	*	*			*		*
1N3002 B	*	*	*	*	*	*	*	*			*		*
*1N3002 B		*		*		*							
1N3002 R		*		*	*	*							
1N3002RA		*		*		*	*						
1N3002RB				*		*	*						
*1N3002RB		*				*							
1N3003	*	*	*	*	*	*		*	*	*	*	*	*
1N3003 A	*	*	*	*	*	*	*	*	*		*		*
1N3003 B	*	*	*	*	*	*	*	*			*		*
*1N3003 B		*		*		*							
1N3003 R		*		*	*	*							
1N3003RA		*		*		*	*						
1N3003RB				*		*	*						
*1N3003RB		*				*							
1N3004	*	*	*	*	*	*		*		*	*	*	*
1N3004 A	*	*	*	*	*	*	*	*			*		*
1N3004 B	*	*	*	*	*	*	*	*			*		*
*1N3004 B		*		*		*							
1N3004 R		*		*	*	*							
1N3004RA		*		*		*	*						
1N3004RB				*		*	*						
*1N3004RB		*				*							
1N3005	*	*	*	*	*	*		*		*	*	*	*
1N3005 A	*	*	*	*	*	*	*	*			*		*
1N3005 B		*	*	*	*	*	*	*			*		*
*1N3005 B		*		*		*							
1N3005 R		*		*	*	*							
1N3005RA		*		*		*	*						
1N3005RB				*		*	*						
*1N3005RB		*				*							
1N3006	*	*	*	*	*	*		*		*	*		*
1N3006 A	*	*	*	*	*	*	*	*			*		*
1N3006 B	*	*	*	*	*	*	*	*	*		*		*
*1N3006 B				*									
1N3006 R		*		*	*	*							
1N3006RA		*		*		*	*						
1N3006RB				*		*	*						
1N3007	*	*	*	*	*	*		*		*	*	*	*
1N3007 A	*	*	*	*	*	*	*	*			*		*
1N3007 B	*	*	*	*	*	*	*	*			*		*
*1N3007 B		*		*		*							
1N3007 R		*		*	*	*							
1N3007RA		*		*		*	*						
1N3007RB				*		*	*						
*1N3007RB		*				*							
1N3008	*	*	*	*	*	*		*	*	*	*	*	*
1N3008 A	*	*	*	*	*	*	*	*			*		*
1N3008 B	*	*	*	*	*	*	*	*			*		*
*1N3008 B		*		*		*							
1N3008 R		*		*	*	*							
1N3008RA		*		*		*	*						
1N3008RB				*		*	*						
*1N3008RB		*				*							
1N3009	*	*	*	*	*	*		*		*	*	*	*
1N3009 A	*	*	*	*	*	*	*	*			*		*
1N3009 B	*	*	*	*	*	*	*	*			*		*
*1N3009 B		*		*		*							
1N3009 R		*		*	*	*							
1N3009RA		*		*		*	*						
1N3009RB				*		*	*						
*1N3009RB		*				*							
1N3010	*	*	*	*	*	*		*		*	*		*
1N3010 A	*	*	*	*	*	*	*	*			*		*
1N3010 B	*	*	*	*	*	*	*	*			*		*
*1N3010 B				*									
1N3010 R		*		*	*	*							
1N3010RA		*		*		*	*						
1N3010RB				*		*	*						
1N3011	*	*	*	*	*	*		*		*	*	*	*
1N3011 A	*	*	*	*	*	*	*	*			*		*
1N3011 B	*	*	*	*	*	*	*	*			*		*
*1N3011 B		*		*		*							
1N3011 R		*		*	*	*							
1N3011RA		*		*		*	*						
1N3011RB				*		*	*						
*1N3011RB		*				*							
1N3012	*	*	*	*	*	*		*		*		*	*
1N3012 A	*	*	*	*	*	*	*	*					*
1N3012 B	*	*	*	*	*	*	*	*	*				*
*1N3012 B				*		*							
1N3012 R		*		*	*	*							
1N3012RA		*		*		*	*						
1N3012RB				*		*	*						
*1N3012RB						*							
1N3013	*	*	*	*	*	*		*		*			*
1N3013 A	*	*	*	*	*	*	*	*					*
1N3013 B	*	*	*	*	*	*	*	*					*
*1N3013 B				*									

THE '72 MASTER 36th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3013 R			*		*	*	*						
1N3013RA			*		*		*	*					
1N3013RB					*		*	*					
1N3014		*	*	*	*		*		*		*	*	*
1N3014 A		*	*	*	*		*	*	*				*
1N3014 B		*	*	*	*		*	*	*				*
*1N3014 B					*		*						
1N3014 R			*		*	*	*						
1N3014RA			*		*		*	*					
1N3014RB					*		*	*					
*1N3014RB							*						
1N3015		*	*	*	*		*		*		*	*	*
1N3015 A		*	*	*	*		*	*	*				*
1N3015 B		*	*	*	*		*	*	*				*
*1N3015 B					*		*						
1N3015 R			*		*	*	*						
1N3015RA			*		*		*	*					
1N3015RB					*		*	*					
*1N3015RB							*						
1N3016	*	*	*	*	*		*		*		*	*	*
1N3016 A	*		*	*	*		*	*	*				*
1N3016 B	*		*	*	*		*	*	*				*
*1N3016 B	*		*		*	*	*						
1N3016 R			*				*						
1N3016RA			*				*						
1N3016RB			*				*						
1N3017	*		*	*	*		*		*		*	*	*
1N3017 A	*		*	*	*		*	*	*				*
1N3017 B	*		*	*	*		*	*	*				*
*1N3017 B	*		*		*	*	*						
1N3017 R			*										
1N3017RA			*										
1N3017RB			*										
1N3018	*		*	*	*		*		*	*	*	*	*
1N3018 A	*	*	*	*	*		*	*	*	*			*
1N3018 B	*		*	*	*		*	*	*				*
*1N3018 B	*		*			*	*						
1N3018 R			*				*						
1N3018RA			*										
1N3018RB			*										
1N3019	*	*	*	*	*		*		*		*	*	*
1N3019 A	*		*	*	*		*	*	*				*
1N3019 B	*		*	*	*		*	*	*				*
*1N3019 B	*		*		*	*	*						
1N3019 R			*										
1N3019RA			*										
1N3019RB			*				*						
1N3020	*	*	*	*	*		*		*		*	*	*
1N3020 A	*		*	*	*		*	*	*				*
1N3020 B	*		*	*	*		*	*	*	*			*
*1N3020 B	*		*		*	*	*						
1N3020 R			*				*						
1N3020RA			*										
1N3020RB			*				*						
1N3021	*	*	*	*	*		*		*		*	*	*
1N3021 A	*	*	*	*	*		*	*	*				*
1N3021 B	*	*	*	*	*		*	*	*				*
*1N3021 B	*		*		*	*	*						
1N3021 R			*										
1N3021RA			*										
1N3021RB			*				*						
1N3022	*	*	*	*	*		*		*		*	*	*
1N3022 A	*	*	*	*	*		*	*	*				*
1N3022 B	*	*	*	*	*		*	*	*	*			*
*1N3022 B	*		*		*	*	*						
1N3022 R			*										
1N3022RA			*				*						
1N3022RB			*				*						
1N3023	*	*	*	*	*		*		*		*	*	*
1N3023 A	*	*	*	*	*		*	*	*				*
1N3023 B	*	*	*	*	*		*	*	*				*
*1N3023 B	*		*		*	*	*						
1N3023 R			*										
1N3023RA			*				*						
1N3023RB			*										
1N3024	*	*	*	*	*		*		*		*	*	*
1N3024 A	*	*	*	*	*		*	*	*				*
1N3024 B	*	*	*	*	*		*	*	*				*
*1N3024 B	*		*		*	*	*						
1N3024 R			*										
1N3024RA			*				*						
1N3024RB			*				*						
1N3025	*	*	*	*	*		*		*		*	*	*
1N3025 A	*	*	*	*	*		*	*	*				*
1N3025 B	*	*	*	*	*		*	*	*				*
*1N3025 B	*		*		*	*	*						
1N3025 R			*										
1N3025RA			*				*						
1N3025RB			*										
1N3026	*	*	*	*	*		*		*		*	*	*
1N3026 A	*	*	*	*	*		*	*	*				*
1N3026 B	*	*	*	*	*		*	*	*				*
*1N3026 B	*		*		*	*	*						
1N3026 R			*										
1N3026RA			*				*						
1N3026RB			*				*						
1N3027	*	*	*	*	*		*		*		*	*	*
1N3027 A	*	*	*	*	*		*	*	*				*
1N3027 B	*	*	*	*	*		*	*	*	*			*
*1N3027 B	*		*		*	*	*						
1N3027 R			*										
1N3027RA			*				*						

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3027RB			*				*						
1N3028	*	*	*	*	*				*		*	*	*
1N3028 A	*	*	*	*	*		*	*	*				*
1N3028 B	*	*	*	*	*		*	*	*				*
*1N3028 B	*		*		*	*	*						
1N3028 R			*				*						
1N3028RA			*										
1N3028RB			*										
1N3029	*	*	*	*	*		*		*		*	*	*
1N3029 A	*	*	*	*	*		*	*	*				*
1N3029 B	*	*	*	*	*		*	*	*	*			*
*1N3029 B	*		*		*	*	*						
1N3029 R			*										
1N3029RA			*										
1N3029RB			*										
1N3030	*	*	*	*	*		*		*		*	*	*
1N3030 A	*	*	*	*	*		*	*	*				*
1N3030 B	*	*	*	*	*		*	*	*				*
*1N3030 B	*		*		*	*	*						
1N3030 R			*										
1N3030RA			*										
1N3030RB			*				*						
1N3031	*	*	*	*	*		*		*		*	*	*
1N3031 A	*		*	*	*		*	*	*				*
1N3031 B	*		*	*	*		*	*	*				*
*1N3031 B	*		*		*	*	*						
1N3031 R			*				*						
1N3031RA			*				*						
1N3031RB			*										
1N3032		*	*	*	*		*		*		*	*	*
1N3032 A			*	*	*		*	*	*				*
1N3032 B			*	*	*		*	*	*				*
*1N3032 B			*			*	*						
1N3032 R			*										
1N3032RA			*				*						
1N3032RB			*				*						
1N3033		*	*	*	*		*		*		*	*	*
1N3033 A		*	*	*	*		*	*	*				*
1N3033 B		*	*	*	*		*	*	*				*
*1N3033 B			*			*	*						
1N3033 R			*										
1N3033RA			*				*						
1N3033RB			*				*						
1N3034		*	*	*	*		*		*		*	*	*
1N3034 A		*	*	*	*		*	*	*				*
1N3034 B		*	*	*	*		*	*	*				*
*1N3034 B			*			*	*						
1N3034 R			*										
1N3034RA			*										
1N3034RB			*				*						
1N3035		*	*	*	*		*		*		*	*	*
1N3035 A		*	*	*	*		*	*	*				*
1N3035 B		*	*	*	*		*	*	*				*
*1N3035 B			*			*	*						
1N3035 R			*										
1N3035RA			*										
1N3035RB			*										
1N3036		*	*	*			*		*		*	*	*
1N3036 A		*	*	*			*	*	*				*
1N3036 B		*	*	*			*	*	*				*
*1N3036 B			*		*	*	*						
1N3036 R			*										
1N3036RA			*										
1N3036RB			*										
1N3037		*	*	*			*		*		*	*	*
1N3037 A		*	*	*			*	*	*				*
1N3037 B		*	*	*			*	*	*				*
*1N3037 B			*		*	*	*						
1N3037 R			*										
1N3037RA			*				*						
1N3037RB			*				*						
1N3038		*	*	*			*		*		*	*	*
1N3038 A		*	*	*			*	*	*				*
1N3038 B		*	*	*			*	*	*				*
*1N3038 B			*		*	*	*						
1N3038 R			*										
1N3038RA			*										
1N3038RB			*				*						
1N3039		*	*	*			*		*		*	*	*
1N3039 A		*	*	*			*	*	*				*
1N3039 B		*	*	*			*	*	*				*
*1N3039 B			*		*	*	*						
1N3039 R			*										
1N3039RA			*										
1N3039RB			*										
1N3040		*	*	*			*		*		*	*	*
1N3040 A		*	*	*			*	*	*				*
1N3040 B		*	*	*			*	*	*				*
*1N3040 B			*		*	*	*						
1N3040 R			*										
1N3040RA			*										
1N3040RB			*										
1N3041		*	*	*	*		*		*		*	*	*
1N3041 A		*	*	*	*		*	*	*				*
1N3041 B		*	*	*	*		*	*	*				*
*1N3041 B			*		*	*	*						
1N3041 R			*										
1N3041RA			*										
1N3041RB			*				*						
1N3042		*	*	*	*		*		*		*	*	*
1N3042 A		*	*	*	*		*	*	*				*
1N3042 B		*	*	*	*		*	*	*				*

THE '72 MASTER 16th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
*1N3042 B			*						*	*		*										
1N3042 R			*																			
1N3042RA			*									*										
1N3042RB			*																			
1N3043		*	*		*				*			*			*		*				*	*
1N3043 A		*	*		*				*			*		*	*							*
1N3043 B		*	*		*				*			*		*	*							*
*1N3043 B			*						*	*		*										
1N3043 R			*																			
1N3043RA			*									*										
1N3043RB			*									*										
1N3044		*	*		*				*			*			*		*				*	*
1N3044 A		*	*		*				*			*		*	*							*
1N3044 B		*	*		*				*			*		*	*							*
*1N3044 B			*						*	*		*										
1N3044 R			*																			
1N3044RA			*									*										
1N3044RB			*																			
1N3045		*	*		*				*			*			*		*				*	*
1N3045 A		*	*		*				*			*		*	*							*
1N3045 B		*	*		*				*			*		*	*							*
*1N3045 B			*						*	*		*										
1N3045 R			*																			
1N3045RA			*																			
1N3045RB			*																			
1N3046		*	*		*				*			*			*						*	*
1N3046 A		*	*		*				*			*		*	*							*
1N3046 B		*	*		*				*			*		*	*							*
*1N3046 B			*						*	*		*										
1N3046 R			*																			
1N3046RA			*																			
1N3046RB			*																			
1N3047		*	*		*				*			*			*						*	*
1N3047 A		*	*		*				*			*		*	*							*
1N3047 B		*	*		*				*			*		*	*							*
*1N3047 B			*						*	*		*										
1N3047 R			*																			
1N3047RA			*																			
1N3047RB			*																			
1N3048		*	*		*				*			*			*		*				*	*
1N3048 A		*	*		*				*			*		*	*							*
1N3048 B		*	*		*				*			*		*	*							*
*1N3048 B			*						*	*		*										
1N3048 R			*									*										
1N3048RA			*									*										
1N3048RB			*									*										
1N3049		*	*		*				*			*			*		*				*	*
1N3049 A		*	*		*				*			*		*	*							*
1N3049 B			*		*				*			*		*	*							*
*1N3049 B									*	*		*										
1N3049 R			*																			
1N3049RA			*																			
1N3049RB			*																			
1N3050		*	*		*				*			*			*		*				*	*
1N3050 A		*	*		*				*			*		*	*							*
1N3050 B			*		*				*			*		*	*							*
*1N3050 B									*			*										
1N3050 R			*																			
1N3050RA			*																			
1N3050RB			*																			
1N3051		*	*		*				*			*			*		*				*	*
1N3051 A		*	*		*				*			*		*	*							*
1N3051 B			*		*				*			*		*	*							*
*1N3051 B									*			*										
1N3051 R			*																			
1N3051RA			*																			
1N3051RB			*																			
1N3052	*	*	*	*											*	*	*				*	*
1N3053	*	*	*	*											*	*	*				*	*
1N3054	*	*	*	*								*			*	*	*				*	*
*1N3054												*										
1N3054 A												*										
1N3055	*	*	*	*								*			*	*	*				*	*
*1N3055												*										
1N3055 A												*										
1N3056	*	*	*	*								*			*		*				*	*
*1N3056												*										
1N3056 A												*										
1N3057	*	*	*	*								*			*		*				*	*
*1N3057												*										
1N3057 A												*										
1N3058	*	*	*	*											*		*				*	*
1N3059	*	*	*	*											*		*				*	*
1N3060	*	*	*	*											*		*				*	*
1N3061	*	*	*	*											*		*				*	*
1N3062	*	*				*	*	*		*		*				*	*	*			*	*
1N3063	*	*				*	*	*	*	*		*				*	*	*			*	*
1N3064	*	*				*	*	*	*	*		*			*	*	*	*	*		*	*
*1N3064						*			*			*										
1N3065	*	*				*	*	*	*	*		*				*		*			*	*
1N3066	*	*				*	*	*	*	*		*			*	*		*			*	*
1N3067	*	*				*	*	*				*			*	*	*	*			*	*
1N3068	*	*				*	*	*				*				*	*	*			*	*
1N3069	*	*				*		*				*				*	*	*			*	*
1N3070		*				*	*							*								
*1N3070						*						*										
1N3071						*	*							*	*			*	*		*	*
1N3072		*						*													*	*
*1N3072 A			*																			
1N3073		*						*													*	*
1N3074		*						*													*	*
1N3075		*						*													*	*

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	KMC SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N3076				*			*											*	*	
1N3077				*			*											*	*	
1N3078				*			*											*	*	
1N3079				*			*											*	*	
1N3080				*			*											*	*	
1N3081				*			*											*	*	
1N3082				*														*	*	
1N3083				*														*	*	
1N3084				*														*	*	
1N3085				*				*				*							*	
1N3085 R								*												
1N3086								*				*							*	
1N3086 R								*												
1N3087								*				*							*	
1N3087 R								*												
1N3088								*				*							*	
1N3088 R								*												
1N3089								*				*							*	
1N3089 R								*												
1N3090								*				*							*	
1N3090 R								*												
1N3091								*				*							*	
1N3091 R								*												
1N3092								*				*							*	
1N3092 R								*												
1N3097																			*	
1N3098												*							*	
1N3098 A												*							*	
1N3099												*							*	
1N3099 A												*							*	
1N3100												*							*	
1N3100 A												*							*	
1N3101																			*	
1N3101 A																			*	
1N3102				*															*	
1N3103																			*	
1N3104																			*	
1N3105																			*	
1N3106				*															*	
1N3107				*																
1N3110								*				*							*	
1N3111								*				*							*	
1N3111 R								*												
1N3112																			*	
1N3118										*									*	
1N3121	*																		*	
1N3122	*											*							*	
1N3123			*	*				*				*	*			*	*		*	
1N3124			*	*				*				*	*			*	*		*	
1N3125				*			*	*					*						*	
1N3128				*						*									*	
1N3129										*									*	
1N3130										*									*	
1N3138										*										
1N3139												*			*					
1N3140												*			*					
1N3141												*			*					
1N3142												*								
1N3143																			*	
1N3146								*				*							*	
1N3147																*	*		*	
1N3148													*			*	*		*	
1N3149																			*	
1N3150																			*	
1N3151														*						
1N3154		*	*	*	*			*								*	*	*	*	
*1N3154					*															
1N3154 A		*	*		*			*								*	*	*	*	
1N3155		*	*	*	*			*								*	*	*	*	
*1N3155					*															
1N3155 A		*	*		*			*								*	*	*	*	
1N3156		*	*		*			*								*	*	*	*	
*1N3156					*															
1N3156 A		*	*	*	*			*								*	*	*	*	
1N3157		*	*	*	*			*								*	*	*	*	
*1N3157					*															
1N3157 A		*	*		*												*	*	*	
1N3159												*								
1N3161				*				*				*			*				*	*
1N3161R																				*
1N3162				*				*			*	*			*				*	*
1N3162 R																				*
1N3163				*				*			*	*			*				*	*
1N3163 R																				*
1N3164						*		*			*	*			*				*	*
*1N3164																				*
1N3164 R																				*
1N3165								*			*	*			*				*	*
1N3165 R																				*
1N3166				*				*			*	*			*				*	*
1N3166 R																				*
1N3167				*				*			*	*			*				*	*
1N3167 R																				*
1N3168				*		*		*			*	*			*				*	*
*1N3168																				*
1N3168 R																				*
1N3169								*			*	*	*		*				*	*
1N3169 R																				*
1N3170				*				*			*	*			*				*	*
*1N3170																				*
1N3170 R																				*
1N3171								*			*	*							*	*

THE '72 MASTER 56th EDITION

	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	DELCO ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/MT. VIEW	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
1N3171 A										*				*		*			*				*	
1N3171 R																								*
1N3172										*				*		*							*	*
1N3172 A			*							*						*			*				*	
1N3172 R																								*
1N3173										*				*		*							*	*
1N3173 A										*						*			*				*	
1N3173 R																								*
1N3174										*				*		*							*	*
1N3174 A			*							*						*			*				*	
1N3174 R																								*
1N3175														*		*								
1N3176																*								
1N3177																*								
1N3180																							*	
1N3181												*											*	
1N3182	*	*	*															*					*	
1N3183			*															*					*	
1N3184			*															*					*	
1N3185			*															*					*	
1N3186																	*	*					*	
1N3187																		*					*	
1N3188																	*	*					*	
1N3189			*					*		*				*	*	*	*	*	*		*		*	
*1N3189								*		*					*									
1N3190			*					*		*				*	*	*		*	*		*		*	
*1N3190								*		*					*									
1N3191			*					*		*				*	*	*		*	*		*		*	
*1N3191								*		*					*									
1N3192																							*	
1N3193					*								*			*	*	*	*		*		*	
1N3194			*		*								*			*	*	*	*		*		*	
1N3195			*		*								*			*		*	*		*		*	
1N3196					*								*			*		*	*		*		*	
1N3197																*							*	
1N3198																							*	
1N3199		*																		*	*		*	
1N3200		*																		*	*		*	
1N3201		*																		*	*		*	
1N3202		*																		*	*		*	
1N3203								*															*	
1N3204																							*	
1N3205																							*	
1N3205MR																							*	
1N3205R																							*	
1N3206		*									*											*	*	
1N3207		*																				*	*	
*1N3207																						*		
1N3208			*	*		*	*		*			*		*		*	*	*	*		*		*	*
1N3208 R				*		*			*			*												
1N3209			*	*		*	*		*	*		*		*		*		*	*		*		*	*
1N3209 R				*		*			*	*		*					*							
1N3210			*	*		*	*		*	*		*		*		*	*	*	*		*		*	*
1N3210 R				*		*			*	*		*												
1N3211			*			*	*		*	*		*		*		*	*	*	*		*		*	*
1N3211 R						*			*	*		*												
1N3212			*			*	*		*	*		*		*		*		*	*		*		*	*
1N3212 R						*			*	*		*					*							
1N3213			*			*	*		*	*		*		*		*		*			*		*	*
1N3213 R						*			*	*		*												
1N3214			*				*		*	*		*		*		*		*			*		*	*
1N3214 R									*	*		*												
1N3223																*							*	
1N3225																							*	
1N3227																							*	
1N3228																							*	
1N3229																							*	
1N3230																							*	
1N3231																							*	
1N3232																							*	
1N3233																							*	
1N3234																							*	
1N3235																							*	
1N3236																							*	
1N3237																							*	
1N3238																							*	
1N3239																							*	
1N3240																							*	
1N3241																							*	
1N3242																							*	
1N3243																							*	
1N3244																							*	
1N3245																							*	
1N3246																							*	
1N3247																							*	
1N3248																							*	
1N3249																							*	
1N3250																							*	
1N3251																							*	
1N3252																							*	
1N3253					*								*					*			*		*	
1N3254			*		*								*					*			*		*	
1N3255			*		*								*					*			*		*	
1N3256			*		*								*					*			*		*	
1N3257		*	*																		*		*	
1N3258		*	*																		*		*	
1N3260			*			*	*							*		*			*				*	*
1N3260 R							*																	*
1N3261						*	*							*		*			*				*	*
1N3261 R							*																	*
1N3262			*			*	*							*		*			*				*	*
1N3262 R							*																	*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEVI	SYNTRON	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N3263		*	*	*						*	*	*		*	*
*1N3263															*
1N3263 R				*											*
1N3264			*	*						*	*	*		*	*
1N3264 R				*											*
1N3265		*	*	*	*					*	*	*		*	*
1N3265 R				*											*
1N3266		*	*	*						*	*	*		*	*
1N3266 R				*											*
1N3267		*	*	*						*	*	*		*	*
*1N3267															*
1N3267 R				*											*
1N3268		*		*						*		*		*	*
1N3268 R				*											*
1N3269		*		*						*	*	*		*	*
*1N3269															*
1N3269 R				*											*
1N3270		*		*						*	*	*		*	*
1N3270 R				*											*
1N3271		*		*						*	*	*		*	*
1N3271 R				*											*
1N3272				*						*	*	*		*	*
1N3272 R				*											*
1N3273				*						*	*	*		*	*
1N3273 R				*											*
1N3274										*	*	*		*	*
1N3274 R															*
1N3275											*			*	*
1N3275 R															*
1N3276											*			*	*
1N3276 R															*
1N3277		*	*							*				*	
1N3278		*	*											*	
1N3279		*	*											*	
1N3280		*	*											*	
1N3281														*	
1N3282	*							*						*	
1N3283	*							*						*	
1N3284	*							*						*	
1N3285	*	*						*						*	
1N3286	*	*						*						*	
1N3287		*		*			*						*	*	
*1N3287													*		
1N3287 W				*										*	
1N3288				*		*					*	*		*	
1N3288 A			*			*					*	*		*	*
1N3288 R				*		*									
1N3288AR															*
1N3288RA						*									
1N3289				*		*				*	*	*		*	
*1N3289				*											*
1N3289 A			*			*					*	*			*
1N3289 R						*									
*1N3289 R															*
1N3289AR															*
1N3289RA						*									
1N3290		*		*		*				*	*	*		*	
1N3290 A			*			*					*	*		*	*
1N3290 R						*									
1N3290AR															*
1N3290RA						*									
1N3291				*		*				*	*	*		*	
*1N3291				*											*
1N3291 A			*			*					*	*			*
1N3291 R						*									
*1N3291 R															*
1N3291AR															*
1N3291RA						*									
1N3292				*		*				*	*	*		*	
1N3292 A						*					*	*			*
1N3292 B			*								*			*	
1N3292 R						*									
1N3292AR															*
1N3292RA						*									
1N3293		*		*		*				*	*	*		*	
*1N3293				*											*
1N3293 A						*					*	*			*
1N3293 R						*									
*1N3293 R															*
1N3293AR															*
1N3293RA						*									
1N3294				*		*				*	*	*		*	
*1N3294				*											*
1N3294 A						*					*	*			*
1N3294 R						*									
*1N3294 R															*
1N3294AR															*
1N3294RA						*									
1N3295				*		*				*	*	*		*	
*1N3295				*											*
1N3295 A						*					*	*			*
1N3295 R						*									
1N3295AR															*
1N3295RA						*									
1N3296				*		*				*	*	*		*	
1N3296 A				*		*					*	*			*
1N3296 R						*									
1N3296AR															*
1N3296RA						*									
1N3297											*				
1N3297 A											*				*
1N3297AR															*

*JAN

THE '72 MASTER 36th EDITION

JEDEC TYPE	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3298						*				*
1N3298 A						*				
1N3305	*	*	*	*				*	*	*
1N3305 A	*	*	*	*	*		*			*
1N3305 B	*	*	*	*	*					*
*1N3305 B	*			*						
1N3305 R	*	*		*						
1N3305RA	*	*		*						
1N3305RB	*	*		*						
*1N3305RB	*			*						
1N3306	*	*	*	*				*	*	*
1N3306 A	*	*	*	*	*					*
1N3306 B	*	*	*	*	*					*
*1N3306 B	*			*						
1N3306 R	*	*		*						
1N3306RA	*	*		*						
1N3306RB	*	*		*						
*1N3306RB	*			*						
1N3307	*	*	*	*				*		*
1N3307 A	*	*	*	*	*					*
1N3307 B	*	*	*	*	*					*
*1N3307 B	*			*						
1N3307 R	*	*		*						
1N3307RA	*	*		*						
1N3307RB	*	*		*						
*1N3307RB	*			*						
1N3308	*		*	*				*	*	*
1N3308 A	*		*	*	*					*
1N3308 B	*		*	*	*					*
*1N3308 B	*			*						
1N3308 R	*			*						
1N3308RA	*			*						
1N3308RB	*			*						
*1N3308RB	*			*						
1N3309	*		*	*				*	*	*
1N3309 A	*		*	*	*					*
1N3309 B	*		*	*	*					*
*1N3309 B	*			*						
1N3309 R	*			*						
1N3309RA	*			*						
1N3309RB	*			*						
*1N3309RB	*			*						
1N3310	*		*	*				*	*	*
1N3310 A	*		*	*	*					*
1N3310 B	*		*	*	*					*
*1N3310 B	*			*						
1N3310 R	*			*						
1N3310RA	*			*						
1N3310RB	*			*						
*1N3310RB	*			*						
1N3311	*	*	*	*				*	*	*
1N3311 A	*	*	*	*	*					*
1N3311 B	*	*	*	*	*					*
*1N3311 B	*			*						
1N3311 R	*	*		*						
1N3311RA	*	*		*						
1N3311RB	*	*		*						
*1N3311RB	*			*						
1N3312	*	*	*	*			*	*	*	*
1N3312 A	*	*	*	*	*					*
1N3312 B	*	*	*	*	*					*
*1N3312 B	*			*						
1N3312 R	*	*		*						
1N3312RA	*	*		*						
1N3312RB	*	*		*						
*1N3312RB	*			*						
1N3313	*	*	*	*				*	*	*
1N3313 A	*	*	*	*	*					*
1N3313 B	*	*	*	*	*					*
*1N3313 B	*									
1N3313 R	*	*		*						
1N3313RA	*	*		*						
1N3313RB	*	*		*						
*1N3313RB	*									
1N3314	*	*	*	*				*	*	*
1N3314 A	*	*	*	*	*					*
1N3314 B	*	*	*	*	*					*
*1N3314 B	*			*						
1N3314 R	*	*		*						
1N3314RA	*	*		*						
1N3314RB	*	*		*						
*1N3314RB	*			*						
1N3315	*	*	*	*				*	*	*
1N3315 A	*	*	*	*	*					*
1N3315 B	*	*	*	*	*					*
*1N3315 B	*			*						
1N3315 R	*	*		*						
1N3315RA	*	*		*						
1N3315RB	*	*		*						
*1N3315RB	*			*						
1N3316	*	*	*	*				*	*	*
1N3316 A	*	*	*	*	*					*
1N3316 B	*	*	*	*	*					*
*1N3316 B	*									
1N3316 R	*	*		*						
1N3316RA	*	*		*						
1N3316RB	*	*		*						
*1N3316RB	*									
1N3317	*	*	*	*				*	*	*
1N3317 A	*	*	*	*	*					*
1N3317 B	*	*	*	*	*					*
*1N3317 B	*			*						

JEDEC TYPE	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3317 R	*	*		*					
1N3317RA	*	*		*					
1N3317RB	*	*		*					
*1N3317RB	*			*					
1N3318	*		*	*			*	*	*
1N3318 A	*		*	*	*				*
1N3318 B	*		*	*	*				*
*1N3318 B	*								
1N3318 R	*			*					
1N3318RA	*			*					
1N3318RB	*			*					
*1N3318RB	*								
1N3319	*		*	*			*	*	*
1N3319 A	*		*	*	*				*
1N3319 B	*		*	*	*				*
*1N3319 B	*			*					
1N3319 R	*			*					
1N3319RA	*			*					
1N3319RB	*			*					
*1N3319RB	*			*					
1N3320	*		*	*			*	*	*
1N3320 A	*		*	*	*				*
1N3320 B	*		*	*	*				*
*1N3320 B	*			*					
1N3320 R	*			*					
1N3320RA	*			*					
1N3320RB	*			*					
*1N3320RB	*			*					
1N3321	*		*	*			*	*	*
1N3321 A	*		*	*	*				*
1N3321 B	*		*	*	*				*
*1N3321 B	*			*					
1N3321 R	*			*					
1N3321RA	*			*					
1N3321RB	*			*					
*1N3321RB	*			*					
1N3322	*		*	*			*	*	*
1N3322 A	*		*	*	*				*
1N3322 B	*		*	*	*				*
*1N3322 B	*								
1N3322 R	*			*					
1N3322RA	*			*					
1N3322RB	*			*					
*1N3322RB	*								
1N3323	*		*	*			*	*	*
1N3323 A	*		*	*	*				*
1N3323 B	*		*	*	*				*
*1N3323 B	*			*					
1N3323 R	*			*					
1N3323RA	*			*					
1N3323RB	*			*					
*1N3323RB	*			*					
1N3324	*	*	*	*			*	*	*
1N3324 A	*	*	*	*	*				*
1N3324 B	*	*	*	*	*				*
*1N3324 B	*			*					
1N3324 R	*	*		*					
1N3324RA	*	*		*					
1N3324RB	*	*		*					
*1N3324RB	*			*					
1N3325	*	*	*	*			*	*	*
1N3325 A	*	*	*	*	*				*
1N3325 B	*	*	*	*	*	*			*
*1N3325 B	*			*					
1N3325 R	*	*		*					
1N3325RA	*	*		*					
1N3325RB	*	*		*					
*1N3325RB	*			*					
1N3326	*	*	*	*			*	*	*
1N3326 A	*	*	*	*	*				*
1N3326 B	*	*	*	*	*				*
*1N3326 B	*			*					
1N3326 R	*	*		*					
1N3326RA	*	*		*					
1N3326RB	*	*		*					
*1N3326RB	*			*					
1N3327	*	*	*	*			*	*	*
1N3327 A	*	*	*	*	*				*
1N3327 B	*	*	*	*	*				*
*1N3327 B	*			*					
1N3327 R	*	*		*					
1N3327RA	*	*		*					
1N3327RB	*	*		*					
*1N3327RB	*			*					
1N3328	*	*	*	*			*	*	*
1N3328 A	*	*	*	*	*				*
1N3328 B	*	*	*	*	*				*
*1N3328 B	*			*					
1N3328 R	*	*		*					
1N3328RA	*	*		*					
1N3328RB	*	*		*					
*1N3328RB	*			*					
1N3329	*	*	*	*			*	*	*
1N3329 A	*	*	*	*	*				*
1N3329 B	*	*	*	*	*				*
*1N3329 B	*								
1N3329 R	*	*		*					
1N3329RA	*	*		*					
1N3329RB	*	*		*					
*1N3329RB	*								
1N3330	*	*	*	*			*	*	*
1N3330 A	*	*	*	*	*				*

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3330 B		*	*	*	*	*					*
*1N3330 B		*			*						
1N3330 R		*	*		*						
1N3330RA		*	*		*						
1N3330RB		*	*		*						
*1N3330RB		*			*						
1N3331		*	*	*	*				*	*	*
1N3331 A		*	*	*	*	*					*
1N3331 B		*	*	*	*	*					*
*1N3331 B		*									
1N3331 R		*	*		*						
1N3331RA		*	*		*						
1N3331RB		*	*		*						
*1N3331RB		*									
1N3332		*	*	*	*				*	*	*
1N3332 A		*	*	*	*	*					*
1N3332 B		*	*	*	*	*					*
*1N3332 B		*			*						
1N3332 R		*	*		*						
1N3332RA		*	*		*						
1N3332RB		*	*		*						
*1N3332RB		*			*						
1N3333		*	*	*	*				*	*	*
1N3333 A		*	*	*	*	*					*
1N3333 B		*	*	*	*	*					*
*1N3333 B		*									
1N3333 R		*	*		*						
1N3333RA		*	*		*						
1N3333RB		*	*		*						
*1N3333RB		*									
1N3334		*	*	*	*				*	*	*
1N3334 A		*	*	*	*	*					*
1N3334 B		*	*	*	*	*					*
*1N3334 B		*			*						
1N3334 R		*	*		*						
1N3334RA		*	*		*						
1N3334RB		*	*		*						
*1N3334RB		*			*						
1N3335		*	*	*	*				*	*	*
1N3335 A		*	*	*	*	*					*
1N3335 B		*	*	*	*	*					*
*1N3335 B		*			*						
1N3335 R		*	*		*						
1N3335RA		*	*		*						
1N3335RB		*	*		*						
*1N3335RB		*			*						
1N3336		*	*	*	*				*	*	*
1N3336 A		*	*	*	*	*					*
1N3336 B		*	*	*	*	*					*
*1N3336 B		*			*						
1N3336 R		*	*		*						
1N3336RA		*	*		*						
1N3336RB		*	*		*						
*1N3336RB		*			*						
1N3337		*		*	*				*	*	*
1N3337 A		*		*	*	*					*
1N3337 B		*		*	*	*					*
*1N3337 B		*			*						
1N3337 R		*			*						
1N3337RA		*			*						
1N3337RB		*			*						
*1N3337RB		*			*						
1N3338		*		*	*				*	*	*
1N3338 A		*		*	*	*					*
1N3338 B		*		*	*	*					*
*1N3338 B		*			*						
1N3338 R		*			*						
1N3338RA		*			*						
1N3338RB		*			*						
*1N3338RB		*			*						
1N3339		*		*	*		*		*	*	*
1N3339 A		*		*	*	*					*
1N3339 B		*		*	*	*		*			*
*1N3339 B		*			*						
1N3339 R		*			*						
1N3339RA		*			*						
1N3339RB		*			*						
*1N3339RB		*			*						
1N3340		*		*	*				*	*	*
1N3340 A		*		*	*	*					*
1N3340 B		*		*	*	*		*			*
*1N3340 B		*			*						
1N3340 R		*			*						
1N3340RA		*			*						
1N3340RB		*			*						
*1N3340RB		*			*						
1N3341		*			*				*	*	*
1N3341 A	*	*			*	*					*
1N3341 B		*			*	*					*
*1N3341 B		*									
1N3341 R		*			*						
1N3341RA		*			*						
1N3341RB		*			*						
*1N3341RB		*									
1N3342		*			*				*	*	*
1N3342 A	*	*			*	*					*
1N3342 B		*			*	*					*
*1N3342 B		*			*						
1N3342 R		*			*						
1N3342RA		*			*						
1N3342RB		*			*						
*1N3342RB		*			*						

THE '72 MASTER 36th EDITION	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEV.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TRANSITRON	UNITED-PAGE
1N3343						*						*					*	*	*
1N3343 A			*			*						*		*					*
1N3343 B						*						*		*					*
*1N3343 B						*						*							
1N3343 R						*						*							
1N3343RA						*						*							
1N3343RB						*						*							
*1N3343RB						*						*							
1N3344						*						*					*	*	*
1N3344 A			*			*		*				*		*					*
1N3344 B						*		*				*		*					*
*1N3344 B						*						*							
1N3344 R						*		*				*							
1N3344RA						*		*				*							
1N3344RB						*		*				*							
*1N3344RB						*						*							
1N3345						*		*				*					*	*	*
1N3345 A			*			*		*				*		*					*
1N3345 B						*		*				*		*					*
*1N3345 B						*													
1N3345 R						*		*				*							
1N3345RA						*		*				*							
1N3345RB						*		*				*							
*1N3345RB						*													
1N3346						*		*				*					*	*	*
1N3346 A			*			*		*				*		*					*
1N3346 B						*		*				*		*					*
*1N3346 B						*						*							
1N3346 R						*		*				*							
1N3346RA						*		*				*							
1N3346RB						*		*				*							
*1N3346RB						*						*							
1N3347						*		*				*					*	*	*
1N3347 A			*			*		*				*		*					*
1N3347 B						*		*				*		*					*
*1N3347 B						*						*							
1N3347 R						*		*				*							
1N3347RA						*		*				*							
1N3347RB						*		*				*							
*1N3347RB						*						*							
1N3348						*		*				*					*	*	*
1N3348 A			*			*		*				*		*					*
1N3348 B						*		*				*		*					*
*1N3348 B						*						*							
1N3348 R						*		*				*							
1N3348RA						*		*				*							
1N3348RB						*		*				*							
*1N3348RB						*						*							
1N3349						*		*				*					*	*	*
1N3349 A			*			*		*				*		*					*
1N3349 B						*		*				*		*					*
*1N3349 B						*						*							
1N3349 R						*		*				*							
1N3349RA						*		*				*							
1N3349RB						*		*				*							
*1N3349RB						*						*							
1N3350						*		*				*					*	*	*
1N3350 A			*			*		*				*		*					*
1N3350 B						*		*				*		*					*
*1N3350 B						*						*							
1N3350 R						*		*				*							
1N3350RA						*		*				*							
1N3350RB						*		*				*							
*1N3350RB						*						*							
1N3353			*																
1N3369 R								*											
1N3370 R								*											
1N3371 R								*											
1N3372 R								*											
1N3373 R								*											
1N3374 R								*											
1N3386															*				
1N3387															*				
1N3396															*				
1N3397															*				
1N3398															*				
1N3399															*				
1N3464																	*		
1N3465			*								*								
1N3466			*						*		*							*	*
1N3467			*						*		*				*			*	*
1N3468			*						*		*				*			*	*
1N3469			*						*		*							*	*
1N3470			*						*		*							*	*
1N3477		*																	*
1N3477 A		*																	*
1N3482									*										
1N3483											*				*				*
1N3484	*																		*
1N3485														*					
1N3486							*	*											*
1N3487							*									*			*
1N3488		*		*															*
1N3490										*									
1N3491			*		*					*		*		*	*			*	*
1N3491 R					*							*		*					
1N3492			*		*					*		*		*	*			*	*
1N3492 R					*							*		*					
1N3493			*		*					*		*			*			*	*
1N3493 R					*							*		*					
1N3494			*							*		*		*	*			*	*
1N3494 R												*		*					

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEV.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	†TRANSITRON	UNITED-PAGE
1N3495			*					*	*		*		*						*	*
1N3495 R									*		*									
1N3496		*	*		*			*	*										*	*
1N3497		*	*		*			*	*										*	*
1N3498		*	*		*			*	*										*	*
1N3499		*	*		*			*	*										*	*
1N3500		*	*		*				*				*						*	*
1N3501		*			*			*	*				*						*	*
1N3502		*			*			*	*				*						*	*
1N3503		*			*			*	*				*						*	*
1N3503 A		*											*						*	*
1N3504		*			*			*	*				*						*	*
1N3504 A		*											*						*	*
1N3506		*							*				*					*	*	*
1N3507		*							*				*					*	*	*
1N3508		*							*				*					*	*	*
1N3509		*							*				*					*	*	*
1N3510		*	*					*	*				*					*	*	*
1N3511		*	*					*	*				*					*	*	*
1N3512		*	*					*	*				*					*	*	*
1N3513		*	*					*	*				*					*	*	*
1N3514		*	*					*	*				*					*	*	*
1N3515		*	*					*	*				*					*	*	*
1N3516		*	*					*	*				*					*	*	*
1N3517		*	*					*	*				*					*	*	*
1N3518		*	*					*	*				*					*	*	*
1N3519		*	*					*	*				*					*	*	*
1N3520		*	*					*	*				*					*	*	*
1N3521		*	*					*	*				*					*	*	*
1N3522		*	*					*	*				*					*	*	*
1N3523		*	*					*	*				*					*	*	*
1N3524		*	*					*	*				*					*	*	*
1N3525		*	*					*	*				*					*	*	*
1N3526		*	*					*	*				*					*	*	*
1N3527		*	*					*	*				*					*	*	*
1N3528		*	*					*	*				*					*	*	*
1N3529		*	*					*	*				*					*	*	*
1N3530			*					*	*				*					*	*	*
1N3531			*						*				*					*		*
1N3532			*						*				*			*	*			*
1N3533			*						*				*			*	*			*
1N3534			*						*				*			*	*			*
1N3537		*											*		*					
1N3539	*												*							
1N3539 A	*												*							
1N3540	*												*							
1N3540 A	*												*							
1N3541	*												*							
1N3541 A	*												*							
1N3542	*												*							
1N3542 A	*												*							
1N3543	*												*							
1N3543 A	*												*							
1N3544			*									*		*	*					*
1N3545			*									*			*					*
1N3546			*									*			*					*
1N3547												*			*					*
1N3548												*			*					*
1N3549			*									*			*					*
1N3550													*			*	*			*
1N3551		*		*																*
1N3552		*		*																*
1N3552 A		*																		
1N3553		*							*								*	*		
1N3554		*		*																*
1N3555		*		*																*
1N3556		*		*																*
1N3557		*																		
1N3558																	*			
1N3563						*				*					*					*
1N3565														*						
1N3566																				*
1N3567		*																		
1N3568			*																	
1N3569							*	*	*		*		*	*	*					*
1N3569 R									*											
1N3570			*				*	*	*		*		*	*	*					*
1N3570 R									*											
1N3571			*				*	*	*		*		*	*	*					*
1N3571 R									*											
1N3572			*				*	*	*		*		*	*	*					*
1N3572 R									*											
1N3573			*				*	*	*		*		*	*	*					*
1N3573 R									*											
1N3574			*				*	*	*		*		*	*	*					*
1N3574 R									*											
1N3575													*				*	*		*
1N3576													*				*	*		*
1N3577													*				*	*		*
1N3578													*				*	*		*
1N3579													*				*	*		*
1N3580		*							*				*							*
1N3580 A		*	*						*				*							*
1N3580 B		*							*				*							*
1N3581		*							*				*							*
1N3581 A		*	*						*				*							*
1N3581 B		*							*				*							*
1N3582		*							*				*							*
1N3582 A		*	*						*				*							*
1N3582 B		*							*				*							*
1N3583		*	*						*				*							*
1N3583 A		*							*				*							*

	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SEMTECH	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	TRW SEMI.	UNITED-PAGE	UNITRODE	WESTINGHOUSE
1N3583 B		*												*				*								*		
1N3584		*	*											*				*								*		
1N3584 A		*												*				*								*		
1N3584 B		*												*				*								*		
1N3585			*															*										
1N3586																		*										
1N3587																		*										
1N3588																		*										
1N3590																		*										
1N3591																		*										
1N3592										*			*					*								*		
1N3594																										*		
1N3595							*	*						*				*				*	*					
*1N3595								*						*														
1N3596								*						*				*				*	*			*		
1N3597								*										*				*	*					
1N3598														*				*				*	*			*		
1N3599														*				*										
1N3600					*			*	*	*	*		*		*			*				*	*	*		*		
*1N3600								*			*		*									*						
1N3601																						*	*					
1N3602								*														*	*			*		
1N3603								*														*	*			*		
1N3604		*	*					*	*	*			*		*							*	*	*		*		
1N3605		*	*					*	*	*			*		*							*	*	*		*		
1N3606		*						*	*	*			*		*				*			*	*	*		*		
1N3607													*													*		
1N3608																										*		
1N3611	*									*				*				*	*						*	*		
*1N3611														*			*										*	
1N3612	*									*				*				*							*	*		
*1N3612														*			*										*	
1N3613	*									*								*							*	*		
*1N3613														*			*										*	
1N3614										*								*							*	*		
*1N3614														*			*										*	
1N3615						*	*				*	*		*		*		*		*						*		*
1N3615 R							*				*			*														*
1N3616						*	*				*	*		*		*		*		*						*		*
1N3616 R							*				*			*														*
1N3617						*	*				*	*		*		*		*		*						*		*
1N3617 R							*				*			*														*
1N3618						*	*				*	*		*		*		*		*						*		*
1N3618 R							*				*			*														*
1N3619						*					*	*		*		*		*		*						*		*
1N3619 R											*			*														*
1N3620						*	*				*	*		*		*		*		*						*		*
1N3620 R							*				*			*														*
1N3621						*	*				*	*		*		*		*		*						*		*
1N3621 R							*				*			*														*
1N3622						*	*				*	*		*		*		*		*						*		*
1N3622 R							*				*			*														*
1N3623						*	*				*	*						*	*	*								*
1N3623 R							*																					*
1N3624						*	*				*	*						*		*						*		*
1N3624 R							*				*																	*
1N3625																		*										
1N3627		*		*																						*		
1N3628		*		*																						*		
1N3639													*			*				*		*				*		
1N3640			*										*			*		*		*		*			*	*		
1N3641			*										*			*		*	*			*			*	*		
1N3642			*										*			*		*				*			*	*		
1N3643		*	*			*				*							*	*		*						*		
1N3644		*	*			*				*							*	*		*						*		
1N3645		*	*			*				*							*	*		*						*		
1N3646		*	*			*				*							*	*		*						*		
1N3647		*	*			*				*							*	*		*						*		
1N3648																				*								
1N3649			*			*	*						*		*				*	*	*					*		
*1N3649						*														*								
1N3649 R						*								*							*							
*1N3649 R						*														*								
1N3650			*			*	*						*		*				*	*	*					*		
*1N3650						*																						
1N3650 R						*	*							*							*							
*1N3650 R						*															*							
1N3653																						*	*	*				
1N3654													*									*	*					
1N3655			*																							*		
1N3655 A																										*		
1N3655 M																										*		
1N3655AM																										*		
1N3655AMR																										*		
1N3655MR																										*		
1N3657										*																		
1N3658										*																		
1N3659			*											*				*						*		*		
1N3659 R														*														
1N3660			*											*				*						*		*		
1N3660 R														*														
1N3661			*											*				*						*		*		
1N3661 R														*														
1N3662														*				*						*		*		
1N3662 R														*														
1N3663														*				*						*		*		
1N3663 R														*														
1N3664																		*						*		*		
1N3665																		*						*		*		
1N3665 A											*																	
1N3666			*							*	*		*						*									
*1N3666										*			*															

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
*1N3666-1																*		
*1N3666-2																*		
1N3668														*	*		*	
1N3669								*						*	*			
1N3670		*	*	*		*	*		*	*			*				*	*
1N3670 A			*	*	*	*	*		*	*			*				*	*
1N3670 R				*		*			*									*
1N3670AR									*									*
1N3670RA			*	*		*												
1N3671		*	*	*	*	*	*		*	*	*		*				*	*
1N3671 A			*	*	*	*	*		*	*	*	*	*				*	*
*1N3671 A											*	*						
1N3671 R				*		*			*									*
1N3671AR									*									*
1N3671RA			*	*		*					*	*						
*1N3671RA												*						
1N3672		*	*	*		*	*		*	*			*				*	*
1N3672 A			*	*		*	*		*	*			*				*	*
1N3672 R				*		*			*									*
1N3672AR									*									*
1N3672RA			*	*		*												
1N3673		*	*	*	*	*	*		*	*			*				*	*
*1N3673											*							
1N3673 A			*	*	*	*	*		*	*	*	*	*				*	*
*1N3673 A											*	*						
1N3673 R				*		*			*									*
1N3673AR									*									*
1N3673RA			*	*		*						*						
*1N3673RA												*						
1N3675	*								*								*	
1N3675 A	*								*								*	
1N3675 B	*								*								*	
1N3676	*					*			*								*	
1N3676 A	*								*								*	
1N3676 B	*								*								*	
1N3676 R						*												
1N3677	*								*								*	
1N3677 A	*								*								*	
1N3677 B	*								*								*	
1N3678	*								*								*	
1N3678 A	*								*								*	
1N3678 B	*								*								*	
1N3679	*								*								*	
1N3679 A	*								*								*	
1N3679 B	*								*								*	
1N3680	*								*								*	
1N3680 A	*								*								*	
1N3680 B	*								*								*	
1N3681	*								*								*	
1N3681 A	*								*								*	
1N3681 B	*								*								*	
1N3682	*								*								*	
1N3682 A	*								*								*	
1N3682 B	*								*								*	
1N3683	*								*								*	
1N3683 A	*								*								*	
1N3683 B	*								*								*	
1N3684	*								*								*	
1N3684 A	*								*								*	
1N3684 B	*								*								*	
1N3685	*								*								*	
1N3685 A	*								*								*	
1N3685 B	*								*								*	
1N3686	*								*								*	
1N3686 A	*								*								*	
1N3686 B	*								*								*	
1N3687	*								*								*	
1N3687 A	*								*								*	
1N3687 B	*								*								*	
1N3688	*								*								*	
1N3688 A	*								*								*	
1N3688 B	*								*								*	
1N3689	*								*								*	
1N3689 A	*								*								*	
1N3689 B	*								*								*	
1N3690	*								*								*	
1N3690 A	*								*								*	
1N3690 B	*								*								*	
1N3691									*								*	
1N3691 A									*								*	
1N3691 B									*								*	
1N3692									*								*	
1N3692 A									*								*	
1N3692 B									*								*	
1N3693									*								*	
1N3693 A									*								*	
1N3693 B									*								*	
1N3694									*								*	
1N3694 A									*								*	
1N3694 B									*								*	
1N3695									*								*	
1N3695 A									*								*	
1N3695 B									*								*	
1N3696									*								*	
1N3696 A									*								*	
1N3696 B									*								*	
1N3697									*								*	
1N3697 A									*								*	
1N3697 B									*								*	
1N3698									*								*	
1N3698 A									*								*	
1N3698 B									*								*	

THE '72 MASTER 16th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N3699									*										*	
1N3699 A									*										*	
1N3699 B									*										*	
1N3700									*										*	
1N3700 A									*										*	
1N3700 B									*										*	
1N3701									*										*	
1N3701 A									*										*	
1N3701 B									*										*	
1N3702									*										*	
1N3702 A									*										*	
1N3702 B									*										*	
1N3703									*										*	
1N3703 A									*										*	
1N3703 B									*										*	
1N3704									*										*	
1N3704 A									*										*	
1N3704 B									*										*	
1N3705									*										*	
1N3705 A									*										*	
1N3705 B									*										*	
1N3706									*										*	
1N3706 A									*										*	
1N3706 B									*										*	
1N3707									*										*	
1N3707 A									*										*	
1N3707 B									*										*	
1N3708									*										*	
1N3708 A									*										*	
1N3708 B									*										*	
1N3709									*										*	
1N3709 A									*										*	
1N3709 B									*										*	
1N3710									*										*	
1N3710 A									*										*	
1N3710 B									*										*	
1N3711	*													*						
1N3712			*					*					*						*	
1N3713		*						*					*						*	
*1N3713			*																	
1N3714			*					*					*						*	
1N3715			*					*					*						*	
*1N3715			*																	
1N3716			*					*					*						*	
1N3717			*					*					*						*	
*1N3717			*																	
1N3718			*										*						*	
1N3719			*					*					*						*	
*1N3719			*																	
1N3720			*					*					*						*	
1N3721			*					*					*						*	
*1N3721			*																	
1N3726																			*	
1N3728													*							
1N3729													*							
1N3730											*		*							
1N3731							*									*	*	*	*	
1N3732																			*	
1N3735			*	*		*						*	*		*				*	*
1N3735 R				*		*														*
1N3736			*	*		*						*	*		*				*	*
1N3736 R				*		*														*
1N3737			*	*		*						*	*		*				*	*
1N3737 R				*		*														*
1N3738			*	*		*						*	*		*				*	*
1N3738 R				*		*														*
1N3739				*		*						*	*		*				*	*
1N3739 R				*		*														*
1N3740		*		*		*						*	*		*				*	*
1N3740 R				*		*														*
1N3741				*		*						*	*		*				*	*
1N3741 R				*		*														*
1N3742				*		*						*	*		*				*	*
1N3742 R				*		*														*
1N3743		*				*						*	*		*				*	*
1N3743 R				*		*														*
1N3744						*							*						*	*
1N3744 R						*														*
1N3745																			*	*
1N3745 M																			*	
1N3745MR																			*	
1N3746																			*	
1N3746 M																			*	
1N3746MR																			*	
1N3747																			*	
1N3747 M																			*	
1N3747MR																			*	
1N3748			*																*	
1N3749			*																*	
1N3750			*																*	
1N3751			*																*	
1N3752			*																*	
1N3753																			*	
1N3754											*								*	
1N3755											*								*	
1N3756											*								*	
1N3757			*																*	
1N3758			*																*	
1N3759			*																*	
1N3760																			*	
1N3761			*																*	
1N3763	*															*				

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	UNITED-PAGE	WESTINGHOUSE
1N3764						*													
1N3765		*			*		*	*			*	*		*	*			*	*
1N3765 R																			*
1N3766					*		*	*			*	*		*	*			*	*
1N3766 R							*												*
1N3767		*			*			*			*	*		*	*			*	*
1N3767 R																			*
1N3768		*			*		*	*			*	*	*	*	*			*	*
1N3768 R							*												*
1N3769						*			*									*	
1N3773						*			*			*						*	
1N3775												*						*	
1N3777												*							
1N3779	*							*				*				*	*	*	
1N3780	*							*				*				*	*	*	
1N3781	*							*				*				*	*	*	
1N3782	*							*				*				*	*	*	
1N3783	*							*				*				*	*	*	
1N3784	*							*				*				*	*	*	
1N3785			*	*						*		*						*	
1N3785 A			*	*						*		*						*	
1N3785 B			*	*						*		*						*	
1N3785 R										*									
1N3785RA										*									
1N3785RB										*									
1N3786			*	*						*		*						*	
1N3786 A			*	*						*		*						*	
1N3786 B			*	*						*		*						*	
1N3786 R										*									
1N3786RA										*									
1N3786RB										*									
1N3787			*	*						*		*						*	
1N3787 A			*	*						*		*						*	
1N3787 B			*	*						*		*						*	
1N3787 R										*									
1N3787RA										*									
1N3787RB										*									
1N3788			*	*						*		*						*	
1N3788 A			*	*						*		*						*	
1N3788 B			*	*						*		*						*	
1N3788 R										*									
1N3788RA										*									
1N3788RB										*									
1N3789			*	*						*		*						*	
1N3789 A			*	*						*		*						*	
1N3789 B			*	*						*		*						*	
1N3789 R										*									
1N3789RA										*									
1N3789RB										*									
1N3790			*	*						*		*						*	
1N3790 A			*	*						*		*						*	
1N3790 B			*	*						*		*						*	
1N3790 R										*									
1N3790RA										*									
1N3790RB										*									
1N3791			*	*						*		*						*	
1N3791 A			*	*						*		*						*	
1N3791 B			*	*						*		*						*	
1N3791 R										*									
1N3791RA										*									
1N3791RB										*									
1N3792			*	*						*		*						*	
1N3792 A			*	*						*		*						*	
1N3792 B			*	*						*		*						*	
1N3792 R										*									
1N3792RA										*									
1N3792RB										*									
1N3793			*	*						*		*						*	
1N3793 A			*	*						*		*						*	
1N3793 B			*	*						*		*						*	
1N3793 R										*									
1N3793RA										*									
1N3793RB										*									
1N3794			*	*						*		*						*	
1N3794 A			*	*						*		*						*	
1N3794 B			*	*						*		*						*	
1N3794 R										*									
1N3794RA										*									
1N3794RB										*									
1N3795			*	*						*		*						*	
1N3795 A			*	*						*		*						*	
1N3795 B			*	*						*		*						*	
1N3795 R										*									
1N3795RA										*									
1N3795RB										*									
1N3796			*	*						*		*						*	
1N3796 A			*	*						*		*						*	
1N3796 B			*	*						*		*						*	
1N3796 R										*									
1N3796RA										*									
1N3796RB										*									
1N3797			*	*						*		*						*	
1N3797 A			*	*						*		*						*	
1N3797 B			*	*						*		*						*	
1N3797 R										*									
1N3797RA										*									
1N3797RB										*									
1N3798			*	*						*		*						*	
1N3798 A			*	*						*		*						*	
1N3798 B			*	*						*		*						*	
1N3798 R										*									
1N3798RA										*									

JEDEC TYPE	DICKSON ELECT.	ELECT. TRANS.	MOTOROLA SEMI.
1N3798RB			*
1N3799	*	*	*
1N3799 A	*	*	*
1N3799 B	*	*	*
1N3799 R			*
1N3799RA			*
1N3799RB			*
1N3800	*	*	*
1N3800 A	*	*	*
1N3800 B	*	*	*
1N3800 R			*
1N3800RA			*
1N3800RB			*
1N3801	*	*	*
1N3801 A	*	*	*
1N3801 B	*	*	*
1N3801 R			*
1N3801RA			*
1N3801RB			*
1N3802	*	*	*
1N3802 A	*	*	*
1N3802 B	*	*	*
1N3802 R			*
1N3802RA			*
1N3802RB			*
1N3803	*	*	*
1N3803 A	*	*	*
1N3803 B	*	*	*
1N3803 R			*
1N3803RA			*
1N3803RB			*
1N3804	*	*	*
1N3804 A	*	*	*
1N3804 B	*	*	*
1N3804 R			*
1N3804RA			*
1N3804RB			*
1N3805	*	*	*
1N3805 A	*	*	*
1N3805 B	*	*	*
1N3805 R			*
1N3805RA			*
1N3805RB			*
1N3806	*	*	*
1N3806 A	*	*	*
1N3806 B	*	*	*
1N3806 R			*
1N3806RA			*
1N3806RB			*
1N3807	*	*	*
1N3807 A	*	*	*
1N3807 B	*	*	*
1N3807 R			*
1N3807RA			*
1N3807RB			*
1N3808	*	*	*
1N3808 A	*	*	*
1N3808 B	*	*	*
1N3808 R			*
1N3808RA			*
1N3808RB			*
1N3809	*	*	*
1N3809 A	*	*	*
1N3809 B	*	*	*
1N3809 R			*
1N3809RA			*
1N3809RB			*
1N3810	*	*	*
1N3810 A	*	*	*
1N3810 B	*	*	*
1N3810 R			*
1N3810RA			*
1N3810RB			*
1N3811	*	*	*
1N3811 A	*	*	*
1N3811 B	*	*	*
1N3811 R			*
1N3811RA			*
1N3811RB			*
1N3812	*	*	*
1N3812 A	*	*	*
1N3812 B	*	*	*
1N3812 R			*
1N3812RA			*
1N3812RB			*
1N3813	*	*	*
1N3813 A	*	*	*
1N3813 B	*	*	*
1N3813 R			*
1N3813RA			*
1N3813RB			*
1N3814	*	*	*
1N3814 A	*	*	*
1N3814 B	*	*	*
1N3814 R			*
1N3814RA			*
1N3814RB			*
1N3815	*	*	*
1N3815 A	*	*	*
1N3815 B	*	*	*
1N3815 R			*
1N3815RA			*

'72 THE MASTER 16th EDITION	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	RAYTHEON	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N3815RB											*										
1N3816			*		*						*			*						*	
1N3816 A			*		*						*			*						*	
1N3816 B			*		*						*			*						*	
1N3816 R											*										
1N3816RA											*										
1N3816RB											*										
1N3817			*		*						*			*						*	
1N3817 A		*	*		*						*			*						*	
1N3817 B			*		*						*			*						*	
1N3817 R											*										
1N3817RA											*										
1N3817RB											*										
1N3818			*		*						*			*						*	
1N3818 A			*		*						*			*						*	
1N3818 B			*		*						*			*						*	
1N3818 R											*										
1N3818RA											*										
1N3818RB											*										
1N3819			*		*						*			*						*	
1N3819 A			*		*						*			*						*	
1N3819 B			*		*						*			*						*	
1N3819 R											*										
1N3819RA											*										
1N3819RB											*										
1N3820			*		*						*			*						*	
1N3820 A			*		*						*			*						*	
1N3820 B			*		*						*			*						*	
1N3820 R											*										
1N3820RA											*										
1N3820RB											*										
1N3821	*		*		*			*			*			*						*	
1N3821 A	*		*		*			*			*			*							
*1N3821 A	*		*					*			*										
1N3822	*		*		*			*			*			*						*	
1N3822 A	*		*		*			*			*			*							
*1N3822 A	*		*					*			*										
1N3823	*		*		*			*			*			*						*	
1N3823 A	*		*		*			*			*			*							
*1N3823 A	*		*					*			*										
1N3824	*		*		*			*			*			*						*	
1N3824 A	*		*		*			*			*			*							
*1N3824 A	*		*					*			*										
1N3825	*		*		*			*			*			*						*	
1N3825 A	*		*		*			*			*			*							
*1N3825 A	*		*					*			*										
1N3826	*		*		*			*			*			*						*	
1N3826 A	*		*		*			*			*			*							
*1N3826 A	*		*					*			*										
1N3827	*		*		*			*			*		*							*	
1N3827 A	*		*		*			*			*			*							
*1N3827 A	*		*					*			*										
1N3828	*	*	*		*			*			*		*	*						*	
1N3828 A	*		*		*			*			*			*							
*1N3828 A	*		*					*			*										
1N3829	*	*	*		*			*			*		*	*	*	*				*	
1N3829 A	*		*		*			*			*			*						*	
1N3830	*	*	*		*						*		*	*		*				*	
1N3830 A	*		*		*						*			*						*	
1N3831									*		*										
1N3832									*		*										
1N3833									*		*										
1N3834									*		*										
1N3835									*		*										
1N3836									*		*										
1N3837									*		*										
1N3838									*		*										
1N3839									*		*										
1N3840									*		*										
1N3841									*		*										
1N3842									*		*										
1N3843									*		*										
1N3844									*		*										
1N3845									*		*										
1N3846									*												
1N3847										*											
1N3848										*											
1N3849										*											
1N3850										*											
1N3851										*											
1N3852										*											
1N3853										*											
1N3854										*											
1N3856										*											
1N3857										*											
1N3858										*											
1N3859										*											
1N3860										*											
1N3864													*	*			*	*			
1N3866					*		*							*	*	*					
1N3867					*		*							*		*					
1N3868	*				*		*							*		*					
1N3869	*				*									*		*					
1N3870	*													*		*					
1N3871	*	*												*		*					
1N3872									*					*			*	*			
1N3873						*								*			*	*			
1N3874														*						*	*
1N3875														*						*	*
1N3876														*						*	*
1N3877														*						*	*
1N3878														*						*	*

JEDEC TYPE	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL ELEC.	MOTOROLA SEMI.	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N3879			*	*	*		*	*		*	*	*	*	*	*
1N3879 R								*		*					*
1N3880			*	*	*		*	*		*	*	*	*	*	*
*1N3880				*			*	*							*
1N3880 R								*		*					*
*1N3880 R								*							*
1N3881			*	*	*		*	*		*		*	*	*	*
*1N3881				*			*	*							*
1N3881 R								*		*					*
*1N3881 R								*							*
1N3882			*	*	*		*	*		*		*	*	*	*
1N3882 R								*		*					*
1N3883			*	*	*		*	*		*	*	*	*	*	*
*1N3883				*			*	*							*
1N3883 R								*							*
*1N3883 R								*							*
1N3884										*			*	*	
1N3885										*			*	*	
*1N3885								*							
1N3886										*			*	*	
*1N3886								*							
1N3887										*			*	*	
1N3888										*			*	*	
*1N3888								*							
1N3889			*	*	*	*	*	*		*	*	*	*	*	*
1N3889 R						*		*							*
1N3890			*	*	*	*	*	*		*		*	*	*	*
*1N3890				*	*		*	*							*
1N3890 R						*		*							*
*1N3890 R								*							*
1N3891			*	*	*	*	*	*		*	*	*	*	*	*
*1N3891				*	*		*	*							*
1N3891 R						*		*							*
*1N3891 R								*							*
1N3892				*	*	*	*	*		*	*	*	*	*	*
*1N3892				*											
1N3892 R						*		*							*
1N3893			*	*	*	*	*	*		*	*	*	*	*	*
*1N3893				*	*		*	*							*
1N3893 R						*		*							*
*1N3893 R								*							*
1N3894										*					
1N3895										*					
1N3896		*								*					
1N3897		*								*					
1N3898		*								*					
1N3899			*			*	*	*		*		*	*	*	*
1N3899 R						*		*							*
1N3900			*			*	*	*		*		*	*	*	*
1N3900 R						*		*							*
1N3901			*			*	*	*		*		*	*	*	*
1N3901 R						*		*							*
1N3902			*			*	*	*		*		*	*	*	*
1N3902 R						*		*							*
1N3903						*	*	*		*		*	*	*	*
1N3903 R						*		*							*
1N3904										*					
1N3905										*					
1N3906										*					
1N3907										*					
1N3908										*					
1N3909			*			*	*	*		*	*	*	*	*	*
*1N3909							*								*
1N3909 R						*		*							*
*1N3909 R															*
1N3910			*			*	*	*		*		*	*	*	*
*1N3910							*	*							
1N3910 R						*		*							*
1N3911			*			*	*	*		*		*	*	*	*
*1N3911							*	*							*
1N3911 R						*		*							
*1N3911 R															*
1N3912			*			*	*	*		*	*	*	*	*	*
*1N3912							*	*							
1N3912 R						*		*							*
1N3913			*			*	*	*		*	*	*	*	*	*
*1N3913							*	*							
1N3913 R						*		*							
1N3914										*					
1N3915										*					
1N3916										*					
1N3919						*				*	*	*		*	
1N3920										*	*	*		*	
1N3921										*	*	*		*	
1N3922												*		*	
1N3923												*		*	
1N3924						*					*	*			
1N3925												*		*	
1N3926											*	*		*	
1N3927												*		*	
1N3928											*	*			
1N3929											*				
1N3930											*				
1N3934						*						*			
1N3938									*	*				*	
1N3939									*	*				*	
1N3940									*					*	
1N3941										*				*	
1N3942										*				*	
1N3943		*								*					
1N3944	*									*					
1N3945														*	

THE '72 MASTER 16th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SEMTECH	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
1N3946	*											*			*				*	
1N3947	*											*			*				*	
1N3949		*												*						
1N3951						*														
1N3952				*																
1N3954												*				*	*			
1N3956						*														
*1N3957									*		*									
1N3958		*										*	*	*					*	
1N3958 C												*								
1N3959												*		*					*	
1N3959 C												*								
1N3960												*		*					*	
1N3960 C												*								
1N3961												*		*					*	
1N3961 C												*								
1N3962		*										*		*					*	
1N3962 C												*								
1N3963												*		*					*	
1N3963 C												*								
1N3964				*								*		*	*					
1N3965		*		*								*		*	*					
1N3966				*								*		*	*					
1N3967				*								*		*	*					
1N3968				*								*		*	*					
1N3969				*								*			*					
1N3970												*			*					
1N3971												*			*					
1N3972												*			*					
1N3973												*			*					
1N3974												*			*					
1N3975												*			*					
1N3976				*											*					
1N3977				*											*					
1N3978															*					
1N3979															*					
1N3981						*												*		
1N3982						*												*		
1N3983						*												*		
1N3984										*										
1N3985		*								*										
1N3986										*										
1N3987		*		*	*			*	*	*	*	*		*					*	*
1N3987 R									*											*
1N3988		*		*	*			*	*	*	*	*	*	*					*	*
1N3988 R				*				*		*										*
1N3989		*		*	*			*	*	*	*	*		*					*	*
1N3989 R				*				*		*										*
1N3990				*	*			*	*	*	*	*	*	*					*	*
1N3990 R				*				*		*										*
1N3992	*																		*	
1N3993			*	*					*	*		*								
1N3993 A			*						*	*		*								
*1N3993 A			*						*	*										
1N3993 R			*	*						*										
1N3993RA			*							*										
*1N3993RA			*							*										
1N3993RB			*																	
1N3994			*	*					*	*		*							*	
1N3994 A			*	*					*	*		*							*	
*1N3994 A			*						*	*										
1N3994 B				*																
1N3994 R			*	*						*										
1N3994RA			*	*						*										
*1N3994RA			*							*										
1N3994RB			*	*																
1N3995			*	*					*	*		*							*	
1N3995 A			*	*					*	*		*							*	
*1N3995 A			*						*	*										
1N3995 B				*																
1N3995 R			*	*						*										
1N3995RA			*	*						*										
*1N3995RA			*							*										
1N3995RB			*	*																
1N3996			*	*					*	*		*							*	
1N3996 A		*	*	*					*	*		*							*	
*1N3996 A			*						*	*										
1N3996 B				*																
1N3996 R			*	*						*										
1N3996RA			*	*						*										
*1N3996RA			*							*										
1N3996RB			*	*																
1N3997			*	*					*	*	*	*							*	
1N3997 A			*	*					*	*		*							*	
*1N3997 A			*						*	*										
1N3997 B				*																
1N3997 R			*	*						*										
1N3997RA			*	*						*										
*1N3997RA			*							*										
1N3997RB			*	*																
1N3998			*	*					*	*	*	*							*	
1N3998 A			*	*					*	*		*							*	
*1N3998 A			*						*	*										
1N3998 B				*																
1N3998 R			*	*						*										
1N3998RA			*	*						*										
*1N3998RA			*							*										
1N3998RB			*	*																
1N3999			*	*					*	*	*	*		*					*	
1N3999 A			*	*					*	*		*							*	
*1N3999 A			*						*	*										
1N3999 B				*																

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N3999 R					*		*							*											
1N3999RA					*		*							*											
*1N3999RA					*									*											
1N3999RB					*		*																		
1N4000					*		*					*		*	*		*		*						*
1N4000 A					*		*					*		*			*								*
*1N4000 A					*							*		*											
1N4000 B							*																		
1N4000 R					*		*							*											
1N4000RA					*		*							*											
*1N4000RA					*									*											
1N4000RB					*		*																		
1N4001		*		*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4001 R														*											
1N4002		*		*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4002 R														*											
1N4003		*		*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4003 R														*											
1N4004		*		*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4004 R														*											
1N4005		*		*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4005 R														*											
1N4006				*		*	*			*	*	*	*	*	*	*		*	*	*				*	*
1N4006 R														*											
1N4007				*		*	*			*	*	*	*	*	*	*	*	*	*	*				*	*
1N4007 R														*											
1N4008				*						*															
1N4009	*		*	*				*	*	*			*						*	*		*	*		*	*
1N4010			*																			*				*
1N4011																		*								
1N4012							*								*			*		*						*
1N4013							*								*			*		*						*
1N4014							*								*			*	*	*						*
1N4015							*								*			*		*						*
1N4016																		*								
1N4016 A																		*								*
1N4016 B																		*								*
1N4017																		*								*
1N4017 A																		*								*
1N4017 B																		*								*
1N4018																		*								*
1N4018 A																		*								*
1N4018 B																		*								*
1N4019																		*								*
1N4019 A																		*								*
1N4019 B																		*								*
1N4020																		*								*
1N4020 A																		*								*
1N4020 B																		*								*
1N4021																		*								*
1N4021 A																		*								*
1N4021 B																		*								*
1N4022																		*								*
1N4022 A																		*								*
1N4022 B																		*								*
1N4023																		*								*
1N4023 A																		*								*
1N4023 B																		*								*
1N4024																		*								*
1N4024 A																		*								*
1N4024 B																		*								*
1N4025																		*								*
1N4025 A																		*								*
1N4025 B																		*								*
1N4026																		*								*
1N4026 A																		*								*
1N4026 B																		*								*
1N4027																		*								*
1N4027 A																		*								*
1N4027 B																		*								*
1N4028																		*								*
1N4028 A																		*								*
1N4028 B																		*								*
1N4029																		*								*
1N4029 A																		*								*
1N4029 B																		*								*
1N4030																		*								*
1N4030 A																		*								*
1N4030 B																		*								*
1N4031																		*								*
1N4031 A																		*								*
1N4031 B																		*								*
1N4032																		*								*
1N4032 A																		*								*
1N4032 B																		*								*
1N4033																		*								*
1N4033 A																		*								*
1N4033 B																		*								*
1N4034																		*								*
1N4034 A																		*								*
1N4034 B																		*								*
1N4035																		*								*
1N4035 A																		*								*
1N4035 B																		*								*
1N4036																		*								*
1N4036 A																		*								*
1N4036 B																		*								*
1N4037																		*								*
1N4037 A																		*								*
1N4037 B																		*								*
1N4038																		*								*
1N4038 A																		*								*

THE '72 MASTER 16th EDITION

	AMPEREX ELECT.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SARKES TARZIAN	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N4038 B												*							*	
1N4039												*							*	
1N4039 A												*							*	
1N4039 B												*							*	
1N4040												*							*	
1N4040 A												*							*	
1N4040 B												*							*	
1N4041																			*	
1N4041 A																			*	
1N4041 B																			*	
1N4042																			*	
1N4042 A																			*	
1N4042 B																			*	
1N4043																			*	
1N4044					*		*		*		*	*			*				*	*
1N4044 R							*		*											*
1N4045					*		*		*		*	*			*				*	*
1N4045 R							*		*											*
1N4046			*		*		*		*		*	*			*				*	*
1N4046 R							*		*											*
1N4047					*		*		*		*	*			*				*	*
1N4047 R							*		*											*
1N4048					*		*		*		*	*			*				*	*
1N4048 R							*		*											*
1N4049					*		*		*		*	*			*				*	*
1N4049 R							*		*											*
1N4050					*		*		*		*	*			*				*	*
1N4050 R							*		*											*
1N4051							*		*		*	*			*				*	*
1N4051 R							*		*											*
1N4052							*		*		*	*			*				*	*
1N4052 R							*		*											*
1N4053			*				*		*		*	*			*				*	*
1N4053 R							*		*											*
1N4054							*		*		*	*			*				*	*
1N4054 R							*		*											*
1N4055							*		*		*	*			*				*	*
1N4055 R							*		*											*
1N4056							*		*		*	*			*				*	*
1N4056 R							*		*											*
1N4057		*		*				*		*		*		*		*	*		*	
1N4057 A		*		*				*		*		*	*	*		*	*		*	
1N4058		*		*				*		*		*	*	*		*	*		*	
1N4058 A		*		*				*		*		*		*		*	*		*	
1N4059		*		*				*		*		*		*		*	*		*	
1N4059 A		*		*				*		*		*		*		*	*		*	
1N4060		*		*				*		*		*		*		*	*		*	
1N4060 A		*		*				*		*		*		*		*	*		*	
1N4061		*		*				*		*		*		*		*	*		*	
1N4061 A		*		*				*		*		*		*		*	*		*	
1N4062		*		*				*		*		*		*		*	*		*	
1N4062 A		*		*				*		*		*		*		*	*		*	
1N4063		*		*				*		*		*		*		*	*		*	
1N4063 A		*	*	*				*		*		*		*		*	*		*	
1N4064		*		*				*		*		*		*		*	*		*	
1N4064 A		*		*				*				*		*		*	*		*	
1N4065		*		*				*				*		*		*	*		*	
1N4065 A		*		*				*				*		*		*	*		*	
1N4066		*		*				*				*		*		*	*		*	
1N4066 A		*		*				*				*		*		*	*		*	
1N4067		*		*				*				*		*		*	*		*	
1N4067 A		*		*				*				*		*		*	*		*	
1N4068		*	*	*				*				*		*		*	*		*	
1N4068 A		*		*				*				*		*		*	*		*	
1N4069		*		*				*				*		*		*	*		*	
1N4069 A		*						*				*		*		*	*		*	
1N4070		*		*				*				*		*		*	*		*	
1N4070 A		*		*				*				*		*		*	*		*	
1N4071		*		*				*				*		*		*	*		*	
1N4071 A		*		*				*				*		*		*	*		*	
1N4072		*		*				*				*		*		*	*		*	
1N4072 A		*	*	*				*				*		*		*	*		*	
1N4073		*		*				*				*		*		*	*		*	
1N4073 A		*		*				*				*		*		*	*		*	
1N4074		*		*				*				*		*		*	*		*	
1N4074 A		*		*				*				*		*		*	*		*	
1N4075		*		*				*				*		*		*	*		*	
1N4075 A		*		*				*				*		*		*	*		*	
1N4076		*	*	*				*				*		*		*	*		*	
1N4076 A		*		*				*				*		*		*	*		*	
1N4077	*	*		*				*				*	*	*		*	*		*	
1N4077 A		*		*				*				*		*		*	*		*	
1N4078	*	*		*				*				*	*	*		*	*		*	
1N4078 A		*		*				*				*		*		*	*		*	
1N4079		*		*				*				*	*	*		*	*		*	
1N4079 A		*	*	*				*				*		*		*	*		*	
1N4080		*		*				*				*	*	*		*	*		*	
1N4080 A		*		*				*				*		*		*	*		*	
1N4081		*		*				*				*		*		*	*		*	
1N4081 A		*		*				*				*		*		*	*		*	
1N4082		*		*				*				*		*		*	*		*	
1N4082 A		*		*				*				*		*		*	*		*	
1N4083		*		*				*				*		*		*	*		*	
1N4083 A		*		*				*				*		*		*	*		*	
1N4084		*		*				*				*		*		*	*		*	
1N4084 A		*		*				*				*		*		*	*		*	
1N4085		*		*				*				*		*		*	*		*	
1N4085 A		*		*				*				*		*		*	*		*	
1N4086						*						*				*	*		*	
1N4087							*											*	*	
1N4089					*			*					*							*	
1N4090																			*	

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	SARKES TARZIAN	SENSITRON SEMI.	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
1N4092							*													*					
1N4093							*													*					
1N4095				*																					
1N4096																							*		
1N4097		*																					*		
1N4097 A		*																							
1N4098		*																							
1N4098 A		*																							
1N4099				*	*	*					*					*				*	*	*		*	
1N4100				*	*	*					*					*				*	*	*		*	
1N4101				*	*	*					*					*				*	*	*		*	
1N4102				*	*	*					*					*				*	*	*		*	
1N4103				*	*	*					*					*				*	*	*		*	
1N4104				*	*	*					*					*				*	*	*		*	
1N4105				*	*	*					*					*				*	*	*		*	
1N4106				*	*	*					*					*				*	*	*		*	
1N4107				*		*					*					*				*		*		*	
1N4108				*		*					*					*				*		*		*	
1N4109				*		*					*					*				*		*		*	
1N4110				*		*					*					*				*		*		*	
1N4111				*		*					*					*				*		*		*	
1N4112				*		*					*					*	*			*		*		*	
1N4113				*	*	*					*					*				*		*		*	
1N4114				*	*	*					*					*				*		*		*	
1N4115				*	*	*					*					*				*		*		*	
1N4116				*	*	*					*					*				*		*		*	
1N4117				*	*	*					*					*				*		*		*	
1N4118				*	*	*					*					*				*		*		*	
1N4119				*	*	*					*					*				*		*		*	
1N4120				*	*	*					*					*				*		*		*	
1N4121					*	*					*					*				*		*		*	
1N4122					*	*					*					*				*				*	
1N4123					*	*					*					*				*				*	
1N4124						*					*					*				*				*	
1N4125						*					*					*				*				*	
1N4126						*					*					*				*				*	
1N4127						*					*					*				*				*	
1N4128						*					*					*				*				*	
1N4129						*					*					*				*				*	
1N4130						*					*					*				*				*	
1N4131						*					*					*				*				*	
1N4132						*					*					*				*				*	
1N4133						*					*					*				*				*	
1N4134						*					*					*				*				*	
1N4135						*					*					*				*				*	
1N4136												*		*		*			*					*	*
1N4136 R																									*
1N4137							*					*		*		*			*					*	*
1N4137 R																									*
1N4138												*		*		*			*					*	*
1N4138 R																									*
1N4139					*										*	*	*				*				*	
1N4140															*	*			*		*				*	
1N4141						*									*	*	*		*		*				*	
1N4142						*									*	*			*		*				*	
1N4143						*									*	*	*		*		*				*	
1N4144					*	*									*	*			*		*				*	
1N4145						*									*	*	*		*		*				*	
1N4146						*									*	*	*		*		*				*	
1N4147																			*		*				*	
1N4148	*				*				*	*	*	*		*				*	*		*	*			*	
*1N4148									*	*	*	*		*												
1N4149									*	*	*	*		*							*	*			*	
1N4150	*								*	*	*	*		*							*	*			*	
*1N4150										*	*			*												
1N4151	*								*	*	*	*		*				*			*	*			*	
1N4152									*	*	*	*		*							*	*			*	
1N4153									*	*	*	*		*							*	*			*	
*1N4153										*	*			*												
1N4154	*								*	*	*	*		*				*			*	*			*	
*1N4154										*																
1N4155									*							*									
1N4156				*					*																*	
1N4157				*					*																*	
1N4158				*																						
1N4158 A				*										*												
1N4158 B				*																						
1N4159				*																						
1N4159 A				*										*												
1N4159 B				*																						
1N4160				*																						
1N4160 A				*										*												
1N4160 B				*																						
1N4161				*																						
1N4161 A				*										*												
1N4161 B				*																						
1N4162				*																					*	
1N4162 A				*										*											*	
1N4162 B				*																					*	
1N4163				*																					*	
1N4163 A				*										*											*	
1N4163 B				*																					*	
1N4164				*																					*	
1N4164 A				*										*											*	
1N4164 B				*																					*	
1N4165				*																					*	
1N4165 A				*										*											*	
1N4165 B				*																					*	
1N4166				*																					*	
1N4166 A				*										*											*	
1N4166 B				*																					*	
1N4167				*																					*	

THE '72 MASTER 9th EDITION

	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	SARKES TARZIAN	SEMTECH	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	UNITED-PAGE	UNITRODE
1N4167 A		*								*						*	
1N4167 B		*														*	
1N4168		*														*	
1N4168 A		*								*						*	
1N4168 B		*														*	
1N4169		*														*	
1N4169 A		*								*						*	
1N4169 B		*														*	
1N4170		*														*	
1N4170 A		*								*						*	
1N4170 B		*														*	
1N4171		*														*	
1N4171 A		*								*						*	
1N4171 B		*														*	
1N4172		*														*	
1N4172 A		*								*						*	
1N4172 B		*														*	
1N4173		*														*	
1N4173 A		*								*						*	
1N4173 B		*														*	
1N4174																*	
1N4174 A										*						*	
1N4174 B																*	
1N4175																*	
1N4175 A										*						*	
1N4175 B																*	
1N4176																*	
1N4176 A										*						*	
1N4176 B																*	
1N4177																*	
1N4177 A										*						*	
1N4177 B																*	
1N4178																*	
1N4178 A										*						*	
1N4178 B																*	
1N4179																*	
1N4179 A										*						*	
1N4179 B																*	
1N4180																*	
1N4180 A										*						*	
1N4180 B																*	
1N4181																*	
1N4181 A										*						*	
1N4181 B																*	
1N4182																*	
1N4182 A										*						*	
1N4182 B																*	
1N4183																*	
1N4183 A										*						*	
1N4183 B																*	
1N4184																*	
1N4184 A										*						*	
1N4184 B																*	
1N4185																*	
1N4185 A										*						*	
1N4185 B																*	
1N4186																*	
1N4186 A										*						*	
1N4186 B																*	
1N4187																*	
1N4187 A										*						*	
1N4187 B																*	
1N4188																*	
1N4188 A										*						*	
1N4188 B																*	
1N4189																*	
1N4189 A										*						*	
1N4189 B																*	
1N4190																*	
1N4190 A										*						*	
1N4190 B																*	
1N4191																*	
1N4191 A										*						*	
1N4191 B																*	
1N4192																*	
1N4192 A										*						*	
1N4192 B																*	
1N4193																*	
1N4193 A										*						*	
1N4193 B																*	
1N4244						*											
*1N4244														*			
1N4245	*			*			*	*	*		*	*	*	*			
*1N4245							*	*						*	*		*
1N4246	*			*			*	*	*		*	*	*				
*1N4246							*	*						*	*		*
1N4247	*			*			*	*	*		*	*	*	*			
*1N4247							*	*							*		*
1N4248				*	*		*	*	*		*	*	*				
*1N4248							*	*						*	*		
1N4249				*			*	*	*		*	*	*	*			
*1N4249								*						*	*		
1N4250		*			*			*	*				*		*		
1N4251		*	*		*			*	*				*		*		
1N4252		*						*	*				*	*	*		
1N4253		*						*	*				*		*		
1N4254		*						*	*				*		*		
1N4255		*	*					*	*				*		*		
1N4256		*						*	*				*		*		
1N4257		*						*	*				*		*		
1N4258									*						*	*	
1N4258 A									*								

JEDEC TYPE	HORIZON SEMI.	SOLITRON DEV./N. Y.	UNITED-PAGE
1N4258 B	*		
1N4259	*	*	*
1N4259 A	*		
1N4259 B	*		
1N4260	*		*
1N4260 A	*		
1N4260 B	*		
1N4261	*		*
1N4261 A	*		
1N4261 B	*		
1N4262	*		*
1N4262 A	*		
1N4262 B	*		
1N4263	*		*
1N4263 A	*		
1N4263 B	*		
1N4264	*		*
1N4264 A	*		
1N4264 B	*		
1N4265	*		*
1N4265 A	*		
1N4265 B	*		
1N4266	*		*
1N4266 A	*		
1N4266 B	*		
1N4267	*		*
1N4267 A	*		
1N4267 B	*		
1N4268	*		*
1N4268 A	*		
1N4268 B	*		
1N4269	*		*
1N4269 A	*		
1N4269 B	*		
1N4270	*		*
1N4270 A	*		
1N4270 B	*		
1N4271	*		*
1N4271 A	*		
1N4271 B	*		
1N4272	*		*
1N4272 A	*		
1N4272 B	*		
1N4273	*		*
1N4273 A	*		
1N4273 B	*		
1N4274	*		*
1N4274 A	*		
1N4274 B	*		
1N4275	*		*
1N4275 A	*		
1N4275 B	*		
1N4276	*		*
1N4276 A	*		
1N4276 B	*		
1N4277	*		*
1N4277 A	*		
1N4277 B	*		
1N4278	*		*
1N4278 A	*		
1N4278 B	*		
1N4279	*		*
1N4279 A	*		
1N4279 B	*		
1N4280	*		*
1N4280 A	*		
1N4280 B	*		
1N4281	*		*
1N4281 A	*		
1N4281 B	*		
1N4282	*		*
1N4282 A	*		
1N4282 B	*		
1N4283	*		*
1N4283 A	*		
1N4283 B	*		
1N4284	*		*
1N4284 A	*		
1N4284 B	*		
1N4285	*		*
1N4285 A	*		
1N4285 B	*		
1N4286	*		*
1N4286 A	*		
1N4286 B	*		
1N4287	*		*
1N4287 A	*		
1N4287 B	*		
1N4288	*		*
1N4288 A	*		
1N4288 B	*		
1N4289	*		*
1N4289 A	*		
1N4289 B	*		
1N4290	*		*
1N4290 A	*		
1N4290 B	*		
1N4291	*		*
1N4291 A	*		
1N4291 B	*		
1N4292	*		*
1N4292 A	*		

JEDEC TYPE	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	RAYTHEON	SOLID STATE DEVI	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N4292 B				*								
1N4293				*								*
1N4293 A				*								
1N4293 B				*								
1N4294												*
1N4294 M												*
1N4294 R												*
1N4294MR												*
1N4295									*			*
1N4295 A									*			*
1N4296												*
1N4296 A												*
1N4297												*
1N4297 A												*
1N4297 B												*
1N4298												*
1N4298 A												*
1N4298 B												*
1N4299												*
1N4299 A												*
1N4299 B												*
1N4300												*
1N4300 A												*
1N4300 B												*
1N4301												*
1N4301 A												*
1N4301 B												*
1N4302												*
1N4302 A												*
1N4302 B												*
1N4303												*
1N4303 A												*
1N4303 B												*
1N4304												*
1N4304 A												*
1N4304 B												*
1N4305	*	*	*	*	*			*	*	*	*	*
1N4306	*	*		*			*					*
*1N4306	*											
1N4307	*	*		*			*					*
*1N4307	*											
1N4308						*		*	*			
1N4309								*	*			
1N4310								*	*			
1N4311								*	*			
1N4312							*					
1N4313							*					
1N4314							*					
1N4315							*					
1N4316							*					
1N4317							*					
1N4318							*					
1N4319							*					
1N4320							*					
1N4321							*					
1N4322	*						*	*	*			
1N4323				*				*				*
1N4323 A				*				*				*
1N4323 B				*				*				*
1N4324				*				*				*
1N4324 A				*				*				*
1N4324 B				*				*				*
1N4325				*				*				*
1N4325 A				*				*				*
1N4325 B				*				*				*
1N4326				*				*				*
1N4326 A				*				*				*
1N4326 B				*				*				*
1N4327				*				*				*
1N4327 A				*				*				*
1N4327 B				*				*				*
1N4328				*				*				*
1N4328 A				*				*				*
1N4328 B				*				*				*
1N4329				*				*				*
1N4329 A				*				*				*
1N4329 B				*				*				*
1N4330				*				*				*
1N4330 A				*				*				*
1N4330 B				*				*				*
1N4331				*				*				*
1N4331 A				*				*				*
1N4331 B				*				*				*
1N4332				*				*				*
1N4332 A				*				*				*
1N4332 B				*				*				*
1N4333				*				*				*
1N4333 A				*				*				*
1N4333 B				*				*				*
1N4334				*				*				*
1N4334 A				*				*				*
1N4334 B				*				*				*
1N4335				*				*				*
1N4335 A				*				*				*
1N4335 B				*				*				*
1N4336				*				*				*
1N4336 A				*				*				*
1N4336 B				*				*				*
1N4337				*				*				*
1N4337 A				*				*				*
1N4337 B				*				*				*
1N4338				*				*				*

THE '72 MASTER 16th EDITION

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
1N4338 A								*								*				*
1N4338 B								*								*				*
1N4339								*								*				*
1N4339 A								*								*				*
1N4339 B								*								*				*
1N4340								*								*				*
1N4340 A								*								*				*
1N4340 B								*								*				*
1N4341								*								*				*
1N4341 A								*								*				*
1N4341 B								*								*				*
1N4342								*								*				*
1N4342 A								*								*				*
1N4342 B								*								*				*
1N4343								*								*				*
1N4343 A								*								*				*
1N4343 B								*								*				*
1N4344								*								*				*
1N4344 A								*								*				*
1N4344 B								*								*				*
1N4345								*								*				*
1N4345 A								*								*				*
1N4345 B								*								*				*
1N4346								*								*				*
1N4346 A								*								*				*
1N4346 B								*								*				*
1N4347								*								*				*
1N4347 A								*								*				*
1N4347 B								*								*				*
1N4348								*								*				*
1N4348 A								*								*				*
1N4348 B								*								*				*
1N4349								*								*				*
1N4349 A								*								*				*
1N4349 B								*								*				*
1N4350								*								*				*
1N4350 A								*								*				*
1N4350 B								*								*				*
1N4351								*								*				
1N4351 A								*								*				
1N4351 B								*								*				
1N4352								*								*				
1N4352 A								*								*				
1N4352 B								*								*				
1N4353								*								*				
1N4353 A								*								*				
1N4353 B								*								*				
1N4354								*								*				
1N4354 A								*								*				
1N4354 B								*								*				
1N4355								*								*				
1N4355 A								*								*				
1N4355 B								*								*				
1N4356								*								*				
1N4356 A								*								*				
1N4356 B								*								*				
1N4357								*								*				
1N4357 A								*								*				
1N4357 B								*								*				
1N4358								*								*				
1N4358 A								*								*				
1N4358 B								*								*				
1N4360		*										*				*		*		*
1N4361					*							*		*						*
1N4362												*								*
1N4363						*						*				*	*			*
1N4364					*		*					*								*
1N4365					*		*					*								*
1N4366					*		*					*								*
1N4367			*		*		*					*								*
1N4368					*		*					*								*
1N4369					*		*					*								*
1N4370	*	*	*	*				*	*					*		*	*	*	*	*
1N4370 A	*	*	*	*				*	*					*		*		*		*
1N4370 A				*					*							*				
1N4371	*	*	*	*				*	*					*		*		*		
1N4371 A	*	*	*	*				*	*					*		*		*		*
1N4371 A				*					*							*				
1N4372	*	*	*	*				*	*					*		*	*	*		
1N4372 A	*	*	*	*				*	*					*		*		*		*
1N4372 A				*					*							*				
1N4374																				*
1N4376						*		*												
1N4376						*														
1N4377														*						
1N4380										*		*								
1N4381							*					*								
1N4382																*	*			
1N4383					*		*	*		*	*			*					*	*
1N4383							*													
1N4384					*		*	*		*	*	*		*					*	*
1N4384							*													
1N4385					*		*	*		*	*	*		*					*	*
1N4385							*													
1N4386																				*
1N4389					*			*						*						
1N4390												*	*	*						
1N4391												*		*						
1N4392														*						
1N4393	*											*								
1N4393 A	*											*								
1N4393 B												*								

JEDEC TYPE	CENTRALAB SEMI.	SOLID STATE DEVI	UNITED-PAGE
1N4394	*	*	
1N4394 A	*	*	
1N4394 B		*	
1N4395	*	*	
1N4395 A	*	*	
1N4395 B		*	
1N4396	*	*	
1N4396 A	*	*	
1N4396 B	*	*	
1N4397	*	*	
1N4397 A	*	*	
1N4397 B	*	*	
1N4398	*	*	
1N4398 A	*	*	
1N4398 B	*	*	
1N4399	*	*	
1N4399 A	*	*	
1N4399 B	*	*	
1N4400			*
1N4400 A			*
1N4400 B			*
1N4401			*
1N4401 A			*
1N4401 B			*
1N4402			*
1N4402 A			*
1N4402 B			*
1N4403			*
1N4403 A			*
1N4403 B			*
1N4404			*
1N4404 A			*
1N4404 B			*
1N4405			*
1N4405 A			*
1N4405 B			*
1N4406			*
1N4406 A			*
1N4406 B			*
1N4407			*
1N4407 A			*
1N4407 B			*
1N4408			*
1N4408 A			*
1N4408 B			*
1N4409			*
1N4409 A			*
1N4409 B			*
1N4410			*
1N4410 A			*
1N4410 B			*
1N4411			*
1N4411 A			*
1N4411 B			*
1N4412			*
1N4412 A			*
1N4412 B			*
1N4413			*
1N4413 A			*
1N4413 B			*
1N4414			*
1N4414 A			*
1N4414 B			*
1N4415			*
1N4415 A			*
1N4415 B			*
1N4416			*
1N4416 A			*
1N4416 B			*
1N4417			*
1N4417 A			*
1N4417 B			*
1N4418			*
1N4418 A			*
1N4418 B			*
1N4419			*
1N4419 A			*
1N4419 B			*
1N4420			*
1N4420 A			*
1N4420 B			*
1N4421			*
1N4421 A			*
1N4421 B			*
1N4422			*
1N4422 A			*
1N4422 B			*
1N4423			*
1N4423 A			*
1N4423 B			*
1N4424			*
1N4424 A			*
1N4424 B			*
1N4425			*
1N4425 A			*
1N4425 B			*
1N4426			*
1N4426 A			*
1N4426 B			*
1N4427			*
1N4427 A			*
1N4427 B			*

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HEWLETT PACKARD	HORIZON SEMI.	ITT SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	VARO SEMI.	WESTINGHOUSE
1N4428																					*		
1N4428 A																					*		
1N4428 B																					*		
1N4429																					*		
1N4429 A																					*		
1N4429 B																					*		
1N4430																					*		
1N4430 A																					*		
1N4430 B																					*		
1N4431																					*		
1N4431 A																					*		
1N4431 B																					*		
1N4432																					*		
1N4432 A																					*		
1N4432 B																					*		
1N4433																					*		
1N4433 A																					*		
1N4433 B																					*		
1N4434																					*		
1N4434 A																					*		
1N4434 B																					*		
1N4435																					*		
1N4435 A																					*		
1N4435 B																					*		
1N4436														*								*	
1N4437																						*	
1N4438																						*	
1N4444								*	*			*		*			*	*	*		*		
1N4445									*														
1N4446	*						*	*	*		*	*					*	*	*	*	*		
1N4447				*			*	*	*		*	*					*	*	*	*	*		
1N4448	*			*			*	*	*		*	*		*			*	*	*	*	*		
1N4449				*			*	*	*		*	*					*	*	*	*	*		
1N4450				*			*	*	*		*	*					*	*			*		
1N4451				*				*	*		*	*					*	*			*		
1N4452																					*		
1N4453								*				*											
1N4454							*	*	*		*	*					*	*	*	*	*		
*1N4454							*	*				*					*						
1N4455						*											*				*		
1N4456										*		*									*		
1N4457										*		*									*		
1N4458						*					*	*		*							*		*
*1N4458														*									
1N4458 R											*				*								*
*1N4458 R															*								
1N4459						*					*	*		*							*		*
*1N4459														*									
1N4459 R											*				*								*
*1N4459 R															*								
1N4460		*																			*		
1N4461		*																			*		
1N4462		*																			*		
1N4463		*																			*		
1N4464		*																			*		
1N4465		*																			*		
1N4466		*																			*		
1N4467		*																			*		
1N4468		*																			*		
1N4469		*																			*		
1N4470		*																			*		
1N4471		*																			*		
1N4472		*																			*		
1N4473		*																			*		
1N4474		*																			*		
1N4475		*																			*		
1N4476		*																			*		
1N4477		*																			*		
1N4478		*																			*		
1N4479		*																			*		
1N4480		*																			*		
1N4481		*																			*		
1N4482		*																			*		
1N4483		*																			*		
1N4484		*																			*		
1N4485		*																			*		
1N4486		*																			*		
1N4487		*																			*		
1N4488		*		*																	*		
1N4489		*																			*		
1N4490		*																			*		
1N4491		*																			*		
1N4492		*																			*		
1N4493		*																			*		
1N4494		*																			*		
1N4495		*																			*		
1N4496		*																			*		
1N4497													*		*								
1N4498													*		*								
1N4499																	*				*		
1N4500																	*	*			*		
1N4501																	*	*		*	*		
1N4502									*												*		
1N4504														*							*		
1N4505			*								*		*	*	*						*		
1N4506						*					*		*	*	*	*					*		
1N4507						*					*		*		*	*					*		
1N4508						*					*		*		*	*					*		
1N4509						*					*		*		*	*					*		
1N4510						*		*			*		*	*	*	*					*		
1N4511						*		*			*		*	*	*	*					*		
1N4512															*								

*JAN Type

THE '72 MASTER 16th EDITION

	CODI SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HEWLETT PACKARD	HORIZON SEMI.	ITT SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	
1N4513			*										*						*	
1N4514			*	*									*						*	
1N4517				*								*	*						*	
1N4523										*	*								*	
1N4524							*				*								*	
1N4525				*					*		*		*	*					*	
1N4526				*					*		*		*	*					*	
1N4527									*		*		*	*					*	
1N4528									*		*	*	*	*					*	
1N4529						*			*		*	*	*	*					*	
1N4530						*			*		*	*	*	*					*	
1N4531					*	*						*		*	*	*	*	*	*	
*1N4531						*				*										
1N4532					*	*									*	*		*	*	
*1N4532						*								*						
1N4533					*	*									*	*		*	*	
1N4534					*	*									*	*	*	*	*	
1N4535	*													*						
1N4536					*	*										*	*	*	*	
1N4537											*		*							
1N4538											*		*						*	
1N4539													*							
1N4540											*		*						*	
1N4546													*							
1N4547								*												
1N4549		*									*								*	
1N4549 A		*									*								*	
1N4549 B		*									*								*	
*1N4549 B		*																		
1N4549 R		*																		
1N4549RA		*																		
1N4549RB		*																		
*1N4549RB		*																		
1N4550		*																	*	
1N4550 A		*																	*	
1N4550 B		*																	*	
*1N4550 B		*																		
1N4550 R		*																		
1N4550RA		*																		
1N4550RB		*																		
*1N4550RB		*																		
1N4551		*		*		*													*	
1N4551 A		*		*															*	
1N4551 B		*		*															*	
*1N4551 B		*																		
1N4551 R		*		*																
1N4551RA		*		*																
1N4551RB		*		*																
*1N4551RB		*																		
1N4552		*		*															*	
1N4552 A		*		*															*	
1N4552 B		*		*															*	
*1N4552 B		*																		
1N4552 R		*		*																
1N4552RA		*		*																
1N4552RB		*		*																
*1N4552RB		*																		
1N4553		*		*															*	
1N4553 A		*		*															*	
1N4553 B		*		*															*	
*1N4553 B		*																		
1N4553 R		*		*																
1N4553RA		*		*																
1N4553RB		*		*																
*1N4553RB		*																		
1N4554		*		*															*	
1N4554 A		*		*															*	
1N4554 B		*		*															*	
*1N4554 B		*																		
1N4554 R		*		*																
1N4554RA		*		*																
1N4554RB		*		*																
*1N4554RB		*																		
1N4555		*		*									*						*	
1N4555 A		*		*															*	
1N4555 B		*		*															*	
1N4555 R		*		*																
1N4555RA		*		*																
1N4555RB		*		*																
1N4556		*		*									*						*	
1N4556 A		*		*															*	
1N4556 B		*		*															*	
1N4556 R		*		*																
1N4556RA		*		*																
1N4556RB		*		*																
1N4557		*																	*	
1N4557 A		*																	*	
1N4557 B		*																	*	
1N4557 R		*																		
1N4557RA		*																		
1N4557RB		*																		
1N4558		*																	*	
1N4558 A		*																	*	
1N4558 B		*																	*	
1N4558 R		*																		
1N4558RA		*																		
1N4558RB		*																		
1N4559		*		*															*	
1N4559 A		*		*															*	
1N4559 B		*		*															*	
1N4559 R		*		*																
1N4559RA		*		*																

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	SARKES TARZIAN	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N4559RB			*	*													
1N4560			*	*												*	*
1N4560 A			*	*													*
1N4560 B			*	*												*	*
1N4560 R			*	*													
1N4560RA			*	*													
1N4560RB			*	*													
1N4561			*	*												*	*
1N4561 A			*	*												*	*
1N4561 B			*	*												*	
1N4561 R			*	*													
1N4561RA			*	*													
1N4561RB			*	*													
1N4562			*	*												*	
1N4562 A			*	*												*	
1N4562 B			*	*												*	
1N4562 R			*	*													
1N4562RA			*	*													
1N4562RB			*	*													
1N4563			*	*												*	
1N4563 A			*	*												*	
1N4563 B			*	*												*	
1N4563 R			*	*													
1N4563RA			*	*													
1N4563RB			*	*													
1N4564			*	*												*	
1N4564 A			*	*												*	
1N4564 B			*	*												*	
1N4564 R			*	*													
1N4564RA			*	*													
1N4564RB			*	*													
1N4565	*	*	*				*						*	*		*	
1N4565 A	*	*	*				*						*	*		*	
1N4566	*	*	*				*						*	*		*	
1N4566 A	*	*	*				*						*	*		*	
1N4567	*	*	*				*						*	*		*	
1N4567 A	*	*	*				*						*	*		*	
1N4568	*	*	*				*						*	*		*	
1N4568 A	*	*	*				*						*	*		*	
1N4569	*	*	*				*						*	*		*	
1N4569 A	*	*	*				*						*	*		*	
1N4570	*	*	*			*	*						*	*		*	
1N4570 A	*	*	*			*	*						*	*		*	
1N4571	*	*	*			*	*						*	*		*	
1N4571 A	*	*	*			*	*						*	*		*	
1N4572	*	*	*			*	*						*	*		*	
1N4572 A	*	*	*			*	*						*	*		*	
1N4573	*	*	*			*	*						*	*		*	
1N4573 A	*	*	*			*	*						*	*		*	
1N4574	*	*	*				*						*	*		*	
1N4574 A	*	*	*				*						*	*		*	
1N4575	*	*	*				*						*	*		*	
1N4575 A	*	*	*				*						*	*		*	
1N4576	*	*	*				*						*	*		*	
1N4576 A	*	*	*				*						*	*		*	
1N4577	*	*	*				*						*	*		*	
1N4577 A	*	*	*				*						*	*		*	
1N4578	*	*	*				*						*	*		*	
1N4578 A	*	*	*				*						*	*		*	
1N4579	*	*	*				*						*	*		*	
1N4579 A	*	*	*				*						*	*		*	
1N4580	*	*	*				*						*	*		*	
1N4580 A	*	*	*				*							*		*	
1N4581	*	*	*				*							*		*	
1N4581 A	*	*	*				*							*		*	
1N4582	*	*	*				*							*		*	
1N4582 A	*	*	*				*							*		*	
1N4583	*	*	*				*							*		*	
1N4583 A	*	*	*				*							*		*	
1N4584	*	*	*				*							*		*	
1N4584 A	*	*	*				*							*		*	
1N4585				*	*			*	*						*	*	
*1N4585					*												
1N4586				*	*			*	*						*	*	
*1N4586					*												
1N4587				*			*		*	*		*				*	*
1N4587 R																	*
1N4588				*			*		*	*		*				*	*
1N4588 R																	*
1N4589				*			*		*	*		*				*	*
1N4589 R																	*
1N4590				*			*		*	*		*				*	*
1N4590 R																	*
1N4591				*			*		*	*		*				*	*
1N4591 R																	*
1N4592							*		*	*		*				*	*
1N4592 R																	*
1N4593							*		*	*		*				*	*
1N4593 R																	*
1N4594							*		*	*		*				*	*
1N4594 R																	*
1N4595							*		*	*		*				*	*
1N4595 R																	*
1N4596							*			*		*				*	*
1N4596 R																	*
1N4597											*					*	
1N4598		*															
1N4598 A		*															
1N4599		*															
1N4599 A		*															
1N4600																*	
1N4601																*	

THE '72 MASTER 16th EDITION

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
4602																*
4603																*
4604					*											*
4605																*
4606				*	*	*	*		*				*	*		*
4607				*	*	*			*			*				*
4608					*				*			*				*
4609	*															
4609 A	*															
4610				*								*				
4611	*											*				
4611 A	*											*				
4611 B	*											*				
4611 C	*											*				
4612	*											*				
4612 A	*											*				
4612 B	*	*										*				
4612 C	*											*				
4613	*											*				
4613 A	*											*				
4613 B	*											*				
4613 C	*											*				
4614	*	*	*						*							*
4615	*	*	*						*							*
4616	*	*	*						*							*
4617	*	*	*						*							*
4618	*	*	*													*
4619	*	*	*													*
4620	*	*	*													*
4621	*	*	*													*
4622	*	*	*													*
4623	*	*	*													*
4624	*	*	*													*
4625	*	*	*													*
4626	*	*	*													*
4627	*	*	*													*
4628	*						*			*						*
4629	*						*			*						*
4630	*						*			*						*
4631	*						*			*						*
4632	*						*			*						*
4633	*						*			*						*
4634	*						*			*						*
4635	*						*			*						*
4636	*						*			*						*
4637	*						*			*						*
4638	*						*			*						*
4639	*						*			*						*
4640	*						*			*						*
4641	*						*			*						*
4642	*						*			*						*
4643	*						*			*						*
4644	*						*			*						*
4645	*						*			*						*
4646	*						*			*						*
4647	*						*			*						*
4648	*						*			*						*
4649																*
4650												*				*
4651												*				*
4652												*				*
4653												*				*
4654												*				*
4655												*				*
4656												*				*
4657							*			*	*					*
4658							*			*	*					*
4659							*			*	*					*
4660							*			*	*					*
4661							*			*	*					*
4662							*			*	*					*
4663							*			*	*					*
4664							*			*	*					
4665							*			*	*					
4666							*			*	*					*
4667							*			*	*					*
4668										*	*					*
4669										*	*					*
4670										*	*					*
4671										*	*					*
4672										*	*					*
4673										*	*					*
4674										*	*					*
4675										*	*					*
4676										*	*					*
4677										*	*					*
4678	*		*												*	*
4679	*		*												*	*
4680	*		*												*	*
4681	*		*												*	*
4682	*		*												*	*
4683	*		*												*	*
4684	*		*												*	*
4685	*		*												*	*
4686	*		*												*	*
4687	*		*												*	*
4688	*		*												*	*
4689	*		*												*	*
4690	*		*												*	*
4691	*		*												*	*
4692	*		*												*	*
4693	*		*												*	*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
1N4694		*		*													*	*
1N4695		*		*													*	*
1N4696		*		*													*	*
1N4697		*		*													*	
1N4698		*		*													*	
1N4699		*		*													*	*
1N4700		*		*													*	*
1N4701		*		*													*	*
1N4702		*		*													*	*
1N4703		*		*													*	*
1N4704		*		*													*	*
1N4705		*		*													*	*
1N4706		*		*														*
1N4707		*		*														*
1N4708		*		*														*
1N4709		*		*														*
1N4710		*		*														*
1N4711		*		*														*
1N4712		*		*														*
1N4713		*		*														*
1N4714				*														*
1N4715				*														*
1N4716				*														*
1N4717				*														*
1N4718			*								*							
1N4719					*			*								*		*
1N4720					*			*								*		*
1N4721					*			*								*		*
1N4722					*			*								*		*
1N4723					*			*				*				*		*
1N4724			*		*			*				*				*		*
1N4725					*			*								*		*
1N4727			*			*	*						*	*	*			*
1N4728								*	*									*
1N4728 A					*			*	*									
1N4729								*	*									
1N4729 A					*			*	*									
1N4730								*	*									*
1N4730 A					*			*	*									*
1N4731								*	*									*
1N4731 A					*			*	*			*						*
1N4732								*	*							*		*
1N4732 A					*			*	*									*
1N4733								*	*			*				*		*
1N4733 A					*			*	*									*
1N4734								*	*			*				*		*
1N4734 A					*			*	*									*
1N4735	*							*	*							*		*
1N4735 A	*			*				*	*			*						*
1N4736	*							*	*			*				*		*
1N4736 A	*			*				*	*									*
1N4737	*							*	*							*		*
1N4737 A	*			*				*	*									*
1N4738	*							*	*			*				*		*
1N4738 A	*			*				*	*									*
1N4739	*							*	*							*		*
1N4739 A	*			*				*	*									*
1N4740	*							*	*			*				*		*
1N4740 A	*			*				*	*									*
1N4741	*							*	*			*				*		*
1N4741 A	*			*				*	*									*
1N4742	*							*	*							*		*
1N4742 A	*			*				*	*									*
1N4743	*							*	*							*		*
1N4743 A	*			*				*	*			*						*
1N4744	*							*	*							*		*
1N4744 A	*			*				*	*									*
1N4745	*							*	*			*				*		*
1N4745 A	*			*				*	*									*
1N4746	*							*	*			*				*		*
1N4746 A	*			*				*	*									*
1N4747	*							*	*							*		*
1N4747 A	*			*				*	*	*								*
1N4748	*							*	*	*						*		*
1N4748 A	*			*				*	*	*								*
1N4749	*							*	*	*		*				*		*
1N4749 A	*			*				*	*	*								*
1N4750	*							*	*	*		*				*		*
1N4750 A	*			*				*	*	*								*
1N4751	*							*	*	*						*		*
1N4751 A	*			*				*	*	*								*
1N4752	*							*	*	*		*				*		*
1N4752 A	*			*				*	*	*								*
1N4753	*							*	*	*						*		*
1N4753 A	*			*				*	*	*								*
1N4754	*							*	*	*						*		*
1N4754 A	*			*				*	*	*								*
1N4755	*							*	*	*						*		*
1N4755 A	*			*				*	*	*								*
1N4756	*							*	*	*						*		*
1N4756 A	*			*				*	*	*								*
1N4757	*							*	*	*						*		*
1N4757 A	*			*				*	*	*								*
1N4758	*							*	*	*						*		*
1N4758 A	*			*				*	*	*								*
1N4759	*							*	*	*		*				*		*
1N4759 A	*			*				*	*	*								*
1N4760	*							*	*	*		*				*		*
1N4760 A	*			*				*	*	*								*
1N4761	*							*	*	*						*		*
1N4761 A	*			*				*	*	*								*
1N4762	*							*	*	*						*		*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	TRW SEMI.	UNITED-PAGE
1N4762 A	*				*	*	*	*							*
1N4763	*					*	*	*					*		*
1N4763 A	*				*	*	*	*							*
1N4764	*					*		*					*		*
1N4764 A	*				*	*		*							*
1N4765	*	*			*						*	*			
1N4765 A	*	*						*			*	*			
1N4765 B		*													
1N4766	*	*	*		*			*			*	*			
1N4766 A	*	*						*		*	*	*			
1N4766 B		*													
1N4767	*	*	*		*			*			*	*			
1N4767 A	*	*						*			*	*			
1N4767 B		*													
1N4768	*	*	*		*			*			*	*			
1N4768 A	*	*						*			*	*			
1N4768 B		*													
1N4769	*	*	*		*			*			*	*			
1N4769 A	*	*						*			*	*			
1N4769 B		*													
1N4770	*	*	*		*	*		*			*	*			
1N4770 A	*	*				*		*			*	*			
1N4770 B		*													
1N4771	*	*	*		*	*		*			*	*			
1N4771 A	*	*				*		*			*	*			
1N4771 B		*													
1N4772	*	*	*		*	*		*			*	*			
1N4772 A	*	*				*		*			*	*			
1N4772 B		*													
1N4773	*	*	*		*	*		*			*	*			
1N4773 A	*	*				*		*			*	*			
1N4773 B		*													
1N4774	*	*	*		*			*			*	*			
1N4774 A	*	*						*			*	*			
1N4774 B		*													
1N4775	*	*			*			*			*				
1N4775 A	*	*						*			*				
1N4775 B		*													
1N4776	*	*			*			*			*				
1N4776 A	*	*						*			*				
1N4776 B		*													
1N4777	*	*			*			*			*				
1N4777 A	*	*						*			*				
1N4777 B		*													
1N4778	*	*			*			*			*				
1N4778 A	*	*						*			*				
1N4778 B		*													
1N4779	*	*			*			*			*				
1N4779 A	*	*						*			*				
1N4779 B		*													
1N4780	*	*			*	*	*	*			*				
1N4780 A	*	*				*		*			*				
1N4780 B		*													
1N4781	*	*			*	*	*	*			*				
1N4781 A	*	*				*		*			*				
1N4782	*	*	*		*	*		*			*				
1N4782 A	*	*				*		*			*				
1N4783	*	*			*	*	*	*			*				
1N4783 A	*	*				*		*			*				
1N4784	*	*			*			*			*				
1N4784 A	*	*						*			*				
1N4785									*						
1N4786			*	*										*	*
1N4786 A			*	*										*	*
1N4786 B			*	*										*	*
1N4786 C			*	*											*
1N4786 D			*	*											*
1N4787			*	*										*	*
1N4787 A			*	*										*	*
1N4787 B			*	*										*	*
1N4787 C			*	*											*
1N4787 D			*	*											*
1N4788			*	*										*	*
1N4788 A			*	*										*	*
1N4788 B			*	*										*	*
1N4788 C			*	*											*
1N4788 D			*	*											*
1N4789			*	*										*	*
1N4789 A			*	*										*	*
1N4789 B			*	*										*	*
1N4789 C			*	*											*
1N4789 D			*	*											*
1N4790			*	*										*	*
1N4790 A			*	*										*	*
1N4790 B			*	*										*	*
1N4790 C			*	*											*
1N4790 D			*	*											*
1N4791			*	*										*	*
1N4791 A			*	*										*	*
1N4791 B			*	*										*	*
1N4791 C			*	*											*
1N4791 D			*	*											*
1N4792			*	*										*	*
1N4792 A			*	*										*	*
1N4792 B			*	*										*	*
1N4792 C			*	*											*
1N4792 D			*	*											*
1N4793			*	*										*	*
1N4793 A			*	*										*	*
1N4793 B			*	*										*	*
1N4793 C			*	*											*
1N4793 D			*	*											*

THE '72 MASTER 56th EDITION

JEDEC TYPE	CODI SEMI.	CRYSTALONICS	SOLITRON DEV./CAL.	TRW SEMI.	UNITED-PAGE
1N4794	*	*		*	*
1N4794 A	*	*		*	*
1N4794 B	*	*		*	*
1N4794 C	*	*			*
1N4794 D	*	*			*
1N4795	*	*		*	*
1N4795 A	*	*		*	*
1N4795 B	*	*		*	*
1N4795 C	*	*			*
1N4795 D	*	*			*
1N4796	*	*		*	*
1N4796 A	*	*		*	*
1N4796 B	*	*		*	*
1N4796 C	*	*			*
1N4796 D	*	*			*
1N4797	*	*		*	*
1N4797 A	*	*		*	*
1N4797 B	*	*		*	*
1N4797 C	*	*			*
1N4797 D	*	*			*
1N4798	*	*		*	*
1N4798 A	*	*		*	*
1N4798 B	*	*		*	*
1N4798 C	*	*			*
1N4798 D	*	*			*
1N4799	*	*		*	*
1N4799 A	*	*		*	*
1N4799 B	*	*		*	*
1N4799 C	*	*			*
1N4799 D	*	*			*
1N4800	*	*		*	*
1N4800 A	*	*		*	*
1N4800 B	*	*		*	*
1N4800 C	*	*			*
1N4800 D	*	*			*
1N4801	*	*		*	*
1N4801 A	*	*		*	*
*1N4801 A				*	
1N4801 B	*	*		*	*
*1N4801 B				*	
1N4801 C	*	*			*
1N4801 D	*	*			*
1N4802	*	*		*	*
1N4802 A	*	*		*	
*1N4802 A				*	
1N4802 B	*	*		*	*
*1N4802 B				*	
1N4802 C	*	*			*
1N4802 D	*	*			*
1N4803	*	*		*	*
1N4803 A	*	*		*	*
*1N4803 A				*	
1N4803 B	*	*		*	*
*1N4803 B				*	
1N4803 C	*	*			*
1N4803 D	*	*			*
1N4804	*	*		*	*
1N4804 A	*	*		*	*
*1N4804 A				*	
1N4804 B	*	*		*	*
*1N4804 B				*	
1N4804 C	*	*			*
1N4804 D	*	*			*
1N4805	*	*		*	*
1N4805 A	*	*		*	*
*1N4805 A				*	
1N4805 B	*	*		*	*
*1N4805 B				*	
1N4805 C	*	*			*
1N4805 D	*	*			*
1N4806	*	*		*	*
1N4806 A	*	*		*	*
*1N4806 A				*	
1N4806 B	*	*		*	*
*1N4806 B				*	
1N4806 C	*	*			*
1N4806 D	*	*			*
1N4807	*	*	*	*	*
1N4807 A	*	*		*	*
*1N4807 A				*	
1N4807 B	*	*		*	*
*1N4807 B				*	
1N4807 C	*	*			*
1N4807 D	*	*			*
1N4808	*	*		*	*
1N4808 A	*	*		*	*
*1N4808 A				*	
1N4808 B	*	*		*	*
*1N4808 B				*	
1N4808 C	*	*			*
1N4808 D	*	*			*
1N4809	*	*		*	*
1N4809 A	*	*		*	*
*1N4809 A				*	
1N4809 B	*	*		*	*
*1N4809 B				*	
1N4809 C	*	*			*
1N4809 D	*	*			*
1N4810	*	*		*	*
1N4810 A	*	*		*	*
*1N4810 A				*	
1N4810 B	*	*		*	*

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
*1N4810 B									*					*		
1N4810 C	*		*						*						*	
1N4810 D	*		*						*						*	
1N4811	*		*						*					*	*	
1N4811 A	*		*						*					*	*	
*1N4811 A									*					*		
1N4811 B	*		*						*					*	*	
*1N4811 B									*					*		
1N4811 C	*		*												*	
1N4811 D	*		*												*	
1N4812	*		*											*	*	
1N4812 A	*		*											*	*	
*1N4812 A														*		
1N4812 B	*		*											*	*	
*1N4812 B														*		
1N4812 C	*		*												*	
1N4812 D	*		*												*	
1N4813	*		*											*	*	
1N4813 A	*		*											*	*	
*1N4813 A														*		
1N4813 B	*		*											*	*	
*1N4813 B														*		
1N4813 C	*		*												*	
1N4813 D	*		*												*	
1N4814	*		*											*	*	
1N4814 A	*		*											*	*	
*1N4814 A														*		
1N4814 B	*		*											*	*	
*1N4814 B														*		
1N4814 C	*		*												*	
1N4814 D	*		*												*	
1N4815	*		*											*	*	
1N4815 A	*		*											*	*	
*1N4815 A														*		
1N4815 B	*		*											*	*	
*1N4815 B														*		
1N4815 C	*		*												*	
1N4815 D	*		*												*	
1N4816		*		*		*	*	*	*	*	*				*	*
1N4817		*		*		*	*	*	*	*	*				*	*
1N4818		*		*		*	*	*	*	*	*				*	*
1N4819		*		*		*	*	*	*		*				*	*
1N4820		*		*		*	*	*	*		*				*	*
1N4821				*		*	*	*	*	*	*				*	*
1N4822				*		*	*	*	*	*	*				*	*
1N4823									*						*	
1N4824									*						*	
1N4825									*						*	
1N4826		*							*						*	
1N4827						*	*		*		*				*	
1N4828	*				*				*	*			*	*	*	
1N4829	*				*				*						*	
1N4830	*				*				*						*	
1N4831									*						*	
1N4831 A									*						*	
1N4831 B									*						*	
1N4832									*						*	
1N4832 A									*						*	
1N4832 B									*						*	
1N4833									*						*	
1N4833 A									*						*	
1N4833 B									*						*	
1N4834									*						*	
1N4834 A									*						*	
1N4834 B									*						*	
1N4835									*						*	
1N4835 A									*						*	
1N4835 B									*						*	
1N4836									*						*	
1N4836 A									*						*	
1N4836 B									*						*	
1N4837									*						*	
1N4837 A									*						*	
1N4837 B									*						*	
1N4838									*						*	
1N4838 A									*						*	
1N4838 B									*						*	
1N4839									*						*	
1N4839 A									*						*	
1N4839 B									*						*	
1N4840									*						*	
1N4840 A									*						*	
1N4840 B									*						*	
1N4841									*						*	
1N4841 A									*						*	
1N4841 B									*						*	
1N4842									*						*	
1N4842 A									*						*	
1N4842 B									*						*	
1N4843									*						*	
1N4843 A									*						*	
1N4843 B									*						*	
1N4844									*						*	
1N4844 A									*						*	
1N4844 B									*						*	
1N4845									*						*	
1N4845 A									*						*	
1N4845 B									*						*	
1N4846									*						*	
1N4846 A									*						*	
1N4846 B									*						*	
1N4847									*						*	

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	GENERAL ELEC.	INTL. RECTIFIER	MOTOROLA SEMI.	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SYNTRON	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	TRW SEMI
1N4847 A										*						
1N4847 B										*						
1N4848										*						
1N4848 A										*						
1N4848 B										*						
1N4849										*						
1N4849 A										*						
1N4849 B										*						
1N4850										*						
1N4850 A										*						
1N4850 B										*						
1N4851										*						
1N4851 A										*						
1N4851 B										*						
1N4852										*						
1N4852 A										*						
1N4852 B										*						
1N4853										*						
1N4853 A										*						
1N4853 B										*						
1N4854										*						
1N4854 A										*						
1N4854 B										*						
1N4855										*						
1N4855 A										*						
1N4855 B										*						
1N4856										*						
1N4856 A										*						
1N4856 B										*						
1N4857										*						
1N4857 A				*						*						
1N4857 B										*						
1N4858										*						
1N4858 A				*						*						
1N4858 B										*						
1N4859										*						
1N4859 A				*						*						
1N4859 B										*						
1N4860										*						
1N4860 A				*						*						
1N4860 B										*	*					
1N4861											*					
1N4862											*					
1N4863				*			*						*	*		
1N4864							*			*	*		*	*		
1N4865									*	*	*					
1N4866				*					*	*	*					
1N4867				*					*	*	*					
1N4868				*					*	*	*					
1N4869				*					*	*	*					
1N4870									*	*	*					
1N4871				*					*	*	*					
1N4872									*	*	*					
1N4873									*	*	*					
1N4874				*					*	*	*					
1N4875				*					*	*	*					
1N4876									*	*	*					
1N4877									*	*	*					
1N4878				*						*		*				
1N4879						*				*		*				
1N4880						*				*		*				
1N4881		*														
1N4881 A		*														
1N4882																
1N4883		*														
1N4883 A		*														
1N4884																
1N4885	*															
1N4886	*															
1N4887									*							
1N4890				*	*				*				*	*	*	
1N4890 A				*	*				*				*	*	*	
1N4891				*	*				*				*	*	*	
1N4891 A				*	*				*				*	*	*	
1N4892				*	*				*				*	*	*	
1N4892 A				*	*				*				*	*	*	
1N4893				*	*				*				*	*	*	
1N4893 A				*	*				*				*	*	*	
1N4894				*	*				*				*	*	*	
1N4894 A				*	*				*				*	*	*	
1N4895				*	*				*				*	*	*	
1N4895 A				*	*				*				*	*	*	
1N4896				*	*				*					*		
1N4896 A				*	*				*					*		
1N4897				*	*				*					*		
1N4897 A				*	*				*					*		
1N4898				*	*				*					*		
1N4898 A				*	*				*					*		
1N4899				*	*				*					*		
1N4899 A				*	*				*					*		
1N4900				*	*				*					*		
1N4900 A				*	*				*					*		
1N4901				*	*				*					*		
1N4901 A				*	*				*					*		
1N4902				*	*				*					*		
1N4902 A				*	*				*					*		
1N4903				*	*				*					*		
1N4903 A				*	*				*					*		
1N4904				*	*				*					*		
1N4904 A				*	*				*					*		
1N4905				*	*				*					*		
1N4905 A				*	*				*					*		

*JAN

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HEWLETT PACKARD	MOTOROLA SEMI.	SEMTECH	SOLID STATE DEVI	SOLITRON DEV/CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	UNITRODE
906		*		*						*					*		
906 A		*		*						*					*		
907		*		*						*					*		
907 A		*		*						*					*		
908		*		*						*					*		
908 A		*		*						*					*		
909		*		*						*					*		
909 A		*		*						*					*		
910		*		*						*					*		
910 A		*		*						*					*		
911		*		*						*					*		
911 A		*		*						*					*		
912		*		*						*					*		
912 A		*		*						*					*		
913		*		*						*					*		
913 A		*		*						*					*		
914		*		*						*					*		
914 A		*		*						*					*		
915		*		*						*					*		
915 A		*								*					*		
916		*		*						*							
916 A		*		*						*							
917		*		*						*							
917 A		*		*						*							
918		*		*						*							
918 A		*		*						*							
919		*		*						*							
919 A		*		*						*							
920		*		*						*							
920 A		*		*						*							
921		*		*						*							
921 A		*		*						*							
922		*		*						*							
922 A		*		*						*							
923		*		*						*		*					
923 A		*		*						*							
924		*		*						*							
924 A		*		*						*							
925		*		*						*							
925 A		*		*						*							
926		*	*	*						*							
926 A		*		*						*							
927		*	*	*						*							
927 A		*		*						*							
928		*	*	*						*							
928 A		*		*						*							
929		*		*						*							
929 A		*		*						*							
930		*		*						*							
930 A		*		*						*							
931		*		*						*							
931 A		*		*						*							
932		*		*						*							
932 A		*		*						*							
933				*				*		*		*	*				
934				*				*		*		*					
935				*				*		*		*	*				
936				*				*		*		*					
937			*	*				*		*		*					
938			*									*		*		*	
938														*			
942					*			*			*	*					
942										*							*
943											*	*					
944					*			*			*	*					
944										*							*
945											*	*					
946					*			*			*	*					
946										*							*
947					*			*			*	*					
947										*							
948					*			*			*	*					
948										*							
949									*								
950						*	*								*		
952						*											
953						*											
954	*					*											
954																	*
955	*					*											
955																	*
956	*					*											
956																	*
957	*																
957																	*
958	*					*											
958																	*
959	*																
959																	*
960	*																
960																	*
961	*																
961																	*
962	*																
962																	*
963	*																
963																	*
964	*																
964																	*
965	*																
965																	*
966	*																

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	MOTOROLA SEMI.	SOLID STATE DEVI	TRANSITRON	UNITED-PAGE	UNITRODE
*1N4966								*
1N4967	*							
*1N4967								*
1N4968	*							
*1N4968								*
1N4969	*							
*1N4969								*
1N4970	*							
*1N4970								*
1N4971	*							
*1N4971								*
1N4972	*							
*1N4972								*
1N4973	*							
*1N4973								*
1N4974	*							
*1N4974								*
1N4975	*							
*1N4975								*
1N4976	*							
*1N4976								*
1N4977	*							
*1N4977								*
1N4978	*							
*1N4978								*
1N4979	*							
*1N4979								*
1N4980	*							
*1N4980								*
1N4981	*							
*1N4981								*
1N4982	*							
*1N4982								*
1N4983	*							
*1N4983								*
1N4984	*							
*1N4984								*
1N4985	*							
*1N4985								*
1N4986	*							
*1N4986								*
1N4987	*							
*1N4987								*
1N4988	*							
*1N4988								*
1N4989	*							
*1N4989								*
*1N4990								*
*1N4991								*
*1N4992								*
*1N4993								*
*1N4994								*
*1N4995								*
1N4997				*	*	*		
1N4997 R				*				
1N4998				*	*	*		
1N4998 R				*				
1N4999				*	*	*		
1N4999 R				*				
1N5000				*	*	*	*	
1N5000 R				*				
1N5001				*	*	*	*	
1N5001 R				*				
1N5002					*		*	
1N5003					*		*	
1N5004				*	*		*	
1N5005				*	*		*	
1N5006				*	*		*	
1N5007				*	*		*	
1N5008		*					*	
1N5008 A			*				*	
1N5009							*	
1N5009 A			*				*	
1N5010		*					*	
1N5010 A			*				*	
1N5011		*					*	
1N5011 A			*				*	
1N5012		*					*	
1N5012 A			*				*	
1N5013		*					*	
1N5013 A			*				*	
1N5014							*	
1N5014 A			*				*	
1N5015		*					*	
1N5015 A			*				*	
1N5016							*	
1N5016 A			*				*	
1N5017		*					*	
1N5017 A			*				*	
1N5018		*					*	
1N5018 A			*				*	
1N5019		*					*	
1N5019 A			*				*	
1N5020		*					*	
1N5020 A			*				*	
1N5021							*	
1N5021 A			*				*	
1N5022							*	
1N5022 A			*				*	
1N5023							*	
1N5023 A			*				*	
1N5024		*					*	

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	SOLID STATE DEVI	SOLITRON DEV/CAL.	SOLITRON DEV./N.Y.	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
1N5024 A					*									*	
1N5025			*											*	
1N5025 A					*									*	
1N5026														*	
1N5026 A					*									*	
1N5027														*	
1N5027 A					*									*	
1N5028														*	
1N5028 A			*		*									*	
1N5029														*	
1N5029 A					*									*	
1N5030														*	
1N5030 A					*									*	
1N5031														*	
1N5031 A					*									*	
1N5032														*	
1N5032 A					*									*	
1N5033														*	
1N5033 A					*									*	
1N5034			*											*	
1N5034 A					*									*	
1N5035														*	
1N5035 A					*									*	
1N5036			*											*	
1N5036 A			*		*									*	
1N5037														*	
1N5037 A					*									*	
1N5038			*											*	
1N5038 A					*									*	
1N5039				*										*	
1N5039 A				*	*									*	
1N5040			*	*										*	
1N5040 A				*	*									*	
1N5041			*	*										*	
1N5041 A				*	*									*	
1N5042			*	*										*	
1N5042 A				*	*									*	
1N5043			*	*										*	
1N5043 A				*	*									*	
1N5044				*										*	
1N5044 A				*	*									*	
1N5045			*	*										*	
1N5045 A				*	*									*	
1N5046			*	*										*	
1N5046 A				*	*									*	
1N5047				*										*	
1N5047 A				*	*									*	
1N5048				*										*	
1N5048 A				*	*									*	
1N5049														*	
1N5049 A					*									*	
1N5050														*	
1N5050 A					*									*	
1N5051														*	
1N5051 A					*									*	
1N5052			*						*	*			*	*	*
1N5053	*		*						*	*		*	*	*	*
1N5054	*		*						*	*		*	*	*	*
1N5055							*							*	
1N5056							*							*	
1N5057							*							*	
1N5058							*							*	
1N5059						*	*				*			*	
1N5060						*	*				*	*		*	
1N5061						*	*				*			*	
1N5062						*	*				*			*	
1N5063		*											*	*	
1N5063 A		*													
1N5064		*											*	*	
1N5064 A		*													
1N5065		*											*	*	
1N5065 A		*													
1N5066		*											*	*	
1N5066 A		*													
1N5067		*											*	*	
1N5067 A		*													
1N5068		*											*	*	
1N5068 A		*													
1N5069		*				*							*	*	
1N5069 A		*													
1N5070		*											*	*	
1N5070 A		*													
1N5071		*											*	*	
1N5071 A		*													
1N5072		*											*	*	
1N5072 A		*													
1N5073		*											*	*	
1N5073 A		*													
1N5074		*											*	*	
1N5074 A		*													
1N5075		*											*	*	
1N5075 A		*													
1N5076		*											*	*	
1N5076 A		*													
1N5077		*											*	*	
1N5077 A		*													
1N5078		*											*	*	
1N5078 A		*													
1N5079		*											*	*	
1N5079 A		*													
1N5080		*											*	*	
1N5080 A		*													

THE '72 MASTER 16th EDITION	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	HORIZON SEMI.	MOTOROLA SEMI.	SILICON TRANSISTOR	TELEDYNE/MT. VIEW	TRW SEMI.	UNITED-PACE
1N5081	*								*	*
1N5081 A	*									
1N5082	*								*	*
1N5082 A	*									
1N5083	*								*	*
1N5083 A	*									
1N5084	*								*	*
1N5084 A	*									
1N5085	*								*	*
1N5085 A	*									
1N5086	*								*	*
1N5086 A	*									
1N5087	*								*	*
1N5087 A	*									
1N5088	*								*	*
1N5088 A	*									
1N5089	*								*	
1N5089 A	*									
1N5090	*								*	
1N5090 A	*									
1N5091	*								*	*
1N5091 A	*									
1N5092	*								*	*
1N5092 A	*									
1N5093	*								*	*
1N5093 A	*									
1N5094	*									*
1N5094 A	*									
1N5095	*									*
1N5095 A	*									
1N5096	*									*
1N5096 A	*									
1N5097	*									*
1N5097 A	*									
1N5098	*									*
1N5098 A	*									
1N5099	*									*
1N5099 A	*									
1N5100	*									*
1N5100 A	*									
1N5101	*									*
1N5101 A	*									
1N5102	*									*
1N5102 A	*									
1N5103	*									*
1N5103 A	*									
1N5104	*									*
1N5104 A	*									
1N5105										*
1N5106										*
1N5107										*
1N5108										*
1N5109										*
1N5110										*
1N5111										*
1N5112										*
1N5113										*
1N5114										*
1N5115										*
1N5116										*
1N5117										*
1N5118	*									*
1N5119	*									*
1N5120	*									*
1N5121	*									*
1N5122	*									*
1N5123	*									*
1N5124	*									*
1N5125	*									*
1N5126	*									*
1N5127	*									*
1N5128	*									*
1N5129										*
1N5130										*
1N5131										*
1N5132										*
1N5133										*
1N5134										*
1N5136		*								*
1N5136 A		*								*
1N5137		*								*
1N5137 A		*								*
1N5138		*								*
1N5138 A		*								*
1N5139		*			*	*		*	*	*
1N5139 A		*			*	*	*	*	*	*
*1N5139 A		*		*		*	*			
1N5140		*			*	*	*	*	*	*
1N5140 A		*			*	*	*	*	*	*
*1N5140 A		*		*		*	*			
1N5141		*			*	*	*	*	*	*
1N5141 A		*			*	*	*	*	*	*
*1N5141 A		*		*		*	*			
1N5142		*			*	*	*	*	*	*
1N5142 A		*	*		*	*	*	*	*	*
*1N5142 A		*		*		*	*			
1N5143		*			*	*	*	*	*	*
1N5143 A		*			*	*	*	*	*	*
*1N5143 A		*		*		*	*			
1N5144		*			*	*	*	*	*	*
1N5144 A		*			*	*	*	*	*	*
*1N5144 A		*		*		*	*			

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECTRONIC DEV	GENERAL INSTR.	HEWLETT PACKARD	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	RCA	SEMTECH	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	TRW SEMI.	UNITED-PACE	UNITRODE
1N5145		*							*			*			*	*					*		*	*	
1N5145 A		*										*			*	*					*				
*1N5145 A		*										*			*										
1N5146		*		*					*			*			*	*					*		*	*	
1N5146 A		*										*			*	*					*				
*1N5146 A		*		*								*			*										
1N5147		*							*			*			*	*					*		*	*	
1N5147 A		*		*								*			*										
*1N5147 A		*		*								*			*										
1N5148		*		*					*			*			*	*					*		*	*	
1N5148 A		*										*			*										
*1N5148 A		*		*								*			*										
1N5149												*												*	
1N5150												*												*	
1N5150 A												*												*	
1N5151												*												*	
1N5152												*												*	
1N5152 A												*												*	
1N5153												*												*	
1N5153 A												*												*	
1N5154												*												*	
1N5154 A												*												*	
1N5155												*												*	
1N5155 A												*												*	
1N5156												*												*	
1N5157												*												*	
1N5158												*												*	
1N5159												*												*	
1N5160												*												*	
1N5162										*								*						*	
1N5162 R										*															
1N5163								*																	
1N5164								*																	
1N5165								*																	
1N5166								*																	
1N5167								*																	
1N5168								*																	
1N5169								*																	
1N5170															*				*					*	
1N5171															*		*		*					*	
1N5172															*		*		*					*	
1N5173															*		*	*	*					*	
1N5174															*		*	*	*					*	
1N5175															*		*		*					*	
1N5176															*		*		*					*	
1N5177															*		*		*					*	
1N5178															*		*		*					*	
1N5179		*																						*	
1N5180																								*	
1N5181						*								*			*	*							
1N5182						*	*							*			*								
1N5183						*								*			*								
1N5184						*								*			*								
1N5185	*																*							*	
1N5185 A	*																*								
1N5186	*																*							*	
*1N5186																									*
1N5186 A	*																*								
1N5187	*																*							*	
*1N5187																									*
1N5187 A	*																*								
1N5188	*																*							*	
*1N5188																									*
1N5188 A	*																*								
1N5189	*																*							*	
1N5189 A	*																*								
1N5190	*																*							*	
*1N5190																									*
1N5190 A	*																*								
1N5194											*										*				
1N5195											*										*				
1N5196											*										*				
1N5197						*	*								*		*							*	
*1N5197															*										
1N5198						*	*								*		*	*						*	
*1N5198															*										
1N5199						*	*								*		*	*						*	
*1N5199															*										
1N5200						*	*								*		*							*	
*1N5200															*										
1N5201						*	*								*		*							*	
*1N5201															*										
1N5206								*																*	
1N5207								*																*	
1N5208																					*			*	
1N5210																					*			*	
1N5211											*		*											*	
1N5212											*		*											*	
1N5213											*		*											*	
1N5214											*		*											*	
1N5215													*											*	
1N5216													*											*	
1N5217													*											*	
1N5218													*											*	
1N5219																								*	
1N5220																								*	
1N5221		*			*						*		*											*	
1N5221 A		*			*						*		*											*	
1N5221 B		*			*						*		*											*	
1N5222		*			*						*		*											*	
1N5222 A		*			*						*		*											*	
1N5222 B		*	*		*						*		*											*	

JEDEC TYPE	CODI SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	INTL. RECTIFIER	MOTOROLA SEMI.	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PACE
1N5223	*		*		*	*		*			
1N5223 A	*		*		*	*		*			
1N5223 B	*		*		*	*		*			
1N5224	*		*		*	*		*	*	*	
1N5224 A	*	*	*		*	*		*			
1N5224 B	*		*		*	*		*			
1N5225	*		*		*	*		*	*	*	
1N5225 A	*	*	*		*	*		*			
1N5225 B	*		*		*	*		*			
1N5226	*		*		*	*		*	*	*	
1N5226 A	*		*		*	*		*			
1N5226 B	*	*	*		*	*	*	*			
1N5227			*		*	*	*	*	*	*	
1N5227 A			*		*	*		*			
1N5227 B			*		*	*		*			
1N5228		*	*		*	*		*	*	*	
1N5228 A			*		*	*		*			
1N5228 B			*		*	*		*			
1N5229			*		*	*		*	*	*	
1N5229 A			*		*	*		*			
1N5229 B		*	*		*	*		*			
1N5230			*		*	*			*	*	
1N5230 A			*		*	*					
1N5230 B			*		*	*					
1N5231		*	*	*	*	*			*	*	
1N5231 A			*		*	*					
1N5231 B			*		*	*	*				
1N5232			*	*	*	*			*	*	
1N5232 A			*		*	*					
1N5232 B			*		*	*					
1N5233			*	*	*	*			*	*	
1N5233 A			*		*	*					
1N5233 B			*		*	*	*				
1N5234		*	*	*	*	*	*		*	*	
1N5234 A			*		*	*	*				
1N5234 B			*		*	*	*				
1N5235			*	*	*	*			*	*	
1N5235 A			*		*	*	*				
1N5235 B			*		*	*	*				
1N5236			*	*	*	*			*	*	
1N5236 A			*		*	*					
1N5236 B			*		*	*	*				
1N5237			*	*	*	*			*	*	
1N5237 A			*		*	*					
1N5237 B			*		*	*					
1N5238			*	*	*	*			*	*	
1N5238 A			*		*	*					
1N5238 B			*		*	*					
1N5239			*	*	*	*			*	*	
1N5239 A			*		*	*					
1N5239 B			*		*	*					
1N5240			*	*	*	*			*	*	
1N5240 A			*		*	*					
1N5240 B			*		*	*					
1N5241			*		*	*			*	*	
1N5241 A			*		*	*					
1N5241 B			*		*	*					
1N5242			*		*	*			*	*	
1N5242 A			*		*	*					
1N5242 B			*		*	*					
1N5243			*		*	*	*		*	*	
1N5243 A			*		*	*					
1N5243 B			*		*	*					
1N5244			*		*	*	*		*	*	
1N5244 A			*		*	*					
1N5244 B			*		*	*	*				
1N5245			*		*	*			*	*	
1N5245 A			*		*	*					
1N5245 B			*		*	*					
1N5246			*		*	*			*	*	
1N5246 A			*		*	*					
1N5246 B			*		*	*					
1N5247			*		*	*			*	*	
1N5247 A			*		*	*					
1N5247 B			*		*	*					
1N5248			*		*	*			*	*	
1N5248 A			*		*	*					
1N5248 B			*		*	*	*				
1N5249			*		*	*			*	*	
1N5249 A			*		*	*					
1N5249 B			*		*	*					
1N5250			*		*	*			*	*	
1N5250 A			*		*	*					
1N5250 B			*		*	*					
1N5251			*		*	*			*	*	
1N5251 A			*		*	*					
1N5251 B			*		*	*					
1N5252			*		*	*			*	*	
1N5252 A			*		*	*					
1N5252 B			*		*	*					
1N5253			*		*	*			*	*	
1N5253 A			*		*	*					
1N5253 B			*		*	*					
1N5254			*		*	*			*	*	
1N5254 A			*		*	*					
1N5254 B			*		*	*					
1N5255			*		*	*		*	*	*	
1N5255 A			*		*	*					
1N5255 B			*		*	*		*			
1N5256			*		*	*		*	*	*	
1N5256 A			*		*	*		*			
1N5256 B			*		*	*					

*JAN Typ

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	FAIRCHILD	INTL. RECTIFIER	MOTOROLA SEMI.	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	UNITED-PAGE
257		*		*	*		*	*	*
257 A		*		*	*		*		*
257 B		*		*	*	*	*		*
258		*			*		*	*	*
258 A		*			*		*		*
258 B		*			*	*	*		*
259		*			*		*	*	*
259 A		*			*		*		*
259 B		*			*	*	*		*
260		*			*		*	*	*
260 A		*			*		*		*
260 B		*			*		*		*
261		*			*		*	*	*
261 A		*			*		*		*
261 B		*			*		*		*
262		*			*		*	*	*
262 A		*			*		*		*
262 B		*			*		*		*
263		*			*		*	*	*
263 A		*			*		*		*
263 B		*			*		*		*
264		*			*		*	*	*
264 A		*			*		*		*
264 B		*			*		*		*
265		*			*		*	*	*
265 A		*			*		*		*
265 B		*			*		*		*
266		*			*		*	*	*
266 A		*			*		*		*
266 B		*			*	*	*		*
267		*			*		*	*	*
267 A		*			*		*		*
267 B		*			*		*		*
268		*			*		*	*	*
268 A		*			*		*		*
268 B		*			*		*		*
269		*			*		*	*	*
269 A		*			*		*		*
269 B		*			*		*		*
270		*			*		*	*	*
270 A		*			*		*		*
270 B		*			*		*		*
271	*	*			*		*	*	*
271 A		*			*		*		*
271 B		*			*		*		*
272	*	*			*		*	*	*
272 A		*			*		*		*
272 B		*			*		*		*
273	*	*			*		*	*	*
273 A		*			*		*		*
273 B		*			*		*		*
273R					*				
274	*	*			*		*	*	*
274 A		*			*		*		*
274 B		*			*		*		*
275	*	*			*		*	*	*
275 A		*			*		*		*
275 B		*			*		*		*
276	*	*			*		*	*	*
276 A		*			*		*		*
276 B		*			*		*		*
277	*	*			*		*	*	*
277 A		*			*		*		*
277 B		*			*		*		*
278	*	*			*		*	*	*
278 A		*			*		*		*
278 B		*			*		*		*
279		*			*		*	*	*
279 A		*			*		*		*
279 B		*			*		*		*
280		*			*		*	*	*
280 A		*			*		*		*
280 B		*			*		*		*
281		*			*		*	*	*
281 A		*			*		*		*
281 B		*			*		*		*
282			*				*	*	*
283					*			*	*
284					*			*	*
285					*			*	*
286					*			*	*
287					*			*	*
288					*			*	*
289					*			*	*
290					*			*	*
291					*			*	*
292					*			*	*
293					*			*	*
294					*			*	*
295					*			*	*
296					*			*	*
297					*			*	*
298					*			*	*
299					*			*	*
300					*			*	*
301					*			*	*
302					*			*	*
303					*			*	*
304					*			*	
305					*			*	*
306					*			*	*
307					*			*	*

JEDEC TYPE	CENTRALAB SEMI.	ELECTRONIC DEV.	FAIRCHILD	GENERAL ELEC.	INTL. RECTIFIER	MOTOROLA SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
1N5308						*				*		*	
1N5309						*				*		*	
1N5310						*				*		*	
1N5311						*				*		*	
1N5312						*				*		*	
1N5313						*				*		*	
1N5314						*				*		*	
1N5315									*			*	
1N5316									*	*		*	
1N5317			*						*	*	*	*	
1N5318			*						*	*	*	*	
1N5319			*						*	*	*	*	
1N5320							*						
1N5324		*											
1N5331		*		*			*					*	*
1N5331 R		*											*
1N5332				*			*					*	*
1N5332 R													*
1N5333						*						*	
1N5333 A					*	*						*	
1N5333 B					*	*						*	
1N5334					*	*						*	
1N5334 A					*	*						*	
1N5334 B					*	*						*	
1N5335					*	*						*	
1N5335 A					*	*						*	
1N5335 B					*	*						*	
1N5336					*	*						*	
1N5336 A					*	*						*	
1N5336 B					*	*						*	
1N5337					*	*						*	
1N5337 A					*	*						*	
1N5337 B					*	*						*	
1N5338					*	*						*	
1N5338 A					*	*						*	
1N5338 B					*	*						*	
1N5339					*	*						*	
1N5339 A					*	*						*	
1N5339 B					*	*						*	
1N5340					*	*						*	
1N5340 A					*	*						*	
1N5340 B					*	*						*	
1N5341					*	*						*	
1N5341 A					*	*						*	
1N5341 B					*	*						*	
1N5342					*	*						*	
1N5342 A	*				*	*						*	
1N5342 B	*				*	*						*	
1N5343	*				*	*						*	
1N5343 A	*				*	*						*	
1N5343 B	*				*	*						*	
1N5344	*				*	*						*	
1N5344 A	*				*	*						*	
1N5344 B	*				*	*						*	
1N5345	*				*	*						*	
1N5345 A	*				*	*						*	
1N5345 B	*				*	*						*	
1N5346	*				*	*						*	
1N5346 A	*				*	*						*	
1N5346 B	*				*	*						*	
1N5347	*				*	*						*	
1N5347 A	*				*	*						*	
1N5347 B	*				*	*		*				*	
1N5348	*				*	*						*	
1N5348 A	*				*	*						*	
1N5348 B	*				*	*						*	
1N5349	*				*	*						*	
1N5349 A	*				*	*						*	
1N5349 B	*				*	*						*	
1N5350	*				*	*						*	
1N5350 A	*				*	*						*	
1N5350 B	*				*	*						*	
1N5351	*				*	*						*	
1N5351 A	*				*	*		*				*	
1N5351 B	*				*	*						*	
1N5352	*				*	*						*	
1N5352 A	*				*	*						*	
1N5352 B	*				*	*						*	
1N5353	*				*	*						*	
1N5353 A	*				*	*						*	
1N5353 B	*				*	*						*	
1N5354	*				*	*						*	
1N5354 A	*				*	*						*	
1N5354 B	*				*	*						*	
1N5354 C						*							
1N5355	*				*	*						*	
1N5355 A	*				*	*						*	
1N5355 B	*				*	*						*	
1N5355 C						*							
1N5356	*				*	*						*	
1N5356 A	*				*	*						*	
1N5356 B	*				*	*						*	
1N5356 C						*							
1N5357	*				*	*						*	
1N5357 A	*				*	*						*	
1N5357 B	*				*	*						*	
1N5358	*				*	*						*	
1N5358 A	*				*	*						*	
1N5358 B	*				*	*						*	
1N5359	*				*	*						*	
1N5359 A	*				*	*						*	
1N5359 B	*				*	*						*	

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	ELECTRONIC DEV.	ELECT. TRANS.	GENERAL INSTR.	INTL. RECTIFIER	MOTOROLA SEMI.	RCA	SENSITRON SEMI.	SOLID STATE DEVI	SOLITRON DEV./CAL.	UNITED-PAGE	WESTINGHOUSE
1N5360	*					*	*					*	
1N5360 A	*					*	*					*	
1N5360 B	*					*	*					*	
1N5361	*					*	*					*	
1N5361 A	*					*	*					*	
1N5361 B	*					*	*					*	
1N5362	*					*	*					*	
1N5362 A	*					*	*					*	
1N5362 B	*					*	*					*	
1N5363	*					*	*					*	
1N5363 A	*					*	*					*	
1N5363 B	*					*	*					*	
1N5364	*					*	*					*	
1N5364 A	*					*	*					*	
1N5364 B	*					*	*					*	
1N5365	*					*	*					*	
1N5365 A	*					*	*					*	
1N5365 B	*					*	*					*	
1N5366	*					*	*					*	
1N5366 A	*					*	*					*	
1N5366 B	*					*	*					*	
1N5367	*					*	*					*	
1N5367 A	*					*	*					*	
1N5367 B	*					*	*					*	
1N5368	*					*	*					*	
1N5368 A	*					*	*					*	
1N5368 B	*					*	*					*	
1N5369	*					*	*					*	
1N5369 A	*					*	*					*	
1N5369 B	*					*	*					*	
1N5370	*					*	*					*	
1N5370 A	*					*	*					*	
1N5370 B	*					*	*					*	
1N5371	*					*	*					*	
1N5371 A	*					*	*					*	
1N5371 B	*					*	*					*	
1N5372	*					*	*					*	
1N5372 A	*					*	*					*	
1N5372 B	*					*	*					*	
1N5373	*					*	*					*	
1N5373 A	*					*	*					*	
1N5373 B	*					*	*					*	
1N5373 C							*						
1N5374	*					*	*					*	
1N5374 A	*					*	*					*	
1N5374 B	*					*	*					*	
1N5374 C							*						
1N5375	*					*	*					*	
1N5375 A	*					*	*					*	
1N5375 B	*					*	*					*	
1N5375 C							*						
1N5376	*					*	*					*	
1N5376 A	*					*	*					*	
1N5376 B	*					*	*					*	
1N5376 C							*						
1N5377	*					*	*					*	
1N5377 A	*					*	*					*	
1N5377 B	*					*	*					*	
1N5378	*					*	*					*	
1N5378 A	*					*	*					*	
1N5378 B	*					*	*					*	
1N5379	*	*					*					*	
1N5379 A	*						*					*	
1N5379 B	*						*					*	
1N5380	*	*					*					*	
1N5380 A	*						*					*	
1N5380 B	*						*					*	
1N5381	*	*					*					*	
1N5381 A	*						*					*	
1N5381 B	*						*					*	
1N5382	*	*					*					*	
1N5382 A	*						*					*	
1N5382 B	*						*					*	
1N5383	*	*					*					*	
1N5383 A	*						*					*	
1N5383 B	*						*				*	*	
1N5384	*	*					*					*	
1N5384 A	*						*					*	
1N5384 B	*						*					*	
1N5385	*	*					*					*	
1N5385 A	*						*					*	
1N5385 B	*						*					*	
1N5386	*	*					*					*	
1N5386 A	*						*					*	
1N5386 B	*						*					*	
1N5387	*						*					*	
1N5387 A	*						*					*	
1N5387 B	*						*					*	
1N5388	*	*					*					*	
1N5388 A	*						*					*	
1N5388 B	*						*					*	
1N5389			*										
1N5390		*										*	
1N5391		*	*		*				*	*	*	*	*
1N5392		*	*		*				*	*	*	*	*
1N5393		*	*		*				*	*	*	*	*
1N5394		*	*		*				*	*	*	*	*
1N5395		*	*		*				*	*	*	*	*
1N5396		*	*		*				*	*	*	*	*
1N5397		*	*		*				*	*	*	*	*
1N5398		*	*						*	*	*	*	*
1N5399		*	*						*	*	*	*	*

THE '72 MASTER 16th EDITION

	CODI SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	ELECTRONIC DEV.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	MOTOROLA SEMI.	RCA	SEMTECH	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./CAL.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
1N5400		*		*	*		*				*		*	*				*	*
1N5401		*		*	*		*				*		*	*				*	*
1N5402		*		*	*		*				*		*	*				*	*
1N5403		*		*	*		*				*		*					*	*
1N5404		*		*	*		*				*		*					*	*
1N5405		*		*	*		*				*		*					*	*
1N5406		*		*	*		*				*		*					*	*
1N5407		*		*	*		*				*		*					*	*
1N5408		*		*	*		*				*		*					*	*
1N5409													*				*	*	
1N5410																	*	*	
1N5411		*							*									*	
1N5412		*													*	*		*	
1N5413		*													*	*		*	
1N5414		*													*			*	
1N5415		*								*			*					*	
1N5416										*			*						
1N5417										*			*						
1N5418										*			*						
1N5419										*			*						
1N5420										*			*						
1N5427		*				*												*	
1N5428		*				*												*	
1N5429		*				*												*	
1N5430		*																*	
1N5431		*				*												*	
1N5432		*				*												*	
1N5433													*						
1N5434													*						
1N5435													*						
1N5441	*																		
1N5441 A	*		*					*				*						*	
1N5441 B	*		*					*				*						*	
1N5441 C	*		*					*				*						*	
1N5441 D	*																	*	
1N5442	*																		
1N5442 A	*		*					*				*						*	
1N5442 B	*		*					*				*						*	
1N5442 C	*		*					*				*						*	
1N5442 D	*																		
1N5443	*																		
1N5443 A	*		*					*				*						*	
1N5443 B	*		*					*				*						*	
1N5443 C	*		*					*				*						*	
1N5443 D	*																		
1N5444	*																		
1N5444 A	*		*					*				*						*	
1N5444 B	*		*					*				*						*	
1N5444 C	*		*					*				*						*	
1N5444 D	*																		
1N5445	*																		
1N5445 A	*		*					*				*						*	
1N5445 B	*		*					*				*						*	
1N5445 C	*		*					*				*						*	
1N5445 D	*																		
1N5446	*							*											
1N5446 A	*		*					*				*						*	
1N5446 B	*		*					*				*						*	
1N5446 C	*		*					*				*						*	
1N5446 D	*																		
1N5447	*																		
1N5447 A	*		*					*				*						*	
1N5447 B	*		*					*				*						*	
1N5447 C	*		*					*				*						*	
1N5447 D	*																		
1N5448	*							*											
1N5448 A	*		*					*				*						*	
1N5448 B	*		*					*				*						*	
1N5448 C	*		*					*				*						*	
1N5448 D	*																		
1N5449	*																		
1N5449 A	*		*					*				*						*	
1N5449 B	*		*					*				*						*	
1N5449 C	*		*					*				*						*	
1N5449 D	*																		
1N5450	*																		
1N5450 A	*		*					*				*						*	
1N5450 B	*		*					*				*						*	
1N5450 C	*		*					*				*						*	
1N5450 D	*																		
1N5451	*																		
1N5451 A	*		*					*				*						*	
1N5451 B	*		*					*				*						*	
1N5451 C	*		*					*				*						*	
1N5451 D	*																		
1N5452	*																		
1N5452 A	*		*					*				*						*	
1N5452 B	*		*					*				*						*	
1N5452 C	*		*					*				*						*	
1N5452 D	*																		
1N5453	*																		
1N5453 A	*		*					*				*						*	
1N5453 B	*		*					*				*						*	
1N5453 C	*		*					*				*						*	
1N5453 D	*																		
1N5454	*																		
1N5454 A	*		*					*				*						*	
1N5454 B	*		*					*				*						*	
1N5454 C	*		*					*				*						*	
1N5454 D	*																		
1N5455	*																		
1N5455 A	*		*					*				*						*	

JEDEC TYPE	CODI SEMI.	CRYSTALONICS	MOTOROLA SEMI.	SILICON TRANSISTOR	UNITED-PAGE
1N5455 B	*	*	*	*	*
1N5455 C	*	*	*	*	*
1N5455 D	*				
1N5456	*				
1N5456 A	*	*	*	*	*
1N5456 B	*	*	*	*	*
1N5456 C	*	*	*	*	*
1N5456 D	*				
1N5461	*				
1N5461 A	*	*	*	*	*
1N5461 B	*	*	*	*	*
*1N5461 B			*		
1N5461 C	*	*	*	*	*
1N5461 D	*				
1N5462	*				
1N5462 A	*	*	*	*	*
1N5462 B	*	*	*	*	*
*1N5462 B			*		
1N5462 C	*	*	*	*	*
1N5462 D	*				
1N5463	*				
1N5463 A	*	*	*	*	*
1N5463 B	*	*	*	*	*
*1N5463 B			*		
1N5463 C	*	*	*	*	*
1N5463 D	*				
1N5464	*				
1N5464 A	*	*	*	*	*
1N5464 B	*	*	*	*	*
*1N5464 B			*		
1N5464 C	*	*	*	*	*
1N5464 D	*				
1N5465	*				
1N5465 A	*	*	*	*	*
1N5465 B	*	*	*	*	*
*1N5465 B			*		
1N5465 C	*	*	*	*	*
1N5465 D	*				
1N5466	*				
1N5466 A	*	*	*	*	*
1N5466 B	*	*	*	*	*
*1N5466 B			*		
1N5466 C	*	*	*	*	*
1N5466 D	*				
1N5467	*				
1N5467 A	*	*	*	*	*
1N5467 B	*	*	*	*	*
*1N5467 B			*		
1N5467 C	*	*	*	*	*
1N5467 D	*				
1N5468	*				
1N5468 A	*	*	*	*	*
1N5468 B	*	*	*	*	*
*1N5468 B			*		
1N5468 C	*	*	*	*	*
1N5468 D	*				
1N5469	*				
1N5469 A	*	*	*	*	*
1N5469 B	*	*	*	*	*
*1N5469 B			*		
1N5469 C	*	*	*	*	*
1N5469 D	*				
1N5470	*				
1N5470 A	*	*	*	*	*
1N5470 B	*	*	*	*	*
*1N5470 B			*		
1N5470 C	*	*	*	*	*
1N5470 D	*				
1N5471	*				
1N5471 A	*	*	*	*	*
1N5471 B	*	*	*	*	*
*1N5471 B			*		
1N5471 C	*	*	*	*	*
1N5471 D	*				
1N5472	*				
1N5472 A	*	*	*	*	*
1N5472 B	*	*	*	*	*
*1N5472 B			*		
1N5472 C	*	*	*	*	*
1N5472 D	*				
1N5473	*				
1N5473 A	*	*	*	*	*
1N5473 B	*	*	*	*	*
*1N5473 B			*		
1N5473 C	*	*	*	*	*
1N5473 D	*				
1N5474	*				
1N5474 A	*	*	*	*	*
1N5474 B	*	*	*	*	*
*1N5474 B			*		
1N5474 C	*	*	*	*	*
1N5474 D	*				
1N5475	*				
1N5475 A	*	*	*	*	*
1N5475 B	*	*	*	*	*
*1N5475 B			*		
1N5475 C	*	*	*	*	*
1N5475 D	*				
1N5476	*				
1N5476 A	*	*	*	*	*
1N5476 B	*	*	*	*	*
*1N5476 B			*		

JEDEC TYPE	CODI SEMI.	MOTOROLA SEMI.	SOLID STATE DEVI	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	UNITED-PAGE
1N5476 C	*	*				*
1N5476 D	*					
1N5477			*			
1N5478			*			
1N5479			*			
1N5480			*			
1N5481			*			
1N5482			*			
1N5483			*			
1N5484			*			
1N5485			*			
1N5518	*	*		*	*	*
1N5518 A	*	*		*		*
1N5518 B	*	*		*		*
1N5518 C	*	*		*		
1N5518 D	*	*		*		
1N5519	*	*		*	*	*
1N5519 A	*	*		*		*
1N5519 B	*	*		*		*
1N5519 C	*	*		*		
1N5519 D	*	*		*		
1N5520	*	*		*	*	*
1N5520 A	*	*		*		*
1N5520 B	*	*		*		*
1N5520 C	*	*		*		
1N5520 D	*	*		*		
1N5521	*	*		*	*	*
1N5521 A	*	*		*		*
1N5521 B	*	*		*		*
1N5521 C	*	*		*		
1N5521 D	*	*		*		
1N5522	*	*		*	*	*
1N5522 A	*	*		*		*
1N5522 B	*	*		*		*
1N5522 C	*	*		*		
1N5522 D	*	*		*		
1N5523	*	*		*	*	*
1N5523 A	*	*		*		*
1N5523 B	*	*		*		*
1N5523 C	*	*		*		
1N5523 D	*	*		*		
1N5524	*	*		*	*	*
1N5524 A	*	*		*		*
1N5524 B	*	*		*		*
1N5524 C	*	*		*		
1N5524 D	*	*		*		
1N5525	*	*		*	*	*
1N5525 A	*	*		*		*
1N5525 B	*	*				*
1N5525 C	*	*				
1N5525 D	*	*				
1N5526	*	*			*	*
1N5526 A	*	*				*
1N5526 B	*	*				*
1N5526 C	*	*				
1N5526 D	*	*				
1N5527	*	*			*	*
1N5527 A	*	*				*
1N5527 B	*	*				*
1N5527 C	*	*				
1N5527 D	*	*				
1N5528	*	*			*	*
1N5528 A	*	*				*
1N5528 B	*	*				*
1N5528 C	*	*				
1N5528 D	*	*				
1N5529	*	*			*	*
1N5529 A	*	*				*
1N5529 B	*	*				*
1N5529 C	*	*				
1N5529 D	*	*				
1N5530	*	*			*	*
1N5530 A	*	*				*
1N5530 B	*	*				*
1N5530 C	*	*				
1N5530 D	*	*				
1N5531	*	*			*	*
1N5531 A	*	*				*
1N5531 B	*	*				*
1N5531 C	*	*				
1N5531 D	*	*				
1N5532	*	*			*	*
1N5532 A	*	*				*
1N5532 B	*	*				*
1N5532 C	*	*				
1N5532 D	*	*				
1N5533	*	*			*	*
1N5533 A	*	*				*
1N5533 B	*	*				*
1N5533 C	*	*				
1N5533 D	*	*				
1N5534	*	*			*	*
1N5534 A	*	*				*
1N5534 B	*	*				*
1N5534 C	*	*				
1N5534 D	*	*				
1N5535	*	*			*	*
1N5535 A	*	*				*
1N5535 B	*	*		*		*
1N5535 C	*	*		*		
1N5535 D	*	*		*		
1N5536	*	*			*	*

JEDEC TYPE	CENTRALAB SEMI.	CODI SEMI.	MOTOROLA SEMI.	SEMTECH	SILICON TRANSISTOR	SOLID STATE DEVI	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	UNITED-PAGE
1N5536 A		*	*				*		
1N5536 B		*	*				*		*
1N5536 C		*	*				*		
1N5536 D		*	*				*		
1N5537		*	*				*	*	
1N5537 A		*	*				*		*
1N5537 B		*	*				*		*
1N5537 C		*	*				*		*
1N5537 D		*	*				*		
1N5538		*	*				*	*	
1N5538 A		*	*				*		*
1N5538 B		*	*				*		*
1N5538 C		*	*				*		
1N5538 D		*	*				*		
1N5539		*	*				*	*	*
1N5539 A		*	*				*		*
1N5539 B		*	*				*		*
1N5539 C		*	*				*		
1N5539 D		*	*				*		
1N5540		*	*				*	*	*
1N5540 A		*	*				*		*
1N5540 B		*	*				*		*
1N5540 C		*	*				*		
1N5540 D		*	*				*		
1N5541		*	*				*	*	*
1N5541 A		*	*				*		*
1N5541 B		*	*				*		*
1N5541 C		*	*				*		
1N5541 D		*	*				*		
1N5542		*	*				*	*	*
1N5542 A		*	*				*		*
1N5542 B		*	*				*		*
1N5542 C		*	*				*		
1N5542 D		*	*				*		
1N5543		*	*				*	*	*
1N5543 A		*	*				*		*
1N5543 B		*	*				*		*
1N5543 C		*	*				*		
1N5543 D		*	*				*		
1N5544		*	*				*	*	*
1N5544 A		*	*				*		*
1N5544 B		*	*				*		*
1N5544 C		*	*				*		
1N5544 D		*	*				*		
1N5545		*	*				*	*	
1N5545 A		*	*				*		*
1N5545 B		*	*				*		*
1N5545 C		*	*				*		
1N5545 D		*	*				*		
1N5546		*	*				*	*	
1N5546 A		*	*				*		*
1N5546 B		*	*				*		*
1N5546 C		*	*				*		
1N5546 D		*	*				*		
1N5550				*		*			
1N5551				*		*			
1N5552				*		*			
1N5553				*		*			
1N5554				*		*			
1N5555					*				
1N5556					*				
1N5557					*				
1N5558					*				
1N5559	*						*		
1N5559 A	*						*		
1N5559 B	*						*		
1N5560	*						*		
1N5560 A	*						*		
1N5560 B	*						*		
1N5561	*						*		
1N5561 A	*						*		
1N5561 B	*						*		
1N5562	*						*		
1N5562 A	*						*		
1N5562 B	*						*		
1N5563	*						*		
1N5563 A	*						*		
1N5563 B	*						*		
1N5564	*						*		
1N5564 A	*						*		
1N5564 B	*						*		
1N5565	*						*		
1N5565 A	*						*		
1N5565 B	*						*		
1N5566	*						*		
1N5566 A	*						*		
1N5566 B	*						*		
1N5567	*						*		
1N5567 A	*						*		
1N5567 B	*						*		
1N5568	*						*		
1N5568 A	*						*		
1N5568 B	*						*		
1N5569	*						*		
1N5569 A	*						*		
1N5569 B	*						*		
1N5570	*						*		
1N5570 A	*						*		
1N5570 B	*						*		
1N5571	*						*		
1N5571 A	*						*		
1N5571 B	*						*		

*JAN Type

THE 72 MASTER 14th EDITION

JEDEC TYPE	CENTRALAB SEMI.	GENERAL ELEC.	GENERAL INSTR.	ITT SEMI.	SEMTECH	SILICON TRANSISTOR	SOLID STATE DEVI	TELEDYNE/HAWTHORN	UNITED-PAGE
5572	*							*	*
5572 A	*							*	*
5572 B	*							*	*
5573	*								*
5573 A	*								*
5573 B	*								*
5574	*								*
5574 A	*								*
5574 B	*								*
5575	*								*
5575 A	*								*
5575 B	*								*
5576	*								*
5576 A	*								*
5576 B	*								*
N5577	*								*
N5577 A	*								*
N5577 B	*								*
N5578	*								*
N5578 A	*								*
N5578 B	*								*
N5579	*								*
N5579 A	*								*
N5579 B	*								*
N5580	*								*
N5580 A	*								*
N5580 B	*								*
N5581	*								*
N5581 A	*								*
N5581 B	*								*
N5582	*								*
N5582 A	*								*
N5582 B	*								*
N5583	*								*
N5583 A	*								*
N5583 B	*								*
N5584	*								*
N5584 A	*								*
N5584 B	*								*
N5585	*								*
N5585 A	*								*
N5585 B	*								*
N5586	*								*
N5586 A	*								*
N5586 B	*								*
N5587	*								*
N5587 A	*								*
N5587 B	*								*
N5588	*								*
N5588 A	*								*
N5588 B	*								*
N5589	*								*
N5589 A	*								*
N5589 B	*							*	*
N5590	*							*	*
N5590 A	*							*	*
N5590 B	*							*	*
N5591	*							*	*
N5591 A	*							*	*
N5591 B	*							*	*
N5592	*							*	*
N5592 A	*							*	*
N5592 B	*							*	*
N5593	*							*	*
N5593 A	*							*	*
N5593 B	*							*	*
N5594	*							*	*
N5594 A	*							*	*
N5594 B	*							*	*
N5595							*		
N5597							*		
N5598							*		
N5599							*		
N5600							*		
N5601							*		
N5602							*		
N5603							*		
N5604							*		
N5605					*			*	
N5606					*			*	*
N5607					*			*	*
N5608					*			*	*
N5609					*			*	*
N5614						*	*		
N5615						*	*		
N5616						*	*		
N5617						*	*		
N5618						*	*		
N5619						*	*		
N5620						*	*		
N5621						*	*		
N5622						*	*		
N5623						*	*		
N5624		*	*				*		
N5625		*	*				*		
N5626		*	*				*		
N5627		*	*				*		
N5629						*			*
N5629 A						*			*
N5630						*			*
N5630 A						*			*
N5631						*			*

JEDEC TYPE	CODI SEMI.	GENERAL INSTR.	SILICON TRANSISTOR	UNITED-PAGE
1N5631 A			*	*
1N5632			*	*
1N5632 A			*	*
1N5633			*	*
1N5633 A			*	*
1N5634			*	*
1N5634 A			*	*
1N5635			*	*
1N5635 A			*	*
1N5636			*	*
1N5636 A			*	*
1N5637			*	*
1N5637 A			*	*
1N5638			*	*
1N5638 A			*	*
1N5639			*	*
1N5639 A			*	*
1N5640			*	*
1N5640 A			*	*
1N5641			*	*
1N5641 A			*	*
1N5642			*	*
1N5642 A			*	*
1N5643			*	*
1N5643 A			*	*
1N5644			*	*
1N5644 A			*	*
1N5645			*	*
1N5645 A			*	*
1N5646			*	*
1N5646 A			*	*
1N5647			*	*
1N5647 A			*	*
1N5648			*	*
1N5648 A			*	*
1N5649			*	*
1N5649 A			*	*
1N5650			*	*
1N5650 A			*	*
1N5651			*	*
1N5651 A			*	*
1N5652			*	*
1N5652 A			*	*
1N5653			*	*
1N5653 A			*	*
1N5654			*	*
1N5654 A			*	*
1N5655			*	*
1N5655 A			*	*
1N5656			*	*
1N5656 A			*	*
1N5657			*	*
1N5657 A			*	*
1N5658			*	*
1N5658 A			*	*
1N5659			*	*
1N5659 A			*	*
1N5660			*	*
1N5660 A			*	*
1N5661			*	*
1N5661 A			*	*
1N5662			*	*
1N5662 A			*	*
1N5663			*	*
1N5663 A			*	*
1N5664			*	*
1N5664 A			*	*
1N5665			*	*
1N5665 A			*	*
1N5679	*			
1N5680	*			
1N5681	*			
1N5681 A	*			
1N5681 B	*			
1N5682	*			
1N5682 A	*			
1N5682 B	*			
1N5683	*			
1N5683 A	*			
1N5683 B	*			
1N5684	*			
1N5684 A	*			
1N5684 B	*			
1N5685	*			
1N5685 A	*			
1N5685 B	*			
1N5686	*			
1N5686 A	*			
1N5686 B	*			
1N5687	*			
1N5687 A	*			
1N5687 B	*			
1N5688	*			
1N5688 A	*			
1N5688 B	*			
1N5689	*			
1N5689 A	*			
1N5689 B	*			
1N5690	*			
1N5690 A	*			
1N5690 B	*			
1N5691	*			

JEDEC TYPE	AMPEREX ELECT.	CODI SEMI.	CRYSTALONICS	HEWLETT PACKARD	MOTOROLA SEMI.
1N5691 A		*			
1N5691 B		*			
1N5692		*			
1N5692 A		*			
1N5692 B		*			
1N5693		*			
1N5693 A		*			
1N5693 B		*			
1N5694		*			
1N5694 A		*			
1N5694 B		*			
1N5695		*			
1N5695 A		*			
1N5695 B		*			
1N5696		*			
1N5696 A		*			
1N5696 B		*			
1N5697		*			
1N5697 A		*			
1N5697 B		*			
1N5698		*			
1N5698 A		*			
1N5698 B		*			
1N5699		*			
1N5699 A		*			
1N5699 B		*			
1N5700		*			
1N5700 A		*			
1N5700 B		*			
1N5701		*			
1N5701 A		*			
1N5701 B		*			
1N5702		*			
1N5702 A		*			
1N5702 B		*			
1N5703		*			
1N5703 A		*			
1N5703 B		*			
1N5704		*			
1N5704 A		*			
1N5704 B		*			
1N5705		*			
1N5705 A		*			
1N5705 B		*			
1N5706		*			
1N5706 A		*			
1N5706 B		*			
1N5707		*			
1N5707 A		*			
1N5707 B		*			
1N5708		*			
1N5708 A		*			
1N5708 B		*			
1N5709		*			
1N5709 A		*			
1N5709 B		*			
1N5710		*			
1N5710 A		*			
1N5710 B		*			
1N5711					*
*1N5711					*
1N5712					*
*1N5712					*
1N5713					*
*1N5713					*
1N5714			*		
1N5715			*		
1N5716			*		
1N5717			*		
1N5718			*		
1N5719					*
*1N5719					*
1N5729 B	*				
1N5730 B	*				
1N5731 B	*				
1N5732 B	*				
1N5733 B	*				
1N5734 B	*				
1N5735 B	*				
1N5736 B	*				
1N5737 B	*				
1N5738 B	*				
1N5739 B	*				
1N5740 B	*				
1N5741 B	*				
1N5742 B	*				
1N5743 B	*				
1N5744 B	*				
1N5745 B	*				
1N5746 B	*				
1N5747 B	*				
1N5748 B	*				
1N5749 B	*				
1N5750 B	*				
1N5751 B	*				
1N5752 B	*				
1N5753 B	*				
1N5754 B	*				
1N5755 B	*				
1N5756 B	*				
1N5757 B	*				
1N5758					*

JEDEC TYPE	ITT SEMI.	MOTOROLA SEMI.	SOLITRON DEV./CAL.	TEXAS INSTR.
1N5758 A		*		
1N5759		*		
1N5759 A		*		
1N5760		*		
1N5760 A		*		
1N5761		*		
1N5761 A		*		
1N5762		*		
1N5762 A		*		
1N5768				*
1N5769				*
1N5770				*
1N5771				*
1N5772				*
1N5773				*
1N5774				*
1N5775				*
*1N6662	*			
1N9650 B			*	
1N9658			*	

JEDEC TYPE	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	UNITED-PAGE
2N 34	*	*										*
2N 34 A	*	*										*
2N 35	*	*										*
2N 36	*	*										*
2N 37	*	*										*
2N 38	*	*										*
2N 43	*	*						*				*
2N 43 A	*	*	*					*				*
*2N 43 A			*									
2N 44	*	*						*				*
2N 44 A	*	*	*					*				*
2N 45	*	*										*
2N 45 A	*	*										*
2N 59		*										*
2N 59 A	*	*										*
2N 59 B	*	*										*
2N 59 C	*	*										*
2N 60		*										*
2N 60 A	*	*										*
2N 60 B		*										*
2N 60 C		*										*
2N 61		*										*
2N 61 A	*	*										*
2N 61 B	*	*										*
2N 61 C	*	*										*
2N 62 D	*											
2N 63	*	*										*
2N 64	*	*										*
2N 65	*	*										*
2N 66	*											
2N 68							*					
2N 77	*	*										*
2N 78	*	*										*
2N 78 A	*	*										*
*2N 78 A			*									
2N 94	*	*										*
2N 94 A	*	*										*
2N 95	*											
2N 97	*	*										*
2N 98	*	*										*
2N 99	*	*										*
2N 100		*										
2N 101							*					
2N 102							*					
2N 103	*	*										*
2N 104	*	*										*
2N 105	*	*										*
2N 106	*	*										*
2N 107	*	*										*
2N 108	*	*										*
2N 109	*				*							*
2N 111			*									*
2N 111 A	*	*										*
2N 112			*									*
2N 112 A	*	*										*
2N 113	*	*										*
2N 114	*	*										*
2N 117	*	*						*			*	*
2N 118	*	*						*			*	*
2N 118 A	*	*									*	*
2N 119	*	*				*		*			*	*
2N 120	*	*				*		*			*	*
2N 122											*	
2N 123	*	*										*
2N 123 A	*	*										*
2N 124	*	*										*
2N 125	*	*										*
2N 126	*	*										*
2N 128						*		*		*		*
*2N 128										*		
2N 130	*	*										*
2N 130 A	*	*										*
2N 131	*	*										*
2N 131 A	*	*										*
2N 132	*	*										*
2N 132 A	*	*										
2N 133	*	*										*
2N 133 A	*	*										*
2N 135	*	*										*
2N 136	*	*										*
2N 137	*	*										*
2N 138		*										*
2N 139	*	*										*
2N 140	*	*			*							*
2N 141							*					
2N 142							*					
2N 143							*					
2N 144							*					
2N 145	*	*										*
2N 146	*	*										*
2N 147	*	*										*
2N 155	*	*		*			*		*			*
2N 156							*	*				*
2N 158							*	*				*
*2N 158							*					
2N 158 A							*	*				*
2N 160	*	*				*		*				*
2N 160 A	*	*				*		*				*
2N 161	*	*				*		*				*
2N 161 A	*	*				*		*				*
2N 162	*	*										*
2N 162 A	*	*										*

*JAN Type

THE '72 MASTER 36th EDITION

	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	UNITED-PAGE
2N 163	*		*							*						*
2N 163 A	*		*							*						*
2N 164	*		*													*
2N 164 A	*		*													*
2N 165	*		*													*
2N 166	*		*		*											*
2N 167	*		*									*				*
2N 167 A			*									*				*
*2N 167 A				*												
2N 168			*									*				*
2N 168 A	*		*									*				*
2N 169	*		*									*				*
2N 169 A	*		*									*				*
2N 170	*		*													*
2N 172	*		*													*
2N 173	*	*	*		*								*			*
2N 174	*	*	*			*					*		*			*
2N 174 A	*	*	*								*					*
*2N 174 A		*														
2N 175	*		*						*							*
2N 176	*		*			*		*	*		*		*			*
2N 176 A											*					*
2N 176 B								*								
2N 176 R								*								
2N 178	*		*					*			*					*
2N 180	*		*		*											*
2N 181	*		*													*
2N 182	*		*													*
2N 183	*		*													*
2N 184	*		*													*
2N 185	*		*													*
2N 186	*		*													*
2N 186 A	*		*													*
2N 187	*		*		*											*
2N 187 A	*		*													*
2N 188	*		*													*
2N 188 A	*		*													*
2N 189	*		*													*
2N 190	*		*													*
2N 191	*		*													*
2N 192	*		*													*
2N 193	*		*													*
2N 194	*		*													*
2N 194 A	*		*													*
2N 206			*													*
2N 206 A	*															*
2N 207	*		*													*
2N 207 A	*		*													*
2N 207 B	*		*													*
2N 211	*		*													*
2N 212	*		*													*
2N 213	*		*													*
2N 213 A			*													*
2N 214	*		*													*
2N 214 A	*		*													*
2N 215	*		*						*							*
2N 216	*		*													*
2N 217	*								*							*
2N 218	*		*													*
2N 219	*		*													*
2N 220	*		*						*							*
*2N 221 A							*									
2N 223	*		*													*
2N 223 A																*
2N 224	*		*													*
2N 225	*		*													*
2N 226	*		*													*
2N 227	*		*													*
2N 228	*		*													*
2N 229	*		*													*
2N 231										*				*		*
2N 232																*
2N 233	*		*													*
2N 233 A	*		*													*
2N 234 A	*		*			*					*		*			*
2N 235 A	*		*			*		*			*		*			*
2N 235 B	*		*			*							*			*
2N 236 A	*		*			*					*		*			*
2N 236 B	*		*			*					*		*			*
2N 237	*		*													*
2N 238	*		*													*
2N 240										*				*		*
*2N 240														*		
2N 241	*		*									*				*
2N 241 A	*		*	*								*				*
2N 242	*		*			*		*					*			*
2N 243	*		*									*			*	*
2N 244	*		*									*			*	*
2N 248																*
2N 249	*		*													*
2N 250	*		*			*					*		*		*	*
2N 250 A	*		*			*					*		*		*	*
2N 251	*		*			*					*		*		*	*
2N 251 A	*		*			*							*		*	*
2N 252	*		*													*
2N 253	*		*													*
2N 254	*		*													*
2N 255	*		*								*		*			*
2N 255 A	*	*	*								*		*			*
2N 256	*		*			*					*		*			*
2N 256 A	*		*			*					*		*			*
2N 257	*		*			*		*			*		*			*

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 257 B	*			*							*						*
2N 257 C											*						*
2N 257 G	*			*													*
2N 257 W	*			*							*						*
2N 258																	*
2N 259																	*
2N 263										*					*		*
2N 264										*					*		*
2N 265	*			*													*
2N 268	*			*							*			*			*
2N 268 A	*			*			*				*			*			*
2N 269	*			*													*
2N 270	*			*					*								*
2N 271				*													*
2N 271 A	*			*													*
2N 272	*			*													*
2N 273	*			*													*
2N 274																	*
2N 274 A																	*
2N 277	*		*	*							*			*			*
2N 278	*		*	*							*			*			*
2N 279	*			*													*
2N 280	*			*													*
2N 281				*													*
2N 281 B	*																*
2N 282	*			*													*
2N 283	*			*													*
2N 284	*			*													*
2N 284 A	*			*													*
2N 286MP																	*
2N 285 A	*			*		*	*							*			*
2N 285 B	*			*		*											*
2N 291	*			*													*
2N 292	*			*													*
2N 292 A	*																*
2N 293	*			*													*
2N 296	*			*		*								*			*
2N 297	*			*		*											*
2N 297 A	*			*		*	*				*			*			*
*2N 297 A							*				*						
2N 300																	*
2N 301	*		*	*		*	*		*		*			*			*
2N 301 A	*		*	*		*	*		*		*			*			*
2N 302	*			*				*									*
2N 303	*			*													*
2N 306	*			*													*
2N 307	*			*		*	*				*			*			*
2N 307 A	*			*		*	*				*			*			*
2N 308	*			*													*
2N 309	*			*													*
2N 310	*			*													*
2N 311	*			*													*
2N 312	*			*													*
2N 315	*			*													*
2N 315 A	*			*	*										*		*
2N 316	*			*	*												*
2N 316 A	*			*	*												*
2N 317	*			*													*
2N 317 A	*			*											*		*
2N 319	*			*	*		*										*
2N 320	*			*	*		*										*
2N 321	*			*	*		*										*
2N 322	*			*	*		*									*	*
2N 323	*			*	*		*										*
2N 324	*			*	*		*										*
2N 326											*						*
*2N 326											*						
2N 327 A	*	*		*		*		*		*		*	*	*			*
2N 327 B		*				*		*		*		*		*			*
2N 328 A	*	*		*		*		*		*		*	*	*			*
*2N 328 A		*				*		*									
2N 328 B		*				*				*		*	*	*			*
2N 329 A	*	*		*		*		*		*		*	*	*			*
*2N 329 A		*						*									
2N 329 B		*				*		*		*		*		*			*
2N 330 A		*								*		*	*	*			*
2N 331	*			*			*										*
*2N 331							*										
2N 332	*			*						*		*			*		*
2N 332 A				*						*		*			*		*
2N 333				*						*		*			*	*	*
2N 333 A				*								*			*	*	*
2N 336				*						*		*			*		*
2N 336 A				*								*			*	*	*
2N 335				*						*		*			*	*	*
2N 335 A				*								*			*	*	*
2N 335 B				*								*					*
2N 336				*						*		*			*	*	*
2N 336 A				*								*			*	*	*
2N 337				*						*		*			*	*	*
2N 337 A				*						*		*				*	*
2N 338				*						*		*			*	*	*
2N 338 A				*						*		*				*	*
2N 339				*								*			*	*	*
2N 339 A	*			*						*		*				*	*
2N 340	*			*								*			*		*
2N 340 A	*			*								*					*
2N 341	*			*								*			*		*
2N 341 A	*			*								*					*
2N 342	*			*								*			*		*
2N 342 A	*			*								*					*
2N 342 B	*			*								*					*

*JAN T

THE '72 MASTER 36th EDITION

	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 343	*		*									*			*		*
2N 343 A			*									*					*
2N 343 B	*		*									*					*
2N 344									*			*		*		*	*
2N 345									*			*		*			*
2N 346												*		*			*
2N 350	*		*			*	*				*		*				*
2N 350 A	*		*			*	*				*		*				*
2N 351	*		*			*	*	*			*		*				*
2N 351 A	*		*			*	*				*		*				*
2N 356	*		*		*				*			*					*
2N 356 A	*		*		*												*
2N 357	*		*														*
2N 357 A	*		*		*												*
2N 358	*		*		*												*
2N 358 A	*		*		*												*
*2N 358 A					*												
2N 359	*		*				*										*
2N 360	*		*				*										*
2N 361	*		*				*										*
2N 362	*		*														*
2N 363	*		*														*
2N 364	*		*														*
2N 365	*		*						*			*					*
2N 366	*		*														*
2N 367	*		*														*
2N 368	*		*														*
2N 369	*		*														*
2N 370								*									*
2N 372								*									*
2N 373																	*
2N 375	*		*			*	*				*		*				*
2N 376	*		*			*	*	*			*		*				*
2N 376 A	*		*			*	*				*		*				*
2N 377	*		*												*		*
2N 377 A	*		*		*												*
2N 378	*		*			*	*				*		*				*
2N 379	*	*	*			*	*				*		*				*
2N 380	*	*	*			*	*				*		*				*
2N 381	*		*				*										*
2N 382	*		*				*										*
2N 383	*		*				*										*
2N 384																	*
2N 385	*		*														*
2N 385 A	*		*														*
2N 388	*		*					*							*		*
2N 388 A	*		*		*			*							*		*
2N 389	*		*						*	*	*	*			*		*
*2N 389										*	*						
2N 389 A	*		*							*	*	*			*		*
2N 392		*	*			*								*			*
2N 392 A	*																
2N 393									*			*		*			*
*2N 393							*							*			
2N 394	*		*	*													*
2N 394 A	*		*														*
2N 395	*		*	*											*		*
2N 396	*		*	*											*		*
2N 396 A	*		*	*	*												*
*2N 396 A				*	*												
2N 397	*		*	*											*		*
2N 398			*				*	*							*		*
*2N 398							*										
2N 398 A			*		*		*	*									*
*2N 398 A							*										
2N 398 B								*									*
2N 399	*		*			*					*		*				*
2N 400	*		*			*					*		*				*
2N 401	*		*			*					*		*				*
2N 402	*		*														*
2N 403	*		*														*
2N 404	*		*	*	*		*	*							*		*
*2N 404							*										
2N 404 A	*		*	*	*		*	*							*		*
*2N 404 A					*		*										
2N 405	*		*					*									*
2N 406	*		*					*									*
2N 407	*		*					*									*
2N 408	*		*					*									*
2N 409	*		*														*
2N 410	*		*														*
2N 411	*		*														*
2N 412	*		*					*									*
2N 413	*		*	*													*
2N 413 A	*		*	*													*
2N 414	*		*	*				*									*
2N 414 A	*		*	*													*
2N 414 B	*		*														*
2N 414 C	*		*														*
2N 415	*		*														*
2N 415 A	*		*														*
2N 416	*		*														*
2N 417	*		*														*
2N 418	*		*			*						*		*			*
2N 419	*		*			*						*		*			*
2N 420	*		*			*						*		*			*
2N 420 A	*		*			*						*		*			*
2N 421 A				*													
2N 422	*		*														*
2N 424	*		*							*	*	*			*	*	*
*2N 424										*	*						
2N 424 A	*		*							*	*	*			*	*	*

JEDEC TYPE	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N.Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 425	*		*							*				*
2N 426	*		*							*		*		*
2N 427	*		*							*		*		*
2N 428	*		*							*		*		*
2N 428 A	*		*											*
2N 433								*						
2N 438	*		*									*		*
2N 438 A	*		*		*							*		*
2N 439	*		*									*		*
2N 439 A	*		*		*									*
2N 440	*		*									*		*
2N 440 A	*		*		*							*		*
2N 441		*	*				*		*		*			*
2N 442		*	*				*		*		*			*
2N 443		*	*				*		*		*			*
2N 444	*		*											*
2N 444 A	*		*											*
2N 445	*		*											*
2N 445 A	*		*		*									*
2N 446	*		*											*
2N 446 A	*		*		*									*
2N 447	*		*											*
2N 447 A	*		*		*									*
2N 447 B	*		*											*
2N 448	*		*											*
2N 449	*		*											*
2N 450	*		*											*
2N 456	*		*				*		*		*			*
2N 456 A	*	*	*				*		*		*	*		*
2N 456 B	*	*	*				*		*		*	*		*
*2N 456 B									*					
2N 457	*		*				*		*		*			*
2N 457 A	*	*	*				*	*	*		*	*		*
2N 457 B	*	*	*				*		*		*			*
*2N 457 B									*					
2N 458	*		*				*		*		*			*
2N 458 A	*	*	*				*	*	*		*	*		*
2N 458 B	*	*	*				*		*		*			*
*2N 458 B									*					
2N 459	*		*					*						*
2N 459 A	*		*					*						*
2N 460	*		*					*						*
2N 461	*		*	*				*						*
*2N 461				*				*						
2N 464	*		*					*						*
*2N 464								*						
2N 465	*		*		*			*						*
*2N 465					*			*						
2N 466	*		*		*			*						*
*2N 466					*			*						
2N 467	*		*		*			*						*
*2N 467					*			*						
2N 470	*		*					*		*		*		*
2N 471	*		*					*		*		*		*
2N 471 A	*		*					*		*				*
2N 472	*		*					*		*		*		*
2N 472 A	*		*					*		*				*
2N 473	*		*					*		*		*		*
2N 474	*		*					*		*		*		*
2N 474 A	*		*					*		*				*
2N 475	*		*					*		*		*		*
2N 475 A	*		*					*		*				*
2N 476	*		*					*		*		*		*
2N 477	*		*					*		*		*		*
2N 477 A										*				
2N 478	*		*					*		*		*		*
2N 479	*		*					*		*		*	*	*
2N 479 A	*		*					*		*			*	*
2N 480	*		*					*		*		*	*	*
2N 480 A	*		*					*		*			*	*
2N 481	*		*											*
2N 482	*		*											*
2N 483	*		*											*
2N 484	*		*											*
2N 485	*		*											*
2N 486	*		*											*
2N 487														*
2N 489					*					*		*		*
2N 489 A					*			*		*		*		*
*2N 489 A					*									
2N 489 B					*			*		*		*		*
2N 489 C					*									
2N 490					*					*		*		*
2N 490 A					*			*		*		*		*
*2N 490 A					*									
2N 490 B					*			*		*		*		*
2N 490 C					*			*		*				*
2N 491					*					*		*		*
2N 491 A					*					*		*		*
*2N 491 A					*									
2N 491 B					*			*		*		*		*
2N 491 C					*									
2N 492					*					*		*		*
2N 492 A					*			*		*		*		*
*2N 492 A					*									
2N 492 B					*			*		*		*		*
2N 492 C					*			*		*				*
2N 493					*					*		*		*
2N 493 A					*			*		*		*		*
*2N 493 A					*									
2N 493 B					*			*		*		*		*
2N 493 C					*									

THE '72 MASTER 16th EDITION

	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 494				*							*			*		*
2N 494 A				*					*		*			*		*
*2N 494 A				*												
2N 494 B				*					*		*		*			*
2N 494 C				*					*		*		*			*
2N 495									*		*		*			*
2N 496			*						*		*		*			*
2N 497	*	*						*	*		*			*	*	*
*2N 497								*								
2N 497 A	*	*							*		*			*	*	*
2N 498	*	*	*					*	*		*			*	*	*
*2N 498								*								
2N 498 A	*	*							*		*			*	*	*
2N 499		*					*		*		*		*			*
*2N 499							*						*			
2N 499 A		*					*		*		*		*			*
*2N 499 A							*						*			
2N 501		*					*		*				*			*
2N 501 A		*					*		*				*			*
*2N 501 A							*						*			
2N 502		*					*		*				*			*
2N 502 A		*					*		*				*			*
*2N 502 A							*						*			
2N 502 B		*					*		*				*			*
*2N 502 B							*						*			
2N 503		*							*				*			*
2N 504		*											*			*
2N 505		*														*
2N 506		*														*
2N 507		*														*
2N 508	*	*		*			*							*		*
2N 508 A	*	*		*			*									*
2N 511		*				*						*		*		*
2N 511 A		*				*						*		*		*
2N 511 B		*				*						*		*		*
2N 512		*										*		*		*
2N 512 A		*										*		*		*
2N 512 B		*										*		*		*
2N 513		*										*				*
2N 513 A		*										*				*
2N 513 B		*										*				*
2N 514		*										*				*
2N 514 A		*										*				*
2N 514 B		*										*				*
2N 515	*	*														*
2N 516	*	*														*
2N 517	*	*														*
2N 518	*	*														*
2N 519	*	*														*
2N 519 A	*	*			*											*
2N 520	*	*												*		*
2N 520 A	*	*			*		*							*		*
2N 521	*	*														*
2N 521 A	*	*			*											*
2N 522	*	*														*
2N 522 A	*	*			*									*		*
2N 523	*	*														*
2N 523 A	*	*			*											*
2N 524	*	*		*												*
2N 524 A		*														*
2N 524AML																*
2N 525	*	*		*			*				*					*
2N 525 A							*									*
2N 525AML																*
2N 526	*	*		*			*									*
*2N 526				*			*									
2N 526 A		*					*									*
2N 526AML																*
2N 527	*	*		*			*									*
2N 527 A		*					*									*
2N 527AML																*
2N 529	*	*														*
2N 530	*	*														*
2N 531	*	*														*
2N 532	*	*														*
2N 533	*	*														*
2N 535	*	*														*
2N 535 A	*	*														*
2N 535 B	*	*														*
2N 536	*	*														*
2N 538										*		*				*
2N 538 A										*		*				*
2N 539										*		*				*
*2N 539										*		*				
2N 539 A										*		*				*
*2N 539 A										*		*				
2N 540										*		*				*
2N 540 A										*		*				*
2N 541	*	*								*		*			*	*
2N 542	*	*								*		*			*	*
2N 542 A	*	*									*				*	*
2N 543	*	*								*		*		*	*	*
2N 543 A	*	*									*				*	*
2N 545		*								*		*			*	*
2N 546		*								*		*			*	*
2N 547	*	*								*		*			*	*
2N 547 A																*
2N 548	*	*								*		*			*	*
2N 549	*	*								*		*			*	*
2N 550	*	*								*		*			*	*
2N 551	*	*								*		*				*
2N 552	*	*								*		*			*	*

JEDEC TYPE	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 553	*		*			*	*			*			*				*
2N 554	*	*	*			*	*						*				*
2N 555	*		*			*	*						*				*
2N 556	*		*													*	*
2N 557	*		*													*	*
2N 558	*		*														*
2N 559																	*
*2N 559							*										
2N 560	*								*		*						*
2N 561	*		*			*				*			*				*
2N 563	*		*														*
2N 564	*		*														*
2N 565	*		*														*
2N 566	*		*														*
2N 567	*		*														*
2N 568	*		*														*
2N 569	*		*														*
2N 570	*		*														*
2N 571	*		*													*	*
2N 572	*		*														*
2N 573	*		*				*										*
2N 574													*				*
*2N 574													*				
2N 574 A													*				*
2N 575													*				*
*2N 575													*				
2N 575 A													*				*
*2N 575 A													*				
2N 576			*														*
2N 576 A	*		*														*
2N 578	*		*														*
2N 579	*		*	*													*
2N 580	*		*	*													*
2N 581	*		*												*		*
2N 582	*		*												*		*
2N 583	*		*														*
2N 584	*		*														*
2N 585	*		*	*				*									*
2N 586	*																*
2N 587	*		*												*		*
2N 588			*						*					*			*
2N 588 A														*			*
2N 589	*		*														
2N 591	*		*					*									*
2N 592	*																
2N 593	*																
2N 594															*		*
2N 595															*		*
2N 596															*		*
2N 597	*		*		*							*	*				*
2N 598	*		*		*												*
*2N 598					*												
2N 599	*		*		*							*					*
*2N 599					*												
2N 600					*							*					*
*2N 600					*												
2N 600 A													*				
2N 601					*							*					*
2N 601 A												*					
2N 602												*					*
2N 602 A									*			*					*
2N 603												*					*
2N 603 A									*			*					*
2N 604							*					*					*
2N 604 A									*			*					*
2N 609	*		*														*
2N 610	*		*														*
2N 611	*		*														*
2N 612	*		*														*
2N 613	*		*														*
2N 614	*		*														*
2N 615	*		*														*
2N 616	*		*														*
2N 617	*		*														*
2N 618	*		*			*	*			*			*				*
2N 619				*					*								*
2N 620									*								*
2N 621									*								*
2N 622									*								*
2N 627	*		*			*	*			*			*				*
2N 628	*		*			*	*			*			*				*
2N 629	*		*			*	*			*			*				*
2N 630	*		*			*	*			*			*				*
2N 631	*		*								*						*
2N 632	*		*														*
2N 633	*		*														*
2N 634	*		*														*
2N 634 A	*		*												*		*
2N 635	*		*														*
2N 635 A	*		*												*		*
2N 636	*		*														*
2N 636 A	*		*												*		*
2N 637	*		*			*				*				*			*
2N 637 A	*		*			*				*				*			*
2N 637 B	*		*			*	*			*				*			
2N 638	*		*			*				*				*			*
2N 638 A	*		*			*				*				*			*
2N 638 B	*		*			*				*				*			*
2N 639	*		*							*							*
2N 639 A	*		*														*
2N 639 B	*		*														*
2N 640																	*

THE '72 MASTER 36th EDITION

	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N.Y.	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
2N 641																				*	
2N 642																				*	
2N 643																				*	
2N 644																				*	
2N 647			*									*								*	
2N 649			*									*								*	
2N 650			*						*						*					*	
2N 650 A			*						*						*					*	
*2N 650 A									*												
2N 650AML																				*	
2N 651	*		*						*						*					*	
2N 651 A	*		*						*						*					*	
*2N 651 A									*												
2N 651AML																				*	
2N 652	*		*						*						*					*	
2N 652 A	*		*						*						*					*	
*2N 652 A									*												
2N 652AML																				*	
2N 653	*		*						*											*	
2N 654	*		*						*											*	
2N 655	*		*						*											*	
2N 656	*		*	*					*		*		*		*			*		*	
*2N 656											*										
2N 656 A	*		*										*		*			*	*	*	
2N 657	*		*	*					*		*		*		*			*		*	
*2N 657				*							*										
2N 657 A	*		*										*		*			*	*	*	
2N 658	*		*															*		*	
2N 659	*		*												*			*		*	
2N 660	*		*												*			*		*	
2N 661	*		*															*		*	
2N 662	*		*															*		*	
2N 663	*		*			*								*		*				*	
2N 665	*		*			*			*					*		*				*	
*2N 665									*					*							
2N 669	*	*	*			*			*					*		*				*	
2N 670															*						
2N 671															*						
2N 672	*		*												*					*	
2N 677	*		*			*								*		*				*	
2N 677 A	*		*			*								*		*				*	
2N 677 B	*		*			*								*		*				*	
2N 677 C	*															*				*	
2N 678	*		*											*		*				*	
2N 678 A	*		*											*		*				*	
2N 678 B	*													*		*				*	
2N 678 C	*															*				*	
2N 679	*		*																	*	
2N 680	*		*		*															*	
2N 681					*	*	*		*				*						*	*	*
2N 681 A									*											*	
2N 682					*	*	*		*				*						*	*	*
*2N 682					*		*		*										*		
2N 682 A									*											*	
2N 683					*	*	*		*				*						*	*	*
*2N 683					*		*												*		
2N 683 A									*											*	
2N 684					*	*	*		*				*						*	*	*
*2N 684							*														
2N 684 A									*											*	
2N 685					*	*	*		*				*						*	*	*
*2N 685					*		*		*										*		
2N 685 A									*											*	
2N 686					*	*	*		*				*						*	*	*
*2N 686					*		*		*										*		
2N 686 A									*											*	
2N 687					*	*	*		*				*						*	*	*
*2N 687					*		*		*										*		
2N 687 A									*											*	
2N 688					*	*	*		*				*		*				*	*	*
*2N 688					*		*		*										*		
2N 688 A									*											*	
2N 689					*	*	*		*				*		*				*	*	*
*2N 689					*		*		*										*		
2N 689 A									*											*	
2N 690					*	*	*		*				*		*				*	*	*
*2N 690							*														
2N 690 A																				*	
2N 691					*		*		*						*					*	*
*2N 691							*														
2N 691 A																				*	
2N 692					*		*								*					*	*
*2N 692							*														
2N 692 A																				*	
2N 696				*	*		*			*		*		*		*		*	*	*	
*2N 696												*						*			
2N 696 A							*						*							*	
2N 697	*			*	*		*		*	*	*	*	*	*		*		*	*	*	
*2N 697					*		*					*						*			
2N 697 A				*								*		*						*	
2N 698					*							*		*		*		*	*	*	
2N 699	*			*	*					*	*	*	*	*		*		*	*	*	
2N 699 A	*			*	*							*		*		*		*		*	
2N 699 B	*			*	*							*		*		*		*		*	
2N 700									*							*				*	
2N 700 A									*							*				*	
*2N 700 A									*												
2N 702	*			*					*				*			*				*	
2N 703	*			*	*				*				*			*				*	
*2N 703 A									*												
2N 705									*							*			*	*	
*2N 705									*												

JEDEC TYPE	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 705 A						*													*
2N 706		*	*		*	*	*	*	*	*	*					*	*	*	*
*2N 706			*		*	*	*		*							*			
2N 706 A	*	*	*		*	*	*		*	*	*					*	*	*	*
2N 706 B	*	*	*			*	*		*		*						*	*	*
2N 706 C	*	*							*										*
2N 706B/46											*								
2N 706-46											*								
2N 707	*	*	*				*				*	*							*
2N 707 A	*	*					*				*	*							*
2N 708	*	*	*	*	*	*	*	*	*			*				*	*	*	*
*2N 708			*			*	*												
2N 708 A							*												*
2N 709		*	*		*		*			*	*	*					*	*	*
2N 709 A			*		*						*	*						*	*
2N 710							*										*		*
2N 710 A																			*
2N 711							*					*					*		*
2N 711 A							*										*		*
2N 711 B							*										*		*
2N 715		*									*	*							*
2N 716		*									*	*							*
2N 717	*	*	*				*		*							*	*		*
2N 717 A																			*
2N 718	*	*	*			*	*	*	*			*				*	*	*	*
*2N 718							*												
2N 718 A	*	*	*				*		*	*	*	*				*	*	*	*
*2N 718 A			*						*							*			
2N 719	*	*	*						*		*					*	*		*
2N 719 A	*	*	*								*					*	*		*
2N 720	*	*	*		*				*		*	*				*	*	*	
2N 720 A	*	*	*		*		*		*	*	*					*	*	*	*
*2N 720 A			*													*			
2N 721		*	*		*		*		*		*						*	*	*
2N 721 A					*												*		*
2N 722	*	*	*		*	*	*	*	*		*						*	*	*
2N 722 A					*				*		*							*	*
2N 722 B					*						*								*
2N 725																			*
2N 726		*					*				*	*						*	*
2N 727		*					*				*	*						*	*
2N 728					*														*
2N 729					*														*
2N 730	*	*			*			*									*	*	*
2N 731	*	*			*		*		*		*						*	*	*
2N 734	*	*			*						*			*					*
2N 734 A													*	*					
2N 735	*	*			*		*				*		*	*					*
2N 735 A	*	*			*								*	*					*
2N 736	*	*			*		*				*		*	*					*
2N 736 A	*	*											*	*					*
2N 736 B	*	*			*								*	*					*
2N 738	*	*									*			*					*
2N 738 A														*					
2N 739	*	*			*		*				*		*	*					*
2N 739 A	*	*			*									*					*
2N 740	*	*			*		*				*			*					*
2N 740 A	*	*			*						*		*	*					
2N 741							*						*						*
2N 741 A							*				*								*
2N 742	*	*									*								*
2N 742 A	*	*									*								*
2N 743	*	*	*		*	*	*		*		*						*	*	*
2N 743 A									*		*						*	*	*
2N 744	*	*	*		*	*	*	*	*		*						*		*
*2N 744			*																
2N 744 A									*		*								*
2N 745					*		*												
2N 746					*														
2N 747					*														
2N 752	*	*									*								*
2N 753	*	*	*		*	*	*	*			*						*		*
2N 753-46											*								
2N 754	*	*			*						*								*
2N 755	*	*			*						*								*
2N 756	*	*			*						*			*					*
2N 756 A	*	*									*			*					*
2N 757	*	*			*						*	*	*	*					*
2N 757 A	*	*			*						*	*		*					*
2N 758	*	*			*						*	*							*
2N 758 A	*	*			*						*	*		*					*
2N 758 B					*						*	*	*	*					*
2N 759	*	*			*						*	*		*					*
2N 759 A	*	*			*						*	*	*	*					*
2N 759 B	*	*			*						*			*					*
2N 760	*	*	*		*	*		*	*		*	*	*	*		*			*
2N 760 A	*	*	*		*	*		*	*		*	*	*	*		*			*
*2N 760 A					*		*	*	*							*			
2N 760 B	*	*			*						*	*	*	*					*
2N 761	*	*																	*
2N 762	*	*																	*
2N 764					*													*	*
2N 765					*													*	*
2N 766					*													*	*
2N 767					*													*	*
2N 768					*														*
2N 769					*											*			*
2N 769 A							*												
2N 779												*							*
2N 779 A							*									*			*
2N 780	*	*																	*
2N 782																			*

THE '72 MASTER 1972 EDITION

	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVI	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 783	*		*	*			*			*		*						*	*
2N 784	*		*	*		*	*			*		*						*	*
2N 784 A	*		*							*									*
2N 789												*							
2N 794						*						*	*		*				*
2N 795						*						*	*		*				*
2N 796						*						*	*		*				*
2N 797													*				*		*
2N 802																			*
2N 803																			*
2N 804																			*
2N 805																			*
2N 806																			*
2N 807																			*
2N 808																			*
2N 809																			*
2N 810																			*
2N 811																			*
2N 812																			*
2N 813																			*
2N 814																			*
2N 815																			*
2N 816																			*
2N 817																			*
2N 818																			*
2N 819																			*
2N 820																			*
2N 821																			*
2N 822																			*
2N 823																			*
2N 824																			*
2N 825																			*
2N 825 B														*					
2N 826																			*
2N 827								*					*						*
2N 828								*					*						*
2N 828 A								*					*						*
2N 829								*					*						*
2N 834	*		*	*			*	*	*		*	*				*			*
2N 834 A				*			*			*									*
2N 834-46												*							
2N 835	*		*	*			*	*		*		*							*
2N 835-46												*							
2N 837								*											
2N 838								*											*
2N 839	*		*									*				*			*
2N 840	*		*					*				*				*			*
2N 841	*		*									*				*			*
2N 841-46												*							
2N 842	*		*									*				*			*
2N 843	*		*					*				*				*			*
2N 844												*							*
2N 845												*							*
2N 846																			*
2N 846 A															*				*
2N 849												*					*		*
2N 850												*					*		*
2N 851												*					*		*
2N 852												*					*		*
2N 858		*										*	*		*				*
2N 859		*										*	*		*				*
2N 860		*										*	*		*				*
2N 861		*										*	*		*				*
2N 862		*										*	*		*				*
2N 863		*										*	*		*				*
2N 864		*										*	*		*				*
2N 864 A		*																	
2N 865		*										*	*		*				*
2N 865 A		*																	
2N 869			*	*				*	*	*		*	*			*		*	*
2N 869 A				*				*	*		*	*	*					*	*
*2N 869 A				*					*										
2N 870	*		*	*					*		*	*	*				*		*
2N 871	*		*	*			*		*		*	*	*				*		*
2N 876			*			*							*					*	*
2N 877			*		*	*							*					*	*
2N 878			*		*	*							*					*	*
2N 879			*		*	*							*					*	*
2N 880			*		*	*							*					*	*
2N 881			*		*	*							*					*	*
2N 882													*						*
2N 883													*						*
2N 884						*							*					*	*
2N 884 A						*													*
2N 885						*							*					*	*
2N 885 A						*													*
2N 886						*							*					*	*
2N 886 A																			*
2N 887						*							*					*	*
2N 887 A						*													*
2N 888						*							*					*	*
2N 888 A						*													*
2N 889						*							*					*	*
2N 889 A						*													*
2N 890													*						*
2N 891													*						*
2N 892						*							*					*	*
2N 893						*							*					*	*
2N 894						*							*					*	*
2N 895													*					*	*
2N 896						*							*					*	*
2N 897						*							*					*	*

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N 898								*							*						*	*
2N 899															*						*	*
2N 900								*							*						*	*
2N 901															*						*	*
2N 909		*			*	*								*					*			
2N 910		*			*	*		*		*		*		*	*				*	*		*
*2N 910								*		*		*							*			
2N 911		*			*	*				*		*		*	*				*	*		*
*2N 911						*						*							*			
2N 912		*			*	*						*		*	*				*	*		*
*2N 912												*										
2N 913														*	*							
2N 914		*			*	*			*	*					*					*	*	*
*2N 914						*				*												
2N 914-46														*								
2N 915		*			*	*			*	*	*	*			*				*			*
2N 915 A														*	*				*			*
2N 916		*			*	*				*		*			*				*			*
*2N 916						*				*		*							*			
2N 916 A												*		*					*			*
2N 916 B														*	*				*			
2N 917						*	*			*	*	*	*		*				*	*		*
2N 917 A												*		*	*							
2N 917-46														*								
2N 918					*	*	*	*			*	*	*	*	*				*	*		*
*2N 918							*				*	*	*						*			
2N 919		*				*																*
2N 920		*				*																*
2N 921		*				*																*
2N 922		*				*																*
2N 923			*									*		*	*	*	*					*
2N 924			*									*		*	*		*					*
2N 925			*									*		*	*	*	*					*
2N 926			*									*		*	*	*	*					*
2N 927			*											*	*	*	*					*
2N 928			*											*	*	*	*					*
2N 929						*	*	*	*	*		*	*		*		*			*	*	*
*2N 929									*	*		*	*							*		
2N 929 A									*			*	*				*	*		*	*	*
2N 929-46														*								
2N 930		*				*	*	*	*	*		*	*		*	*	*			*	*	*
*2N 930							*		*	*		*	*							*		
2N 930 A									*			*	*		*		*			*	*	*
2N 930 B													*				*			*		*
2N 930A/46															*							
2N 930-46															*							
2N 935			*										*		*	*	*					*
2N 936			*										*		*	*	*					
2N 937			*										*		*	*	*					
2N 938			*										*		*	*	*					
2N 939			*										*		*	*	*					*
2N 940			*										*		*	*	*					*
2N 941			*										*		*	*	*					*
2N 942			*										*		*	*	*					*
2N 943			*										*		*	*	*					*
2N 944			*										*		*	*	*					*
2N 945			*										*		*	*	*					*
2N 946			*										*		*	*	*					*
2N 947						*							*		*	*						*
2N 948															*						*	*
2N 949															*						*	*
2N 950															*						*	*
2N 951															*						*	*
2N 955 A						*																
2N 956		*			*	*					*	*			*				*	*		*
2N 957					*	*						*		*	*							*
2N 960																						*
2N 961															*							*
2N 962															*							*
2N 963																						*
2N 964																						*
2N 964 A																						*
2N 965																						*
2N 966																						*
2N 967																						*
2N 968															*							*
2N 969															*							*
2N 970															*							
2N 971															*							
2N 972															*							*
2N 973															*							*
2N 974															*							*
2N 975															*							*
2N 976															*							*
2N 977																						*
2N 978						*	*							*								*
2N 979																		*				*
2N 980																		*				*
2N 981											*			*	*							*
2N 982															*			*				*
2N 983															*			*				*
2N 984															*			*				*
2N 985															*					*		*
2N 986																						*
2N 987	*																					*
*2N 987	*																					
2N 988														*						*		
2N 989														*						*		
2N 990	*																					*
2N 993	*																					*
2N 995						*					*			*	*					*		*
2N 995 A						*																*

THE '72 MASTER 16th EDITION	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TEXAS INSTR.	UNITED-PAGE	WESTINGHOUSE
2N 996					*					*			*					*	
2N 997					*	*			*				*			*	*	*	
2N 998					*	*			*				*			*		*	
2N 999					*	*			*				*					*	
2N1000	*			*														*	
2N1007	*			*														*	
2N1008	*			*				*										*	
2N1008 A	*			*				*										*	
2N1008 B	*			*				*										*	
*2N1008 B								*											
2N1010	*			*														*	
2N1011	*		*	*			*	*				*			*			*	
*2N1011								*											
2N1012	*			*														*	
2N1015	*			*							*	*						*	*
2N1015 A	*			*			*				*	*	*					*	*
2N1015 B	*			*			*				*	*	*					*	*
2N1015 C	*						*				*	*	*					*	*
2N1015 D	*						*				*	*	*					*	*
2N1015 E							*				*	*	*					*	*
2N1015 F											*		*					*	
2N1016	*			*			*					*	*					*	*
2N1016 A	*			*			*					*	*					*	*
2N1016 B	*			*			*					*	*					*	*
*2N1016 B												*							*
2N1016 C	*						*					*	*					*	*
*2N1016 C												*							*
2N1016 D	*						*					*	*					*	*
*2N1016 D												*							*
2N1016 E							*					*	*					*	*
2N1016 F													*						
2N1017	*			*														*	
2N1018	*			*														*	
2N1020	*																		
2N1021			*	*			*	*				*			*		*	*	
2N1021 A	*		*	*			*					*			*		*	*	
2N1022			*				*	*				*			*		*	*	
2N1022 A			*				*					*			*		*	*	
2N1023																		*	
2N1024		*		*					*	*			*	*	*			*	
2N1025		*		*					*	*			*	*	*			*	
*2N1025		*																	
2N1026	*	*		*					*	*			*	*	*			*	
*2N1026		*																	
2N1026 A		*		*														*	
2N1027		*		*					*	*			*	*	*			*	
2N1028		*		*					*	*			*	*	*			*	
2N1031	*			*			*								*			*	
2N1031 A	*			*			*								*			*	
2N1031 B	*						*								*			*	
2N1031 C	*						*								*			*	
2N1032	*			*			*								*			*	
2N1032 A	*			*			*								*			*	
2N1032 B	*						*								*			*	
2N1032 C	*						*								*			*	
2N1034	*	*		*					*	*			*	*	*			*	
2N1035	*	*		*					*	*			*	*	*			*	
2N1036	*	*		*					*	*			*	*	*			*	
2N1037	*	*		*						*			*	*	*			*	
2N1038								*				*			*		*	*	
2N1038-1												*							
2N1038-2												*							
2N1039								*				*					*	*	
*2N1039												*							
2N1039-1												*							
2N1039-2												*							
2N1040								*				*					*	*	
2N1040-1												*							
2N1040-2												*							
2N1041								*				*					*	*	
*2N1041												*							
2N1041-1												*							
2N1041-2												*							
2N1042								*				*					*	*	
*2N1042												*							
2N1042-1												*							
2N1042-2												*							
2N1043								*				*					*	*	
*2N1043												*							
2N1043-1												*							
2N1043-2												*							
2N1044								*				*					*	*	
*2N1044												*							
2N1044-1												*							
2N1044-2												*							
2N1045								*				*					*	*	
*2N1045												*							
2N1045-1												*							
2N1045-2												*							
2N1046	*			*													*	*	
*2N1046								*											
2N1046 A	*			*													*	*	
2N1046 B	*			*													*	*	
2N1047	*			*							*	*	*				*	*	
2N1047 A	*			*							*	*	*				*	*	
*2N1047 A											*	*							
2N1047 B	*			*							*	*	*				*	*	
2N1048	*			*							*	*	*				*	*	
2N1048 A	*			*							*	*	*				*	*	
*2N1048 A											*	*							
2N1048 B	*			*							*	*	*				*	*	
2N1049	*			*							*	*	*				*	*	

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N1049 A	*			*								*	*	*			*		*
*2N1049 A												*	*						
2N1049 B	*			*								*	*	*			*		*
2N1050	*			*								*	*	*			*		*
2N1050 A	*			*								*	*	*			*		*
*2N1050 A												*	*						
2N1050 B	*											*	*	*			*		*
2N1051														*					
2N1052				*							*			*				*	*
2N1053											*			*				*	*
2N1054	*			*							*			*				*	*
2N1055				*							*			*				*	*
2N1056	*																		*
2N1057	*			*															*
2N1058	*			*															*
2N1059	*			*															*
2N1065																			*
2N1066										*									*
2N1067	*												*	*					*
2N1068	*												*	*					*
2N1069	*			*		*							*	*					*
2N1070	*			*		*							*	*					*
2N1073	*		*	*				*							*				*
2N1073 A	*		*	*				*							*				*
2N1073 B			*					*							*				*
2N1079	*			*										*					*
2N1080	*			*										*					*
2N1084											*			*				*	*
2N1085											*			*					*
2N1086	*			*															*
2N1086 A	*			*															*
2N1087	*			*															*
2N1090	*			*															*
2N1091	*			*															*
2N1092	*			*										*					*
2N1093	*			*															*
2N1095	*			*															*
2N1096	*			*															*
2N1097	*			*															*
2N1098	*			*															*
2N1099	*		*	*									*		*				*
2N1100			*	*					*				*		*				*
2N1101	*			*															*
2N1102	*			*															*
2N1103																			*
2N1104											*								*
2N1107	*			*															*
2N1108	*			*															*
2N1109	*			*															*
2N1110	*			*															*
2N1111	*			*															*
2N1111 A				*															*
2N1111 B				*															*
2N1114	*			*															*
2N1115	*			*															*
2N1115 A																			*
2N1116				*							*		*	*				*	*
2N1117	*			*							*		*	*				*	*
2N1117 A													*						
2N1118		*												*	*	*			*
*2N1118		*														*			
2N1118 A		*									*			*	*	*			*
2N1119		*							*		*			*	*	*			*
*2N1119		*																	
#2N1119-39																*			
2N1120	*			*				*							*				*
*2N1120								*											
2N1121	*			*															*
2N1122											*			*		*			*
2N1122 A								*			*			*		*			*
2N1123														*					
2N1124	*			*															*
2N1125	*			*															*
2N1128	*			*															*
2N1129	*			*															*
2N1130	*			*															*
2N1131	*			*	*			*	*		*			*			*	*	*
*2N1131								*	*										
2N1131 A					*			*			*			*					*
2N1131-46											*								
2N1132	*			*	*		*	*	*		*			*			*	*	*
*2N1132					*			*	*										
2N1132 A					*		*	*	*		*			*				*	*
2N1132 B								*	*		*			*				*	*
2N1132A/46											*								
2N1132B/46											*								
2N1132-66											*								
2N1136	*			*		*								*					*
2N1136 A	*			*		*								*					*
2N1136 B	*					*								*					*
2N1137	*			*		*								*					*
2N1137 A	*			*		*								*					*
2N1137 B	*					*								*					*
2N1138	*			*		*								*					*
2N1138 A	*			*		*								*					*
2N1138 B						*								*					*
2N1139				*															*
2N1140				*															*
2N1141								*									*		*
2N1141 A								*									*		*
2N1142								*											*
*2N1142								*											

THE '72 MASTER 16th EDITION

	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N1142 A							*								*		*
2N1143							*								*		*
2N1143 A							*								*		*
2N1144	*			*													*
2N1145	*			*													*
2N1146	*			*		*	*				*			*			*
2N1146 A	*			*		*	*				*			*			*
2N1146 B	*			*		*	*				*			*			*
2N1146 C	*			*		*	*				*			*			*
2N1146R											*						
2N1147	*			*		*	*				*			*			*
2N1147 A	*			*		*	*				*			*			*
2N1147 B	*			*		*	*				*			*			*
2N1147 C	*			*		*	*				*			*			*
2N1149	*			*						*		*			*		*
2N1150	*			*						*		*			*		*
2N1151	*			*						*		*			*		*
2N1152	*			*						*		*			*		*
2N1153	*			*						*		*			*		*
2N1154	*			*						*		*			*		*
2N1155	*			*						*		*			*		*
2N1156	*			*						*		*			*		*
2N1157														*			*
2N1157 A														*			*
*2N1157 A														*			
2N1158				*													*
2N1158 A				*													*
2N1159			*	*		*								*			*
2N1160	*		*	*		*								*			*
2N1162	*			*			*				*			*			*
2N1162 A	*			*			*				*			*			*
2N1163	*			*			*				*			*			*
2N1163 A	*			*			*				*			*			*
2N1164	*			*			*				*			*			*
2N1164 A	*			*			*				*			*			*
2N1165	*			*			*				*			*			*
*2N1165							*				*						
2N1165 A	*			*			*				*			*			*
2N1166	*			*			*				*			*			*
2N1166 A	*			*			*				*			*			*
2N1167	*			*			*				*			*			*
2N1167 A	*			*			*				*			*			*
2N1168	*		*	*							*			*			*
2N1169																	*
2N1170																	*
2N1171	*			*													*
2N1172											*						*
2N1175	*			*	*		*										*
2N1175 A	*			*	*												*
2N1176	*			*													*
2N1176 A	*			*													*
2N1176 B	*			*													*
2N1177										*							*
2N1178										*							*
2N1179										*							*
2N1180										*							*
2N1183										*	*						*
*2N1183											*						
2N1183 A										*	*						*
*2N1183 A											*						
2N1183 B										*	*						*
*2N1183 B											*						
2N1184										*	*						*
*2N1184											*						
2N1184 A										*	*						*
*2N1184 A											*						
2N1184 B										*	*						*
*2N1184 B											*						
2N1185	*			*			*										*
2N1186	*						*										*
2N1187	*						*										*
2N1188	*						*										*
2N1189	*			*			*										*
2N1190	*			*			*										*
2N1191				*			*										*
2N1192	*			*			*										*
2N1193	*			*			*										*
2N1194	*			*			*										*
2N1195	*						*								*		*
*2N1195							*										
2N1196											*		*				*
2N1197											*		*				*
2N1198	*			*													*
2N1199	*			*													*
2N1202												*		*			*
2N1203												*		*			*
2N1204										*							*
2N1204 A										*							*
2N1205	*			*									*				*
2N1206	*			*													*
2N1207	*			*		*											*
2N1208	*			*		*					*	*	*			*	*
2N1209	*			*		*					*	*	*	*		*	*
2N1210	*			*								*	*				*	*
2N1211	*			*								*	*				*	*
2N1212	*			*		*						*	*				*	*
2N1217	*			*														*
2N1218												*						
2N1219	*	*		*					*		*		*	*	*			*
2N1220	*	*		*					*		*		*		*			*
2N1221	*	*		*					*		*		*		*			*
2N1222	*	*		*					*		*		*		*			*

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N1223		*	*	*								*		*		*				*
2N1224	*										*									*
*2N1224	*																			
2N1225	*										*									*
*2N1225	*																			
2N1226											*									*
2N1227		*						*					*							*
2N1228		*	*	*						*		*		*	*	*				*
2N1229		*	*	*						*		*		*	*	*				*
2N1230		*	*	*						*		*		*	*	*				*
2N1231		*	*	*				*				*		*		*				*
2N1232		*	*	*				*				*		*	*	*				*
2N1233		*	*	*				*				*		*	*	*				*
2N1234			*					*						*		*				*
*2N1234			*					*												
2N1235														*					*	*
2N1238																*				
2N1239																*				*
2N1240																*				*
2N1241								*							*	*				*
2N1242								*								*				*
2N1243								*								*				*
2N1244								*								*				*
2N1247		*		*															*	*
2N1248		*		*															*	*
2N1249		*		*																*
2N1250		*		*										*	*				*	*
2N1251		*		*																*
2N1252		*		*	*							*		*		*				*
2N1253		*		*	*							*		*		*				*
2N1254												*		*	*				*	*
2N1255												*		*	*				*	*
2N1256												*		*					*	*
2N1257												*		*	*				*	*
2N1258												*		*	*				*	*
2N1258-9															*					
2N1259												*		*	*				*	*
2N1260								*						*					*	*
2N1261													*			*				*
2N1262													*			*				*
2N1263													*			*				*
2N1265		*		*																*
2N1265-5																				*
2N1266		*		*																*
2N1267		*		*																*
2N1268		*		*																*
2N1269		*		*																*
2N1270		*		*																*
2N1271		*		*																*
2N1272		*		*																*
2N1273		*		*					*										*	*
2N1274		*		*					*										*	*
2N1275		*		*													*			*
2N1276		*		*															*	*
2N1277		*		*																*
2N1278		*		*																*
2N1279		*		*															*	*
2N1280		*		*																*
2N1281		*		*																*
2N1282		*		*																*
2N1284		*		*																*
2N1285											*									*
2N1291		*		*									*							*
2N1292													*							*
2N1293		*		*									*							*
2N1294													*							*
2N1295		*		*									*							*
2N1296													*							*
2N1297		*		*									*							*
2N1298													*							*
2N1299		*		*																*
2N1300											*							*		*
2N1301									*		*							*		*
2N1302		*		*							*			*					*	*
2N1303		*		*		*					*								*	*
*2N1303						*														
2N1304		*		*				*			*								*	*
*2N1304						*														
2N1305		*		*		*		*			*								*	*
*2N1305						*														
2N1306		*		*							*								*	*
2N1307		*		*		*					*								*	*
*2N1307						*														
2N1308		*		*							*								*	*
2N1309		*		*							*								*	*
2N1309 A																				*
2N1310		*																		*
*2N1310							*													
2N1311		*																		*
2N1312		*																		*
2N1313		*		*																*
2N1314				*																*
2N1315																				*
2N1316		*		*																*
2N1317		*		*																*
2N1318		*		*																*
2N1319																				*
2N1320																				*
2N1321																				*
2N1322																				*
2N1323																				*
2N1324																				*

THE '72 MASTER 16th EDITION

	AMPEREX ELECT.	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N1325															*								*
2N1326															*								*
2N1327															*								*
2N1328															*								*
2N1329															*								*
2N1330															*								*
2N1331															*								*
2N1332															*								*
2N1333															*								*
2N1334															*								*
2N1335					*									*		*							*
2N1336					*									*		*							*
2N1337					*									*		*							*
2N1338					*									*		*							*
2N1339					*									*		*							*
2N1340					*									*		*							*
2N1341					*									*		*							*
2N1342														*		*							*
2N1343		*			*																		*
2N1344		*			*																		*
2N1345		*			*																		*
2N1346		*			*																		*
2N1347		*			*																		*
2N1348		*			*																		*
2N1349		*			*																		*
2N1350		*			*																		*
2N1351		*			*																		*
2N1352		*			*																		*
2N1353		*			*																		*
2N1354		*			*																		*
2N1355		*			*																		*
2N1356		*			*																		*
2N1357		*			*																		*
2N1358		*		*	*					*					*			*					*
*2N1358				*						*													*
2N1358 A		*		*	*					*					*								*
2N1359		*			*				*	*					*			*					*
2N1360		*			*				*	*					*			*					*
2N1361																		*					
2N1362		*			*				*	*					*			*					*
2N1363		*			*				*	*					*			*					*
2N1364		*								*								*					*
2N1365		*								*								*					*
2N1366		*			*																		*
2N1367		*			*																		*
2N1370		*			*					*											*		*
2N1371		*			*					*													*
2N1372		*			*					*													*
2N1373		*			*					*													*
2N1374		*			*					*													*
2N1375		*			*					*													*
2N1376		*			*					*													*
2N1377		*			*					*													*
2N1378		*			*					*													*
2N1379		*			*					*													*
2N1380		*			*					*													*
2N1381		*			*					*													*
2N1382		*			*					*													*
2N1383		*			*					*											*		*
2N1386		*			*									*									*
2N1387		*			*									*									*
2N1388		*			*									*									*
2N1389		*			*									*									*
2N1390		*			*									*									*
2N1391		*			*																		*
2N1395													*										*
2N1396	*												*										*
2N1397													*										*
2N1403								*															
2N1404		*			*																*		*
2N1408		*			*					*													*
2N1409		*			*										*	*							*
2N1409 A		*			*										*	*							*
2N1410		*			*										*	*							*
2N1410 A		*			*										*	*							*
2N1411															*				*				*
*2N1411																			*				
2N1412				*						*					*			*					*
*2N1412				*						*													
2N1412 A															*								
*2N1412 A				*						*													
2N1413		*			*		*			*													*
2N1414		*			*		*			*													*
2N1415		*			*		*			*													*
2N1416		*			*																		*
2N1417		*			*																		*
2N1418		*			*																		*
2N1420		*			*	*				*	*	*		*		*				*	*	*	*
2N1420 A						*								*		*				*			*
2N1427														*		*			*				*
2N1429			*													*		*	*				*
2N1430																		*					*
2N1431		*			*																		*
2N1437															*								*
2N1438															*								*
2N1439			*											*		*	*	*					*
2N1440		*	*		*				*					*		*	*	*					*
2N1441		*	*		*				*					*		*	*	*					*
2N1442		*	*		*				*							*		*					*
2N1443			*						*					*		*		*					*
2N1445									*							*						*	*
2N1446		*			*																		*

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	HORIZON SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N1447	*			*																*
2N1448	*			*																*
2N1449	*			*																*
2N1450	*			*																*
2N1451	*			*																*
2N1452	*																			*
2N1465											*									*
2N1466											*									*
2N1469	*	*		*					*				*	*						*
*2N1469		*																		
2N1470																				*
2N1471	*			*																*
2N1472	*			*																*
2N1473	*			*																*
2N1474	*	*		*					*				*	*						*
2N1474 A	*	*		*									*	*						*
2N1475	*	*		*					*				*	*						*
2N1476		*							*					*						*
2N1477		*							*					*						*
2N1478	*			*																*
2N1479				*				*			*	*			*			*		*
#2N1479											*									
2N1480				*	*			*			*	*			*			*		*
*2N1480											*									
2N1481				*	*			*			*	*			*			*		*
*2N1481											*									
2N1482					*			*			*	*			*			*		*
*2N1482											*									
2N1483								*			*	*			*					*
*2N1483										*	*									
2N1484								*			*	*			*					*
*2N1484										*	*									
2N1485								*			*	*			*					*
*2N1485										*	*									
2N1486								*			*	*			*					*
*2N1486										*	*									
2N1487	*			*	*			*	*		*	*		*	*				*	*
*2N1487										*	*									
2N1488	*			*	*			*	*		*	*		*	*				*	*
*2N1488										*	*									
2N1489	*			*	*			*	*		*	*		*	*				*	*
*2N1489										*	*									
2N1490	*			*	*			*	*		*	*		*	*				*	*
*2N1490										*	*									
2N1491								*	*			*								*
2N1492								*	*			*								*
2N1493								*	*			*								*
2N1494						*														*
2N1494 A						*														*
2N1495						*														*
2N1496						*														*
2N1499					*	*														*
2N1499 A	*			*		*			*						*					*
*2N1499 A															*					
2N1499 B					*		*								*					*
2N1500	*			*	*	*						*			*					*
*2N1500															*					
2N1501						*					*			*						*
2N1502						*					*			*						*
2N1504											*									*
2N1505						*			*			*								*
2N1506						*			*			*	*	*						*
2N1506 A						*			*			*	*	*					*	*
2N1507	*			*	*		*		*			*					*	*		*
2N1510	*			*																*
2N1511						*							*							*
2N1512						*							*							*
2N1513													*							*
2N1514													*							*
2N1515																				*
2N1516																				*
2N1517																				*
2N1518	*		*	*		*								*						*
2N1519	*		*	*		*								*						*
2N1520	*		*	*		*								*						*
2N1521	*		*	*		*							*	*						*
2N1522	*		*	*		*								*						*
2N1523	*		*	*		*								*						*
2N1524								*												*
2N1526								*												*
2N1528	*																			
2N1529	*			*	*	*								*				*		*
2N1529 A	*			*	*	*								*						*
2N1530	*			*	*	*								*				*		*
2N1530 A	*			*	*	*								*						*
2N1531	*			*	*	*								*				*		*
2N1531 A	*			*	*	*								*						*
2N1532	*			*	*	*								*				*		*
2N1532 A	*			*	*	*								*						*
2N1533	*			*	*	*								*				*		*
2N1533 A														*						
2N1534	*		*	*	*	*								*				*		*
2N1534 A	*			*	*	*								*						*
2N1535	*		*	*	*	*								*				*		*
2N1535 A	*			*	*	*								*						*
2N1536	*		*	*	*	*								*				*		*
2N1536 A	*			*	*	*								*						*
2N1537	*			*	*	*								*				*		*
2N1537 A	*			*	*	*								*						*
2N1538	*			*		*								*				*		*
2N1539	*		*	*	*	*								*				*		*
2N1539 A	*			*	*	*								*						*

THE '72 MASTER 16th EDITION

	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N1540	*			*			*		*					*			*				*
2N1540 A	*			*			*		*					*			*				*
2N1541	*			*			*		*					*			*		*		*
2N1541 A	*			*			*		*					*			*				*
2N1542	*		*				*		*					*			*		*		*
2N1542 A	*						*		*					*			*				*
2N1543	*								*					*			*		*		*
2N1543 A																	*				
2N1544	*		*	*			*		*					*			*		*		*
2N1544 A				*			*		*					*							*
2N1545	*			*					*					*			*		*		*
2N1545 A				*			*		*					*			*				*
2N1546	*		*	*			*		*					*			*		*		*
2N1546 A				*			*		*					*			*				*
2N1547	*						*		*					*			*		*		*
2N1547 A	*						*		*					*			*				*
2N1548	*								*					*			*		*		*
2N1549	*			*			*		*					*			*				*
2N1549 A	*			*			*		*					*			*				*
*2N1549 A									*												
2N1550	*			*			*		*					*			*				*
2N1550 A	*			*			*		*					*			*				*
*2N1550 A									*												
2N1551	*			*			*		*					*			*				*
2N1551 A	*			*			*		*					*			*				*
*2N1551 A									*												
2N1552	*			*			*		*					*							*
2N1552 A	*			*			*		*					*							*
*2N1552 A									*												
2N1553	*			*			*		*					*			*				*
2N1553 A	*			*			*		*					*			*				*
*2N1553 A									*												
2N1554	*			*			*		*					*			*				*
2N1554 A	*			*			*		*					*			*				*
*2N1554 A									*												
2N1555	*			*			*		*					*			*				*
2N1555 A	*			*			*		*					*			*				*
*2N1555 A									*												
2N1556	*			*			*		*					*			*				*
2N1556 A				*			*		*					*			*				*
*2N1556 A									*												
2N1557				*					*					*			*				*
2N1557 A	*			*					*					*			*				*
*2N1557 A									*												
2N1558	*			*					*					*			*				*
2N1558 A	*			*					*					*			*				*
*2N1558 A									*												
2N1559	*			*					*					*			*				*
2N1559 A	*			*					*					*			*				*
*2N1559 A									*												
2N1560	*								*					*			*				*
2N1560 A	*								*					*			*				*
*2N1560 A									*												
2N1561									*												*
2N1562									*												*
2N1564	*			*																	*
2N1565	*			*																	*
2N1566	*			*								*									*
2N1566 A	*			*																	*
2N1572	*			*																*	*
2N1573	*			*								*								*	*
2N1574	*			*								*								*	*
2N1586	*			*								*			*				*		*
2N1587	*			*								*			*				*		*
2N1588	*			*								*			*				*		*
2N1589	*			*								*			*				*		*
2N1590	*			*								*			*				*		*
2N1591	*			*								*			*				*		*
2N1592	*			*								*			*				*		*
2N1593	*			*								*			*				*		*
2N1594	*			*								*			*				*		*
2N1595				*			*	*		*					*				*	*	*
2N1595 A							*													*	
2N1596				*			*	*		*					*				*	*	*
2N1596 A							*													*	*
2N1597				*			*	*		*					*				*	*	*
2N1597 A							*													*	*
2N1598							*	*		*					*				*	*	*
2N1598 A							*													*	*
2N1599							*	*		*					*				*	*	*
2N1599 A							*													*	*
2N1600								*	*						*					*	*
2N1601								*	*						*					*	*
2N1602								*	*						*					*	*
2N1603								*	*						*					*	*
2N1604								*	*						*					*	*
2N1605	*			*								*									*
2N1605 A	*			*								*									*
2N1613	*			*	*					*	*		*			*			*		*
*2N1613					*					*	*										
2N1613 A											*		*								
2N1613 B											*		*								
2N1613-46													*								
2N1614	*																				*
2N1615	*			*																*	*
2N1616				*			*							*	*	*				*	*
2N1616 A							*						*	*	*	*				*	*
2N1617	*			*			*							*	*	*				*	*
2N1617 A							*						*	*	*	*				*	*
2N1618				*			*							*	*	*				*	*
2N1618 A							*						*	*	*	*				*	*
2N1620				*										*	*	*				*	*

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N1623	*		*								*												
2N1624	*		*																				
2N1631										*													
2N1632										*													
2N1637							*			*				*									
2N1638							*			*													
2N1639							*			*				*									
2N1640		*									*												
2N1641		*									*												
2N1642		*									*												
2N1643		*															*						
2N1644											*			*									
2N1647													*							*			
2N1648													*	*						*			
2N1649													*	*						*			
2N1650													*	*									
2N1651			*				*							*			*						
*2N1651							*																
2N1652							*										*						
*2N1652							*																
2N1653							*										*						
*2N1653							*																
2N1654		*	*											*			*						
2N1655		*	*											*			*						
2N1656		*	*											*			*						
2N1657																							
2N1658													*				*						
2N1659													*				*						
2N1665							*																
2N1666																							
2N1667																							
2N1668																							
2N1669																							
2N1670											*												
2N1671					*	*					*			*				*					
2N1671 A					*	*					*			*				*					
2N1671 B					*	*					*			*				*					
2N1671 C					*	*					*			*									
2N1672			*																				
2N1672 A			*																				
2N1674																							
2N1676											*			*			*						
2N1677											*			*			*						
2N1678											*			*									
2N1681	*		*																				
2N1682											*												
2N1683										*							*						
2N1686																				*			
2N1687																				*			
2N1688																				*			
2N1689																				*			
2N1690			*										*	*	*				*				
2N1691			*										*	*	*				*				
2N1692							*																
2N1693							*																
2N1694	*		*																				
2N1700	*		*							*	*		*							*			
2N1701	*									*		*	*										
2N1702	*		*				*			*	*		*	*		*					*		
2N1703											*			*									
2N1704	*		*																				
2N1705	*		*				*																
2N1706	*		*				*																
2N1707	*		*				*																
2N1708				*	*		*				*			*									
2N1708 A				*																			
2N1709											*			*									
2N1710											*			*									
2N1711	*		*	*		*	*	*	*	*	*			*				*	*	*			
*2N1711				*		*	*		*									*					
2N1711 A				*		*			*		*												
2N1711 B											*												
2N1711-46											*												
2N1714			*								*			*		*			*	*			
2N1715			*								*			*					*	*			
2N1716			*								*			*	*	*			*	*			
2N1717			*								*			*					*	*			
2N1718											*			*		*			*	*			
2N1719											*			*					*	*			
2N1720											*			*		*			*	*			
2N1721											*			*					*	*			
2N1722			*										*	*					*	*			
*2N1722							*						*										
2N1722 A													*	*					*	*			
2N1723														*					*	*			
2N1724			*				*						*	*		*			*	*	*	*	*
*2N1724							*							*									
2N1724 A							*				*		*	*					*	*	*		
2N1725							*				*			*		*			*	*	*		
2N1726			*								*						*						
2N1727			*								*						*						
2N1728			*								*						*						
2N1729			*																				
2N1730			*																				
2N1731			*																				
2N1732			*																				
2N1742			*								*						*						
2N1743			*														*						
2N1744			*														*						
2N1745			*								*						*						
2N1746			*								*												
2N1747			*								*						*						

THE '72 MASTER 36th EDITION	CONTINENTAL SEMI.	ELECT. TRANS.	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	NATL. ELCTRNS.	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
2N1748		*						*							*	
2N1748 A		*										*			*	
2N1749		*						*				*			*	
2N1751											*				*	
2N1752		*										*			*	
2N1754		*										*			*	
2N1755		*							*						*	
2N1756		*							*						*	
2N1757		*							*						*	
2N1758									*						*	
2N1759		*							*						*	
2N1760									*						*	
2N1761									*						*	
2N1762									*						*	
2N1765						*										
*2N1765						*										
2N1768		*						*	*	*					*	
2N1769		*						*	*	*					*	
2N1770			*	*	*									*	*	
2N1770 A			*	*	*									*	*	
2N1771			*	*	*									*	*	
2N1771 A			*	*	*									*	*	
*2N1771 A			*	*										*		
2N1772			*	*	*									*	*	
2N1772 A			*	*	*									*	*	
*2N1772 A			*											*		
2N1773			*	*	*									*	*	
2N1773 A			*	*	*									*	*	
2N1774			*	*	*									*	*	
2N1774 A			*	*	*									*	*	
*2N1774 A			*											*		
2N1775			*	*	*									*	*	
2N1775 A			*	*	*									*	*	
2N1776			*	*	*									*	*	
2N1776 A			*	*	*									*	*	
*2N1776 A			*											*		
2N1776 B			*													
2N1777			*	*	*									*	*	
2N1777 A			*	*	*									*	*	
*2N1777 A			*											*		
2N1778			*		*										*	
2N1785	*	*						*		*		*			*	
2N1786	*	*						*		*		*			*	
2N1787	*	*						*		*		*			*	
2N1788	*	*						*		*		*			*	
2N1789	*	*						*		*		*			*	
2N1790	*	*						*		*		*			*	
2N1791											*					
2N1792			*		*		*								*	
*2N1792			*		*											
2N1793			*		*		*								*	*
*2N1793			*		*											
2N1794			*		*		*								*	*
*2N1794					*											
2N1795			*		*		*								*	*
*2N1795			*		*											
2N1796			*		*		*								*	*
*2N1796					*											
2N1797			*		*		*								*	*
*2N1797			*		*											
2N1798			*		*		*								*	*
*2N1798			*		*											
2N1799					*		*								*	*
*2N1799					*											
2N1800					*		*								*	*
*2N1800					*											
2N1801					*		*								*	*
*2N1801					*											
2N1802					*		*								*	*
*2N1802					*											
2N1803					*		*								*	*
*2N1803					*											
2N1804					*										*	*
*2N1804					*											
2N1805					*		*								*	*
*2N1805					*											
2N1806					*		*								*	*
*2N1806					*											
2N1807					*		*								*	*
2N1808	*	*													*	
2N1809															*	*
2N1810															*	*
2N1811															*	*
2N1812															*	*
2N1813															*	*
2N1814															*	*
2N1816															*	*
2N1817															*	*
2N1818															*	*
2N1819															*	*
2N1820															*	*
2N1823															*	*
2N1824															*	*
2N1825															*	*
2N1826															*	*
2N1827																*
2N1830															*	*
2N1831															*	*
2N1832															*	*
2N1833															*	*
2N1837	*	*						*		*		*			*	
2N1837 A	*	*						*		*		*			*	

JEDEC TYPE	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	NATL. ELCTRNS.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	UNITRODE	WESTINGHOUSE
2N1838	*		*									*					*				*		
2N1839	*		*									*		*			*				*		
2N1840	*		*									*		*			*				*		
2N1841																					*		
2N1842						*	*	*	*										*		*		*
2N1842 A						*	*	*			*								*		*		*
2N1842 B																					*		
2N1843						*	*	*	*										*		*		*
2N1843 A							*	*			*								*		*		*
2N1843 B																					*		
2N1844						*	*	*	*										*		*		*
2N1844 A							*	*			*								*		*		*
2N1844 B																					*		
2N1845						*	*	*	*										*		*		*
2N1845 A							*	*			*								*		*		*
2N1845 B																					*		
2N1846						*	*	*	*										*		*		*
2N1846 A							*	*			*								*		*		*
2N1846 B																					*		
2N1847						*	*	*	*										*		*		*
2N1847 A							*	*			*								*		*		*
2N1847 B																					*		
2N1848						*	*	*	*										*		*		*
2N1848 A							*	*			*								*		*		*
2N1848 B																					*		
2N1849						*	*	*	*										*		*		*
2N1849 A							*	*			*								*		*		*
2N1849 B																					*		
2N1850						*	*	*	*										*		*		*
2N1850 A							*	*			*								*		*		*
2N1850 B																					*		
2N1851																					*		
2N1851 A																					*		
2N1851 B																					*		
2N1853														*									
2N1854														*									
2N1864	*											*				*					*		
2N1865	*		*									*				*					*		
2N1866	*		*									*				*					*		
2N1867	*		*									*				*					*		
2N1868	*		*									*				*					*		
2N1869			*			*													*		*		
2N1869 A																			*		*		
2N1870			*			*													*		*		
2N1870 A						*													*		*		
*2N1870 A																			*			*	
2N1871			*			*															*		
2N1871 A						*															*		
*2N1871 A																			*			*	
2N1872			*			*													*		*		
2N1872 A						*													*		*		
*2N1872 A																			*			*	
2N1873			*			*													*		*		
2N1873 A						*													*		*		
2N1874			*			*													*		*		
2N1874 A						*													*		*		
*2N1874 A																			*			*	
2N1875						*													*		*		
2N1875 A						*															*		
2N1876						*													*		*		
2N1876 A						*															*		
2N1877						*													*		*		
2N1877 A						*															*		
2N1878						*													*		*		
2N1878 A						*															*		
2N1879						*													*		*		
2N1879 A						*															*		
2N1880						*													*		*		
2N1880 A						*															*		
2N1881				*		*													*		*		
2N1882				*		*													*		*		
2N1883				*		*													*		*		
2N1884				*		*													*		*		
2N1885				*		*													*		*		
2N1886	*											*	*	*					*		*		
2N1889	*		*	*					*			*		*	*		*	*			*		
2N1890	*			*			*		*			*		*	*		*	*			*		
*2N1890							*		*								*						
2N1891	*																	*			*		
2N1892	*		*															*			*		
2N1893	*	*	*	*		*		*		*	*	*		*			*	*			*		
*2N1893				*		*		*		*							*						
2N1893 A										*		*		*							*		
*2N1893 A																						*	
2N1893-46												*											
2N1899														*						*	*		
2N1900														*						*	*		
2N1901														*						*	*		
2N1902														*						*	*		
2N1903																				*	*		
2N1904														*						*	*		
2N1905										*											*		
2N1906										*											*		
2N1907																		*			*		
2N1908																		*			*		
2N1909					*		*		*												*		
2N1910					*		*		*												*		*
*2N1910					*		*																
2N1911					*		*		*												*		*
*2N1911					*		*																
2N1912					*		*		*												*		*
2N1913					*		*		*												*		*

THE '72 MASTER 16th EDITION	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	NATL. ELCTRNS.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
*2N1913						*		*																
2N1914						*		*			*												*	*
*2N1914								*																
2N1915						*		*			*												*	*
*2N1915						*		*																
2N1916						*		*			*												*	*
*2N1916						*		*																
2N1917		*												*		*		*		*			*	
2N1918		*												*		*		*	*	*			*	
2N1919		*												*		*		*	*	*			*	
2N1920		*												*		*		*	*	*			*	
2N1921		*												*		*		*	*	*			*	
2N1922		*														*		*	*	*			*	
2N1924						*				*													*	
2N1925	*					*				*													*	
2N1926	*					*				*													*	
2N1929						*																	*	
2N1930																							*	
2N1931																							*	
2N1932																		*					*	
2N1933																							*	
2N1934																							*	
2N1935																							*	
2N1936	*															*		*			*	*	*	
2N1937	*															*		*			*	*	*	
2N1943																*		*						
2N1944																*		*					*	
2N1945																*		*					*	
2N1946																*		*					*	
2N1947																		*					*	
2N1948																		*					*	
2N1949																		*					*	
2N1950																*		*					*	
2N1951																*		*					*	
2N1952																*		*					*	
2N1953																*		*					*	
2N1954	*			*																			*	
2N1955	*			*																			*	
2N1956	*			*																			*	
2N1957	*			*																			*	
2N1958	*			*														*					*	
2N1958 A	*			*														*					*	
2N1959	*			*						*						*		*					*	
2N1959 A	*			*												*		*					*	
2N1969	*			*																			*	
2N1970	*		*	*						*							*			*			*	
2N1971																		*		*			*	
2N1972	*			*	*											*		*			*		*	
2N1973	*			*	*									*		*		*			*	*	*	
2N1974	*			*	*									*		*		*		*	*	*	*	
2N1975	*			*	*									*		*		*		*	*	*	*	
2N1980	*			*							*						*	*		*				*	
2N1981	*										*						*	*						*	
2N1982	*			*							*						*	*		*				*	
2N1983	*			*	*						*				*		*				*			*	
2N1984	*			*	*						*				*		*				*			*	
2N1985	*			*	*						*				*		*				*			*	
2N1986	*			*	*						*				*		*				*			*	
2N1987	*			*	*						*				*		*				*			*	
2N1988	*			*	*						*				*		*				*			*	
2N1989	*			*	*						*				*		*				*			*	
2N1990	*			*	*					*	*				*		*				*			*	
2N1991				*	*				*	*					*		*							*	
2N1993	*			*																		*		*	
2N1994																						*		*	
2N1995																						*		*	
2N1996																						*		*	
2N1997	*			*																		*		*	
2N1998	*			*																		*		*	
2N1999	*			*																		*		*	
2N2000	*			*																		*		*	
2N2001	*			*																		*		*	
2N2002		*																		*				*	
2N2003		*												*						*				*	
2N2004		*												*						*				*	
2N2005		*												*						*				*	
2N2006		*																		*				*	
2N2007		*																		*				*	
2N2008					*		*							*		*								*	
2N2009				*			*																*	*	
2N2010				*			*																*	*	
2N2011				*			*																*	*	
2N2012				*			*																*	*	
2N2013				*			*																*	*	
2N2014							*																*	*	
2N2015														*			*	*						*	
2N2016														*			*	*						*	
2N2017												*			*			*						*	
2N2018	*																	*					*	*	
2N2019	*																	*					*	*	
2N2020	*																	*					*	*	
2N2021	*																	*					*	*	
2N2022																								*	
2N2023						*		*			*													*	*
2N2024						*		*			*													*	*
2N2025						*		*			*													*	*
2N2026						*		*			*													*	*
2N2027						*		*			*													*	*
2N2028						*		*			*													*	*
2N2029						*		*			*													*	*
2N2030						*		*			*													*	*
*2N2031						*		*																	

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	WESTINGHOUSE
2N2032		*		*										*	*	*					*	
2N2033				*								*		*	*	*					*	
2N2034												*		*	*	*					*	
2N2034 A																*					*	
2N2034 B																*						
2N2035		*										*	*	*	*		*				*	
2N2036														*	*						*	
2N2038		*		*								*			*						*	
2N2039		*		*								*			*						*	
2N2040		*		*								*			*						*	
2N2041		*		*								*			*						*	
2N2042								*													*	
2N2042 A								*														
2N2043								*														
2N2043 A								*														
2N2048		*		*				*									*				*	
2N2048 A							*															
2N2049					*					*		*			*			*			*	
2N2060					*	*		*		*					*			*	*		*	
*2N2060					*	*		*		*								*				
2N2060 A					*			*		*					*			*			*	
2N2060 B					*					*					*			*			*	
2N2061		*		*																	*	
2N2061 A		*		*																	*	
2N2062		*		*																	*	
2N2062 A		*		*																	*	
2N2063		*		*																	*	
2N2063 A		*		*																	*	
2N2064		*		*																	*	
2N2064 A		*		*																	*	
2N2065		*		*																	*	
2N2065 A		*		*																	*	
2N2066		*		*																	*	
2N2066 A		*		*																	*	
2N2067				*										*							*	
2N2067 B				*										*							*	
2N2067 G				*										*							*	
2N2067 O				*										*								
2N2067 ☆				*										*							*	
2N2068				*										*							*	
2N2068 G				*										*							*	
2N2068 O				*										*								
2N2069																						
2N2070																						
2N2075		*	*	*				*						*		*					*	
2N2075 A		*		*				*													*	
2N2076		*	*	*				*						*		*					*	
2N2076 A		*		*				*													*	
2N2077		*	*	*				*						*		*					*	
2N2077 A		*		*				*													*	
2N2078		*	*	*				*						*		*					*	
2N2078 A		*		*				*													*	
2N2079		*	*	*				*						*		*					*	
2N2079 A		*		*				*													*	
2N2080		*	*	*				*						*		*					*	
2N2080 A		*		*				*													*	
2N2081		*	*	*				*						*		*					*	
2N2081 A		*		*				*													*	
2N2082		*	*	*				*						*							*	
2N2082 A		*		*				*													*	
2N2084	*																				*	
*2N2084	*																					
2N2085		*		*																	*	
2N2086		*		*								*									*	
2N2087		*		*								*									*	
2N2089	*																				*	
2N2092	*																				*	
2N2093																					*	
2N2095															*						*	
2N2096								*													*	
2N2097								*													*	
2N2098																					*	
2N2099								*													*	
2N2100								*														
2N2101		*		*			*								*	*					*	
2N2102		*					*	*	*	*	*				*			*	*		*	
2N2102 A							*			*		*			*			*	*		*	
2N2106							*					*			*					*	*	
2N2107					*							*			*					*	*	
2N2108												*			*					*	*	
2N2109														*							*	*
2N2110														*							*	*
2N2111														*							*	*
2N2112														*							*	*
2N2113														*							*	*
2N2114														*							*	*
2N2116														*							*	*
2N2117														*							*	*
2N2118														*							*	*
2N2119														*							*	*
2N2120														*							*	*
2N2123														*							*	*
2N2124														*							*	*
2N2125														*							*	*
2N2126														*							*	*
2N2127																						*
2N2130														*							*	*
2N2131														*							*	*
2N2132														*							*	*
2N2133														*							*	*
2N2137		*						*								*					*	
2N2137 A		*						*													*	

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	UNITRODE	WESTINGHOUSE
2N2221	*			*		*		*	*	*	*		*			*		*	*		*	*		
*2N2221																								
2N2221 A	*			*	*		*	*	*	*	*		*			*		*	*	*	*	*		
*2N2221 A					*																			
2N2222	*		*	*	*	*	*	*	*	*	*		*			*		*	*	*	*	*		
*2N2222					*		*	*	*	*	*							*	*					
2N2222 A	*			*	*	*	*	*	*	*	*		*			*		*	*	*	*	*		
*2N2222 A					*		*			*	*							*	*					
2N2222 B																			*					
2N2223					*		*		*		*		*			*			*	*		*		
2N2223 A					*	*	*		*							*			*	*		*		
2N2224									*				*									*		
2N2226	*						*						*	*	*	*						*		*
2N2227							*						*	*	*	*						*		*
2N2228							*						*	*	*	*						*		*
2N2229														*	*	*								
2N2230							*						*	*	*	*						*		*
2N2231							*						*	*	*	*						*		*
2N2232							*						*	*	*	*						*		*
2N2233							*							*	*	*						*		*
2N2236													*			*								
2N2237											*		*			*						*		
2N2239															*	*						*		
2N2240													*			*								
2N2241													*			*								
2N2242					*			*	*													*		
2N2243										*	*		*			*				*	*	*		
2N2243 A										*	*		*			*				*	*	*		
2N2251																						*		
2N2252																						*		
2N2255																						*		
2N2256									*				*									*		
2N2257									*				*									*		
2N2258									*													*		
2N2259									*													*		
2N2266															*		*					*		
2N2267															*		*					*		
2N2268																						*		
2N2269																						*		
2N2270	*			*	*				*	*	*	*	*			*				*	*	*		
2N2271	*			*																		*		
2N2273									*				*			*						*		
*2N2273									*															
2N2274													*			*		*				*		
2N2275													*			*		*				*		
2N2275PR		*																						
2N2276													*			*		*				*		
2N2277													*			*		*				*		
2N2277PR		*																						
2N2278																*		*				*		
2N2279																*		*				*		
2N2279PR		*																						
2N2280																*		*				*		
2N2281																*		*				*		
2N2281PR		*																						
2N2282																	*					*		
2N2283																	*					*		
2N2284																	*					*		
2N2285	*			*					*								*					*		
2N2286	*								*								*					*		
2N2287	*								*								*					*		
2N2288	*			*					*								*					*		
2N2289	*			*					*								*					*		
2N2290									*								*					*		
2N2291	*			*					*								*					*		
2N2292	*			*					*								*					*		
2N2293									*								*					*		
2N2294	*			*													*					*		
2N2295	*																*					*		
2N2296																	*					*		
2N2297					*			*	*		*		*			*				*		*		
2N2303	*			*	*				*		*		*			*				*	*	*		
2N2303-46													*											
2N2304	*							*					*		*	*						*		
2N2305	*			*			*								*	*						*		
2N2308	*												*		*	*						*		
2N2309											*		*			*						*		
2N2310	*			*							*		*			*						*		
2N2311											*		*			*						*		
2N2312	*			*							*		*			*						*		
2N2313											*		*			*						*		
2N2314	*			*							*		*			*						*		
2N2315	*			*							*		*			*						*		
2N2316											*		*			*						*		
2N2317	*			*							*		*			*						*		
2N2318	*			*												*						*		
2N2319									*															
2N2322				*		*	*		*							*				*	*	*		
2N2322 A						*	*									*				*	*	*		
2N2323				*		*	*		*							*				*	*	*		
*2N2323						*			*													*		*
2N2323 A						*	*									*						*		
*2N2323 A						*			*													*		*
2N2324				*		*	*		*							*				*	*	*		
*2N2324						*			*													*		*
2N2324 A						*	*									*						*		
*2N2324 A						*			*													*		*
2N2325				*		*	*		*							*				*	*	*		
2N2325 A						*	*									*						*		
2N2326				*		*	*		*							*				*	*	*		
*2N2326						*			*													*		*
2N2326 A						*	*									*						*		

THE '72 MASTER 16th EDITION	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE	UNITRODE
*2N2326 A						*																*		*
2N2327						*	*		*							*						*	*	
2N2327 A						*	*									*						*	*	
2N2328						*	*		*							*						*	*	
*2N2328																						*		*
2N2328 A						*	*									*						*	*	
*2N2328 A																						*		*
2N2329						*	*		*							*						*	*	
*2N2329																						*		*
2N2329 A						*	*									*						*	*	
2N2330	*								*				*			*							*	
2N2331	*			*					*				*			*							*	
2N2332		*									*		*			*	*	*					*	
2N2333		*									*		*			*	*	*					*	
2N2334		*									*		*			*		*					*	
2N2335		*									*		*			*		*					*	
2N2336		*									*		*			*	*	*					*	
2N2337		*									*		*			*	*	*					*	
2N2338												*				*							*	
2N2339	*			*																				
2N2344						*																*	*	
2N2345						*																*	*	
2N2346						*																*	*	
2N2347						*																*	*	
2N2348						*																*	*	
2N2349													*											*
2N2350								*			*		*			*				*			*	
2N2350 A								*			*		*			*				*			*	
2N2351					*			*			*		*			*				*			*	
2N2351 A					*			*			*		*			*				*			*	
2N2352					*			*			*		*			*				*			*	
2N2352 A					*			*			*		*			*				*			*	
2N2353					*			*			*		*			*				*			*	
2N2353 A					*			*			*		*			*				*			*	
2N2354																*								
2N2356						*										*							*	
2N2356 A						*							*			*							*	
2N2357									*									*					*	
2N2358									*									*					*	
2N2359									*									*					*	
2N2360																			*				*	
2N2361																			*				*	
2N2362																			*				*	
2N2363									*															
2N2364											*		*			*					*		*	
2N2364 A											*		*			*					*		*	
2N2368	*			*	*				*	*			*								*		*	
2N2369	*		*	*	*	*	*	*	*	*	*		*								*	*	*	
2N2369 A					*		*	*	*	*	*	*									*	*	*	
*2N2369 A					*		*	*	*	*	*										*			
2N2369-46													*											
2N2370		*					*									*							*	
2N2371		*														*							*	
2N2372		*														*							*	
2N2373		*														*							*	
2N2374	*			*																			*	
2N2375	*			*																			*	
2N2376	*			*																			*	
2N2377		*														*			*				*	
*2N2377		*																	*					
2N2378		*														*			*				*	
*2N2378		*																	*					
2N2380													*			*							*	
2N2380 A																*								
2N2381									*														*	
2N2382									*														*	
2N2383				*									*	*		*							*	
2N2384													*	*		*							*	
2N2386															*		*	*			*		*	
2N2386 A																					*			
2N2387																*					*		*	
2N2388																*					*		*	
2N2389																*					*		*	
2N2390																*					*		*	
2N2393																*					*		*	
2N2394																*					*		*	
2N2395																*					*		*	
2N2396																*					*		*	
2N2398																			*				*	
2N2399																			*				*	
2N2400																			*				*	
2N2401													*			*			*				*	
2N2402																			*				*	
2N2405					*				*		*	*	*			*					*		*	
2N2410				*	*				*		*		*										*	
2N2411										*			*									*	*	*
2N2412										*			*									*	*	*
2N2413																								*
2N2414												*	*			*				*				
2N2415									*													*		*
2N2416									*													*		*
2N2417						*																		*
2N2417 A						*																		
2N2417 B						*																		
2N2418						*																		
2N2418 A						*																		
2N2418 B						*																		
2N2419						*																		
2N2419 A						*																		
2N2419 B						*																		
2N2420						*																		
2N2420 A						*																		

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.
2N2420 B								*																
2N2421								*	*															
2N2421 A								*	*															
2N2421 B								*	*															
2N2422								*	*															
2N2422 A								*																
2N2422 B								*	*															
2N2423												*									*			
2N2424			*													*								
2N2425			*													*								
2N2427																*								
2N2428																								
2N2429																								
2N2430	*																							
2N2431	*																							
2N2431MP																								
2N2432			*																					*
*2N2432			*																					
2N2432 A			*																					*
*2N2432 A			*																					
2N2433																*			*				*	*
2N2434																*			*				*	*
2N2435																*			*				*	*
2N2436																*			*				*	*
2N2437																			*				*	*
2N2438																*			*				*	*
2N2439																*			*				*	*
2N2440																*			*				*	*
2N2443																*			*				*	*
2N2444																					*			
2N2445																					*			
2N2451																*								
2N2452																								
2N2453							*	*				*	*	*					*	*	*		*	*
2N2453 A							*	*	*			*	*	*					*		*			*
2N2455																								
2N2456																								
2N2459																*			*	*	*			
2N2460																*			*	*	*			
2N2461																*			*	*	*			
2N2462																*			*	*	*			
2N2463																*			*		*			
2N2464																*			*	*	*			
2N2465																*			*	*	*			
2N2466																*			*		*			
2N2467																					*			
2N2468																					*			
2N2469																					*			
2N2472																*								
2N2474																*								
2N2475							*	*							*									
2N2476		*					*	*					*		*	*								
2N2477		*					*	*					*		*	*								
2N2478		*					*																	
2N2479		*					*								*									
2N2480								*	*	*			*		*					*				*
2N2480 A								*	*	*			*		*	*				*				*
2N2481							*	*				*	*		*	*								
*2N2481								*					*		*									
2N2483								*				*	*	*	*	*								
2N2484						*		*	*			*	*	*	*	*				*	*		*	*
*2N2484								*					*		*									*
2N2484 A															*									*
2N2487																*				*			*	
2N2488																*				*			*	
2N2489																*				*			*	
2N2489 A												*												
2N2490		*		*		*							*						*				*	
2N2491		*		*		*							*						*				*	
2N2492		*		*		*							*						*				*	
2N2493		*		*		*							*						*					
2N2494																								
2N2495	*																							
2N2496	*																							
2N2497																					*		*	
2N2498																					*		*	
2N2499																					*		*	
2N2500																					*		*	
2N2501													*			*								
2N2502																								
2N2503											*													
2N2504											*													
2N2505											*													
2N2506											*													
2N2507											*													
2N2508											*													
2N2509								*				*		*	*	*								*
2N2510								*				*		*	*	*								*
2N2511								*				*		*	*	*								*
2N2512																								
2N2514																*			*		*		*	
2N2515																*			*	*	*		*	
2N2516																*			*	*	*		*	
2N2517																								
2N2518																*			*	*	*		*	
2N2519																*			*	*	*		*	
2N2520																*			*	*	*		*	
2N2521																*			*	*	*		*	
2N2522																*			*	*	*		*	
2N2523																*			*	*	*		*	
2N2524																*			*		*			
2N2525																*			*					

THE '72 MASTER 16th EDITION

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	DELCO ELECT.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
2N2526											*				*					*					*
2N2527											*				*					*					*
2N2528											*				*					*					*
2N2528											*														
2N2537						*					*				*			*					*		*
2N2538						*					*				*			*					*		*
2N2539			*			*					*				*			*					*		*
2N2540			*			*					*				*			*					*		*
2N2541			*			*												*							*
2N2551															*					*					*
2N2552											*					*				*			*		*
2N2553											*					*				*			*		*
2N2553																*									*
2N2554											*					*				*			*		*
2N2555											*					*				*			*		*
2N2555																*									*
2N2556											*					*				*			*		*
2N2557											*					*				*	*		*		*
2N2557																*									*
2N2558											*					*				*	*		*		*
2N2559											*					*				*			*		*
2N2559																*									*
2N2560											*					*				*			*		*
2N2561											*					*				*			*		*
2N2562											*					*				*			*		*
2N2563											*					*				*			*		*
2N2564											*					*				*			*		*
2N2565											*					*				*			*		*
2N2566											*					*				*			*		*
2N2567											*					*				*			*		*
2N2569	*																								*
2N2570																									*
2N2573											*														*
2N2574											*														*
2N2575											*														*
2N2576											*														*
2N2577											*														*
2N2578											*														*
2N2579											*														*
2N2580				*																*					*
2N2580 M				*																					*
2N2581				*																*					*
2N2582				*																*					*
2N2583				*																*					*
2N2584																				*					
2N2585																				*					
2N2586							*			*		*	*		*			*		*		*	*	*	*
2N2587											*														
2N2588											*														
2N2590															*			*	*	*					*
2N2591															*			*	*	*					*
2N2592															*			*	*	*					*
2N2593															*			*	*	*					*
2N2594																		*				*		*	*
2N2595															*			*	*	*					*
2N2596															*			*	*	*					*
2N2597															*			*	*	*					*
2N2598															*			*	*	*					*
2N2599															*			*	*	*					*
2N2599 A															*			*	*	*					*
2N2600															*			*	*	*					*
2N2600 A															*			*	*	*					*
2N2601															*			*	*	*		*			*
2N2602															*			*	*	*		*			*
2N2603															*			*	*	*		*			*
2N2604								*			*	*	*		*			*	*	*		*	*		*
2N2604												*	*												
2N2605					*		*				*	*	*		*			*	*	*		*	*		*
2N2605												*	*												
2N2605 A							*								*				*	*		*			*
2N2606																*									*
2N2606																*									
2N2607																*			*	*					*
2N2607																*									
2N2608		*														*			*	*			*		*
2N2608																*									
2N2609		*					*									*			*	*			*		*
2N2609																*									
2N2610															*			*							*
2N2611															*										*
2N2612																				*					*
2N2613														*											*
2N2614														*											*
2N2615							*								*										*
2N2616							*								*							*			*
2N2617																									*
2N2619									*																*
2N2630											*														*
2N2631														*	*										*
2N2632															*	*		*		*					*
2N2633															*	*		*		*					*
2N2634															*	*		*		*					*
2N2635											*							*					*		*
2N2636																				*					*
2N2637																				*					*
2N2638																				*					*
2N2639							*	*			*	*	*					*		*		*	*		*
2N2639											*														
2N2640							*	*			*	*	*		*			*		*		*			*
2N2641							*	*			*	*	*					*		*		*			*
2N2642							*	*			*	*	*					*		*		*			*
2N2642											*		*									*			

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N2643				*	*				*	*	*				*	*		*				*	
2N2644				*	*				*	*	*				*	*		*	*			*	
2N2645				*							*		*					*				*	
2N2646					*				*				*						*			*	
2N2647					*				*										*			*	
2N2648		*																				*	
2N2651		*	*	*									*									*	
2N2652				*	*				*		*				*			*				*	
2N2652 A				*	*				*		*				*			*				*	
2N2653																						*	
2N2654																						*	
2N2656																						*	
2N2657				*			*			*			*	*	*	*					*	*	
2N2658				*			*			*			*	*	*	*					*	*	
2N2659														*					*			*	
2N2660														*					*			*	
2N2661														*					*			*	
2N2662														*					*			*	
2N2663														*					*			*	
2N2664														*					*			*	
2N2665														*					*			*	
2N2666														*					*			*	
2N2667														*					*			*	
2N2668														*					*			*	
2N2669														*					*			*	
2N2670														*					*			*	
2N2671	*																					*	
2N2672	*																					*	
2N2679							*		*											*		*	
2N2679 A							*															*	
2N2680							*		*											*		*	
2N2680 A							*															*	
2N2681							*		*											*		*	
2N2681 A							*															*	
2N2682							*		*											*		*	
2N2682 A							*															*	
2N2683							*		*						*					*		*	
2N2683 A							*															*	
2N2684							*		*						*					*		*	
2N2684 A							*															*	
2N2685							*		*						*					*		*	
2N2685 A							*															*	
2N2686							*		*						*					*		*	
2N2686 A							*															*	
2N2687				*			*		*													*	
2N2688				*			*		*													*	
2N2689				*			*		*													*	
2N2690				*			*		*													*	
2N2691																	*					*	
2N2691 A																	*					*	
2N2692														*		*						*	
2N2693														*		*						*	
2N2694														*		*						*	
2N2695				*					*		*			*								*	
2N2696				*				*	*		*			*								*	
2N2697																	*					*	
2N2698																	*					*	
2N2706	*																					*	
2N2707	*																					*	
2N2708			*				*					*	*	*		*			*			*	
*2N2708									*										*				
2N2710				*					*					*								*	
2N2711					*		*										*					*	
2N2712					*		*										*					*	
2N2713					*		*										*					*	
2N2714					*		*										*					*	
2N2717																						*	
2N2720				*		*	*		*						*	*		*				*	
2N2721				*		*	*		*						*	*		*				*	
2N2722				*			*		*	*					*	*		*				*	
2N2723				*			*		*		*				*	*						*	
2N2724				*			*		*		*				*	*						*	
2N2725				*			*		*		*				*	*						*	
2N2726							*								*							*	
2N2727														*	*							*	
2N2728									*													*	
2N2729														*	*				*			*	
2N2730							*								*							*	
2N2731							*								*							*	
2N2732							*								*							*	
2N2733							*								*							*	
2N2734							*								*							*	
2N2735							*								*							*	
2N2736							*								*							*	
2N2737							*								*							*	
2N2738							*								*							*	
2N2739		*												*	*	*						*	*
2N2740		*												*	*	*						*	*
2N2741		*												*	*	*						*	*
2N2742		*												*	*	*						*	*
2N2743														*		*						*	
2N2744														*		*						*	
2N2745														*	*	*						*	*
2N2746														*	*	*						*	*
2N2747														*	*	*						*	*
2N2748															*	*						*	*
2N2751														*	*	*						*	*
2N2752														*	*	*						*	*
2N2753															*	*						*	*
2N2754																*						*	*
2N2755																*							
2N2756																*							

THE '72 MASTER

	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	RAYTHEON	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N2757									*	*		*							*	*
2N2758									*	*		*							*	*
2N2759									*	*		*							*	*
2N2760									*	*		*							*	*
2N2761									*	*		*							*	*
2N2762												*								
2N2763									*	*		*							*	*
2N2764									*	*		*							*	*
2N2765									*	*		*							*	*
2N2766									*	*		*							*	*
2N2767									*			*								
2N2768									*			*								
2N2769									*	*		*								*
2N2770									*	*		*							*	*
2N2771									*	*		*							*	*
2N2772									*	*		*							*	*
2N2773									*			*								
2N2774												*								
2N2775										*		*							*	*
2N2776										*		*							*	*
2N2777										*		*							*	*
2N2778										*		*							*	*
2N2779												*								
2N2780												*								
2N2781									*			*						*	*	
2N2782									*			*						*	*	
2N2783									*			*						*	*	
2N2784									*			*					*		*	
2N2784-46									*											
2N2785				*			*	*											*	
2N2786									*											
2N2787	*	*							*										*	
2N2788	*	*					*		*										*	
2N2789	*	*					*		*										*	
2N2790									*										*	
2N2791	*	*							*										*	
2N2792	*	*							*										*	
2N2795																			*	
2N2796																			*	
2N2800			*				*	*	*			*							*	
2N2800-46									*											
2N2801			*				*	*	*			*							*	
2N2801-46									*											
2N2802			*				*	*				*	*			*			*	
2N2803			*				*	*				*	*						*	
2N2804			*				*	*				*	*						*	
2N2805			*				*	*				*	*						*	
2N2806			*				*	*				*	*						*	
2N2807			*				*	*				*	*			*			*	
2N2808																			*	
2N2809																			*	
2N2809 A																			*	
2N2810																			*	
2N2810 A																			*	
2N2811					*				*			*	*	*				*	*	*
2N2812					*				*			*	*	*				*	*	*
*2N2812							*							*						
2N2813					*				*			*	*	*				*	*	*
2N2814			*		*				*			*	*	*				*	*	*
*2N2814							*							*						
2N2815	*	*							*	*		*							*	
2N2816	*	*							*	*		*							*	
2N2817	*	*							*	*		*							*	
2N2818	*	*							*	*		*							*	
2N2819									*	*		*							*	
2N2820									*	*		*							*	
2N2821										*		*							*	
2N2822									*	*		*							*	
2N2823									*	*		*							*	
2N2824									*	*		*							*	
2N2825									*	*		*							*	
2N2828	*				*				*	*		*							*	
2N2829	*				*				*	*		*							*	
2N2832							*												*	
2N2833							*												*	
2N2834							*												*	
*2N2834							*													
2N2835																			*	
2N2836	*																		*	
2N2837		*	*				*	*	*										*	
2N2838		*	*			*	*	*	*										*	
2N2840				*															*	
2N2841												*			*				*	
2N2842												*			*				*	
2N2843												*		*	*				*	
2N2844												*		*					*	
2N2845		*	*				*		*			*							*	
2N2846		*	*				*		*			*							*	
2N2847		*	*				*		*			*							*	
2N2848		*	*				*		*			*							*	
2N2849									*			*						*		
2N2849-1									*											
2N2849-3									*											
2N2850					*				*			*						*	*	
2N2850-1					*				*			*								
2N2850-3									*											
2N2851					*				*			*						*	*	
2N2851-1					*				*			*								
2N2851-3									*											
2N2852					*				*			*						*	*	
2N2852-1					*				*			*								
2N2852-3									*											

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.
2N2853																	*								
2N2853-1																	*								
2N2853-3																	*								
2N2854																	*		*						
2N2854-1																	*								
2N2854-3																	*								
2N2855									*								*		*						
2N2855-1									*								*		*						
2N2855-3																	*								
2N2856									*								*		*						
2N2856-1									*								*		*						
2N2856-3																	*								
2N2857	*												*	*		*	*		*			*			
*2N2857														*											
2N2858																	*	*	*						
2N2859																	*	*	*						
2N2861																*	*		*				*		
2N2862																*	*		*				*		
2N2863																			*						
2N2864																			*						
2N2865					*											*	*		*				*		
2N2866																			*						
2N2867																			*						
2N2868					*	*					*					*	*		*						
2N2869														*			*			*					
2N2870		*															*		*						
2N2871														*											
2N2872														*											
2N2874																	*		*						
2N2875																			*						
2N2876																	*	*		*					
2N2877																	*	*	*	*	*				
2N2878									*								*	*	*	*	*				
2N2879									*								*	*	*	*	*				
2N2880									*								*	*	*	*	*				
*2N2880									*										*		*				
2N2881			*														*		*						
2N2882			*														*		*						
2N2883																	*			*					
2N2884																	*			*					
2N2885																				*					
2N2887																				*					
2N2888										*				*											
2N2889										*				*											
2N2890									*						*		*			*	*				*
2N2891									*						*		*			*	*				*
2N2892									*								*			*					*
2N2893									*								*			*					*
2N2894							*							*	*	*	*							*	*
2N2894 A							*					*			*										*
2N2895														*		*	*		*				*		
2N2896														*		*	*		*				*		
2N2897														*		*	*		*				*		
2N2898																*			*				*		
2N2899																*			*				*		
2N2900																*			*				*		
2N2903							*	*	*					*	*	*							*		
2N2903 A							*		*					*	*	*							*		
2N2904						*	*			*		*		*	*	*		*				*	*	*	*
*2N2904							*					*		*	*	*						*	*		
2N2904 A							*			*		*		*	*	*		*				*	*	*	*
*2N2904 A												*		*	*	*							*		
2N2905					*	*	*		*			*		*	*	*		*		*		*	*	*	*
*2N2905							*					*		*	*	*							*		
2N2905 A							*		*			*		*	*	*		*				*	*	*	*
*2N2905 A							*		*			*		*	*	*							*		
2N2906						*	*	*		*		*		*	*	*		*		*		*	*	*	*
*2N2906							*					*		*	*	*							*		
2N2906 A							*		*			*		*	*	*		*				*	*	*	*
*2N2906 A							*					*		*	*	*							*		
2N2907					*	*	*	*		*		*		*	*	*		*		*		*	*	*	*
*2N2907							*					*		*	*	*							*		
2N2907 A							*		*			*		*	*	*		*				*	*	*	*
*2N2907 A							*		*			*		*	*	*							*		
2N2909																		*		*					
2N2910							*	*										*		*					
2N2911																		*	*	*		*			
2N2912														*											
2N2913							*	*						*	*	*		*				*	*		
2N2914							*	*	*					*	*	*		*		*		*	*		
2N2915							*	*	*					*	*	*				*		*	*		
2N2915 A							*		*					*	*	*				*			*		
2N2916							*	*	*					*	*	*				*		*	*		
2N2916 A							*		*					*	*	*				*			*		
2N2917							*	*	*					*	*	*				*		*	*		
2N2918							*	*	*					*	*	*				*		*	*		
2N2919							*	*	*					*	*	*				*		*	*		
*2N2919														*									*		
2N2919 A							*		*						*	*				*			*		
2N2920							*	*	*	*				*	*	*				*		*	*		
*2N2920							*			*				*	*	*							*		
2N2920 A							*		*	*					*	*				*			*		
2N2923								*														*			
2N2924								*														*			
2N2925								*														*			
2N2926								*														*			
2N2927					*		*							*				*							
2N2927-46																		*							
2N2929														*											
2N2930					*																				
2N2936							*									*									
2N2937							*									*									

*JAN

THE '72 MASTER 36th EDITION

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	UNITED-PACE	UNITRODE
2N2938			*										*							*	
2N2939			*										*							*	
2N2940			*										*							*	
2N2941													*								
2N2944		*						*					*		*	*		*		*	
2N2944 A		*											*		*			*		*	
2N2944 A		*																			
2N2945		*						*					*		*	*		*		*	
2N2945 A		*											*		*			*		*	
2N2945 A		*																			
2N2946		*						*		*			*		*	*		*		*	
2N2946 A		*								*			*		*			*		*	
2N2946 A		*																			
2N2947								*				*	*							*	
2N2948								*				*	*							*	
2N2949								*				*	*							*	
2N2950								*				*	*							*	
2N2951			*					*				*	*			*				*	
2N2952	*		*					*				*	*			*				*	
2N2953											*			*						*	
2N2955								*					*							*	
2N2956								*					*							*	
2N2957								*					*							*	
2N2958				*				*		*		*	*			*				*	
2N2959			*	*				*		*		*	*			*				*	
2N2960								*		*		*	*								
2N2961								*		*			*								
2N2962												*								*	
2N2963																				*	
2N2964																				*	
2N2965																				*	
2N2968												*	*			*				*	
2N2969												*	*							*	
2N2970												*	*			*				*	
2N2971												*	*			*				*	
2N2972				*	*			*	*	*			*	*	*			*	*	*	
2N2973				*	*			*	*	*			*	*	*			*	*	*	
2N2974				*				*	*	*			*		*			*	*	*	
2N2975				*	*			*	*	*			*	*	*			*	*	*	
2N2976				*	*			*	*	*			*	*	*			*	*	*	
2N2977				*	*			*	*	*			*	*	*			*	*	*	
2N2978				*	*			*	*	*			*	*	*			*	*	*	
2N2979				*	*			*	*	*			*	*	*			*	*	*	
2N2980				*	*					*			*					*		*	
2N2981				*	*					*		*	*							*	
2N2982				*	*					*			*							*	
2N2983												*	*								
2N2984												*	*								
2N2985												*	*								
2N2986												*	*								
2N2987						*						*	*		*			*	*	*	
2N2988						*						*	*		*			*	*	*	
2N2989						*						*	*		*			*	*	*	
2N2990						*						*	*		*			*	*	*	
2N2991												*	*		*			*	*	*	
2N2992												*	*		*			*	*	*	
2N2993												*	*		*			*	*	*	
2N2994												*	*		*			*	*	*	
2N2995												*	*							*	
2N2996								*										*		*	
2N2997								*							*			*		*	
2N2998								*										*		*	
2N2999																		*		*	
2N3001						*												*	*	*	
2N3002						*												*	*	*	
2N3003						*												*	*	*	
2N3004						*												*	*	*	
2N3005						*												*	*	*	
2N3006						*												*	*	*	
2N3007						*												*	*	*	
2N3008						*												*	*	*	
2N3009				*			*	*				*								*	
2N3010				*				*		*			*					*	*	*	
2N3011	*		*	*		*	*	*	*	*		*						*	*	*	
2N3012				*		*	*	*	*	*		*						*	*	*	
2N3013				*		*	*	*				*	*					*	*	*	
2N3013				*			*	*													
2N3014				*		*	*	*				*						*	*	*	
2N3015			*	*				*	*			*					*	*	*	*	
2N3016						*						*	*							*	
2N3017						*						*	*							*	
2N3018						*							*							*	
2N3019	*		*	*		*	*	*	*	*		*	*					*		*	
2N3019									*	*											
2N3020				*		*	*	*	*	*		*	*					*		*	
2N3021								*					*		*					*	
2N3022								*				*	*		*					*	
2N3023								*				*	*		*					*	
2N3024								*				*	*		*					*	
2N3025								*				*	*		*					*	
2N3026								*				*	*		*					*	
2N3027			*																		
2N3027																					*
2N3028			*																	*	
2N3028																					*
2N3029			*																	*	
2N3029																					*
2N3030			*																	*	
2N3030																					*
2N3031			*																	*	
2N3031																					*
2N3032			*																	*	

JEDEC TYPE	CENTRALAB SEMI.	CRYSTALONICS	DELCO ELECT.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	INTL. RECTIFIER	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PACE	WESTINGHOUSE
*2N3032																												
2N3033														*													*	
2N3034														*													*	
2N3035														*													*	
2N3036												*		*				*									*	
2N3037																											*	
2N3038																											*	
2N3039																											*	
2N3040																											*	
2N3043						*				*		*															*	
2N3044										*		*															*	
2N3045										*		*															*	
2N3046										*		*															*	
2N3047										*		*															*	
2N3048										*		*															*	
2N3049						*				*																	*	
2N3050										*																	*	
2N3051																											*	
2N3052																											*	
2N3053					*	*	*			*	*	*	*	*					*		*				*		*	
2N3053 A										*			*															
2N3054						*	*			*			*			*		*		*	*					*	*	*
2N3054 A										*																		
2N3055					*	*	*			*			*		*	*		*		*	*						*	*	*
*2N3055										*					*														
2N3056						*			*			*		*				*								*		*	
2N3056 A						*			*			*		*				*								*		*	
2N3057						*			*			*						*								*		*	
2N3057 A						*			*			*						*								*		*	
*2N3057 A												*																	
2N3058		*												*				*			*							*	
2N3059		*												*				*			*							*	
2N3060		*										*						*	*		*							*	
2N3061		*										*						*			*							*	
2N3062		*																*										*	
2N3063		*																*										*	
2N3064		*																*										*	
2N3065		*																*										*	
2N3066				*	*													*	*				*					*	
2N3067				*	*													*					*					*	
2N3068				*	*													*	*				*					*	
2N3069				*							*							*		*	*		*					*	
2N3070	*			*							*							*		*	*		*					*	
2N3071				*							*							*		*	*		*					*	
2N3072						*	*		*	*	*	*		*														*	
2N3073						*	*		*	*	*	*		*														*	
2N3074																												*	
2N3075																												*	
2N3076																											*	*	
2N3077														*														*	
2N3078														*														*	
2N3079			*																									*	
2N3080			*																									*	
2N3081										*		*		*														*	
2N3081-46														*															
2N3082																												*	
2N3083																												*	
2N3084				*																								*	
2N3085		*		*																								*	
2N3086				*																								*	
2N3087		*		*																								*	
2N3088				*																								*	
2N3088 A																												*	
2N3089		*		*														*										*	
2N3089 A		*																*										*	
2N3091								*																				*	
*2N3091								*																					
2N3092								*																				*	
2N3093								*																				*	
*2N3093								*																					
2N3094								*																				*	
2N3095								*																				*	
*2N3095								*																					
2N3096								*																				*	
2N3097								*																				*	
*2N3097								*																					
2N3098								*																				*	
2N3099								*																					
2N3100								*																					
2N3101								*																					
2N3102								*																					
2N3103								*																					
2N3104								*																					
2N3105								*																					
2N3106								*																					
2N3107						*			*		*	*		*				*				*						*	
2N3108						*			*		*	*		*				*				*						*	
2N3109						*			*		*	*		*				*				*						*	
2N3110						*			*	*	*	*		*				*				*						*	
2N3112																	*											*	
2N3113																													
2N3114						*				*								*							*		*	*	
2N3115					*					*		*		*				*										*	
2N3116					*	*				*		*		*				*										*	
2N3117						*			*		*	*		*				*	*	*	*				*			*	
2N3118													*	*				*										*	
2N3119													*	*				*										*	
2N3120					*	*			*	*	*	*		*				*										*	
2N3121					*	*			*	*	*	*		*				*										*	
2N3122												*						*										*	
2N3124										*																			
2N3125										*																			

THE '72 MASTER 36th EDITION	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N3126								*	*															
2N3127																							*	
*2N3127								*																
2N3128																							*	
2N3129																							*	
2N3130																							*	
2N3132								*																
2N3133				*	*		*	*	*	*	*				*		*						*	
2N3134				*	*		*	*	*	*	*				*		*						*	
2N3135	*			*	*		*	*	*	*	*				*								*	
2N3136	*			*	*			*	*	*	*				*		*						*	
2N3137					*			*			*				*				*				*	
2N3138											*				*								*	
2N3139											*				*								*	
2N3140											*				*								*	
2N3141											*				*								*	
2N3142											*				*								*	
2N3143											*				*								*	
2N3144											*				*								*	
2N3145											*				*								*	
2N3146																			*				*	
2N3147																			*				*	
2N3149						*								*	*		*	*			*		*	
2N3150						*								*	*		*	*			*		*	
2N3151						*								*	*		*	*			*		*	
2N3152											*													
2N3153		*																					*	
2N3154														*									*	
2N3155														*									*	
2N3156														*									*	
2N3157														*									*	
2N3158				*										*									*	
2N3159				*										*									*	
2N3160				*										*									*	
2N3161														*									*	
2N3163											*			*			*						*	
2N3166											*			*	*		*						*	
2N3165											*			*	*		*						*	
2N3166											*			*	*		*						*	
2N3167														*	*								*	
2N3168														*	*								*	
2N3169														*	*								*	
2N3170														*	*								*	
2N3171								*			*			*	*		*						*	
2N3172								*			*			*	*		*						*	
2N3173								*			*			*	*		*						*	
2N3174								*			*			*	*		*						*	
2N3175											*			*	*		*						*	
2N3176											*			*	*		*						*	
2N3177											*			*	*		*						*	
2N3178											*			*	*		*						*	
2N3179														*	*								*	
2N3180														*	*								*	
2N3181														*	*								*	
2N3182														*	*		*						*	
2N3183								*			*			*	*		*						*	
2N3184								*			*			*	*		*						*	
2N3185								*			*			*	*		*						*	
2N3186								*			*			*	*		*						*	
2N3187											*			*	*		*						*	
2N3188											*			*	*		*						*	
2N3189											*			*	*		*						*	
2N3190											*			*	*								*	
2N3191														*	*								*	
2N3192														*	*								*	
2N3193														*	*								*	
2N3194														*	*								*	
2N3195								*			*			*	*		*						*	
2N3196								*			*			*	*		*						*	
2N3197								*			*			*	*		*						*	
2N3198								*			*			*	*		*						*	
2N3199		*												*									*	
2N3200		*												*									*	
2N3201		*												*									*	
2N3202		*						*			*			*	*		*						*	
2N3203		*						*			*			*	*		*						*	
2N3204		*						*			*			*	*		*						*	
2N3205		*									*			*	*								*	
2N3206		*									*			*	*								*	
2N3207		*						*			*			*	*								*	
2N3208		*						*			*			*									*	
2N3209					*		*	*	*	*	*										*		*	
2N3210								*		*					*								*	
2N3211								*			*				*								*	
2N3212			*																				*	
2N3213			*																				*	
2N3214			*																				*	
2N3215			*																				*	
2N3217		*						*		*					*		*	*					*	
2N3218		*						*		*					*	*	*	*					*	
2N3219		*						*		*					*	*	*	*					*	
2N3220											*				*									
2N3221											*				*									
2N3222											*				*									
2N3223											*				*								*	
2N3224											*				*								*	
2N3225					*						*				*	*							*	
2N3226	*			*		*					*			*	*		*						*	
2N3227								*															*	
2N3228					*						*												*	
2N3229											*	*											*	
2N3230																								
2N3231																								
2N3232																								

JEDEC TYPE	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N3233				*	*	*		*				*	*	*		*		*						*	
2N3234												*	*	*		*								*	
2N3235				*		*		*				*	*	*		*		*						*	
2N3236						*		*				*	*	*		*		*							
2N3237								*					*	*		*									
2N3238								*					*	*		*		*							
2N3239													*	*											
2N3240												*				*		*							
2N3241																									
2N3241 A											*														
2N3242 A											*														
2N3244								*		*		*				*				*		*			
2N3245						*		*		*		*				*				*		*			
2N3246												*				*									
2N3247																*									
2N3248						*		*	*			*				*								*	
2N3249						*		*	*			*				*								*	
2N3250					*	*	*	*	*			*				*				*		*		*	
2N3250 A					*	*		*	*			*				*				*				*	
*2N3250 A								*	*																
2N3251			*		*	*	*	*	*							*				*		*		*	
2N3251 A					*	*		*	*							*				*		*		*	
*2N3251 A								*	*																
2N3252					*	*	*	*	*			*				*				*		*		*	
2N3253					*	*	*	*	*			*				*				*		*		*	
*2N3253								*																	
2N3254																								*	
2N3255																								*	
2N3256																								*	
2N3257																								*	
2N3258																								*	
2N3259																								*	
2N3260														*		*									
2N3261											*					*									
2N3262											*	*				*									
2N3263											*	*				*						*		*	
2N3264											*	*				*						*		*	
2N3265						*					*	*				*		*						*	
2N3266						*					*	*				*		*						*	
2N3268												*				*									
2N3273																								*	
2N3274																								*	
2N3275																								*	
2N3276																								*	
2N3277																									
2N3278																									
2N3279								*																	
2N3280								*																	
2N3281								*																	
2N3282								*																	
2N3283								*																	
2N3284								*																	
2N3285								*																	
2N3286								*																	
2N3287				*				*				*				*				*					
2N3288				*				*				*				*				*					
2N3289				*				*								*					*				
2N3290				*				*				*				*				*					
2N3291				*				*				*				*				*					
2N3292				*				*				*				*				*					
2N3293				*				*				*				*				*					
2N3294				*				*				*				*					*				
2N3295								*				*				*									
2N3296								*																	
2N3297								*				*				*									
2N3298								*				*				*									
2N3299				*	*	*	*	*	*			*													
2N3300				*	*		*	*	*			*				*									
2N3301				*	*		*	*	*			*				*									
2N3302				*	*		*	*	*			*				*									
2N3303					*		*	*				*				*									
2N3304					*			*	*			*				*									
2N3305												*				*									
2N3306												*				*									
2N3307								*																	
2N3308								*																	
2N3309												*				*									
2N3311	*			*				*						*				*							
2N3312	*			*				*						*				*							
2N3313	*			*				*						*				*							
2N3314	*			*				*						*				*							
2N3315	*			*				*						*				*							
2N3316				*				*						*				*							
2N3317		*																	*						
2N3318		*														*			*						
2N3319		*																	*						
2N3320																									
2N3321																									
2N3322																									
2N3323																									
2N3324								*																	
2N3325								*																	
2N3326					*					*		*				*									
2N3327												*				*									
2N3328															*							*			
2N3329															*			*	*						
2N3330								*							*			*	*		*				
*2N3330								*																	
2N3331															*			*	*						
2N3332																		*	*						
2N3333																									
2N3334																									

*JAN T

THE '72 MASTER 36th EDITION	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORNE	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N3335																														
2N3336																										*			*	
2N3337					*										*				*										*	
2N3338					*	*									*				*										*	
2N3339					*	*									*				*										*	
2N3340															*				*		*								*	
2N3341															*				*		*	*							*	
2N3342			*										*		*				*		*	*							*	
2N3343			*																*		*	*							*	
2N3344			*																*		*	*							*	
2N3345			*																*			*							*	
2N3346			*																*			*							*	
2N3347						*					*	*	*						*					*		*			*	
2N3348						*					*	*	*						*					*					*	
2N3349						*					*	*	*						*					*					*	
2N3350						*					*	*	*						*		*			*					*	
2N3351						*					*	*	*						*					*					*	
2N3352						*					*	*	*						*					*		*			*	
2N3365				*							*	*						*			*	*			*				*	
2N3366				*							*	*						*							*				*	
2N3367				*							*	*						*							*				*	
2N3368				*								*						*			*	*			*				*	
2N3369				*								*						*			*	*			*				*	
2N3370				*								*						*			*	*			*				*	
2N3371																										*			*	
2N3375											*			*	*					*	*		*		*		*		*	
*2N3375											*																			
2N3376																		*							*				*	
2N3377																		*											*	
2N3378																		*											*	
2N3379																													*	
2N3380																		*			*	*			*				*	
2N3381																													*	
2N3382																		*							*				*	
2N3383																													*	
2N3384																		*											*	
2N3385																													*	
2N3386																		*											*	
2N3387																													*	
2N3388														*			*		*										*	
2N3389																	*		*										*	
2N3390							*																*						*	
2N3391							*																*						*	
2N3391 A							*																*						*	
2N3392							*																*						*	
2N3393							*																*						*	
2N3394							*																*						*	
2N3395							*																*						*	
2N3396							*																*						*	
2N3397							*																*						*	
2N3398							*																*						*	
2N3399																													*	
2N3401			*																			*							*	
2N3402							*																*						*	
2N3403							*																*						*	
2N3404							*																*						*	
2N3405							*																*						*	
2N3407											*																			
2N3408											*																			
2N3409						*		*																					*	
2N3410						*		*																					*	
2N3411						*		*			*																		*	
2N3412					*																								*	
2N3413																					*	*							*	
2N3414							*																*						*	
2N3415		*					*																*						*	
2N3416		*					*																*						*	
2N3417		*					*																*						*	
2N3418		*													*						*					*	*	*	*	
2N3419		*													*				*							*	*	*	*	
2N3420		*													*				*							*	*	*	*	
2N3421		*													*				*							*	*	*	*	
2N3423		*				*		*					*												*				*	
2N3424		*				*		*					*																*	
2N3425		*				*					*		*																*	
2N3426		*				*				*																			*	
2N3427											*																		*	
2N3428											*																		*	
2N3429															*		*		*										*	*
2N3430															*		*		*										*	*
2N3431															*		*		*										*	*
2N3432																	*		*										*	*
2N3433															*		*		*										*	*
2N3434															*				*										*	
2N3435																													*	
2N3436	*	*									*	*						*			*	*			*				*	
2N3437	*										*	*						*			*	*			*				*	
2N3438	*										*	*						*			*	*			*				*	
2N3439		*			*	*					*			*	*				*							*			*	
2N3440		*			*	*				*	*			*	*				*							*			*	
2N3441						*				*	*			*		*	*		*				*					*	*	*	*
2N3442		*			*	*				*	*			*	*	*	*		*			*	*					*	*	*
*2N3442																*														
2N3444		*				*				*	*	*	*		*				*						*		*	*		
*2N3444											*																			
2N3445											*				*	*			*			*					*			
2N3446											*				*				*			*					*			
2N3447											*				*	*			*			*					*			
2N3448											*				*				*			*					*			
2N3449											*																*			
*2N3449											*																			
2N3450																											*			

THE '72 MASTER 36th EDITION

	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N3451											*																	
2N3452	*																	*					*	*			*	
2N3453		*																*					*	*			*	
2N3454	*																	*					*	*			*	
2N3455	*																	*					*	*			*	
2N3456		*																*					*	*			*	
2N3457	*																	*					*	*			*	
2N3458	*			*							*							*		*	*		*	*			*	
2N3459		*		*							*							*		*	*		*	*			*	
2N3460	*			*							*							*		*	*		*	*			*	
2N3461		*																									*	
2N3464															*			*										
2N3465			*																								*	
2N3466			*																								*	
2N3467		*				*				*	*		*										*		*		*	
*2N3467											*		*															
2N3468		*				*				*	*		*		*								*		*		*	
*2N3468											*		*															
2N3469		*							*						*			*								*	*	
2N3470															*	*		*									*	*
2N3471															*			*								*	*	*
2N3472															*			*									*	*
2N3473															*			*									*	*
2N3474															*			*									*	*
2N3475															*			*									*	*
2N3476															*			*									*	*
2N3477															*			*									*	*
2N3478														*	*												*	
2N3485		*				*					*		*		*								*		*		*	
*2N3485											*																	
2N3485 A		*				*					*		*		*								*		*		*	
*2N3485 A														*														
2N3486		*				*					*		*		*			*					*		*		*	
*2N3486											*																	
2N3486 A		*				*					*		*		*								*		*		*	
*2N3486 A														*														
2N3487									*		*				*	*		*			*					*	*	
2N3488									*		*				*	*		*			*					*	*	
2N3489									*		*				*	*		*			*					*	*	
2N3490									*		*				*	*		*			*					*	*	
2N3491									*		*				*	*		*			*					*	*	
2N3492									*		*				*	*					*					*	*	
2N3493					*						*							*									*	
2N3494		*				*					*		*		*			*						*	*		*	
2N3495		*				*					*				*			*						*	*		*	
2N3496		*			*	*					*				*			*						*	*		*	
2N3497		*				*					*				*			*						*	*		*	
2N3498		*									*				*			*							*		*	
*2N3498											*																	
2N3499		*									*				*			*							*		*	
*2N3499											*																	
2N3500		*									*				*			*							*		*	
*2N3500											*																	
2N3501															*			*							*		*	
*2N3501											*																	
2N3502						*				*		*	*		*			*					*		*	*		*	
2N3503		*				*				*		*	*		*			*					*		*	*		*	
2N3504		*				*				*		*	*		*			*					*		*	*		*	
2N3505		*				*				*		*	*		*			*					*		*			*	
2N3506		*									*				*			*					*					*	
*2N3506											*																	
2N3507		*									*				*			*					*					*	
*2N3507											*																	
2N3508											*				*			*										*	
2N3509											*				*			*										*	
2N3510		*				*				*	*				*			*										*	
2N3511		*				*				*	*				*			*										*	
2N3512		*			*						*			*				*										*	
2N3513						*		*																				*	
2N3515		*				*																						*	
2N3516						*		*																				*	
2N3518		*									*				*													*	
2N3520																												*	
2N3521							*																					*	
2N3522							*																					*	
2N3524																												*	
2N3525														*														*	
2N3526		*				*									*													*	
2N3527			*												*													*	
2N3528														*														*	
2N3529														*														*	
2N3543															*			*										*	
2N3544												*			*			*										*	
2N3545													*		*			*										*	
2N3546						*						*	*	*	*			*										*	
2N3547													*		*			*										*	
2N3548		*											*		*			*										*	
2N3549													*		*			*										*	
2N3550		*											*															*	
2N3551															*			*										*	
2N3552															*			*										*	
2N3553		*										*		*	*			*					*		*			*	
*2N3553												*		*															
2N3554														*				*					*		*			*	
2N3555		*							*																*	*			*	
2N3556		*							*																*	*			*	
2N3557		*							*																*	*			*	
2N3558		*							*																*	*			*	
2N3559									*																*	*			*	
2N3560		*							*																*	*			*	
2N3561		*							*																*	*			*	
2N3562		*							*																*	*			*	

JEDEC TYPE	AMPEREX ELECT.	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.
2N3563		*	*	*						*	*										*			
2N3564		*	*	*						*	*										*			
2N3565		*		*						*		*												
2N3566		*		*						*														
2N3567		*		*						*	*										*			
2N3568		*		*						*	*													
2N3569		*		*						*	*										*			
2N3570																*								
2N3571																*						*		
2N3572																*						*		
2N3573																						*		
2N3574																						*		
2N3575																						*		
2N3576										*			*			*						*		
2N3578															*									
2N3579		*											*			*		*	*		*			
2N3580		*											*			*		*	*		*			
2N3581		*											*			*		*	*		*			
2N3582		*											*			*			*		*			
2N3583												*												
2N3584												*												
2N3585												*												
2N3587				*						*														
2N3588	*																							
2N3589		*											*			*							*	
2N3590													*			*							*	
2N3591		*											*			*								
2N3592		*											*			*								
2N3593													*			*								
2N3594													*			*								
2N3595													*											
2N3596													*											
2N3597		*												*		*			*	*			*	
2N3598		*											*	*		*			*	*			*	
2N3599		*											*	*		*			*	*			*	
2N3600			*									*	*			*								
2N3605																								
2N3605 A																								
2N3606																								
2N3606 A																								
2N3607																								
2N3608						*																		
2N3610																								
2N3611		*	*				*		*															
2N3612		*	*				*		*															
2N3613		*	*				*		*															
2N3614		*	*				*		*															
2N3615		*	*				*		*															
2N3616		*	*				*		*															
2N3617		*					*		*															
2N3618		*					*		*															
2N3619													*			*								
2N3620		*											*			*								
2N3621		*											*			*								
2N3622		*											*			*								
2N3623		*											*			*		*						
2N3624		*											*			*								
2N3625		*											*			*								
2N3626		*											*			*								
2N3627		*											*			*		*						
2N3628		*											*											
2N3629		*											*			*								
2N3630													*			*								
2N3631															*									
2N3632		*							*			*	*			*	*		*		*	*	*	
2N3633		*											*			*							*	
2N3634		*	*	*					*				*			*							*	
*2N3634									*															
2N3635			*	*					*							*							*	
*2N3635									*															
2N3636		*		*					*				*			*							*	
*2N3636									*															
2N3637		*		*					*							*							*	
*2N3637									*															
2N3638		*	*	*						*	*											*		
2N3638 A		*	*	*						*	*											*		
2N3639		*		*						*														
2N3640		*		*						*														
2N3641		*		*						*	*											*		
2N3642		*		*						*	*											*		
2N3643		*		*						*	*											*		
2N3644		*	*	*						*	*											*		
2N3645		*	*	*						*	*											*		
2N3646		*		*						*	*											*		
2N3647		*		*					*				*			*								
2N3648		*		*					*				*			*								
2N3649																								
2N3650												*												
2N3651												*												
2N3652												*												
2N3653												*												
2N3654																								
2N3655																								
2N3656																								
2N3657																								
2N3658																								
2N3659		*												*	*	*								
2N3660		*					*						*			*			*				*	
2N3661		*					*						*			*			*				*	
2N3662		*			*																			
2N3663		*		*																				
2N3664													*											

*JAN

THE '72 MASTER 36th EDITION	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. ELCTRNS.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N3665		*				*		*	*				*			*				*			*				*		*
2N3666		*				*		*	*				*			*				*			*				*		*
2N3667								*								*		*		*			*						
2N3668															*														*
2N3669															*														*
2N3670															*														*
2N3671		*			*	*		*	*		*			*		*				*									*
2N3672		*			*	*		*	*		*			*		*				*									*
2N3673		*				*		*			*			*		*				*									*
2N3675																*		*		*									
2N3676																*		*		*									
2N3677		*	*								*									*				*					*
2N3678						*			*							*				*									*
2N3680		*				*							*							*						*			*
2N3681					*															*									
2N3683										*																			*
2N3684	*					*							*						*			*	*						*
2N3684 A																						*							
2N3685	*					*							*						*			*	*						*
2N3685 A																						*							
2N3686	*					*							*						*			*	*						*
2N3686 A																						*							
2N3687						*							*						*			*	*						*
2N3687 A																						*							
2N3688		*				*								*											*				*
2N3689		*				*								*											*				*
2N3690		*				*								*											*				*
2N3691		*			*	*							*	*															*
2N3692		*			*	*							*	*											*				*
2N3693		*			*	*							*	*											*				*
2N3694		*			*	*							*	*											*				*
2N3695																													*
2N3696																													*
2N3697																													*
2N3698																													*
2N3700		*				*			*					*		*				*							*		*
*2N3700											*			*															
2N3701		*				*			*					*		*				*							*		*
2N3702		*																								*			*
2N3703		*																								*			*
2N3704		*		*																						*			*
2N3705		*																								*			*
2N3706		*																								*			*
2N3707		*																								*			*
2N3708		*																								*			*
2N3709		*																								*			*
2N3710																										*			*
2N3711																										*			*
2N3712											*					*		*								*			*
2N3713		*			*	*		*			*					*	*			*			*			*	*		*
2N3714		*			*	*		*			*					*	*			*			*			*	*		*
2N3715		*			*	*		*			*					*	*			*			*			*	*		*
*2N3715											*																		
2N3716		*			*	*		*			*					*	*			*			*			*	*		*
*2N3716											*																		
2N3719		*									*									*			*				*		*
2N3720		*									*									*			*				*		*
2N3721		*																						*					*
2N3722		*				*								*		*				*									*
2N3723		*				*										*				*									*
2N3724		*				*		*	*				*	*						*				*	*	*	*		*
2N3724 A													*	*		*				*				*	*	*			*
2N3725		*				*		*	*				*	*						*				*	*	*	*		*
2N3725 A													*	*		*				*					*				*
2N3726		*				*	*				*			*						*									*
2N3727		*				*	*				*			*															*
2N3728		*				*	*							*		*				*									*
2N3729		*				*	*							*						*									*
2N3730															*															*
2N3731															*															*
2N3732															*															*
2N3733		*						*			*				*							*		*			*		*	*
2N3734		*				*					*			*		*									*					*
2N3735											*			*		*									*					*
*2N3735											*			*																
2N3736		*							*		*			*						*					*					*
2N3737											*			*						*					*					*
*2N3737											*			*																
2N3738											*					*				*										*
2N3739											*																			*
*2N3739											*																			
2N3740		*				*					*												*				*			*
*2N3740											*																			
2N3740 A											*																			
2N3741		*				*					*												*				*			*
*2N3741											*																			
2N3741 A											*																			
2N3742						*					*					*		*		*										*
*2N3742											*																			
2N3743						*					*					*		*		*										*
*2N3743											*																			
2N3744		*						*								*		*		*			*	*			*	*	*
2N3745		*						*										*		*			*	*			*	*	*
2N3746		*						*										*		*			*	*			*	*	*
2N3747		*						*										*		*			*	*			*	*	*
2N3748		*						*										*		*			*	*			*	*	*
2N3749		*						*										*		*			*	*			*	*	*
*2N3749																								*					
2N3750		*						*										*		*			*	*			*	*	*
2N3751		*						*										*		*			*	*			*	*	*
2N3752		*						*								*		*		*			*	*			*	*	*
2N3753		*										*																	*

THE '72 MASTER 36th EDITION

	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. ELCTRNS.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N3754			*									*																	*	
2N3755			*									*																	*	
2N3756			*									*																	*	
2N3757			*									*																	*	
2N3758			*									*																	*	
2N3759			*									*																	*	
2N3760			*									*																	*	
2N3761			*									*																	*	
2N3762											*			*		*				*				*					*	
2N3763											*			*		*				*				*					*	
*2N3763											*			*																
2N3764											*			*						*				*					*	
2N3765											*			*						*				*					*	
*2N3765											*			*																
2N3766			*				*		*		*					*				*		*					*		*	
2N3767			*				*		*		*					*				*		*					*		*	
2N3771	*		*				*		*		*				*		*	*		*		*	*					*	*	*
*2N3771											*																			
2N3772	*		*				*		*		*				*		*	*		*		*	*					*	*	*
*2N3772											*																			
2N3773	*		*				*		*		*				*		*	*		*		*	*					*	*	*
2N3774				*														*		*									*	
2N3775			*	*														*		*		*						*	*	
2N3776			*	*														*		*		*							*	
2N3777			*	*														*		*		*							*	
2N3778			*	*														*		*		*							*	
2N3779			*	*														*		*		*							*	
2N3780			*	*														*		*		*							*	
2N3781			*	*														*		*		*							*	
2N3782			*	*														*		*		*							*	
2N3783											*																		*	
2N3784											*																		*	
2N3785											*																		*	
2N3788											*									*		*							*	
2N3789							*				*									*		*				*	*		*	
*2N3789											*																			
2N3790							*				*									*		*				*	*		*	
*2N3790											*																			
2N3791							*				*									*		*				*	*		*	
*2N3791											*																			
2N3792							*				*									*		*				*	*		*	
*2N3792											*																			
2N3793			*																										*	
2N3794			*																										*	
2N3795																				*										
2N3796											*																		*	
2N3797											*																		*	
2N3798											*					*				*							*		*	
2N3798 A											*																			
2N3799											*					*				*							*		*	
2N3799 A											*																			
2N3800			*				*	*			*			*						*				*					*	
2N3801			*				*	*			*			*						*									*	
2N3802			*				*	*			*			*						*				*					*	
2N3803			*				*	*			*			*						*									*	
2N3804			*				*	*			*			*						*				*					*	
2N3804 A			*				*				*			*						*									*	
2N3805			*				*	*			*			*						*									*	
2N3805 A							*				*			*						*									*	
2N3806			*				*	*			*		*	*						*				*		*			*	
2N3807			*				*	*			*		*	*						*							*		*	
2N3808			*				*	*			*		*	*						*				*		*	*		*	
2N3809			*				*	*			*		*	*						*							*		*	
2N3810			*				*	*			*		*	*						*				*		*	*		*	
*2N3810											*		*	*																
2N3810 A							*				*		*	*						*									*	
2N3811			*				*	*			*		*	*						*							*		*	
*2N3811											*		*	*																
2N3811 A			*				*				*		*	*						*									*	
2N3812											*			*						*									*	
2N3813											*			*						*									*	
2N3814											*			*						*									*	
2N3815											*			*						*									*	
2N3816											*			*						*									*	
2N3816 A											*			*						*									*	
2N3817											*			*						*									*	
2N3817 A							*				*			*						*									*	
2N3818											*					*				*									*	
2N3819														*													*		*	
2N3820																											*		*	
2N3821		*									*			*						*		*	*			*	*		*	
*2N3821											*									*										
2N3822		*	*								*			*						*		*	*			*	*		*	
*2N3822											*									*										
2N3823		*	*		*						*			*						*		*	*			*	*		*	
*2N3823											*									*										
2N3824											*			*						*		*	*			*	*		*	
2N3825																													*	
2N3826																													*	
2N3827																													*	
2N3828																													*	
2N3829																*				*							*		*	
2N3830															*	*				*				*					*	
2N3831															*	*				*				*					*	
2N3832							*																						*	
2N3833																											*		*	
2N3834																											*		*	
2N3835																											*		*	
2N3837											*																			
2N3838											*				*														*	
2N3839										*	*				*	*				*									*	
2N3840				*	*																			*					*	

THE 72 MASTER 36th EDITION

	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N3841			*																								*	
2N3842																											*	
2N3843			*				*														*						*	
2N3843 A			*				*														*						*	
2N3844							*														*						*	
2N3844 A			*				*														*						*	
2N3845			*				*														*						*	
2N3845 A			*				*														*						*	
2N3846																	*			*				*			*	
2N3847																	*			*				*			*	
2N3848																	*			*							*	
2N3849																				*							*	
2N3850																	*			*					*	*	*	
2N3851																	*			*					*	*	*	
2N3852																	*			*					*	*	*	
2N3853																	*			*					*	*	*	
2N3854			*				*														*						*	
2N3854 A			*				*														*						*	
2N3855			*				*														*						*	
2N3855 A			*				*														*						*	
2N3856			*				*														*						*	
2N3856 A			*				*														*						*	
2N3857																											*	
2N3858			*				*														*						*	
2N3858 A			*				*														*						*	
2N3859			*				*														*						*	
2N3859 A			*				*														*						*	
2N3860			*				*														*						*	
2N3861															*		*										*	
2N3862								*						*			*											
2N3863								*						*	*		*			*								
2N3864								*						*	*		*			*								
2N3865														*	*		*											
2N3866	*		*							*		*	*				*	*		*		*		*		*	*	
2N3866 *										*		*																
2N3866 A										*		*																
2N3866 A *										*																		
2N3867										*							*								*			
2N3867 *										*																		
2N3868										*							*								*			
2N3868 *										*																		
2N3869															*		*											
2N3870										*			*														*	
2N3871										*			*														*	
2N3872										*			*														*	
2N3873										*			*														*	
2N3876																	*									*	*	
2N3877			*					*													*						*	
2N3877 A			*					*													*						*	
2N3878			*					*						*	*		*			*					*	*	*	
2N3879			*					*						*	*		*			*						*	*	
2N3880									*																		*	
2N3881															*		*										*	
2N3883										*							*										*	
2N3884																											*	*
2N3885																											*	*
2N3886																											*	
2N3887																											*	*
2N3888																											*	*
2N3889																											*	*
2N3890																											*	*
2N3891																											*	*
2N3892																											*	*
2N3893																											*	*
2N3894																											*	*
2N3895																											*	*
2N3896										*			*														*	
2N3897										*			*														*	
2N3898										*			*														*	
2N3899										*			*														*	
2N3900							*	*													*						*	
2N3900 A			*				*	*													*						*	
2N3901			*				*														*						*	
2N3902			*		*				*	*			*				*				*				*		*	
2N3902 *					*					*																		
2N3903			*			*				*	*										*				*		*	
2N3904			*			*				*	*										*	*						*	
2N3905			*			*				*	*										*						*	
2N3906			*			*				*	*										*	*			*			*	
2N3907			*			*		*			*																	*	
2N3908			*			*		*		*	*																	*	
2N3909										*						*			*	*					*			*	
2N3909 A										*															*				
2N3910			*	*						*		*					*											*	
2N3911			*	*								*					*											*	
2N3912			*	*													*											*	
2N3913			*	*													*											*	
2N3914			*	*													*											*	
2N3915			*	*													*											*	
2N3916															*		*											*	
2N3917															*		*										*		
2N3918															*		*										*		
2N3919															*		*										*		
2N3920															*		*										*		
2N3921		*														*				*	*							*	
2N3922		*														*				*	*							*	
2N3923			*			*									*		*											*	
2N3924										*								*		*								*	
2N3925										*																		*	
2N3926										*				*			*	*		*								*	
2N3927										*				*			*	*		*								*	
2N3928																					*								

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N3929																		*							
2N3930				*																					*
2N3931				*																					*
2N3932												*	*												*
2N3933												*	*												*
2N3934	*																					*			*
2N3935	*																					*			*
2N3936															*									*	*
2N3937															*									*	*
2N3938															*									*	*
2N3939															*									*	*
2N3940															*									*	*
2N3941																									*
2N3942																									*
2N3943																									*
2N3944																									*
2N3945						*		*			*		*		*									*	*
2N3946				*	*					*	*		*		*					*					*
2N3947				*	*					*	*		*		*					*					*
2N3948										*			*		*										*
2N3950										*			*		*										*
2N3953									*						*										*
2N3954	*																	*	*			*			*
2N3954 A																		*	*						
2N3955	*																	*	*			*			*
2N3955 A																		*	*						
2N3956																		*	*			*			*
2N3957																		*	*			*			*
2N3958	*																	*	*			*			*
2N3959						*				*					*										*
2N3959 *										*															
2N3960						*				*					*										*
2N3960 *										*															
2N3961										*			*												*
2N3962		*				*		*			*		*		*								*		*
2N3963		*				*		*			*		*		*								*		*
2N3964		*				*		*			*		*		*								*		*
2N3965		*				*		*			*		*		*								*		*
2N3966											*							*					*		*
2N3967	*										*							*					*		*
2N3967 A											*												*		*
2N3968											*							*					*		*
2N3968 A											*												*		*
2N3969	*										*							*					*		*
2N3969 A											*												*		*
2N3970										*	*			*				*	*				*	*	*
2N3971										*	*			*				*	*				*	*	*
2N3972										*	*			*				*	*				*	*	*
2N3973		*																							*
2N3974		*																							*
2N3975		*				*														*					*
2N3976		*				*														*					*
2N3977		*								*					*					*					*
2N3978		*	*							*					*					*					*
2N3979		*	*							*					*					*					*
2N3980										*													*		*
2N3981																									*
2N3993										*													*		*
2N3993 A																							*		*
2N3994										*													*		*
2N3994 A										*													*		*
2N3995																									*
2N3996		*					*						*		*			*	*				*	*	*
*2N3996																			*						
2N3997		*					*						*		*			*	*				*	*	*
*2N3997																			*						
2N3998		*											*		*			*	*				*	*	*
*2N3998																			*						
2N3999		*											*		*			*	*				*	*	*
*2N3999																			*						
2N4000		*					*						*		*			*	*				*	*	*
2N4001		*					*						*		*				*				*	*	*
2N4002		*					*						*		*				*				*	*	*
2N4003		*					*						*		*				*				*	*	*
2N4004													*		*									*	*
2N4005													*		*									*	*
2N4006			*							*															*
2N4007		*	*							*										*					*
2N4008		*	*							*										*					*
2N4009										*															*
2N4009PR			*																						
2N4010										*															*
2N4010PR			*																						
2N4011										*															*
2N4011PR			*																						
2N4012							*			*		*	*		*	*									*
2N4013		*			*		*	*		*			*						*	*			*		*
2N4014		*			*		*	*		*			*						*	*			*		*
2N4015		*			*					*	*				*					*					*
2N4016		*			*					*	*				*					*					*
2N4017		*			*						*				*										*
2N4018		*			*						*				*					*					*
2N4019		*			*						*				*					*					*
2N4020		*			*						*				*										*
2N4021		*			*						*				*										*
2N4022		*			*						*				*										*
2N4023		*			*						*				*										*
2N4024		*			*						*				*										*
2N4025		*			*						*				*										*
2N4026		*			*										*									*	*
2N4027		*			*										*									*	*
2N4028		*			*										*									*	*

*JAN Type

THE '72 MASTER 16th EDITION	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL INSTR.	HORIZON SEMI.	ITT SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORNE	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N4029			*			*												*									*
2N4030			*			*						*			*											*	*
2N4031			*			*						*			*											*	*
2N4032			*			*						*	*		*			*								*	*
2N4033			*			*						*			*											*	*
2N4034			*			*		*	*						*			*									*
2N4035			*			*												*									*
2N4036						*						*		*	*			*									*
2N4037					*	*						*		*	*			*									*
2N4038							*																				*
2N4039																											*
2N4040																				*						*	*
2N4041										*										*						*	*
2N4042																											*
2N4043																											*
2N4044																			*	*							*
2N4045																			*	*							*
2N4046						*			*					*		*						*				*	*
2N4047						*			*					*		*						*				*	*
2N4048												*								*							*
2N4049												*								*							*
2N4050												*								*							*
2N4051												*								*							*
2N4052												*								*							*
2N4053												*								*							*
2N4058																									*		*
2N4059																											*
2N4060																											*
2N4061																											*
2N4062																									*		*
2N4063															*	*	*	*									*
2N4064															*		*										*
2N4065																											*
2N4066							*					*															*
2N4067							*					*															*
2N4068															*			*									*
2N4069															*												*
2N4070								*								*			*		*	*				*	*
2N4071								*								*			*		*					*	*
2N4072												*				*			*								*
2N4073												*				*			*								*
2N4074															*												*
2N4075																*			*							*	*
2N4076																*			*							*	*
2N4077																											*
2N4078																											*
2N4079	*																										
2N4080								*						*								*					*
2N4082																							*				*
2N4083																							*				*
2N4084																		*		*	*		*				*
2N4085																		*		*	*		*				*
2N4091		*	*									*	*					*		*	*			*			*
*2N4091												*															
2N4092		*	*									*	*							*	*			*			*
*2N4092												*															
2N4093		*		*								*	*					*		*	*			*			*
*2N4093												*															
2N4096																			*							*	*
2N4097			*																*							*	*
2N4098			*																*							*	*
2N4099																											*
2N4100																				*	*						*
2N4101															*												*
2N4102															*												*
2N4103															*												*
2N4104																*			*								*
2N4105	*																										
2N4106	*																										
2N4107	*																										
2N4108			*																*							*	*
2N4109			*																*							*	*
2N4110			*																*							*	*
2N4111								*								*			*		*					*	
2N4112								*								*			*		*					*	
2N4113								*								*			*		*					*	
2N4114								*								*			*							*	
2N4115						*										*			*							*	*
2N4116						*										*			*							*	*
2N4117																		*									*
2N4117 A																		*									*
2N4118																		*									*
2N4118 A																		*									*
2N4119																		*									*
2N4119 A																		*									*
2N4120							*																				*
2N4121			*			*		*				*	*									*					*
2N4122			*			*		*				*	*									*					*
2N4123						*					*	*									*						*
2N4124						*					*	*									*						*
2N4125						*					*	*									*						*
2N4126						*					*	*									*				*		*
2N4127																				*						*	*
2N4128																				*						*	*
2N4129																				*							
2N4130								*				*				*			*		*						*
2N4131								*								*			*								*
2N4132								*											*								*
2N4133								*								*			*								*
2N4134					*	*						*				*			*								*
2N4135					*	*						*				*			*								*
2N4136	*																										*

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	SEMICOA	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORNE	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N4137		*			*				*			*									*
2N4138			*									*						*			*
2N4139																	*				*
2N4140		*		*		*		*								*					*
2N4141				*		*		*	*							*					*
2N4142		*				*		*								*					*
2N4143		*				*		*	*							*					*
2N4144		*				*													*		*
2N4145		*				*													*		*
2N4146		*				*													*		*
2N4147		*				*													*		*
2N4148		*				*													*		*
2N4149		*				*													*		*
2N4150		*				*				*		*			*						*
*2N4150																					*
2N4151							*	*													*
2N4152								*													*
2N4153								*													*
2N4154								*													*
2N4155								*													*
2N4156								*													*
2N4157								*													*
2N4158								*													*
2N4159								*													*
2N4160								*													*
2N4161								*													*
2N4162								*													*
2N4163								*													*
2N4164								*													*
2N4165								*													*
2N4166								*													*
2N4167								*													*
2N4168								*													*
2N4169								*													*
2N4170								*													*
2N4171								*													*
2N4172								*													*
2N4173								*													*
2N4174								*													*
2N4175								*													*
2N4176								*													*
2N4177								*													*
2N4178								*													*
2N4179								*													*
2N4180								*													*
2N4181								*													*
2N4182								*													*
2N4183								*													*
2N4184								*													*
2N4185								*													*
2N4186								*													*
2N4187								*													*
2N4188								*													*
2N4189								*													*
2N4190								*													*
2N4191								*													*
2N4192								*													*
2N4193								*													*
2N4194								*													*
2N4195								*													*
2N4196								*													*
2N4197								*													*
2N4198								*													*
2N4199								*												*	*
*2N4199								*													*
2N4200								*												*	*
*2N4200								*													*
2N4201								*												*	*
*2N4201								*													*
2N4202								*												*	*
*2N4202								*													*
2N4203								*													*
*2N4203								*													*
2N4204								*													*
*2N4204								*													*
2N4205								*													*
*2N4205								*													*
2N4206								*													*
*2N4206								*													*
2N4207							*		*									*			*
2N4208							*		*									*			*
2N4209							*		*									*			*
2N4210								*			*		*		*					*	*
2N4211								*			*		*		*					*	*
2N4212				*		*			*				*							*	*
2N4213				*		*			*				*							*	*
2N4214				*		*			*				*							*	*
2N4215				*		*			*				*							*	*
2N4216				*		*			*				*							*	*
2N4217				*					*				*							*	*
2N4218				*					*				*							*	*
2N4219									*												*
2N4220		*				*			*	*			*		*	*			*	*	*
2N4220 A						*			*	*			*		*	*			*	*	*
2N4221						*			*	*			*		*	*			*	*	*
2N4221 A						*			*	*			*		*	*			*	*	*
2N4222						*			*	*			*		*	*			*	*	*
2N4222 A						*			*	*			*		*	*			*	*	*
2N4223						*			*	*			*		*	*			*	*	*
2N4224						*			*	*			*		*	*			*	*	*
2N4225							*				*		*		*	*					*
2N4226							*				*		*		*	*					*

*JAN

THE '72 MASTER 16th EDITION

	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N4227																					
2N4228			*		*			*													*
2N4231							*		*				*								*
2N4232					*		*		*				*	*					*		*
2N4233					*		*		*				*	*					*		*
2N4234					*				*				*	*					*		*
2N4235					*				*				*	*					*		*
2N4236					*				*				*	*					*		*
2N4237					*		*		*				*	*	*				*		*
2N4238		*			*		*		*				*	*					*		*
2N4239					*		*		*				*	*					*		*
2N4240											*										*
2N4241	*														*						*
2N4242							*								*						*
2N4243		*					*								*						*
2N4244		*					*								*						*
2N4245		*					*								*						*
2N4246		*					*								*						*
2N4247		*					*								*						*
2N4248			*	*					*	*						*					*
2N4249		*	*	*					*	*						*					*
2N4250		*	*	*			*		*	*						*					*
2N4250 A				*												*					*
2N4251												*	*								*
2N4252			*										*					*			*
2N4253			*										*					*			*
2N4254																					*
2N4255																					*
2N4256						*	*														*
2N4257		*		*					*												*
2N4257 A				*					*												*
2N4258		*		*					*												*
2N4258 A				*					*												
2N4259											*										*
2N4260								*							*						*
2N4261								*							*						*
2N4264					*			*													*
2N4265					*			*													*
2N4267																					*
2N4268																					*
2N4269			*																*		*
2N4270			*				*												*		*
2N4271							*						*						*		*
2N4272							*						*						*		*
2N4273							*						*						*		*
2N4274			*		*		*		*	*			*		*						*
2N4275			*		*		*		*	*					*						*
2N4276								*													*
2N4277								*													*
2N4278								*													*
2N4279								*													*
2N4280								*													*
2N4281								*													*
2N4282								*													*
2N4283								*													*
2N4284																					*
2N4285																					*
2N4286																					*
2N4287																					*
2N4288																					*
2N4289																					*
2N4290																					*
2N4291																					*
2N4292																					*
2N4293																					*
2N4294																					*
2N4295																					*
2N4296													*	*							*
2N4297													*	*							*
2N4298													*	*							*
2N4299													*	*							*
2N4300			*				*						*	*		*			*	*	*
2N4301			*											*		*			*	*	*
2N4302		*							*						*		*				
2N4303		*							*						*						
2N4304		*							*						*		*				
2N4305							*						*	*							*
2N4306																				*	*
2N4307							*						*	*							*
2N4308														*						*	*
2N4309							*						*	*							*
2N4310														*						*	*
2N4311							*						*	*						*	*
2N4312														*						*	*
2N4313					*				*												*
2N4314											*	*	*								*
2N4315																					*
2N4320							*												*		*
2N4321							*												*		*
2N4322							*												*		*
2N4323			*																*		*
2N4324			*				*												*		*
2N4325			*																*		*
2N4326			*				*														*
2N4327			*																*		*
2N4328			*				*												*		*
2N4329			*																*		*
2N4330			*				*												*		*
2N4331			*																*		*
2N4332			*				*														*
2N4333			*				*														*
2N4334			*				*														*

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	DICKSON ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	GENERAL INSTR.	HORIZON SEMI.	INTL. RECTIFIER	KMC SEMI.	MOTOROLA SEMI.	NATL. ELCTRNS.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N4335			*																													
2N4336			*						*																				*		*	
2N4337			*						*																				*		*	
2N4338															*																*	
2N4339															*						*											
2N4340															*																*	
2N4341															*						*											
2N4342						*						*																			*	
2N4343						*																									*	
2N4346																	*															
2N4347	*					*						*					*	*	*	*	*										*	*
2N4348						*			*			*					*	*	*	*											*	*
2N4349									*									*			*											
2N4350									*									*													*	
2N4351												*																			*	
2N4352												*																			*	
2N4353								*													*										*	
2N4354				*		*								*																	*	
2N4355				*		*								*																	*	
2N4356				*		*								*																	*	
2N4357						*																									*	
2N4358						*																									*	
2N4359				*		*			*			*						*													*	
2N4360						*						*											*								*	
2N4361										*		*	*																		*	
2N4362										*		*	*																		*	*
2N4363										*		*	*																		*	
2N4364										*		*	*																		*	*
2N4365										*		*	*																		*	*
2N4366										*		*	*																		*	
2N4367										*		*	*																		*	*
2N4368												*	*																		*	*
2N4369												*																				
2N4370												*																				
2N4371										*		*	*																		*	
2N4372										*		*	*																		*	
2N4373										*		*	*																		*	
2N4374										*		*	*																		*	
2N4375										*		*	*																		*	
2N4376										*		*	*																		*	
2N4377										*		*	*																		*	
2N4378												*	*																		*	
2N4379												*																				
2N4380												*																				
2N4381				*		*																									*	
2N4382				*		*																									*	
2N4383									*																						*	
2N4384				*					*																						*	
2N4385									*																						*	
2N4386				*					*																						*	
2N4387				*					*												*										*	
2N4388				*					*												*										*	
2N4389				*		*																									*	
2N4390																	*														*	
2N4391			*		*							*		*							*		*	*				*	*		*	
2N4392			*		*							*		*							*		*	*				*	*		*	
2N4393			*		*							*		*							*		*	*				*	*		*	
2N4395									*									*			*			*							*	
2N4396									*									*			*										*	
2N4398						*						*									*								*		*	
2N4399						*						*									*								*		*	
*2N4399												*																				
2N4400						*						*		*																	*	
2N4401						*						*		*																	*	
2N4402						*						*		*																	*	
2N4403						*						*		*																	*	
2N4404												*						*													*	
2N4405												*						*													*	
2N4406												*						*													*	
2N4407												*						*													*	
2N4409						*						*																			*	
2N4410						*						*																			*	
2N4411																															*	
2N4412																															*	
2N4412 A				*																											*	
2N4413				*					*																						*	
2N4413 A				*					*																						*	
2N4414				*					*																						*	
2N4414 A				*					*																						*	
2N4415				*					*																						*	
2N4415 A				*					*																						*	
2N4416			*		*							*			*						*							*	*		*	
*2N4416																					*											
2N4416 A			*		*							*			*						*							*	*			
*2N4416 A																																
2N4417																					*										*	
2N4418																															*	
2N4419																															*	
2N4420																															*	
2N4421																															*	
2N4422																															*	
2N4423															*																*	
2N4424								*	*																	*						
2N4425				*				*	*																	*						
2N4427	*								*			*					*	*				*		*		*				*	*	
2N4428											*	*			*			*				*		*						*	*	
2N4429											*							*				*		*						*	*	
2N4430											*							*				*		*						*	*	
2N4431											*							*				*		*						*	*	
2N4433						*																									*	
2N4436						*					*																					
2N4437						*									*							*									*	

*JAN Type

THE '72 MASTER 16th EDITION

	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	FAIRCHILD	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICONIX INC.	SOLID STATE DEVI.	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N4438																							
2N4440					*	*				*				*		*		*					*
*2N4440						*																	
2N4441						*																	*
2N4441 C						*																	
2N4442						*																	*
2N4442 C						*																	
2N4443						*																	*
2N4443 C						*																	
2N4444																							*
2N4444 C						*																	
2N4445			*															*					*
2N4446			*															*					*
2N4447			*															*					*
2N4448			*															*					*
2N4449				*				*															*
*2N4449						*																	
2N4450						*																	*
2N4451				*																			
2N4453				*		*																	
*2N4453						*																	
2N4851						*														*			*
2N4852						*				*										*			*
2N4853						*														*			*
2N4854				*		*		*												*			*
2N4855				*		*		*												*			*
2N4856	*					*	*					*			*	*		*	*				*
*2N4856						*						*											
2N4856 A						*	*					*			*				*				
2N4857	*					*	*					*			*	*		*	*				*
*2N4857						*						*											
2N4857 A						*	*					*			*				*				
2N4858	*					*	*					*			*	*		*	*				*
*2N4858						*						*											
2N4856 A						*	*					*			*				*				
2N4859						*	*					*			*	*		*	*				*
*2N4859						*						*											
2N4859 A						*	*					*			*				*				
2N4860						*	*					*			*	*		*	*				*
*2N4860						*						*											
2N4860 A						*	*					*			*				*				
2N4861						*	*					*			*	*		*	*				*
*2N4861						*						*											
2N4861 A						*	*					*			*				*				
2N4862		*			*											*	*				*		*
2N4863		*			*					*			*			*	*				*		*
2N4864		*			*					*			*			*	*				*		*
2N4865		*			*								*			*	*				*		*
2N4866		*			*											*					*		*
2N4867												*			*								*
2N4867 A												*											*
2N4868												*			*								*
2N4868 A												*											*
2N4869												*			*								*
2N4869 A												*											*
2N4870						*																	*
2N4871						*																	*
2N4872																							*
2N4873										*													*
2N4874										*										*			*
2N4875										*										*			*
2N4876										*										*			*
2N4877				*		*				*			*								*		
2N4878															*	*							*
2N4879															*	*							*
2N4880															*	*							*
2N4881	*																	*					*
2N4882	*																	*					*
2N4883																		*					*
2N4884																		*					*
2N4885																		*					*
2N4886																		*					*
2N4888				*																			*
2N4889				*																			*
2N4890						*				*													*
2N4891																				*			*
2N4892																				*			*
2N4893																				*			*
2N4894																				*			*
2N4895				*	*					*			*			*						*	*
2N4896				*	*					*			*			*						*	*
2N4897				*	*					*			*			*						*	*
2N4898				*		*										*					*		*
2N4899				*												*					*		*
2N4900				*		*										*					*		*
2N4901						*							*			*				*	*		*
2N4902						*							*			*				*	*		*
2N4903						*							*			*				*	*		*
2N4904				*		*							*			*				*	*		*
2N4905				*		*							*			*				*	*		*
2N4906				*		*							*			*				*	*		*
2N4907				*		*							*			*							
2N4908				*		*							*			*							
2N4909				*		*							*			*							
2N4910				*	*	*				*			*			*					*		*
2N4911				*	*	*				*			*			*					*		*
2N4912				*	*	*				*			*			*							*
2N4913				*	*	*				*	*		*			*				*			*
2N4914				*	*	*				*	*		*			*							*
2N4915				*		*				*	*		*			*				*			*
2N4916		*		*			*	*										*					*
2N4917		*		*				*										*					*

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHOR	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	YRW SEMI
2N4918								*												*	
2N4919								*													
2N4920								*													
2N4921								*													
2N4922								*													
2N4923								*													
2N4924								*			*										
2N4925								*			*										
2N4926				*	*			*			*			*							
*2N4926								*													
2N4927				*	*			*			*			*							
*2N4927								*													
2N4928								*			*										*
2N4929								*			*			*							*
2N4930								*			*			*							*
*2N4930								*													
2N4931								*			*			*							*
*2N4931								*													
2N4932											*	*		*							
2N4933											*	*		*	*						
2N4934											*										
2N4935											*										
2N4936											*										
2N4937					*			*		*											
2N4938					*			*		*											
2N4939								*		*											
2N4940								*		*											
2N4941								*		*											
2N4942								*		*											
2N4943									*												
2N4944				*	*					*								*			
2N4945					*					*								*			
2N4946		*		*	*					*								*			
2N4947								*												*	
*2N4947								*													
2N4948								*												*	
*2N4948								*													
2N4949								*												*	
*2N4949								*													
2N4950															*						*
2N4951		*					*									*					
2N4952		*					*									*					
2N4953		*					*									*					
2N4954		*					*									*					
2N4955		*			*																
2N4956					*																
2N4957								*													
2N4958								*													
2N4959								*													
2N4960					*																
2N4961					*																
2N4962					*																
2N4963					*																
2N4964		*			*				*	*								*			
2N4965		*			*				*	*								*			
2N4966		*			*				*	*								*			
2N4967		*			*				*	*								*			
2N4968		*			*				*	*								*			
2N4969		*			*				*	*								*			
2N4970		*			*				*	*								*			
2N4971		*							*	*								*			
2N4972		*							*	*								*			
2N4973																					
2N4974								*													
2N4975								*													
2N4976																					*
2N4977	*																			*	
2N4978																				*	
2N4979																				*	
2N4980			*												*						
2N4981			*												*						
2N4982			*												*						
2N4983						*															
2N4984						*															
2N4985						*															
2N4986						*															
2N4987		*				*															
2N4988		*				*															
2N4989		*				*															
2N4990		*				*															
2N4991		*				*															
2N4992		*				*															
2N4993		*				*		*													
2N4994						*															
2N4995						*															
2N4996																					
2N4997																					
2N4998					*		*								*						
2N4999					*		*								*						
2N5000		*			*		*								*						
2N5001		*			*		*								*						
2N5002		*			*		*					*			*						
2N5003		*			*		*					*			*						
2N5004		*			*		*					*			*						
2N5005		*			*		*								*						
2N5006		*			*		*					*									
2N5007					*		*								*						
2N5008		*			*		*					*			*						
2N5009					*		*								*						
2N5010		*										*	*		*						
2N5011		*											*		*						
2N5012		*											*		*						

THE '72 MASTER 16th EDITION

	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	FAIRCHILD	HORIZON SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SENSITRON SEMI.	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N5013		*													*										*	
2N5014		*													*										*	
2N5015		*													*										*	
2N5016							*			*	*				*	*		*						*	*	
2N5017																									*	
2N5018	*							*												*					*	
2N5019	*							*												*					*	
2N5020				*																*					*	
2N5021				*																*					*	
2N5022				*					*						*				*						*	
2N5023				*					*						*				*						*	
2N5024							*																			
2N5025		*													*										*	
2N5026											*				*										*	
2N5027		*																	*						*	
2N5028		*																	*						*	
2N5029		*																							*	
2N5030		*																							*	
2N5031						*	*																			
2N5032						*	*																			
2N5033		*		*													*			*					*	
2N5034																									*	
2N5035																									*	
2N5036											*														*	
2N5037																									*	
2N5038					*					*	*				*						*	*			*	*
2N5039					*					*	*				*						*	*			*	*
2N5040		*		*																					*	
2N5041		*		*																					*	
2N5042		*		*																					*	
2N5043																					*				*	
2N5044																					*				*	
2N5045	*																*			*	*				*	
2N5046																	*			*	*				*	
2N5047	*																*			*	*				*	
2N5048															*								*			
2N5049																							*			
2N5050							*								*										*	
2N5051							*								*										*	
2N5052							*								*										*	
2N5053						*																			*	
2N5054						*					*														*	
2N5055				*				*																	*	
2N5056		*		*				*																	*	
2N5057				*				*											*						*	
2N5058				*											*						*				*	
2N5059				*											*						*				*	
2N5060					*		*																*		*	
2N5061					*		*																*		*	
2N5062					*		*																*		*	
2N5063					*		*																*		*	
2N5064							*																*		*	
2N5065																									*	
2N5066																									*	
2N5067				*	*		*				*	*			*								*		*	
2N5068				*	*		*				*	*			*								*		*	
2N5069				*	*		*				*	*			*								*		*	
2N5070							*			*	*							*						*	*	
2N5071							*				*							*						*	*	
2N5072															*										*	
2N5073											*															
2N5074											*				*			*					*			
2N5075											*				*			*					*			
2N5076											*				*			*					*			
2N5077											*				*			*					*			
2N5078	*							*									*				*				*	
2N5079																			*						*	
2N5080																			*						*	
2N5081																			*							
2N5082																			*							
2N5083											*				*								*	*	*	
2N5084											*				*								*	*	*	
2N5085											*				*								*	*	*	
2N5086				*			*																		*	
2N5087				*			*																		*	
2N5088				*			*																		*	
2N5089				*			*																		*	
2N5090							*			*	*				*	*		*							*	
2N5091											*		*												*	
2N5092											*		*		*										*	
2N5093											*		*		*										*	
2N5094											*		*		*										*	
2N5095		*									*		*		*										*	
2N5096													*		*										*	
2N5097		*											*		*										*	
2N5098													*		*										*	
2N5099		*											*		*										*	
2N5100											*		*		*										*	
2N5101		*									*		*		*										*	
2N5102										*	*				*			*						*	*	
2N5103								*									*	*								
2N5104								*									*	*							*	
2N5105								*									*	*							*	
2N5106		*																							*	
2N5107		*																							*	
2N5108							*		*	*	*					*		*							*	
2N5108 A									*																	
2N5109							*			*	*					*		*						*	*	
2N5110			*										*													
2N5111			*										*													
2N5112			*										*													
2N5113			*										*													

JEDEC TYPE	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	CRYSTALONICS	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RAYTHEON	RCA	SEMICOA	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	SPRAGUE PRODUCTS	TELEDYNE/HAWTHORN	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N5114																											
2N5115												*	*			*											
2N5116												*	*					*	*							*	
2N5117																			*							*	
2N5118																										*	
2N5119																										*	
2N5126							*						*								*					*	
2N5127			*				*					*	*								*					*	
2N5128			*				*					*	*								*					*	
2N5129			*				*					*	*								*					*	
2N5130			*				*					*	*								*					*	
2N5131			*			*	*					*	*								*					*	
2N5132			*			*	*					*	*								*					*	
2N5133			*				*					*	*								*					*	
2N5134			*				*					*	*								*					*	
2N5135			*				*					*	*								*					*	
2N5136			*				*					*	*								*					*	
2N5137			*			*	*					*	*								*					*	
2N5138			*				*					*	*								*					*	
2N5139			*				*					*	*								*					*	
2N5140			*				*					*														*	
2N5141			*				*					*														*	
2N5142			*				*					*	*													*	
2N5143			*				*					*	*													*	
2N5144																										*	
2N5145																										*	
2N5146											*		*													*	
2N5147									*								*		*				*			*	
2N5148									*						*		*		*				*			*	
2N5149																	*		*				*			*	
2N5150									*						*		*		*				*			*	
2N5151									*								*		*				*			*	
2N5152									*						*		*		*				*			*	
2N5153									*								*		*				*			*	
2N5154			*						*						*		*		*				*			*	
2N5155			*		*						*								*							*	
2N5156			*		*						*								*							*	
2N5156											*																
* 2N5157					*						*																
2N5157					*						*																
* 2N5158			*																								
2N5159			*																								
2N5160											*															*	
2N5161											*															*	
2N5162											*															*	
2N5163		*										*						*								*	
2N5164											*															*	
2N5164 R											*																
2N5165											*															*	
2N5165 R											*																
2N5166											*															*	
2N5166 R											*																
2N5167											*															*	
2N5167 R											*																
2N5168											*															*	
2N5168 R											*																
2N5169											*															*	
2N5169 R											*																
2N5170											*															*	
2N5170 R											*																
2N5171											*															*	
2N5171 R											*																
2N5172								*												*						*	
2N5174								*																		*	
2N5175								*																		*	
2N5176								*																		*	
2N5177																											
2N5178																										*	
2N5179	*									*	*			*	*											*	
2N5180														*	*											*	
2N5181																										*	
2N5182																										*	
2N5183														*												*	
2N5184														*												*	
2N5185														*												*	
2N5186														*												*	
2N5187														*												*	
2N5188														*	*											*	
2N5189														*	*											*	
2N5190											*															*	
2N5191											*															*	
2N5192											*															*	
2N5193											*		*													*	
2N5194											*															*	
2N5195											*															*	
2N5196																*		*				*				*	
2N5197																*		*				*				*	
2N5198																*						*				*	
2N5199																*		*				*				*	
2N5200																										*	
2N5201																										*	
2N5202														*	*		*								*	*	*
2N5204								*																		*	
2N5205								*																		*	
2N5206								*																		*	
2N5207								*																		*	
2N5208											*															*	
2N5209								*			*															*	
2N5210								*			*																
2N5212																	*										
2N5213																	*										
2N5214																	*									*	

*JAN Type

THE '72 MASTER 36th EDITION	AMPEREX ELECT.	CENTRALAB SEMI.	CONTINENTAL SEMI.	DELCO ELECT.	ELECT. TRANS.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	INTL. RECTIFIER	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SOLID STATE DEVI.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N5215															*							
2N5216								*							*							*
2N5217								*							*							*
2N5218								*								*				*		*
2N5219						*				*												*
2N5220						*				*												*
2N5221						*				*												*
2N5222										*												*
2N5223						*				*												*
2N5224						*				*												*
2N5225						*				*												*
2N5226						*				*												*
2N5227						*				*												*
2N5228						*				*												*
2N5229										*					*							*
2N5230										*					*							*
2N5231										*												*
2N5232							*										*					*
2N5232 A			*														*					*
2N5233			*																			*
2N5234			*																			*
2N5235			*																			*
2N5236													*		*							*
2N5237								*					*		*	*					*	*
2N5238								*					*		*	*						*
2N5239											*		*									*
2N5240											*		*								*	*
2N5241				*						*						*				*		*
2N5242																						*
2N5243			*																			*
2N5244																						*
2N5245											*								*			*
2N5246											*								*			*
2N5247											*								*			*
2N5248											*								*			*
2N5249							*															*
2N5249 A							*															*
2N5250								*								*	*			*		
2N5251																*	*			*		
2N5252															*							*
2N5253															*							
2N5254			*			*																*
2N5255			*			*																*
2N5256			*			*																*
2N5257									*													*
2N5258									*		*											*
2N5259									*		*											*
2N5260									*		*											*
2N5261											*											
2N5262											*	*	*									*
2N5263	*																					*
2N5264											*		*		*						*	*
2N5265										*												*
2N5266										*												*
2N5267										*												*
2N5268										*												*
2N5269										*												*
2N5270										*												*
2N5271										*												
2N5273																			*			*
2N5274																			*			*
2N5275																			*			*
2N5277		*																*				*
2N5278		*																*				*
2N5279					*								*	*	*							*
2N5280													*	*	*							*
2N5281													*	*	*							*
2N5282													*	*	*							*
2N5284							*						*		*	*					*	*
2N5285							*						*		*	*					*	*
2N5286							*								*	*						
2N5287							*								*	*						*
2N5288							*						*		*	*					*	*
2N5289							*						*		*	*					*	*
2N5290							*								*	*						*
2N5291							*								*	*						*
2N5292																						*
2N5293												*										*
2N5294												*										*
2N5295												*										*
2N5296												*										*
2N5297												*										*
2N5298												*										*
2N5301							*				*			*		*				*	*	*
2N5302							*				*			*		*					*	*
*2N5302											*											
2N5303							*				*			*		*				*	*	*
*2N5303											*											
2N5305								*			*											*
2N5306								*														*
2N5306 A								*														
2N5307								*														*
2N5308								*														*
2N5308 A								*														
2N5309								*														*
2N5310								*														*
2N5311								*														*
2N5312									*				*		*	*	*			*		*
2N5313									*				*		*	*	*			*	*	*
2N5314									*				*		*	*	*			*		*
2N5315									*				*		*	*	*			*	*	*
2N5316									*				*		*	*				*		*

JEDEC TYPE	CENTRALAB SEMI.	CONTINENTAL SEMI.	FAIRCHILD	GENERAL ELEC.	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVI.	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N5317					*				*			*	*				*	*	*
2N5318					*				*			*	*				*		*
2N5319					*				*			*	*				*	*	*
2N5320								*	*			*					*		*
2N5321								*	*			*					*		*
2N5322								*	*			*					*		*
2N5323								*	*			*					*		*
2N5324						*													*
2N5325						*													*
2N5326									*			*						*	*
2N5327									*			*	*					*	*
2N5328									*			*						*	*
2N5329						*			*			*	*					*	*
2N5330									*			*						*	*
2N5331									*			*	*					*	*
2N5332																*			*
*2N5332						*													
2N5333												*	*			*			*
2N5334						*			*			*						*	*
2N5335						*			*			*						*	*
2N5336						*			*			*						*	*
2N5337						*			*			*						*	*
2N5338						*			*			*						*	*
2N5339						*			*			*						*	*
2N5344						*													
2N5345						*													*
2N5346			*			*			*			*					*		*
2N5347			*			*			*			*					*	*	*
2N5348			*			*			*			*					*	*	*
2N5349			*						*			*					*	*	*
2N5354				*										*					*
2N5355				*										*					*
2N5356				*										*					*
2N5357						*													*
2N5358				*		*													*
2N5359						*													*
2N5360						*													*
2N5361						*													*
2N5362						*													*
2N5363						*	*												*
2N5364						*													*
2N5365					*														*
2N5366					*														*
2N5367					*														*
2N5368					*									*					*
2N5369					*									*					*
2N5370					*									*					*
2N5371					*									*					*
2N5372					*									*					*
2N5373					*									*					*
2N5374					*									*					*
2N5375					*									*					*
2N5376					*									*					*
2N5377					*									*					*
2N5378														*					*
2N5379					*									*					*
2N5380														*					*
2N5381														*					*
2N5382														*					*
2N5383														*					*
2N5384												*	*			*	*		*
2N5385												*	*			*	*		*
2N5386									*			*	*			*	*		*
2N5387		*							*			*	*			*	*		*
2N5388									*			*	*			*	*		*
2N5389												*	*			*	*		*
2N5390																*			*
2N5391	*														*				*
2N5392															*				*
2N5393	*														*				*
2N5394															*				*
2N5395	*														*				*
2N5396															*				*
2N5397											*				*				*
2N5398											*				*				*
2N5399																*			
2N5400			*			*													
2N5401			*			*													
2N5404									*			*	*				*		
2N5405									*			*	*				*		
2N5406									*			*	*				*		
2N5407									*			*	*				*		
2N5408									*			*	*				*		
2N5409									*			*	*				*		
2N5410									*			*	*				*		
2N5411									*			*	*				*		
2N5412												*	*					*	*
2N5413									*			*							*
2N5414									*			*							*
2N5415			*				*			*									*
2N5416			*				*			*									*
2N5418				*															
2N5419				*															
2N5420				*															
2N5421																			*
2N5422									*										*
2N5423														*					*
2N5424														*					*
2N5425																			*
2N5426																			*
2N5427						*			*			*	*					*	*
2N5428						*			*			*	*					*	*

*JAN

JEDEC TYPE	FAIRCHILD	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N5429			*			*			*		*				*	*
2N5430			*			*			*		*				*	*
2N5431			*												*	*
2N5431			*													
2N5432				*			*					*				
2N5433				*			*					*				*
2N5434				*			*					*				*
2N5435			*													*
2N5436			*													*
2N5437			*													*
2N5438			*													*
2N5439			*													*
2N5440			*													*
2N5441			*													*
2N5442			*													*
2N5443			*													*
2N5444			*													*
2N5445			*													*
2N5446			*													*
2N5447													*			*
2N5448													*			*
2N5449													*			*
2N5450													*			*
2N5451													*			*
2N5452										*	*					
2N5453										*	*					
2N5454										*	*					
2N5455	*															*
2N5456	*															*
2N5457			*	*						*		*				*
2N5458			*	*								*				*
2N5459			*	*								*				*
2N5460			*										*			*
2N5461			*										*			*
2N5462			*										*			*
2N5463			*													*
2N5464			*													*
2N5465			*													*
2N5466						*					*					*
2N5467						*					*					*
2N5468																
2N5469																
2N5470					*											*
2N5471			*								*					*
2N5472			*								*					*
2N5473			*								*					*
2N5474			*								*					*
2N5475			*								*					*
2N5476			*								*					*
2N5477	*		*			*					*			*	*	*
2N5478	*		*			*					*			*	*	*
2N5479	*		*			*					*			*	*	*
2N5480			*			*					*			*	*	
2N5481															*	
2N5481 H															*	
2N5482															*	
2N5482 H															*	
2N5483															*	
2N5484			*	*								*				*
2N5485	*		*	*								*				*
2N5486	*		*	*								*				*
2N5487						*									*	*
2N5487-1						*									*	
2N5487-3						*										
2N5488						*									*	*
2N5488-1						*									*	
2N5488-3						*										
2N5489							*									*
2N5490					*											*
2N5491					*											*
2N5492					*											*
2N5493					*											*
2N5494					*											*
2N5495					*											*
2N5496					*											*
2N5497					*											*
2N5498						*	*		*							
2N5505																*
2N5506																*
2N5507																*
2N5508																*
2N5509																*
2N5510																*
2N5511																*
2N5512																*
2N5513																*
2N5514																*
2N5515								*				*				
2N5516								*				*				
2N5517								*				*				
2N5518								*				*				
2N5519								*				*				
2N5520								*				*				
2N5521								*				*				
2N5522								*				*				
2N5523								*				*				
2N5524								*				*				
2N5527		*				*				*						*
2N5528		*				*				*						*
2N5529		*				*				*						*
2N5530		**				**				**						**
2N5531		*				*				*						*

JEDEC TYPE	FAIRCHILD	HORIZON SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICON TRANSISTOR	SILICONIX INC.	SOLID STATE DEVICES	SOLID STATE SCI.	SOLITRON DEV./CAL.	SOLITRON DEV./N.Y.	TELEDYNE/MT. VIEW	TEXAS INSTR.	TRANSITRON	TRW SEMI.	UNITED-PAGE
2N5532		*				*			*							*	*
2N5533		*				*			*							*	*
2N5534		*				*			*							*	*
2N5535		*				*			*							*	*
2N5536		*				*			*							*	*
2N5537		*				*			*							*	*
2N5538		*				*			*							*	*
2N5539									*							*	
2N5540									*								
2N5541									*							*	
2N5542									*							*	
2N5543													*	*			*
2N5544													*	*			*
2N5545								*					*	*			*
2N5546								*					*	*			*
2N5547								*					*	*			*
2N5548														*			*
2N5549														*			*
2N5550	*		*														
2N5551			*														
2N5552		*				*			*							*	*
2N5552-4									*								
2N5555			*	*									*				*
2N5556			*										*				*
2N5557			*										*				*
2N5558			*										*				*
2N5559						*			*			*					*
2N5560						*			*								*
2N5561											*		*				
2N5562											*		*				
2N5563											*		*				
2N5564								*			*		*				
2N5565								*			*		*				
2N5566								*			*		*				
2N5567															*		
2N5568															*		
2N5569															*		
2N5570															*		
2N5571																	
2N5572															*		
2N5573															*		
2N5574															*		
2N5575																	
2N5576																	
2N5577																	
2N5578																	
2N5579																	
2N5580																	
2N5581			*			*			*								
*2N5581			*														
2N5582			*			*			*								
*2N5582			*														
2N5583			*													*	
2N5584									*							*	
2N5587							*										
2N5588							*										
2N5589			*							*						*	
2N5590			*							*						*	
2N5591			*							*		*				*	
2N5592											*						
2N5593											*						
2N5594			*								*						
2N5595																*	*
2N5596																*	*
2N5597									*			*					
2N5598						*			*			*					
2N5599									*			*					
2N5600						*			*			*				*	
2N5601									*			*					
2N5602						*			*			*				*	
2N5603									*			*					
2N5604						*			*			*				*	
2N5605									*			*					
2N5606						*			*			*				*	
2N5607									*			*					
2N5608						*			*			*				*	
2N5609									*			*					
2N5610						*			*			*				*	
2N5611									*			*					
2N5612						*			*			*				*	
2N5613									*			*					
2N5614						*			*			*				*	
2N5615									*			*					
2N5616						*			*			*				*	
2N5617									*			*					
2N5618						*			*			*				*	
2N5619									*			*					
2N5620						*			*			*				*	
2N5621									*			*					
2N5622									*			*				*	
2N5623									*			*					
2N5624									*			*				*	
2N5625									*			*					
2N5626									*			*				*	
2N5627									*			*					
2N5628									*			*				*	
2N5629				*		*			*			*					
2N5630				*		*			*			*					
2N5631				*		*			*			*					
2N5632				*		*			*			*					
2N5633				*		*			*			*					
2N5634				*		*			*			*					

JEDEC TYPE	AMPEREX ELECT.	HORIZON SEMI.	KMC SEMI.	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICONIX INC.	SOLID STATE DEVICES	SOLID STATE SCI.	SOLITRON DEV./N.Y.	TELEDYNE/MT. VIEW	TRW SEMI.	UNITED-PAGE
2N5635				*					*					
2N5636				*					*					
2N5637				*			*		*					
2N5638				*	*							*		
2N5639				*	*									
2N5640				*	*							*		
2N5641				*						*	*			
2N5642				*				*		*	*			
2N5643				*						*	*			
2N5644				*						*			*	
2N5645				*						*			*	
2N5646				*						*			*	
2N5647							*					*		
2N5648							*					*		
2N5649							*					*		
2N5651			*											*
2N5652			*											*
2N5653				*	*							*		
2N5654				*	*							*		
2N5655				*										*
2N5656				*										*
2N5657				*										*
2N5658							*		*				*	*
2N5659		*					*		*				*	*
2N5660							*		*			*		*
2N5661							*		*			*		*
2N5662							*		*			*		*
2N5663							*		*			*		*
2N5664							*		*			*		*
2N5665							*		*			*		*
2N5666							*		*					*
2N5667							*		*					*
2N5668				*	*									
2N5669				*	*									
2N5670				*	*									
2N5671						*			*			*		*
2N5672						*			*			*		*
2N5679				*			*							*
2N5680				*										*
2N5681				*			*		*					*
2N5682				*			*		*					*
2N5683				*					*					
2N5684				*					*					
2N5685				*					*					
2N5686				*					*					
2N5687													*	
2N5688													*	
2N5689													*	
2N5690													*	
2N5691													*	
2N5692				*										
2N5693				*										
2N5694				*										
2N5695				*										
2N5696				*										
2N5697													*	
2N5698													*	
2N5699													*	
2N5700													*	
2N5701													*	
2N5702													*	
2N5703													*	
2N5704													*	
2N5705													*	
2N5706													*	
2N5707													*	
2N5708													*	
2N5709													*	
2N5710			*										*	
2N5711													*	
2N5712													*	
2N5713													*	
2N5714													*	
2N5715													*	
2N5716				*								*		
2N5717				*								*		
2N5718												*		
2N5719														*
2N5720														*
2N5721														*
2N5722														*
2N5723														*
2N5724														*
2N5725														*
2N5726														*
2N5727														*
2N5728														*
2N5729		*					*						*	*
2N5730		*					*						*	*
2N5731		*					*						*	*
2N5732		*					*						*	*
2N5733		*					*					*		*
2N5734		*					*					*		*
2N5735	*													*
2N5736	*													*
2N5737							*		*			*		
2N5738							*		*					
2N5739							*		*			*		
2N5740							*					*		
2N5741							*		*			*		
2N5742							*		*			*		
2N5743							*					*		

'72 THE MASTER 16th EDITION	FAIRCHILD	GENERAL ELEC.	KMC SEMI.	MOTOROLA SEMI.	RAYTHEON	RCA	SEMICOA	SOLID STATE DEVI.	SPRAGUE PRODUCTS	TRW SEMI.	UNITED-PAGE
2N5744											
2N5745				*							
*2N5745				*							
2N5754						*					*
2N5755						*					*
2N5756						*					*
2N5757						*					
2N5758				*				*			
2N5759				*				*			
2N5760				*				*			
2N5763				*							
2N5764			*							*	
2N5765			*							*	
2N5766										*	
2N5767										*	
2N5768										*	
2N5769	*										*
2N5770	*										*
2N5771	*										*
2N5772	*										*
2N5773										*	
2N5774										*	
2N5775										*	
2N5776										*	
2N5777		*		*							*
2N5778		*		*							*
2N5779		*		*							*
2N5780		*		*							*
2N5781						*	*	*			
2N5782						*	*	*			
2N5783						*	*	*			
2N5784						*	*	*			
2N5785						*	*	*			
2N5786						*	*	*			
2N5787											*
2N5788											*
2N5789											*
2N5790											*
2N5791											*
2N5792											*
2N5793	*			*							
2N5794	*			*	*						
2N5795	*			*	*						
2N5796	*			*	*						
2N5797				*							
2N5798				*							
2N5799				*							
2N5800				*							
2N5801				*							
2N5802				*							
2N5803				*							
2N5804						*					*
2N5805						*					*
2N5810		*								*	*
2N5811		*								*	*
2N5812		*								*	*
2N5813		*								*	*
2N5814		*								*	*
2N5815		*								*	*
2N5816		*								*	*
2N5817		*								*	*
2N5818		*								*	*
2N5819		*								*	*
2N5820		*									*
2N5821		*									*
2N5822		*									*
2N5823		*									*
2N5824		*								*	*
2N5825		*								*	*
2N5826		*								*	*
2N5827		*									*
2N5827 A											*
2N5828		*									*
2N5828 A											*
2N5829				*							
2N5830	*										
2N5831	*										
2N5832	*										
2N5833	*										
2N5835				*							
2N5836				*							
2N5837				*							
2N5838						*					
2N5839						*					
2N5840						*					
2N5841				*							
2N5842				*							
2N5843	*			*							
2N5844	*			*							
2N5845				*							
2N5845 A	*			*							
2N5846				*							
2N5847				*							
2N5848				*							
2N5849				*							
2N5851				*							
2N5852				*							
2N5855	*										
2N5856	*										
2N5857	*										
2N5858	*										
2N5859				*							

JEDEC TYPE	FAIRCHILD	MOTOROLA SEMI.	NATL. SEMI.	RCA	SEMICOA	SILICONIX INC.	SOLID STATE DEVI.	TEXAS INSTR.	TRW SEMI.	UNITED-PAGE	WESTINGHOUSE
2N5860		*					*				
2N5861		*					*				
2N5862		*					*				
2N5864		*					*				
2N5865		*					*				
2N5867		*					*				
2N5868		*					*				
2N5869		*					*				
2N5870		*					*				
2N5871		*					*				
2N5872		*					*				
2N5873		*					*				
2N5874		*					*				
2N5875		*					*				
2N5876		*					*				
2N5877		*					*				
2N5878		*					*				
2N5879		*					*				
2N5880		*					*				
2N5881		*					*				
2N5882		*									
2N5883		*									
2N5884		*									
2N5885		*									
2N5886		*									
2N5887		*									
2N5888		*									
2N5889		*									
2N5890		*									
2N5891		*									
2N5892		*									
2N5893		*									
2N5894		*									
2N5895		*									
2N5896		*									
2N5897		*									
2N5898		*									
2N5899		*									
2N5900		*									
2N5901		*									
2N5902						*					
2N5903						*					
2N5904						*					
2N5905						*					
2N5906						*					
2N5907						*					
2N5908						*					
2N5909						*					
2N5910	*		*							*	
2N5911						*					
2N5912						*					
2N5913				*					*		
2N5914				*					*		
2N5915				*					*		
2N5916				*							
2N5917				*							
2N5918				*							
2N5919				*							
2N5919 A				*							
2N5920				*							
2N5921				*							
2N5922		*									
2N5923		*									
2N5924		*									
2N5925		*									
2N5929							*				*
2N5930							*				*
2N5931							*				*
2N5932							*				*
2N5933							*				*
2N5934							*				*
2N5935							*				*
2N5936							*				*
2N5937							*				*
2N5938								*			
2N5939								*			
2N5940								*			
2N5941		*									
2N5942		*									
2N5943		*									
2N5944		*									
2N5945		*									
2N5946		*									
2N5947		*									
2N5949								*			
2N5950								*			
2N5951								*			
2N5952								*			
2N5953								*			
2N5954		*		*	*		*				
2N5955		*		*	*		*				
2N5956		*		*			*				
2N5961	*										
2N5962	*										
2N5963	*										
2N5964	*										
2N5965	*										
2N5970		*			*						
2N5971		*			*						
2N5972		*			*						
2N5973		*			*						
2N5974		*									

JEDEC TYPE	FAIRCHILD	GENERAL ELEC.	MOTOROLA SEMI.	RCA	TELEDYNE/HAWTHORN	TRW SEMI.	WESTINGHOUSE
2N5975			*				
2N5976			*				
2N5977			*				
2N5978			*				
2N5979			*				
2N5980			*				
2N5981			*				
2N5982			*				
2N5983			*				
2N5984			*				
2N5985			*				
2N5986			*				
2N5987			*				
2N5988			*				
2N5989			*				
2N5990			*				
2N5991			*				
2N5992				*		*	
2N5993				*		*	
2N5994				*		*	
2N5995				*		*	
2N5996				*		*	
2N5998		*					
2N5999		*					
2N6000		*					
2N6001		*					
2N6002		*					
2N6003		*					
2N6004		*					
2N6005		*					
2N6006		*					
2N6007		*					
2N6008		*					
2N6009		*					
2N6010		*					
2N6011		*					
2N6012		*					
2N6013		*					
2N6014		*					
2N6015		*					
2N6016		*					
2N6017		*					
2N6018			*				
2N6019			*				
2N6020			*				
2N6021	*						
2N6022	*						
2N6023	*						
2N6024	*						
2N6025	*						
2N6026	*						
2N6027		*	*				
2N6028		*	*				
2N6029			*				
2N6030			*				
2N6031			*				
2N6032				*			
2N6033				*			
2N6046							*
2N6047							*
2N6048							*
2N6049			*				
2N6064			*				
2N6065			*				
2N6066			*				
2N6067			*				
2N6068			*				
2N6069			*				
2N6070			*				
2N6071			*				
2N6072			*				
2N6073			*				
2N6074			*				
2N6075			*				
2N6076		*					
2N6077					*		
2N6078					*		
2N6079					*		
2N6080			*				
2N6081			*				
2N6082			*				
2N6083			*				
2N6084			*				
2N6085						*	
2N6086						*	
2N6087						*	
2N6088						*	
2N6089						*	
2N6090						*	
2N6091						*	
2N6092						*	
2N6093					*		
2N6094			*				
2N6095			*				
2N6096			*				
2N6097			*				
2N6098					*		
2N6099					*		
2N6100					*		
2N6101					*		
2N6102					*		
2N6103					*		

*JAN

'72 THE MASTER 16th EDITION	FAIRCHILD	MOTOROLA SEMI.	RCA	TEXAS INSTR.			
2N6105			*				
2N6106			*				
2N6107			*				
2N6108			*				
2N6109			*				
2N6110			*				
2N6111			*				
2N6114		*					
2N6115		*					
2N6116		*					
2N6117		*					
2N6118		*					
2N6121	*						
2N6122	*						
2N6123	*						
2N6124	*						
2N6125	*						
2N6126	*						
2N6127				*			
2N6128				*			
2N6136		*					
2N6139		*					
2N6140		*					
2N6141		*					
2N6142		*					
2N6143		*					
2N6144		*					
2N6145		*					
2N6146		*					
2N6147		*					
2N6148		*					
2N6149		*					
2N6150		*					
2N6151		*					
2N6152		*					
2N6153		*					
2N6154		*					
2N6155		*					
2N6156		*					
2N6157		*					
2N6158		*					
2N6159		*					
2N6160		*					
2N6161		*					
2N6162		*					
2N6163		*					
2N6164		*					
2N6165		*					
2N6166		*					
2N6167		*					
2N6168		*					
2N6169		*					
2N6170		*					
2N6171		*					
2N6172		*					
2N6173		*					
2N6174		*					
2N6175			*				
2N6176			*				
2N6177			*				
2N6178			*				
2N6179			*				
2N6180			*				
2N6181			*				
2N6182		*					
2N6183		*					
2N6184		*					
2N6185		*					
2N6186		*					
2N6187		*					
2N6188		*					
2N6189		*					
2N6190		*					
2N6191		*					
2N6192		*					
2N6193		*					
2N6211			*				
2N6212			*				
2N6213			*				
2N6233		*					
2N6234		*					
2N6235		*					
2N6246			*				
2N6247			*				
2N6248			*				
2N6249			*				
2N6250			*				
2N6251			*				
2N6252			*				

JEDEC TYPE	CRYSTALONICS	GENERAL ELEC.	GENERAL INSTR.	RCA	SOLITRON DEV./N. Y.	SPRAGUE PRODUCTS	TEXAS INSTR.	TRANSITRON	UNITED-PAGE
3N 34							*		*
3N 35							*		*
3N 36									*
3N 37									*
3N 39									*
3N 40									*
3N 41									*
3N 42									*
3N 43									*
3N 44									*
3N 44 A									*
3N 45									*
3N 46									*
3N 47									*
3N 48									*
3N 49					*				*
3N 50					*				*
3N 51					*				*
3N 52					*				*
3N 62								*	*
3N 63								*	*
3N 64								*	*
3N 65								*	*
3N 66								*	*
3N 67								*	*
3N 68								*	*
3N 68 A								*	
3N 69								*	*
3N 70								*	*
3N 71					*			*	*
3N 72					*			*	*
3N 73					*			*	*
3N 74	*						*	*	*
3N 75	*						*	*	*
3N 76	*						*	*	*
3N 77	*						*	*	*
3N 78	*						*	*	*
3N 79	*						*	*	*
3N 81		*							*
3N 82		*							*
3N 83		*							
3N 84		*							*
3N 85		*							*
3N 86		*							*
3N 87								*	*
3N 88								*	*
3N 89									*
3N 90	*					*			*
3N 91	*					*			*
3N 92	*					*			*
3N 93	*					*			*
3N 94	*					*			*
3N 95	*					*			*
3N 96									*
3N 97									*
3N 100	*								*
3N 101	*								*
3N 102	*								*
3N 103	*								*
3N 104	*								*
3N 105	*								*
3N 106	*								*
3N 107	*								*
3N 108	*						*		*
3N 109	*						*		*
3N 110	*						*		*
3N 111	*						*		*
3N 114	*					*			*
3N 115	*					*			*
3N 116	*					*			*
3N 117	*					*			*
3N 118	*					*			*
3N 119	*					*			*
3N 120	*							*	*
3N 121								*	*
3N 123	*					*			*
3N 124									*
3N 125									*
3N 126									*
3N 127									*
3N 128			*	*					*
3N 129	*								*
3N 130	*								*
3N 131	*								*
3N 132	*								*
3N 133	*								*
3N 134	*								*
3N 135	*								*
3N 136	*								*

JEDEC TYPE	GENERAL INSTR.	RCA	SILICONIX INC.	SOLITRON DEV./CAL.	SOLITRON DEV./N. Y.	TEXAS INSTR.	UNITED-PAGE
3N 138	*	*					*
3N 139		*					*
3N 140	*	*					*
3N 141	*	*					*
3N 142	*	*					*
3N 143		*					*
3N 145							*
3N 146							*
3N 147							*
3N 148							*
3N 149							*
3N 150							*
3N 151	*						*
3N 152	*	*					*
3N 153	*	*					*
3N 154	*	*					*
3N 159		*					*
3N 160						*	
3N 161						*	
3N 162	*						
3N 163	*		*	*	*		
3N 164	*		*	*	*		
3N 165	*			*	*		
3N 166				*	*		
3N 167	*		*				
3N 168	*		*				
3N 169	*						
3N 170	*						
3N 171	*						
3N 172	*			*			
3N 173				*	*		
3N 174	*				*		
3N 175	*						
3N 176	*						
3N 177	*						
3N 178	*						
3N 179	*						
3N 181	*						
3N 182	*						
3N 183	*						
3N 184	*						
3N 185	*						
3N 186	*						
3N 187		*					
3N 188				*			
3N 189				*			
3N 190				*			
3N 191				*			
3N 200	*	*					
3N 201	*						
3N 202	*						
3N 203	*						

GUIDE TO JEDEC TYPE NUMBERS

Number	Page
1N21A-1N198	J2
1N198A-1N327A	J3
1N328-1N468R	J4
1N469-1N630	J5
1N630R-1N756A	J6
1N757-1N883	J7
1N884-1N977	J8
1N977A-1N1128AR	J9
1N1128AVSN-1N1205A	J10
1N1205B-1N1347RA	J11
1N1347RB-1N1524A	J12
1N1525-1N1649	J13
1N1650-1N1825RA	J14
1N1826-1N1997B	J15
1N1998-1N2129RA	J16
1N2130-1N2372	J17
1N2373-1N2545	J18
1N2546-1N2824RA	J19
1N2824RB-1N2974A	J20
1N2974B-*1N3013B	J21
1N3013R-1N3042B	J22
*1N3042B-1N3171	J23
1N3171A-1N3297AR	J24
1N3298-*1N3342RB	J25
1N3343-1N3583A	J26
1N3583B-1N3698B	J27
1N3699-1N3815RA	J28
1N3815RB-1N3945	J29
1N3946-1N4038A	J30
1N4038B-1N4167	J31
1N4167A-1N4338	J32
1N4338A-1N4512	J33
1N4513-1N4601	J34
1N4602-1N4793D	J35
1N4794-1N4905A	J36

Number	Page
1N4906-1N5080A	J37
1N5081-1N5256B	J38
1N5257-1N5399	J39
1N5400-1N5571B	J40
1N5572-2N162A	J41
2N163-2N342B	J42
2N343-2N493C	J43
2N494-2N640	J44
2N641-2N782	J45
2N783-2N995A	J46
2N996-*2N1142	J47
2N1142A-2N1324	J48
2N1325-2N1539A	J49
2N1540-2N1747	J50
2N1748-2N1913	J51
*2N1913-2N2137A	J52
2N2138-2N2326A	J53
*2N2326A-2N2525	J54
2N2526-2N2756	J55
2N2757-2N2937	J56
2N2938-2N3125	J57
2N3126-2N3334	J58
2N3335-2N3450	J59
2N3451-2N3664	J60
2N3665-2N3753	J61
2N3754-2N3840	J62
2N3841-2N4028	J63
2N4029-2N4226	J64
2N4227-2N4437	J65
2N4438-2N5012	J66
2N5013-2N5214	J67
2N5215-2N5428	J68
2N5429-2N5743	J69
2N5744-2N6103	J70
2N6105-3N203	J71

LIST OF PARTICIPATING MANUFACTURERS OF SEMICONDUCTORS

AMPEREX ELECTRONIC CORP.
CENTRALAB SEMICONDUCTOR
CODI SEMICONDUCTOR
CONTINENTAL SEMICONDUCTOR
CRYSTALONICS TELEDYNE
DELCO ELECTRONICS
DICKSON ELECTRONICS CORP.
ELECTRONIC DEVICES
ELECTRONIC TRANSISTORS CORP.
FAIRCHILD SEMICONDUCTOR
GENERAL ELECTRIC CO.
GENERAL INSTRUMENTS
HEWLETT PACKARD
HORIZON SEMICONDUCTOR CORP.
INTERNATIONAL RECTIFIER
ITT SEMICONDUCTORS
KMC SEMICONDUCTOR CORP.
MOTOROLA SEMICONDUCTOR PRODS.
NATIONAL ELECTRONICS INC.
NATIONAL SEMICONDUCTOR CORP.
RAYTHEON CO.
RCA SOLID STATE DIV.
SARKES TARZIAN INC.
SEMICOA
SEMTECH CORP.
SENSITRON SEMICONDUCTOR
SILICON TRANSISTOR CORP.
SILICONIX INC.
SOLID STATE DEVICES
SOLID STATE SCIENTIFIC INC.
SOLITRON DEVICES — CALIFORNIA
SOLITRON DEVICES — NEW YORK
SPRAGUE PRODUCTS CO.
SYNTRON DIV. FMC CORP.
TELEDYNE SEMI — HAWTHORNE
TELEDYNE SEMI — MT. VIEW
TEXAS INSTRUMENTS INCORPORATED
TRANSITRON ELECTRONIC CORP.
TRW SEMICONDUCTORS
UNITED-PAGE INC.
UNITRODE CORP.
VARO SEMICONDUCTOR INC.
WESTINGHOUSE ELECTRIC CORP.

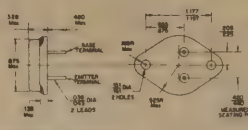
NOTE: Information in this directory has been carefully checked and every precaution has been taken to assure accuracy. However, the publisher cannot be responsible for manufacturers' claims and representations; nor can any guarantee be made against the possibility of error or omission.

Delco Electronics POWER SEMICONDUCTORS

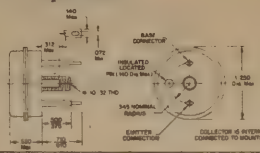
SILICON NPN HIGH ENERGY POWER TRANSISTORS High voltage ratings — V_{CEX} up to 1400V — permit circuit simplification. Highly reliable for video deflection. converters, regulators power amplifiers.



TO-3



TO-36



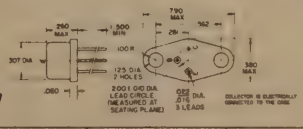
Type	I_C Max Amps	V_{CEO}(sus) @ I_C Volts @ mA		V_{CEO} @ I_{CEO} Volts @ mA		V_{CEX} @ I_C Volts @ mA @ 125°C		h_{FE} @ I_C Amps		V_{EBO} @ I_{EBO} Volts @ mA		V_{CE}(sat) @ I_C Volts @ Amps		V_{BE} Volts	f_T MHz Min.	Thermal Resistance deg. C/W
1.0 TO 15 AMPERE TO-3 HIGH VOLTAGE																
DTS103	15.0	60	100	60	0.25	80①	0.5	20/55	5.0	5.0	5.0	1.8	10.0	1.6	4.0	0.75
DTS104	15.0	60	100	60	0.25	80①	0.5	50/120	5.0	5.0	5.0	1.5	10.0	1.4	4.0	0.75
DTS105	15.0	75	100	80	0.25	100①	0.5	20/55	5.0	5.0	5.0	1.8	10.0	1.6	4.0	0.75
DTS106	15.0	80	100	90	0.25	110①	0.5	20/55	5.0	5.0	5.0	1.8	10.0	1.6	4.0	0.75
DTS107	15.0	85	100	100	0.25	120①	0.5	20/55	5.0	5.0	5.0	1.8	10.0	1.6	4.0	0.75
DTS108	15.0	85	250	100	0.25	180①	0.5	20/55	5.0	5.0	5.0	1.8	10.0	1.6	4.0	0.75
DTS401	2.0	300	100	400	0.50	400	0.5	20/100	0.5	5.0	5.0	0.8	0.5	1.5	—	1.0
DTS402	3.5	325	100	400	0.50	700①	0.5	—	—	5.0	5.0	2.0	3.0	1.5	1.2②	0.75
DTS403	3.5	325	100	400	0.25	400	0.5	—	—	5.0	5.0	2.0	3.5	1.1	0.7②	0.75
DTS410	3.5	200	100	200	0.25	200	0.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	4.0③	0.75
DTS411	3.5	300	100	300	0.25	300	0.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	4.0③	0.75
DTS413	2.0	325	100	400	0.25	400	0.5	20/80	0.5	5.0	5.0	0.8	0.5	1.5	4.0③	1.0
DTS423	3.5	325	100	400	0.25	400	0.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	4.0③	0.75
DTS423M	3.5	325	100	400	0.25	400	0.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	3.0④	0.75
DTS424	3.5	350	100	500	0.25	700①	0.5	30/90	1.0	6.0	5.0	0.8	1.0	1.5	2.5	0.75
DTS425	3.5	400	100	500	0.25	700①	0.5	30/90	1.0	6.0	5.0	0.8	1.0	1.5	2.5	0.75
DTS430	5.0	300	100	400	2.50	400	5.0	15/45	2.5	5.0	20.0	0.9	2.5	1.5	4.0③	0.7
DTS431	5.0	325	100	400	2.50	400	5.0	15/35	2.5	5.0	2.0	0.7	2.5	1.5	4.0③	0.7
DTS431M	5.0	325	100	400	2.50	400	5.0	15/35	2.5	5.0	2.0	0.7	2.5	1.5	4.0④	0.7
DTS701	1.0	600	250	800	0.50	—	—	20/	0.15	5.0	5.0	—	—	—	1.5	1.5
DTS702	3.0	750	1000	1000	0.50	1200①	0.5	2.5/	2.0	5.0	5.0	—	—	—	1.5	1.5
DTS704	3.0	800	1000	1000	0.50	1400①	0.5	2.5/	2.0	5.0	5.0	—	—	—	1.5	1.5
DTS721	3.0	800	1000	1000	0.25	1000①	0.25	20/60	0.15	5.0	5.0	—	—	—	1.5	1.5
DTS723	3.0	750	1000	1000	0.25	1200①	0.5	10/	0.5	5.0	5.0	0.8	1.0		1.5	1.5
DTS801	2.0	700	250	800	0.50	—	—	20/	0.2	5.0	5.0	—	—	—	1.5	1.0
DTS802	5.0	750	1000	1000	0.50	1200①	0.5	2.2/	3.5	5.0	5.0	—	—	—	1.5	1.0
DTS804	5.0	800	1000	1000	0.50	1400①	0.5	2.2/	3.5	5.0	5.0	—	—	—	1.5	1.0
2N3902	3.5	325	100	400	0.25	700①	2.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	4.0③	0.75
JAN2N3902*	3.5	325	100	400	0.25	700①	2.5	30/90	1.0	5.0	5.0	0.8	1.0	1.5	2.5	0.75
2N5157	3.5	400	100	500	0.25	700①	0.5	30/90	1.0	6.0	5.0	0.8	1.0	1.5	2.5	0.75
JAN2N5157*	3.5	400	100	500	0.25	700①	0.5	30/90	1.0	6.0	5.0	0.8	1.0	1.5	4.0③	0.75
2N5241	5.0	325	100	400	2.50	400	5.0	15/35	2.5	5.0	2.0	0.7	2.5	1.5	2.5	0.75
2N5970	15.0	60	100	60	0.25	60	0.5	20/60	5.0	5.0	5.0	2.0	10	1.4	4.0	1.17
2N5971	15.0	60	100	60	0.25	60	0.5	50/150	5.0	6.0	5.0	1.5	10	1.2	4.0	1.17
2N5972	15.0	70	100	80	0.25	80	0.5	25/75	5.0	6.0	5.0	1.8	10	1.4	4.0	1.17
2N5973	15.0	80	100	100	0.25	100	0.5	25/75	5.0	6.0	5.0	1.8	10	1.4	4.0	1.17

Type	I_C Max - Amps	V_{CEO} (sus) @ I_C -Volts @ mA		V_{CEO} @ I_{CEO} -Volts @ mA		h_{FE} @ I_C Min./Max. - Amps		V_{EBO} @ I_{EBO} -Volts @ mA		V_{CE}(sat) @ I_C -Volts @ Amps		V_{BE} (sat) -Volts	f_T MHz Min.	Thermal Resistance deg. C/W (max.)
10 AMPERE TO-36 HIGH VOLTAGE														
2N2580	10.0	325	100	400	5.0	10/40 4 min.	5.0 10.0	5.0	50.0	0.7	5.0	1.5	2.0	0.7
2N2580M	10.0	325	100	400	5.0	10/40 4 min.	5.0 10.0	5.0	50.0	0.7	5.0	1.5	2.0	0.7
2N2581	10.0	325	100	400	5.0	25/65 10 min.	5.0 10.0	5.0	50.0	1.0	10.0	1.7	2.0	0.7
2N2582	10.0	325	100	500	5.0	10/40 4 min.	5.0 10.0	5.0	50.0	0.7	5.0	1.5	2.0	0.7
2N2583	10.0	325	100	500	5.0	25/65 10 min.	5.0 10.0	5.0	50.0	1.0	10.0	1.7	2.0	0.7
2N3079	10.0	200	100	200	5.0	10/50	5.0	5.0	50.0	0.7	5.0	1.5	2.0	0.7
2N3080	10.0	300	100	300	5.0	10/50	5.0	5.0	50.0	0.7	5.0	1.5	2.0	0.7

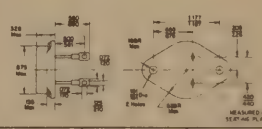
GERMANIUM PNP NU-BASE POWER TRANSISTORS Diffused base devices with excellent energy and frequency capabilities. Stabilized and SPAC protected. Safety assured by sustaining voltage tests.



TO-37



TO-41



Type	I_C Max Amps	V_{CEO} @ I_C Volts @ A		V_{CBO} @ I_{CBO} Volts @ mA		h_{FE} @ I_C Amps		V_{EBO} @ I_{EBO} Volts @ mA		V_{CE}(sat) @ I_C Volts @ Amps		V_{BE} Volts	f_T kHz Typical	Thermal Resistance deg. C/W (max.)
5 AMPERE TO-37 MEDIUM POWER NU-BASE														
2N3212	5.0	80	.02	100①	1.0	30/90	3.0	2	7.0	0.5	5.0	1.0	600	7.0
2N3213	5.0	60	.02	80①	1.0	30/90	3.0	2	7.0	0.5	5.0	1.0	600	7.0
2N3214	5.0	40	.02	60①	1.0	30/90	3.0	2	7.0	0.5	5.0	1.0	600	7.0
2N3215	5.0	30	.02	40①	1.0	25/100	3.0	2	7.0	0.5	5.0	1.0	600	7.0

① V_{CEX} @ 25°C ② t_F in μ seconds ③ f_T typical in MHz ④ AC gain @ 1 MHz ⑧ V_{CER} *JANTX versions also available (continued on next page)

© United Technical Publications

Delco Electronics POWER SEMICONDUCTORS

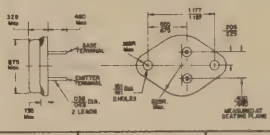
GERMANIUM PNP NU-BASE POWER TRANSISTORS (continued)

Type	I_C Max – Amps	V_{CEO} (sus) @ I_C – Volts @ A		V_{CBO} @ I_{CBO} – Volts @ mA		h_{FE} @ I_C – Amps		V_{EBO} @ I_{EBO} – Volts @ mA		V_{CE}(sat) @ I_C – Volts @ Amps		V_{BE} – Volts	f_T kHz Typical	Thermal Resistance deg. C/W (max.)
15 • 50 AMPERE TO-3 HIGH POWER NU-BASE														
DTG110A	15	70⑩	5.0	110①	20.0	50/300	1.0	2.8	100	0.5	5.0	0.43	850	1.0
DTG110B	15	40	5.0	90①	20.0	65/300	1.0	2.0	100	0.5	5.0	0.33	850	0.8
DTG600	15	50	5.0	75	20.0	50/	5.0	1.0	100	0.75	25.0	1.4	850	1.0
DTG601	15	60	5.0	75	20.0	50/	5.0	1.0	100	0.75	25.0	1.4	850	1.0
DTG602	15	70	5.0	90	20.0	50/	5.0	1.0	100	0.75	25.0	1.4	850	1.0
DTG603	15	80	5.0	90	20.0	50/	5.0	1.0	100	0.75	25.0	1.4	850	1.0
DTG603M	15	80	5.0	90	20.0	50/250	5.0	1.4	100	0.75	25.0	1.4	850	1.0
DTG1010	15	110	5.0	325	10.0	—	—	1.0	100	0.5	10.0	1.0	250	0.8
DTG1110	15	80	8.0	200	15.0	—	—	1.0	100	0.5	10.0	1.0	450	0.8
DTG1200	15	120	8.0	—	—	22.5/	8.0	1.0	200	0.5	12.0	1.0	350	0.8
DTG2000	15	30	8.0	60	10.0	25/	8.0	1.0	200	0.9	25.0	1.0	350	0.8
DTG2100	15	60	8.0	80	10.0	25/	8.0	1.0	200	0.9	25.0	1.0	350	0.8
DTG2200	15	80	8.0	100	10.0	25/	8.0	1.0	200	0.9	25.0	1.0	350	0.8
DTG2300	15	100	8.0	120	10.0	25/	8.0	1.0	200	0.9	25.0	1.0	350	0.8
DTG2400	15	120	8.0	140	10.0	25/	8.0	1.0	200	0.9	25.0	1.0	350	0.8
DTG2400M	15	120	10.0	140	10.0	25/125	10.0	1.5	500	0.9	25.0	1.0	350	1.0
DTG-5000	50	80	10.0	100	25.0	60/180	10.0	1.7	500	1.0	50.0	1.7	200	0.7
DTG-5100	50	100	10.0	120	25.0	60/180	10.0	1.7	500	1.0	50.0	1.7	200	0.7
DTG-5200	50	60	10.0	80	25.0	80/240	10.0	1.7	500	1.0	50.0	1.7	200	0.7
DTG-5300	50	60	10.0	80	25.0	40/120	10.0	1.7	500	2.0	50.0	1.7	200	0.7
2N5155	15	120	8.0	140	10.0	25/100	8.0	1.5	500	0.9	25.0	1.0	350	0.8
10 AMPERE TO-41 HIGH POWER NU-BASE														
2N1073	10	40⑧	.05	40	10.0	20/60	5.0	0.75	50	0.6	5.0	1.0	350	0.8
2N1073A	10	80⑧	.05	80	10.0	20/60	5.0	0.75	50	0.6	5.0	1.0	350	0.8
2N1073B	10	120⑧	.05	120	10.0	20/60	5.0	0.75	50	0.6	5.0	1.0	350	0.8

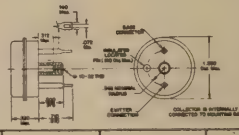
GERMANIUM PNP ALLOY BASE TRANSISTORS Used by the millions because of their low cost, high thermal capacity and high peak power capacity. Conservatively rated for high reliability.



TO-3



TO-36



Type	I_C Max – Amps	V_{CEO} @ I_C –Volts @ Amps		V_{CBO} @ I_{CBO} –Volts @ mA		h_{FE} @ I_C –Amps		V_{EBO} @ I_{EBO} –Volts @ mA		V_{CE}(sat) @ I_C –Volts @ Amps		V_{BE} –Volts	f_{hfe} kHz	Thermal Resistance. deg. C/W (max.)
3 • 10 AMPERE TO-3 MEDIUM POWER AND HIGH POWER														
DTG110	7.0	40②	.600	40	2.0	74/250	1.0	20	8.0	0.5	2.0	0.5	320⑨	0.8
2N255A	5.0	15②	.220	15	5.0	25③	0.45	15	5.0	—	—	—	—	0.8
2N301	3.0	32	.300	40	5.0	62.5	0.70	10	2.0	—	—	—	5④	0.8
2N301A	3.0	32	.300	60	5.0	62.5	0.70	10	2.0	1.0	—	—	5④	0.8
2N379	7.0	40	.100⑥	80⑧	8.0	20/90	2.0	20	8.0	1.0	2.0	1.3	3	0.8
2N380	7.0	30	.100⑥	60⑧	8.0	20/90	2.0	20	8.0	1.0	2.0	1.3	3	0.8
2N392	5.0	45	.300	60	8.0	60/150	3.0	40	8.0	0.5	3.0	0.7④	6	0.8
2N456A	7.0	20	.200	40	2.0	30/90	5.0	20	2.0	0.5	5.0	1.5	10④	0.8
2N456B	7.0	30	.500	40	2.0	30/90	5.0	30	2.0	0.5	5.0	1.5	200⑨	0.8
2N457A	7.0	30	.200	60	2.0	30/90	5.0	20	2.0	0.5	5.0	1.5	10④	0.8
2N457B	7.0	40	.500	60	2.0	30/90	5.0	30	2.0	0.5	5.0	1.5	200⑨	0.8
2N458A	7.0	40	.200	80	2.0	30/90	5.0	20	2.0	0.5	5.0	1.5	10④	0.8
2N458B	7.0	45	.500	80	2.0	30/90	5.0	30	2.0	0.5	5.0	1.5	200⑨	0.8
2N554	5.0	30	.300	15	10.0	30	1.0	20	8.0	—	—	—	—	0.8
2N669	3.0	30①	.300	30⑦	20⑦	250‡	.500	10	2.0	0.4④	3.0	—	3	0.8
2N1011	5.0	40	.300	80	15.0	30/75	3.0	40	3.0	1.5	3.0	1.0	5	0.8
2N1021	7.0	50	.200	100	2.0	30/90	5.0	20	2.0	0.5	5.0	1.5	10④	0.8
2N1021A	7.0	50	.500	100	2.0	30/90	5.0	30	2.0	0.5	5.0	1.5	200⑨	0.8
2N1022	7.0	50	.200	120	2.0	30/90	5.0	20	2.0	0.5	5.0	1.5	10④	0.8
2N1022A	7.0	55	.500	120	2.0	30/90	5.0	30	2.0	0.5	5.0	1.5	200⑨	0.8
2N1159	5.0	60	1.0	80	8.0	30/75	3.0	20	8.0	1.0	3.0	1.5	10④	0.8
2N1160	7.0	60	1.0	80	8.0	20/50	5.0	20	8.0	1.0	5.0	1.5	10④	0.8
2N1168	5.0	30	.300	50	8.0	60④	3.0	20	8.0	0.25④	3.0	0.7④	10④	0.8
2N1534	5.0	20	.500	40	20.0	35/70	3.0	12	0.5	1.2	3.0	1.5	8.5④	0.8
2N1535	5.0	30	.500	60	20.0	35/70	3.0	12	0.5	1.2	3.0	1.5	8.5④	0.8
2N1536	5.0	40	.500	80	20.0	35/75	3.0	12	0.5	1.2	3.0	1.5	8.5④	0.8
2N1539	5.0	20	.500	25	2.0	50/100	3.0	12	0.5	0.3	3.0	1.0	2	0.8
2N1540	5.0	30	.500	40	2.0	50/100	3.0	12	0.5	0.3	3.0	1.0	2	0.8
2N1542	5.0	50	.500	65	2.0	50/100	3.0	12	0.5	0.3	3.0	1.0	2	0.8
2N1544	5.0	20	.500	25	2.0	75/150	3.0	12	0.5	0.2	3.0	0.6	2	0.8
2N1546	5.0	40	.500	55	2.0	75/150	3.0	12	0.5	0.2	3.0	0.6	2	0.8
2N5156	10.0	60⑩	10.0	100	4.0	25/60	5.0	60	4.0	1.0	10.0	0.8	320⑨	0.8
15 AMPERE TO-36 HIGH POWER (SPAC)														
2N173	15.0	45	1.0	60	4.0	35/70	5.0	40	4.0	1.0	12.0	0.9	10④	0.5
2N174	15.0	55	1.0	80	4.0	25/50	5.0	60	4.0	0.9	12.0	0.9	10④	0.5
2N174A	15.0	40	0.3	80	8.0	40/80	1.2	60	8.0	0.7	12.0	0.9	100⑤	0.5
JAN2N174A	15.0	40	0.3	80	8.0	40/80	1.2	60	8.0	0.7	12.0	0.9	100⑤	0.5

① V_{CES} ② V_{CER} ③ Power Gain db ④ Typical ⑥ I_{CEO} ⑦ 90°C—R_{EB}=100 ohm ⑧ V_{CBX} ⑨ f_T Typical ⑩ V_{CEO} ‡ Max. Value

© United Technical Publications

GERMANIUM PNP ALLOY BASE TRANSISTORS (continued)

Type	I_C Max. -Amps	V_{CEO} @ I_C -Volts @ Amps		V_{CBO} @ I_{CBO} -Volts @ mA		h_{FE} @ I_C – Amps		V_{EBO} @ I_{EBO} -Volts @ mA		V_{CE}(sat) @ I_C -Volts @ Amps		V_{BE} -Volts	f_{hfe} kHz	Thermal Resistance deg. C/W (max.)
15 AMPERE TO-36 HIGH POWER (SPAC) (continued)														
2N277	15	25	1.0	40	8.0	35/70	5.0	20	8.0	0.3④	12.0	0.65④	10④	0.5
2N278	15	30	1.0	50	4.0	35/70	5.0	30	4.0	1.0	12.0	0.65④	10④	0.5
2N441	15	25	1.0	40	8.0	20/40	5.0	20	8.0	0.3④	12.0	0.65④	10④	0.5
2N442	15	30	1.0	50	4.0	20/40	5.0	30	4.0	0.3④	12.0	0.65④	10④	0.5
2N443	15	45	1.0	60	4.0	20/40	5.0	40	4.0	1.0	12.0	0.9	10④	0.5
2N1099	15	55	1.0	80	4.0	35/70	5.0	40	4.0	0.7	12.0	0.9	10④	0.5
2N1100	15	65	1.0	100	4.0	25/50	5.0	80	4.0	0.7	12.0	0.9	10④	0.5
2N1358	15	40	0.3	80	4.0	40/80	1.2	60	4.0	0.7	12.0	0.9	100⑤	0.5
2N1358A	15	60	1.0	100	4.0	25/50	5.0	60	4.0	0.7	12.0	0.9	5	0.5
JAN2N1358	15	40	0.3	80	4.0	25/50	5.0	40	4.0	0.7	12.0	0.9	5	0.5
2N1412	15	65	1.0	100	4.0	25/50	5.0	60	4.0	0.7	12.0	0.8	10④	0.5
JAN2N1412	15	60	1.0	100	4.0	25/50	5.0	60	4.0	0.7	12.0	0.9	5	0.5
JAN2N1412A	15	70	1.0	100	4.0	25/50	5.0	60	4.0	—	12.0	0.8	5	0.5
2N1970	15	50	1.0	100	4.0	17/40	5.0	40	4.0	1.0	12.0	0.9	10④	0.5
2N2075	15	65	1.0	80	4.0	20/40	5.0	40	4.0	0.7	12.0	0.9	5	0.5
2N2076	15	55	1.0	70	4.0	20/40	5.0	35	4.0	0.7	12.0	0.9	5	0.5
2N2077	15	45	1.0	50	4.0	20/40	5.0	25	4.0	0.9	12.0	0.9	5	0.5
2N2078	15	25	1.0	40	4.0	20/40	5.0	20	4.0	0.9	12.0	0.9	5	0.5
2N2079	15	65	1.0	80	4.0	35/70	5.0	40	4.0	0.7	12.0	0.9	5	0.5
2N2080	15	55	1.0	70	4.0	35/70	5.0	35	4.0	0.7	12.0	0.9	5	0.5
2N2081	15	45	1.0	50	4.0	35/70	5.0	25	4.0	0.9	12.0	0.9	5	0.5
2N2082	15	25	1.0	40	4.0	35/70	5.0	20	4.0	0.9	12.0	0.9	5	0.5
JAN2N2210		USE JAN2N1412A												
2N2490	15	50	1.0	70	3.0	20/40	5.0	40	3.0	0.7	12.0	1.5	5	0.5
2N2491	15	40	1.0	60	3.0	35/70	5.0	30	3.0	0.7	12.0	1.5	5	0.5
2N2492	15	65	1.0	80	2.0	25/50	5.0	60	3.0	0.5	12.0	1.5	5	0.5
2N2493	15	75	1.0	100	3.0	25/50	5.0	80	3.0	0.5	12.0	1.5	5	0.5
25 • 35 • 50 AMPERE TO-36 HIGH POWER (SPAC)														
2N1518	25	40	1.0	50	4.0	15/60	15	30	8.0	0.7	25.0	1.5	4④	0.5
2N1519	25	60	1.0	80	4.0	15/60	15	30	8.0	0.7	25.0	1.5	4④	0.5
2N1520	35	40	1.0	50	4.0	17/68	15	30	8.0	0.6	35.0	1.5	4④	0.5
2N1521	35	60	1.0	80	4.0	17/68	15	30	8.0	0.6	35.0	1.5	4④	0.5
2N1522	50	40	1.0	50	4.0	25/100	15	30	8.0	0.5	50.0	1.5	4④	0.5
2N1523	50	60	1.0	80	4.0	25/100	15	30	8.0	0.5	50.0	1.5	4④	0.5

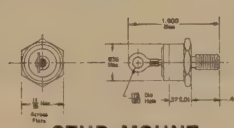
④Typical ⑤ f_{hfb}

SILICON RECTIFIERS AND ZENER DIODES Rugged axial lead units for general purpose and TV. Stud mounts and press fits proved in vigorous automotive and locomotive applications. New zeners.

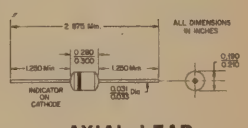




PRESS FIT



STUD MOUNT



AXIAL LEAD

Type	Maximum Forward Current I_F(AV)	Peak Reverse Voltage	Reverse Recovery Time t_{rr}	Forward Recovery Voltage V_{fr}	Reverse Current I_R(AV)	Forward Voltage Drop V_{FM}	Repetitive Peak Forward Current	Thermal Resistance deg. C/W (Max.)
1.5 AMPERE AXIAL LEAD								
DRS102	1.5A⑫	200V	—	—	10μA⑬	0.9V⑭	10A	50
DRS104	1.5A⑫	400V	—	—	10μA⑬	0.9V⑭	10A	50
DRS106	1.5A⑫	600V	—	—	10μA⑬	0.9V⑭	10A	50
DRS108	1.5A⑫	800V	—	—	10μA⑬	0.9V⑭	10A	50
DRS110	1.5A⑫	1000V	—	—	10μA⑬	0.9V⑭	10A	50
DRS112	1.5A⑫	1200V	—	—	10μA⑬	0.9V⑭	10A	50
DRS114	1.5A⑫	1400V	—	—	10μA⑬	0.9V⑭	10A	50
DRS114C	1.5A⑫	1400V	15μs	30V	10μA⑬	0.9V⑭	10A	50
DRS114D	1.5A⑫	1400V	20μs	20V	10μA⑬	0.9V⑭	10A	50
15 AMPERE STUD MOUNT⑳								
1N3208	15A⑮	50V	—	—	10mA⑯	1.5V	70A	2.0
1N3209	15A⑮	100V	—	—	10mA⑯	1.5V	70A	2.0
1N3210	15A⑮	200V	—	—	10mA⑯	1.5V	70A	2.0
25 AMPERE PRESS FIT⑳								
1N3491	25A⑱	50V	—	—	10mA⑯	0.7V⑰	110A	1.0
1N3492	25A⑱	100V	—	—	10mA⑯	0.7V⑰	110A	1.0
1N3493	25A⑱	200V	—	—	8mA⑯	0.7V⑰	110A	1.0
160 AMPERE STUD BASE⑳			Peak Transient Reverse Voltage					
DRS163	160A	300V	400V		15mA	1.45V	2500A⑲	0.24
DRS164	160A	400V	525V		15mA	1.45V	2500A⑲	0.24
DRS165	160A	500V	650V		15mA	1.45V	2500A⑲	0.24
DRS166	160A	600V	800V		12mA	1.45V	2500A⑲	0.24
DRS167	160A	700V	925V		12mA	1.45V	2500A⑲	0.24
DRS168	160A	800V	1050V		10mA	1.45V	2500A⑲	0.24
DRS169	160A	900V	1200V		10mA	1.45V	2500A⑲	0.24

⑫@ 50°C Case ⑬@ 25°C rated P.R.V. ⑭@ 100°C 0.5 amp ⑮@ 150°C Case ⑯Full load, Full cycle @ 150°C case ⑰Maximum drop @ 15A Full cycle average @ 25°C ⑱100°C Case ⑲½ Cycle non-repetitive ⑳Add R to type number for reverse polarity

(continued on next page)

Delco Electronics POWER SEMICONDUCTORS

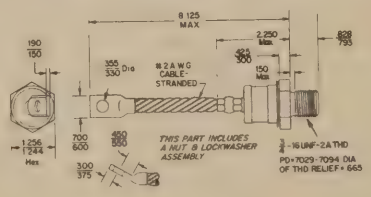
SILICON RECTIFIERS AND ZENER DIODES (continued)

Type	Maximum Forward Current I_F(AV)	Peak Reverse Voltage	Peak Transient Reverse Voltage	Reverse Current I_R (AV)	Forward Voltage Drop V_{FM}	Repetitive Peak Forward Current	Thermal Resistance deg. C/W (Max.)
200 AMPERE STUD BASE⑳							
DRS203	200A	300V	400V	15mA	1.4V	3500A⑲	0.25
DRS204	200A	400V	425V	15mA	1.4V	3500A⑲	0.25
DRS205	200A	500V	650V	15mA	1.4V	3500A⑲	0.25
DRS206	200A	600V	800V	12mA	1.4V	3500A⑲	0.25
DRS207	200A	700V	925V	12mA	1.4V	3500A⑲	0.25
DRS208	200A	800V	1050V	10mA	1.4V	3500A⑲	0.25
DRS209	200A	900V	1200V	10mA	1.4V	3500A⑲	0.25
250 AMPERE STUD BASE⑳							
DRS243	250A	300V	400V	15mA	1.4V	4500A⑲	0.24
DRS244	250A	400V	525V	15mA	1.4V	4500A⑲	0.24
DRS245	250A	500V	560V	15mA	1.4V	4500A⑲	0.24
DRS246	250A	600V	800V	12mA	1.4V	4500A⑲	0.24
DRS247	250A	700V	925V	12mA	1.4V	4500A⑲	0.24
DRS248	250A	800V	1050V	10mA	1.4V	4500A⑲	0.24
DRS249	250A	900V	1200V	10mA	1.4V	4500A⑲	0.24
DRS250	250A	800V	1050V	10mA	1.55V	4500A⑲	0.22
DRS251	250A	1000V	1300V	10mA	1.55V	4500A⑲	0.22
DRS252	250A	1200A	1600V	10mA	1.55V	4500A⑲	0.22
DRS253	250A	1400V	2000V	10mA	1.55V	4500A⑲	0.22
DRS254	250A	1600V	2400V	10mA	1.55V	4500A⑲	0.22

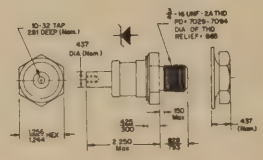
30kw POWER ZENERS — DO-9 CASE

Type	Min. Zener Voltage V_Z @ 0.25 Adc	Max. Zener Voltage Pulse Width = 1ms	Maximum Clamping Factor	Maximum Reverse Current I_R (mA)
DPZ30-30R	30	43Vdc @ 700A	1.4	5.0
DPZ30-33R	33	47Vdc @ 640A	1.4	5.0
DPZ30-36R	36	52Vdc @ 580A	1.4	5.0
DPZ30-39R	39	56Vdc @ 535A	1.4	5.0
DPZ30-43R	43	62Vdc @ 485A	1.4	5.0
DPZ30-45R	45	65Vdc @ 460A	1.4	5.0
DPZ30-47R	47	68Vdc @ 440A	1.4	5.0
DPZ30-50R	50	72Vdc @ 420A	1.4	5.0

⑲ ½ Cycle non-repetitive ⑳ Add R to type number for reverse polarity



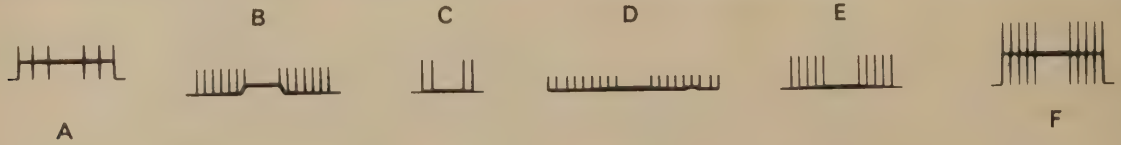
STUD BASE



HEAT SINKS AND ACCESSORIES

Part No.	Outline Description	†Thermal Resistance	Max. Width	Max. Depth	Max. Length
7270725 A	Single Punch, Univ. Mount	2.3°C/watt	3.125″	1.370″	4.690″
7281352 A	Double Punch, Univ. Mount	2.3°C/watt	3.125″	1.370″	4.690″
7270606 A	Unpunch, Unpainted	2.3°C/watt	3.125″	1.370″	4.690″
7300811 A	Double Punched for 2 Press Fit Rectifiers	2.3°C/watt	3.125″	1.370″	4.690″
7281361 B	Double Punch, Univ. Mount	1.6°C/watt	3.125″	1.080″	6.135″
7281364 B	Unpunch, Unpainted	1.6°C/watt	3.125″	1.080″	6.135″
7281357 C	Double Punch, Univ. Mount	5.0°C/watt	1.625″	1.330″	2.930″
7281360 C	Unpunched, Unpainted	5.0°C/watt	1.625″	1.330″	2.930″

Part No.	Outline Description	†Thermal Resistance	Max. Width	Max. Depth	Max. Length
7281351 D	Double Punch, Univ. Mount	2.2°C/watt	3.125″	.750″	6.775″
7281354 D	Unpunched, Unpainted	2.2°C/watt	3.125″	.750″	6.775″
7281355 E	Double Punch, Univ. Mount	2.2°C/watt	3.125″	1.330″	4.850″
7281353 E	Unpunched, Unpainted	2.2°C/watt	3.125″	1.330″	4.850″
7276040 E	Punched for Round Base Only	3.5°C/watt	1.531″	1.330″	4.850″
7277151 E	Punched for Diamond Base Only	3.5°C/watt	1.531″	1.330″	4.850″
7278482 E	Unpunched, Unpainted	3.5°C/watt	1.531″	1.330″	4.850″
7281366 F	Double Punch, Univ. Mount	1.3°C/watt	3.125″	2.500″	4.850″
7281369 F	Unpunched, Unpainted	1.3°C/watt	3.125″	2.500″	4.850″



MOUNTING KITS

Part No.	Description
7269634	Insulating Spacer (for Heat Sink)
7276396	DO-5 (Rectifier) Mtg. Kit
7274775	TO-3 (Diamond Base) Basic Mtg. Kit
7305210	TO-3 Mtg. Kit for High Voltage Silicon
7274633	TO-36 (Round Base) Mtg. Kit
7276383	TO-37 (Miniature Diamond Base) Mtg. Kit
7305209	TO-41 (Large Lead) Mtg. Kit for 2N1073



© United Technical Publications

SERVICE-DESIGNED ENTERTAINMENT SEMICONDUCTORS

UNIVERSAL REPLACEMENT TRANSISTORS

Cat. No.	Unit Type	Application(s)	Config-uration	Use	Max. Current	Max. Wattage	Max. Coll/Emit. Volts	Sugg. List Price
GE-1	Germanium	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio)	TO-5	PNP	100MA	150MW	12V	$2.00
GE-2	Germanium	AF Amplifier	TO-5	PNP	200MA	200MW	20V	1.70
GE-3	Germanium	AF Power Amplifier	TO-3	PNP	3A	25W	40V	2.95
GE-4	Germanium	AF High Power Amplifier	TO-36	PNP	12A	50W	30V	4.90
GE-5	Germanium	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio)	TO-5	NPN	100MA	150MW	12V	2.80
GE-6	Germanium	Mixer/Oscillator Converter, RF Amplifier (AM Radio)	OV-5	NPN	20MA	65MW	15V	3.05
GE-7	Germanium	IF Amplifier (AM Radio)	OV-5	NPN	20MA	65MW	15V	2.95
GE-8	Germanium	AF Amplifier	TO-5	NPN	200MA	150MW	20V	2.15
GE-9	Germanium	Mixer/Oscillator Converter, RF & IF Amplifiers (AM-FM Radio)	TO-72	PNP	10MA	70MW	20V	2.10
GE-10	Silicon	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio), AF Amplifier	TO-98	NPN	100MA	200MW	25V	2.00
GE-11	Silicon	Mixer/Oscillator Converter, RF & IF Amplifiers (FM Radio), VHF Tuner, UHF Oscillator	TO-98	NPN	25MA	200MW	12V	2.55
GE-12	Silicon	AF Power Amplifier (Line Operated Units)	TO-66	NPN	300MA	10W	300V	3.90
GE-13MP	Germanium	AF Power Amplifier. Matched Pairs of GE-3	TO-3	PNP	3A	25W	50V	5.90
GE-14	Silicon	AF Power Amplifier	TO-3	NPN	15A	115W	60V	5.85
GE-15MP	Silicon	AF Power Amplifier. Matched Pairs of GE-14	TO-3	NPN	15A	115W	60V	11.70
GE-16	Germanium	AF High Power Amplifier	TO-3	PNP	10A	90W	45V	5.25
GE-17	Silicon	FM, RF, & Oscillator, TV and Other Low-Noise Circuits 50-100 mHz	RO-97A	NPN	100MA	500MW	30V	2.40
GE-18	Silicon	AF Amplifier, Output, or Oscillator	TO-5	NPN	500MA	800MW	80V	2.40
GE-19	Silicon	AF Amplifier, Output Oscillator — High Current	TO-3	NPN	4A	90W	50V	5.10
GE-20	Silicon	RF & IF Amplifiers, Oscillator, Audio, and Applications to 50 mHz	TO-18	NPN	500MA	500MW	40V	1.85
GE-21	Silicon	RF & IF Amplifiers, Oscillator, Audio, and Applications to 50 mHz	TO-5	PNP	500MA	500MW	60V	1.90
GE-22	Silicon	RF & IF Amplifier, Oscillator (AM-FM) to 100 mHz	RO-110	PNP	500MA	500MW	25V	1.70
GE-23	Silicon	Class A & B AF Power Amplifiers, Communications, Hi-Fi	TO-66	NPN	2A	15W	40V	4.20
GE-24MP	Silicon	Class A & B AF Power Amplifiers, etc. Matched Pairs of GE-23	TO-66	NPN	2A	15W	40V	8.40
GE-25	Germanium	Horizontal & Vertical TV Sweep Circuits and Other High Voltage, High Current Use	TO-3	PNP	10A	50W	325V	12.50
GE-26	Silicon	AF Power Amplifier	TO-66	PNP	2A	20W	50V	5.20
GE-27	Silicon	Color/BW Video Output Amplifier, High Voltage	Plastic Pak	NPN	100MA	6W(25°TC) 1W(25°TA)	300V	3.65
GE-28	Silicon	AF Power Amplifier	Plastic Pak	NPN	3A	12W(25°TC) 2W(25°TA)	60V(CES) 45V(CED)	3.60
GE-29	Silicon	AF Power Amplifier	Plastic Pak	PNP	3A	12W(25°TC) 2W(25°TA)	60V(CES) 45V(CED)	4.00
GE-30	Germanium	Audio Power Output	TO-66	PNP	3A	6W	60V	3.70
GE-31MP	Germanium	Audio Power Output, Matched Pairs of GE-30	TO-66	PNP	3A	6W	60V	7.40
GE-32	Silicon	AC Line Operated — AF Amplifier	*	NPN	1A	30W	300V	4.65
GE-53	Germanium	AF Amplifier, Output	TO-1	PNP	1A	1W	32V	1.70
GE-62	Silicon	High Gain, Low Noise Amplifier	TO-98	NPN	100MA	350MW	50V	1.35
GE-63	Silicon	AF Amplifier, Output	X-103	NPN	1A	1W	60V	3.00
GE-64	Silicon	Very High Gain, Low Noise Amplifier	TO-98	NPN	275MA	360MW	40V	1.60
GE-66	Silicon	AF Power Output	*	NPN	4A	28W	60V	4.15
GE-67	Silicon	AF Amplifier, Output	X-103	PNP	1A	1W	60V	3.00
GE-69	Silicon	AF Power Output	*	PNP	4A	28W	60V	4.60
GE-FET-1	Silicon	N Channel Field Effect Transistor for Small Signal Use	TO-92	(10MA Gate Current, 200MW)			25V	3.75
GE-FET-2	Silicon	N Channel FET-FM-TV RF Mixer	X-55	50MA Gate Current, 350MW			30V	2.40

*Power Pac

REGISTERED JEDEC TRANSISTORS

These supplement the Universal Line above. Characteristics conform to JEDEC specifications.

Type or JEDEC No.	Use	Appli-cation	Sugg. List Price	Type or JEDEC No.	Use	Appli-cation	Sugg. List Price
2N107	PNP	AF	$1.25	2N324	PNP	AF	$1.20
2N170	NPN	IF	1.70	2N404	PNP	SW	0.90
2N188A	PNP	AF OUT	3.05	2N508	PNP	AF OUT	1.30
2N190	PNP	AF	1.40	2N2160	*	OSC	2.75

* Silicon Unijunction

GE GE-504A AND GE-509 UNIVERSAL RECTIFIERS

A silicon rectifier with a 100-amp surge rating. Recommended as a replacement for all selenium, germanium and silicon rectifiers used in TV receivers. The 100-amp surge rating eliminates the need for the surge limiting resistors normally required when silicon rectifiers are used.

Type	PIV	I_{DC}	Sugg. List Price	Type	PIV	I_{DC}	Sugg. List Price
GE-504A	600V	1A	$1.10	GE-509	1000V	1A	$1.25

GE TYPE IN91 GERMANIUM RECTIFIER

PIV = 100V, max. I_{DC} = 150mA. Suggested List Price $1.55.

GE BR-600 SILICON RECTIFIER

PRV = 600V, max. I_{DC} = 1.5A. Suggested List Price $1.55.

GE VAC-U-SEL® DOUBLE/DIODES

Type No.	Ifwd	Imr	Description	Max Case Temp.	Sugg. List Price
6GC1	1.1 @ 2.5V	4 @ 20V	Common cathode	85°C	$0.90
6GD1	1.1 @ 2.5V	4 @ 20V	Series connected	85°C	.90
6GX1	1.1 @ 2.5V	4 @ 20V	Common anode	85°C	.90

SILICON AND GERMANIUM

Type	Description	Average Forward Current (ma)	Peak Reverse Voltage (volts)	Sugg. List price
1N34AS	General Purpose	50	75	$0.55
1N60	Video Detector	50	30	.55
1N82A	Silicon UHF Mixer	—	5	1.45
1N295	50 MC Detector	30	50	.55
GE-300	General Purpose	250	200	1.35

VARIABLE CAPACITANCE SILICON DIODES

GE Type	Reverse Voltage Vr Volts	Reverse Current μA	Capacitance at V_R = 4V pF	Tuning Ratio	Sugg. List Price
GE-90	20	2	30	2.6	$1.35

RECTIFIERS AND CRYSTALS FOR COLOR TV

GE Selenium Rectifiers

Cat. No.	Type	Sugg. List Price
GECR-1	Focus Rect.	$3.75
GECR-2	Boosted Boost	1.65
GECR-3	Convergence	1.43

GE Quartz Crystals‡

Cat. No.	Type	Sugg. List Price
GE-41	Color burst filter	$5.60
GE-42	Color subcarrier oscillators	3.80

‡ Resonant frequency 3579.545 kc

SILICON ZENER DIODES — CASE SIZE 59

GE Type	Power Dissipation @ 25°C (Watts)	Breakdown Voltage V_Z @ I_{ZT} (Volts)	Test Current I_{ZT} (MA)	Zener Impedance Z_Z @ I_{ZT} (OHMS)	DC Zener Current I_{ZM} (MA)	Sugg. User Price
GE ZD-10-4	400 MW	10	20	17	20	$ .90
GE ZD-3.6	1 Watt	3.6	69	10	253	1.20
GE ZD-5.1	1 Watt	5.1	49	7	178	1.20
GE ZD-5.6	1 Watt	5.6	45	5	162	1.20
GE ZD-6.2	1 Watt	6.2	41	2	146	1.20
GE ZD-9.1	1 Watt	9.1	28	5	100	1.20
GE ZD-12	1 Watt	12	21	9	76	1.20
GE ZD-15	1 Watt	15	17	14	61	1.20
GE ZD-18	1 Watt	18	14	20	50	1.20
GE ZD-20	1 Watt	20	12.5	22	46	1.20
GE ZD-27	1 Watt	27	9.5	35	34	1.20
GE ZD-33	1 Watt	33	7.5	45	27	1.20
GE ZD-39	1 Watt	39	6.5	60	23	1.20
GE ZD-47	1 Watt	47	5.5	80	19	1.20

All Zeners ±10% tolerance in Voltage.
Junction operating and storage temperature −65° to 200°C.

MAINTENANCE INDUSTRIAL REPLACEMENT SEMICONDUCTORS

Cat. No.	Repet-itive PRV	Max. I_{DC} @ Tran-sient PRV	Max. I_{DC} @ Stud single Phase	Max. I_{DC} @ Peak 1 Cycle Surge	Max. Rev. Cur. (Full Cycle Av @ Full Load)	Max. Full Load Voltage Drop	Max. Oper. °C	Sugg. User Price
Silicon Rectifiers								
GEMR-1	200	350	12 A	240 A	2.0 mA	0.55 V	200°	$4.80
GEMR-2	400	—	35*A	500 A	10*mAdc	0.65*V	200°	6.90

Cat. No.	PRV and $V_{(BO)}$	Max. I_{DC} @ Temp. °C	Max. Temp. °C Oper.	Max. Temp. °C Stor.	Max. Req'd. Gate Signal @ 25°C T_J	Sugg. User Price
Silicon Controlled Rectifiers						
GEMR-3	400	35 A @ 19°C case	125°	150°	3 V, 40 mA	$8.60
GEMR-4	400	7.4 A @ 80°C case	100°	100°	3 V, 25 mA	3.80
Silicon Controlled Rectifier, Economy Flat Pack Design						
GEMR-5	200	4 A @ 75°C anode tab	110°	150°	0.8 V, 200 uAdc	1.40

Cat. No.	h_{FE} V_{CE} = 1 V I_C = 1A	V_{CEO} I_C = 1 mA	V_{CE}(sat) I_C = 1 A I_B* = 50 mA	P_T 70° Tab	Sugg. User Price
Silicon Power Tab Transistor					
GEMR-6	20 min.	40 V	1.0 V (Max.)	8 W	$1.42

* @ 140°C



DIRECTRON

Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies

ALL PRICES SHOWN ARE USER PRICES

FULL WAVE BRIDGE RECTIFIERS, SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS

Max. Amps.	18v. in — 14v. out No.	Price	36v. In — 28v. out No.	Price	54v. in — 42v. out No.	Price	130v. in — 100v. out No.	Price	260v. in — 200v. out No.	Price
½	A 18	$ 1.05	A 36	$ 1.50	A 54	$ 2.50	A 130	$ 5.00	A 260	$10.00
1	B 18	1.20	B 36	2.20	B 54	3.20	B 130	8.00	B 260	16.00
2	C 18	2.10	C 36	3.00	C 54	4.50	C 130	10.00	C 260	20.00
3	D 18	2.70	D 36	4.00	D 54	6.00	D 130	14.00	D 260	28.00
4	E 18	3.60	E 36	7.50	E 54	10.00	E 130	24.00	E 260	48.00
6	F 18	4.50	F 36	9.00	F 54	12.00	F 130	32.00	F 260	64.00
10	G 18	6.60	G 36	12.00	G 54	18.00	G 130	39.00	G 260	78.00
12	H 18	8.20	H 36	16.00	H 54	22.00	H 130	44.00	H 260	88.00
15	J 18	10.50	J 36	20.00	J 54	27.00	J 130	54.00	J 260	108.00
20	K 18	12.50	K 36	25.00	K 54	36.00	K 130	77.00	K 260	154.00
24	L 18	15.00	L 36	30.00	L 54	42.00	L 130	82.00	L 260	164.00
30	M 18	19.10	M 36	37.00	M 54	55.00				
36	P 18	24.00	P 36	48.00						
50	R 18	30.00	R 36	60.00						

220 v. Single Phase available . . . up to 1000 amps.

HALF-WAVE, CENTER-TAP, DOUBLER,

TRIPLER or 3-PHASE

Quotations on request



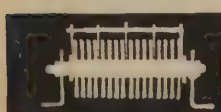
E130

24 HOUR SERVICE on Custom Built Stacks

ELEVATOR CONTROL RECTIFIERS

PART No.	PHASE	AC INPUT VOLTS UP TO	AMPS	UNITS REQUIRED	LIST PRICE UNIT	SET
CD260	1ϕ	260	1.5	2	$ 8.00	$16.00
CD260	3ϕ	260	2.2	3	8.00	24.00
DD260	1ϕ	260	2.2	2	10.00	20.00
DD260	3ϕ	260	3.3	3	10.00	30.00
ED260	1ϕ	260	3.4	2	12.00	24.00
ED260	3ϕ	260	5.1	3	12.00	36.00
FD260	1ϕ	260	6.6	2	15.00	30.00
FD260	3ϕ	260	10.	3	15.00	45.00
COMPACT UNIT (Double Decker)						
3D260	3ϕ	260	3.	1	34.00	

See OUR AD UNDER "TRANSFORMERS" IN SECTION 5600 FOR RECTIFIER TRANSFORMERS AND HIGH CURRENT CHOKES



Mfd. by SANFORD MILLER CORP.

Trade Discount Applies To List Prices Only

© United Technical Publications

DIRECTRON

SILICON POWER RECTIFIERS

HY-A-SIL
High - Ampere - Silicon



FEATURES

- High operating temperature, 190°C (Up to 120°C ambient)
- High operating voltage (Up to 600 p.i.v.)
- High efficiency (99% compared to about 75% for selenium)
- Excellent regulation (4% compared to about 15% for selenium)

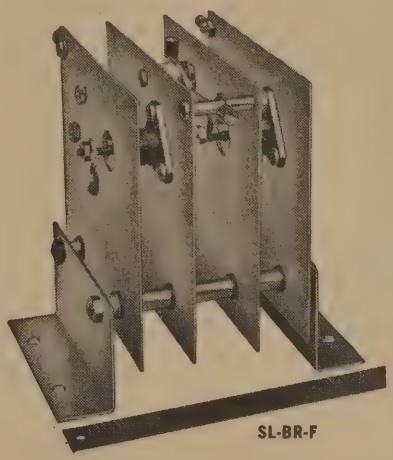
Stock No.	Type	AC Input Volts up to	DC Output Volts up to	Max. Amps Self Cooled	Max. Amps Fan Cooled	Size And Weight	User Net Price
-CT-A	Center-Tap	18-0-18	16	40	80	B	$ 15.00
-CT-B	Center-Tap	36-0-36	32	40	80	B	20.00
-CT-A	Center-Tap	18-0-18	16	50	100	B	17.50
-CT-B	Center-Tap	36-0-36	32	50	100	B	22.50
-CT-D	Center-Tap	72-0-72	64	50	100	B	36.00
-CT-F	Center-Tap	140-0-140	125	50	100	B	44.00
-CT-A	Center-Tap	18-0-18	16	100	200	C	30.00
-CT-B	Center-Tap	36-0-36	32	100	200	C	34.00
-CT-D	Center-Tap	72-0-72	64	100	200	C	37.00
-CT-F	Center-Tap	140-0-140	125	100	200	C	48.00
-CT-A	Center-Tap	18-0-18	16	200	400	D	45.00
-CT-B	Center-Tap	36-0-36	32	200	400	D	60.00
-CT-D	Center-Tap	72-0-72	64	200	400	D	62.00
-CT-F	Center-Tap	140-0-140	125	200	400	D	76.00
-CT-B	Center-Tap	36-0-36	32	400	800	E	100.00
-BR-D	1ϕ Bridge	140	125	1	•	—	9.00
-BR-F	1ϕ Bridge	280	250	1	•	—	10.50
-BR-D	1ϕ Bridge	140	125	2	•	—	10.50
-BR-F	1ϕ Bridge	280	250	2	•	—	12.00
-BR-A	1ϕ Bridge	36	32	6	12	F	18.00
-BR-D	1ϕ Bridge	140	125	6	12	F	30.00
-BR-F	1ϕ Bridge	280	250	6	12	F	39.00
-BR-A	1ϕ Bridge	36	32	10	20	G	21.00
-BR-D	1ϕ Bridge	140	125	10	20	G	36.00
-BR-F	1ϕ Bridge	280	250	10	20	G	44.00
-BR-A	1ϕ Bridge	36	32	20	40	H	24.00
-BR-D	1ϕ Bridge	140	125	20	40	H	40.00
-BR-F	1ϕ Bridge	280	250	20	40	H	48.00
-BR-A	1ϕ Bridge	36	32	40	80	J	30.00
-BR-B	1ϕ Bridge	72	64	40	80	J	36.00
-BR-D	1ϕ Bridge	140	125	40	80	J	63.00
-BR-F	1ϕ Bridge	280	250	40	80	J	95.00
-BR-A	1ϕ Bridge	36	32	50	100	J	33.00
-BR-B	1ϕ Bridge	72	64	50	100	J	39.00
-BR-D	1ϕ Bridge	140	125	50	100	J	70.00
-BR-F	1ϕ Bridge	280	250	50	100	J	110.00
-BR-A	1ϕ Bridge	36	32	70	140	J	40.00
-BR-B	1ϕ Bridge	72	64	70	140	J	50.00
-BR-D	1ϕ Bridge	140	125	70	140	J	80.00
-BR-F	1ϕ Bridge	280	250	70	140	J	130.00
-BR-A	1ϕ Bridge	36	32	100	200	K	60.00
-BR-B	1ϕ Bridge	72	64	100	200	K	68.00
-BR-D	1ϕ Bridge	140	125	100	200	K	90.00
-BR-F	1ϕ Bridge	280	250	100	200	K	150.00
-BR-A	1ϕ Bridge	36	32	200	400	L	100.00
-BR-B	1ϕ Bridge	72	64	200	400	L	120.00
-BR-D	1ϕ Bridge	140	125	200	400	L	180.00
-BR-F	1ϕ Bridge	280	250	200	400	L	260.00
-BR-B	1ϕ Bridge	72	64	400	800	M	270.00
-BR-F	1ϕ Bridge	280	250	400	800	M	480.00
-PH-A	3ϕ Bridge	36	48	75	150	N	60.00
-PH-B	3ϕ Bridge	72	96	75	150	N	85.00
-PH-C	3ϕ Bridge	105	144	75	150	N	120.00
-PH-D	3ϕ Bridge	140	188	75	150	N	180.00
-PH-E	3ϕ Bridge	220	290	75	150	M	220.00
-PH-E	3ϕ Bridge	220	290	100	200	M	240.00
-PH-E	3ϕ Bridge	220	290	200	400	M	300.00
-PH-E	3ϕ Bridge	220	290	400	800	M	375.00

All above ratings based on 30°C ambient. Fan-cooled ratings based on air velocity of 1000 linear ft/minute. For resistive or inductive loads, as rated. For capacitive or battery loads, derate amperage 20%. Doublers, triplers, 3 phase half wave and 3 phase center-tap also available. Custom-built stacks, 24 hour service.

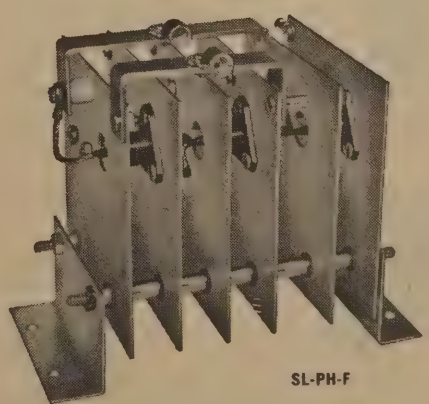
DIMENSIONS WITH BRACKETS

Size	Length	Height	Width	Weight
B	3″	6″	5″	12 oz.
C	3″	6″	6″	1 lb.
D	4″	8″	7″	2 lbs.
E	4″	9″	8″	6 lbs.
F	6″	5″	5″	1¼ lbs
G	6″	6″	5″	1½ lbs
H	6″	6″	6″	2 lbs.
J	6″	6″	5″	1½ lbs.
K	7″	8″	7″	4 lbs.
L	8″	9″	8″	6 lbs.
M	8″	11″	10″	6 lbs.
N	8″	6″	5″	4 lbs.

*Not suitable for fan-cooling



SL-BR-F

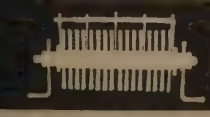


SL-PH-F

Our Production is geared to the Original Equipment and Replacement Market.

Our Products are used for: Alarms, Switchboards, Elevator Controls, Signals, DC Machinery, Magnets, Welding and Plating Equipment, Battery Chargers, etc.

- **SANFORD MILLER can handle your needs from 50 milliamp to 3000 amps in half-wave to six phase configuration.**
- **We manufacture a top quality product guaranteed to meet rigid specifications, both Military and Commercial, delivered on time at the right price.**



Mfd. by SANFORD MILLER CORP. BROOKLYN, N. Y. 11206

AVALANCHE SILICON BRIDGE RECTIFIER ASSEMBLIES

0.5 TO 25 AMP SINGLE PHASE FULL-WAVE ASSEMBLIES

	APPROX. DIM.	½ x ¼ x ¾	⅜ x ¾ x ⅜	⅝ x ⅝ x ¼	¾ x ¾ x ⅜	¾ x ¾ x ⅜	⅞ x 1½ DIAM.	1⅛ x 1¾ x ⅝	⅞ x 1½ DIAM.
	TERMINALS	WIRE LEAD	SOLDER POST	WIRE LEAD	QUICK DISCONNECT	UNCASED, WIRE LEADS	SOLDER LUG	SOLDER LUG	QUICK DISCONNECT
	CURRENT	0.5 AMP	2 AMP	2 AMP	2 AMP	2.5 AMP	6 AMP	6 AMP	6 AMP
	TEMP. RATING °C	125°	50°	55°	55°	50°	50°	55°	55°
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS							
60	100	70	S6334-1	—	—	—	—	S6121	S6327-1	S6325-1
120	200	140	S6334-2	S6211	S6324-2	S6221-2	S5959	S6121-1	S6327-2	S6325-2
180	300	210	—	—	—	—	—	S6121-2	—	—
240	400	280	S6334-4	S6211-1	S6324-4	S6221-4	S6334-6	S6211-2	S6324-6	S6221-6
300	500	350	—	—	—	—	—	S6121-4	—	—
360	600	420	S5959-1	S6121-3	S6327-4	S6325-4	S5959-2	S6121-5	S6327-6	S6325-6
480	800	560	S6334-8	S6211-3	S6324-8	S6221-8	S5959-3	—	S6327-8	S6325-8
600	1000	700	S6334-10	S6211-4	S6324-10	S6221-10	S5959-4	—	S6327-10	S6325-10

	APPROX. DIM.	1½ x 1¼ x ⅜	3 x 3 x 3½	1 x ⅝ DIAM.	1 x 1 x ⅝	1 x 1 x ⅝
	TERMINALS	SOLDER TAB	SCREW	SOLDER TAB	SOLDER TAB	QUICK DISCONNECT
	CURRENT	10 AMP	12 AMP	12 AMP	15 AMP	25 AMP
	FIGURE	70°	50°	55°	40°	70°
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS				
60	100	70	S6323-1	S5745	—	S6320-1	S6314-1
120	200	140	S6323-2	S5745-1	S6240-2	S6320-2	S6314-2
180	300	210	—	S5745-2	—	—	—
240	400	280	S6323-4	S5745-3	S6240-4	S6320-4	S6312-4
300	500	350	—	S5745-4	—	—	—
360	600	420	S6323-6	S5745-5	S6240-6	S6320-6	S6314-6
480	800	560	S6323-8	—	S6240-8	S6320-8	S6314-8
600	1000	700	S6323-10	—	S6240-10	S6320-10	S6314-10







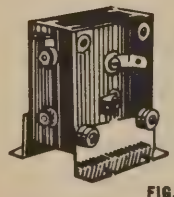


FIG. 5



FIG. 6

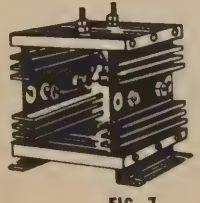


FIG. 7

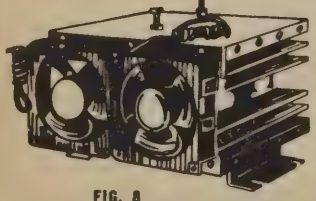


FIG. 8

2 TO 12 AMP SINGLE PHASE ASSEMBLIES*

CURRENT			2 AMP	2.5 AMP	6 AMP	12 AMP
Figure			1	2	3	4
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER
60	100	70	—	—	S-6121	S-5745
120	200	140	S-6211	S-5959	S-6121-1	S-5745-1
180	300	210	—	—	S-6121-2	S-5745-2
240	400	280	S-6211-1	S-5959-1	S-6121-3	S-5745-3
300	500	350	—	—	S-6121-4	S-5745-4
360	600	420	S-6211-2	S-5959-2	S-6121-5	S-5745-5
480	800	560	S-6211-3	S-5959-3	—	—
600	1000	700	S-6211-4	S-5959-4	—	—

Specifications at 50°C, resistive inductive loads.

24 TO 70 AMP SINGLE PHASE ASSEMBLIES

CURRENT			24 AMP*	50 AMP*	70 AMP**
Dimensions overall		Fig. 5	A—5½" B—4¼" C—2⅞"	A—5" B—1⅛" C—5⅛"	A—7¾" B—5⅛" C—5⅛"
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER
30	50	35	ST25-1B1-BBX	ST35-1B1-BBX	ST45F-1B1-BBX
60	100	70	ST210-1B1-BBX	ST310-1B1-BBX	ST410F-1B1-BBX
120	200	140	ST220-1B1-BBX	ST320-1B1-BBX	ST420F-1B1-BBX
180	300	210	ST230-1B1-BBX	ST330-1B1-BBX	ST430F-1B1-BBX
240	400	280	ST240-1B1-BBX	ST340-1B1-BBX	ST440F-1B1-BBX
300	500	350	ST250-1B1-BBX	ST350-1B1-BBX	ST450F-1B1-BBX
360	600	420	ST260-1B1-BBX	ST360-1B1-BBX	ST460F-1B1-BBX
420	700	490	ST270-1B1-BBX	ST370-1B1-BBX	ST470F-1B1-BBX
480	800	560	ST280-1B1-BBX	ST380-1B1-BBX	ST480F-1B1-BBX
600	1000	700	ST2100-1B1-BBX	ST3100-1B1-BBX	ST4100F-1B1-BBX
720	1200	840	ST2120-1B1-BBX	ST3120-1B1-BBX	ST4120F-1B1-BBX

* Convection cooling. ** Forced air cooling; fan included.

100 TO 400 AMP SINGLE PHASE ASSEMBLIES

CURRENT			100 AMP*	200 AMP**	320 AMP**	400 AMP**
Dimensions overall		Fig. 6	A—8¾" B—5⅛" C—6½"	A—8¾" B—5⅛" C—6½"	A—8¼" B—10½" C—7⅝"	A—9¾" B—10½" C—7⅝"
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER
30	50	35	ST55F-1B1-BBX	ST65F-1B1-BBX	ST75F-1B1-BBX	ST95F-1B1-BBX
60	100	70	ST510F-1B1-BBX	ST610F-1B1-BBX	ST710F-1B1-BBX	ST910F-1B1-BBX
120	200	140	ST520F-1B1-BBX	ST620F-1B1-BBX	ST720F-1B1-BBX	ST920F-1B1-BBX
180	300	210	ST530F-1B1-BBX	ST630F-1B1-BBX	ST730F-1B1-BBX	ST930F-1B1-BBX
240	400	280	ST540F-1B1-BBX	ST640F-1B1-BBX	ST740F-1B1-BBX	ST940F-1B1-BBX
300	500	350	ST550F-1B1-BBX	ST650F-1B1-BBX	ST750F-1B1-BBX	ST950F-1B1-BBX
360	600	420	ST560F-1B1-BBX	ST660F-1B1-BBX	ST760F-1B1-BBX	ST960F-1B1-BBX
420	700	490	ST570F-1B1-BBX	ST670F-1B1-BBX	ST770F-1B1-BBX	ST970F-1B1-BBX
480	800	560	ST580F-1B1-BBX	ST680F-1B1-BBX	ST780F-1B1-BBX	ST980F-1B1-BBX
600	1000	700	ST5100F-1B1-BBX	ST6100F-1B1-BBX	ST7100F-1B1-BBX	ST9100F-1B1-BBX
720	1200	840	ST5120F-1B1-BBX	ST6120F-1B1-BBX	ST7120F-1B1-BBX	ST9120F-1B1-BBX

* Forced air cooled; 500 LFM fan included. ** Forced air cooled; 1000 LFM fan included.

15 TO 100 AMP THREE PHASE ASSEMBLIES

CURRENT			15 AMP*	32 AMP*	67.5 AMP*	100 AMP**
Dimensions overall		Fig. 7	A—5" B—4⅛" C—2⅞"	A—8" B—4⅛" C—2⅞"	A—9¼" B—6⅛" C—5"	A—10¾" B—6⅛" C—5"
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER
45	50	35	—	ST25-1BA1-BBX	ST35-1BA1-BBX	ST45F-1BA1-BBX
90	100	70	S-5748	ST210-1BA1-BBX	ST310-1BA1-BBX	ST410F-1BA1-BBX
185	200	140	S-5748-1	ST220-1BA1-BBX	ST320-1BA1-BBX	ST420F-1BA1-BBX
280	300	210	S-5748-2	ST230-1BA1-BBX	ST330-1BA1-BBX	ST430F-1BA1-BBX
370	400	280	S-5748-3	ST240-1BA1-BBX	ST340-1BA1-BBX	ST440F-1BA1-BBX
465	500	350	S-5748-4	ST250-1BA1-BBX	ST350-1BA1-BBX	ST450F-1BA1-BBX
560	600	420	S-5748-5	ST260-1BA1-BBX	ST360-1BA1-BBX	ST460F-1BA1-BBX
650	700	490	S-5748-6	ST270-1BA1-BBX	ST370-1BA1-BBX	ST470-1BA1-BBX
745	800	560	S-5748-7	ST280-1BA1-BBX	ST380-1BA1-BBX	ST480-1BA1-BBX
930	1000	700	S-5748-8	ST2100-1BA1-BBX	ST3100-1BA1-BBX	ST4100-1BA1-BBX
1115	1200	840	S-5748-9	ST2120-1BA1-BBX	ST3120-1BA1-BBX	ST4120-1BA1-BBX

* Convection cooled. ** Forced air cooling; 500 LFM fan included.

135 TO 500 AMP THREE PHASE ASSEMBLIES

CURRENT			135 AMP*	270 AMP**	420 AMP**	500 AMP**
Dimensions overall		Fig. 8	A—12¼" B—5⅛" C—6½"	A—12¼" B—5⅛" C—6½"	A—11¼" B—10½" C—7⅝"	A—13¾" B—10½" C—7⅝"
APPROX. V DC OUTPUT	MAX. PIV	MAX. V RMS	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER	TYPE NUMBER
45	50	35	ST55F-1BA1-BBX	ST65F-1BA1-BBX	ST75F-1BA1-BBX	ST995F-1BA1-BBX
90	100	70	ST510F-1BA1-BBX	ST610F-1BA1-BBX	ST710F-1BA1-BBX	ST910F-1BA1-BBX
185	200	140	ST520F-1BA1-BBX	ST620F-1BA1-BBX	ST720F-1BA1-BBX	ST920F-1BA1-BBX
280	300	210	ST530F-1BA1-BBX	ST630F-1BA1-BBX	ST730F-1BA1-BBX	ST930F-1BA1-BBX
370	400	280	ST540F-1BA1-BBX	ST640F-1BA1-BBX	ST740F-1BA1-BBX	ST940F-1BA1-BBX
465	500	350	ST550F-1BA1-BBX	ST650F-1BA1-BBX	ST750F-1BA1-BBX	ST950F-1BA1-BBX
560	600	420	ST560F-1BA1-BBX	ST660F-1BA1-BBX	ST760F-1BA1-BBX	ST960F-1BA1-BBX
650	700	490	ST570F-1BA1-BBX	ST670F-1BA1-BBX	ST770F-1BA1-BBX	ST970F-1BA1-BBX
745	800	560	ST580F-1BA1-BBX	ST680F-1BA1-BBX	ST780F-1BA1-BBX	ST980F-1BA1-BBX
930	1000	700	ST5100F-1BA1-BBX	ST6100F-1BA1-BBX	ST7100F-1BA1-BBX	ST9100F-1BA1-BBX
1115	1200	840	ST5120F-1BA1-BBX	ST6120F-1BA1-BBX	ST7120F-1BA1-BBX	ST9120F-1BA1-BBX

* Forced air cooling; 500 LFM fan included. ** Forced air cooling; 1000 LFM fan included.

© United Technical Publications

SARKES TARZIAN

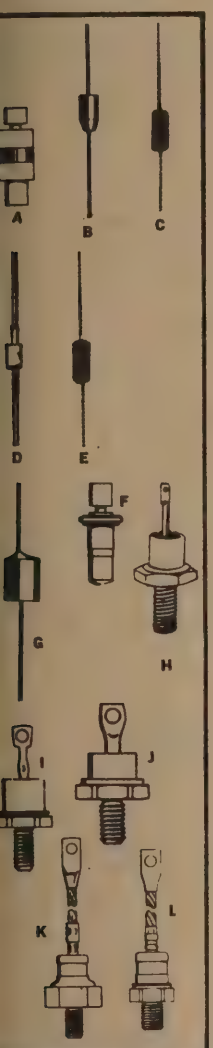
Silicon Avalanche Rectifiers

of the silicon rectifiers listed below are supplied with avalanche aracteristics as standard. They are direct replacements, electrically d physically, for ordinary silicon rectifiers, yet they provide important nefits to you and your products, **at no** extra cost.

ervoltage protection is built into the rectifier. Transient voltage in- ced failures are virtually eliminated because these units avalanche at tages well below the destruction point. The overvoltage spike is dis- ated through the junction at a point below the critical voltage stress oss the edge of the junction.

Lower circuit costs are readily achieved. When avalanche rectifiers are used suppressor and balancing devices, such as resistors, capacitors, R-C networks, etc., are no longer needed. In addition, their elimination improves circuit reliability, due to a reduction in number of components and interconnections.

Dependable performance is assured. Over 20,000,000 of these devices already have been delivered and are in actual use in the field. They are now routinely available from high volume production lines.



1 TO 6 AMP RECTIFIERS

CURRENT P.I.V.	1 AMP PLUG-IN PART NO	1 AMP INSULATED CASE PART NO		1 AMP METAL CASE PART NO	1 AMP GLASS CASE PART NO	2 AMP PLUG-IN PART NO	3 AMP INSULATED CASE PART NO	6 AMP STUD MTG. PART NO***	OUTPUT VOLTAGES, SINGLE PHASE MAX* RMS VOLTS	HALFWAVE 1 X AMP DC** Output VDC	CENTER TAP 2 X AMP DC** Output VDC	BRIDGE 2 X AMP DC** Output VDC
Figure	A	B	C	D	E	F	G	H				
100	10M			10C	G1	10LA	3AF1	10H3P	70	30	30	60
200	20M	F2	E2	20C	G2	20LA	3AF2	20H3P	140	60	60	120
300	30M			30C	G3	30LA	3AF3	30H3P	210	90	90	180
400	M-500	F4	E4	40C	G4	40LA	3AF4	40H3P	280	120	120	240
500	50M			50C	G5	50LA	3AF5	50H3P	350	150	150	300
600	60M	F6	E6	60C	G6	60LA	3AF6	60H3P	420	180	180	360
800		F8	E8	80C	G8		3AF8	80H3P	560	240	240	480
1000		F10	E10	100C	G10		3AF10	100H3P	700	300	300	600

12 TO 100 AMP RECTIFIERS / STUD MOUNTED***

CURRENT P.I.V.	12 AMP	25 AMP	35 AMP	50 AMP	100 AMP	OUTPUT VOLTAGES, SINGLE PHASE MAX* RMS VOLTS	HALFWAVE 1 X AMP DC** Output VDC	CENTER TAP 2 X AMP DC** Output VDC	BRIDGE 2 X AMP DC Output VDC
Figure	H	I	J	K	L				
100	ST210P	ST3A10P	ST410P	ST5A10P	ST610P	70	30	30	60
200	ST220P	ST3A20P	ST420P	ST5A20P	ST620P	140	60	60	120
300	ST230P	ST3A30P	ST430P	ST5A30P	ST630P	210	90	90	180
400	ST240P	ST3A40P	ST440P	ST5A40P	ST640P	280	120	120	240
500	ST250P	ST3A50P	ST450P	ST5A50P	ST650P	350	150	150	300
600	ST260P	ST3A60P	ST460P	ST5A60P	ST660P	420	180	180	360
800	ST280P	ST3A80P	ST480P	ST5A80P	ST680P	560	240	240	480
1000	ST2100P	ST3A100P	ST4100P	ST5A100P	ST6100P	700	300	300	600
1200	ST2120P	ST3A120P	ST4120P	ST5A120P	ST6120P	840	360	360	720
1400	ST2140P	ST3A140P	ST4140P	ST5A140P	ST6140P	980	420	420	840

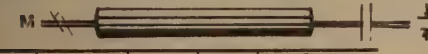
160 TO 350 AMP RECTIFIERS / STUD MOUNTED***

CURRENT P.I.V.	160 AMP		250 AMP		350 AMP	OUTPUT VOLTAGES, SINGLE PHASE MAX* RMS VOLTS	HALFWAVE 1 X AMP DC** Output VDC	CENTER TAP 2 X AMP DC** Output VDC	BRIDGE 2 X AMP DC Output VDC
Figure	L	K	K	L	L				
100	ST710P	ST1010P	ST810P	ST910P	ST2010P	70	30	30	60
200	ST720P	ST1020P	ST820P	ST920P	ST2020P	140	60	60	120
300	ST730P	ST1030P	ST830P	ST930P	ST2030P	210	90	90	180
400	ST740P	ST1040P	ST840P	ST940P	ST2040P	280	120	120	240
500	ST750P	ST1050P	ST850P	ST950P	ST2050P	350	150	150	300
600	ST760P	ST1060P	ST860P	ST960P	ST2060P	420	180	180	360
800	ST780P	ST1080P	ST880P	ST980P	ST2080P	560	240	240	480
1000	ST7100P	ST10100P	ST8100P	ST9100P	ST20100P	700	300	300	600
1200	ST7120P	ST10120P	ST8120P	ST9120P	ST20120P	840	360	360	720
1400	ST7140P	ST10140P	ST8140P	ST9140P	ST20140P	980	420	420	840

* Derate 50% for single phase halfwave with capacitor load.
Derate current 20% for single phase operation on battery motor or capacitive load.
** Add suffix "N" for anode connected to stud.

AST RECOVERY — 250 NANOSECONDS

MAX. REV. CUR. = 1 μA @ 25°C, 5 μA @ 85°C



These multijunction high voltage diodes use from 2 to 30 wafers. They have transfer-molded cylindrical cones, to assure void-free construction and silver axial leads for maximum thermal transfer. Maximum operating and storage temperature is 150°C.

art No.	I	PIV	Max. Surge	Case Diam.-Length (Inches)
CFR10	200 ma.	1000	20	.107-.205
CFR15	200 ma.	1500	20	.107-.205
CFR20	200 ma.	2000	20	.107-.205
CFR30	200 ma.	3000	20	.107-.205
BFR20	120 ma.	2000	12	.145-.410
BFR25	120 ma.	2500	12	.145-.410
BFR30	120 ma.	3000	12	.145-.410
BFR40	120 ma.	4000	12	.145-.410
BFR50	70 ma.	5000	8	.145-.410
BFR60	70 ma.	6000	6	.145-.410
BFR70	70 ma.	7000	6	.145-.410
BFR75	70 ma.	7500	8	.145-.410
AFR30	30 ma.	3000	6	.187-.563
AFR40	30 ma.	4000	6	.187-.563
AFR50	30 ma.	5000	6	.187-.563
AFR60	30 ma.	6000	8	.187-.563
AFR70	30 ma.	7000	4	.187-.563
AFR80	30 ma.	8000	6	.187-.563
AFR90	30 ma.	9000	6	.187-.563
AFR100	30 ma.	10,000	6	.187-.563
DFR50	25 ma.	5000	4	.187-1.000
DFR70	25 ma.	7000	4	.187-1.000

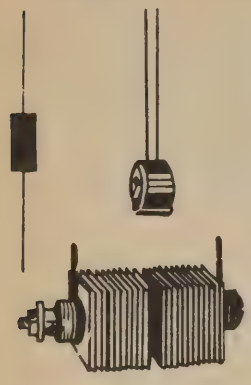
Part No.	I	PIV	Max. Surge	Case Diam.-Length (Inches)
25DFR100	25 ma.	10,000	4	.187-1.000
25DFR110	25 ma.	11,000	4	.187-1.000
25DFR120	25 ma.	12,000	4	.187-1.000
25DFR130	25 ma.	13,000	4	.187-1.000
45EFR150	25 ma.	15,000	4	.300-2.000
45EFR200	25 ma.	20,000	4	.300-2.000
45EFR250	25 ma.	25,000	4	.300-2.000
70GFR300	25 ma.	30,000	4	.300-3.000
70GFR400	25 ma.	40,000	4	.300-3.000

STANDARD RECOVERY

Part No.	I	PIV	Max. Surge	Case Diam.-Length (Inches)
3CFS10	300 ma.	1000	30	.107-.205
3CFS15	300 ma.	1500	30	.107-.205
3CFS20	300 ma.	2000	30	.107-.205
3CFS25	300 ma.	2500	30	.107-.205
3CFS30	300 ma.	3000	30	.107-.205
5BFS20	180 ma.	2000	20	.145-.410
5BFS25	180 ma.	2500	20	.145-.410
5BFS30	180 ma.	3000	20	.145-.410
5BFS40	180 ma.	4000	20	.145-.410
10BFS50	110 ma.	5000	14	.145-.410

Part No.	I	PIV	Max. Surge	Case Diam.-Length (Inches)
10BFS60	110 ma.	6000	14	.145-.410
10BFS70	110 ma.	7000	14	.145-.410
10BFS75	110 ma.	7500	14	.145-.410
20AFS30	45 ma.	3000	8	.187-.563
20AFS40	45 ma.	4000	8	.187-.563
20AFS50	45 ma.	5000	8	.187-.563
20AFS60	45 ma.	6000	8	.187-.563
20AFS70	45 ma.	7000	8	.187-.563
20AFS80	45 ma.	8000	8	.187-.563
20AFS90	45 ma.	9000	8	.187-.563
20AFS100	45 ma.	10,000	8	.187-.563
25DFS50	30 ma.	5000	6	.187-1.000
25DFS70	30 ma.	7000	6	.187-1.000
25DFS100	30 ma.	10,000	6	.187-1.000
25DFS110	30 ma.	11,000	6	.187-1.000
25DFS120	30 ma.	12,000	6	.187-1.000
25DFS130	30 ma.	13,000	6	.187-1.000
45EFS150	30 ma.	15,000	6	.300-2.000
45EFS200	30 ma.	20,000	6	.300-2.000
45EFS250	30 ma.	25,000	6	.300-2.000
70GFS300	30 ma.	30,000	6	.300-3.000
70GFS400	30 ma.	40,000	6	.300-3.000

KLIPVOLT SURGE SUPPRESSORS



A voltage transient does its damage in a few microseconds — destroying semiconductors or causing circuit malfunction. But Tarzian Klipvolt selenium suppressors protect semiconductor components and circuits from voltage transients in 1/10 the time required for silicon device reaction.

Tarzian Klipvolt selenium suppressors have turn-on and turn-off characteristics that exceed requirements of even the fastest silicon devices available. Typical Klipvolts can turn on, or off, within 200 nanoseconds.

Tarzian Klipvolt surge suppressors inhibit or reduce peak voltages generated in many different kinds of circuits. They are used to protect silicon rectifiers, transistors and other semiconductor devices and to reduce noise transients.

Polarized types function in DC circuitry and non-polarized types in AC circuits. Extremely small units are available for easy mounting on printed circuit boards.

LOW CURRENT SUPPRESSORS

POLARIZED				SINGLE PHASE NON-POLARIZED				
Max. DC Blocking Volts	Max. Discharge Current (Amps)	Std. Type	Sealed Type	Max. RMS Volts	Dis-charge Curr. (Amps)	Clamp-ing Voltage	Std. Type	Sealed Type
22	.250	S-235	S-235-C	26	.200	63	S-235	S-235-C
22	.850	S-236	S-236-C	26	.700	63	S-236	S-236-C
44	.250	S-237	S-237-C	52	.200	125	S-249	S-249-C
44	.850	S-238	S-238-C	52	.700	125	S-250	S-250-C
66	.250	S-239	S-239-C	78	.200	190	S-251	S-251-C
66	.850	S-240	S-240-C	78	.700	190	S-252	S-252-C
88	.250	S-241	S-241-C	104	.200	250	S-253	S-253-C
88	.850	S-242	S-242-C	104	.700	250	S-254	S-254-C
110	.250	S-243	S-243-C	130	.200	310	S-255	S-255-C
110	.850	S-244	S-244-C	130	.200	310	S-871	—
132	.250	S-245	S-245-C	130	.700	310	S-256	S-256-C
132	.850	S-246	S-246-C	—	—	—	—	—
154	.250	S-247	S-247-C	—	—	—	—	—
154	.850	S-248	S-248-C	—	—	—	—	—

The most commonly used types are listed here. However, there are literally hundreds of variations that can be supplied on short notice, constructed from standard stocked parts. Your distributor can supply them, based on the part numbering system described below. For additional data and specifications, ask him for the Tarzian Klipvolt Surge Suppressor Catalog 71KV4.

ORDERING INFORMATION — KLIPVOLT SUPPRESSORS

1. Consult Table I to determine cell number (size) needed to meet current requirements for non-polarized (AC or DC) applications. Consult Table II for equivalent information on polarized (DC only) applications. Insert all numbers in part numbering key.
2. Consult Table III (non-polarized) or Table IV (polarized) to determine how many cells are needed to meet voltage requirements for 26 or 33 volt cells. Insert number of cells and cell voltage rating in appropriate positions in part numbering key.
3. Indicate construction requirements and finish.

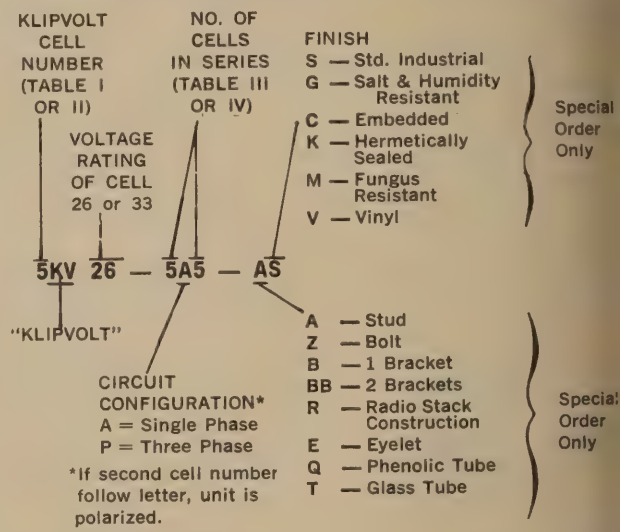


TABLE I
CURRENT CHARACTERISTICS
NON-POLARIZED CELLS

Cell No.	Current	Cell Range	Cell Size (Inches)
0KV	0.62	5 to 15	.281 Dia.
1KV	2.20	5 to 15	.468 x .468
2KV	5.9	1 to 14	1 x 1
3KV	11.0	1 to 14	1.250 x 1.250
4KV	19.6	1 to 14	1.6 x 1.6
5KV	33.9	1 to 14	2 x 2
6KV	70.0	1 to 7	3 x 3
7KV	129.6	1 to 7	4 x 4
8KV	212.5	1 to 7	5 x 5
9KV	216.6	1 to 7	4.250 x 6
10KV	259.6	1 to 7	5 x 6
12KV	445.2	1 to 7	4.250 x 12
14KV	404.6	1 to 7	6.250 x 7.250

TABLE II
CURRENT CHARACTERISTICS
POLARIZED CELLS — all available in 1 to 10 cells

Cell No.	Current	Cell Size (Inches)
2KV	5.5	1 x 1
3KV	11	1¼ x 1¼
3KV	20	1.6 x 1.6
5KV	33	2 x 2
6KV	65	3 x 3
7KV	120	4 x 4
8KV	200	5 x 5
9KV	200	4¼ x 6
10KV	225	5 x 6
12KV	360	4¼ x 12
14KV	430	6¼ x 7¼

TABLE III
VOLTAGE CHARACTERISTICS
NON-POLARIZED CELLS (AC or DC)

	26 VOLTS			33 VOLTS		
No. of Cells	VRMS	PIV	Clamping Volts	VRMS	PIV	Clamping Volts
1	26	36	63	33	47	83
2	52	72	125	66	93	166
3	78	100	190	99	140	250
4	104	147	250	132	187	332
5	130	175	320	165	234	415
6	156	220	380	198	280	500
7	182	260	440	230	325	580
8	208	294	505	264	373	665
9	234	325	570	296	420	750
10	260	370	630	330	470	830
11	286	404	690	363	515	915
12	310	440	760	396	560	995
13	340	480	820	430	610	1080
14	365	515	880	463	655	1160

TABLE IV
VOLTAGE CHARACTERISTICS
POLARIZED CELLS (DC)

	V_R (DC) BLOCKING VOLTAGE	
No. of Cells	26 V. Cell	33 V. Cell
1	22	27
2	44	54
3	66	81
4	88	108
5	110	135
6	132	162
7	154	189
8	176	216
9	198	243
10	220	270

© United Technical Publication

SARKES TARZIAN SILICON ZENER VOLTAGE REGULATORS

1TA SERIES (Style D)



Tarzian Type	Specifications @ 25°C			Jedec Type
	Zener Volt (V)	Test Current (Ma)	Dyn. Imped. (Ohms)	
TA5.6	5.6	100	1.2	—
TA6.2	6.2	100	1.5	—
TA6.8	6.8	37	3.5	1N3016
TA7.5	7.5	34	4.0	1N3017
TA8.2	8.2	31	4.5	1N3018
TA9.1	9.1	28	5.0	1N3019
TA10	10	25	7.0	1N3020
TA11	11	23	8.0	1N3021
TA12	12	21	9.0	1N3022
TA13	13	19	10	1N3023
TA15	15	17	14	1N3024
TA16	16	15.5	16	1N3025
TA18	18	14	20	1N3026
TA20	20	12.5	22	1N3027
TA22	22	11.5	23	1N3028
TA24	24	10.5	25	1N3029
TA27	27	9.5	35	1N3030
TA30	30	8.5	40	1N3031
TA33	33	7.5	45	1N3032
TA36	36	7.0	50	1N3033
TA39	39	6.5	60	1N3034
TA43	43	6.0	70	1N3035
TA47	47	5.5	80	1N3036
TA51	51	5.0	95	1N3037
TA56	56	4.5	110	1N3038
TA62	62	4.0	125	1N3039
TA68	68	3.7	150	1N3040
TA75	75	3.3	175	1N3041
TA82	82	3.0	200	1N3042
TA91	91	2.8	250	1N4043
TA100	100	2.5	350	1N3044
TA110	110	2.3	450	1N3045
TA120	120	2.0	550	1N3046
TA130	130	1.9	700	1N3047
TA150	150	1.7	1000	1N3048
TA160	160	1.6	1100	1N3049
TA180	180	1.4	1200	1N3050
TA200	200	1.2	1500	1N3051

NOTES: Standard tolerance is ±20%.

1 WATT PLASTIC CASE — VR SERIES (Style B)



Tarzian Type	Specifications @ 25°C		
	Breakdown Voltage (VB)	Test Current (Ma)	Dyn. Imped. (Ohms)
VR6	6	25	4
VR7	7	25	5
VR8.5	8.5	25	6
VR10	10	12	8
VR12	12	12	10
VR14	14	12	11
VR18	18	12	17
VR20	20	12	20
VR24	24	4	28
VR28	28	4	42
VR33	33	4	50
VR39	39	4	70
VR47	47	4	98
VR56	56	4	140
VR67	67	2	200
VR80	80	2	280
VR90	90	1	340
VR105	105	1	400
VR110	110	1	490
VR120	120	1	570
VR130	130	1	650
VR150	150	1	860
VR160	160	1	970
VR180	180	1	1200
VR200	200	1	1400

NOTES: Maximum Dissipation — 1 Watt.

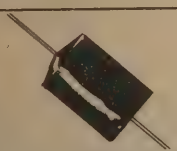
2 WATT PLASTIC CASE — 2VR SERIES (Style B)



Tarzian Type	Specifications @ 25°C		
	Breakdown Voltage (VB)	Test Current (Ma)	Dyn. Imped. (Ohms)
2VR6	6	25	4
2VR7	7	25	5
2VR8.5	8.5	25	6
2VR10	10	25	8
2VR12	12	12	10
2VR14	14	12	11
2VR18	18	12	17
2VR20	20	12	20
2VR24	24	4	28
2VR28	28	4	42
2VR33	33	4	50
2VR39	39	4	70
2VR47	47	4	98
2VR56	56	4	140
2VR67	67	2	200
2VR80	80	2	280
2VR90	90	1	340
2VR105	105	1	400
2VR110	110	1	490
2VR120	120	1	570
2VR130	130	1	650
2VR150	150	1	860
2VR160	160	1	970
2VR180	180	1	1200
2VR200	200	1	1400

NOTES: Maximum Dissipation — 2 Watts.

3 WATT PLASTIC CASE — 3VR SERIES (Style G)



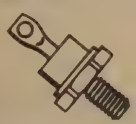
Tarzian Type	Specifications @ 25°C		
	Breakdown Voltage (VB)	Test Current (Ma)	Dyn. Imped. (Ohms)
3VR6	6.2	250	1
3VR7	7.5	100	3
3VR8.5	8.5	250	1.5
3VR10	10	75	5
3VR12	12	63	5
3VR15	15	50	8
3VR18	18	42	11
3VR20	20	37.5	12
3VR24	24	30.5	5
3VR27	27	28.5	18
3VR33	33	22.5	22
3VR39	39	19.5	30
3VR47	47	16.5	40
3VR56	56	13.5	55
3VR68	68	11.1	75
3VR82	82	9	100
3VR91	91	8.4	125
3VR110	110	6.9	225
3VR120	120	6	275
3VR130	130	5.7	350
3VR150	150	5	500
3VR160	160	4.8	550
3VR180	180	4.1	600
3VR200	200	3.7	750

NOTES: Maximum Dissipation — 3 Watt.

Add Suffix "A" to type number for 10% tolerance; Suffix "B" for 5% tolerance. For reverse polarity add Suffix "R" to type number and Jedec number.

Example: 1TA6-8RA; 1N30168A

10 WATT STUD MOUNT — 10T SERIES (Style H)



Tarzian Type	Specifications @ 25°C			Jedec Type
	Zener Volt (V)	Test Current (Ma)	Dyn. Imped. (Ohms)	
10T5.6	5.6	1000	1	1N1803
10T6.2	6.2	1000	1	1N1804
10T6.8	6.8	1000	1	1N1805
10T7.5	7.5	1000	1	1N1806
10T8.2	8.2	1000	1	1N1807
10T9.1	9.1	500	1	1N1808
10T10	10	500	2	1N1351
10T11	11	500	2	1N1352
10T12	12	500	2	1N1353
10T13	13	500	2	1N1354
10T15	15	500	2	1N1355
10T16	16	500	3	1N1356
10T18	18	150	3	1N1357
10T20	20	150	3	1N1358
10T22	22	150	3	1N1359
10T24	24	150	3	1N1360
10T27	27	150	3	1N1361
10T30	30	150	4	1N1362
10T33	33	150	4	1N1363
10T36	36	150	5	1N1364
10T39	39	150	5	1N1365
10T43	43	150	6	1N1366
10T47	47	150	7	1N1367
10T51	51	150	8	1N1368
10T56	56	150	9	1N1369
10T62	62	50	12	1N1370
10T68	68	50	14	1N1371
10T75	75	50	20	1N1372
10T82	82	50	22	1N1373
10T91	91	50	35	1N1374
10T100	100	50	40	1N1375
10T110	110	50	47	1N1809
10T120	120	50	56	1N1810
10T130	130	50	65	1N1811
10T150	150	50	82	1N1812
10T160	160	50	93	1N1813
10T180	180	50	115	1N1814
10T200	200	50	140	1N1815

NOTE: Standard tolerance is 10%.

50 WATT STUD MOUNT — 50T SERIES (Style H)



Tarzian Type	Specifications @ 25°C		
	Zener Volt (V)	Test Current (Ma)	Dyn. Imped. (Ohms)
50T6.8	6.8	1850	0.2
50T7.5	7.5	1700	0.3
50T8.2	8.2	1500	0.4
50T9.1	9.1	1370	0.5
50T10	10	1200	0.6
50T11	11	1100	0.8
50T12	12	1000	1.0
50T13	13	960	1.1
50T15	15	830	1.4
50T16	16	780	1.6
50T18	18	700	2.0
50T20	20	630	2.4
50T22	22	570	2.5
50T24	24	520	2.6
50T27	27	460	2.8
50T30	30	420	3.0
50T33	33	380	3.2
50T36	36	350	3.5
50T39	39	320	4.0
50T43	43	290	4.5
50T47	47	270	5.0
50T51	51	245	5.2
50T62	62	200	7
50T68	68	180	8
50T75	75	170	9
50T82	82	150	11
50T91	91	140	15
50T100	100	120	20
50T110	110	110	30
50T120	120	100	40
50T130	130	95	50
50T150	150	85	75
50T160	160	80	80
50T180	180	68	90
50T200	200	65	100

Standard tolerance is 10%.

Solid State Devices, Incorporated

On the following pages Solid State Devices, Inc. presents a selection of popular, "off the shelf" semiconductor devices which will meet a wide variety of applications in military and commercial electronic equipment. All of the devices listed bear standard 1N and 2N designations from which you may order without getting "spec'd" in or out. Solid State Devices also manufactures and stocks many silicon semiconductor devices not listed here. Contact us with your requirements.

fast switching power rectifiers

(listed in order or trr).

Device Type No.	Recovery Time t_{rr} (nsec)	V_R (volts)	I_o @ T_A 55°C *T_C 100°C †T_A 25°C (amps)	I_f (surge) @ 1/120 sec (amps)	Maximum Reverse Current at Rated V_R @ I_R TA 25°C (μA)	Maximum Reverse Current at Rated V_R @ I_R T_A = 150°C *T_C 100°C (μA)	JEDEC Outline
1N4942	150	200	1	10	1	200	DO15
1N4944	150	400	1	10	1	200	DO15
1N4946	150	600	1	10	1	200	DO15
1N5186	150	100	† 3	80	2	100	—
1N5187	200	200	† 3	80	2	100	—
1N3885	200	100	*12	150	25	*3000	DO10
1N3886	200	200	*12	150	25	*3000	DO10
1N3888	200	400	*12	150	25	*3000	DO10
1N3890	200	100	*12	150	25	*3000	DO4
1N3891	200	200	*12	150	25	*3000	DO4
1N3910	200	100	*30	300	80	*10000	DO5
1N3911	200	200	*30	300	80	*10000	DO5
1N3913	200	400	*30	300	80	*10000	DO5
1N4947	250	800	1	15	1	200	DO15
1N5188	250	400	† 3	80	2	100	—
1N5190	400	600	† 3	80	2	100	—
1N4948	500	1000	1	10	1	200	DO15

silicon power rectifiers

(listed in order of maximum DC output current)

Device Type No.	V_R (volts)	I_o @ T_C 150°C †T_A 150°C T_A 100°C (amps)	I_f (surge) @ 1/120 sec (amps)	Max Reverse Current at Rated V_R @ †T_A 25°C T_C 25°C I_R	Max Reverse Current at Rated V_R @ †T_A 150°C T_C 150°C *T_C 200°C **T_C 175°C ***T_A = 100°C I_R	JEDEC outlines
1N3611	200	†.3	20	†1 μA	†300 μA	—
1N3612	400	†.3	20	†1 μA	†300 μA	—
1N3613	600	†.3	20	†1 μA	†300 μA	—
1N3614	800	†.3	20	†1 μA	†300 μA	—
1N3957	1000	†.3	20	†1 μA	†300 μA	—
1N4245	200	† 1	25	†1 μA	†150 μA	DO15
1N4246	400	† 1	25	†1 μA	†150 μA	DO15
1N4247	600	† 1	25	†1 μA	†150 μA	DO15
1N4248	800	† 1	25	†1 μA	†150 μA	DO15
1N4249	1000	† 1	25	†1 μA	†150 μA	DO15
1N5550	200	* 2	50	1 μA	***20 μA	—
1N5551	400	* 2	50	1 μA	***20 μA	—
1N5552	600	* 2	50	1 μA	***20 μA	—
1N5553	800	* 2	50	1 μA	***20 μA	—
1N5554	1000	* 2	50	1 μA	***20 μA	—
1N1202A	200	12	240	50 μA	1 mA	DO4
1N1204A	400	12	240	50 μA	1 mA	DO4
1N1206A	600	12	240	50 μA	1 mA	DO4
1N3671A	800	12	240	50 μA	1 mA	DO4
1N3673A	1000	12	240	50 μA	1 mA	DO4
1N1186	200	35	500	—	3 mA	DO5
1N1188	400	35	500	—	3 mA	DO5
1N1190	600	35	500	—	3 mA	DO5
1N3766	800	35	500	—	3 mA	DO5
1N3768	1000	35	500	—	3 mA	DO5
1N3289	200	75	1600	—	*30 mA	DO8
1N3291	400	75	1600	—	*30 mA	DO8
1N3293	600	75	1600	—	*20 mA	DO8
1N3294	800	75	1600	—	*15 mA	DO8
1N3295	1000	75	1600	—	*10 mA	DO8
1N3263	200	120	2000	20 mA	15 mA	DO9
1N3267	400	120	2000	20 mA	15 mA	DO9
1N3269	600	120	2000	20 mA	15 mA	DO9
1N3164	200	175	3000	—	**40 mA	DO9
1N3168	400	175	3000	—	**40 mA	DO9
1N3170	600	175	3000	—	**40 mA	DO9

© United Technical Publicatio

Solid State Devices, Incorporated

high voltage silicon cartridge rectifiers

types: 1N1730-34, 1N2382-85, 1N596-98, 1N1406-13.

JEDEC Type Number	Rate Peak Inverse Voltage(1)	Absolute Maximum Ratings			Electrical Characteristics		
		RMS Input Voltage(2)	Rectified DC Output Current(2) 25°C	100°C	Maximum DC Forward Voltage Drop @ 100 mADC @ 25°C	Maximum DC Reverse Current @ Rated PIV (μA) @ 25°C	@ 100°C
1N1730	1000	700	200	100	5	10	100
1N1731	1500	1050	200	100	5	10	100
1N1732	2000	1400	200	100	9	10	100
1N1733	3000	2100	150	75	12	10	100
1N1734	4000	2800	150	75	18	10	100
1N2382	5000	3500	100	50	18	10	100
1N2383	6000	4200	100	50	27	10	100
1N2384	8000	5000	70	35	27	10	100
1N2385	10000	7000	70	35	39	10	100
1N596	600	420	150	90	3	10	100
1N597	800	560	150	90	3	10	100
1N598	1000	700	150	90	3	10	100
1N1406	600	420	125	70	5	10	100
1N1407	800	560	125	70	5	10	100
1N1408	1000	700	125	70	5	10	100
1N1409	1200	840	125	70	5	10	100
1N1410	1500	1050	125	70	6.25	10	100
1N1411	1800	1260	125	70	7.50	10	100
1N1412	2000	1400	125	70	6.25	10	100
1N1413	2400	1680	125	70	7.50	10	100

Ambient Temperature Range: −55°C to 150°C. (1) Continuous DC rating same as P.I.V. (2) Resistive or inductive load.

hermetically sealed vacuum tube replacements

P/N	Replaces	Configuration	Pin Connections	PIV	Average DC Current @ 55°C
1N1150 1N2634	80, 82, 83, 83V, 5Z3	F.W.C.T.	Pin 4 (cathode) Pins 2 & 3 (anode)	1600	750 ma
1N1237 1N2633	0Z4, 5X4, 5Y4, 6AX5, 6X5, 6W5, 6ZY5, 5839, 5852	F.W.C.T.	Pin 8 (cathode) Pins 3 & 5 (anode)	1600	750 ma
1N1238 1N2631	5AV4, 5AW4, 5AZ4, 5T4, 5U4, 5V4, 5W4, 5Y4, 5Z4, 5931, 6087, 6106, 5AX4, 5AV4, 6004	F.W.C.T.	Pin 8 (cathode) Pins 4 & 6 (anode)	1600	750 ma
1N2389	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y4, 5WF, 5Y3, 5Z4	F.W.C.T.	Pin 8 (cathode) Pins 4 & 6 (anode)	1600	600 ma
1N1239 1N2632	5R4	F.W.C.T.	Pin 8 (cathode) Pins 4 & 6 (anode)	2800	500 ma
1N1262	6AV4, 6AX4, 6BL4, 25W4, 6U4, 6W4, 12AX4, 17AX4	H.W.	Pin 3 (cathode) Pin 5 (anode)	4500	250 ma
1N2490 1N2630 1N2635	6X4, 6032, 6202, 12X4	F.W.C.T.	Pin 7 (cathode) Pins 1 & 6 (anode)	1600	500 ma
1N2636	84, 6Z4	F.W.C.T.	Pin 4 (cathode) Pins 2 & 3 (anode)	1500	85 ma
1N2637	866, 866A, 3B28	H.W.	Pin 1 (cathode) Cap (anode)	10,400	750 ma

Solid State Devices, Incorporated

Power Transistors

TYPE	Polarity	NPN/ PNP Complement	$V_{CEO\ (SUS)}$ (Volts)	h_{FE} @ I_C/V_{CE} (Min-Max @ A/V)	$V_{CE\ (S)}$ @I_C/I_B (V@A/A)	P_D @T_C=25°C (Watts)	Θ_{J-C} (°C/W)	Min. f_T (MHz)	t_{ON} @I_C/I_B (μs@A/A)	t_{OFF} @I_C/I_B (μs@A/A)	Package
2N1724	NPN		80	20-90 @ 2/15	1.0 @ 2/.2	88	2.0	10			TO - 61
2N1725	NPN		80	20-90 @ 15/2	1.0 @ 2/.2	88	2.0	10			TO - 61
2N2657	NPN		60	40-120 @ 1/2	.5 @ 1/.1	7.0	25	20	.5 @ 10/1	1.0 @ 10/1	TO - 5
2N2658	NPN		80	40-120 @ 1/2	.5 @ 1/.1	7.0	25	20	.5 @ 10/1	1.0 @ 10/1	TO - 5
2N2811	NPN		60	20-60 @ 5/5	1.5 @ 10/1	70	2.5	15			TO - 61
2N2812	NPN		60	40-120 @ 5/5	1.5 @ 10/1	70	2.5	15			TO - 61
2N2813	NPN		80	20-60 @ 5/5	1.5 @ 10/1	70	2.5	15			TO - 61
2N2814	NPN		80	40-120 @ 5/5	1.5 @ 10/1	70	2.5	15			TO - 61
2N2890	NPN		80	30-90 @ 1/2	.75 @ 2/.2	5.0	35	30	.3 @ 1/.05	1.5 @ 1/.05	TO - 5
2N2891	NPN		80	50-150 @ 1/2	.75 @ 2/.2	5.0	35	30	.3 @ 1/.05	1.5 @ 1/.05	TO - 5
2N2892	NPN		80	30-90 @ 1/2	.75 @ 2/.2	30	6.0	30	.3 @ 1/.05	1.5 @ 1/.05	TO - 59
2N2893	NPN		80	50-150 @ 1/2	.75 @ 2/.2	30	6.0	30	.3 @ 1/.05	1.5 @ 1/.05	TO - 59
2N3054	NPN		55	25-100 @ .5/4	1.0 @ .5/.05	25	7.0	1.0			TO - 66
2N3055	NPN	2N4908	60	20-70 @ 4/4	1.1 @ 4/0.4	117	1.5	0.8			TO - 3
2N3232	NPN		60	18-55 @ 3/10	2.5 @ 3/0.2	117	1.5	1.0			TO - 3
2N3233	NPN		100	18-55 @ 3/10	2.5 @ 3/0.2	117	1.5	1.0			TO - 3
2N3234	NPN		160	18-55 @ 3/10	2.5 @ 3/0.2	117	1.5	1.0			TO - 3
2N3441	NPN		140	20-80 @ .5/4	6 @ 2.7/.9	25	7.0	1.0			TO - 66
2N3442	NPN		140	20-70 @ 3/4	5.0 @ 10/2.0	117	1.5				TO - 3
2N3445	NPN		60	20-60 @ 3/5	1.5 @ 3/.3	115	1.5	10	.35 @ .5/.5	2.4 @ 5/.5	TO - 3
2N3446	NPN		80	20-60 @ 3/5	1.5 @ 3/.3	115	1.5	10	.35 @ .5/.5	2.4 @ 5/.5	TO - 3
2N3447	NPN		60	40-120 @ 5/5	1.5 @ 5/.5	115	1.5	10	.35 @ .5/.5	2.4 @ 5/.5	TO - 3
2N3448	NPN		80	40-120 @ 5/5	1.5 @ 5/.5	115	1.5	10	.35 @ .5/.5	2.4 @ 5/.5	TO - 3
2N3597	NPN		40	40-120 @ 10/2	1.5 @ 20/2	175	1.0	30	.7 @ 10/1	2.7 @ 10/1	TO - 63
2N3598	NPN		60	40-120 @ 10/2	1.5 @ 20/2	175	1.0	30	.7 @ 10/1	2.7 @ 10/1	TO - 63
2N3599	NPN		80	40-120 @ 10/2	1.5 @ 20/2	175	1.0	30	.7 @ 10/1	2.7 @ 10/1	TO - 63
2N3713	NPN	2N3789	60	25-90 @ 1/2	1.0 @ 5/0.5	150	1.17	2.5			TO - 3
2N3714	NPN	2N3790	80	25-90 @ 1/2	1.0 @ 5/0.5	150	1.17	2.5			TO - 3
2N3715	NPN	2N3791	60	50-150 @ 1/2	0.8 @ 5/0.5	150	1.17	2.5			TO - 3
2N3716	NPN	2N3792	80	50-150 @ 1/2	0.8 @ 5/0.5	150	1.17	2.5			TO - 3
2N3740	PNP		60	30-100 @ .25/1	0.6 @ 1/.125	25	7.0	4.0			TO - 66
2N3741	PNP		80	30-100 @ .25/1	0.6 @ 1/.125	25	7.0	4.0			TO - 66
2N3766	NPN		60	40-160 @ .5/5	1.0 @ .5/.05	20	7.5	10			TO - 66
2N4903	PNP	2N5069	80	20-80 @ 1/2	1.5 @ 5/1	87.5	2.0	4.0			TO - 3
2N4904	PNP	2N4913	40	25-100 @ 2.5/2	1.5 @ 5/1	87.5	2.0	4.0			TO - 3
2N4905	PNP	2N4914	60	25-100 @ 2.5/2	1.5 @ 5/1	87.5	2.0	4.0			TO - 3
2N4906	PNP	2N4915	80	25-100 @ 2.5/2	1.5 @ 5/1	87.5	2.0	4.0			TO - 3
2N4907	PNP		40	20-80 @ 4/4	2.0 @ 10/2	150	1.17	4.0			TO - 3
2N4908	PNP		60	20-80 @ 4/4	2.0 @ 10/2	150	1.17	4.0			TO - 3
2N4909	PNP		80	20-80 @ 4/4	2.0 @ 10/2	150	1.17	4.0			TO - 3
2N4910	NPN	2N4898	40	20-100 @ .5/1	.6 @ 1/.1	25	7.0	3.0			TO - 66
2N4911	NPN	2N4899	60	20-100 @ .5/1	.6 @ 1/.1	25	7.0	3.0			TO - 66
2N4912	NPN	2N4900	80	20-100 @ .5/1	.6 @ 1/.1	25	7.0	3.0			TO - 66
2N4913	NPN	2N4904	40	25-100 @ 2.5/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N4914	NPN	2N4905	60	25-100 @ 2.5/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N4915	NPN	2N4906	80	25-100 @ 2.5/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N4998	NPN	2N4999	80	30-90 @ 1/5	.85 @ 2/.2	35	5.0	60			TO - 59
2N4999	PNP	2N4998	80	30-90 @ 1/5	.85 @ 2/.2	35	5.0	60			TO - 59
2N5000	NPN	2N5001	80	70-200 @ 1/5	.85 @ 2/.2	35	5.0	70			TO - 59
2N5001	PNP	2N5000	80	70-200 @ 1/5	.85 @ 2/.2	35	5.0	70			TO - 59

© United Technical Publications

Solid State Devices, Incorporated

POWER

TYPE	Polarity	NPN/PNP Complement	$V_{CEO(SUS)}$ (Volts)	h_{FE} @ I_C/V_{CE} (Min-Max @ A/V)	$V_{CE(S)}$ @I_C/I_B (V@A/A)	P_D @T_C=25°C (Watts)	O_{J-C} (°C/W)	Min. f_T (MHz)	t_{ON} @I_C/I_B (μs@A/A)	t_{OFF} @I_C/I_B (μs@A/A)	Package
2N5002	NPN	2N5003	80	30-90 @ 2.5/5	1.5 @ 5/.5	58	3.0	60			TO - 59
2N5003	PNP	2N5002	80	30-90 @ 2.5/5	1.5 @ 5/.5	58	3.0	60			TO - 59
2N5004	NPN	2N5005	80	70-200 @ 2.5/5	1.5 @ 5/.5	58	3.0	70			TO - 59
2N5005	PNP	2N5004	80	70-200 @ 2.5/5	1.5 @ 5/.5	58	3.0	70			TO - 59
2N5006	NPN	2N5007	80	30-90 @ 5/5	1.5 @ 10/1	117	1.5	30			TO - 61
2N5007	PNP	2N5006	80	30-90 @ 5/5	1.5 @ 10/1	117	1.5	30			TO - 61
2N5008	NPN	2N5009	80	70-200 @ 5/5	1.5 @ 10/1	117	1.5	40			TO - 61
2N5009	PNP	2N5008	80	70-200 @ 5/5	1.5 @ 10/1	117	1.5	40			TO - 61
2N5038	NPN		90	20-100 @ 12/5	1.0 @ 12/1.2	140	1.25	60	0.5 @ 12/1.2	2.0 @ 12/1.2	TO - 3
2N5039	NPN		75	20-100 @ 10/5	1.0 @ 10/1.0	140	1.25	60	0.5 @ 10/1.0	2.0 @ 10/1.0	TO - 3
2N5067	NPN	2N4901	40	20-80 @ 1/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N5068	NPN	2N4902	60	20-80 @ 1/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N5069	NPN	2N4903	80	20-80 @ 1/2	1.5 @ 5/1.0	87.5	2.0	4.0			TO - 3
2N5083	NPN		60	40-120 @ 2/2	1.0 @ 10/2	35	5.0	50	.35 @ 5/.5	.65 @ 5/.5	TO - 59
2N5084	NPN		60	100-300 @ 2/2	1.0 @ 10/2	35	5.0	80	.35 @ 5/.5	.65 @ 5/.5	TO - 59
2N5085	NPN		80	40-120 @ 2/2	1.0 @ 10/2	35	5.0	50	.35 @ 5/.5	.65 @ 5/.5	TO - 59
2N5147	PNP	2N5148	80	30-90 @ 1/5	.85 @ 2/.2	7.0	25	60			TO - 5
2N5148	NPN	2N5147	80	30-90 @ 1/5	.85 @ 2/.2	7.0	25	50			TO - 5
2N5149	PNP	2N5150	80	70-200 @ 1/5	.85 @ 2/.2	7.0	25	70			TO - 5
2N5150	NPN	2N5149	80	70-200 @ 1/5	.85 @ 2/.2	7.0	25	60			TO - 5
2N5152	NPN	2N5151	80	30-90 @ 2.5/5	1.5 @ 5/.5	11.5	15	60			TO - 5
2N5154	NPN	2N5153	80	70-200 @ 2.5/5	1.5 @ 5/.5	11.5	15	70			TO - 5
2N5284	NPN	2N5286	100	30-90 @ 2.5/5	1.5 @ 5/.5	58	3.0	60			TO - 59
2N5285	NPN	2N5287	100	70-200 @ 2.5/5	1.5 @ 5/.5	58	3.0	70			TO - 59
2N5286	PNP	2N5284	100	30-90 @ 2.5/5	1.5 @ 5/.5	58	3.0	60			TO - 59
2N5287	PNP	2N5285	100	70-200 @ 2.5/5	1.5 @ 5/.5	58	3.0	70			TO - 59
2N5288	NPN	2N5290	100	30-90 @ 5/5	1.5 @ 10/1	117	1.5	30			TO - 61
2N5289	NPN	2N5291	100	70-200 @ 5/5	1.5 @ 10/1	117	1.5	40			TO - 61
2N5290	PNP	2N5288	100	30-90 @ 5/5	1.5 @ 10/1	117	1.5	30			TO - 61
2N5291	PNP	2N5289	100	70-200 @ 5/5	1.5 @ 10/1	117	1.5	40			TO - 6
2N5301	NPN	2N4398	40	15-60 @ 15/2	2.0 @ 20/2.0	200	0.87	2.0		3.0 @ 10/1.0	TO - 3
2N5302	NPN	2N4399	60	15-60 @ 15/2	2.0 @ 20/2.0	200	0.87	2.0		3.0 @ 10/1.0	TO - 3
2N5303	NPN		80	15-60 @ 10/4	2.0 @ 20/4.0	200	0.87	2.0		3.0 @ 10/1.0	TO - 3
2N5313	NPN		80	30-90 @ 10/5	1.5 @ 10/1	80	2.0	30	.5 @ 10/1	1.5 @ 10/1	TO - 61
2N5315	NPN		100	30-90 @ 10/5	1.5 @ 10/1	80	2.0	30	.5 @ 10/1	1.5 @ 10/1	TO - 61
2N5317	NPN		100	30-90 @ 5/5	0.6 @ 5/.5	80	2.0	30	.4 @ 5/.5	1.6 @ 5/.5	TO - 61
2N5319	NPN		80	30-90 @ 5/5	0.6 @ 5/.5	80	2.2	30	.4 @ 5/.5	1.6 @ 5/.5	TO - 61
2N5334	NPN		60	30-150 @ 1/2	0.7 @ 2/.2	6.0	29	60	.1 @ 1/.1	1 @ 1/.1	TO - 5
2N5335	NPN		80	30-150 @ 1/2	0.7 @ 2/.2	6.0	29	60	.1 @ 1/.1	1 @ 1/.1	TO - 5
2N5336	NPN		80	30-120 @ 2/2	1.2 @ 5/.5	6.0	30	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 5
2N5337	NPN		80	60-240 @ 2/2	1.2 @ 5/.5	6.0	30	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 5
2N5338	NPN		100	30-120 @ 2/2	1.2 @ 5/.5	6.0	30	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 5
2N5339	NPN		100	60-240 @ 2/2	1.2 @ 5/.5	6.0	30	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 5
2N5346	NPN		80	30-120 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5347	NPN		80	60-240 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5348	NPN		100	30-120 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5349	NPN		100	60-240 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5425	NPN		60		2.5 @ 5/.01	43	4.0	50	.3 @ 5/.01		TO - 5
2N5426	NPN		60		2.5 @ 5/.005	43	4.0	50	.3 @ 5/.01	1.8 @ 5/.01	TO - 5
2N5427	NPN		80	30-120 @ 2/2	1.2 @ 7/.7	40	4.5	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 66

Solid State Devices, Incorporated

POWER

TYPE	Polarity	NPN/PNP Complement	$V_{CEO(SUS)}$ (Volts)	h_{FE} @ I_C/V_{CE} (Min-Max @ A/V)	$V_{CE(S)}$ @I_C/I_B (V@A/A)	P_D @T_C=25°C (Watts)	Θ_{J-C} (°C/W)	Min. f_T (MHz)	t_{ON} @I_C/I_B (μs@A/A)	t_{OFF} @I_C/I_B (μs@A/A)	Package
2N5428	NPN		80	60-240 @ 2/2	1.2 @ 7/.7	40	4.5	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 66
2N5429	NPN		100	30-120 @ 2/2	1.2 @ 7/.7	40	4.5	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 66
2N5430	NPN		100	60-240 @ 2/2	1.2 @ 7/.7	40	4.5	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 66
2N5477	NPN		80	30-120 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5478	NPN		80	60-240 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5479	NPN		100	30-120 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5480	NPN		100	60-240 @ 2/2	1.2 @ 7/.7	60	3.0	30	.2 @ 2/.2	2.2 @ 2/.2	TO - 59
2N5679	PNP	2N5681	100	40-150 @ .25/2	2.0 @ 1/.2	10	17.5	30	.15 @ 1/.1	.7 @ 1/.1	TO - 5
2N5680	PNP	2N5682	120	40-150 @ .25/2	2.0 @ 1/.2	10	17.5	30	.15 @ 1/.1	.7 @ 1/.1	TO - 5
2N5681	NPN	2N5679	100	40-150 @ .25/2	2.0 @ 1/.2	10	17.5	30	.15 @ 1/.1	.7 @ 1/.1	TO - 5
2N5682	NPN	2N5680	120	40-150 @ .25/2	2.0 @ 1/.2	10	17.5	30	.15 @ 1/.1	.7 @ 1/.1	TO - 5
2N5729	NPN	2N5769	80	30-300 @ 2/2	1.5 @ 5/.5	11.5	15	30	.2 @ 2/.2	3.5 @ 2/.2	TO - 5
2N5730	NPN		80	30-300 @ 2/2	1.2 @ 5/.5	52	3.3	30	.2 @ 2/.2	3.5 @ 2/.2	TO - 59
2N5731	NPN	2N5771	80	30-300 @ 5/2	1.2 @ 10/1	88	2.0	30	.3 @ 5/.5	3.6 @ 5/.5	TO - 61
2N5732	NPN	2N5772	80	30-300 @ 5/2	1.2 @ 10/1	87.5	2.0	30	.3 @ 5/0.5	3.6 @ 5/0.5	TO - 3
2N5733	PNP		80	30-300 @ 10/2	1.2 @ 20/2	175	1.0	30	.7 @ 10/1	4.0 @ 10/1	TO - 61
2N5734	NPN		80	30-300 @ 10/2	1.2 @ 20/2	175	1.0	30	.7 @ 10/1	4.0 @ 10/1	TO - 3
2N5769	PNP	2N5729	80	30-300 @ 2/2	1.5 @ 5/.5	11.5	15	30	.2 @ 2/.2	3.5 @ 2/.2	TO - 5
2N5770	PNP	2N5730	80	30-300 @ 2/2	1.2 @ 5/.5	53	3.0	30	.2 @ 2/.2	3.5 @ 2/.2	TO - 59
2N5771	PNP	2N5731	80	30-300 @ 5/2	1.2 @ 10/1	88	2.0	30	.3 @ 5/.5	3.6 @ 5/.5	TO - 61
2N5772	PNP	2N5732	80	30-300 @ 5/2	1.2 @ 10/1	87	2.0	30	.3 @ 5/.5	3.6 @ 5/.5	TO - 3

High voltage transistors

(listed in order of increasing voltage)

Device Type No.	Material and Polarity	Pc @ Tc *P_T Watts	*T_A °C	Maximum Ratings I_C *I_E Amps	BV_{CBO}	BV_{CEO} *BV_{CER}	BV_{EBO}	Primary Electrical Characteristics h_{FE} Min	I_C mA	V_{CE}	f (MHz)	JEDEC outline
2N3659	Si, NPN	20W	25°C	.500	220	170	5.0	20	100	50	50	TO-5
2N3738	Si, NPN	4W	25°C	.250	250	225	6.0	40	100	10	10	TO-66
2N5059	Si, NPN	20W	25°C	.150	250	250	6.0	30	30	25	30	TO-5
2N3440	Si, NPN	1W	25°C	1	300	250	7.0	40	20	10	15	TO-5
2N4064	Si, NPN	5W	25°C	1	300	250	7.0	40	20	10	20	MD-14
2N4296	Si, NPN	10W	25°C	1	350	250	4.0	35	100	10	20	TO-66
2N4297	Si, NPN	20W	25°C	1	350	250	4.0	50	100	10	15	TO-66
2N3742	Si, NPN	1W	25°C	.500	300	300	7.0	20	30	10	30	TO-5
2N5279	Si, NPN	1W	25°C	1	400	300	7.0	40	20	10	15	TO-5
2N5058	Si, NPN	1W	25°C	1	300	300	7.0	35	30	25	30	TO-5
2N5252	Si, NPN	1W	25°C	1.0	300	300	6.0	40	100	10	30	TO-5
2N5253	Si, NPN	1W	25°C	1.0	300	300	6.0	80	100	10	30	TO-5
2N5280	Si, NPN	10W	25°C	1	400	300	7.0	40	20	10	15	MD-14
2N3739	Si, NPN	20W	25°C	.250	325	300	6.0	40	100	10	10	TO-66
2N3439	Si, NPN	5W	25°C	1	450	350	7.0	40	20	10	15	TO-5
2N5092	Si, NPN	5W	25°C	1	400	350	6.0	15	100	10	50	TO-5
2N4063	Si, NPN	10W	25°C	1	450	350	7.0	40	20	10	15	MD-14
2N4298	Si, NPN	20W	25°C	1	—	350	4.0	20	100	10	20	TO-66
2N4299	Si, NPN	20W	25°C	1	—	350	4.0	35	100	10	20	TO-66
2N5095	Si, NPN	5W	25°C	1	500	400	6.0	15	100	10	50	TO-5
2N5101	Si, NPN	10W	25°C	1	500	400	6.0	15	100	10	50	MD-14
2N5097	Si, NPN	5W	25°C	1	600	450	6.0	15	100	10	50	TO-5
2N5010	Si, NPN	5W	25°C	.500	500	*500	5.0	30	25	10	20	TO-5
2N5098	Si, NPN	5W	25°C	1	700	500	6.0	15	100	10	50	TO-5
2N5099	Si, NPN	5W	25°C	1	800	550	6.0	15	100	10	50	TO-5
2N5011	Si, NPN	5W	25°C	.500	600	*600	5.0	30	25	10	20	TO-5
2N5012	Si, NPN	5W	25°C	.500	700	*700	5.0	30	25	10	20	TO-5
2N5013	Si, NPN	5W	25°C	.500	800	*800	5.0	30	20	10	20	TO-5
2N5014	Si, NPN	5W	25°C	.500	900	*900	5.0	30	20	10	20	TO-5
2N5015	Si, NPN	5W	25°C	.500	1.0K	*1000	5.0	30	20	10	20	TO-5
2N5282	Si PNP	2W	25°C	1.0	325	300	5.0	20	1.0	10	20	TO-5
2N5281	Si PNP	2W	25°C	1.0	325	300	5.0	20	1.0	10	20	TO-5
2N3743	Si PNP	1W	25°C	.050	300	300	5.0	25	30	10	30	TO-5
2N5091	Si PNP	2W	25°C	1.0	350	300	6.0	20	100	15	20	TO-5
2N5093	Si PNP	2W	25°C	1.0	400	350	6.0	20	100	15	20	TO-5
2N5094	Si PNP	2W	25°C	1.0	450	400	6.0	20	100	15	20	TO-5
2N5096	Si PNP	2W	25°C	1.0	500	450	6.0	20	10	15	20	TO-5

© United Technical Publications

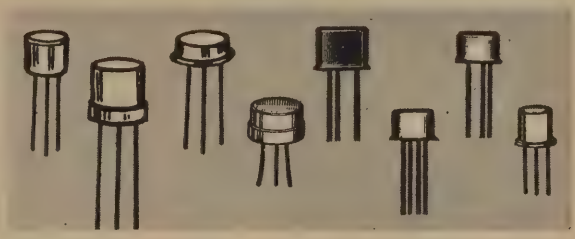
Semitron SEMICONDUCTORS

AT YOUR FINGERTIPS!



Whatever you require, Semitronics has them all — Transistors, Small Signal and Power, Silicon Rectifiers, Germanium and Silicon Diodes, Silicon Controlled Rectifiers, Silicon Zener Diodes, etc. in a variety of miniature glass, epoxy and metal packages. Light and heavy duty, high current types, lowest leakages.

Check first with Semitronics. Over 50,000 semiconductor types on file for immediate reference. Rush deliveries our specialty. Custom specifications are available to specific requirements.



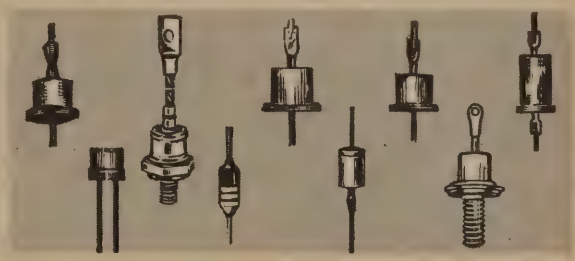
Small Signal Transistors

Germanium and Silicon transistors in medium current range, from 10 V to 1,000 V. High frequency, fast switching and audio types available. PNP and NPN alloy — mesa — planar and epitaxial processes in a variety of epoxy and metal packages.



Power Transistors

Germanium and Silicon, heavy duty, high current types available in a variety of cases and shapes. NPN and PNP alloy, mesa and diffused process transistors. Fast switching types available.



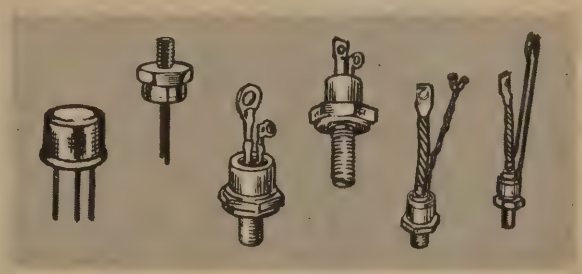
Silicon Rectifiers

Semitron diffused silicon rectifiers are available with special low leakages for use in all power control circuits. Supplied in a variety of popular packages. Reverse polarity available. Wide range of voltages and currents from 150 MA to 300 amps, 25 V to 2,000 volts.



Diodes—Voltage Regulators

Semitron quality Germanium and Silicon computer and high speed switching diodes are available in standard and miniature sizes, using the latest semiconductor processes. Semitron Silicon Voltage Regulators, Zener diodes are available in all, popular packages — from 150 MW to 50 watts. Voltages from 2 volts to 200 volts.



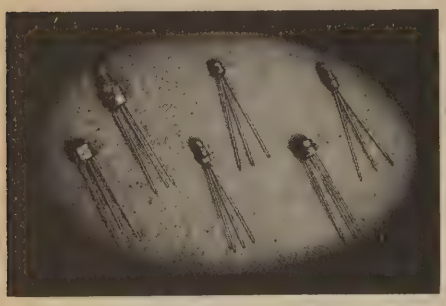
Silicon Controlled Rectifiers

Produced by the most up-to-date diffused process for use in power control and switching circuits. Available in a variety of popular packages and shapes. Voltages from 25 volts to 1300 volts and from 1 amp to 235 amps.

All Semitron products conform to EIA and Jedec specifications. Write for information on integrated circuits, FETs, and special assemblies. Detailed catalog supplied on request.

Semitronics Corp.

SPRAGUE SEMICONDUCTORS



METAL-ENCASED TRANSISTORS

- Sprague Transistors are Produced by Advanced Equipment and the Latest Manufacturing Techniques.
- Excellent Design Flexibility and Electrical Properties Meet the Most Rigid Performance and Reliability Standards.
- Highest Quality and Outstanding Economy.
- For Complete Technical Data, Refer to Latest Issue of the Applicable Engineering Bulletin.

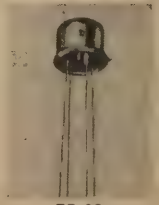
Call your Sprague Industrial Distributor for current quantity prices.

Type Number	Case	Description
2N128	TO-24	PNP Ge Switch SBT®
JAN-2N128	TO-24	to MIL-S-19500/9A
2N231	TO-24	PNP Ge Switch SBT
2N240	TO-24	PNP Ge Switch SBT
JAN-2N240	TO-24	to MIL-S-19500/25A
2N344	TO-24	PNP Ge Amplifier SBT
2N345	TO-24	PNP Ge Amplifier SBT
2N346	TO-24	PNP Ge Amplifier SBT
2N393	TO-24	PNP Ge Switch MAT®
JAN-2N393	TO-24	to MIL-S-19500/77B
2N495	TO-1	PNP Si Switch SPAT®
2N496	TO-1	PNP Si Switch SPAT
2N499	TO-1	PNP Ge Amplifier MADT®
JAN-2N499	TO-1	to MIL-S-19500/72B
2N499A	TO-1	PNP Ge Amplifier MADT
JAN-2N499A	TO-1	to MIL-S-19500/72B
2N501	TO-1	PNP Ge Switch MADT
2N501A	TO-1	PNP Ge Switch MADT
JAN-2N501A	TO-1	to MIL-S-19500/62A
2N502	TO-9	PNP Ge Amplifier MADT
2N502A	TO-9	PNP Ge Amplifier MADT
JAN-2N502A	TO-9	to MIL-S-19500/112A
2N502B	TO-9	PNP Ge Amplifier MADT
JAN-2N502B	TO-9	to MIL-S-19500/112A
2N503	TO-9	PNP Ge Amplifier MADT
2N504	TO-1	PNP Ge Amplifier MADT
2N588	TO-1	PNP Ge Amplifier MADT
2N588A	TO-1	PNP Ge Amplifier MADT
2N779A	TO-18	PNP Ge Switch MADT
2N794	TO-18	PNP Ge Amplifier MADT®
2N795	TO-18	PNP Ge Switch ECDC
2N796	TO-18	PNP Ge Switch ECDC
2N846A	TO-18	PNP Ge Switch ECDC
2N858	TO-18	PNP Si Switch SPAT
2N859	TO-18	PNP Si Switch SPAT
2N860	TO-18	PNP Si Switch SPAT
2N861	TO-18	PNP Si Switch SPAT
2N862	TO-18	PNP Si Switch SPAT
2N863	TO-18	PNP Si Switch SPAT
2N864	TO-18	PNP Si Switch SPAT
2N865	TO-18	PNP Si Switch SPAT
2N1118	TO-5	PNP Si Amplifier SPAT
JAN-2N1118	TO-5	to MIL-S-19500/138B
2N1118A	TO-5	PNP Si Amplifier SPAT
2N1119	TO-5	PNP Si Switch SPAT
JAN-2N1119	TO-5	to MIL-S-19500/139B
2N1122	TO-24	PNP Ge Switch MAT
2N1122A	TO-24	PNP Ge Switch MAT
2N1411	TO-24	PNP Ge Switch MAT
JAN-2N1411	TO-24	to MIL-S-19500/133
2N1427	TO-24	PNP Ge Switch MAT
2N1429	TO-5	PNP Si Switch SPAT
2N1499A	TO-9	PNP GE Switch ECDC
JAN-2N1499A	TO-9	to MIL-S-19500/170
2N1499B	TO-9	PNP GE Switch ECDC
2N1500	TO-9	PNP Ge Switch MADT
JAN-2N1500	TO-9	to MIL-S-19500/125
2N1676	TO-5	PNP Si Chopper SPAT
2N1677	TO-5	PNP Si Chopper SPAT
2N1726	TO-9	Ge Communication MADT
2N1727	TO-9	Ge Communication MADT
2N1728	TO-9	Ge Communication MADT
2N1742	TO-9	Ge Communication MADT
2N1743	TO-9	Ge Communication MADT
2N1744	TO-9	Ge Communication MADT
2N1745	TO-9	PNP Ge Amplifier MADT
2N1868	TO-9	PNP Ge Communication MADT
2N2048	TO-9	PNP Ge Switch ECDC
2N2162	TO-5	PNP Si Chopper SPAT
2N2163	TO-5	PNP Si Chopper SPAT
2N2164	TO-5	PNP Si Chopper SPAT
2N2165	TO-5	PNP Si Chopper SPAT
2N2166	TO-5	PNP Si Chopper SPAT
2N2167	TO-5	PNP Si Chopper SPAT
2N2168	TO-9	PNP Ge Switch MADT
2N2169	TO-9	PNP Ge Switch MADT
2N2170	TO-9	PNP Ge Switch MADT
2N2185	TO-18	PNP Si Chopper SPAT
2N2186	TO-18	PNP Si Matched Pair SPAT
2N2187	TO-18	PNP Si Matched Pair SPAT
2N2199	TO-9	PNP Ge Amplifier MADT
2N2200	TO-9	PNP Ge Amplifier MADT
2N2218	TO-5	NPN Si Switch SEPT®
2N2218A	TO-5	NPN Si Switch SEPT
2N2219	TO-5	NPN Si Switch SEPT
2N2219A	TO-5	NPN Si Switch SEPT
2N2221	TO-18	NPN Si Switch SEPT
JAN-2N2221	TO-18	to MIL-S-19500/225D
2N2221A	TO-18	NPN Si Switch SEPT
JAN-2N2221A	TO-18	to MIL-S-19500/255D
2N2222	TO-18	NPN Si Switch SEPT
JAN-2N2222	TO-18	to MIL-S-19500/225D
2N2222A	TO-18	NPN Si Switch SEPT
JAN-2N2222A	TO-18	to MIL-S-19500/255D
2N2274	TO-18	PNP Si Chopper SPAT
2N2275	TO-18	PNP Si Matched Pair SPAT
2N2276	TO-18	PNP Si Chopper SPAT
2N2277	TO-18	PNP Si Matched Pair SPAT
2N2278	TO-18	PNP Si Chopper SPAT
2N2279	TO-18	PNP Si Matched Pair SPAT
2N2280	TO-18	PNP Si Chopper SPAT
2N2281	TO-18	PNP Si Matched Pair SPAT
2N2360	TO-12	PNP Ge Amplifier MADT
2N2361	TO-12	PNP Ge Amplifier MADT
2N2362	TO-12	PNP Ge Amplifier MADT
2N2377	TO-18	PNP Si Amplifier SPAT
JAN-2N2377	TO-18	to MIL-S-19500/288
2N2378	TO-18	PNP Si Amplifier SPAT
JAN-2N2378	TO-18	to MIL-S-19500/289
2N2398	TO-12	PNP Ge Amplifier MADT
2N2399	TO-12	PNP Ge Amplifier MADT


TO-1


TO-5


TO-9


TO-12

Copyright 1971, Sprague Products Company

IND-REM-67-EBAP

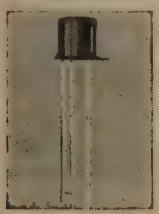
Sizes subject to change without notice.

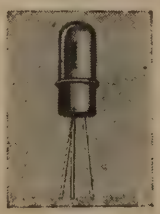
© United Technical Publication

SPRAGUE SEMICONDUCTORS

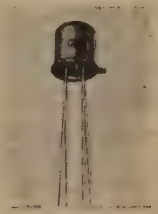
TRANSISTORS, continued

Type Number	Case	Description
2N2904	TO-5	PNP Si Switch SEPT
JAN-2N2904	TO-5	to MIL-S-19500/290
2N2904A	TO-5	PNP Si Switch SEPT
2N2905	TO-5	PNP Si Switch SEPT
JAN-2N2905	TO-5	to MIL-S-19500/290
2N2905A	TO-5	PNP Si Switch SEPT
2N2906	TO-18	PNP Si Switch SEPT
2N2906A	TO-18	PNP Si Switch SEPT
2N2907	TO-18	PNP Si Switch SEPT
2N2907A	TO-18	PNP Si Switch SEPT
2N2944	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N2945	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N2946	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N2951	TO-5	NPN Si Amplifier SEPT
2N2952	TO-18	NPN Si Amplifier SEPT
2N2958	TO-5	NPN Si Switch SEPT
2N2959	TO-5	NPN Si Switch SEPT
2N2968	TO-5	PNP Si Symmetrical SPAT
2N2970	TO-5	PNP Si Symmetrical SPAT
2N2971	TO-18	PNP Si Symmetrical SPAT
2N3058	TO-46	PNP Si Amplifier SEPT
2N3059	TO-46	PNP Si Amplifier SEPT
2N3060	TO-46	PNP Si Amplifier SEPT
2N3061	TO-46	PNP Si Amplifier SEPT
2N3133	TO-5	PNP Si Switch SEPT
2N3134	TO-5	PNP Si Switch SEPT
2N3135	TO-18	PNP Si Switch SEPT
2N3136	TO-18	PNP Si Switch SEPT
2N3217	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3218	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3219	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3317	TO-18	PNP Si Chopper SPAT
2N3318	TO-18	PNP Si Chopper SPAT
2N3319	TO-18	PNP Si Chopper SPAT
2N3320	TO-18	PNP Ge Switch MADT
2N3321	TO-18	PNP Ge Switch MADT
2N3322	TO-18	PNP Ge Switch MADT
2N3677	TO-46	PNP Silicon Planar SEPT
2N3724	TO-5	NPN Si Core Driver SEPT
2N3725	TO-5	NPN Si Core Driver SEPT
2N3840	TO-46	PNP Si Switch, Amp., Chopper
2N3977	TO-46	PNP Si Switch, Amp., Chopper
2N3978	TO-46	PNP Si Switch, Amp., Chopper
2N3979	TO-46	PNP Si Switch, Amp., Chopper
2N4007	TO-46	PNP Silicon Planar SEPT
2N4008	TO-46	PNP Silicon Planar SEPT
2N4013	TO-18	NPN Si Core Driver SEPT
2N4014	TO-18	NPN Si Core Driver SEPT
2N4383	TO-5	NPN Si Low-Level Amp. SEPT
2N4384	TO-18	NPN Si Low-Level Amp. SEPT
2N4385	TO-5	NPN Si Low-Level Amp. SEPT
2N4386	TO-18	NPN Si Low-Level Amp. SEPT
2N4412	TO-5	NPN Si Low-Level Amp. SEPT
2N4412A	TO-5	NPN Si Low-Level Amp. SEPT
2N4413	TO-18	NPN Si Low-Level Amp. SEPT
2N4413A	TO-18	NPN Si Low-Level Amp. SEPT
2N4414	TO-5	NPN Si Low-Level Amp. SEPT
2N4414A	TO-5	NPN Si Low-Level Amp. SEPT
2N4415	TO-18	NPN Si Low-Level Amp. SEPT
2N4415A	TO-18	NPN Si Low-Level Amp. SEPT
3N90	TO-18	PNP Si Dual Emitter Chopper DUET
3N91	TO-18	PNP Si Dual Emitter Chopper DUET
3N92	TO-18	PNP Si Dual Emitter Chopper DUET
3N93	TO-18	PNP Si Dual Emitter Chopper DUET
3N94	TO-18	PNP Si Dual Emitter Chopper DUET
3N95	TO-18	PNP Si Dual Emitter Chopper DUET
3N114	TO-72	PNP Si Dual Emitter Chopper DUET
3N115	TO-72	PNP Si Dual Emitter Chopper DUET
3N116	TO-72	PNP Si Dual Emitter Chopper DUET
3N117	TO-72	PNP Si Dual Emitter Chopper DUET
3N118	TO-72	PNP Si Dual Emitter Chopper DUET
3N119	TO-72	PNP Si Dual Emitter Chopper DUET
3N123	TO-72	PNP Si Dual Emitter Chopper DUET
MA-95	TO-24	PNP Ge Switch MAT
MA-96	TO-24	PNP Ge Switch MAT
MA-97	TO-24	PNP Ge Switch MAT
SA-310	TO-5	PNP Si Symmetrical SPAT
SA-311	TO-5	PNP Si Symmetrical SPAT
SA-312	TO-5	PNP Si Symmetrical SPAT
SA-313	TO-5	PNP Si Symmetrical SPAT
SA-314	TO-5	PNP Si Symmetrical SPAT
SA-315	TO-5	PNP Si Symmetrical SPAT
SA-316	TO-5	PNP Si Symmetrical SPAT
SA-410	TO-18	PNP Si Symmetrical SPAT
SA-411	TO-18	PNP Si Symmetrical SPAT
SA-412	TO-18	PNP Si Symmetrical SPAT
SA-413	TO-18	PNP Si Symmetrical SPAT
SA-414	TO-18	PNP Si Symmetrical SPAT
SA-415	TO-18	PNP Si Symmetrical SPAT
SA-416	TO-18	PNP Si Symmetrical SPAT
TN-53	TO-5	NPN Si Switch, Amp. SEPT
TN-54	TO-18	NPN Si Switch, Amp. SEPT
TN-55	TO-5	NPN Si Low-Level Amplifier SEPT
TN-56	TO-18	NPN Low-level Amplifier SEPT
TN-57	TO-5	NPN Si Low-level Amplifier SEPT
TN-58	TO-18	NPN Low-level Amplifier SEPT
TN-59	TO-5	NPN Si Switch, Amp. SEPT
TN-60	TO-18	NPN Si Switch, Amp. SEPT
TN-61	TO-5	NPN Si Switch, Amp. SEPT
TN-62	TO-18	NPN Si Switch, Amp. SEPT
TN-63	TO-5	NPN Si Switch, Amp. SEPT
TN-64	TO-18	NPN Si Switch, Amp. SEPT
TN-79	TO-5	NPN Si Chopper SEPT
TN-80	TO-18	NPN Chopper SEPT
TN-81	TO-5	NPN Si Switch SEPT
TN-237	TO-5	NPN Core Driver SEPT
TN-238	TO-18	NPN Si Core Driver SEPT
TQ-53	TO-5	PNP Si Amplifier SEPT
TQ-53A	TO-5	PNP Si Amplifier SEPT
TQ-54	TO-18	PNP Si Amplifier SEPT
TQ-54A	TO-18	PNP Si Amplifier SEPT
TQ-55	TO-5	PNP Si Low-level Amplifier SEPT
TQ-55A	TO-5	PNP Si Low-level Amplifier SEPT
TQ-56	TO-18	PNP Si Low-level Amplifier SEPT
TQ56A	TO-18	PNP Si Low-level Amplifier SEPT
TQ-57	TO-5	PNP Si Low-level Amplifier SEPT
TQ-57A	TO-5	PNP Si Low-level Amplifier SEPT
TQ-58	TO-18	PNP Si Low-level Amplifier SEPT
TQ-58A	TO-18	PNP Si Low-level Amplifier SEPT
TQ-59	TO-5	PNP Si Switch, Amp. SEPT
TQ-59A	TO-5	PNP Si Switch, Amp. SEPT
TQ-60	TO-18	PNP Si Switch, Amp. SEPT
TQ-60A	TO-18	PNP Si Switch, Amp. SEPT.
TQ-61	TO-5	PNP Si Switch, Amp. SEPT
TQ-61A	TO-5	PNP Si Switch, Amp. SEPT
TQ-62	TO-18	PNP Si Switch, Amp. SEPT
TQ-62A	TO-18	PNP Si Switch, Amp. SEPT.
TQ-63	TO-5	PNP Si Switch, Amp. SEPT
TQ63A	TO-5	PNP Si Switch, Amp. SEPT
TQ-64	TO-18	PNP Si Switch, Amp. SEPT
TQ-64A	TO-18	PNP Si Switch, Amp. SEPT.


TO-18


TO-24


TO-46

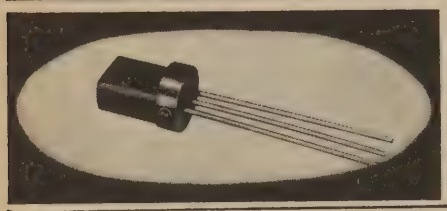

TO-72

Copyright 1971, Sprague Products Company

Sizes subject to change without notice.

© United Technical Publications

SPRAGUE SEMICONDUCTORS



ECONOLINE® PLASTIC-MOLDED TRANSISTORS

- An Improved Low-Cost Line of Transistors Priced for Commercial Applications, Yet Retain the Reliability Required in Industrial Equipment.
- Automated Assembly and Plastic Packaging Bring Prices Substantially Under Those of Comparable Metal-Can Types.
- For More Data, See latest Issue of Short-Form Catalog IND-851.

Type No.	Case	Description
2N2711	TO-98	NPN G/P Small-signal Audio Amplifier
2N2712	TO-98	NPN G/P Small-signal Audio Amplifier
2N2713	TO-98	NPN G/P Large-signal Amplifier/Switch
2N2714	TO-98	NPN G/P Large-signal Amplifier/Switch
2N2923	TO-98	NPN G/P Small-signal Audio Amplifier
2N2924	TO-98	NPN G/P Small-signal Audio Amplifier
2N2925	TO-98	NPN G/P Small-signal Audio Amplifier
2N2926	TO-98	NPN G/P Small-signal Audio Amplifier
2N3390	TO-98	NPN Low-noise High-gain Amplifier
2N3391	TO-98	NPN Low-noise High-gain Amplifier
2N3391A	TO-98	NPN Low-noise High-gain Amplifier
2N3392	TO-98	NPN G/P Small-signal Audio Amplifier
2N3393	TO-98	NPN G/P Small-signal Audio Amplifier
2N3394	TO-98	NPN G/P Small-signal Audio Amplifier
243395	TO-98	NPN G/P Small-signal Audio Amplifier
2N3396	TO-98	NPN G/P Small-signal Audio Amplifier
2N3397	TO-98	NPN G/P Small-signal Audio Amplifier
2N3398	TO-98	NPN G/P Small-signal Audio Amplifier
2N3402	TO-98HS*	NPN G/P Large-signal Amplifier/Switch
2N3403	TO-98HS*	NPN G/P Large-signal Amplifier/Switch
2N3404	TO-98HS*	NPN G/P Large-signal Amplifier/Switch
2N3405	TO-98HS*	NPN G/P Large-signal Amplifier/Switch
2N3414	TO-98	NPN G/P Large-signal Amplifier/Switch
2N3415	TO-98	NPN G/P Large-signal Amplifier/Switch
2N3416	TO-98	NPN G/P Large-signal Amplifier/Switch
2N3417	TO-98	NPN G/P Large-signal Amplifier/Switch
2N3721	TO-98	NPN G/P Small-signal Audio Amplifier
2N3843	TO-98	NPN High-frequency Amplifier/Oscillator
2N3843A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3844	TO-98	NPN High-frequency Amplifier/Oscillator
2N3844A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3845	TO-98	NPN High-frequency Amplifier/Oscillator
2N3845A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3854	TO-98	NPN High-frequency Amplifier/Oscillator
2N3854A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3855	TO-98	NPN High-frequency Amplifier/Oscillator
2N3855A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3856	TO-98	NPN High-frequency Amplifier/Oscillator
2N3856A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3858	TO-98	NPN High-frequency Amplifier/Oscillator
2N3858A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3859	TO-98	NPN High-frequency Amplifier/Oscillator
2N3859A	TO-98	NPN High-frequency Amplifier/Oscillator
2N3860	TO-98	NPN High-frequency Amplifier/Oscillator
2N3877	TO-98	NPN High-voltage Indicator Driver
2N3877A	TO-98	NPN High-voltage Indicator Driver
2N3900	TO-98	NPN Low-noise High-gain Amplifier
2N3900A	TO-98	NPN Low-noise High-gain Amplifier
2N3901	TO-98	NPN Low-noise High-gain Amplifier
2N3903	TO-92	NPN Premium Large-signal Amplifier/Switch
2N3904	TO-92	NPN Premium Large-signal Amplifier/Switch
2N3905	TO-92	PNP Premium Large-signal Amplifier/Switch
2N3906	TO-92	PNP Premium Large-signal Amplifier/Switch
2N3975	TO-98	NPN G/P Large-signal Amplifier/Switch
2N3976	TO-98	NPN G/P Large-signal Amplifier/Switch
2N4424	TO-98	NPN G/P Large-signal Amplifier/Switch
2N4425	TO-98HS*	NPN G/P Large-signal Amplifier/Switch
2N4951	TO-98	NPN Premium Large-signal Amplifier/Switch
2N4952	TO-98	NPN Premium Large-signal Amplifier/Switch
2N4953	TO-98	NPN Premium Large-signal Amplifier/Switch
2N4954	TO-98	NPN Premium Large-signal Amplifier/Switch
2N5060	TO-92	PNPN Silicon Controlled Rectifier—SCR
2N5061	TO-92	PNPN Silicon Controlled Rectifier—SCR
2N5172	TO-98	NPN G/P Small-signal Audio Amplifier
2N5232	TO-98	NPN Low-noise, High-gain Amplifier

Type No.	Case	Description
2N5232A	TO-98	NPN Low-noise, High-gain Amplifier
2N5354	TO-98	PNP G/P Small-signal Audio Ampliler
2N5355	TO-98	PNP G/P Small-signal Audio Ampliler
2N5356	TO-98	PNP G/P Small-signal Audio Ampliler
2N5368	BR†	NPN Premium Large-signal Amplifier/Switch
2N5369	BR†	NPN Premium Large-signal Amplifier/Switch
2N5370	BR†	NPN Premium Large-signal Amplifier/Switch
2N5371	BR†	NPN Premium Large-signal Amplifier/Switch
2N5372	BR†	PNP Premium Large-signal Amplifier/Switch
2N5373	BR†	PNP Premium Large-signal Amplifier/Switch
2N5374	BR†	PNP Premium Large-signal Amplifier/Switch
2N5375	BR†	PNP Premium Large-signal Amplifier/Switch
2N5376	BR†	NPN Low-noise High-gain Amplifier
2N5377	BR†	NPN Low-noise High-gain Amplifier
2N5378	BR†	PNP Low-noise High-gain Amplifier
2N5379	BR†	PNP Low-noise High-gain Amplifier
2N5380	BR†	NPN Premium Large-signal Amplifier/Switch
2N5381	BR†	NPN Premium Large-signal Amplifier/Switch
2N5382	BR†	PNP Premium Large-signal Amplifier/Switch
2N5383	BR†	PNP Premium Large-signal Amplifier/Switch
NN7000 through NN7005	BR	NPN High-current Amplifier
NN7500 through NN7505	BR	PNP High-current Amplifier
TD-100	6-lead BP	NPN/NPN Dual Transistor Differential Amplifie
TD-101	6-lead BP	NPN/NPN Dual Transistor Differential Amplifie
TD-102	6-lead BP	NPN/NPN Dual Transistor
TD-200	6-lead BN	NPN/NPN Dual Transistor Differential Amplifie
TD-201	6-lead BN	NPN/NPN Dual Transistor Differential Amplifie
TD-202	6-lead BN	NPN/NPN Dual Transistor
TD-250	6-lead BN	NPN/NPN Dual Transistor Differential Amplifie
TD-400	6-lead BP	PNP/PNP Dual Transistor Differential Amplifier
TD-401	6-lead BP	PNP/PNP Dual Transistor Differential Amplifier
TD-402	6-lead BP	PNP/PNP Dual Transistor
TD-500	6-lead BN	PNP/PNP Dual Transistor Differential Amplifier
TD-501	6-lead BN	PNP/PNP Dual Transistor Differential Amplifier
TD-502	6-lead BN	PNP/PNP Dual Transistor
TD-550	6-lead BN	PNP/PNP Dual Transistor Differential Amplifier
TD-600	6-lead BP	NPN/PNP Complementary Pair
TD-601	6-lead BP	NPN/PNP Complementary Pair
TD-602	6-lead BP	NPN/PNP Dual Transistor
TD-700	6-lead BN	Complementary Pair
TD-701	6-lead BN	NPN/PNP Complementary Pair
TD-702	6-lead BN	NPN/PNP Dual Transistor
TP-3638	BR†	PNP G/P Large-signal Amplifier/Switch
TP-3638A	BR†	PNP G/P Large-signal Amplifier/Switch
TP-4123	BR†	NPN G/P Audio & Low-frequency Amplifier
TP-4124	BR†	NPN G/P Audio & Low-frequency Amplifier
TP-4125	BR†	PNP G/P Audio & Low frequency Amplifier
TP-4126	BR†	PNP G/P Audio & Low frequency Amplifier
TP-4257	BR	PNP High Speed Switch
TP-4258	BR	PNP High Speed Switch
TP-4274	BR†	NPN High-speed Switch
TP-4275	BR†	NPN High-speed Switch
TPS-6512	BR†	NPN G/P Audio & Low-frequency Amplifier
TPS-6513	BR†	NPN G/P Audio & Low-frequency Amplifier
TPS-6514	BR†	NPN G/P Audio & Low-frequency Amplifier
TPS-6515	BR†	NPN G/P Audio & Low-frequency Amplifier
TPS-6516	BR†	PNP G/P Audio & Low-frequency Amplifier
TPS-6517	BR†	PNP G/P Audio & Low-frequency Amplifier
TPS-6518	BR†	PNP G/P Audio & Low-frequency Amplifier
TPS-6519	BR†	PNP G/P Audio & Low-frequency Amplifier
TPS-6520	BR†	NPN G/P Low-noise Audio Amplifier
TPS-6521	BR†	NPN G/P Low-noise Audio Amplifier
TPS-6522	BR†	PNP G/P Low-noise Audio Amplifier

* With heat sink.

† Leads spaced on TO-18 pin circle.

Copyright 1971, Sprague Products Company

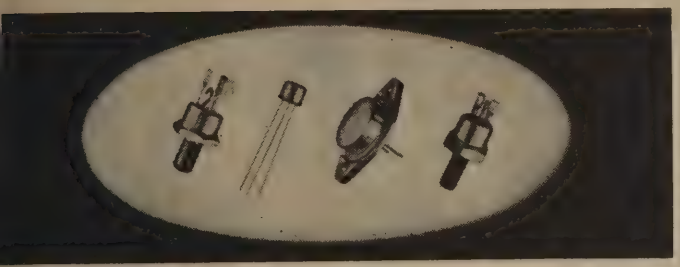
Sizes subject to change without notice

© United Technical Publication

SPRAGUE SEMICONDUCTORS

PIRGO SILICON POWER TRANSISTORS

(Pirgo Electronics, Inc. is a subsidiary of the Sprague Electric Co.)



- Complete Line of High Quality Power Transistors Now Available from Your Sprague Industrial Distributor.
- For Complete Information, See Latest Issue of Sprague Pirgo Short-form Catalog IND-875.

Call Your Sprague Industrial Distributor
For Current Quantity Prices

ype No.	Case	Description
N1479	TO-5	NPN 1 ½ Amp Single-diffused
N1480	TO-5	NPN 1 ½ Amp Single-diffused
N1481	TO-5	NPN 1 ½ Amp Single-diffused
N1482	TO-5	NPN 1 ½ Amp Single-diffused
N1483	TO-8	NPN 3 Amp Single-diffused
N1484	TO-8	NPN 3 Amp Single-diffused
N1485	TO-8	NPN 3 Amp Single-diffused
N1486	TO-8	NPN 3 Amp Single-diffused
N1487	TO-3	NPN 6 Amp Single-diffused
N1488	TO-3	NPN 6 Amp Single-diffused
N1489	TO-3	NPN 6 Amp Single-diffused
N1490	TO-3	NPN 6 Amp Single-diffused
N2033	TO-5	NPN 3 Amp Single-diffused
N2034	TO-5	NPN 3 Amp Single-diffused
N2035	TO-8	NPN 3 Amp Single-diffused
N2657	TO-5	NPN 5 Amp Silicon Planar
N2658	TO-5	NPN 5 Amp Silicon Planar
N2811	TO-61	NPN 10 Amp Silicon Planar
N2812	TO-61	NPN 10 Amp Silicon Planar
AN 2N2812	TO-61	NPN 10 Amp Silicon Planar
AN-TX 2N2812	TO-61	NPN 10 Amp Silicon Planar
N2813	TO-61	NPN 10 Amp Silicon Planar
N2814	TO-61	NPN 10 Amp Silicon Planar
AN 2N2814	TO-61	NPN 10 Amp Silicon Planar
AN-TX 2N2814	TO-61	NPN 10 Amp Silicon Planar
2N2858	TO-5	NPN 1 Amp Single-diffused
2N2859	TO-5	NPN 1 Amp Single-diffused
N2877	TO-111	NPN 5 Amp Silicon Planar
N2878	TO-111	NPN 5 Amp Silicon Planar
N2879	TO-111	NPN 5 Amp Silicon Planar
N2880	TO-111	NPN 5 Amp Silicon Planar
AN 2N2880	TO-111	NPN 5 Amp Silicon Planar
AN-TX 2N2880	TO-111	NPN 5 Amp Silicon Planar
N2911	TO-5	NPN 1 Amp Single-diffused
N3054	TO-66	NPN 3 Amp Single-diffused
N3055	TO-3	NPN 3 Amp Single-diffused
N3441	TO-66	NPN 3 Amp Single-diffused
N3442	TO-3	NPN 10 Amp Single-diffused

Type No.	Case	Description
2N3744	TO-111	NPN 5 Amp Silicon Planar
2N3745	TO-111	NPN 5 Amp Silicon Planar
2N3746	TO-111	NPN 5 Amp Silicon Planar
2N3747	TO-111	NPN 5 Amp Silicon Planar
2N3748	TO-111	NPN 5 Amp Silicon Planar
2N3749	TO-111	NPN 5 Amp Silicon Planar
JAN 2N3749	TO-111	NPN 5 Amp Silicon Planar
JAN-TX 2N3749	TO-111	NPN 5 Amp Silicon Planar
2N3750	TO-111	NPN 5 Amp Silicon Planar
2N3751	TO-111	NPN 5 Amp Silicon Planar
2N3752	TO-111	NPN 5 Amp Silicon Planar
2N3771	TO-3	NPN 30 Amp Single-diffused
2N3772	TO-3	NPN 20 Amp Single-diffused
2N3773	TO-3	NPN 16 Amp Single-diffused
2N3996	TO-111 (isolated)	NPN 5 Amp Silicon Planar
JAN 2N3996	TO-111	NPN 5 Amp Silicon Planar
JAN-TX 2N3996	TO-111	NPN 5 Amp Silicon Planar
2N3997	TO-111 (isolated)	NPN 5 Amp Silicon Planar
JAN 2N3997	TO-111	NPN 5 Amp Silicon Planar
JAN-TX 2N3997	TO-111	NPN 5 Amp Silicon Planar
2N3998	TO-111	NPN 5 Amp Silicon Planar
JAN 2N3998	TO-111	NPN 5 Amp Silicon Planar
JAN-TX 2N3998	TO-111	NPN 5 Amp Silicon Planar
2N3999	TO-111	NPN 5 Amp Silicon Planar
JAN 2N3999	TO-111	NPN 5 Amp Silicon Puanar
JAN-TX 2N3999	TO-111	NPN 5 Amp Silicon Planar
2N4070	TO-3	NPN 10 Amp Silicon Planar
2N4150	TO-5	NPN 10 Amp Silicon Planar
2N4862	TO-46	NPN 2 Amp Silicon Planar
2N4863	TO-5	NPN 2 Amp Silicon Planar
2N4864	TO-66	NPN 2 Amp Silicon Planar

Copyright 1971, Sprague Products Company

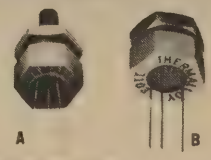
Sizes subject to change without notice.

© United Technical Publications

Thermalloy SEMICONDUCTOR HEAT SINKS AND INSULATORS

SERIES 1101 AND 1103 CONDUCTION HEAT SINKS

Removes heat by transfer to external surfaces; 1101 has 10-32 stud, 1103 is tapped for 4-40 screw. Avg. ship. wt., 1 oz. Thermal resistance data was taken with units attached to a 6" x 6" x ¼" aluminum plate.



Thermalloy Number•	Fig.	Thermal Resist., °C/W	For Case Style	Size, Inches Dia. x Height	Net Each, Lots of 1-11	12-99	100-499	500-999
1101A	A	8	TO-5	.50 x .88	$1.05	$0.85	$0.65	$0.55
1101B	A	8	TO-5	.50 x .88	.95	.75	.55	.50
1103A	B	8	TO-5	.50 x .50	1.00	.80	.60	.50
1103B	B	8	TO-5	.50 x .50	.90	.70	.50	.40

SERIES 1115 COMBINATION RETAINERS/HEAT SINKS

No. 1116 is tapped for 4-40 screw; 1117 consists of 1116 retainer w/ pan head steel screw, nylon shoulder washer and beryllium oxide insulating washer. Avg. wt., 1 oz.

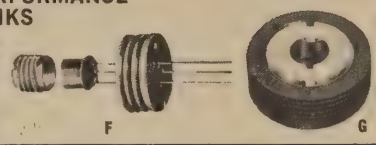


1115B	C	48	TO-5	.38 x .40	$0.18	$0.13	$0.11	$0.10
1116A	D	17	TO-5	.35 x .35	.63	.50	.45	.35
1116B	D	17	TO-5	.35 x .35	.50	.40	.35	.30
1117B	E	20	TO-5	.38 x .46	1.33	1.08	.86	.70

SERIES 2205 HIGH-PERFORMANCE CONVECTION HEAT SINKS

Two-piece heat sinks with screw-in Teflon* inserts hold transistor weld flange tightly for maximum conduction path. Avg. ship. wt., 1 oz.

* Registered DuPont trademark.



2205B	F	40	TO-5	.81 x .34	$1.25	$1.00	$0.80	$0.70
2207/PR11	F	20	TO-5	.81 x .34	1.55	1.25	1.05	.95
2207/PR11B	F	20	TO-5	.81 x .34	1.60	1.30	1.10	1.00
2212B	F	25	TO-8	1.06 x .38	1.95	1.55	1.25	1.05
2212B-5	G	28	TO-5	1.06 x .38	1.85	1.45	1.15	.95

SERIES 2211 CONVECTION HEAT SINKS

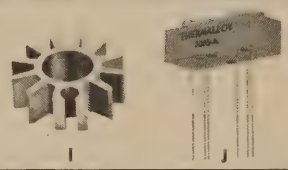
Versatile circuit board heat sinks with single through hole for semiconductor and two mounting holes tapped for 2-56 screws. Avg. wt., 1 oz.



2211B	H	48	TO-5	.63 x .31	$0.35	$0.28	$0.26	$0.25
2211C	H	55	TO-5	.63 x .31	.25	.20	.18	.16
2215A	H	41	TO-5	.75 x .38	1.25	1.00	.85	.70
2215B	H	41	TO-5	.75 x .38	1.20	.95	.75	.60

SERIES 2230-5 AND 3005 HEAT SINKS

No. 2230(B or C)-5 is a press-on aluminum heat sink; 3005 and 3018 are duosinks designed to maintain equal case temperatures in two devices while preserving electrical insulation. Avg. ship. wt., 1 oz.



2230B-5	I	30	TO-5	.75 x .25	$0.27	$0.17	$0.15	$0.11
2230C-5	I	34	TO-5	.75 x .25	.22	.12	.10	.08
3005A	J	30	TO-5	1.25w x .50d x .38h	2.00	1.60	1.30	1.10
3018A	J	45	TO-18	1.00w x .50d x .31h	1.95	1.55	1.25	1.05

SERIES 2224 LOW-COST PRESS-ON HEAT SINKS

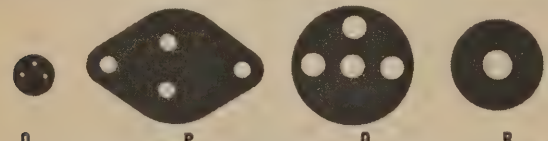
Easily installed PC heat sinks do not waste board space; circular convection cooling flanges extend from top of heat sink. Avg. ship. wt., 1 oz.



Thermalloy Number•	Fig.	Thermal Resist. °C/W	For Case Style	Size, Inches Dia. x Height	Net Each, Lots of 1-99	100-499	500-999
2224B	K	75	TO-18	.50 x .235	$0.24	$0.17	$0.14
2224C	K	75	TO-18	.50 x .235	.21	.15	.12
2225B	L	45	TO-5	.75 x .40	.25	.18	.15
2225C	L	45	TO-5	.75 x .40	.23	.16	.13
2226B	K	50	TO-5	.75 x .25	.24	.17	.14
2226C	K	50	TO-5	.75 x .25	.21	.15	.12
2227B	M	35	TO-5	1.125 x .40	.31	.23	.20
2227C	M	35	TO-5	1.125 x .40	.29	.21	.18
2228B	N	45	TO-5	.875 x .53	.31	.23	.20
2228C	N	45	TO-5	.875 x .53	.29	.21	.18
2266B	K	30	TO-8 & -66	.75 x .25	.33	.25	.23

BERYLLIUM OXIDE INSULATORS

High-purity beryllium oxide is a better heat conductor than aluminum, yet insulates better than porcelain and has low capacitance.

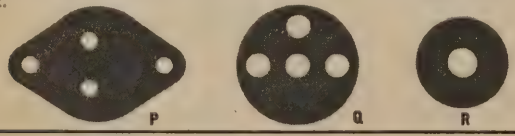


Thermalloy Number•	Fig.	Dielectric Strength Volts/Mil	For Case Style	Size, Inches Width x Depth x Height	Net Each, Lots of 1-11	12-99	100-499	500-999
4018	O	700*	TO-18	.22 x .03	$0.70	$0.56	$0.39	$0.31
4005	O	700*	TO-5	.36 x .03	.75	.60	.42	.40
4003	P	800*	TO-3	1.56w x 1.05d x .06h	1.56	1.25	.98	.92
4066	P	800*	TO-66	1.25w x .70d x .06h	1.19	.95	.70	.65
4036	Q	800*	TO-36	1.06 x .06	1.40	1.12	.85	.81
B470-235-40	R	700*	†	.47 x .04	.74	.59	.42	.38
B800-260-62	R	800*	‡	.80 x .06	.96	.77	.58	.55
B800-320-62	R	800*	§	.80 x .06	.96	.77	.58	.55

*Voltage rating. †10-32 stud. ‡3/16" stud. §¼" stud.

HARD-ANODIZED SEMICONDUCTOR INSULATORS

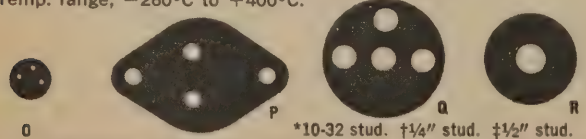
Made of 6061-T4 aluminum anodized per MIL-A-8625 Type III. Thermal resistance, .116°C/watt/sq. in. of area. Avg. ship. wt., 1 oz.



Thermalloy Number•	Fig.	For Case Style	Size, Inches Width x Depth x Height	Net Each, Lots of 1-11	12-99	100-249	250 Up
4766A	P	TO-66	132 x .71 x .02	$0.40	$0.25	$0.17	$0.15
4726A	P	TO-3	1.80 x 1.06 x .02	.40	.25	.17	.15
4710A	R	#10 stud	.56 dia. x .02	.40	.25	.17	.15
4725A	R	¼" stud	.81 dia. x .02	.40	.25	.17	.15
4736A	Q	TO-36	1.09 dia. x .02	.40	.25	.17	.15
4778A	—	Plastic power	.75 x .50 x .02	.38	.23	.15	.13

THERMAFILM INSULATORS

Improved replacement for mica types. Homogeneous film won't chip, fracture, peel or break. Dielectric strength, 7000 V/mil. Temp. range, −260°C to +400°C.



*10-32 stud. †¼" stud. ‡½" stud.

Thermalloy Number•	Fig.	For Case Style	Size, Inches Width x Depth x Height	Net per 100, Lots of 100-499	500-999	1000-4999	5000-9999
43-18-1	O	TO-18	.25 dia. x .002	$6.00	$3.50	$2.00	$1.70
43-05-1	O	TO-5	.39 dia. x .002	6.00	3.50	2.00	1.70
43-03-3	P	TO-3	1.65 x 1.06 x .002	6.00	3.50	2.00	1.70
43-66-1	P	TO-66	1.31 x .76 x .002	5.00	3.50	1.50	1.20
43-36	Q	TO-36	1.06 x .002	6.00	3.50	2.00	1.70
43-02-10	R	*	.562 dia. x .002	5.00	3.00	1.25	1.00
43-02-25	R	†	.812 dia. x .002	5.00	3.00	1.25	1.00
43-02-50	R	‡	1.38 dia. x .002	7.50	4.00	3.00	2.00

• **FINISH SUFFIXES** — Suffix **A** indicates hard anodize finish per MIL-F-14072, 400 V insulation; **B**, black anodize finish per MIL-A-8625 Type II; **C**, gold chromate finish per MIL-C-5541.

Net

© United Technical Publication

Thermalloy SEMICONDUCTOR HEAT SINKS

LOW-PROFILE HEAT SINKS

Created for compact designs requiring optimum performance in a small space. Well-designed, small, low cost heat sinks are ideal for most PC applications. Avg. ship. wt., 6 oz.



Thermalloy Number•	Fig.	Thermal Resist., °C/W	For Case Style	Size, Inches Width x Length x Height	Min. Device Mtg. Width, Inch	Net Each, Lots of 1-49	50-99	100
6141B	A	3.7	Blank	3.75 x 3.00 x .50	1.312	$1.31	$1.05	$0.87
6141B-2	A	3.7	TO-3	3.75 x 3.00 x .50	1.312	1.50	1.20	1.00
6169B	B	2.2	Blank	4.12 x 3.00 x 1.00	1.30	1.40	1.12	.94
6500B	C	2.5	Blank	4.50 x 3.00 x 1.03	1.38	1.27	1.05	.87
6500B-2	C	2.5	TO-3	4.50 x 3.00 x 1.03	1.38	1.50	1.20	1.00
6601B	B	8.0	Blank	2.00 x 1.50 x .56	.812	.75	.60	.50

TEXAS-SIZE HEAT SINKS FOR HIGH POWER DEVICES

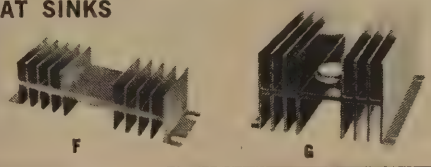
Extra-large heat sinks for power rectifiers reduce overheating and deterioration at high current levels. Accepts stud mount hex from ¼" to 1¾" for maximum versatility. Avg. ship. wt., 12 oz.



6441B	D	.60	Blank	4.75 x 5.50 x 4.50	1.312	$5.70	$4.57	$3.80
6450B	E	.70	Blank	4.00 x 5.00 x 4.00	1.250	4.20	3.70	3.50
6470B	E	.59	Blank	4.00 x 7.50 x 4.00	1.250	5.05	4.42	4.20
6560B	E	.51	Blank	5.00 x 6.00 x 5.00	1.312	6.55	5.77	5.67
6590B	E	.42	Blank	5.00 x 9.00 x 5.00	1.312	13.45	11.75	11.20
6660B	E	.36	Blank	6.25 x 6.00 x 6.25	1.812	9.25	8.12	7.70
6690B	E	.28	Blank	6.25 x 9.00 x 6.25	1.812	13.35	11.70	11.05

POWER DEVICE HEAT SINKS

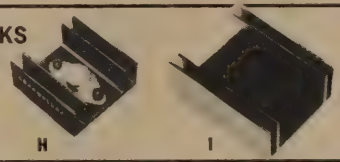
Popular heat sinks for use w/ common power transistors, diodes and SCR's. Large surface area for low thermal resistance and more effective cooling. Avg. shp. wt., 6 oz.



6401B	F	2.9	Blank	4.71 x 1.50 x 1.25	1.30	$1.02	$0.82	$0.68
6403B	F	2.0	Blank	4.71 x 3.00 x 1.25	1.30	1.50	1.20	1.00
6421B	G	1.1	Blank	4.75 x 3.00 x 2.63	1.32	2.16	1.72	1.43
6423B	G	.9	Blank	4.75 x 6.00 x 2.63	1.32	3.45	2.77	2.31
6421B-2	G	1.1	TO-3	4.75 x 3.00 x 2.63	1.32	2.34	1.87	1.56
6423B-2	G	.9	TO-3	4.75 x 6.00 x 2.63	1.32	3.64	2.92	2.44

CIRCUIT BOARD HEAT SINKS

Features small extrusion for PC boards; low profile permits close board spacing for tight designs. Ideal for stud-mounted semiconductors and TO-3 and TO-66 devices. Avg. ship. wt., 1 oz.



6111B	H	8.6	Blank	1.50 x 1.50 x .62	.88	$0.56	$0.45	$0.38
6111B-66	H	8.6	TO-66	1.50 x 1.50 x .62	.88	.75	.60	.50
6176B	I	5.4	Blank	1.94 x 3.00 x .94	1.30	.75	.60	.50
6176B-2	I	5.4	TO-3	1.94 x 3.00 x .94	1.30	.94	.75	.62

TWO-PIECE PC HEAT SINKS

Popular two-piece heat sinks for PC board mounting have maximum heat transfer mounting configuration; heat is transferred from both top and bottom of semiconductor device. Avg. ship. wt., 1 oz.

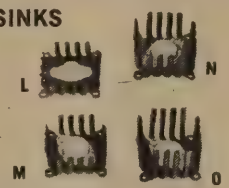


*Base Only

6103B	J	7	TO-3	1.25 x 1.53 x .52	—	$0.56	$0.45	$0.41
6103C	J	7	TO-3	1.25 x 1.53 x .52	—	.50	.40	.35
6166B	J	11	TO-66	.89 x 1.32 x .61	—	.51	.41	.38
6103B*	K	7	TO-3	1.25 x 1.53 x .52	—	.30	.25	.22
6166B*	K	11	TO-66	.89 x 1.32 x .61	—	.29	.23	.21

HIGH PERFORMANCE PC HEAT SINKS

Directional slanted cooling vanes are more effective than any other type for unit volume occupied. Thermal resistance figures are for operation at 10 watts with natural convection. Avg. ship. wt., 1 oz.



Thermalloy Number•	Fig.	Thermal Resist. °C/W	For Case Style	Size, Inches Width x Length x Height	Net Each, Lots of 1-49	50-99	100
6001B-2	L	7.9	TO-3	1.81 x 1.81 x .50	$0.81	$0.65	$0.61
6002B-2	M	7.2	TO-3	1.81 x 1.81 x .75	.85	.68	.64
6003B-2	N	6.5	TO-3	1.81 x 1.81 x 1.00	.97	.76	.67
6004B-2	O	6.0	TO-3	1.81 x 1.81 x 1.25	1.07	.86	.76
6001B-11	L	7.2	TO-66	1.81 x 1.81 x .50	.81	.65	.61
6002B-11	M	7.0	TO-66	1.81 x 1.81 x .75	.85	.68	.64

HEAT SINKS FOR FLAT POWER DEVICES

Designed for flat plastic power transistors, SCR's, triacs and quadracs. Blank mounting surface unless otherwise indicated. Avg. ship. wt., 1 oz. #6025 (Fig. T) designed for vertical mounting where board space is limited.

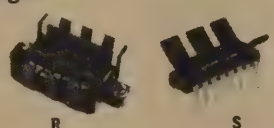


*With two holes. †With one hole.

Thermalloy Number•	Fig.	Thermal Resist., °C/W	Size, Inches Width x Length x Height	Net Each, Lots of 1-49	50-99	100
6106B	P	16	1.00 x 1.18 x .50	$0.26	$0.21	$0.16
6106C	P	18	1.00 x 1.18 x .50	.20	.16	.11
6106C-13*	P	18	1.00 x 1.18 x .50	.20	.16	.11
6107B	Q	19	1.00 x .71 x .50	.19	.15	.13
6107C	Q	21	1.00 x .71 x .50	.14	.11	.09
6107B-14†	Q	21	1.00 x .71 x .50	.19	.15	.13
6107C-14†	Q	21	1.00 x .71 x .50	.14	.11	.09
6025B	T	26	.88 x .25 x 1.25	.28	.23	.18

DIP SINKS — Dual In-line Packages

6007A is 2-piece hard anodized heat sink for 14 and 16 pin dual in-line packages—provides good heat removal plus positive retention to board. 6010B is one piece sink to be bonded to top of 14 or 16 pin DIP's with Thermabond #4952, a thermally conductive epoxy.



6007A	R	32	1.24 x .75 x .37	$0.60	$0.50	$0.45
6010B	S	38	.75 x .60 x .177	.21	.17	.14
4952 Epoxy	—	—	7 oz.	4.50	4.25	3.95

THREE-FOOT HEAT SINK EXTRUSIONS

Ideal for building prototype equipment or for making special application heat sinks for production equipment. Various types accommodate most semiconductor devices. Length, three feet; weight as indicated. Available unfinished only.

Thermalloy No.	Size, Inches Width x Height	Device Mtg. Width, Inches	Shpg. Wt., Lbs.	Net Each, Lots of 1-4	5-9	10 Up
6111	1.50 x .62	.88	2	$3.15	$2.55	$2.25
6141	3.75 x .50	1.312	3	5.70	4.50	4.05
6169	4.12 x 1.00	1.30	4	6.45	5.10	4.65
6176	1.94 x .935	1.30	3	4.50	3.60	3.30
6401	4.75 x 1.25	1.30	3	7.35	5.85	5.25
6421	4.75 x 2.63	1.32	8	12.00	9.60	8.70
6450	4.00 x 4.00	1.25	13	22.50	18.00	16.35
6500	4.50 x 1.03	1.38	4	5.85	4.65	4.20
6660	6.25 x 6.25	1.812	29	54.00	43.50	39.60
6560	5.00 x 5.00	1.312	18	33.00	26.40	24.00
6441	4.75 x 4.50	1.312	13	23.25	18.60	16.80

THERMACOTE THERMAL JOINT COMPOUND

Non-toxic insulating thermal joint compound improves transfer of heat energy across metal-to-metal surfaces between transistor or rectifier case and heat sink. Conducts heat approximately 30 times better than air and more than 4 times better than silicon grease. Opaque white compound is stable; neither cakes nor runs from −40°F to +400°F.

Thermalloy No.	Description	Net Each
249	1-ounce tube	$1.10
250	2-ounce jar	1.95
251	1-pound can	8.45

• **FINISH SUFFIXES** — Suffix **A** indicates hard anodize finish per MIL-F-14072, 400 V insulation; **B**, black anodize finish per MIL-A-8625 Type II; **C**, gold chromate finish per MIL-C-5541.

© United Technical Publications



Unitrode semiconductor devices

- **RECTIFIERS**

UT Series — Standard Recovery
up to 12A
up to 1000V
up to 200A Surge

UTR — Fast Recovery
up to 9A
up to 600V
up to 150A Surge
as low as 250nS recovery time

UTX Series — Ultra Fast Recovery
up to 4A
up to 250V
up to 80A Surge
as low as 75nS recovery time

Mil Approved
JAN & JANTX 1N4245 Series
JAN & JANTX 1N4942 Series
JAN & JANTX 1N3611 Series
JAN & JANTX 1N5186 Series

- **THYRISTORS** (Silicon Planar SCRs)

¢-line Industrial
up to 400V
up to 1.6A
package TO-5, TO-18

Military
Radiation Tolerant GA 100 family
Pulse Modulator GA 200 family
Laser Driver GA 300 family
2N5719 — 2N5723
up to 400V
package TO-18
2N3027 — 2N3032
up to 100V
package TO-18
turn-off time 2μsec. max.
2N5724 — 2N5728
up to 400V
package TO-5

Mil Approved
JAN & JANTX 2N3027 Series
JAN & JANTX 2N2323A Series
JAN 2N1870A Series

Photo SCRs
PF/PR 30 family
Package flat lens — Round lens TO-18
10 to 600 Fc
2 to 120 Fc

¢-line
Programmable Unijunction Transistors (PUTs)
U13T1 — 4 up to 100V
9V pulse output voltage
1.5V max. at 150mA

- **ZENER DIODES**

¢-line Industrial
1 watt
1N4736 — 1N4764
6.8 to 100V
UZ3016 — UZ3051
6.8 to 200V (replacement for 1N3016 — 1N3051)
5-watt
UZ4706 — UZ4120
6.8 to 200V (replacement for 1N5342 — 1N5388)

Military
1 watt
UZ8706 — UZ8120
6.8 to 200V Surge ratings 5 times greater than equivalent types
3 watt
UZ706 — UZ140
6.8 to 400V
5 watt
UZ5706 — UZ5140
6.8 to 400V
6 watt
UZ7706L — UZ7110L
6.8 to 100V
600% greater surge capability than the 1N3015 family. Comparable surges to 50 watt zener.
10 watt
UZ7706 — UZ7110
6.8 to 100V
600% greater surge capability than the 1N3015 family. Comparable surges to 50 watts zener.

Transient Voltage Suppressors (TVS)
1N5610 — 1N5613
min. voltages: 33, 43.7, 54, 191
Peak Surge: 1500 watts for 1 millisecond

Mil Approved
5 watt
JAN 1N4954 — 1N4995
6.8 to 400V

- **POWER TRANSISTORS**

Power Switching Transistors
up to 30A
up to 400V
as fast as 60nS turn-on plus 200nS turn-off
packages TO-5, TO-59, TO-111, TO-61, TO-63, TO-66, TO-3

¢-line Darlingtons
U2T101
U2T201
up to 10A
80V min V_{CER}
H_{fe} 2000 min at 5A
1.5V max. at 5A saturation
25W at case temp. of 100°C

Mil Approved
JAN & JANTX 2N4150
JAN & JANTX 2N2151

- **ASSEMBLIES AND DOORBELLS®**

High Voltage stacks US & USR Series
up to 20KV

Bridges 673, 676, 677, 690-694 Series
1 Ø, 3 Ø
up to 15KV/leg.

Magnum T.M. bridges 678-684, 695-696
1 Ø, 3 Ø center taps and doublers
up to 600V
up to 25A

Doorbells®
UGB, UGD, UGG, UGF
up to 15KV/module
up to 6A in air
up to 10A in oil
UDA-F
up to 15KV/module
up to 2A in air
up to 5A in oil

UNITRODE quality takes the worry out of paying less.

© United Technical Publications

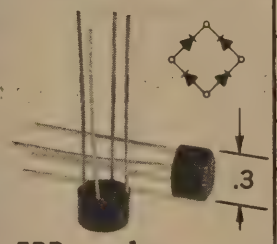
If you don't find it here, give us a call.

SILICON RECTIFIERS

ASK US ABOUT OUR MANY TYPES OF CUSTOM RECTIFIERS AND RECTIFIER ASSEMBLIES.

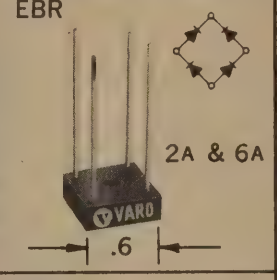
FULL WAVE BRIDGE RECTIFIERS*

50V	Io	1-99
W 111	1A	.95
100V		
VE 18	1A	1.00
VS 148	2A	1.00
VH 148	6A	1.93
200V		
VE 27	1A	1.20
VE 28	1A	1.10
VS 247	2A	1.20
VS 248	2A	1.10
VH 247	6A	2.25
VH 248	6A	2.15
IN 4436	10A	4.15
VT 200	25A	5.35
400V		
VE 47	1A	1.30
VE 48	1A	1.20
VS 447	2A	1.30
VS 448	2A	1.20
VH 447	6A	2.59
VH 448	6A	2.49
IN 4437	10A	5.45
VT 400	25A	7.00
600V		
VE 67	1A	1.59
VE 68	1A	1.49
VS 647	2A	1.60
VS 648	2A	1.50
VH 647	6A	2.98
VH 648	6A	2.88
IN 4438	10A	7.45
VT 600	25A	9.85



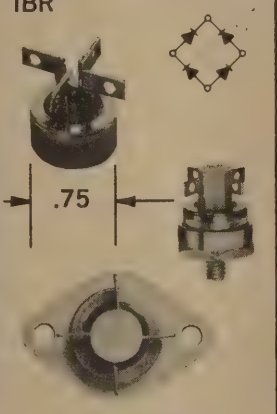
EBR 1A

EBR

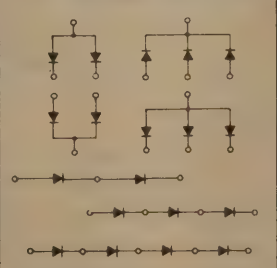


2A & 6A

IBR



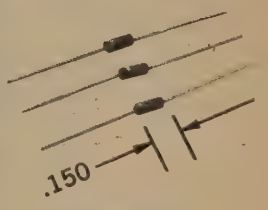
10A & 25A
ALSO AVAILABLE
IN THESE CIRCUITS



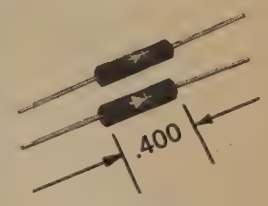
HIGH VOLTAGE RECTIFIERS*

1000V	Io	1-99
VA 10	50mA	1.36
VB 10	100mA	1.41
1500V		
VA 15	50mA	1.44
VB 15	100mA	1.51
2000V		
VA 20	50mA	1.55
VB 20	100mA	1.59
VC 20	2A	5.20
2500V		
VA 25	50mA	1.66
VB 25	100mA	1.72
3000V		
VA 30	25mA	1.93
VB 30	50mA	1.88
VC 30	2A	5.52
3500V		
VA 35	25mA	2.70
4000V		
VB 40	50mA	2.05
VC 40	2A	5.85
5000V		
VB 50	50mA	2.40
VC 50	1.5A	6.18
VF 5-5	5mA	1.60
VF 10-5	10mA	1.77
VF 25-5	25mA	1.95
6000V		
VB 60	50mA	2.62
VC 60	1.5A	6.50

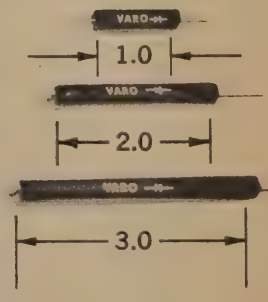
7000V	Io	1-99
VC 70	1.5A	6.82
VF 5-7	5mA	1.71
VF 10-7	10mA	1.89
VF 25-7	25mA	2.08
8000V		
VC 80	1A	7.15
10,000V		
VF 5-10	5mA	1.96
VF 10-10	10mA	2.16
VF 25-10	25mA	2.38
12,000V		
VF 5-12	5mA	2.22
VF 10-12	10mA	2.44
VF 25-12	25mA	2.68
15,000V		
VF 5-15	5mA	2.30
VF 10-15	10mA	2.54
VF 25-15	25mA	2.80
20,000V		
VF 5-20	5mA	2.97
VF 10-20	10mA	3.27
VF 25-20	25mA	3.60
25,000V		
VF 5-25	5mA	3.72
VF 10-25	10mA	4.09
VF 25-25	25mA	4.51
30,000V		
VF 5-30	5mA	4.46
VF 10-30	10mA	4.91
VF 25-30	25mA	5.39
40,000V		
VF 5-40	5mA	5.95
VF 10-40	10mA	6.54
VF 25-40	25mA	7.20



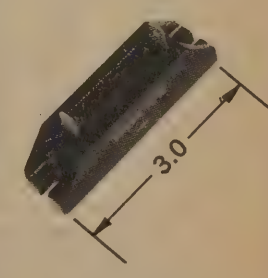
VA SERIES



VB SERIES



VF SERIES



VC SERIES

*Available with fast recovery characteristic

VARO

SEMICONDUCTOR DIVISION

© United Technical Publications

Westinghouse

SCR types are listed by half sine-wave average current rating at 180° conduction angle. Surge ratings are peak one-half cycle currents at 60 Hz. Voltage ratings are maximum steady state blocking voltages. Complete with mounting hardware.

Fast Switching Thyristors

V_{FS} V	2191 Series (Fig. A or B) 40A; 63A rms; t_{off}=15 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99	2192 Series (Fig. A or B) 40A; 63A rms; t_{off}=40 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99	2193 Series (Fig. A or B) 40A; 63A rms; t_{off}=10 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99	2541 Series (Fig. A or B) 80A; 125A rms; t_{off}=10 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99	2542 Series (Fig. A or B) 80A; 125A rms; t_{off}=15 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99
100	2191B	$29.90	$18.00	2192B	$28.60	$17.10	2193B	$32.60	$19.60	2541B	$37.40	$22.40	2542B	$35.70	$21.40
200	2191D	34.30	20.60	2192D	32.80	19.70	2193D	37.40	22.50	2541D	42.90	25.00	2542D	41.00	24.60
300	2191F	36.30	21.75	2192F	34.65	20.80	2193F	39.60	23.80	2541F	48.40	29.00	2542F	46.20	27.70
400	2191H	40.00	24.00	2192H	38.20	22.90	2193H	43.70	26.20	2541H	57.20	34.30	2542H	54.60	32.80
500	2191K	47.70	28.60	2192K	45.60	27.30	2193K	52.10	31.30	2541K	68.20	40.90	2542K	65.10	39.10
600	2191M	55.40	33.30	2192M	52.90	31.80	2193M	60.50	36.30	2541M	79.20	47.50	2542M	75.60	45.40
700	2191P	66.20	39.70	2192P	63.20	37.90	.....	.....	.....	2541P	94.60	56.80	2542P	90.30	54.20
800	2191S	77.00	46.20	2192S	73.50	44.10	.....	.....	.....	2541S	110.00	66.00	2542S	105.00	63.00
900	.....	.....	.....	2192V	86.70	52.00	.....	.....	.....	.....	.....	.....	2542V	123.90	74.30
1000	.....	.....	.....	2192Z	101.40	60.90	.....	.....	.....	.....	.....	.....	2542Z	144.90	86.00

Fast Switching Thyristors (Cont'd)

V_{FS} V	2543 Series (Fig. A or B) 80A; 125A rms; t_{off}=40 μsec max. W-H Type	Net Ea. 1-9	Net Ea. 10-99	T507 Series (Fig. A or B) 35A; 55A rms; t_{off}=30 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	35A; 55A rms; t_{off}=20 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	35A; 55A rms; t_{off}=15 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	35A; 55A rms; t_{off}=10 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99
100	2543B	$40.80	$24.50	T507013554*	$27.20	$16.30	T507013564*	$28.60	$17.10	T507013574*	$29.90	$18.00	T507013584*	$32.60	$19.60
150	.....	.....	.....	T507023554*	31.20	18.70	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	2543D	46.80	28.10	T507033554*	33.00	19.80	T507023564*	32.80	19.70	T507027074*	42.90	25.70	T507023584*	37.40	22.50
250	.....	.....	.....	T507043554*	36.40	21.80	.....	.....	.....	.....	.....	.....	.....	.....	.....
300	2543F	52.80	31.70	T507053554	43.40	26.00	T507033564*	34.65	20.80	T507037074*	48.40	29.00	T507033584*	39.60	23.80
400	2543H	62.40	37.40	T507063554	40.30	30.20	T507043564*	38.20	22.80	T507047074	57.20	34.30	T507043584*	43.70	26.20
500	2543K	74.40	44.60	T507073554	60.20	36.10	T507053564	45.60	27.30	T507057074	68.20	40.90	T507053584	52.10	31.30
600	2543M	86.40	51.80	T507083554	70.00	42.00	T507063564	52.90	31.80	T507067074	79.20	47.60	T507063584	60.50	36.30
700	.....	.....	.....	T507093554	82.60	49.60	T507073564	63.20	37.90	T507077074	94.60	56.80	.....	.....	.....
800	.....	.....	.....	T507103554	96.60	58.00	T507083564	73.50	44.10	T507087074	110.00	66.00	.....	.....	.....
900	.....	.....	.....	T507113554	110.60	66.40	T507093564	86.70	52.00	.....	.....	.....	.....	.....	.....
1000	.....	.....	.....	T507123554	126.00	75.60	T507103564	101.40	60.90	.....	.....	.....	.....	.....	.....

Fast Switching Thyristors (Cont'd)

V_{FS} V	70A; 110A rms; t_{off}=30 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	70A; 110A rms; t_{off}=20 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	70A; 110A rms; t_{off}=15 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99	70A; 110A rms; t_{off}=10 μsec W-H Type	Net Ea. 1-9	Net Ea. 10-99
50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	T507017054*	$34.00	$20.40	T507017064*	$35.70	$21.40	T507017074*	$37.40	$22.40	T507017084*	$40.80	$24.50
150	T507027054*	39.00	23.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	T507037054*	44.00	26.40	T507027064*	41.00	24.60	.....	.....	.....	T507027084*	46.80	28.10
250	T507047054*	52.00	31.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
300	T507057054	62.00	37.20	T507037064*	46.20	27.70	T507033574*	36.30	21.75	T507037084*	52.80	31.70
400	T507067054	72.00	43.20	T507047064*	54.60	32.80	T507043574*	40.00	24.00	T507047084	62.40	37.40
500	T507077054	86.00	51.60	T507057064	65.10	39.10	T507053574	47.70	28.60	T507057084	74.40	44.60
600	T507087054	100.00	60.00	T507067064	75.60	45.40	T507063574	55.40	33.30	T507067084	86.40	51.80
700	T507097054	118.00	70.80	T507077064	90.30	54.20	T507073574	66.20	39.70	.....	.....	.....
800	T507107054	138.00	82.80	T507087064	105.00	63.00	T507083574	77.00	46.20	.....	.....	.....
900	T507117054	158.00	94.80	T507097064	123.90	74.30	.....	.....	.....	.....	.....	.....
1000	T507127054	180.00	108.00	T507107064	144.90	86.90	.....	.....	.....	.....	.....	.....

High Temp. Thyristors

2515 Series (Fig. A or B)

40A; 63A rms max.; 1200 surge.

W-H Type	Net Ea. 1-9	Net Ea. 10-99
2515A	$19.00	$11.50
2515B	20.25	12.25
2515C	21.00	12.75
2515D	21.50	13.25
2515E	23.75	14.25
2515F	25.50	15.50
2515H	32.50	19.75
2515K	38.00	23.00
2515M	44.50	27.00
2515P	51.00	32.00
2515S	63.00	38.00
2515V	75.00	46.00
2515Z	88.00	54.00

High Temperature Thyristors (Cont'd)

2N2023-2N2030 (Fig. A)

80A; 110A rms; 1200A surge.

V_{FS} V	W-H Type	Net Ea. 1-9	Net Ea. 10-99
25	2N2023	$22.00	$13.25
50	2N2024	28.50	17.25
100	2N2025	32.50	19.50
150	2N2026	35.00	21.00
200	2N2027	37.00	22.25
250	2N2028	39.00	23.50
300	2N2029	41.50	25.00
400	2N2030	48.00	29.00
500	.....	.....	.....
600	.....	.....	.....
700	.....	.....	.....
800	.....	.....	.....
900	.....	.....	.....
1000	.....	.....	.....

2505 Series (Fig. A or B)

80A; 125A rms; 1600A surge.

W-H Type	Net Ea. 1-9	Net Ea. 10-99
.....	.....	.....
2505A	$28.50	$17.25
2505B	32.50	19.50
2505C	35.00	21.00
2505D	37.00	22.25
2505E	39.00	23.50
2505F	41.50	25.00
2505H	48.00	29.00
2505K	53.00	32.00
2505M	63.00	38.00
2505P	78.00	47.00
2505S	94.00	57.00
2505V	113.00	69.00
2505Z	138.00	84.00

Low Power Thyristors

2N-681-201ZH (Fig. E)

20A; 25A rms max.; 150A surge.

V_{FS} V	W-H Type	Net Ea. 1-99	Net Ea. 100-999
25	2N681	$2.30	$1.70
50	2N682	2.80	2.05
100	2N683	3.55	2.60
150	2N684	4.18	3.03
200	2N685	4.80	3.48
250	2N686	5.35	3.88
300	2N687	5.75	4.15
400	2N688	6.72	4.85
500	2N689	8.05	5.80
600	2N690	8.65	6.28
700	2N691	12.80	10.60
800	2N692	17.50	14.35
900	201V	29.25	21.75
1000	201Z	35.00	28.50

2N1842-202ZH (Fig. E)

10A at 56°C; 16A rms max.; 125A surge.

W-H Type	Net Ea. 1-99	Net Ea. 100-999
2N1842	$2.15	$1.55
2N1843	2.52	1.85
2N1844	3.18	2.30
2N1845	3.73	2.72
2N1846	4.35	3.63
2N1847	5.00	3.70
2N1848	5.40	3.88
2N1849	6.53	4.74
2N1850	7.45	5.40
202M	10.50	7.10
202P	13.45	8.95
202S	18.40	12.25
202V	23.00	16.50
202Z	27.00	20.25

2N1842A-203H (Fig. E)

10A at 90°C; 16A rms max.; 125A surge.

W-H Type	Net Ea. 1-99	Net Ea. 100-999
2N1842A	$2.20	$1.60
2N1843A	2.60	1.90
2N1844A	3.28	2.38
2N1845A	3.83	2.80
2N1846A	4.45	3.73
2N1847A	5.10	3.80
2N1848A	5.50	3.98
2N1849A	6.53	4.74
2N1850A	7.45	5.40
203M	11.25	7.50
203P	15.00	10.00
203S	20.50	13.50
203V	25.50	18.25
203Z	30.00	22.00

See figure illustrations on page 993.

*For reverse polarity, increase fourth digit by 1 (T507113544)

© United Technical Publications

Low Power Thryistors (cont'd)

T400/408 Series (Fig. E)

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	7400002218	$5.80	$3.85	T408002218 (C35F)	$3.60	$2.40
100	T400012218	6.70	4.45	T408012218 (C35A)	4.70	3.15
150	.....	.....	.....	.....	.....	.....
200	T400022218	8.60	5.75	T408022218 (C35B)	5.90	3.95
250	.....	.....	.....	.....	.....	.....
300	T400032218	10.20	6.80	T408032218 (C35C)	6.75	4.50
400	T400042218	13.30	8.90	T408042218 (C35D)	8.25	5.45
500	T400052218 (C137E)	16.50	11.00	T408052218 (C35E)	10.60	7.10
600	T400062218 (C137M)	18.00	12.00	T408062218 (C35M)	12.60	8.40
700	T400072218 (C137S)	20.75	13.85	T408072218 (C35S)	19.15	12.85
800	T400082218 (C137N)	24.00	16.00	T408082218 (C35N)	25.20	16.80
900	T400092218 (C137T)	29.60	19.75	T408092218	29.25	19.50
1000	T400102218 (C137P)	34.80	23.20	T408102218	35.00	23.35
1100	.....	.....	.....	.....	.....	.....
1200	.....	.....	.....	.....	.....	.....
1300	.....	.....	.....	.....	.....	.....
1400	.....	.....	.....	.....	.....	.....
1500	.....	.....	.....	.....	.....	.....
1600	.....	.....	.....	.....	.....	.....

Medium Power Thyristors

251 Series (Fig. A or B)
40A; 63A rms; 1200A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
251A	$16.00	$9.75
251B	16.50	10.00
251C	17.00	10.25
251D	17.50	10.50
251E	19.00	11.50
251F	21.00	12.75
251H	26.00	15.75
251K	31.00	18.50
251M	36.00	22.00
251P	43.00	26.00
251S	51.00	31.00
251V	60.00	36.00
251Z	70.00	42.00
251ZB	83.00	50.00
251ZD	90.00	54.00
251ZF	105.00	64.00
251ZH	125.00	80.00
251ZK	150.00	95.00
251ZM	185.00	115.00

2N4361-2N4368 (Fig. A or B)
70A; 110A rms max.; 1600A surge.

W-H Type		Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....	.....
2N4361	2N4371	$22.00	$13.25
.....	.....	.....	.....
2N4362	2N4372	26.00	15.75
.....	.....	.....	.....
.....	.....	.....	.....
2N4363	2N4373	39.00	23.50
.....	.....	.....	.....
.....	.....	.....	.....
2N4364	2N4374	55.00	31.50
.....	.....	.....	.....
.....	.....	.....	.....
2N4365	2N4375	79.00	47.00
.....	.....	.....	.....
.....	.....	.....	.....
2N4366	2N4376	111.00	67.00
.....	.....	.....	.....
.....	.....	.....	.....
2N4367	2N4377	151.00	90.00
.....	.....	.....	.....
2N4368	2N4378	194.00	117.50
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

2N1792-2N1804 (Fig. A or B)
80A; 110A rms max.; 1000A surge.

W-H Type		Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
2N1792	2N1910	$20.00	$12.00
2N1793	2N1911	22.00	13.25
2N1794	2N1912	24.00	14.50
2N1795	2N1913	26.00	15.75
1N1796	2N1914	29.50	17.75
2N1797	2N1915	32.50	19.50
2N1798	2N1916	39.00	23.50
2N1799	.....	44.00	26.50
2N1800	.....	52.50	31.50
2N1801	.....	65.00	39.00
2N1802	.....	79.00	47.00
2N1803	.....	91.00	55.00
2N1804	.....	111.30	67.00
2N1805	.....	44.00	26.50
2N1806	.....	52.50	31.50
2N1807	.....	65.00	39.00
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Med. Power Thyristors (cont'd)

250 Series (Fig. A or B)
80A; 125A rms max.; 1600A surge.

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	250A	$20.00	$12.00
100	250B	22.00	13.25
150	250C	24.00	14.50
200	250D	26.00	15.75
250	250E	29.50	17.75
300	250F	32.50	19.50
400	250H	39.00	23.50
500	250K	44.00	26.50
600	250M	52.50	31.50
700	250P	65.00	39.00
800	250S	79.00	47.00
900	250V	91.00	55.00
1000	250Z	110.00	67.00
1100	250ZB	130.00	90.00
1200	250ZD	144.00	86.50
1300	250ZF	162.00	97.25
1400	250ZH	185.00	112.00
1500	250ZK	210.00	130.00
1600	250ZM	240.00	150.00

High Power Thyristors

263 Pow-R-Disc Series (Fig. F)
125A; 200A rms; 1600A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
263A	$18.60	$11.00
263B	19.00	11.50
.....	.....	.....
263D	22.50	13.50
.....	.....	.....
263F	25.50	15.50
263H	30.50	18.50
263K	35.00	21.00
263M	42.00	25.25
263P	52.50	31.50
263S	63.00	38.00
263V	72.50	43.50
263Z	88.50	53.25
263ZB	105.00	63.00
263ZD	121.00	72.75
263ZF	137.00	82.00
263ZH	149.00	88.00
263ZK	163.00	98.00
263ZM	180.00	108.00

261 Series (Fig. C)
125A; 200A rms; 3500A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....
261B	$47.00	$28.25
.....	.....	.....
261D	50.50	30.50
.....	.....	.....
261F	60.00	36.00
261H	70.00	42.00
261K	86.00	51.00
261M	103.00	62.00
261P	126.00	76.00
261S	148.00	89.00
261V	171.00	103.00
261Z	191.00	114.00
261ZB	214.00	129.00
261ZD	238.00	142.00
261ZF	257.00	155.00
261ZH	277.00	166.00
261ZK	299.00	180.00
261ZM	320.00	193.00

2N3884-2N3895 (Fig. C)
175A; 275A rms; 5000A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
2N3884	$47.50	$28.50
2N3885	52.00	31.25
.....	.....	.....
2N3886	56.00	33.75
.....	.....	.....
2N3887	67.00	40.00
2N3888	78.00	47.00
2N3889	95.00	57.00
2N3890	115.00	69.00
2N3891	140.00	84.00
2N3892	165.00	99.00
2N3893	190.00	114.00
2N3894	212.00	127.00
.....	.....	.....
2N3895	264.00	158.00
.....	.....	.....
.....	.....	.....
.....	.....	.....

260 Series (Fig. C)
175A; 275A rms; 5000A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....
260B	$52.00	$31.25
.....	.....	.....
260D	56.00	33.75
.....	.....	.....
260F	67.00	40.00
260H	78.00	47.00
260K	95.00	57.00
260M	115.00	69.00
260P	140.00	84.00
260S	165.00	99.00
260V	190.00	114.00
260Z	212.00	127.00
260ZB	238.00	143.00
260ZD	264.00	158.00
260ZF	286.00	172.00
260ZH	308.00	185.00
260ZK	332.00	200.00
260ZM	356.00	214.00

High Power Fast Switching Thyristors (cont'd)

273 Series (Fig. F)
200A; 320A rms; 4000A surge.

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	.....	.....	.....
100	273B	$32.00	$19.25
200	273D	38.50	23.75
300	273F	43.00	26.00
400	273H	52.00	31.00
500	273K	64.00	38.00
600	273M	75.00	45.00
700	273P	90.00	54.00
800	273S	109.00	66.00
900	273V	122.00	73.00
1000	273Z	136.00	82.00
1100	273ZB	152.00	91.00
1200	273ZD	168.00	101.00
1300	273ZF	183.00	110.00
1400	273ZH	197.00	118.00
1500	273ZK	213.00	128.00
1600	273ZM	228.00	137.00

271 Series (Fig. H)
250A; 400A rms; 5500A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....
271B	$53.50	$32.00
271B	59.50	35.20
271F	71.00	42.50
271H	88.00	53.00
271K	108.00	65.00
271M	130.00	78.00
271P	160.00	96.00
271S	191.00	115.00
271V	216.00	130.00
271Z	241.00	145.00
271ZB	270.00	162.00
271ZD	297.00	178.00
271ZF	324.00	195.00
271ZH	355.00	213.00
271ZK	387.00	231.00
271ZM	423.00	254.00

272 Pow-R-Disc Series (Fig. F)
300A; 470A rms; 5500A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....
272B	$40.00	$24.00
272D	48.00	28.75
272F	54.00	32.50
272H	65.00	39.00
272K	80.00	48.00
272M	93.00	55.75
272P	112.00	67.25
272S	136.00	81.50
272V	152.00	91.25
272Z	170.00	102.00
272ZB	190.00	114.00
272ZD	210.00	126.00
272ZF	228.00	137.00
272ZH	246.00	148.00
272ZK	266.00	160.00
272ZM	285.00	171.00

276 Series (Fig. D)
300A; 470A rms; 5500A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
.....	.....	.....
276B	$82.00	$61.25
276D	86.00	63.75
276F	97.00	70.00
276H	108.00	77.00
276K	125.00	87.00
276M	145.00	99.00
276P	170.00	114.00
276S	195.00	129.00
276V	210.00	144.00
276Z	242.00	157.00
276ZB	268.00	173.00
276ZD	294.00	188.00
276ZF	316.00	202.00
276ZH	338.00	215.00
276ZK	362.00	230.00
276ZM	386.00	244.00

2248 Series (Fig. G)
300A; 470A rms; 5000A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
2248A	$63.00	$44.00
2248B	67.00	46.25
2248D	71.00	48.75
2248F	82.00	55.00
2248H	93.00	62.00
2248K	110.00	72.00
2248M	130.00	84.00
2248P	155.00	99.00
2248S	180.00	114.00
2248V	205.00	129.00
2248Z	227.00	142.00
2248ZB	253.00	158.00
2248ZD	279.00	173.00
2248ZF	301.00	187.00
2248ZH	323.00	200.00
2248ZK	347.00	215.00
2248ZM	371.00	229.00

High Power Fast Switching Thyristors (cont'd)

270 Series (Fig. H)
350A; 550A rms; 6500A surge.

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	270B	$55.00	$33.00
200	270D	63.00	38.00
300	270F	75.00	45.00
400	270H	98.00	59.00
500	270K	120.00	72.00
600	270M	145.00	87.00
700	270P	178.00	107.00
800	270S	212.00	127.00
900	270V	240.00	144.00
1000	270Z	268.00	161.00
1100	270ZB	300.00	180.00
1200	270ZD	330.00	198.00
1300	270ZF	360.00	216.00
1400	270ZH	395.00	237.00
1500	270ZK	430.00	258.00
1600	270ZM	470.00	282.00

283 Pow-R-Disc Series (Fig. I)
400A; 625A rms; 6500A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
283B	$86.00	$51.75
283D	92.00	55.25
283F	100.00	60.00
283H	112.00	67.25
283K	124.00	74.50
283M	144.00	86.50
283P	170.00	102.00
283S	180.00	114.00
283V	216.00	130.00
283Z	240.00	144.00
283ZB	264.00	158.00
283ZD	290.00	174.00
283ZF	316.00	189.99
283ZH	340.00	204.00
283ZK	364.00	218.00
283ZM	390.00	234.00

282 Pow-R-Disc Series (Fig. I)
550A; 850A rms; 7000A surge.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
282B	$95.00	$57.00
282D	101.00	61.00
282F	110.00	66.00
282H	123.00	74.00
282K	138.00	83.00
282M	158.00	95.00
282P	184.00	110.00
282S	198.00	119.00
282V	238.00	143.00
282Z	264.00	158.00
282ZB	290.00	174.00
282ZD	319.00	191.00
282ZF	348.00	209.00
282ZH	374.00	224.00
282ZK	400.00	240.00
282ZM	430.00	258.00

High Power Fast Switching Thyristors

2601 Series (Fig. C)
175A; 275A rms; 30 μsec max.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
2601B	$62.50	$37.50
2601D	67.25	40.50
2601F	80.00	48.00
2601H	93.50	56.50
2601K	114.00	68.50
2601M	138.00	83.00
2601P	168.00	101.00
2601S	198.00	119.00
2601V	228.00	137.00
2601Z	254.00	152.00
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

2602 Series (Fig. C)
175A; 275A rms; 40 μsec max.

W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
2602B	$57.00	$34.00
2602D	62.00	37.00
2602F	74.00	44.50
2602H	86.00	51.50
2602K	105.00	63.00
2602M	127.00	76.00
2602P	154.00	92.00
2602S	182.00	109.00
2602V	209.00	125.00
2602Z	233.00	140.00
2602ZB	262.00	157.00
2602ZD	290.00	174.00
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

See figure illustrations on page 993.

Westinghouse

High Power Fast Switching Thyristors (cont'd)

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
	2611 Series (Fig. C) 125A; 250A rms; 20 μsec			**2612 Series (Fig. C)** 125A;250A rms; 30 μsec			**T707 Series (Fig. H)** 44-40 μsec turn-off. 54-30 μsec turn-off. 64-20 μsec turn-off.			250 amp aver. 400 amp rms.			**T727 Series (Fig. I)** 400A aver.		
100	2611B	$56.50	$34.00	2612B	$52.00	$31.25	T707012544	$60.50	$36.50	T707012564	$71.00	$43.00	T727014044	$104.00	$62.00
200	2611D	60.50	36.50	2612D	55.50	33.50	T707022544	69.00	42.00	T707022564	81.00	50.00	T727024044	111.00	67.00
300	2611F	72.00	43.25	2612F	66.00	29.50	T707032544	82.50	50.00	T707032564	97.00	59.00	T727034044	121.00	72.00
400	2611H	84.00	50.50	2612H	77.00	46.00	T707042544	108.00	65.00	T707042564	128.00	77.00	T727044044	135.00	81.00
500	2611K	103.00	61.00	2612K	94.50	56.00	T707052544	132.00	79.00	T707052564	156.00	93.00	T727054044	151.00	91.00
600	2611M	124.00	74.50	2612M	113.00	68.00	T707062544	159.00	96.00	T707062564	188.00	112.00	T727064044	174.00	104.00
700	2611P	151.00	91.00	2612P	139.00	83.00	T707072544	195.00	117.00	T707072564	228.00	138.00	T727074044	202.00	121.00
800	2611S	178.00	107.00	2612S	163.00	98.00	T707082544	232.00	140.00	T707082544	232.00	140.00	T727084044	218.00	131.00
900	2611V	205.00	123.00	2612V	188.00	113.00	T707092544	262.00	158.00	.....	.....	.....	T727094044	262.00	157.00
1000	2611Z	229.00	137.00	261Z	210.00	126.00	T707102544	294.00	177.00	.....	.....	.....	T727104044	290.00	174.00
1100	.....	.....	.....	261ZB	235.00	141.00	T707112544	330.00	198.00	.....	.....	.....	T727114044	319.00	191.00
1200	.....	.....	.....	2612ZD	262.00	157.00	T707122544	363.00	218.00	.....	.....	.....	T727124044	351.00	210.00

High Power Fast Switching Thyristors (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999
	T727 Series (Fig. I) (cont'd)			**388 Series (Fig. J)** Temperature given at Tc 1A at 40°C ambient: 35A surge; T_r=120 ns.			**363 Series (Fig. N)** 3A at 40°C; 150A surge; t_{rr}=300 ns			**1N3879, R-R3020606 (Fig. L)** 6A at 100°C; 75A surge; t_{rr}=200 ns			**1N3889, R-R3020612 (Fig. L)** 12A at 100°C; 150A surge; t_{rr}=200 ns		
50	.....	.....	.....	388A	$0.65	$0.42	363A	$1.50	$0.95	1N3879, R	$3.00	$2.00	1N3889, R	$3.75	$2.50
100	T727014064	$122.00	$74.00	388B	.70	.45	363B	1.65	1.08	1N3880, R	3.45	2.30	1N3890, R	4.35	2.90
150	.....	.....	.....	388C	.73	.47	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	T727024064	132.00	79.00	388D	.75	.48	363D	1.80	1.18	1N3882, R	5.25	2.90	1N3891, R	5.55	3.70
300	T727034064	143.00	85.00	388F	.85	.54	363F	2.00	1.27	7N3882, R	5.25	3.50	1N3892, R	6.75	4.50
400	T727044064	159.00	95.00	388H	.90	.66	363H	2.30	1.40	1N3882, R	6.15	4.10	1N3893, R	7.95	5.30
										1N3883, R	6.15	4.10			
500	T727054064	180.00	107.00	388K	1.15	.74	363K	2.90	1.88	.....	.....	.....	.....	.....	.....
600	T727064064	206.00	122.00	388M	1.25	.80	363M	3.70	2.40	R3020606†	18.60	12.40	R3020612†	21.20	14.00
700	T727074064	238.00	143.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
800	T727084064	258.00	179.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Silicon Fast Switching Rectifiers

Silicon High Power Rectifiers

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
	Silicon Fast Switching Rectifiers (cont'd)						**Silicon High Power Rectifiers**								
	1N3899, R-R4020620 (Fig. M) 20A at 100°C; 225A surge; t_{rr}=200 ns			**1N3909, R-1N3913, R (Fig. M)** 35A at 100°C; 300A surge; t_{rr}=200 ns			**1N3288A, R-1N3297A, R (Fig. O)** 100A at 130°C; 2300A surge.			**1N4587, R-1N4596, R (Fig. O)** 150A at 110°C; 3000A surge.			**1N3260, R-1N3273, R (Fig. P)** 160A at 125°C; 2000A surge.		
50	1N3899, R	$5.25	$3.50	1N3909, R	$6.00	$4.00	.....	.....	.....	.....	.....	.....	1N3260, R	$17.00	$10.25
100	1N3900, R	6.10	4.10	1N3910, R	7.05	4.70	1N3288A, AR	$13.00	$8.00	1N4587, R	$14.50	$8.70	1N3261, R	18.00	11.00
150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3262, R	19.00	11.50
200	1N3901, R	7.95	5.30	1N3911, R	9.15	6.10	1N3289A, AR	14.50	8.75	1N4588, R	16.00	9.60	1N3263AR	20.50	12.50
							1N3289JAN; RJAN	42.00	25.25				1N3263JAN	46.00	32.35
250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3264, R	22.00	13.25
300	1N3902, R	9.75	6.50	1N3912, R	11.25	7.50	1N3290A, AR	15.50	9.50	1N4589, R	17.00	10.20	1N3265, R	23.50	14.25
350	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3266, R	24.50	14.75
400	.....	.....	.....	1N3913, R	13.35	8.90	1N3291A, AR	16.50	11.66	1N4590, R	18.20	10.90	1N3267, R	26.00	15.75
							1N3291JAN; RJAN	46.00	27.75				1N3267JAN	51.00	35.75
500	1N3903, R	11.55	7.70	.....	.....	.....	1N3292A, AR	17.50	10.50	1N4591, R	19.40	11.60	1N3268, R	29.00	17.50
600	R4020620†	22.50	18.45	.....	.....	.....	1N3293A, AR	19.50	11.75	1N4592, R	21.50	12.90	1N3269, R	32.50	19.50
							1N3293JAN; RJAN	56.00	33.75				1N3269JAN	77.00	60.50
800	.....	.....	.....	.....	.....	.....	1N3294A, AR	24.00	14.50	1N4593, R	25.00	15.00	1N3270, R	35.00	21.00
							1N3294JAN; RJAN	66.00	39.75				1N3271, R	37.50	22.50
900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3272, R	41.00	24.75
1000	.....	.....	.....	.....	.....	.....	1N3295A, AR	28.50	17.25	1N4594, R	31.50	18.90	1N3273, R	45.50	27.50
1200	.....	.....	.....	.....	.....	.....	1N3296A, AR	32.50	19.50	1N4595, R	36.00	21.60	1N3274, R	51.50	31.00
1400	.....	.....	.....	.....	.....	.....	1N3297A, AR	37.00	25.00	1N4596, R	41.00	25.20	1N3275, R	58.00	35.00

See figure illustrations on page 993.

†JAN Type Available

© United Technical Publications

Silicon High Power Rectifiers (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
	1N3161, R-163274A, R (Fig. P) 240A at 125°C; 3000A surge.			**(Fig. P)** 250A at 130°C; 4500A surge.			**(Fig. P)** 250 A at 135°C; 4500A surge.			**1N4044, R-164056, R (Fig. P)** 275A at 125°C; 5000A surge.			**R6000030 Series (Fig. P)** 300A at 120°C; 5500A surge.		
50	1N3161, R	$20.00	$12.00	.....	.....	.....	1N2054, R	$19.50	$12.00	1N4044, R	$17.00	$10.25	.....	.....	.....
100	1N3162, R	21.00	12.75	1N3735, R	$21.00	$12.75	1N2055, R	21.00	12.75	1N4045, R	18.00	11.00	R6000130*	$19.80	$11.90
150	1N3163, R	23.00	13.75	.....	.....	.....	1N2056, R	23.00	13.75	1N4046, R	19.00	11.50	.....	.....	.....
200	1N3164, R	24.50	14.75	1N3736, R	24.50	14.75	1N2057, R	24.50	14.75	1N4047, R	20.50	12.50	R6000230*	22.50	13.50
	1N3164JAN	59.00	48.50										.....	.....	.....
250	1N3165, R	26.00	15.50	.....	.....	.....	1N2058, R	26.00	15.75	1N4048, R	22.00	13.25	R6000330*	26.75	16.00
300	1N3166, R	27.50	16.50	1N3737, R	27.50	16.50	1N2059, R	27.50	16.50	1N4049, R	25.50	14.25	.....	.....	.....
350	1N3167, R	29.00	17.50	.....	.....	.....	1N2060, R	29.00	17.50	.....	.....	.....	R6000430*	33.50	20.00
400	1N3168*, R	30.50	18.50	1N3738, R	30.50	18.50	1N2061, R	30.50	18.50	1N4050, R	30.50	18.50	.....	.....	.....
500	1N3169, R	34.00	20.50	1N3739, R	34.00	20.50	1N2063, R	34.00	20.50	1N4051, R	35.00	21.00	R6000530*	38.50	23.00
600	1N3170, R	38.00	23.00	1N3740, R	38.00	23.00	1N2064, R	38.00	23.00	1N4052, R	38.00	23.00	R6000630*	41.75	25.00
	1N3170JAN	114.00	91.25												
700	1N3171, R	40.50	24.25	.....	.....	.....	1N2065, R	41.25	25.00	1N4053, R	41.00	24.75	R6000730*	45.00	27.00
800	1N3172, R	44.50	26.75	1N3741, R	44.50	26.75	1N2066, R	44.50	26.75	1N4054, R	44.50	26.75	R6000830*	49.00	29.50
900	1N3173, R	48.50	29.00	.....	.....	.....	1N2067, R	48.50	29.00	1N4055, R	48.50	29.25	R6000930*	53.50	32.00
1000	1N3174, R	52.50	31.50	1N3742, R	52.50	31.50	1N2068, R	52.50	31.50	1N4056, R	52.50	31.50	R6001030*	57.75	34.75
1200	.....	.....	.....	1N3743, R	61.00	36.75	.....	.....	.....	.....	.....	.....	R6001230*	68.00	40.80
1400	R6001424	75.00	45.00	1N3744, R	70.00	42.00	.....	.....	.....	.....	.....	.....	R6001430	83.00	49.80
1600	R6001624	91.00	55.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	R6001630	105.00	63.00
1800	R6001816	74.00	44.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	R6001824	108.00	64.80												
2000	R6002016	84.00	50.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	R6002024	122.00	73.20												
2200	R6002216	97.00	58.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	R6002224	140.00	84.00												
2400	R6002416	110.00	66.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	R6002424	160.00	96.00												

Silicon High Power Rectifiers (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
	R6200640 Series (Fig. R) 400A at 130C; 5000A surge.			**R6200647 Series (Fig. R)** 470A at 125°C; 5500A surge.			**(Fig. P)** 500A aver.			800A aver.; 1000A aver. at 125°C.			**Silicon Medium Power Rectifiers** Suffix R indicates reverse polarity types available; same price. **1N1612, R-1N4459, R (Fig. L)** 5A at 150C; 150A surge. 3A at 150°C; 40A surge.		
50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N1612, R	$1.07	$0.72
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N1613, R	1.24	.83
200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N1614, R*	1.90	1.27
400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N1615, R*	3.71	2.48
600	R6200640	$34.50	$20.75	R6200647	$38.00	$22.75	R7000605*†	$69.50	$41.75	.....	.....	.....	1N1616, R*	5.36	3.58
700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
800	R6200840	40.00	24.00	R6200847	44.00	26.50	R7000805*†	82.00	49.25	.....	.....	.....	1N4458, R	9.00	6.00
1000	R6201040	47.50	28.50	R6201047	52.00	31.25	R7001005*†	94.50	56.75	R7201010	$190.00	$114.00	1N4459, R	10.00	6.75
1200	R6201240	55.00	33.00	R6201247	60.50	36.25	R7001205*†	108.00	64.50	R7201210	222.00	134.00	.....	.....	.....
1400	R6201440	63.50	38.05	R6201447	70.00	41.75	R7001405*†	121.00	72.75	R7201410	252.00	152.00	.....	.....	.....
1600	R6201640	75.00	45.00	R6201647	82.50	49.50	R7001605*†	137.00	82.00	R7201608	232.00	140.00	.....	.....	.....
										R7201610	286.00	172.00			
1800	R6201840	90.00	54.00	R6201847	99.00	59.50	R7001805*†	158.00	94.50	R7201808	262.00	158.00	.....	.....	.....
										R7201810	316.00	190.00			
2000	R6202040	115.00	69.00	R6202047	126.00	76.00	R7002005*†	184.00	110.00	R7202008	290.00	174.00	.....	.....	.....
										R7202010	350.00	210.00			
2200	.....	.....	.....	.....	.....	.....	R7002205*†	193.00	116.00	R7202208	320.00	192.00	.....	.....	.....
										R7202210	368.00	227.00			
2400	.....	.....	.....	.....	.....	.....	R7002405*†	205.00	123.00	R7202408	350.00	210.00	.....	.....	.....
										R7202410	390.00	235.00			
2600	.....	.....	.....	.....	.....	.....	R7002605*†	216.00	130.00	R7202608	378.00	227.00	.....	.....	.....
										R7202610	414.00	249.00			
2800	.....	.....	.....	.....	.....	.....	R7002805*†	231.00	139.00	R7202808	408.00	245.00	.....	.....	.....
										R7202810	438.00	263.00			
3000	.....	.....	.....	.....	.....	.....	R7003005*†	244.00	146.00	R7203008	438.00	263.00	.....	.....	.....
										R7203010	465.00	279.00			

Silicon Medium Power Rectifiers (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
	1N1341A, R-1N3990, R (Fig. L) 6A at 150°C; 150A surge.			**1N1199A, R-1N5331, R (Fig. L)** 12A at 150°C; 240A surge.			**1N1199B-1N1206B (Fig. L)** 12A at 150°C; 250A surge.			**368 Series (Fig. L)** 15A at 125°C; 240A surge.			**(Fig. M)** 15A at 150°C; 250A surge.		
50	1N1341A;AR;R	$1.13	$0.75	1N1199A, R	$1.25	$0.83	1N1199B, R	$1.30	$0.90	368A	$0.79	$0.67	1N3208	$1.73	$1.15
	1N1341B;BR	1.20	.80												
100	1N1342A;AR;R	1.28	.85	1N1200A, R	1.41	.94	1N1200B, R	1.50	1.00	368B	.83	.71	1N3209	1.77	1.18
	1N1342B;BR	1.35	.90												
150	1N1343A;AR;R	1.64	1.09	1N1201A, R	1.82	1.21	1N1201B, R	1.90	1.30	368C	.93	.72	.....	.....	.....
	1N1343B;BR	2.25	1.50												
200	1N1344A;AR;R	2.15	1.43	1N1202A, R	2.48	1.65	1N1201B	2.60	1.70	368D	1.10	.77	1N3210	1.82	1.21
	1N1344B;BR	2.25	1.50												
300	1N1345A;AR;R	3.05	2.04	1N1203A, R	3.47	2.31	1N1203B	3.60	2.40	368F	1.31	.88	1N3211	2.50	1.60
	1N1345B;BR	3.20	2.15												
400	1N1346A;AR;R	3.96	2.64	1N1204A, R	4.46	2.97	1N1204B	4.90	3.30	368H	1.52	.99	1N3212	2.90	1.93
	1N1346B;BR	4.20	2.80												
500	1N1347A;AR;R	4.65	3.10	1N1205A, R	5.33	3.55	1N1205B	5.85	3.90	368K	1.79	1.16	1N3213	3.53	2.35
	1N1347B;BR	5.00	3.35												
600	1N1348A;AR;R	5.48	3.65	1N1206A, R	6.19	4.13	1N1206B	6.80	4.55	368M	2.05	1.42	1N3214	4.20	2.80
	1N1348B;BR	6.05	4.05												
700	1N3987, R	7.65	5.13	1N3670A, R	7.88	5.25	.....	.....	.....	.....	.....	.....	.....	.....	.....
800	1N3988, R	8.60	5.75	1N3671A, R	8.78	5.85	.....	.....	.....	.....	.....	.....	.....	.....	.....
900	1N3989, R	9.30	6.20	1N3672A, R	9.45	6.30	.....	.....	.....	.....	.....	.....	.....	.....	.....
1000	1N3990, R	9.75	6.50	1N3673A, R	9.90	6.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
1200	.....	.....	.....	1N5331, R	10.50	7.99	.....	.....	.....	.....	.....	.....	.....	.....	.....

See figure illustrations on page 993.

For reverse polarity, increase fourth digit by 1 (R6001130)

*†Minus Voltages

Westinghouse

Silicon Medium Power Rectifiers (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
	(Fig. L) 16A at 150°C; 300A surge.			1N248A, R-1N250C, R (Fig. M) 20A at 150°C; 500A surge.			1N1191A, R4101222 (Fig. M) 22A at 150°C; 250A surge.			(Fig. M) 25A at 145°C; 300A surge.			1N1183, R5332, R (Fig. M) 35A at 140°C; 500A surge.		
50	1N3615, R	$1.38	$0.94	1N248A, R	$1.65	$1.10	1N1191, R	$1.65	$1.10	1N2154, R	$2.38	$1.59	1N1183, R	$2.14	$1.43
				1N248B, R	1.65	1.10									
				1N248C, R	1.65	1.10									
100	1N3616, R	1.54	1.05	1N249A, R	1.73	1.15	1N1192A, R	1.73	1.15	1N2155, R	3.00	2.00	1N1184, R	2.47	1.65
				1N249B, R	1.73	1.15									
				1N249C, R	2.03	1.35									
150	1N3617, R	1.98	1.38	.....	.....	.....	1N1193A, R	2.10	1.40	1N2156, R	4.38	2.97	1N1185, R	3.10	2.07
200	1N3618, R	3.03	2.04	1N250A, R	2.48	1.65	1N1194A, R	2.48	1.65	.....	.....	.....	1N1186, R	3.55	2.37
				1N250B, R	2.48	1.65									
				1N250C, R	2.78	1.85									
300	1N3619, R	4.40	3.03	.....	.....	.....	1N1195A, R	3.88	2.59	1N2157, R	5.25	3.50	1N1187, R	4.95	3.30
400	1N3620, R	5.50	3.63	.....	.....	.....	1N1196A, R	4.85	3.30	1N2158, R	5.92	3.95	1N1188, R	6.19	4.13
500	1N3621, R	6.33	4.13	.....	.....	.....	1N1197A, R	6.15	3.96	1N2159, R	6.15	4.10	1N1189, R	7.42	4.95
600	1N3622, R	7.70	4.95	.....	.....	.....	1N1198A, R	6.65	4.45	1N2160, R	6.30	4.20	1N1190, R	8.65	5.80
700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3765, R	9.10	6.15
800	1N3623, R	10.44	7.72	.....	.....	.....	R4100822†	8.00	5.75	.....	.....	.....	1N3766, R	9.75	6.50
900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1N3767, R	10.72	7.15
1000	1N3624, R	14.78	10.95	.....	.....	.....	R4101022†	10.25	6.55	.....	.....	.....	1N3768, R	11.62	7.72
1200	.....	.....	.....	.....	.....	.....	R4101222†	12.00	8.00	.....	.....	.....	1N5332, R	13.00	8.40

Silicon Medium Power Rectifiers (Cont'd)

PRV V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-24	25-99
	1N1183A, R-R4101240 (Fig. M) 40A at 150°C; 800A surge.			(Fig. M) 60A at 115°C; 900A surge.			R4100070-R4101270 (Fig. M) 70A at 100°C; 750A surge.		
50	1N1183A, R	$2.14	$1.43	1N2128, R	$2.65	$1.80	R4100070*	$2.85	$2.20
100	1N1184A, R	2.47	1.65	1N2129, R	3.15	2.20	R4100170*	3.95	2.74
150	1N1185A, R	3.10	2.07	1N2130, R	3.60	2.70	.....	.....	.....
200	1N1186A, R	3.55	2.37	1N2131, R	5.00	3.30	1N4136, R	5.55	4.00
300	1N1187A, R	4.95	3.30	1N2133, R	6.00	4.15	.....	.....	.....
400	1N1188A, R	6.19	4.13	1N2135, R	7.00	5.00	1N4137, R	7.55	5.21
500	1N1189A, R	7.42	4.95	1N2137, R	8.00	5.50	.....	.....	.....
600	1N1190A, R	8.65	5.80	1N2138, R	8.95	6.00	.....	.....	.....
700	.....	.....	.....	.....	.....	.....	1N4138, R	9.15	6.17
800	R4100840*	9.75	6.50	.....	.....	.....	.....	.....	.....
900	.....	.....	.....	.....	.....	.....	R4100870*	12.55	10.40
1000	R4101040*	11.62	7.72	.....	.....	.....	R4101070*	15.05	11.45
1200	R4101240*	13.00	8.50	.....	.....	.....	R4101270*	19.00	15.00

Silicon Low Power Rectifiers

W-H Type		Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
1N5391-1N5399 (Fig. J) Epoxy encapsulated. 3A at 50°C ambient; 200A surge.				1N5400-165408 (Fig. N) Epoxy encapsulated. 1.5A at 40°C ambient; 50A surge.		
1N5391	1N4816	$0.27	$0.23	1N5400	$0.36	$0.31
1N5392	1N4817	.31	.27	1N5401	.41	.34
.....	.....	.....	.....	.....	.....	.....
1N5393	1N4818	.37	.31	1N5402	.47	.40
1N5394	1N4819	.43	.35	1N5403	.55	.43
1N5395	1N4820	.45	.38	1N5404	.61	.51
1N5396	1N4821	.49	.42	1N5405	.65	.57
1N5397	1N4822	.55	.47	1N5406	.73	.65
.....	.....	.....	.....	.....	.....	.....
1N5398	1N5053	.81	.54	1N5407	1.14	1.00
.....	.....	.....	.....	.....	.....	.....
1N5399	1N5054	.90	.62	1N5408	1.50	1.25
.....	.....	.....	.....	.....	.....	.....

Fast Switching Silicon Power Transistors 10 Amps

PRV V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
	1714 Series (Fig. B) All ratings are maximum except as noted. Supplied with mounting Hardware. T_J=65°C to +200°C. h_{FE}=20 min. except as otherwise noted. Last two digits indicate I_C: 0402, 2A; 0405, 5A; 0410, 10A, etc. $V_{CE(sat)}$=0.60V (1714-0405-1805, 0.75V). f_T=70 MHz Typ. P_D=35W at T_C=25°C.						1716 Series (Fig. T) I_C=10A f_T=30 MHz Typ.			1718 Series (Fig. D) $V_{CE(sat)}$=0.5V (1716-0405-1805, 0.6V). f_T=70 MHz Typ. P_D=33W at T_C=100°C.					
40	1714-0402	$5.80	$4.40	1714-0405	$6.50	$4.90	.....	.....	.....	1718-0402	$16.75	$12.40	1718-0405	$20.75	$15.20
60	1714-0602	6.60	5.00	1714-0605	7.40	5.60	.....	.....	.....	1718-0602	18.50	13.60	1718-0605	22.75	16.80
80	1714-0802	7.40	5.60	1714-0805	8.20	6.20	.....	.....	.....	1718-0802	21.75	16.00	1718-0805	26.00	19.20
100	1714-1002	8.30	6.30	1714-1005	9.10	6.90	.....	.....	.....	1718-1002	25.00	18.40	1718-1005	29.25	21.60
				1714-1205	10.00	7.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
120	1714-1202	9.10	6.90	2N5202	4.55	3.30	.....	.....	.....	1718-1202	28.75	21.20	1718-1205	33.25	24.40
				2N3879	4.80	3.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
140	1714-1402	10.00	7.60	1714-1405	11.30	8.60	.....	.....	.....	1718-1402	32.50	24.00	1718-1405	37.50	27.60
160	1714-1602	11.40	8.60	1714-1605	12.60	9.50	.....	.....	.....	1718-1602	38.00	28.00	1718-1605	42.75	31.60
180	1714-1802	12.40	9.40	.....	.....	.....	.....	.....	.....	1718-1802	43.50	32.00	.....	.....	.....
200	.....	.....	.....	.....	.....	.....	1814-2001	$9.80	$7.55	.....	.....	.....	.....	.....	.....
							1814-2002	14.00	10.75						
225	.....	.....	.....	.....	.....	.....	1814-2201	11.90	8.75	.....	.....	.....	.....	.....	.....
							1814-2202	17.00	12.50						
250	.....	.....	.....	.....	.....	.....	1814-2501	13.65	10.15	.....	.....	.....	.....	.....	.....
							1814-2502	19.50	14.50						
275	.....	.....	.....	.....	.....	.....	1814-2701	15.15	11.90	.....	.....	.....	.....	.....	.....
							1814-2702	22.50	17.00						
300	.....	.....	.....	.....	.....	.....	1814-3001	18.20	13.65	.....	.....	.....	.....	.....	.....
							1814-3002	26.00	19.50						
325	.....	.....	.....	.....	.....	.....	1814-3201	20.65	15.40	.....	.....	.....	.....	.....	.....
							1814-3202	29.50	22.00						
350	.....	.....	.....	.....	.....	.....	1814-3501	23.45	18.15	.....	.....	.....	.....	.....	.....

Fast Switching Silicon Power Transistors (Cont'd)

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
	20 Amps 1723 Series (Fig. V) $V_{CE(sat)}$=1.0V (1723-0410-1810, 1.25V). f_T=50 MHz Typ. P_D=150W at T_C=25°C.						High Power Transistors (Fig. V) I_C=40A; f_T=40 MHz Typ.								
40	1723-0405	$7.85	$5.95	1723-0410	$8.55	$6.50	1743-0610	$13.50	$10.25	2N5932	16.95	12.85	1743-0630	21.25	16.10
60	1723-0605	8.85	6.75	1723-0610	9.85	7.55	1743-0820	19.95	15.15	2N5929	16.00	12.10	2N5935	24.95	18.90
80	.....	.....	.....	1723-0810	10.95	8.35	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	1723-1005	10.95	8.35	1723-1010	12.00	9.15	1743-1010	18.35	13.85	2N5202	4.55	3.30	2N5933	22.95	17.40
							1743-1030	28.65	21.80	.....	.....	.....	.....	.....	.....
120	1723-1205	12.00	9.15	1723-1210	13.15	10.10	1743-1220	26.25	19.70	2N5930	20.80	15.75	2N5936	32.35	24.50
140	1723-1405	13.50	10.40	1723-1410	14.85	11.30	1743-1410	22.95	17.40	2N5934	29.00	21.65	1743-1430	35.95	27.30
160	1723-1605	15.10	11.55	1723-1610	16.65	12.70	1743-1620	35.20	26.60	2N5931	28.30	21.45	2N5937	44.20	33.45
180	1723-1805	16.65	12.70	1723-1810	18.30	14.00	1743-1810	29.75	25.50	.....	.....	.....	.....	.....	.....

*For reverse polarity, increase fourth digit by 1 (R4101**0**840)

Net

© United Technical Publications

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
	Fast Switching Silicon Power Transistors (Cont'd) (Fig. W) I_C=40A; f_T=40 MHz Typ.									**40 Amps** **1763 Series (Fig. V)** $V_{CE(sat)}$=1.0V (1763-0620-1820, 1.25V). f_T=50 MHz. P_D=85W at T_C=100°C.					
60	1748-0610	$20.00	$15.50	2N6046	$24.00	$18.00	1748-0630	$28.00	$21.00	.....	.....	.....	.....	.....	.....
80	1748-0810	22.00	17.00	1748-0820	27.00	20.50	1748-0830	32.00	21.00	1763-0610	$16.50	$12.55	1763-0620	$20.70	$15.75
	2N5039	7.10	5.90							1763-0810	19.80	14.95	1763-0820	24.65	18.70
100	1748-1010	25.00	19.00	2N6047	30.00	22.00	1748-1030	35.00	25.00	1763-1010	22.90	17.30	1763-1020	28.60	21.65
	2N5038	9.10	7.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
120	1748-1210	27.00	21.00	.....	.....	.....	.....	.....	.....	1763-1210	26.20	19.80	1763-1220	33.00	24.75
140	1748-1410	31.00	23.00	1748-1220	33.00	24.50	1748-1230	39.00	29.00	1763-1410	29.15	22.10	1763-1420	36.85	27.50
160	1748-1610	33.00	32.50	2N6048	37.00	27.00	1748-1430	44.00	32.50	1763-1610	36.30	27.50	1763-1620	45.10	34.10
180	1748-1810	43.00	30.50	1748-1620	45.00	32.00	.....	.....	.....	1763-1810	43.45	33.00	.....	.....	.....

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-9	10-99
	1763 Series (Fig. V) $V_{CE(sat)}$=1.50 V (1763-0620-1820, 12 V). f_T=50 MHz. P_D=85 W at T_C=100°C.			**1768 Series (Fig. W)** $V_{CE(sat)}$=1.0V (1763-0620-1820, 1.25V). f_T=50 MHz. P_D=100W at T_C=100°C.									**75 Amps** **1756 Series (Fig. W)** I_C=75A; f_T=30 MHz Typ.		
60	1763-0630	$25.95	$19.70	1768-0610	$23.00	$18.50	1768-0620	$28.00	$21.00	1768-0630	$33.00	$24.50	1756-0640	$86.00	$65.00
80	1763-0830	30.80	23.30	1768-0810	26.00	20.00	1768-0820	32.00	24.00	1768-0830	38.00	28.00	1756-0840	94.00	71.50
100	1763-1030	35.75	27.20	1768-1010	29.00	22.50	1768-1020	35.00	26.00	1768-1030	41.00	29.50	1756-1040	103.00	78.50
120	1763-1230	39.70	30.80	1768-1210	32.00	24.50	1768-1220	39.00	29.00	1768-1230	46.00	34.00	1756-1240	113.00	85.50
140	1763-1430	45.65	34.65	1768-1410	36.00	27.00	1768-1420	44.00	31.50	1768-1430	52.00	38.00	1756-1440	126.00	96.50
160	.....	.....	.....	1768-1610	41.00	30.00	1768-1620	53.00	37.50	.....	.....	.....	1756-1640	140.00	103.50
180	.....	.....	.....	1768-1810	51.00	36.00	.....	.....	.....	.....	.....	.....	1756-1840	157.00	117.00

V_{CE} V	W-H Type	Net Ea., Lots of 1-9	10-99	V_{CE} V	W-H Type	Net Ea., Lots of 1-9	10-99	W-H Type	Net Ea., Lots of 1-9	10-99	W-H Type	Net Ea., Lots of 1-9	10-99
	Fast Switching Silicon Power Transistors (Cont'd) (Fig. W) I_C=75A; f_T=30 MHz Typ.				(Pkg. D) I_C=30A; f_T=25 MHz Typ.								
60	1756-0660	$104.00	$79.50	200	1843-2005	$30.00	$25.00	1843-2010	$40.00	$33.25	1843-2020	$50.00	$41.50
80	1756-0860	113.00	85.50	225	1843-2205	35.00	28.75	1843-2210	45.00	37.25	1843-2220	56.00	46.00
100	1756-1060	124.00	94.50	250	1843-2505	44.00	36.25	1843-2510	57.00	47.00	1843-2520	70.00	57.75
120	1756-1260	137.00	103.50		1843-3505	94.00	77.50	.....	.....	.....	.....	.....	.....
140	1756-1460	151.00	112.50	275	1843-2705	51.00	42.00	1843-2710	67.00	55.25	1843-2720	83.00	68.50
160	1756-1660	167.00	126.00	300	1843-3005	61.00	50.25	1843-3010	81.00	66.75	1843-3020	101.00	83.25
180	.....	.....	.....	325	1843-3205	75.00	62.00	1843-3210	100.00	82.50	1843-3220	125.00	103.25

V_{CE} V	W-H Type	Net Ea., Lots of 1-9	10-99	W-H Type	Net Ea., Lots of 1-9	10-99	W-H Type	Net Ea., Lots of 1-9	10-99	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
	Fast Switching Silicon Power Transistors (Cont'd) **75 Amps** **1776 Series (Fig. W)** h_{FE}=15 min. $V_{CE(sat)}$= 1.5V. f_T=35 MHz Typ. P_D=150W at T_C=100°C.						**100 Amps** **1781 Series, TO-114 Pkg.** I_C=100A; f_T=30 MHz Typ.						**Medium Current** **1571 Series (Fig. S)** T_J=−65°C to +150°C except as otherwise noted. 4A; $V_{CE(sat)}$=1.0V. f_T=1.0 MHz Typ. T_J to +200°C.		
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1571-0425	$0.80	$0.70
60	1776-0640	$96.00	$72.00	1776-0660	$116.00	$88.00	1781-0640	$105.00	$79.00	1781-0660	$127.00	$96.00	2N3054	.94	.68
80	1776-0840	104.00	79.00	1776-0860	126.00	95.00	1781-0840	114.00	87.00	1781-0860	138.00	104.00	1571-0825	1.24	.95
100	1776-1040	114.00	87.00	1776-1060	138.00	105.00	1781-1040	125.00	95.00	1781-1060	152.00	115.00	1571-1025	1.42	1.05
120	1776-1240	126.00	95.00	1776-1260	152.00	115.00	1781-1240	138.00	104.00	1781-1260	167.00	126.00	1571-1225	2.00	1.52
140	1776-1440	140.00	107.00	1776-1460	168.00	125.00	1781-1440	154.00	117.00	.....	.....	.....	1571-1425	2.65	2.10
160	1776-1640	156.00	115.00	1776-1660	186.00	140.00	.....	.....	.....	.....	.....	.....	1571-1625	3.15	2.47
180	1776-1840	174.00	130.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
	Medium Current (Cont'd) **1571 Series (Fig. S) (Cont'd)**			**151 Series and 152 Series (Fig. X)** Rated 6A. I_C=1.5A; h_{FE}=11 min. (152 Series, 18 min.) f_T=500 kHz Typ. V_{EB}=25V. T_J=−65°C to +150°C. P_D=100W at 80°C case. **153 Series and 154 Series (Fig. Y)** Rated 7.5A. I_C=1.5A; h_{FE}=15 min. (154 Series, 25 min.) f_T=500 kHz Typ. T_J=−65°C to +175°C. P_D=200W at 25°C case.						**7.5 Amps** **2N1015-2N1015E (Fig. X)** I_C=2A			**2N1016-2N1016E** I_C=5A		
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	2N1015	$15.00	$11.50	2N1016	$16.00	$12.00
40	1571-0420	$0.76	$0.66	151-05	153-04	$5.65	$4.45	152-04	154-04	$6.55	$5.10	.....	.....	.....	.....	.....	.....
60	1571-0620	.95	.80	151-06	153-06	8.50	6.65	152-06	154-06	9.60	7.50	2N1015A	19.00	14.25	2N1016A	20.00	15.00
80	1571-0820	1.10	.90	151-08	153-08	11.40	8.80	152-08	154-08	12.70	9.90	.....	.....	.....	.....	.....	.....
100	1571-1020	1.28	.95	151-10	153-10	14.40	11.20	152-10	154-10	15.85	12.35	2N1015B	24.00	18.00	2N1016B*	26.00	19.50
120	1571-1220	1.75	1.42	151-12	153-12	16.25	12.50	152-12	154-12	18.70	14.40	.....	.....	.....	.....	.....	.....
140	263441	2.48	1.71	151-14	153-14	18.30	14.10	152-14	154-14	21.00	16.20	.....	.....	.....	.....	.....	.....
150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2N1015C	32.00	24.00	2N1016C*	32.00	24.00
160	1571-1620	2.65	2.00	151-16	153-16	20.60	15.80	152-16	154-16	23.70	18.30	.....	.....	.....	.....	.....	.....
180	.....	.....	.....	151-18	153-18	23.20	17.90	152-18	154-18	26.70	20.35	.....	.....	.....	.....	.....	.....
200	.....	.....	.....	151-20	153-20	26.20	20.10	152-20	154-20	28.90	22.10	2N1015D	45.00	33.75	2N1016D*	50.00	37.50
220	.....	.....	.....	151-22	153-22	29.60	22.70	152-22	154-22	32.70	24.90	.....	.....	.....	.....	.....	.....
240	.....	.....	.....	151-24	153-24	34.20	25.85	152-24	154-24	37.20	28.40	.....	.....	.....	.....	.....	.....
250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2N1015E	77.00	57.00	2N1016E	89.00	66.50
260	.....	.....	.....	151-26	153-26	38.90	29.40	152-26	154-26	42.35	32.30	.....	.....	.....	.....	.....	.....
280	.....	.....	.....	151-28	153-28	44.10	33.50	152-28	154-28	48.20	36.80	.....	.....	.....	.....	.....	.....
300	.....	.....	.....	151-30	153-30	50.00	38.00	152-30	154-30	54.60	41.70	.....	.....	.....	.....	.....	.....

See figure illustrations on page 993.

*For reverse polarity, increase fourth digit by 1 (2N1017B)

Medium Current (Cont'd)

7.5 Amps

2N3429-2N3433 (Fig. Y)
Same ratings as 2N1016 Series except; T_J=175°C max.; P_D=150W at 60°C case.

10 Amps High Gain

2N2226-2N2229 (Fig. X)
h_{FE}=100 min.
h_{FE}=10 min. f_T=500 kHz Typ.
P_D=150W at 45°C case.
I_C=10A; f_T=300 kHz Typ. P_D=150W at 75°C case.

2N2230-2N2233 (Fig. X)
h_{FE}=400 min.
V_{EB}=25V.

2N3470-2N3473 (Fig. GG)
h_{FE}=100 min.

2N3474-2N3477 (Fig. GG)
h_{FE}=400 min.

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
50	2N3429	$29.10	$21.70	.....	.....	.....	.....	.....	.....	2N3470	$44.10	$29.10	2N3474	$73.10	$48.10
100	2N3430	38.10	28.40	2N2226	$44.10	$29.10	2N2230	$73.10	$48.10	2N3471	61.10	41.10	2N3475	99.10	66.10
150	2N3431	51.10	37.80	2N2227	61.10	41.10	2N2231	99.10	66.10	2N3472	83.10	55.10	2N3476	132.10	88.10
250	2N3432	67.10	50.10	2N2228	83.10	55.10	2N2232	132.10	88.10	2N3473	112.10	75.10	2N3477	183.10	122.10
200	2N3433	89.10	66.60	2N2229	112.10	75.10	2N2233	183.10	122.10	.....	.....	.....	.....	.....	.....

Medium Current (Cont'd)

15 Amps

1561 Series (Fig. V)
h_{FE}=20 at I_C=3A. V_{CE}=4V.
JEDEC No. T_J to +200°C.
P_D=115W at T_C=25°C.

1561 Series (Fig. V)
h_{FE}=20 at I_C=4A. V_{CE}=4V.
f_T=1 MHz. T_J to +200°C.
P_D=115W at T_C=25°C.

High Current Silicon Power Transistors

20 Amps

(Fig. Z)
h_{FE}=10 min. f_T=500 kHz Typ. T_J=−65°C to +175°C. P_D=200W at 75°C case.

(Fig. J)
I_C = 10A.

I_C = 15A.

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
40	1561-0403	$0.68	$0.60	1561-0404	$1.05	$0.89	.....	.....	.....	.....	.....	.....	.....	.....	.....
50	.....	.....	.....	.....	.....	.....	2N2739	$43.50	$36.60	2N2745	$56.70	$46.80	2N2751	$63.00	$53.10
60	2N3232	.88	.80	1561-0604	1.28	1.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
				2N3055	1.42	1.05									
80	1561-0803	1.08	.92	1561-0804	1.60	1.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
90	.....	.....	.....	1561-1004	1.80	1.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	.....	.....	.....	.....	.....	.....	2N2740	53.80	45.10	2N2746	73.80	61.20	2N2752	81.70	68.40
120	2N4347	2.97	2.16	2N4348	4.13	3.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
140	2N3442	4.54	3.30	1561-1404	4.50	3.24	.....	.....	.....	.....	.....	.....	.....	.....	.....
150	.....	.....	.....	.....	.....	.....	2N2741	69.30	58.40	2N2747	94.50	78.30	2N2753	103.50	88.20
160	2N3234	5.78	3.99	1561-1604	6.00	4.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	.....	.....	.....	.....	.....	.....	2N2742	104.50	87.30	2N2748	120.60	100.80	2N2754	132.30	111.60

High Current Silicon Power Transistors — 20 Amps. (Cont'd)

(Fig. H)
I_C=5A. f=500 kHz Typ. T_J=−65°C to +175°C case.
$R_{THERMAL}$=0.5°/W.

h_{FE} = 15 min.

h_{FE} = 25 min.
R_{SAT} = 0.20 ohm

30 Amps

(Fig. GG)
h_{FE}=10 min. f_T=500 kHz Typ.
I_C = 10A.

(Fig. V)
T_J=−65°C to +175°C. P_D=200W at 75°C case.

I_C = 15A.

I_C = 20A.

V_{CE} V	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
40	163-04	$14.60	$11.35	164-04	$19.50	$14.15	.....	.....	.....	.....	.....	.....	.....	.....	.....
60	163-06	18.60	13.40	164-06	21.60	15.60	.....	.....	.....	2N2763	$56.70	$46.80	2N2769	$63.00	$53.10
80	163-08	20.60	14.85	164-08	23.60	17.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	163-10	22.60	16.30	164-10	25.60	18.45	.....	.....	.....	.....	.....	.....	2N2770	81.70	68.40
120	163-12	25.60	18.45	164-12	28.60	20.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
140	163-14	28.60	20.60	164-14	31.60	22.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
160	163-16	31.60	22.75	164-16	34.60	24.90	2N2759	$85.50	$72.00	2N2765	94.50	78.30	2N2771	103.50	88.20
180	163-18	34.60	24.90	164-18	37.60	27.10	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	163-20	37.60	27.10	164-20	40.60	29.30	.....	.....	.....	.....	.....	.....	2N2772	132.30	111.60
220	163-22	40.85	29.55	164-22	43.85	31.65	.....	.....	.....	.....	.....	.....	.....	.....	.....
240	163-24	44.40	32.20	164-24	47.35	34.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
260	163-26	48.25	35.10	164-26	51.15	36.95	2N2761	142.20	117.00	.....	.....	.....	.....	.....	.....
280	163-28	52.45	38.25	164-28	55.25	39.90	.....	.....	.....	.....	.....	.....	.....	.....	.....
300	163-30	57.00	41.70	164-30	59.70	43.10	.....	.....	.....	.....	.....	.....	.....	.....	.....

High Current Silicon Power Transistors (Cont'd)

30 Amps

(Fig. GG)
h_{FE}=10 min.
f_T=500 kHz Typ.
T_J=−65°C to +175°C. P_D=200W at 75°C case.

I_C = 25A.

30 Amps

(Fig. V)
h_{FE}=10 min. f_T=500 kHz Typ. T_J=−65°C to +175°C. P_D=250W at 60°C case.

V_{CE} V	W-H Type	Net Ea., Lots of 1-24	25-99	I_C = 10A. (Fig. K)	(Fig. L)		I_C = 15A. (Fig. K)	(Fig. L)		I_C = 20A. (Fig. K)	(Fig. L)		I_C = 25A. (Fig. K)	(Fig. L)	
50	.....	.....	.....	2N1809	2N2109	$76.00 $63.00	2N1816	2N2116	$101.00 $84.00	2N1823	2N2123	$135.00 $111.00	2N1830	2N2130	$149.00 $126.00
60	2N2775	$69.30	$58.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	2N2776	89.10	75.30	2N1810	2N2116	115.00 76.00	2N1817	2N2117	129.75 102.00	2N1824	2N2124	143.10 119.10	2N1831	2N2131	159.70 132.80
150	.....	.....	.....	2N1811	2N2111	126.00 94.00	2N1818	2N2118	140.00 117.10	2N1825	2N2125	157.50 131.50	2N1832	2N2132	174.10 142.10
160	2N2777	114.00	97.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
200	2N2778	145.60	122.85	2N1812	2N2112	172.00 114.00	2N1819	2N2119	232.00 156.00	2N1826	2N2126	304.00 207.00	2N1833	2N2133	404.00 275.00
250	.....	.....	.....	2N1813	2N2113	211.00 147.00	2N1820	2N2120	286.00 191.00	.....	.....	.....	.....	.....	.....
260	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
300	.....	.....	.....	2N1814	2N2114	260.00 178.00	.....	.....	.....	.....	.....	.....	.....	.....	.....

See figure illustrations on page 993.

© United Technical Publications

30 Amps
1561 Series (Fig. V)

PRV V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
	h_{FE}=20 at I_C=5A. V_{CE}=4V.			h_{FE}=15 at I_C=8A; V_{CE}=4V. f_T=1 MHz Typ. JEDEC No.— T_J=−65°C to +200°C. P_D=150W at 25°C. f_T=1 MHz Typ.			h_{FE}=15 at I_C=10A. V_{CE}=4V. f_T=1 MHz Typ. JEDEC No.— f_T=1 MHz Typ. P_D=150W at T_C=25°C.			h_{FE}=15 at I_C=15A. V_{CE}=4V. f_T=1 MHz Typ. JEDEC No.— f_T=1 MHz Typ. P_D=150W at T_C=25°C.		
40	.....	.....	.....	1561-0408	$1.52	$1.10	1561-0410	$2.54	$2.16	2N3771	$3.14	$2.28
60	.....	.....	.....	1561-0608	2.00	1.40	1561-0610	2.70	2.22	.....	.....	.....
							2N3772	3.14	2.28	.....	.....	.....
75	.....	.....	.....	.....	.....	.....	2N3237	3.28	2.88	.....	.....	.....
80	1561-0805	$2.39	$1.61	1561-0808	3.17	2.03	1561-0810	3.28	2.88	1561-0815	4.21	3.49
				2N3238	3.17	2.03						
100	1561-1005	3.60	2.67	1561-1008	5.40	3.95	1561-1010	6.00	4.50	1561-1015	6.77	4.67
120	1561-1205	5.27	3.80	1561-1208	6.40	4.60	1561-1210	7.00	5.25	1561-1215	9.08	6.27
140	1561-1405	5.97	4.32	2N3773	7.43	5.20	1561-1410	8.00	5.75	1561-1415	10.00	7.50
160	1561-1605	6.96	5.19	2N3240	7.92	5.27	1561-1610	10.00	7.50	1561-1615	12.50	9.40
	I_C = 70A.			I_C = 100A.			I_C = 150A.			I_C = 200A.		
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	1401-0220	$148.00	$108.00
40	1401-0407	$78.00	$52.50	1401-0410	$95.00	$62.50	1401-0415	$112.00	$77.00	1401-0420	172.00	119.00
60	1401-0607	118.00	82.00	1401-0610	138.00	96.00	1401-0615	172.00	118.00	1401-0620	260.00	180.00
80	1401-0807	139.00	96.00	1401-0810	172.00	129.00	1401-0815	212.00	141.00	1401-0820	300.00	208.00
100	1401-1007	158.00	110.00	1401-1010	191.00	131.00	1401-1015	234.00	162.00	1401-1020	300.00	246.00
120	1401-1207	192.00	132.00	1401-1210	232.00	160.00	1401-1215	292.00	200.00	1401-1220	222.00	160.00
140	1401-1407	222.00	148.00	1401-1410	256.00	176.00	1401-1415	324.00	280.00	.....	.....	.....

High Current Silicon Power Transistors (Cont'd)

250 Amps
(Fig. BB)
I_C=10 min.
f_e=10 min.
f_T=0.5 MHz Typ.
P_D=625 at I_C=75°C

W-H Type	Net Ea., Lots of 1-99	100-999
.....	.....	.....
1401-0605	95.00	65.50
.....	.....	.....
.....	.....	.....
1401-0805	120.00	83.00
1401-1005	134.00	92.00
1401-1205	161.00	112.00
1401-1405	180.00	124.00
.....	.....	.....
I_C = 250A.		
1401-0225	$173.00	$120.00
1401-0425	203.00	141.00
1401-0625	305.00	209.00
1401-0825	362.00	250.00
.....	.....	.....
.....	.....	.....
.....	.....	.....

Molded Rectifier Assemblies Single-Phase Full-Wave Bridge

1.75 Amps
(Fig. CC)

V V_{CE}	W-H Type	Net Ea., Lots of 1-24	25-99
50	MP010ABA	$2.00	$1.60
100	MP010ABB	2.20	1.76
200	MP010ABD	2.40	1.92
300	MP010ABF	2.60	2.08
400	MP010ABH	2.80	2.24
500	MP010ABK	3.00	2.40
600	MP010ABM	3.20	2.56
700	MP010ABP	3.40	2.72
800	MP010ABS	3.60	2.88
900	MP010ABV	3.80	3.04
1000	MP010ABZ	4.00	3.20

2 Amps
(Fig. CC*)

W-H Type	Net Ea., Lots of 1-24	25-99
MP011BPA	$2.60	$2.08
MP011BBB	2.86	2.29
MP011BBD	3.12	2.50
MP011BBF	3.38	2.70
MP011BBH	3.64	2.91
MP011BBK	3.90	3.12
MP011BBM	4.16	3.33
MP011BBP	4.42	3.54
MP011BBS	4.68	3.74
MP011BBV	4.94	3.95
MP011BBZ	5.20	4.16

4 Amps
(Fig. DD)

W-H Type	Net Ea., Lots of 1-24	25-99
MP012FBA	$3.00	$2.40
MP012FBB	3.30	2.64
MP012FBD	3.60	2.88
MP012FBF	3.90	3.12
MP012FBH	4.20	3.36
MP012FBK	4.50	3.60
MP012FBM	4.80	3.84
MP012FBP	5.10	4.08
MP012FBS	5.40	4.32
MP012FBV	5.70	4.56
MP012FBZ	6.00	4.80

6 Amps
(Fig. DD)

W-H Type	Net Ea., Lots of 1-24	25-99
MP012HBA	$3.40	$2.72
MP012HBB	3.74	2.99
MP012HBD	4.08	3.26
MP012HBF	4.42	3.54
MP012HBH	4.76	3.81
MP012HBK	5.10	4.08
MP012HBM	5.44	4.35
MP012HBP	5.78	4.62
MP012HBS	6.12	4.90
MP012HBV	6.46	5.17
MP012HBZ	6.80	5.44

10 Amps
(Fig. DD)

W-H Type	Net Ea., Lots of 1-24	25-99
MP012JBA	$4.40	$3.52
MP012JBB	4.84	3.87
MP012JBD	5.28	4.22
MP012JBF	5.72	4.58
MP012JBH	6.16	4.93
MP012JBK	6.60	5.28
MP012JBM	7.04	5.63
MP012JBP	7.48	5.98
MP012JBS	7.92	6.34
MP012JBV	8.36	6.69
MP012JBZ	8.80	7.04

*.56" sq. x .50" h.; no center hole.

15 Amps
(Fig. EE)

V	W-H Type	Net Ea., Lots of 1-24	25-99
50	MP013MBA	$6.00	$4.80
100	MP013MBB	6.60	5.28
200	MP013MBD	7.20	5.76
300	MP013MBF	7.80	6.24
400	MP013MBH	8.40	6.72
500	MP013MBK	9.00	7.20
600	MP013MBM	9.60	7.68
700	MP013MBP	10.20	8.16
800	MP013MBS	10.80	8.64
900	MP013MBV	11.40	9.12
1000	MP013MBZ	12.00	9.60

20 Amps
(Fig. EE)

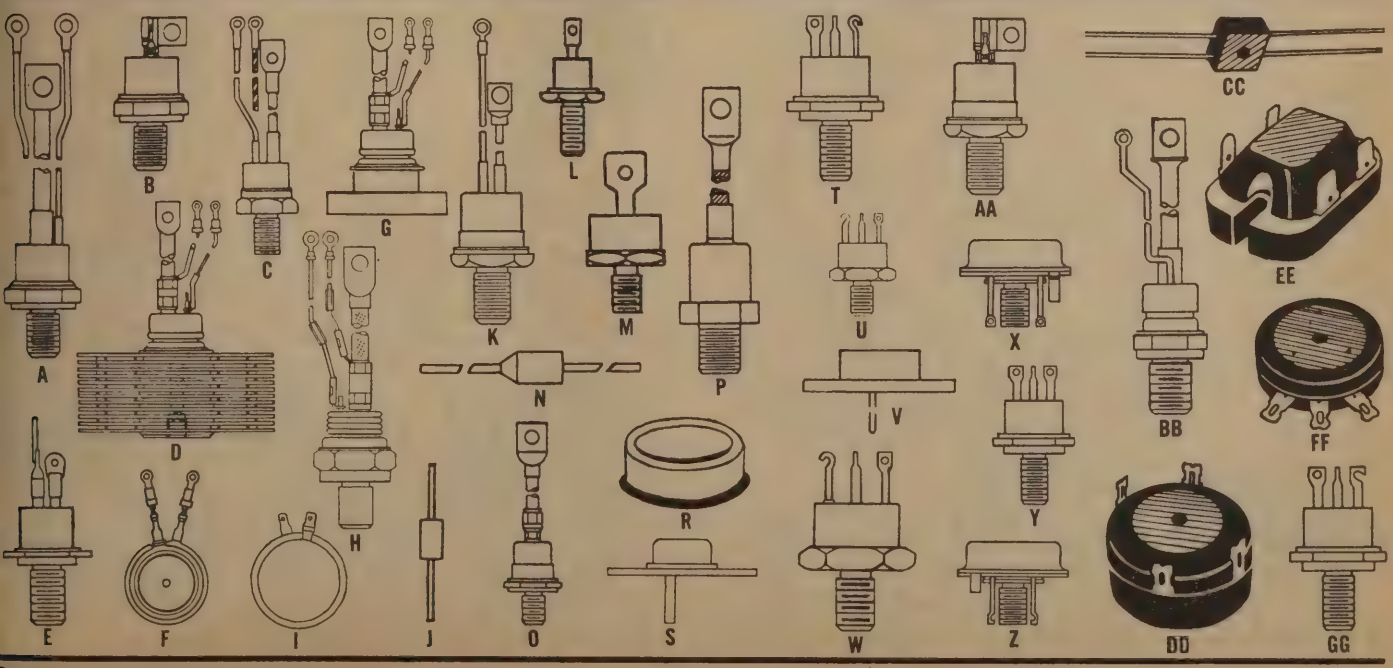
W-H Type	Net Ea., Lots of 1-24	25-99
MP013RBA	$8.00	$6.40
MP013RBB	8.80	7.04
MP013RBD	9.60	7.68
MP013RBF	10.40	8.32
MP013RBH	11.20	8.96
MP013RBK	12.00	9.60
MP013RBM	12.80	10.24
MP013RBP	13.60	10.88
MP013RPS	14.40	11.52
MP013RPV	15.20	12.16
MP013RPZ	16.00	12.80

3 Amps
(Fig. FF)

W-H Type
MP014HCA
MP014HCB
MP014HCD
MP014HCF
MP014HCH
MP014HCK
MP014HCM
MP014HCP
MP014HCS
MP014HCV
MP014HCZ

6 Amps
(Fig. FF)

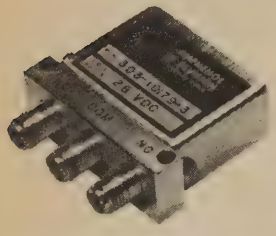
W-H Type	Net Ea., Lots of 1-24	25-99
MP014CDA	$2.60	$2.08
MP014CDB	2.86	2.29
MP014CDD	3.12	2.50
MP014CDF	3.38	2.70
MP014CDH	3.64	2.91
MP014CDK	3.90	3.12
MP014CDM	4.16	3.33
MP014CDP	4.42	3.54
MP014CDS	4.68	3.74
MP014CDV	4.94	3.95
MP014CDZ	5.20	4.16



COAXIAL SWITCHES

BUNKER RAMO AMPHENOL

303 Series/High Isolation Miniature & Standard Size Microwave Coaxial Switches



AMPHENOL 303 SERIES
High Isolation Miniature
Fail-Safe 1P2T

Broadband Miniature Switch Series Offering State-of-the-Art Characteristics through 18 GHz

Ideally suited for applications where crosstalk interference must be kept to an absolute minimum, Amphenol's miniature 303 Series provides uniform characteristics through KU band (18 GHz) with isolation of 60 dB minimum, VSWR of 1.5:1 maximum and insertion loss of 0.5 dB maximum. When operating at lower frequencies, isolation can be greater than 90 dB with 0.2 dB insertion loss and VSWR of 1.2:1.

New Amphenol SMA connectors . . . offering significantly better electrical and mechanical performance than competitive designs . . . contribute to the switch's high reliability and fine electrical performance. The miniature 1P2T weight only 2 ozs. and, excluding terminals, is less than 1½ inches high by $1\frac{11}{32}$ inches wide by ½ inch. In addition to its compact design and reliable RF performance, this switch is capable of operating in environments where temperatures reach 100°C.

Standard Size 303 Series Switches offering High Isolation Qualities through 12.4 GHz

Amphenol's 303 Series of standard size switches is constantly expanding. Cataloged here are a representative collection of the more popular variations. Many combinations of these basic items are available. The ideal switching device tailored for your specific application can be selected from the options described in the table of General Characteristics. This is true of the miniature size 303 Series as well. Whatever combination of specifications you select . . . whether other coil voltage, hermetic sealing, auxiliary contacts, cut-throat latching, etc. . . . the same high isolation and uniform RF performance characteristic of Amphenol's 303 Switch Series will prevail.

RF PERFORMANCE

Frequency (GHz)	VSWR (Max.)	Isolation (dB)	Insertion Loss (Max.)
MINIATURE SIZE			
0-3.0	1.2	>90 dB	0.2 dB
3.0-8.0	1.3	>80 dB	0.3 dB
8.0-12.4	1.4	>70 dB	0.4 dB
12.4-18.0	1.5	>60 dB	0.5 dB
STANDARD SIZE			
0-3.0	1.3	>80 dB	0.25 dB
3.0-6.0	1.4	>75 dB	0.35 dB
6.0-10.0	1.5	>65 dB	0.50 dB
10.0-12.4	1.5	>60 dB	0.50 dB
MINIATURE ECONOMY AND 1P1T SHUTTER			
0-3.0	1.3	>80 dB	0.25 dB
3.0-8.0	1.4	>70 dB	0.35 dB
8.0-12.4	1.5	>60 dB	0.50 dB

RF POWER @ STP (watts CW)

Freq. (GHz)	SMA	N & TNC	Freq. (GHz)	SMA	N & TNC
0.1	400W	1000W	5.0	50W	100W
0.4	200W	500W	10.0	35W	70W
1.0	120W	280W	12.0	30W	60W
3.0	70W	145W	18.0	24W	45W

GENERAL CHARACTERISTICS

ELECTRICAL

FREQUENCY RANGE

Miniature Size: 0-18.0 GHz
Others: 0-12.4 GHz

CONNECTORS

Miniature Size: SMA
Standard Size: N, TNC, SMA

SWITCHING TIME: 15 mS (maximum)

SWITCHING ACTION: Break before make

28 VDC COIL RESISTANCE

1P2T Fail-Safe: Miniature 250 ohms
Standard 200 ohms
1P2T Latching: Miniature 150 ohms
Transfer: Miniature Latching 18 ohms
Standard Fail-Safe 90 ohms
1P2T Economy: 200 ohms
1P1T Shutter: 135 ohms

(Also available with 6, 12, 48, 110 VDC and 115 VAC coils.)

MECHANICAL

LIFE: 1 x 10^6 cycles minimum

WEIGHT

1P2T: Miniature 2 oz., standard 7 oz.
Transfer: Miniature 5 oz., standard 8 oz.
1P2T economy 3½ oz.
1P1T shutter 4 oz.

ENVIRONMENTAL (MIL-S-3928B)

TEMPERATURE RANGE

1P2T Miniature −55°C to 100°C. Others −55°C to 85°C (higher temperature operation available upon request).

MOISTURE RESISTANCE: 10 day cycle

SHOCK

MIL-STD-202D, Method 202C
Test Condition A, 15 G's peak

VIBRATION

Test Condition A
55 to 2000 Hz @ ± 10 G's

HERMETIC SEALING: Available when required

MINIATURE SIZE (28 VDC COIL■)		Fail-Safe (Non-Latching)	Cut-Throat Latching	Fail-Safe with Aux. Contacts	Manual
Connector	Function	AMPHENOL PART NUMBERS			
SMA	1P2T	303-10179-3	303-10179-23	303-10179-53	—
	1P2T Economy	303-10116-3	—	—	—
	Transfer	303-11022-3	303-11022-23	303-11022-53	303-11028

STANDARD SIZE (28 VDC COIL■)		Fail-Safe (Non-Latching)	Fail-Safe with Aux. Contacts	Manual
Connectors	Function	AMPHENOL PART NUMBERS		
TNC	1P1T Shutter	303-10969-3	—	—
	1P2T	303-10168-3	303-10168-53	303-10171
	Transfer	303-11020-3	303-11020-53	—
N	1P2T	303-10167-3	303-10167-53	303-10170
	Transfer	303-11017-3	303-11017-53	—
SMA	1P2T	303-10166-3	303-10166-53	303-10175
	Transfer	303-11016-3	303-11016-53	—

■ Also available with 6, 12, 48, 110 VDC and 115 VAC Coils.

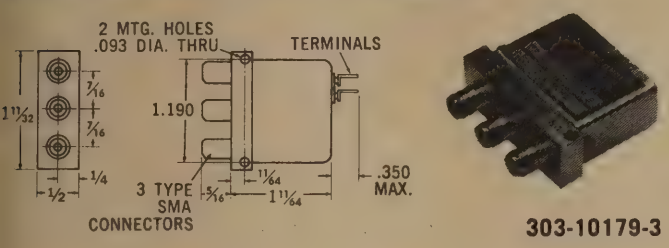
© United Technical Publications

COAXIAL SWITCHES

BUNKER RAMO AMPHENOL

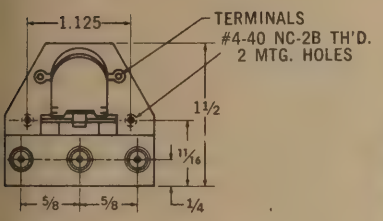
303 Series/High Isolation Miniature & Standard Size Microwave Coaxial Switches (cont'd)

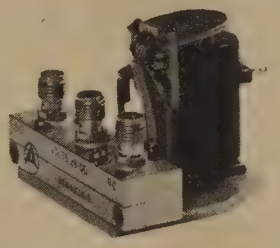
MINIATURE SIZE 1P2T FAIL-SAFE



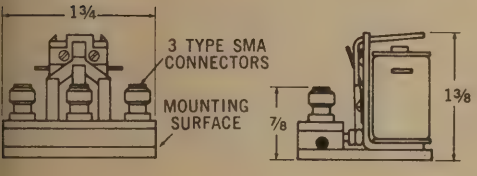
303-10179-3

MINIATURE SIZE 1P2T ECONOMY VERSION

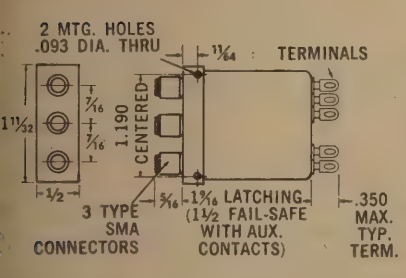




303-10116-3



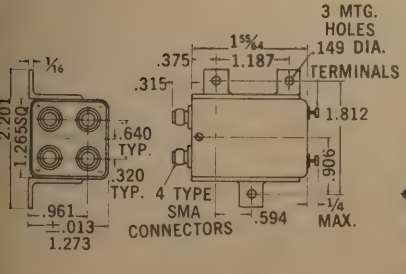
MINIATURE SIZE 1P2T LATCHING AND FAIL-SAFE WITH AUXILIARY CONTACTS





303-10179-23

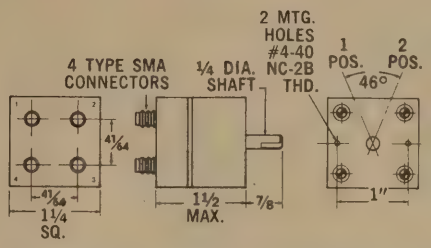
MINIATURE SIZE TRANSFER LATCHING

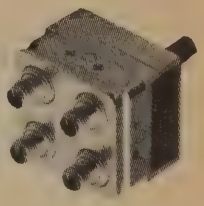




303-11022-23

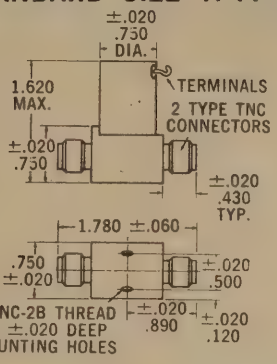
MINIATURE SIZE TRANSFER MANUAL

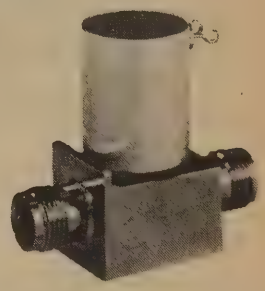




303-11028

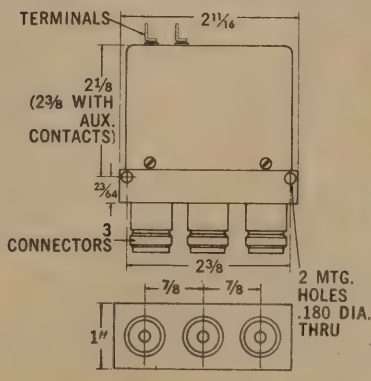
STANDARD SIZE 1P1T SHUTTER

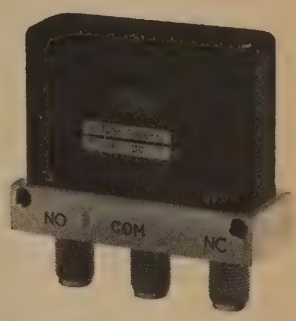




303-10969-3

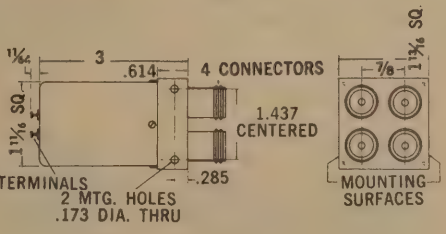
STANDARD SIZE 1P2T FAIL-SAFE AND AUXILIARY CONTACT VERSION





303-10168-3

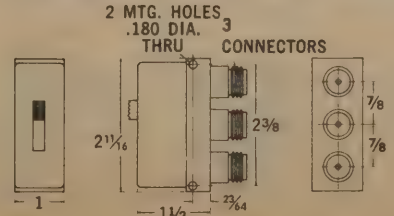
STANDARD SIZE TRANSFER





303-11017-3

STANDARD SIZE 1P2T MANUAL



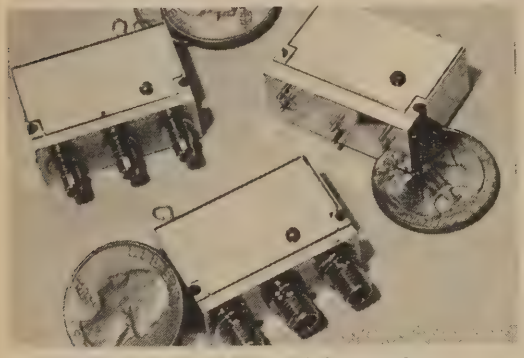


303-10170

COAXIAL SWITCHES

BUNKER RAMO AMPHENOL

MINIform / Sub-Miniature, High Power, Microwave Coaxial Switches



For Applications Requiring Minimum Size, High Power, Minimum Crosstalk and Low Cost

GENERAL CHARACTERISTICS

ELECTRICAL
- Frequency Range: 0-6.0 GHz
- Connectors: SMA, SUB-Minax 27 Series and Printed Circuit Pins
- Switching Time: 15 ms Maximum
- Switching Action: Break Before Make
- Coil Resistance: 12 VDC Coil: 65 ohms, 28 VDC Coil: 250 ohms (Also available in other DC coil voltages)
- Function: 1P2T Failsafe

ENVIRONMENTAL (per MIL-S-3928B)
- Temperature Range: −55°C to 100°C
- Moisture Resistance: 10 Day Cycle
- Shock: MIL-STD-202D, Method 202C, Test Condition A, 15 G's Peak
- Vibration: MIL-STD-202D, Test Condition A, 55 to 2000 Hz at ±10 G's

RF PERFORMANCE (SMA)

VSWR
- 0-2 GHz: 1.1 max.
- 2-4 GHz: 1.2 max.
- 4-6 GHz: 1.3 max.

Isolation
- 0-1 GHz: >80 dB
- 1-3 GHz: >70 dB
- 3-6 GHz: >50 dB

Insertion Loss
- 0-3 GHz: 0.1 dB max.
- 3-5 GHz: 0.2 dB max.
- 5-6 GHz: 0.3 dB max.

RF Power
- 0.1 GHz: 400 watts
- 1.0 GHz: 120 watts
- 3.0 GHz: 70 watts
- 6.0 GHz: 45 watts

MECHANICAL
- Life: 1 million cycles min.
- Weight: 1.2 oz.

Amphenol 303 Series MINIform is the industry's most inexpensive miniature high-power, high-performance line of microwave coaxial switches — offering for the first time superior operational performance through six GHz in an economical unit weighing only 1.2 ounces.

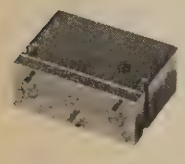
The switches are the smallest and least expensive of this type ever introduced by Amphenol and are designed to outperform all comparable offerings by industry available until now. Displacing less than one-half cubic inch volume, the tiny switches' ratings include performance through 150 watts below specified frequency limitations, offering immediate physical and operational compatibility for a host of signalling, communications and EDP matrix switching applications.

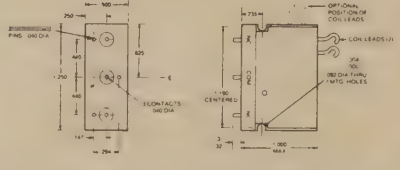
Amphenol 303 Series MINIform switches are 1P2T configurations offered in choice of three popular termination styles: SMA connectors, Amphenol SUB-Minax 27 Series connectors, or printed circuit contacts suitable for solder and solderless wrap board termination. All switches can be provided with coil voltages of 6, 12, 26, 48 and 120 VDC.

Although ideal for typical microwave applications through six GHz where 60 dB isolation is offered by new units, Amphenol's MINIform switches also offer unusually high power handling capabilities for communciations applications for the first time. Through 0 to 1.0 GHz, for example, the MINIform can switch up to 150 watts CW while maintaining maximum VSWR of only 1.1, 0.1 dB insertion loss and 80 dB minimum crosstalk attenuation. Over the range of 1.1 through 3 GHz, VSWR climbs only to 1.2 with power handling capacity of up to 70 watts CW while maintaining 75 dB minimum crosstalk attenuation and 0.1 dB maximum insertion loss.

PRINTED CIRCUIT

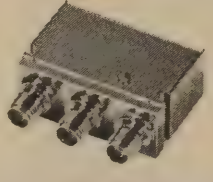
Coil Volts	AMPHENOL Part No.
12 VDC	303-10001-2
28 VDC	303-10001-3

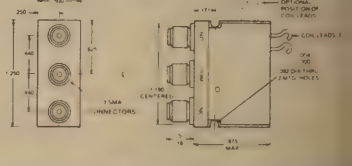




CONNECTORS (SMA shown)

Coil Volts	SMA Conn.	27 Series
12 VDC	303-10002-3	303-10003-2
28 VDC	303-10002-3	303-10003-3





Coaxial Relays

Precision coax units. Maximum time to operate and release is 20 milliseconds. Gold-plated, fine silver contacts assure reliable low-level operation. Minimum life expectancy is 1,000,000 cycles, when switch is operated at speeds of less than 10 Hz. Switches are impedance matched to 50-ohm cable, though loss is negligible with 75-ohm cable. Operation is break-before-make. All materials are corrosion resistant.

Units meet applicable portions of military connector specs as follows: BNC — Mil-C-3608 and N — Mil-C-71.



Part No.	Termination	Function	Connectors	Frequency (MHz)	RF Power (W)	Coil Volts	Coil Ohms
315-10002-3	Open	SPDT	BNC	1000	100	26 DC	280
316-10082-3	Short	SPDT	BNC	2000	100	26 DC	280
316-10082-6	Short	SPDT	BNC	2000	100	120 DC	6000
316-10102-8	Short	SPDT	BNC	2000	100	115 AC	550
317-10202-3	Short	SPDT	BNC	2000	100	26 DC	280
317-10215-8	Short	SPDT	BNC	2000	100	115 AC	550
317-10242-3	Short	SPDT	N	2000	100	26 DC	280
317-10255-8	Short	SPDT	N	2000	100	115 AC	550
318-10407-3	Open	SPDT	BNC	2000	100	26 DC	280
318-10381	Short	SPDT	BNC	2000	100	lever manual	—
318-10382-3	Short	SPDT	BNC	2000	100	26 DC	280
318-11165-3	Res.	SPDT	BNC	2000	100	26 DC	280
318-11576-8	Res.	SPDT	BNC	2000	100	115 AC	550
319-11141	Open	SPDT	BNC	2000	100	rotary manual	—
320-10931-3	Open	SPDT	N	3000	1000	26 DC	200
321-11062	Open	DPDT	BNC	1000	100	lever manual	—
321-11064-3	Open	DPDT	BNC	1000	100	26 DC	200
322-11431	Open	1P4T	BNC	3000	100	rotary manual	—
323-11651-3	Open	1P4T	BNC	1000	100	26 DC	280
322-11442	Open	1P6T	BNC	3000	100	rotary manual	—
325-11635-3	Short	1P6T	BNC	400	100	26 DC	280
325-11641-3	Open	1P6T	BNC	400	100	26 DC	280

© United Technical Publications

RF SWITCHES

BUNKER RAMO AMPHENOL

Series 360 DYNAFORM FUNCTIONS AND PART NUMBERS

nn.	Term.	Schematic	Coil Volts	SPDT Outline Dwg. A	SPDT Outline Dwg. B	DPDT Outline Dwg. C	DPDT Outline Dwg. D	Transfer Outline Dwg. E
	SH	1	26 DC 110 DC 115 AC	360-11891-12 360-11891-34 360-11891-45	360-11891-13 360-11891-35 360-11891-46	360-11896-12 360-11896-34 360-11896-45	360-11896-13 360-11896-35 360-11896-46	
	NS	2	26 DC 110 DC 115 AC	360-11891-14 360-11891-36 360-11891-47	360-11891-15 360-11891-37 360-11891-48	360-11896-14 360-11896-36 360-11896-47	360-11896-15 360-11896-37 360-11896-48	
NC	50 Ω RT	3	26 DC 110 DC 115 AC	360-11891-16 360-11891-38 360-11891-49	360-11891-17 360-11891-39 360-11891-50	360-11896-16 360-11896-38 360-11896-49	360-11896-17 360-11896-39 360-11896-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11891-18 360-11891-40 360-11891-51	360-11891-19 360-11891-41 360-11891-52	360-11896-18 360-11896-40 360-11896-51	360-11896-19 360-11896-41 360-11896-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11891-20 360-11891-42 360-11891-53	360-11891-21 360-11891-43 360-11891-54	360-11896-20 360-11896-42 360-11896-53	360-11896-21 360-11896-43 360-11896-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11891-22 360-11891-44 360-11891-55
	SH	1	26 DC 110 DC 115 AC	360-11892-12 360-11892-34 360-11892-45	360-11892-13 360-11892-35 360-11892-46	360-11897-12 360-11897-34 360-11897-45	360-11897-13 360-11897-35 360-11897-46	
	NS	2	26 DC 110 DC 115 AC	360-11892-14 360-11892-36 360-11892-47	360-11892-15 360-11892-37 360-11892-48	360-11897-14 360-11897-36 360-11897-47	360-11897-15 360-11897-37 360-11897-48	
NC	50 Ω RT	3	26 DC 110 DC 115 AC	360-11892-16 360-11892-38 360-11892-49	360-11892-17 360-11892-39 360-11892-50	360-11897-16 360-11897-38 360-11897-49	360-11897-17 360-11897-39 360-11897-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11892-18 360-11892-40 360-11892-51	360-11892-19 360-11892-41 360-11892-52	360-11897-18 360-11897-40 360-11897-51	360-11897-19 360-11897-41 360-11897-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11892-20 360-11892-42 360-11892-53	360-11892-21 360-11892-43 360-11892-54	360-11897-20 360-11897-42 360-11897-53	360-11897-21 360-11897-43 360-11897-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11892-22 360-11892-44 360-11892-55
	SH	1	26 DC 110 DC 115 AC	360-11890-12 360-11890-34 360-11890-45	360-11890-13 360-11890-35 360-11890-46	360-11895-12 360-11895-34 360-11895-45	360-11895-13 360-11895-35 360-11895-46	
	NS	2	26 DC 110 DC 115 AC	360-11890-14 360-11890-36 360-11890-47	360-11890-15 360-11890-37 360-11890-48	360-11895-14 360-11895-36 360-11895-47	360-11895-15 360-11895-37 360-11895-48	
N	50 Ω RT	3	26 DC 110 DC 115 AC	360-11890-16 360-11890-38 360-11890-49	360-11890-17 360-11890-39 360-11890-50	360-11895-16 360-11895-38 360-11895-49	360-11895-17 360-11895-39 360-11895-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11890-18 360-11890-40 360-11890-51	360-11890-19 360-11890-41 360-11890-52	360-11895-18 360-11895-40 360-11895-51	360-11895-19 360-11895-41 360-11895-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11890-20 360-11890-42 360-11890-53	360-11890-21 360-11890-43 360-11890-54	360-11895-20 360-11895-42 360-11895-53	360-11895-21 360-11895-43 360-11895-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11890-22 360-11890-44 360-11890-55

OIL HARACTERISTICS

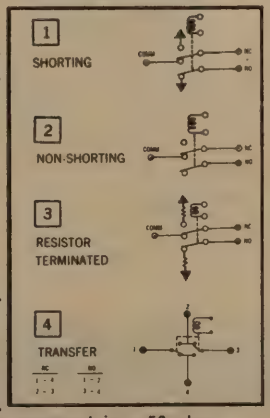
20°C

Nominal Voltage	Operating Range	Resistance, ohms ±10%
26 DC	20 - 32	260 ohms
110 DC	85 - 130	5100 ohms
115 AC (50 - 400 Hz)	90- 130	1500 ohms thru diodes

LECTRICAL CHARACTERISTICS

oan.	Term.	Typical VSWR (Frequency GHz) .03	0.2	0.4	1.0	2.0	4.0	6.0	Typical Crosstalk - db (Frequency GHz) .03	0.2	0.4	1.0	2.0	4.0	6.0
	SH	1.03	1.06	1.08	1.10	1.20	1.25	1.35	70	66	60	53	42	30	20
	NS	1.03	1.06	1.08	1.10	1.21	1.27	1.40	50	45	41	30	27	24	18
	50 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
BNC	75 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
	95 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
	TRANS	1.05	1.10	1.15	1.20	1.50	—	—	45	38	32	24	17	—	—
	SH	1.03	1.06	1.08	1.10	1.20	1.25	1.35	70	66	60	53	42	35	25
	NS	1.03	1.06	1.08	1.10	1.21	1.27	1.40	51	43	41	30	27	26	21
	50 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
TNC	75 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
	95 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	40	35	31	24	17	14	—
	TRANS	1.05	1.10	1.15	1.20	1.50	—	—	45	38	32	24	17	—	—
	SH	1.03	1.04	1.07	1.10	1.15	1.18	1.30	70	66	60	53	42	35	25
	NS	1.03	1.04	1.07	1.10	1.17	1.20	1.35	51	43	41	30	27	26	21
	50 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	41	35	31	24	17	14	—
N	75 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	39	32	30	23	16	14	—
	95 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	37	31	29	22	15	14	—
	TRANS	1.05	1.10	1.15	1.20	1.50	—	—	45	38	32	24	17	—	—

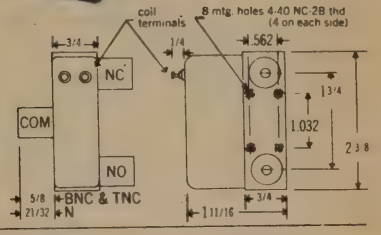
SCHEMATICS



TE: High frequency electrical characteristics are typical values (not maximum) as measured in a 50 ohm circuit and may be used for most design analyses. For more exacting applications, maximum values in the quency range may be obtained upon request. SWR measured to common with a matched 50 ohm termination. For additional specifications request Amphenol RF Switches Catalog SS-1.

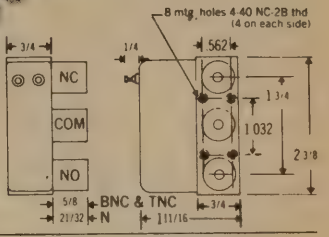
A SPDT





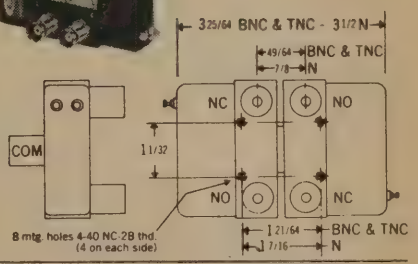
B SPDT



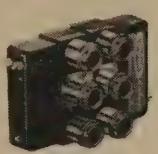


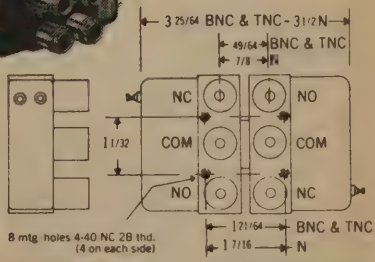
C DPDT





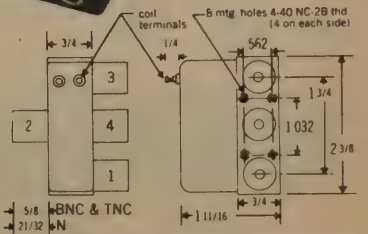
D DPDT





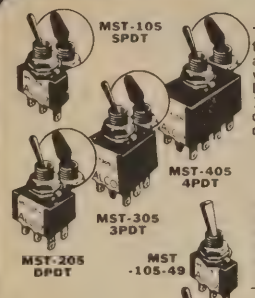
E TRANSFER





ALCOSWITCH®

DIV. OF ALCO ELECTRONIC PRODUCTS, INC.

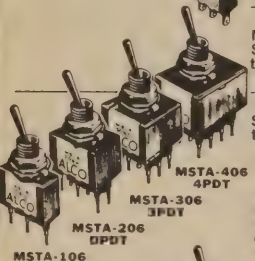


MST MINIATURE TOGGLE SWITCHES

The original Alcoswitch Series of high quality ultra-miniature toggle switches combines high current capacity and long life in a ½" case. Slim, bat handle or optional plastic caps(*) are provided. Terminals and contacts are solid silver. Case material is black phenolic resin; 1/4-40 threaded bushing. Rated 5 amps at 115 VAC. SPDT and DPDT types have life cycle of over 80,000 on-off operations. High voltage barriers between terminals and contacts.

Hardware supplied mounted. (On) Indicates momentary positions.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MST-115D°	SPDT	On-None-On	1.50	1.01	.90	.76
MST-105D	SPDT	On-None-On	1.45	.97	.87	.73
MST-105E	SPDT	On-Off-On	1.75	1.17	1.05	.88
MST-105F	SPDT	None-On-(On)	1.75	1.17	1.05	.88
MST-105G	SPDT	(On)-Off-(On)	1.75	1.17	1.05	.88
MST-105H	SPDT	On-Off-(On)	1.75	1.17	1.05	.88



MINIATURE PADDLE TOGGLE SWITCHES

New style miniature flat handle is used on the original MST Series Alcoswitch. See above story for specs; available in the types listed at right.

Hardware supplied mounted. (On) Indicates momentary positions.

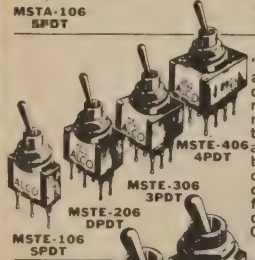
Model	Contacts	Description	One-24	25-99	100-499	500-999
MST-105D49	SPDT	On-None-On	1.95	1.47	1.37	1.23
MST-105E49	SPDT	On-Off-On	2.25	1.67	1.55	1.38
MST-105G49	SPDT	(On)-Off-(On)	2.25	1.67	1.55	1.38
MST-205N49	DPDT	On-None-On	2.45	1.80	1.67	1.47
MST-205P49	DPDT	On-Off-On	2.85	2.07	1.91	1.68

MSTA SERIES MINIATURE TOGGLE SWITCHES

Similar in specs to Alco "E" Series but without waterproof feature. "No Tear" shoulder on bushing. 6A 125V/3A 250 VAC.

Hardware supplied mounted. (On) Indicates momentary positions.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTA-106D	SPDT	On-None-On	1.80	1.23	1.08	.90
MSTA-106E	SPDT	On-Off-On	2.25	1.53	1.35	1.125
MSTA-106F	SPDT	None-On-(On)	2.25	1.53	1.35	1.125
MSTA-106G	SPDT	(On)-Off-(On)	2.25	1.53	1.35	1.125
MSTA-106H	SPDT	On-Off-(On)	2.25	1.53	1.35	1.125
MSTA-206N	DPDT	On-None-On	2.35	1.60	1.41	1.18
MSTA-206P	DPDT	On-Off-On	2.85	1.90	1.71	1.42
MSTA-206R	DPDT	None-On-(On)	2.85	1.90	1.71	1.42
MSTA-206S	DPDT	(On)-Off-(On)	2.85	1.90	1.71	1.42
MSTA-206T	DPDT	On-Off-(On)	2.85	1.90	1.71	1.42
MSTA-206PA	DP3T	On-On-On	3.15	2.14	1.89	1.58
MSTA-306D	3PDT	On-None-On	4.05	2.75	2.43	2.03
MSTA-306E	3PDT	On-Off-On	4.45	3.03	2.67	2.23
MSTA-406N	4PDT	On-None-On	5.10	3.47	3.06	2.55
MSTA-406P	4PDT	On-Off-On	5.65	3.84	3.39	2.83
MSTA-406PA	4P3T	On-On-On	6.15	4.18	3.69	3.08

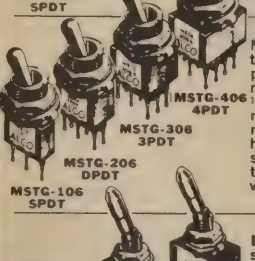


MSTE SERIES MINIATURE TOGGLE SWITCHES

"E" Series has the most-wanted features. Waterproof 'O' rings are located inside toggle and on shoulder. A mechanical shoulder on the bottom of bushing prevents "tear-offs" when single mounting nut is employed. High voltage barriers between terminals inside as well as outside. Case has superior plastic material capable of withstanding higher impact; guards against accidental damage. Low-loss case has extremely high resistance between terminals and case ground, and its high temperature coefficient is ideally suited for prolonged soldering and printed circuits. Turret type terminals are used for simplified wiring or for P.C. Extra-wide, solid silver contacts are bonded, not riveted, on copper-silver plated terminals. Long-life cycle over 100,000 On-Off operations. (SPDT). 6 amps @ 125 VAC.

Hardware supplied mounted. (On) Indicates momentary positions.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTE-106D	SPDT	On-None-On	1.95	1.33	1.17	.975
MSTE-106E	SPDT	On-Off-On	2.55	1.72	1.53	1.28
MSTE-106F	SPDT	None-On-(On)	2.55	1.72	1.53	1.28
MSTE-106G	SPDT	(On)-Off-(On)	2.55	1.72	1.53	1.28
MSTE-106H	SPDT	On-Off-(On)	2.55	1.72	1.53	1.28
MSTE-206N	DPDT	On-None-On	2.55	1.72	1.53	1.28
MSTE-206P	DPDT	On-Off-On	3.15	2.14	1.89	1.58
MSTE-206R	DPDT	None-On-(On)	3.15	2.14	1.89	1.58
MSTE-206S	DPDT	(On)-Off-(On)	3.15	2.14	1.89	1.58
MSTE-206T	DPDT	On-Off-(On)	3.15	2.14	1.89	1.58
MSTE-206PA	DP3T	On-On-On	3.45	2.35	2.07	1.73
MSTE-306D	3PDT	On-None-On	4.25	2.89	2.55	2.13
MSTE-306E	3PDT	On-Off-On	4.75	3.23	2.85	2.38
MSTE-406N	4PDT	On-None-On	5.35	3.64	3.21	2.68
MSTE-406P	4PDT	On-Off-On	5.95	4.05	3.57	2.98



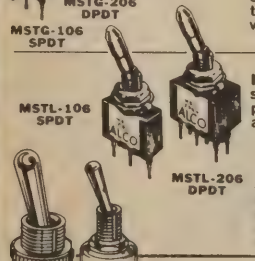
MSTG SERIES MINIATURE TOGGLE SWITCHES

Mustang Series is for designers who prefer the feel of a larger toggle switch but have space limitations behind today's compact panel. Alcoswitch ½" case is utilized, however Mustang mounting requirements are the same as larger switches with 13/32" bushings. This concept is a space-saver in all Mustang models and is especially true in 3 Pole and 4 Pole Series where non-miniature switches are bulky in size. Mustang switches have the most-wanted features as itemized in the "E" Series story with the exception of waterproof 'O' rings. Case construction is of low-loss, high impact and high temperature materials with turret terminals and silver contacts. 6 amps @ 125 VAC.

Hardware supplied mounted.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTG-106D	SPDT	On-None-On	2.15	1.43	1.29	1.08
MSTG-106E	SPDT	On-Off-On	2.75	1.87	1.65	1.38
MSTG-206N	DPDT	On-None-On	2.75	1.87	1.65	1.38
MSTG-206P	DPDT	On-Off-On	3.35	2.28	2.01	1.68
MSTG-206PA	DP3T	On-On-On	3.65	2.48	2.19	1.83
MSTG-306D	3PDT	On-None-On	4.45	3.03	2.67	2.23
MSTG-306E	3PDT	On-Off-On	4.95	3.37	2.97	2.48
MSTG-406N	4PDT	On-None-On	5.55	3.77	3.33	2.78
MSTG-406P	4PDT	On-Off-On	6.15	4.18	3.69	3.08
C-15°	Cap for Mustang		.06	.04	.036	.033
N-1B°	13/32" "Perfect Fit" Nut		.12	.084	.072	.066

°Packaged in multiples of 25; when ordering caps specify, red, white, black, blue or green.



MSTL SERIES LOCKING TOGGLE SWITCHES

Lever-Lock Alcoswitch is the world's first "pull-to-unlock" toggle switch for use in hazardous applications. The toggle locks in position to safeguard against accidents. Optional interchangeable color-coded toggle tips available. Rated 6 amps @ 125 VAC.

Hardware supplied mounted. (On) Indicates momentary positions.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTL-106D	SPDT	On-None-On	3.15	2.14	1.89	1.58
MSTL-106E	SPDT	On-Off-On	3.85	2.57	2.31	1.925
MSTL-106F	SPDT	None-On-(On)	3.85	2.57	2.31	1.925
MSTL-106G	SPDT	(On)-Off-(On)	3.85	2.57	2.31	1.925
MSTL-206N	DPDT	On-None-On	3.85	2.57	2.31	1.925
MSTL-206P	DPDT	On-Off-On	4.45	3.03	2.67	2.23
MSTL-206R	DPDT	None-On-(On)	4.45	3.03	2.67	2.23
MSTL-206S	DPDT	(On)-Off-(On)	4.45	3.03	2.67	2.23
MSTL-206PA	DP3T	On-On-On	4.75	3.23	2.85	2.38
MSTL-306D	3PDT	On-None-On	5.65	3.84	3.39	2.83
MSTL-306E	3PDT	On-Off-On	6.25	4.24	3.75	3.13
MSTL-406N	4PDT	On-None-On	6.95	4.73	4.17	3.48
MSTL-406P	4PDT	On-Off-On	7.45	5.06	4.47	3.73
MSTL-406PA	4P3T	On-On-On	7.95	5.40	4.77	3.98
C-16*	Color-Coded Caps		.13	.12	.11	.10
C-16K	Natural Knurled Caps		.20	.14	.12	.11

*Lever-lock switches are stocked with natural aluminum caps only. Extra caps in Red, Blue, Green, Black, (specify color).

MINIATURE CYLINDRICAL TOGGLE SWITCHES

All metal construction, high impact terminal insulator. 10 amps @ 125 VAC. Internal contact resistance; under 20 milliohms, @ 2-4 VDC, 1 amp. Life 250,000 on-off operations. Contact material, silver on copper. U/L Approval available.

Hardware supplied mounted.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MCT-110D*	SPDT	On-None-On	1.95	1.33	1.17	.975
MCT-210N*	DPDT	On-None-On	2.55	1.72	1.53	1.28
MCTG-110D**	SPDT	On-None-On	1.95	1.33	1.17	.975
MCTG-210N**	DPDT	On-None-On	2.55	1.72	1.53	1.28

*With miniature bushings. **With standard size 13/32" bushings.

ACCESSORIES



Color-Coded Caps. Packaged in multiples of 25.
°Specify: Red, White, Black, Blue, Gray, Green, Yellow or Pink.
°Specify: Red, White, Black, Blue, or Green.

Decorative Mounting Nuts — 4 styles are available for use with ALCOSWITCH and other miniature switches. Packaged in multiples of 25. **STANDARD** double chamfered knurled nuts for 1/4-40 threaded bushings only. **"PERFECT FIT"** round bevel top with lip for automatic stop 1/4-40, 3/8", and 13/32" bushings. Decorative is conical shape; 1/4-40.

SP3, SP4 Stamped Aluminum Plates. Black anodized, raised letters. 3 ON-OFF, 1 ON-ON, 1 PWR-OFF.

SLP4 Stamped Aluminum Plates for 1/4" dia. switch bushings and 3/8" pilot lights. 3 ON-OFF, 1 ON-ON, 1 PWR-OFF.



C-10°	Plastic caps for MST, A, E Series	.04	.028	.025	.022
C-15°	Plastic caps for MSTG Series	.06	.04	.036	.033
C-17°	Flat top car for MST, A, E Series	.04	.028	.025	.022
N-1	1/4-40 Standard Knurl Nut	.06	.04	.036	.033
N-1A	1/4-40 "Perfect Fit" Knurl Nut	.08	.056	.05	.044
N-1B	13/32" "Perfect Fit" Knurl Nut	.12	.084	.072	.066
N-1C	3/8" "Perfect Fit" Knurl Nut	.10	.068	.06	.055
N-2	1/4-40 Standard Hex Nut	.04	.028	.025	.022
N-3	1/4-40 Decorative Mounting Nut	.08	.056	.05	.044

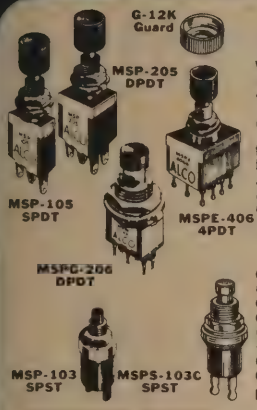
Model	Hole Size	No. Plates	1-24	25-99	100-499
SP-3	1/4" Dia.	5	.75	.55	.50
SP-4	13/32" Dia.	5	.75	.55	.50
SLP-4	1/4" Dia. and 3/8" pilot	5	.90	.65	.61

ALCO ELECTRONIC PRODUCTS, INC.

© United Technical Publication

ALCOSWITCH®

DIV. OF ALCO ELECTRONIC PRODUCTS, INC.



MINIATURE PUSH BUTTON SWITCHES

MSP Miniature Pushbutton Switches, snap-action, 5 amps @ 115VAC. Solid silver contacts, terminals. Bushing size, ¼-40 with keyway. Black phenolic case. 25,000 life cycle.

MSPE Waterproof Pushbutton Switches, 6 amps resistive, 2 amps inductive @ 125VAC. Double "O" waterseals, low-loss "E" Series case; turret terminals. Versatile "double-throw".

MSP-103 Economy Pushbutton Switches, 3 amps @ 125VAC. Low-pressure. Silverplated brass contacts, terminals. Plunger travels .098". Depth behind panel, ¾". 1-pc. ¼-40 bushing.

MSPS-103C is similar to MSP-103C except smaller diameter .310. Rated 0.5 amps @ 125 VAC.

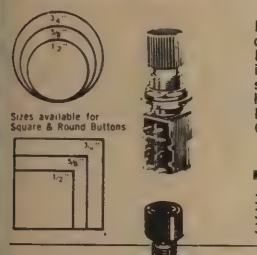
MSPG Mustang Push Button Switches rated 6 amps @ 125 VAC (Specs same as MSPE series, less waterproof). 15/32" bushings.

Model	Description	One-24	25-99	100-499	500-999
C-12	Extra plastic button*	.05	.036	.032	.03
C-13	Large button◆	.09	.06	.054	.05
C-14	Chrome button (thin)	.06	.04	.036	.033
C-14L	Chrome button	.09	.06	.054	.05
G-12- (‡)	Plain guard, use with C-12	.25	.17	.15	.14
G-12-K (‡)	Knurl guard, use with C-12	.30	.20	.18	.165
G-13- (‡)	Plain guard, use with C-13	.25	.17	.15	.14
G-13-K (‡)	Knurl guard, use with C-13	.30	.20	.18	.165

Buttons are packaged in multiples of 25.

Model	Contacts	Application	One-24	25-99	100-499	500-999
MSP-105D*	SPDT	Push on-off	2.15	1.46	1.29	1.08
MSP-105F*†	SPDT	Momentary	2.15	1.46	1.29	1.08
MSP-205N°	DPDT	Push on-off	2.95	2.01	1.77	1.48
MSP-205R*	DPDT	Momentary	2.95	2.01	1.77	1.48
MSPE-106D°	SPDT	Push on-off	2.55	1.72	1.53	1.28
MSPE-106F°	SPDT	Momentary	2.55	1.72	1.53	1.28
MSPE-206N°	DPDT	Push on-off	3.45	2.35	2.07	1.73
MSPE-206R°	DPDT	Momentary	3.45	2.35	2.07	1.73
MSPE-406N°	4PDT	Push on-off	5.95	4.05	3.57	2.98
MSPE-406R°	4PDT	Momentary	5.95	4.05	3.57	2.98
MSP-103B†	SPST	Normally closed	.65	.44	.39	.33
MSP-103C°	SPST	Normally open	.65	.44	.39	.33
MSP-103C-B†	SPST	Normally open	.65	.44	.39	.33
MSPS-103C°	SPST	Normally open	.50	.34	.30	.25
MSPG-206N**	DPDT	Push on-off	3.15	2.14	1.89	1.58
MSPG-206R**	DPDT	Momentary	3.15	2.14	1.89	1.58

°Supplied with C-12 red, green, or black plastic button; specify.
*°Supplied with one red or black plastic button; specify color.
◆Specify red, green or black. †With black button. °With red.
‡Specify finish: add suffix **C** chrome, **A** alum., **B** black.



ILLUMINATED PUSH BUTTON SWITCHES

MSPN Illuminated Push Button Switches are snap-action types capable of handling a high current rating for its small size. DPDT action in a miniature case with separate connections to its replaceable T-1¾ grooved base lamps. Side terminals for simplified wiring or P.C. use. Metal construction, phenolic case, hole. Wide choice of plastic buttons. **TRANSPARENT** colors: Red, Amber, Blue, Green, Clear. **TRANSLUCENT:** Red, Yellow, Green, White. Uses grooved base lamps.

Model	Description	One-9	10-99	100-499	500-999
379	6.3V @ 0.2A Lamps	.85	.57	.43	.40
386	14.0V @ 0.08A Lamps	.90	.60	.45	.42
388	28.0V @ 0.04A Lamps	.95	.63	.47	.44

MSPN-206N	DPDT	Push on-off	4.80	3.26	2.88	2.40
MSPN-206R	DPDT	Momentary	4.80	3.26	2.88	2.40

Note: supplied less colored button and lamps, see listing below.

RS°	½" Round Button	.10	.068	.06	.05
RM°	⅝" Round Button	.12	.082	.072	.06
RL°	¾" Round Button	.15	.102	.09	.075
SS°	½" Square Button	.10	.068	.06	.05
SM	⅝" Square Button	.12	.082	.072	.06
SL°	¾" Square Button	.15	.102	.09	.075

°Specify Transparent or Translucent Type and Color.

CGR-½	½" Rd. Guard, Chromed Brass	.30	.204	.18	.15
CGR-⅝	⅝" Rd. Guard, Chromed Brass	.40	.27	.24	.20
CGR-¾	¾" Rd. Guard, Chromed Brass	.50	.33	.30	.25
CGS-½	½" Sq. Guard, Chromed Plastic	.30	.204	.18	.15
CGS-⅝	⅝" Sq. Guard, Chromed Plastic	.40	.27	.24	.20
CGS-¾	¾" Sq. Guard, Chromed Plastic	.50	.33	.30	.25



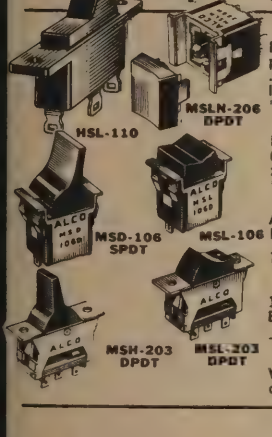
MAGNETIC REPULSION PUSH BUTTON SWITCHES

Momentary switches designed for data entry. Ceramic magnets eliminate springs. Contacts are glass-encapsulated reeds. Plunger is keyed, non-rotating. Metal case withstands abuse, serves as shield. Rated 100 mA @ 50 VDC, resistance 100 milliohms. Contact bounce 1 m/sec. Plunger travel 5/64". Operating force, under 2 ozs. Life, 10 million.

MSPM-101B†	SPST	N.C., Solder Lug	4.25	3.40	2.98	2.76
MSPM-101C°	SPST	N.O., Solder Lug	3.90	3.12	2.73	2.54
MSPM-101B-1†	SPST	N.C., 110" Term.	4.25	3.40	2.98	2.76
MSPM-101C-1°	SPST	N.O., 110" Term.	3.90	3.12	2.73	2.54

†Supplied with C-12 black button. °Supplied with C-12 red button.

MSPM Series also accepts C-13, C-14, C-14L buttons listed.



ILLUMINATED ROCKER SWITCHES

New brilliance in a miniature rocker featuring convenient front panel lamp replacement. Entire switch simply snaps into a .655" x .728" hole. Choice of 3 double pole switching actions, 4 lens colors & 3 voltages. Rated 6 amps @ 125 VAC.

°Supplied with one red, green, amber or white lens cap; specify

MSLN-206N*	DPDT	On-None-On	4.45	3.03	2.67	2.23
MSLN-206P*	DPDT	On-Off-On	4.75	3.23	2.85	2.38
MSLN-206R°	DPDT	(On)-None-On	4.75	3.23	2.85	2.38

			1-9	10-99	100-499	500-
362	14.0V	@ 0.080 Lamps	.90	.60	.45	.42
378	6.3V	@ 0.200 Lamps	.85	.57	.43	.40
399	28.0V	@ 0.040 Lamps	.95	.63	.47	.44

MINIATURE ROCKER SWITCHES

New series of economy "snap-in" switches have unusually high 6 amps @ 125 VAC rating. Features ease of installing in .50" x .60" hole.. Exclusive molded silver terminals and contacts.

°Supplied with one red, black, gray or white cap; specify.

			1-24	25-99	100-499	500-
MSL-106D°	SPDT	On-None-On	1.65	1.12	.99	.83
MSL-106E°	SPDT	On-Off-On	1.95	1.33	1.17	.975
MSL-206N°	DPDT	On-None-On	2.15	1.43	1.29	1.08
MSL-206P*	DPDT	On-Off-On	2.55	1.72	1.53	1.28

MINIATURE LEVER SWITCHES

Adds distinction to the front panel. "Snap-in" miniature switches have 6 amps @ 125 VAC rating. Ease of installation in .50" x .60" hole. Has molded silver terminals and contacts.

°Supplied with red, black, gray or white lever; specify color.

MSD-106D°	SPDT	On-None-On	1.65	1.12	.99	.83
MSD-106E°	SPDT	On-Off-On	1.95	1.33	1.17	.975
MSD-206N°	DPDT	On-None-On	2.15	1.43	1.29	1.08
MSD-206P*	DPDT	On-Off-On	2.55	1.72	1.53	1.28

U/L APPROVED ROCKER SWITCHES

10 Amps @ 125 VAC, 6A @ 250 VAC. Over 100,000 operations. Extra-wide surface silver-clad contacts; tab terminals. Black.

HSL-110A	SPST	Push On-Off	.85	.578	.51	.425
HSL-110D	SPDT	Push On-On	.95	.646	.57	.475

MSH LEVER AND MSL ROCKER SWITCHES

Versatile DPDT action. Rated 3 amps @ 125 VAC; 25,000 life cycle; contacts silverplated.

MSH-203N	DPDT	Lever-Switch	1.25	.85	.75	.63
MSL-203N	DPDT	Rocker Switch	1.15	.78	.69	.58



MINIATURE ROTARY SWITCHES

MRA Adjustable-Stop Rotary Switches are miniature types rated 500 mA @ 125 VAC. Features: adjustable-stop; non-shorting; 36° spacing; up to 4 poles on single deck; solid silver terminals and contacts. Types with suffix **S,** ⅛", dia. shaft less knob. Bushing, ¼-40

MRA 30° Position Rotary Switches are slightly larger than standard MRA Series and have ⅛" shaft. Other specs similar to MRA Series. Knobs not included. Type MRA 30° can be converted to an adjustable-stop switch when used with KCVS-500 knob (see Alco miniature knob listings).

MSRE Waterproof Rotary Switches are non-adjustable. Similar to MRA Series but feature internal and external 'O' rings. One-piece metal case construction, and molded in terminals. ⅛" shaft. Ideal for printed circuits. Supplied less knob. Rated 500 mA @ 125 VAC. Can be converted to an adjustable-stop switch when used with KCVS-500 knob (see knob listings).

MRA Printed Circuit Rotary Switches are miniature versions of above types created for printed circuit mounting. Terminals are silver clad and designed to facilitate firm anchoring to the P.C. board. Available in 1, 2, 3 or 4 poles on a single deck with a maximum of 12 positions. The 1, 2 and 3 pole models have an adjustable-stop feature. ⅛" dia. shaft, less knob. See MRA story for specs.

See Knob Section
Miniature Knobs
With 1/8" Dia. Shafts
Available From our
ALCOKNOB Div.

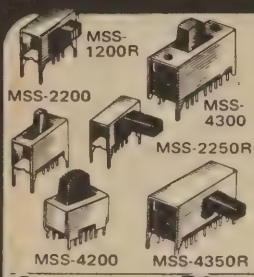
Model	Pole	Positions	Knob Supplied	One-24	25-99	100-499	500-999
MRA-1-10	1	2-10	Yes	4.35	2.96	2.61	2.18
MRA-2-5	2	2-5	Yes	4.35	2.96	2.61	2.18
MRA-3-3	3	2-3	Yes	4.35	2.96	2.61	2.18
MSRA-4-2°	4	2	Yes	4.35	2.96	2.61	2.18
MRA-1-10S	1	2-10	No	4.25	2.89	2.55	2.13
MRA-1-10S-PC†	2	2-10	No	4.95	3.37	2.97	2.48
MRA-1-10SC°	1	10	No	4.25	2.89	2.55	2.13
MRA-1-10SC-PC†	1	10	No	4.95	3.37	2.97	2.48
MRA-2-5S	2	2-5	No	4.25	2.89	2.55	2.13
MRA-2-5S-PC†	2	2-5	No	4.95	3.37	2.97	2.48
MRA-3-3S	3	2-3	No	4.25	2.89	2.55	2.13
MRA-3-3S-PC†	3	2-3	No	4.95	3.37	2.87	2.48
MSRA-4-2S	4	2	No	4.25	2.89	2.55	2.13
MSRA-4-2S-PC†	4	2	No	4.95	3.37	2.97	2.48
MRA-1-12S	1	2-12	No	4.75	3.23	2.85	2.38
MRA-1-12S-PC†	1	2-12	No	5.45	3.71	3.27	2.73
MRA-1-12SC	1	12	No	4.75	3.23	2.85	2.38
MRA-1-12SC-PC°†	1	12	No	5.45	3.71	3.27	2.73
MRA-4-3S	4	3	No	4.75	3.23	2.85	2.38
MRA-4-3S-PC†	4	3	No	5.45	3.71	3.27	2.73
MSRE-1-10°	1	10	No	5.35	3.64	3.21	2.68
MSRE-2-5°	2	5	No	5.35	3.64	3.21	2.68
MSRE-3-3°	3	3	No	5.35	3.64	3.21	2.68
MSRE-4-2°	4	2	No	5.35	3.64	3.21	2.68

Continuous rotation. °Switches are non-adjustable.
†Printed Circuit connections.

ALCO® ELECTRONIC PRODUCTS, INC.

ALCOSWITCH

DIV. OF ALCO ELECTRONIC PRODUCTS, INC.



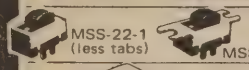
MINIATURE PRINTED CIRCUIT SLIDE SWITCHES

(All switches make before break).

Two mounting styles are available: The MSS-1200R, 2250R, 4200R and 4300R are furnished with right angle levers for side mounting. MSS-1200, 2200, 2250, 4200, 4300 and 6300 with upright levers are for direct mounting to the printed circuit board. The MSS-4300 and 6200 have threaded screw holes on the top of the mounting frame for 4-40 screws. Metal tabs extend downward into the printed circuit board for a firm mounting.

All contact, movable parts and terminals are silver or gold plated. The standard models have silverplated brass with the movable contact of plated beryllium brass. The others are gold-plated over nickel. The positive wiping action assures a low contact resistance over the life of 15,000 cycles at rated load. Rated at 0.3 amp @ 125 VAC.

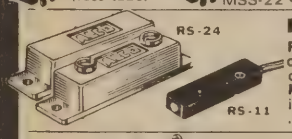
Model	Contacts	Terminals	One-24	25-99	100-499	500-999
MSS-1200R	SPDT	Silver	.60	.41	.36	.30
MSS-1200RG	SPDT	Gold	.80	.55	.48	.40
MSS-2200	DPDT	Silver	.65	.44	.39	.33
MSS-2200G	DPDT	Gold	1.05	.72	.63	.53
MSS-2220	DPDT	Silver	.65	.44	.39	.33
MSS-2250	DPDT	Silver	.70	.48	.42	.35
MSS-2250G	DPDT	Gold	1.10	.75	.66	.55
MSS-2250R	DPDT	Silver	.80	.55	.48	.40
MSS-2250RG	DPDT	Gold	1.20	.82	.72	.60
MSS-4200	4PDT	Silver	.75	.51	.45	.38
MSS-4200R	4PDT	Silver	.85	.58	.51	.43
MSS-4300	4P3T	Silver	1.05	.72	.63	.53
MSS-4300R	4P3T	Silver	1.15	.78	.69	.58
MSS-4350R	4P3T	Silver	1.20	.82	.72	.60
MSS-6200	6PDT	Silver	.95	.65	.57	.48



MSS SERIES MINIATURE SLIDE SWITCHES

Anti-tease design. Rated 2 amps @ 120 VAC. Gold on nickel on silver-plated brass contacts. 250,000 operations. .500" x .305"

MSS-22	SPDT, 2 circuit	1.75	1.17	.88	.73
MSS-22-1	SPDT, 2 circuit	1.75	1.17	.88	.73
MSS-44	DPDT, 2 circuit	3.15	2.11	1.58	1.31

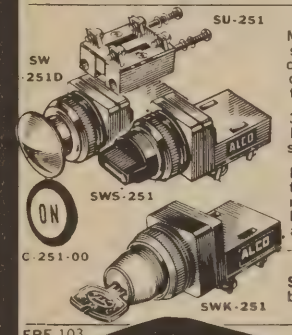


PROXIMITY MAGNETIC REED SWITCH ASSEMBLIES

RS-24 — Alnico-5 magnet actuates reed switch within distance of 1". Rated 0.5 amps break, 1.0 amps carry, over 5-million operations.

Miniature RS-11 — Alnico-5 magnet actuates reed switch within distance of .39". Current rating @ 50 VDC: .15 amps break, .5 amps carry. 200 VDC breakdown. Life: 10-million cycles.

Model	Description	One-24	25-99	100-499	500-999
RS-24-NO	N.O. (Apart) Pair	2.85	1.90	1.71	1.42
RS-24-NC	N.C. (Apart) Pair	3.15	2.14	1.89	1.58
RS-11-NO	N.O. (Apart) Pair	2.75	1.87	1.65	1.38
RS-11-NC	N.C. (Apart) Pair	3.05	2.08	1.83	1.53



MINIATURE PUSH BUTTON MOTOR START SWITCHES

Mount in a 1" hole. Rated to carry 6 amps @ 230 VAC. These switches may be used to control circuits independently or with optional relays. All models supplied with a single (N.O.-N.C.) contact block but have provisions for additional (SU) blocks thereby converting to DPDT, 3PDT, 4PDT.

3-Way Selector Power Switch is the same basic model as above but instead has a bar knob with pointer. Electrical and physical specifications are the same available in black only.

Key-Lock Push Button type is an accident-proof power switch that has its own key lock to prevent unwanted operations of machines and controls. The switch functions only when the key disengages the lock. Same specs as the series described above.

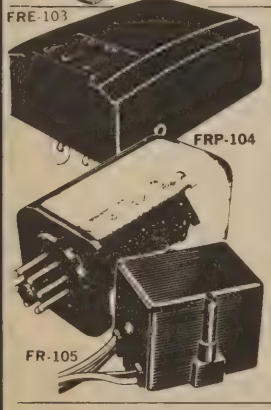
Model	Description	Action	One-24	25-99	100-499	500-999
SW-251*	Standard Button	Mom. ON	2.95	1.97	1.77	—
SW-251D*	Mushroom Button	Mom. ON	3.35	2.23	2.01	—
SW-251L*	Long Button	Mom. ON	3.10	2.07	1.86	—
SWS-251	Selector	ON-OFF-ON	3.35	2.23	2.01	—
SWK-251	Key/Lock Switch	ON-OFF-ON	7.95	5.30	4.77	—
SU-251	N.O.-N.C. Block		1.85	1.23	1.11	—
C-251-00†	ON-OFF Buttons (pr.)		.35	.23	.21	.18
C-251-SS†	STOP-START Buttons (pr.)		.35	.23	.21	.18
C-251-HL	HIGH-LOW Buttons (pr.)		.35	.23	.21	.18
C-251-UD	UP-DOWN Buttons (pr.)		.35	.23	.21	.18

*Push button models are equipped with spare (snap-on) colored buttons offering a choice of use in red, black, or green.
†Standard snap-on buttons with legend for SW-251 switches.

COMPACT FOOT SWITCH FOR RELIABLE OPERATION

SPDT momentary-contact switch has spring return and non-skid base. Size: 3¼"x3¼"x1".

Model	Supplied	One-24	25-99	100-499
SFK	Less Cable	4.65	3.16	2.79



LOW-VOLTAGE RELAY

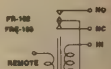
All units are capable of handling up to 7 Amps @ 117 VAC and may be operated from remote switches located up to several hundred feet away. The remote circuit carries a low voltage which is fully isolated to minimize any possibility of shock hazards.

Operating Voltage: 80-125 VAC 60 Hz.
Primary Coil Current: Below 40 mA
Secondary Voltage (open): Below 30 volts.
Contact Voltage: 95-125 volts.
Dielectric Strength: One minute @ 1200 VAC.
Coil Temperature Ascent: Under 158°F.
Insulation Resistance: Over 30 megohms @ 500 VDC.

Load:

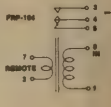
FR-102:	7 amps (pwr factor 1)
	5 amps (pwr factor .75)
FRE-103:	7 amps (pwr factor 1)
	5 amps (pwr factor .75)
FRP-104:	7 amps (pwr factor 1)
	5 amps (pwr factor .75)
FR-105:	7 amps (pwr factor 1)
	5.5 amps (pwr factor .75)

FR-102 SPDT BASIC relay has a SPDT feature — has two coils — a primary and secondary. When the secondary is shorted, the primary and associated outer core turns into a relay.



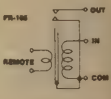
FRE-103 SPDT PLUG-IN relay has a stylized plastic case holds the laminated core inside and also has a patented three-way receptacle on the top portion that allows selection of either a Normally Open or Normally Closed circuit.

FRP-104 SPDT OCTAL base plug feature is added to the basic ALCOSWITCH RELAY for the industrial user. Wiring is not required for the FRP-104, only for the socket.



FR-105 SPST BASIC is similar to the FR-102 in specifications and application, but more compact in width and depth.

Model	Contacts	Description	One-99	100-499	999-999
FR-102	SPDT	Basic Relay for 117 VAC	4.45	3.47	3.03
FR-102-230	SPDT	Basic Relay for 230 VAC	4.85	3.78	3.30
FRE-103	SPDT	Plug-in	4.95	3.82	3.37
FRP-104	SPDT	Octal	5.45	4.25	3.71
FR-105	SPST	Basic Relay for 117 VAC	3.85	3.01	2.62
FR-105-230	SPST	Basic Relay for 230 VAC	4.25	3.32	2.89



CERAMIC TERMINAL STRIPS

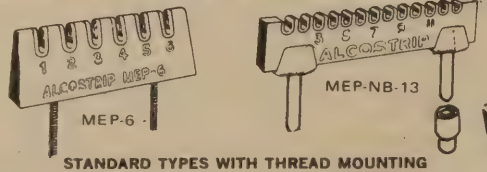
Ceramic-base terminal strips with fired silver, copperplated and tinned terminals to facilitate high-temperature soldering of components and leads. Features permanent bond between metal and ceramic. Standard 2-56 threaded studs are extra long for cutting to any required dimension. Board ht. 0.590" from base. Depth of slots, 0.197". Dielectric Strength: more than 10 seconds at 1500 VDC between terminals. Insulated Resistance: over 1000 megohms at 500 VDC megger. Dip Solder Test: no exfoliation at 250°C for 5 seconds.



UNIVERSAL TYPES WITH SNAP MOUNTING

ALCO's new concept allows for horizontal or vertical mounting of terminal strips. Each strip is supplied with 2 types of mounting hardware.

Model	No. of Terminal Slots	Size Overall Width	Mtg. Ctrs.	One-24	25-99	100-499	500-999
MEH-NB-9	9	3.000	2.500	.80	.53	.48	.44
MEH-NB-18	18	3.000	2.500	1.45	.96	.87	.798
MEH-NB-19	19	3.000	1.750	1.45	.96	.87	.798
MEH-NB-40	40	3.000	2.500	2.20	1.46	1.32	1.21

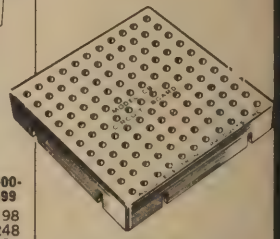


STANDARD TYPES WITH THREAD MOUNTING

Model	No. of Terminal Slots	Size Overall Width	Mtg. Ctrs.	One-24	25-99	100-499	500-999
MEP-2	2	0.650		.36	.24	.216	.198
MEP-4	4	1.161	0.512	.45	.30	.27	.248
MEP-6	6	1.673	1.024	.60	.40	.36	.33
MEP-8	8	2.185	1.535	.75	.50	.45	.413
MEP-10	10	2.697	2.047	.87	.58	.522	.479
MEP-12	12	3.209	2.560	.99	.66	.594	.545

MINIATURE TYPES WITH SNAP MOUNTING

MEP-NB-3	3	0.600		.48	.32	.288	.264
MEP-NB-5	5	0.885	0.490	.66	.44	.396	.363
MEP-NB-7	7	1.165	0.490	.81	.54	.486	.446
MEP-NB-9	9	1.445	0.750	.87	.58	.522	.479
MEP-NB-13	13	2.140	1.500	1.11	.74	.666	.611
MEP-NB-16	16	2.440	1.500	1.35	.90	.81	.743
MEP-NB-20	20	3.020	2.520	1.65	1.10	.99	.908



DESIGN BOARDS

and Plug-in Terminal Strips

MEP-NB Alcostrips are ideal for breadboarding, quick set ups, circuit designs. Pre-punched 6x6" deck is complete with 16 strips (8 sizes).

CB-2 Kit	10.95
CB-1 Board only	.95

ALCO ELECTRONIC PRODUCTS, INC.

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

bussmann manufacturing div.
fuses and holders

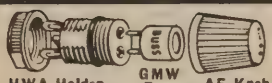
TRON® SUBMINIATURE PIG-TAIL FUSES



Glass-tube construction with 1-1/2" leads of #24 tinned copper for 1/100-5 amp ratings, #18 tinned copper for 7-15 amp ratings. Hermetically sealed. Color coded to indicate amp ratings. For circuits with fault current of 50 amps or less (1/100-5 amps for 125 V or less, 7-15 amps for 32 V or less). GLN, GLX body size, .140" x .3"; GFA body size, .145" x .3".

Buss No.	Amperes	Net Price For Ten	100
GLN	1/100	$13.90	$116.00
GLN	1/32, 1/20, 1/16, 1/10, 1/8, 3/10, 4/10, 7, 8, 15	11.70	98.00
GLX	15/100, 2/10, 1/4, 1/2, 6/10, 3/4, 1, 1-1/2, 2, 3, 4, 5	15.10	126.00
GFA	1/100, 1/32, 1/20, 1/16, 1/10, 1/8, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10	5.00	42.00
GFA	3/4, 1, 1-1/2, 2, 3, 4, 5, 7, 8, 15	4.40	37.00

SUBMINIATURE PRONG TYPE UNIT



Rated 125 V or less, fault current not over 300 amps; open at 200% within 10 sec or less. Use AF knob for waterproof. Size, .270" dia., .250" lg. (body).

Buss No.	Amperes	Net Price For Ten	100
GMW	1/200, 1/100, 1/64, 1/32, 1/16	$8.30	$70.00
GMW	1/10, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10, 3/4, 1, 1-1/2, 2, 3, 4, 5	6.40	53.00
HWA*	Holder, fits all GMW	8.10	68.50
HWA†	Holder, fits all GMW	7.10	60.00
AF	Knob only, fits HWA	1.10	8.50

*With AF knob. †Without AF knob.

13/64 x 45/64 inch FUSES

(5mm x 20mm)



Protection of miniaturized circuits — commonly used in foreign equipment. Carry 100%, open at 200% in 10 sec.

Buss No.	Amperes	Volts	Net Price For Five	100
GMA	1/8	125	$1.90	$32.00
GMA	1/4, 1/2, 7/10	125	1.50	25.00
GMA	1, 1-2/10, 1-1/2, 2, 3, 4, 5, 6, 10	125	1.20	20.00

1/4 x 5/8 inch FUSES

FAST ACTING FUSE



Glass tube, 1/4" x 5/8". Carry 110%, open at 135% in 1 hour.

Buss No.	Amperes	Volts	Net Price For Five	100
AGA	1, 1-1/2, 2, 2-1/2	32	$0.45	$8.00
AGA	3	32	.45	8.00
AGA	5, 6, 7-1/2, 10, 15, 20	32	.35	6.00
AGA	25, 30	32	.35	6.00

1/4 x 7/8 inch FUSES

FAST ACTING FUSE

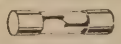


Glass tube, carry 110%, open at 135% in 1 hour.

Buss No.	Amperes	Volts	Net Price For Five	100
AGW	1, 2-1/2, 3, 4	32	$0.45	$8.00
AGW	5, 6, 7-1/2, 15, 20, 30	32	.35	6.00

1/4 x 1 inch FUSES

FAST ACTING FUSES



Glass tube, 1/4" x 1". Carry 100%, open at 200% in 5 seconds. 1/500 to 1/32 amp sizes have bridge construction; all others straight-through element. U/L Approved.

Buss No.	Amperes	Volts	Net Price For Five	100
AGX	1/500	250	$6.75	$113.00
AGX	1/200	250	2.90	48.00
AGX	1/100	250	2.50	42.00
AGX	1/32	250	2.20	37.00
AGX	1/16	250	1.40	23.00
AGX	1/10, 1/8, 3/16, 2/10	250	1.00	17.00
AGX	1/4, 3/8, 4/10, 1/2, 3/4	250	.65	11.00
AGX	1, 1-1/2, 2, 3, 4, 5	125*	.45	8.00
AGX	8, 10, 15, 20	32†	.35	6.00
AGX	25, 30	32	.35	6.00

*1 A, 250. †5 A, 125.

1/4 x 1-1/4 inch FUSES

FAST ACTING FUSES

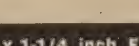
Glass tube, 1/4" x 1-1/4". Carry 110%, open at 135% in 1 hour or less. 1/500 to 2 amp sizes will open at 200% in 5 seconds or less. 1/500 to 1/32 amp have bridge construction; all others straight-through element. U/L Approved.

Buss No.	Amperes	Volts	Net Price For Five	100
AGC	1/500	250	$6.75	$113.00
AGC	1/200	250	2.90	48.00
AGC	1/100	250	2.50	42.00
AGC	1/32	250	2.20	37.00
AGC	1/16, 1/8, 15/100, 175/1000, 3/16, 1/10, 2/10	250	1.00	17.00
AGC	1/4, 3/10, 3/8, 45/100, 1/2, 6/10, 3/4	250	.65	11.00
AGC	1, 1-1/4, 1-1/2, 1-6/10, 2	250	.45	8.00
AGC	2-1/2, 3	250	.45	8.00
AGC	4	32‡	.45	8.00
MTH	4, 5, 6	250	.55	9.00
AGC	5, 6, 7-1/2, 8, 10, 15	32‡	.35	6.00
AGC	20	32‡	.35	6.00
AGC	25, 30	32‡	.35	6.00

‡Not U/L listed.

1/4 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

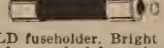


High interrupting capacity for use on circuit delivering as high as 25,000 amps at 125 V, or 10,000 amps at 250 V. 1/4" x 1-1/4". Carry 110%, open at 135% in 1 hour. Up to 15 amp size U/L Approved.

Buss No.	Amperes	Volts	Net Price For Five	100
ABC	1/4	250	$0.85	$15.00
ABC	1, 2, 3	250	.85	15.00
ABC	5, 6, 8, 10	250	.75	13.00
ABC	12, 15, 20	250	.85	15.00
ABC	25, 30	125	1.10	18.00

1/4 x 1-1/4 inch FUSES

VISUAL INDICATING FUSES



For use with HLD fuseholder. Bright red dot on indicating pin extends from end of fuse when fuse is open even after power is off. Rated 125 V or less, carries 110%, opens at 135% in 1 hour or less. Only 1/4" x 1-1/4".

Buss No.	Amperes	Net Price For Five	100
GBA	3/4	$2.90	$48.00
GBA	1, 1-1/2, 2, 3, 4, 5	2.20	37.00

Fiber tube with silver plated indicating pin which extends when fuse is blown. May be used to actuate a signal when used in HKA fuseholder or Signal Fuse Block. Dual tube construction in sizes larger than 5 amps (cannot be used in HKA fuseholder). Voltage, 125 volts, except 8 amp and over which are 32 volts. Size, 1/4" x 1-1/4".

Buss No.	Amperes	Net Price For Five	100
GLD	3/4	$2.65	$45.00
GLD	1, 1-1/2, 2, 3, 4, 5	2.10	35.00
GLD	6, 8, 10, 12, 15, 20	2.90	48.00

1/4 x 1-1/4 inch FUSES

FUSETRON PIG-TAIL FUSES



Body 1/4" x 1-1/4", #20 tinned leads, 1-1/4". 1/100 to 2-8/10 same as MDL type; 3 to 7 amps same as MDX type. U/L Approved.

Buss No.	Amperes	Volts	Net Price For Five	100
MDV	1/100, 1/32	250	$2.30	$38.00
MDV	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 3/4, 8/10, 1	250	1.70	28.00
MDV	1-1/4, 1-1/2, 1-6/10, 2	125	1.60	27.00
MDV	2-1/2, 2-8/10, 3, 3-2/10, 4, 5, 6-1/4, 7	125	1.40	23.00

FAST ACTING FUSE

PIG-TAIL FUSES

Glass tube 1/4" x 1-1/4" with 1-1/4" leads of #20 tinned wire. Carry 110%, open 135% in 1 hour. 250 V. U/L Approved.

Buss No.	Amperes	Net Price For Five	100
GJV	1/16	$1.70	$28.00
GJV	1/8	1.30	22.00
GJV	1/4, 3/10, 3/8, 1/2, 3/4	1.00	17.00
GJV	1, 1-1/2, 2, 3	.80	14.00
GJV	4, 5, 6	.85	14.00

1/4 x 1-1/4 inch FUSES

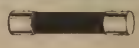
FUSETRON GLASS TUBE FUSES



Dual-element slow-blowing type, 1/4" x 1-1/4". Fuse link operates only on very high overloads or short-circuits; thermal cutout functions on low overloads (cannot operate quickly on any load, thus providing long time-lag). Carry 110%, open at 135% in 1 hour. MDL 1/100 to 2-8/10 amp and MDX 3 to 7 amp sizes. U/L Approved. MDL type has longer time-lag than MDX type.

Buss No.	Amperes	Volts	Net Price For Five	100
MDL	1/100, 1/32	250	$1.90	$32.00
MDL	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 7/10, 3/4, 8/10, 1	250	1.40	23.00
MDX	1-1/4, 1-1/2, 1-6/10, 2	250	1.50	25.00
MDL	1-2/10, 1-1/4, 1-1/2, 1-6/10, 2	125	1.30	22.00
MDL	2-1/2, 2-8/10	125	1.00	17.00
MDX	3, 3-2/10, 4, 5	125	1.00	17.00
MDX	6-1/4, 7	125	1.20	20.00
MDL	3, 3-2/10, 4, 5, 6-1/4, 8, 10, 15, 20, 25, 30	32	1.00	17.00

1/4 x 1-1/4 inch FUSES



Fusetron dual-element fuse, slow-blowing type, ceramic tube. Carry 110%, open at 135% in 1 hour.

Buss No.	Amperes	Volts	Net Price For Five	100
MDA	1/100, 1/32	250	$2.40	$40.00
MDA	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 3/4, 8/10, 1, 1-1/4, 1-1/2, 1-6/10, 2	250	2.00	33.00
MDA	2-1/2, 2-8/10, 3, 3-2/10, 4, 5, 6-1/4, 7, 8, 10, 15, 20	250	1.40	23.00
MDA	25, 30	125	1.40	23.00

Net

© United Technical Publication

bussmann manufacturing div.
fuses and holders

9/32 x 1-1/4 inch FUSES

AGS GLASS TUBE FUSES



est specification; carry, 110%, open at 135% within 1 our except 35 and 40 amp units which open at 300% in 2 4 seconds when tested in standard 30-amp test circuit. ote: These units in sizes larger than 30 amps are not ecommended for use in fuse clips or fuseholders as ips will not carry the high currents.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
GS	1/16	250	$2.00	$33.00
GS	1/8	250	1.50	25.00
GS	1/4, 1/2	250	.75	13.00
GS	1, 2, 2-1/2, 3	250	.70	12.00
GS	5, 10, 15, 20 ,25, 30	32	.60	9.50
GS	35, 40, 50	32	.70	12.00

9/32 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES



arrry 110%, at 135% in 1 hour. 35 and 40 amp. open t 300% in 2 to 4 seconds when tested in a standard 30 mp. test circuit.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
BS	1, 2, 3	250	$1.40	$23.00
BS	5, 8, 10, 15, 20	250	1.30	22.00
BS	25, 30	125	1.30	22.00
BS	35, 40	32	1.40	23.00

9/32 x 1-1/4 inch FUSES

FUSETRON DUAL-ELEMENT FUSES

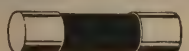


lass tube, slow-blowing. Avoid needless blows from arting currents or surges, yet provides protection against ort-circuits or continuous overloads. Carry 110%, open t 135% in 1 hour. Approximate blowing time: at 200% ad, 25 seconds; at 300% load, 8 seconds; at 500% ad, 3 seconds.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
DM	1/10, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10, 3/4, 8/10, 1	250	$1.80	$30.00
DM	1-1/4, 1-6/10, 2	125	1.80	30.00
DM	2-1/2, 2-8/10, 3	125	1.40	23.00
DM	3-2/10, 4, 5, 6-1/4, 8, 10, 10, 15, 20, 25, 30, 35, 40	32	1.40	23.00

13/32 x 1-3/8 inch FUSES

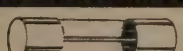
"QUICK-BLOWING" 600 V FUSES



esigned to protect control circuits, fluorescent lighting rcuits or similar uses where quick-blowing characteris- cs are desired. Use HPC-L fuseholder or 3845 fuse ock. U/L Approved. Fiber tube 13/32" x 1-3/8".

Buss No.	Amperes	Net Price For Ten	Net Price For 100
BS	4/10, 3/4, 8/10	$2.50	$21.00
BS	1, 2, 3, 4, 5	2.40	20.00

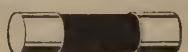
13/32 x 1-1/2 inch FUSES



lass tube, carry 110%, open at 135% in 1 hour. 3 amp. nd smaller sizes U/L listed.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
GU	1, 2, 3, 4	250	$1.70	$14.00
GU	5, 10, 15, 20, 25, 30	32	1.70	14.00

13/32 x 1-1/2 inch FUSES



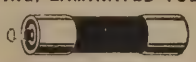
MIDGET TYPE FUSES

Up to 15 amp size U/L Approved.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
BAF	1, 3, 5, 6, 10	250	$1.40	$12.00
BAF	15, 20, 25, 30	125	1.40	12.00

13/32 x 1-1/2 inch FUSES

INDICATING, LAMINATED TUBE FUSES



Red button on indicating pin extends from end of fuse when fuse is blown. Units are built in accordance with Navy Specifications. These units may be used in Buss HPC-C fuseholders. Voltage, (1-15 amps), 250, others, 125 V.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
MIN	1, 2, 3, 5, 10, 15, 20, 25, 30	$4.40	$37.00

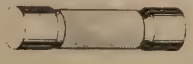
SIGNAL OR VISUAL INDICATING FUSES

MIC fuses have silver-plated indicating pin. Pin may be used as visual indicator or may be used to actuate a signal. MIJ fuses are similar to MIC types except they have been specially designed for complex circuitry as in computers. Voltage, 250 except 20 amps and over which are 32 V.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
MIC	1, 2, 3, 5, 10, 15, 20, 25, 30	$5.00	$42.00
MIJ	1, 2, 3, 5, 10, 15, 20, 25, 30	5.80	48.00

13/32 x 1-1/2 inch FUSES

HIGH INTERRUPTING CAPACITY FUSES



Type KTK — For use on circuits as high as 100,000 amps and sand filler surrounding a silver fuse at 600 volts or less, AC only. Glass fiber melamine tubes element. Amperes: 1/10, 1/8, 2/10, 1/4, 3/10, 1/2, 3/4, 1, 1-1/2, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30. Lot of 10, Net $11.20. Lot 100, Net $94.00.

13/32 x 1-1/2 inch FUSES

FUSETRON FIBER TUBE FUSES



Dual-element slow-blowing type, 13/32" x 1-1/2" overall. Fuse link operates only on very high overloads or short circuits; thermal cutout functions on low overloads (cannot operate quickly on any overload, thus providing longer time lag). Carry 110%, open at 135% in 1 hour. 125 and 250 volt sizes U/L Approved.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
FNM	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1-1/8, 1-1/4, 1-4/10, 1-6/10, 1-8/10, 2, 2-1/4, 2-1/2, 2-8/10, 3-2/10, 3-1/2, 4, 4-1/2, 5, 5-6/10, 6-1/4, 7, 8, 9, 10	250	$3.90	$33.00
FNM	12, 15	125	3.90	33.00
FNM	20, 25, 30	32	3.90	33.00

Same as series FNM above, except glass tube instead of fibre tube.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
MDR	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10	250	$4.40	$37.00
MDR	1, 1/2, 1-6/10	125	4.40	37.00
MDR	2-1/2, 3, 3-2/10, 4, 5, 6-1/4, 8, 10, 15, 20	32	3.60	30.00
MDR	25, 30, 35, 40	32	4.00	33.00

13/32 x 1-1/2 inch FUSES

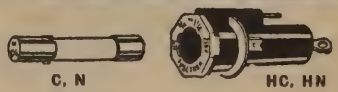
INDICATING FUSETRON FUSES



Similar to FNM types. Indicating pin extends from fuse when fuse blows. Use in signal fuse block or HPC-C fuseholder (larger than 10 amps units cannot be used in HPC-C). U/L Approved in 0-15 amp sizes.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
FNA	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1-1/8, 1-1/4, 1-4/10, 1-6/10, 1-8/10, 2, 2-1/4, 2-1/2, 2-8/10, 3, 3-2/10, 3-1/2, 4, 4-1/2, 5, 5-6/10, 6, 6-1/4, 7, 8, 10	$7.10	$59.00
FNA	12, 15, 20, 25, 30	7.90	66.00

TYPE C AND N FUSES, HOLDERS



C, N — HC, HN

Matched glass fuses and fuseholders for specific size ranges. Type N fuses are dual-element time-delay or slow-blowing type. 0 to 1-1/4 amp sizes, 1/4" x 1-1/4"; 1-3/10 to 7 amp sizes, 1/4" x 1-7/16". Type C fuses are single-element quick-blowing type. 0 to 3-1/2 amp sizes, 1/4" x 1-1/16"; 3-6/10 to 10 amp sizes, 1/4" x 1-1/4". Holders rated at 250 volts.

TYPE N FUSES

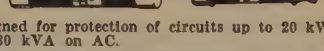
Amperes	Holder No. HN-	Volts	Net Price For Five	Net Price For 100
1/100, 1/32	0 to 3/10	250	$1.90	$32.00
1/16, 1/10, 15/100, 2/10, 1/4, 3/10	0 to 3/10	250	1.40	23.00
4/10	3/10 to 1/2	250	1.40	23.00
1/2	3/10 to 1/2	250	1.40	23.00
6/10	1/2 to 3/4	250	1.40	23.00
7/10, 3/4	1/2 to 3/4	250	1.40	23.00
8/10, 1	3/4 to 1-1/4	250	1.40	23.00
1-1/4	3/4 to 1-1/4	250	1.30	22.00
1-6/10	1-3/10 to	125	1.30	22.00
1-3/4	1-3/4	125	1.30	22.00
2	1-3/4 to 2-1/2	125	1.30	22.00
2-1/2	1-3/4 to 2-1/2	125	1.30	22.00
2-8/10	2-1/2 to 3-1/2	125	1.30	22.00
3-2/10	2-1/2 to 3-1/2	125	1.30	22.00
3-1/2	2-1/2 to 3-1/2	125	1.30	22.00
4	3-1/2 to 5	125	1.30	22.00
5	3-1/2 to 5	125	1.30	22.00
6-1/4	5 to 7	125	1.30	22.00
7	5 to 7	125	1.30	22.00

TYPE C FUSES

Amperes	Holder No. HC-	Volts	Net Price For Five	Net Price For 100
1/32	0 to 3/10	250	$2.10	$35.00
1/16	0 to 3/10	250	1.40	23.00
1/8, 3/16	0 to 3/10	250	1.00	17.00
1/4	0 to 3/10	250	.85	14.00
3/10	0 to 3/10	250	.85	14.00
3/8	3/10 to 1/2	250	.85	14.00
1/2	3/10 to 1/2	250	.85	14.00
3/4	1/2 to 3/4	250	.85	14.00
1	3/4 to 1-1/4	250	.50	8.50
1-1/4	3/4 to 1-1/4	250	.50	8.50
1-1/2	1-1/4 to 1-3/4	250	.50	8.50
1-3/4	1-1/4 to 1-3/4	250	.50	8.50
2	1-3/4 to 2-1/2	250	.50	8.50
2-1/2	1-3/4 to 2-1/2	250	.50	8.50
3	2-1/2 to 3-1/2	250	.50	8.50
3-1/2	2-1/2 to 3-1/2	250	.60	9.50
4	3-6/10 to 5	250	.60	9.50
5	3-6/10 to 5	250	.60	9.50
6	5 to 7	250	.60	9.50
7	5 to 7	250	.60	9.50
8	7 to 10	250	.85	15.00
10	7 to 10	250	.85	15.00

Type HC and Type HN Fuseholders — All sizes (specify). Net for 10 $1.90. Net for 100 $16.00.

HIGH VOLTAGE FUSES



Designed for protection of circuits up to 20 kW on DC and 30 kVA on AC.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
HVA	3/8, 1/2, 3/4, 1, 1-1/2, 2	1000	$2.80	$25.00
HVB	1/2, 3/4, 1, 1-1/2, 2	2500	4.20	36.00
HVJ	1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2, 2	5000	7.40	64.00
HVL	1/16, 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2, 2	10K	14.60	125.00

bussmann manufacturing div.
fuses and holders

SFE STANDARD FUSES

Different amperages are different lengths, making it impossible to over-fuse. Glass tube, 1/4" dia. Carry 110%, open at 135% in 1 hour. Made to SAE specifications and U/L Approved. 32 volts or less.

Buss No.	Amperes	Length In.	Net Price For Five	Net Price For 100
SFE	4	5/8	$0.35	$6.00
SFE	6	3/4	.35	6.00
SFE	7-1/2, 9	7/8	.35	6.00
SFE	14	1-1/16	.35	6.00
SFE	20	1-1/4	.35	6.00
SFE	30	1-7/16	.35	6.00

SIGNAL-INDICATING ALARM ACTIVATING TYPE UNIT

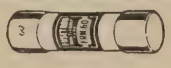


Takes only 1/4" x 1-15/32" space. Color indicator. Rated 300 V or less; 100% for 10 min.; open at 150% within 5 min.

Buss No.	Amperes and Color of Indicator	Net Price For Ten	Net Price For 100
GMT	18/100*, 1/4†, 1/2‡, 65/100§, 3/4#, 1●, 1-1/3∧, 2┌┐, 3◀, 5∞, 7-1/2♦, 10**	$4.80	$40.00
HLT	Holder, fits all GMT	5.00	42.00

Color of Indicator: *Yellow; †violet; ‡red; §black; #brown; ●gray; ∧white; ┌┐orange; ◀blue; ∞green; ♦black-white; **red-white.

FUSETRON DUAL-ELEMENT FUSES



Long time-lag prevents useless shut-downs caused by ordinary fuses opening on starting currents or other harmless overloads, yet protects against short-circuits. On normal installations will guard motors against burn-out from overloads or single phasing. U/L Listed for motor running and circuit protection up to 250 volts.

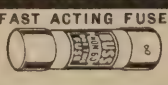
Buss No.	Amperes	Net Price For Ten	Net Price For 100
FRN	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1-1/8, 1-1/4, 1-4/10, 1-6/10, 1-8/10, 2, 2-1/4, 2-1/2, 2-8/10, 3-2/10, 3-1/2, 4, 4-1/2, 5, 5-6/10, 6-1/4, 7, 8, 9	$5.00	$43.00
	10, 12, 15, 17-1/2, 20, 25, 30	4.80	40.00
FRN	35, 40, 45, 50, 60	9.00	75.00



FRN	70, 80, 90, 100	20.40	170.00

BUSS ONE-TIME FUSES

FAST ACTING FUSE



Get same care in engineering and manufacture as other BUSS products. Each can be depended upon to operate as intended under all service conditions. Carry U/L label. For voltage up to 250.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
NON	1, 3, 6, 10, 15, 20, 25, 30	$1.40	$12.00
NON	35, 40, 45, 50, 60	2.60	22.00



NON	70, 80, 90, 100	11.10	92.00

GRASSHOPPER FUSES



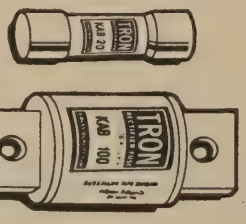
Alarm activating and signal indicating. Length: 1-43/64", except 35D (1-5/8"), 35E (1-63/64").

Buss No.	Amperes	Blowing Time Amp	Blowing Time Sec.	Net Price For Ten	Net Price For 100
35A*	1-1/3#	2	90	$3.20	$27.00
35B*	1-1/3**	2	90	3.20	27.00
35B*	2**	3	180	3.20	27.00
35C*	2#	3	180	3.20	27.00
35D*	1-1/3**	2	90	6.20	52.00
35E	3**	4	300	3.40	28.00
35F*	1/2#	3/4	9	3.20	27.00
35G*	3**	4-1/2	300	3.20	27.00
35H*	5**	6-1/2	300	3.20	27.00
35J†	1/2#	3/4	90	4.40	37.00
35K†	1-1/3#	2	180	6.20	52.00
35L†	2#	3	180	6.20	52.00
35M†	3**	4-1/2	300	5.60	47.00
35N†	5**	6-1/2	300	5.60	47.00
35P†	3/4#	1-1/8	90	4.00	33.00
35R*	18/100#	.270	90	4.00	33.00
35S†	1/4#	.375	90	4.40	37.00
35T*	65/100#	1.1	180	4.40	37.00

Volts: *90 or less. †160 or less. Mounting Screw: #No. 10. **No. 6.

TRON RECTIFIER FUSES

For Protection of Semiconductor Rectifiers and Similar Applications



Especially designed for protection of semiconductor rectifiers, thyristors and other solid state devices. High interrupting capacity and very fast clearing to restrict let-through current and energy to very low values. Give safe short-circuit protection for systems with fault current to 200 kA at 600 volts or less. Carry 100%, open at 1000 secs between 150% and 180% of rating; open within 1 sec at 250% of rating.

GBB SERIES

Size, 1-1/4" length x 1/4" diameter.

Buss No.	Amperes	Max. Volts	Net Each
GBB	1, 1-1/4, 2, 3, 4, 5, 6, 7, 8, 9, 10	130	$0.76
GBB	12, 15, 20, 25, 30	65	.76

KAA SERIES

Size, 1-1/2" length x 13/32" diameter. Also available up to 1000 amps; prices on request.

KAA	1/2, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	.87

KAW SERIES

Size, 1-1/2" length x 13/32" diameter.

KAW	1, 2, 3, 4, 5, 7, 8, 10, 12, 15, 20, 25, 30	130	.87

KAB SERIES

Size, 9/16" diameter x 2" length, values to 30 amps; 1-7/32" diameter x 3-1/8" length, 70 amps to 200 amps. Also available up to 800 amps; prices on request.

KAB	1/2, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17-1/2, 20, 25, 30	250	.99
KAB	70, 80, 90, 100, 150, 200	250	5.50

KAC SERIES

Size, 2-7/8" length x 9/16" diameter. Also available up to 800 amps; prices on request.

KAC	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17-1/2, 20, 25, 30	600	1.33

BLOCKS FOR TRON RECTIFIER FUSES

Buss No.	No. Poles	For Fuse* Symbol Amp.	Base Size In.	Net Each
4515	1	KAA	3/4 x 2-9/16	$0.6
4525	2	or 1 to 30	1-5/16 x 2-9/16	1.2
4535	3	KAW	2-1/16 x 2-9/16	1.8
4386	1		3/4 x 3-1/4	.9
4287	2	KAB 1 to 30	2 x 3-1/2	1.8
3959	3		3 x 3-1/2	2.8
3556	1	KAB 70 to 100	1-1/2 x 3-1/8	2.1
3521	3		5-23/32 x 3-1/8	6.5
3595	1		1-1/4 x 3-1/2	1.5
3528	2	KAC 1 to 30	2-1/2 x 3-1/2	3.1
2795	3		3-1/2 x 3-1/2	4.7

*GBB series — use any BUSS block for 1/4" x 1-1/4" fuse.

BLOCKS FOR 1/4 x 5/8 inch FUSES

Buss No.	No. Poles	Type Term	Net Each
4511	1	Screw	$0.42
4521	2	Screw	.82
4531	3	Screw	1.23

BLOCKS FOR 1/4 x 7/8 inch FUSES

Buss No.	No. Poles	Type Term	Net Each
4393	1	None	$0.22
4398	1	Solder	.22
4399	1	Screw	.34
4401	2	Solder	.40
4402	2	Screw	.65
4403	3	Solder	.62
4404	3	Screw	.97
4485	2	Solder	.40
4517	1	Screw	.42
4520	1	Solder	.22
4537	3	Screw	1.23

BLOCKS FOR 1/4 x 1 inch FUSES

Buss No.	No. Poles	Type Term	Net Each
3828-1	1	Solder	$0.22
3828-2	2	Solder	.40
3828-3	3	Solder	.62
3828-4	4	Solder	.77
3828-5	5	Solder	.95
3828-6	6	Solder	1.12
3828-7	7	Solder	1.27
3828-8	8	Solder	1.43
3828-9	9	Solder	1.63
3828-10	10	Solder	1.81
3828-11	11	Solder	1.99
3828-12	12	Solder	2.17
4393	1	None	.22
4398	1	Solder	.22
4399	1	Screw	.34
4401	2	Solder	.40
4402	2	Screw	.65
4403	3	Solder	.62
4404	3	Screw	.97
4485	2	Solder	.40
4514	1	Screw	.42
4520	1	Solder	.22
4524	2	Screw	.82
4534	3	Screw	1.23

BLOCKS FOR 1/4 x 1-1/4 inch FUSES

Buss No.	No. Poles	Terminal Type	Net Each
4405	1	Solder	$0.22
4408	2	Solder	.40
4411	3	Solder	.62
4512	1	Screw	.42
4522	2	Screw	.82
4532	3	Screw	1.23

Net

© United Technical Publications

bussmann manufacturing div.
fuses and holders

LOCKS FOR 1/4x1-1/4 inch FUSES (cont'd)

olded black phenolic base; Albaloy plated spring clips r strong grip, high corrosion resistance.

SOLDER TERMINAL TYPE ON SMALL BASE

Buss No.	No. Poles	Base Size* In.	Net Each
323-1	1	1/2	$0.22
323-2	2	1-1/8	.40
323-3	3	1-3/4	.62
323-4	4	2-3/8	.77
323-5	5	3	.95
323-6	6	3-5/8	1.12
323-7	7	4-1/4	1.27
323-8	8	4-7/8	1.43
323-9	9	5-1/2	1.63
323-10	10	6-1/8	1.81
323-11	11	6-3/4	1.99
323-12	12	7-3/8	2.17

SCREW TERMINAL TYPE ON FULL BASE

833-1	1	25/32	.42
833-2	2	1-11/16	.83
833-3	3	2-19/32	1.27
833-4	4	3-1/3	1.69
833-5	5	4-13/16	2.11
833-6	6	5-11/16	2.53
833-7	7	6-7/32	2.94
833-8	8	7-1/8	3.38
833-9	9	8-1/32	3.80
833-10	10	8-15/16	4.21
833-11	11	9-27/32	4.63
833-12	12	10-3/4	5.05

*x 1-5/8", 3823 Series; x 2-3/8", 3833 Series.

BLOCKS FOR 9/32 x 1-1/4 inch FUSES

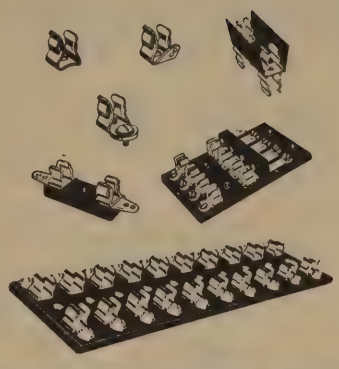
Buss No.	No. Poles	Type Term	Net Each
4413	1	Solder	$0.34
4414	1	Solder	.34
4415	1	Screw	.58
4416	2	Solder	.65
4417	2	Solder	.65
4418	2	Screw	1.06
4419	3	Solder	.97
4420	3	Screw	1.55
4481	1	Screw	.58
4482	2	Screw	1.06
4483	3	Screw	1.55

BLOCKS FOR 13/32 x 1-3/8 inch FUSES

Buss No.	No. Poles	Type Term	Net Each
3845	1	Screw	.74

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

Buss No.	No. Poles	Type Term	Net Each
2807	1	Screw	$0.68
2808	2	Screw	1.12
2809	3	Screw	1.51
2810	1	Pressure Lug.	1.43
2811	2	Pressure Lug.	2.80
2812	3	Pressure Lug	4.21
3792	1	Screw	.74
4421	1	Solder	.48
4422	1	Solder	.48
4423	1	Screw	.53
4424	2	Solder	.97
4426	2	Solder	.97
4427	2	Screw	1.06
4428	3	Solder	1.43
4429	3	Screw	1.55
4439	3	Screw	2.09
4515	1	Screw	.64
4525	2	Screw	1.21
4535	3	Screw	1.80
4575	2	Screw	1.29



BLOCKS FOR 13/32 x 1-1/2 inch FUSES

SIGNAL FUSE BLOCK

Base dimension 2.688" x 4.375". For use with BUSS FAN and FNJ indicating fuses.

Buss No.	No. Poles	Type Term	Net Each
3839	4	Screw	$4.67

ADD-ON FUSE BLOCKS

Make fuse block of any number of poles. Each single pole nests against next one. New poles can be added at any time. Order 1 end barrier plus any number of poles. Marking strip available to identify poles. U/L Listed 30 amp., 600 volt.

Buss No.		Type Term	Net Each
3742	End Barrier only	Screw	$0.14
3743	One Pole Block only		.95
	Marking Strip, 50" length		.44

POLARIZED BLOCKS FOR SILICON RECTIFIERS

Buss No.	No. Poles	Type Term	Net Each
3794	1	Solder	$0.22
3795	2	Solder	.40
3966	4	Solder	.80

BLOCKS FOR HIGH VOLTAGE FUSES

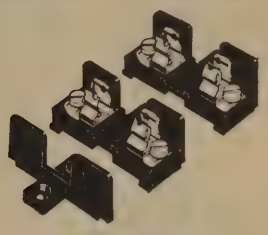
No. Buss	Poles No.	Fuse For	Each Net
4528	1	Buss HVA	$1.15
4529	1	Buss HVB	1.69
4530	1	Buss HVJ	2.35

BUSS FUSE CLIPS

Buss No	Description	For Dia. Fuse In.	Net Each
3434	Insulated Twin Clip	1/4	$0.18
5681-15	Clip	1/4	.036
5678-14	Clip and Terminal	1/4	.042
4431	Clip Assembly	1/4	.10
4432	Clip Assembly	1/4	.13
5682-01	Clip	1/4	.06
5682-41	Clip	1/4	.032
5682-44	Clip	1/4	.032
4567	Clip Assembly	1/4	.10
4583	Clip Assembly	1/4	.12
5682-02	Clip	1/4	.06
5672-11	Clip	9/32	.053
5674-41	Clip	9/32	.053
4560	Clip Assembly	9/32	.16
4585	Clip Assembly	9/32	.22
5674-01	Clip	9/32	.11
5956-16	Clip	13/32	.053
5960-61	Clip	13/32	.07
5960-07	Clip	13/32	.16
5960-63	Clip	13/32	.07
4561	Clip Assembly	13/32	.17
4586	Clip Assembly	13/32	.28
5960-09	Clip	13/32	.16



Plug Fuses Fustat Fuses



Add-On Fuse Block

FUSETRON DUAL-ELEMENT PLUG FUSES

Time-delay fuses recommended by N.E. Code. Won't blow under motor-starting or other current surges, yet provide full protection against heavy currents or short circuits. For voltages up to 125 volts. U/L Approved.

Type "T" Amperes	Net Price For Four	100
3/10, 4/10, 1/2, 6/10, 8/10, 1, 1-1/8, 1-1/4, 1-4/10, 1-6/10, 1-8/10, 2, 2-1/4, 2-1/2, 2-8/10, 3-2/10, 3-1/2, 4, 4-1/2, 5, 5-6/10, 6-1/4, 7, 8, 9, 10, 12, 14	$0.92	$20.00
15, 20, 25, 30	.52	11.00

FUSTAT FUSES AND ADAPTERS

Time-delay fuses with type S base recommended by N.E. Code. Prevents over-fusing when used with proper size adapter. For voltages up to 125. U/L Listed.

Adapters not included with Fustat fuses, order them separately and specify size.

Fustat Fuses & Amps	Adapter	Fustat Fuses & Amps	Adapter
S3/10	SA1*	S3-1/2	SA4
S4/10	SA1*	S4	SA4
S1/2	SA1*	S4-1/2	SA5§
S6/10	SA1*	S5	SA5§
S8/10	SA1*	S5-6/10	SA6-1/4#
S1	SA1*	S6-1/4	SA6-1/4#
S1-1/8	SA1-1/4*	S7	SA8
S1-1/4	SA1-1/4*	S8	SA8
S1-4/10	SA1-6/10*	S9	SA10•
S1-6/10	SA1-6/10*	S10	SA10•
S1-8/10	SA2	S12	SA15⋀
S2	SA2	S14	SA15⋀
S2-1/4	SA2-1/2†	S15	SA15⋀
S2-1/2	SA2-1/2†	S20	SA20
S2-8/10	SA3-2/10‡	S25	SA30⌐
S3-2/10	SA3-2/10‡	S30	SA30⌐

*Adapter will also take all smaller sizes. †Adapter will also take 2, 1-8/10 sizes. ‡Adapter will also take 2-1/2, 2-1/4, 2, 1-8/10 sizes. §Adapter will also take 4, 3-1/2 sizes. #Adapter will also take 5, 4-1/2, 4, 3-1/2 sizes. •Adapter will also take 8, 7 sizes. ⋀Adapter will also take 10, 9, 8, 7 sizes. ⌐Adapter will also take 20 amp size.

Fustats — 3/10 thru 14 amp size. ..... Net $0.23
15 thru 30 amp size. ..... Net .20
Adapters — SA1 thru SA30. ..... Net Each .16

CLEAR WINDOW PLUG FUSE

Shockproof — insulated with porcelain-like high voltage power lines. Top cap protects fingers from shock and cuts. Always fit fuseholders. U/L Approved.

Type "W" Amperes	Net Price For Five	100
1, 2, 3, 5, 6, 8, 10	$0.55	$10.00
15, 20, 25, 30	.50	9.00

FUSE ASSORTMENT

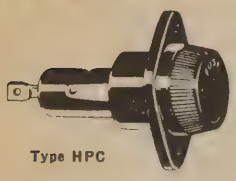
Sturdy metal stand holds 130 fuses. 5 fuses each, 26 different sizes individually boxed in 5" boxes. Inventory feature shows what fuses need reordering.
No. 130—Net Each $20.49



bussmann manufacturing div.

BUSS FUSEHOLDERS

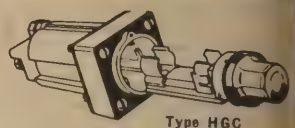
Carton Quantity 10 on all Fuseholders

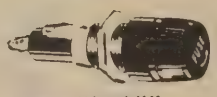

Type HPC

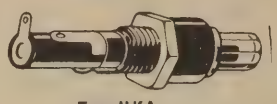

Type HC and HN


Type HKL

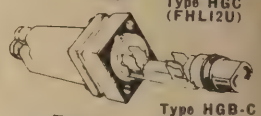

Type HMR and HMS

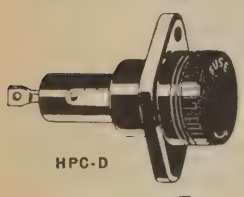

Type HGC (FHLI2U)


Series HJ and HK


Type HKA


Series HR

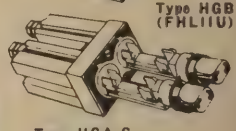

Type HGB-C (FHLIIU)

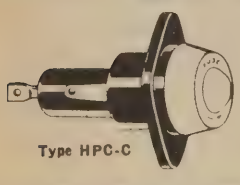

HPC-D


Series HCM


Type HLD No. 5487


Type HTA


Type HGA-C (FHLI0U)


Type HPC-C


Series HH and HI


Type HLQ and HLR

*VOLTAGE: On lamp indicating holders shows operating range for lamp indication. On non-indicating holders shows maximum voltage of fuses commercially available that will fit holders.

NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HDI	In-line	250 or less	15A	$0.18
HHI	In-line	250 or less	15A	.26
HJM	Panel	125 or less	30A	.46
HJM-CC	Panel	125 or less	30A	.46
HJM-H	Panel	125 or less	30A	.50
9969	Spring nut for panel mounting in-line holder			.036

LAMP-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HJL	Panel	100 to 250	20A	$1.93

SHIELDED NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HMS	Panel	250 or less	30A	$5.35

SHIELDED NON-INDICATING FOR 1/4 x 1-1/4 INCH FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HMR	Panel	250 or less	30A	$5.35

SIGNAL ACTIVATING-LAMP INDICATING FOR 1/4 x 1-1/4 inch INDICATING FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HKA	Panel	125 or less	5A	$4.10

LAMP INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HGA	Panel	100 to 250	30A	$4.20
HGA-C	Panel	100 to 250	30A	4.62
HGB	Panel	100 to 250	30A	3.60
HGB-C	Panel	100 to 250	30A	3.96
HKL	Panel	100 to 250	20A	1.93
HKL-X	Panel	100 to 250	20A	1.93
HKR	Panel	24 to 32	20A	3.14
HKT	Panel	10 to 14	20A	3.14
HKU	Panel	4 to 6	20A	3.14
HKX	Panel	24 to 32	20A	3.14

VISUAL INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HLD	Panel	125 or less	30A	$0.50
5487	Knob assembly for HLD holder			.26

NON-INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HCM	Panel	250 or less	18A	$0.65
HCM-H	Panel	250 or less	18A	.70
HDJ	In-line	250 or less	15A	.18
HHJ	In-line	250 or less	15A	.26
HKP	Panel	250 or less	30A	.46
HKP-CC	Panel	250 or less	30A	.46
HKP-H	Panel	250 or less	30A	.50
HLF	Panel	250 or less	30A	.46
HMB	Panel	250 or less	30A	.46
HMJ	HDJ holder w/SFE 20 fuse & wire leads			.36
HRJ	HHJ holder w/SFE 20 fuse & wire leads			.46
HTA	Panel	250 or less	15A	.46
9969	Spring nut for panel mounting in-line holders			.036

NON-INDICATING FOR 9/32 x 1-1/4 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HCM	Panel	250 or less	18A	$0.65
HCM-H	Panel	250 or less	18A	.70

NON-INDICATING FOR 13/32 x 1-3/8 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HPC-L	Panel	600 or less	5A	$0.71

NON-INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HPC	Panel	250 or less	30A	$0.71
HPC-D	Panel	250 or less	30A	1.45

VISUAL INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HPC-C	Panel	250 or less	30A	$0.89

LAMP INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type Mounting	*Fuse Voltage	Current Capacity	Net Each
HGC	Panel	200 to 500	30A	$4.50

OTHER STANDARD AND SPECIAL FUSES, BLOCKS AND HOLDERS

If the fuses, fuse blocks and holders shown do not fit your requirements ask for information on other types. Fuses and fuse mountings to meet JAN and Military specifications also available. If you have a special problem in protection, send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

Net

© United Technical Publications

bussmann manufacturing div.
military fuses and holders

SS FUSES LISTED UNDER MIL-F-15160D

ix S on Military type designation (e.g., F01A250V1/ A-S) indicates silver plating; if silver plating is not uired, omit (e.g., F01A250V1/500A).

Military Type Designation	Nearest Buss Equiv.	Price Each
01A250V1/500A S	AGX1/500	$1.35*
01A250V1/200A-S	AGX1/200	.58*
01A250V1/100A-S	AGX1/100	.50*
01A250V1/32A-S	AGX1/32	.44*
01A250V1/16A-S	AGX1/16	.28*
01A250V1/8A-S	AGX1/8	.20*
01A250V1/4A-S	AGX1/4	.13*
01A250V3/8A-S	AGX3/8	.13*
01A250V1/2A-S	AGX1/2	.13*
01A125V3/4A-S	AGX3/4	.13*
01A125V1A-S	AGX1	.09*
01A125V-1/2A-S	AGX1-1/2	.09*
01A125V2A-S	AGX2	.09*
02A250V1/100A-S	AGC1/100	.50*
02A250V1/32A-S	AGC1/32	.44*
02A250V1/16A-S	AGC1/16	.20*
02A250V1/8A-S	AGC1/8	.20*
02A250V1/4A-S	AGC1/4	.13*
F02A250V3/8A-S	AGC3/8	.13*
F02A250V1/2A-S	AGC1/2	.13*
F02A250V3/4A-S	AGC3/4	.13*
F02A250V1A-S	AGC1	.09*
F02A250V1-1/2A-S	AGC1-1/2	.09*
F02A250V2A-S	AGC2	.09*
F02A250V3A-S	AGC3	.09*
F02A250V4A-S	MTH4	.11*
F02A250V5A-S	MTH5	.11*
F02A250V6A-S	MTH6	.11*
F02A125V10A-S	GLH10	.16*
F02A32V15A-S	AGC15	.07*
F02A32V20A-S	AGC20	.07*
F02B250V1/100A-S	MDL1/100	.38*
F02B250V1/32A-S	MDL1/32	.38*
F02B250V1/16A-S	MDL1/16	.28*
F02B250V1/8A-S	MDL1/8	.28*
F02B250V1/4A-S	MDL1/4	.28*
F02B250V3/8A-S	MDL3/8	.28*
F02B250V1/2A-S	MDL1/2	.28*
F02B250V3/4A-S	MDL3/4	.28*
F02B250V1A-S	MDL1	.28*
F02B250V1-1/2A-S	MDX1-1/2	.30*
F02B250V2A-S	MDX2	.30*
F02B125V3A-S	MDX3	.20*
F02B125V5A-S	MDX5	.20*
F02B32V8A-S	MDL8	.20*
F02B32V10A-S	MDL10	.20*
F02B32V15A-S	MDL15	.20*
F02B32V20A-S	MDL20	.20*
F03A250V1A-S	ABC1	.17*
F03A250V3A-S	ABC3	.17*
F03A250V5A-S	ABC5	.15*
F03A250V8A-S	ABC8	.15*
F03A250V10A-S	ABC10	.15*
F03A250V12A-S	ABC12	.17*
F03A250V15A-S	ABC15	.17*
F03A125V20A-S	ABC20	.17*
F03A125V30A-S	ABC30	.22*
F03B250V1/100A-S	MDA1/100	.48*
F03B250V1/32A-S	MDA1/32	.48*
F03B250V1/16A-S	MDA1/16	.40*
F03B250V1/8A-S	MDA1/8	.40*
F03B250V15/100A-S	MDA15/100	.40*
F03B250V3/16A-S	MDA3/16	.40*

Military Type Designation	Nearest Buss Equiv.	Price Each
F03B250V1/4A-S	MDA1/4	$0.40*
F03B250V3/8A-S	MDA3/8	.40*
F03B250V1/2A-S	MDA1/2	.40*
F03B250V3/4A-S	MDA3/4	.40*
F03B250V1A-S	MDA1	.40*
F03B125V3A-S	MDA3	.28*
F03B125V5A-S	MDA5	.28*
F03B125V8A-S	MDA8	.28*
F03B125V10A-S	MDA10	.28*
F03B125V12A-S	MDA12	.28*
F03B125V15A-S	MDA15	.28*
F03B125V20A-S	MDA20	.28*
F03B125V30A-S	MDA30	.28*
F05A32V10A-S	AGS10	.12*
F05A32V15A-S	AGS15	.12*
F05A32V20A-S	AGS20	.12*
F05A32V25A-S	AGS25	.12*
F05A32V30A-S	AGS30	.12*
F05B32V10A-S	MDM10	.28*
F05B32V15A-S	MDM15	.28*
F05B32V20A-S	MDM20	.28*
F05B32V25A-S	MDM25	.28*
F05B32V30A-S	MDM30	.28*
F06A250V1A-S	ABS1	.28*
F06A250V2A-S	ABS2	.28*
F06A250V3A-S	ABS3	.28*
F06A250V5A-S	ABS5	.26*
F06A250V10A-S	ABS10	.26*
F06A250V15A-S	ABS15	.26*
F07A250V1A-S	AGU1	.17*
F07A250V2A-S	AGU2	.17*
F07A250V3A-S	AGU3	.17*
F07A32V5A-S	AGU5	.17*
F07A32V10A-S	AGU10	.17*
F07A32V15A-S	AGU15	.17*
F07A32V20A-S	AGU20	.17*
F07A32V30A-S	AGU30	.17*
F07B125V1A-S	MDR1	.44*
F07B125V2A-S	MDR2	.44*
F07B125V3A-S	MDR3	.36*
F07B32V5A-S	MDR5	.36*
F07B32V10A-S	MDR10	.36*
F07B32V15A-S	MDR15	.36*
F07B32V20A-S	MDR20	.36*
F07B32V30A-S	MDR30	.40*
F09A250V1A-S	BAN1	.17
F09A250V2A-S	BAN2	.17
F09A250V3A-S	BAN3	.17
F09A250V3-1/2A-S	BAN3-1/2	.17
F09A250V5A-S	BAN5	.17
F09A250V6A-S	BAN6	.17
F09A250V6-1/4A-S	BAN6-1/4	.17
F09A250V7A-S	BAN7	.17
F09A250V8A-S	BAN8	.17
F09A250V10A-S	BAN10	.17
F09A250V10A-S	BAN15	.17
F09A250V20A-S	BAN20	.17
F09A250V25A-S	BAN25	.17
F09A250V30A-S	BAN30	.17
F09B250V1/10A-S	FNM1/10	.39
F09B250V15/100A-S	FNM15/100	.39
F09B250V2/10A-S	FNM2/10	.39
F09B250V3/10A-S	FNM3/10	.39
F09B250V4/10A-S	FNM4/10	.39
F09B250V1/2A-S	FNM1/2	.39
F09B250V6/10A-S	FNM6/10	.39
F09B250V8/10A-S	FNM8/10	.39
F09B250V1A-S	FNM1	.39

Military Type Designation	Nearest Buss Equiv.	Price Each
F09B250V1-1/4A-S	FNM1-1/4	$0.39
F09B250V1-6/10A-S	FNM1-6/10	.39
F09B250V2A-S	FNM2	.39
F09B250V2-1/2A-S	FNM2-1/2	.39
F09B250V3-2/10A-S	FNM3-2/10	.39
F09B250V4A-S	FNM4	.39
F09B250V5A-S	FNM5	.39
F09B250V6-1/4A-S	FNM6-1/4	.39
F09B250V8A-S	FNM8	.39
F09B250V10A-S	FNM10	.39
F09B125V15A-S	FNM15	.39
F09B32V20A-S	FNM20	.39
F09B32V25A-S	FNM25	.39
F09B32V30A-S	FNM30	.39
F15A250V1A-S	NFA1	.18
F15A250V3A-S	NFA3	.18
F15A250V6A-S	NFA6	.18
F15A250V10A-S	NFA10	.18
F15A250V15A-S	NFA15	.18
F15A250V20A-S	NFA20	.18
F15A250V25A-S	NFA25	.18
F15A250V30A-S	NFA30	.18
F15B250V1A-S	FRN1	.50
F15B250V1-1/10A-S	FRN1-6/10	.50
F15B250V2A-S	FRN2	.50
F15B250V2-1/2A-S	FRN2-1/2	.50
F15B250V1-6/10A-S	FRN3-2/10	.50
F15B250V4A-S	FRN4	.50
F15B250V5A-S	FRN5	.50
F15B250V6-1/4A-S	FRN6-1/4	.50
F15B250V8A-S	FRN8	.50
F15B250V10A-S	FRN10	.48
F15B250V12A-S	FRN12	.48
F15B250V15A-S	FRN15	.48
F15B250V20A-S	FRN20	.48
F15B250V25A-S	FRN25	.48
F15B250V30A-S	FRN30	.48
F60C500V1/8A-S	KLM1/8	.90
F60C500V1/4A-S	KLM1/4	.90
F60C500V3/8A-S	KLM3/8	.90
F60C500V1/2A-S	KLM1/2	.90
F60C500V3/4A-S	KLM3/4	.90
F60C500V1A-S	KLM1	.90
F60C500V3A-S	KLM3	.90
F60C500V6A-S	KLM6	.90
F60C500V8A-S	KLM8	.90
F60C500V10A-S	KLM10	.90
F60C500V15A-S	KLM15	.90
F60C500V20A-S	KLM20	.90
F60C500V25A-S	KLM25	.90
F60C500V30A-S	KLM30	.90

*Add $9.00 Stamping Charge and a minimum $6.00 per thousand Silver Plating Charge per item.

FUSE CLIPS LISTED MIL-F-21346 DATED 24 APRIL 1958

FC2IAN	5682-11	$0.06
FC2IBN	5674-10	.11
FC2ICN	5960-23	.16
FC22AN	5678-05	.11
FC22CN	5623-11	.24

INSTRUMENT TYPE FUSES LISTED UNDER MIL-F-23419A, DATED 19 DEC. 1966

Part No.	Type Designation	Nearest Buss Equivalent	Price Each
M23419/1-001	FM01 1/200A	GMU 1/200A	$0.91
M23419/1-002	FM01 1/100A	GMU 1/100A	.91
M23419/1-003	FM01 1/64A	GBU 1/64A	.91
M23419/1-004	FM01 1/32A	GMU 1/32A	.91
M23419/1-005	FM01 1/16A	GMU 1/16A	.91
M23419/1-006	FM01 1/10A	GMU 1/10A	.70
M23419/1-007	FM01 1/8A	GMU 1/8A	.70
M23419/1-008	FM01 2/10A	GMU 2/10A	.70
M23419/1-009	FM01 1/4A	GMU 1/4A	.70
M23419/1-010	FM01 3/10A	GMU 3/10A	.70
M23419/1-011	FM01 4/10A	GMU 4/10A	.70
M23419/1-012	FM01 1/2A	GMU 1/2A	.70
M23419/1-013	FM01 6/10A	GMU 6/10A	.70
M23419/1-014	FM01 3/4A	GMU 3/4A	.70
M23419/1-015	FM01 1A	GMU 1A	.70
M23419/1-016	FM01 1-1/2A	GMU 1-1/2A	.70
M23419/1-017	FM01 2A	GMU 2A	.70
M23419/1-018	FM01 3A	GMU 3A	.70
M23419/1-019	FM01 4A	GMU 4A	.70
M23419/1-020	FM01 5A	GMU 5A	.70

M03 listed under MIL-F-23419A, 1/100 to 25 amps.

OTHER BUSS MIL FUSES AND BLOCKS

uses to MIL-F-15160D also available in styles:

10A	F16A	F20B	F27A	F36B	F39B	F62C
11A	F16B	F21A	F28A	F37A	F40A	F63C
14A	F19A	F21B	F29A	F37B	F40B	F64C
14B	F19B	F22A	F30A	F38A	F50A	F65C
15B	F20A	F22B	F36A	F39A	F61C	F66C

use Blocks to MIL-F-21346, Aircraft Limiters to MIL-F-5372C and Aircraft Blocks MIL-F-5372C are also available.

BUSS FUSEHOLDERS LISTED UNDER MIL-F-19207B, DATED 31 AUG. 1966

Extractor post, blown fuse indicating and non-indicating types.

Buss and Military Type Designation	Electrical Rating	Price Each, Lots of 1-99	100-499	500-999
FHL10U	30A, 90-250V	$3.85	$3.36†	—
FHL11U	30A, 90-250V	3.30	2.75†	—
FHL12U	30A, 90-500V	3.75	3.25†	—
FHL17GI	20A, 90-250V	2.12	1.83	$1.52
FHL18GI-1	20A, 12-22V	3.24	2.79	2.33
FHL18GI-2	20A, 23-33V	3.24	2.79	2.33
FHL18GI-3	20A, 34-45V	3.24	2.79	2.33
FHL18GI-4	20A, 46-60V	3.24	2.79	2.33
FHL18GI-5	20A, 61-80V	3.24	2.79	2.33
FHL18GI-6	20A, 81-90V	3.24	2.79	2.33
FHL18GI-7	20A, 2.5-4V	3.24	2.79	2.33
FHL18GI-8	20A, 5-7V	3.24	2.79	2.33
FHL18GI-9	20A, 8-12V	3.24	2.79	2.33
FHN19G	15A, 250V	1.02	.88	.74
FHL22W	20A, 250V	1.46	1.26	1.06
FHN23W	30A, 250V	1.74	1.49	1.25
FHN26GI	30A, 250V	.80	.69	.57
FHL29G-1	30A, 12-22V	5.08	4.42†	—
FHL29G-2	30A, 23-33V	5.08	4.42†	—
FHL29G-3	30A, 34-45V	5.08	4.42†	—
FHL29G-4	30A, 46-60V	5.08	4.42†	—
FHL29G-5	30A, 61-80V	5.08	4.42†	—
FHL29G-6	30A, 81-90V	5.08	4.42†	—
FHL30G-1	30A, 12-22V	5.55	4.63†	—
FHL30G-2	30A, 23-33V	5.55	4.63†	—
FHL30G-3	30A, 34-45V	5.55	4.63†	—
FHL30G-4	30A, 46-60V	5.55	4.63†	—
FHL30G-5	30A, 61-80V	5.55	4.63†	—
FHL30G-6	30A, 81-90V	5.55	4.63†	—
FHN31GI	5A, 250V	.80	.69	.57
FHN42W	5A, 125V	.86	.72	.60

†Lots 100 Up.

CARLINGSWITCH

THE BIGGEST SINGLE NAME IN SWITCHES

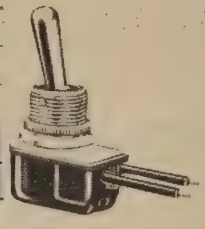


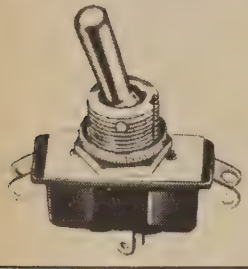
SINGLE POLE

Screw Terminals 15/32". Threaded Bushing, 15/32". Dia. Ball Toggle 3/8" long. Bat Toggle 11/16" long. U.L. Appd.

Catalog No.	Rating	Toggle
110-S-73	6A.-125V.	Bat
110-S-23	6A.-125V.	Ball
160-S-73	10A.-125V.	Bat
WIRE LEADS		
111-16-73	6A.-125V.	Bat

6" Leads Stripped ½" 105C. TFF. Wire.



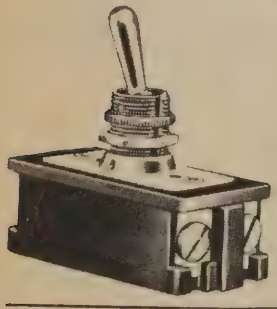


SINGLE POLE — DOUBLE POLE

SOLDER LUGS 15/32"

Threaded Bushing 15/32" Dia. Bat Toggle 11/16" long. U.L. Appd. All Have 250V. Ratings.

Catalog No.	Action	Rating
110-73	SP - ST	6A. - 125V.
112-73	SP - DT	3A. - 125V.
216-73	DP - ST	3A. - 125V.
316-73	DP - DT	3A. - 125V.
2BB62-73	SP - DT	6A. - 125V.
2BK62-73	DP - ST	6A. - 125V.
2BL62-73	DP - DT	6A. - 125V.
160-73	SP - ST	10A. - 125V.



SINGLE POLE DOUBLE POLE

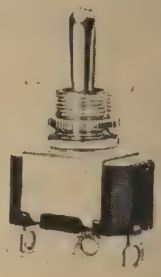
Heavy Duty AC-DC Type. 15/32" Bushing. 11/16" Bat Toggle. All Have Horsepower Ratings.

Catalog No.	RATINGS 125V.	250V.	Action
DA284*	16A.	8A.	SP - ST
DK284*	16A.	8A.	DP - ST
EA204**	20A.	10A.	SP - ST
EK204**	20A.	10A.	DP - ST

*1 H.P. 125-250V. rating.
**1½ H.P. 125-250V. rating.

SINGLE POLE





SCREW TERMINALS OR SOLDER LUGS.

Rated 15 Amps.* 125V. 10 Amps. 250VAC. 3/4 HP 125-250V. AC. except SPST is 1 HP. Rated 15/32" Dia. Threaded Bushing 15/32" Dia. Threaded Bushing 15/32" long. 11/16" Bat Toggle. U.L. Appd. Heavy Duty.

*Applicable to low voltage D.C. requirements.

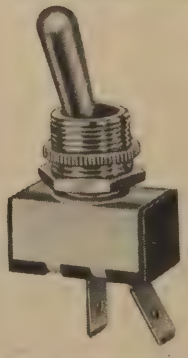
Catalog No.	Terminals	Action
2FA54-73	Screw	SP - ST
2FB54-73	Screw	SP - DT
2FC54-73	Screw	SP - DT, Center Off
2FA53-73	Lugs	SP - ST
2FB53-73	Lugs	SP - DT
2FC53-73	Lugs	SP - DT, Center Off

MOMENTARY ACTION

Same Specifications as above Except SPST. 3/4HP. Rated.

SCREW TERMINALS

Catalog No.	ACTION Up	Center	Down
SINGLE POLE SINGLE THROW			
6FA54-73	Off	None	Mom. On
6FA58-73	On	None	Mom. Off
SINGLE POLE DOUBLE THROW			
6FB54-73	On	None	Mom. On
6FC54-73	Mom. On	Off	Mom. On
6FC58-73	On	Off	Mom. On



SINGLE POLE 20 AMP.

20 Amp. 125 VAC
10 Amp. 250 VAC
1½ HP 125-250 VAC

Catalog No.	Terminals	Toggle
CA204	Screw	Nickel-Bat

Also available S.P.D.T. (ON-ON)
Optional Terminals: Solder Lug, .250 Spade, Wire Leads.

STOCKING DISTRIBUTORS IN CONNECTICUT, ILLINOIS, GEORGIA, TEXAS and CALIFORNIA

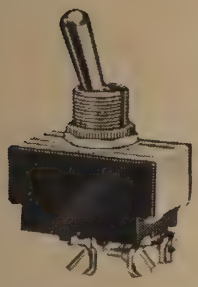
Net

© United Technical Publication

CARLINGSWITCH

THE BIGGEST SINGLE NAME IN SWITCHES

DOUBLE POLE





SCREW TERMINALS OR SOLDER LUGS

ted 15 Amps.* 125V 10 Amps. 250V. AC. 3/4HP. 5-250V. AC. Threaded Bushing 15/32" Dia. reaaded Bushing 15/32" long. 11/16" Bat Toggle. L. Appd. Heavy Duty.

pplicable to low voltage D.C. requirements.

Catalog No.	Terminals	Action
2GK54-73	Screw	DP - ST
2GL54-73	Screw	DP - DT
2GM54-73	Screw	DP - DT, Center Off
2GK50-73	Lugs	DP - ST
2GL50-73	Lugs	DP - DT
2GM50-73	Lugs	DP - DT, Center Off

MOMENTARY ACTION

Same Specifications As Above.

SCREW TERMINALS

Catalog No.	ACTION		
	Up	Center	Down
DOUBLE POLE SINGLE THROW			
6GK5E-73	Off	None	Mom. On
6GK5S-73	On	None	Mom. Off
DOUBLE POLE DOUBLE THROW			
6GL5E-73	On	None	Mom. On
6GM5S-73	Mom. On	Off	Mom. On
6GM5E-73	On	Off	Mom. On

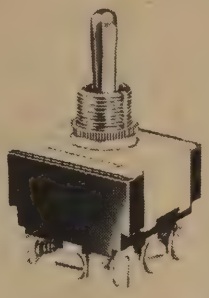




INDICATOR PLATES NICKEL PLATED

Catalog No.	Indication
YO1	ON - OFF
YO2	HI - LO

extensive variety of indications and plate styles available use with Carling Switches. Also a complete line of Hard- e and Switch Accessories available.



THREE POLE SCREW TERMINALS

Rated 17 Amps.* 125V. AC. 12 Amps. 250V. AC. 1 HP. 1-2-3 Phase 120-600V. AC. 15/32" Dia. Bushing 15/32" long. 11/16" Bat Toggle.

*Applicable to low voltage D.C. requirements.

Catalog No.	Action
HK274-73	3P - ST
HL274-73	3P - DT
HM274-73	3P - DT, Center Off

FOUR POLE SCREW TERMINALS

The Four Pole Switch has the same physical appearance as the Three Pole Switch pictured above. Only dimensional difference is in the width when the Fourth pole is added.

Rating 15A. 125V. 10A. 250V. AC. 15/32" Dia. Bushing. 15/32" long. 11/16" Bat Toggle. Heavy Duty.

Catalog No.	Action
1K254-13	4P - ST
IL254-73	4P - DT

"SNAP-IN" LINE





Catalog No.	Type	Rating
215-BL	Switch	20 Amp 125V. A.C. 10 Amp 250V. A.C. ½ H.P. 125-250V. A.C.
215-WH		
222-BL-RC	Pilot Light	110-250V.
222-WH-RC		

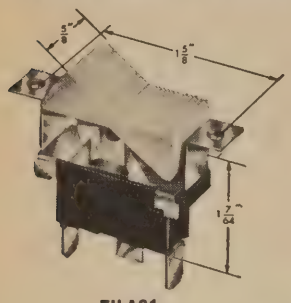
STOCKING DISTRIBUTORS IN CONNECTICUT, ILLINOIS, GEORGIA, TEXAS and CALIFORNIA

CARLINGSWITCH

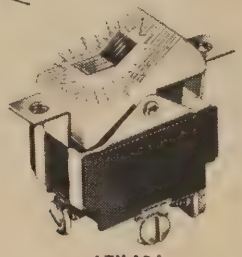
THE BIGGEST SINGLE NAME IN SWITCHES

SWITCHES-TIPPETTE* LIGHTED-TIPPETTE

*Tippette is a Carling Trademark



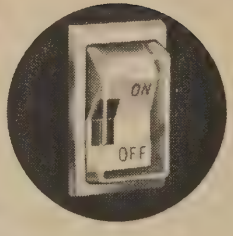
TILA61

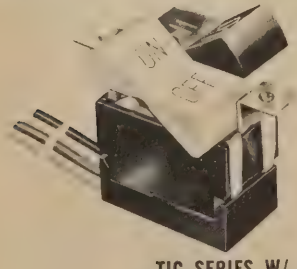


LTILA64



LTIL SERIES W/ SNAP-IN BRACKET & SILICONE SEAL (Seal is available as added feature on request)





TIG SERIES W/ DOUBLE ACTUATORS

TIL Series

CATALOG NUMBERS NOMINAL RATINGS RATING 6 AMP—125V A.C. 3 AMP—250V A.C.						OPERATION AND CIRCUIT CHARACTERISTICS		
SOLDER LUGS	.250 SPADE TERM.	.205 SPADE TERM.	.187 SPADE TERM.	SCREW TERM.	WIRE LEADS	Position #1	Position #2 (CENTER)	Position #3
						SINGLE POLE SINGLE THROW		
TILA60	TILA61	TILA62	TILA63	TILA64	TILA65	On	None	Off
TILA6A	TILA6B	TILA6C	TILA6D	TILA6E	TILA6F	Off	None	Mom. On
TILA6L	TILA6M	TILA6Q	TILA6R	TILA6S	TILA6T	On	None	Mom. Off
						SINGLE POLE DOUBLE THROW		
TILB60	TILB61	TILB62	TILB63	TILB64	TILB65	On	None	On
TILB6A	TILB6B	TILB6C	TILB6D	TILB6E	TILB6F	On	None	Mom. On
TILC60	TILC61	TILC62	TILC63	TILC64	TILC65	On	Off	On
TILC6A	TILC6B	TILC6C	TILC6D	TILC6E	TILC6F	On	Off	Mom. On
TILC6L	TILC6M	TILC6Q	TILC6R	TILC6S	TILC6T	Mom. On	Off	Mom. On

RATING 15 AMP—125V A.C.** 10 AMP—250V A.C. ¾ H.P. 125-250V. A.C.						OPERATION AND CIRCUIT CHARACTERISTICS		
SOLDER LUGS	.250 SPADE TERM.	.205 SPADE TERM.	.187 SPADE TERM.	SCREW TERM.	WIRE LEADS	Position #1	Position #2 (CENTER)	Position #3
						SINGLE POLE SINGLE THROW		
TILA50	TILA51	TILA52	TILA53	TILA54	TILA55	On	None	Off
TILA5A	TILA5B	TILA5C	TILA5D	TILA5E	TILA5F	Off	None	Mom. On
TILA5L	TILA5M	TILA5Q	TILA5R	TILA5S	TILA5T	On	None	Mom. Off
						SINGLE POLE DOUBLE THROW		
TILB50	TILB51	TILB52	TILB53	TILB54	TILB55	On	None	On
TILB5A	TILB5B	TILB5C	TILB5D	TILB5E	TILB5F	On	None	Mom. On
TILC50	TILC51	TILC52	TILC53	TILC54	TILC55	On	Off	On
TILC5A	TILC5B	TILC5C	TILC5D	TILC5E	TILC5F	On	Off	Mom. On
TILC5L	TILC5M	TILC5Q	TILC5R	TILC5S	TILC5T	Mom. On	Off	Mom. On

TIG Series (With *ONE* Tippette Lever)

CATALOG NUMBERS NOMINAL RATINGS RATING 6 AMP—125V A.C. 3 AMP—250V A.C. ¼ H.P. 125-250V. A.C.						OPERATION AND CIRCUIT CHARACTERISTICS		
SOLDER LUGS	.250 SPADE TERM.	.205 SPADE TERM.	.187 SPADE TERM.	SCREW TERM.	WIRE LEADS	Position #1	Position #2 (CENTER)	Position #3
						DOUBLE POLE SINGLE THROW		
TIGK60	TIGK61	TIGK62	TIGK63	TIGK64	TIGK65	On	None	Off
TIGK6A	TIGK6B	TIGK6C	TIGK6D	TIGK6E	TIGK6F	Off	None	Mom. On
TIGK6L	TIGK6M	TIGK6Q	TIGK6R	TIGK6S	TIGK6T	On	None	Mom. Off
						DOUBLE POLE DOUBLE THROW		
TIGL60	TIGL61	TIGL62	TIGL63	TIGL64	TIGL65	On	None	On
TIGL6A	TIGL6B	TIGL6C	TIGL6D	TIGL6E	TIGL6F	On	None	Mom. On
TIGM60	TIGM61	TIGM62	TIGM63	TIGM64	TIGM65	On	Off	On
TIGM6A	TIGM6B	TIGM6C	TIGM6D	TIGM6E	TIGM6F	On	Off	Mom. On
TIGM6L	TIGM6M	TIGM6Q	TIGM6R	TIGM6S	TIGM6T	Mom. On	Off	Mom. On

RATING 15 AMP—125V A.C.** 10 AMP—250 V.A.C. ¾ H.P. 125-250V. A.C.						OPERATION AND CIRCUIT CHARACTERISTICS		
SOLDER LUGS	.250 SPADE TERM.	.205 SPADE TERM.	.187 SPADE TERM.	SCREW TERM.	WIRE LEADS	Position #1	Position #2 (CENTER)	Position #3
						DOUBLE POLE SINGLE THROW		
TIGK50	TIGK51	TIGK52	TIGK53	TIGK54	TIGK55	On	None	Off
TIGK5A	TIGK5B	TIGK5C	TIGK5D	TIGK5E	TIGK5F	Off	None	Mom. On
TIGK5L	TIGK5M	TIGK5Q	TIGK5R	TIGK5S	TIGK5T	On	None	Mom. Off
						DOUBLE POLE DOUBLE THROW		
TIGL50	TIGL51	TIGL52	TIGL53	TIGL54	TIGL55	On	None	On
TIGL5A	TIGL5B	TIGL5C	TIGL5D	TIGL5E	TIGL5F	On	None	Mom. On
TIGM50	TIGM51	TIGM52	TIGM53	TIGM54	TIGM55	On	Off	On
TIGM5A	TIGM5B	TIGM5C	TIGM5D	TIGM5E	TIGM5F	On	Off	Mom. On
TIGM5L	TIGM5M	TIGM5Q	TIGM5R	TIGM5S	TIGM5T	Mom. On	Off	Mom. On

**These switches are applicable to low voltage D.C. requirements. Available in 3 and 4 Pole Series. For Lighted Tippette add Prefix "L" to above numbers

Actuator - Suffix # — 1L 5/8" Long Lined (Standard)
— 1C 5/8" Cross Serrated
— 1S 5/8" Smooth
— 2L 5/16" Long Narrow
— 2S 5/16" Short Narrow s/ears
— 3L Offset 5/8" Long Lined
— 3C Offset 5/8" Cross Serrated
— 3S Offset 5/8" Smooth

For Double Actuator Add "D" to end of above number.

For Double Actuator with interlock, Add "DI" to end of above number.

Standard Colors are WHITE, -WH and BLACK, -BL, Other colors available upon request.

Imprinting on Actuators may be had upon request.

Brackets — In addition to the illustrations shown, we offer a variety of brackets — offset, flat, angled, open ear, snap-in, etc. Specials can be made upon request. Snap-in style is designed for panel thickness of approximately .040" to .100". For mounting information and dimensions consult factory. This model bracket is available on single, double and three pole Tippettes — Single and double pole lighted Tippettes. Narrow or wide bezels.

Wire Lead Enclosures — This Snap-On enclosure is available in the single and double pole Tippette and single pole Lighted Tippette series. It is designed to protect and provide safer insulation for normally exposed lead connections.

LIGHTED TIPPETTE FEATURES

Actuators, Brackets & Accessories — Available in the same styles as listed in the Tippette Series. Lenses are Red, Amber, Clear and White. Special variations and colors available.

Lamp Characteristics

Neon (Standard)
120*-240 Volts .002 Amps

Incandescent
6 Volts .20 Amps
12 Volts .08 Amps
24 - 28 Volts .04 Amps.

*Available with "High Brightness" in 120.

STOCKING DISTRIBUTORS IN CONNECTICUT, ILLINOIS, GEORGIA, TEXAS and CALIFORNIA

© United Technical Publication

CARLINGSWITCH

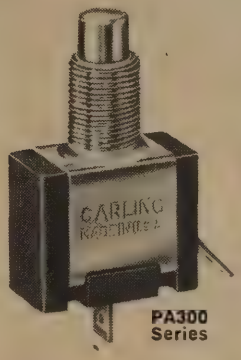
THE BIGGEST SINGLE NAME IN SWITCHES

PUSH SWITCHES

MAINTAINED CONTACTS OR MOMENTARY CONTACTS







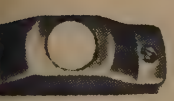
PA300 Series

: PP-Push, On-Push, Off. Maintained. Normally Open. Momentary NC Normally ed. Momentary. All Have 15/32" Dia. Bush- *Screw Terminals. Others Have Solder

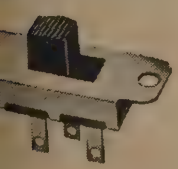
**Ratings up to 2 H.P. available.

Catalog No.	Rating	Type
110-SP*	6A. 125V.	P.P.
PA354**	15A. 125V.	P.P.
110-PM-OFF	6A. 125V.	N.O.
172*	10A. 250V.	N.O.
170	10A. 250V.	N.C.
16-3P-OFF	3A. 125V.	N.O.
16-3P-ON	3A. 125V.	N.C.

PUSH BUTTONS



Catalog	Base	Button
90	Black	Ivory
91	Ivory	Black



SLIDE SWITCHES

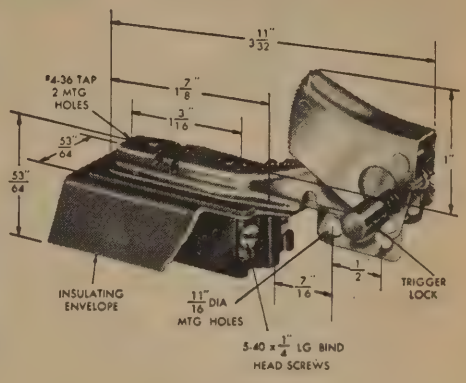
1⅛" Mounting Centers Single Poles Rated 4A 125V. AC.

Catalog No.	Action	Terminals
S60A-BL	SP - ST	Solder Lugs — 13/64" long
S60B-BL	SP - DT	

TRIGGER SWITCHES

SINGLE & DOUBLE POLE SERIES

*Note: Illustration shows "TRD" Series dimensions except for base. For base dimensions of "TRE" Series substitute 1¾" for 53/64 height shown, 1" for 55/64 width shown, and 3/16 for 7/16" dimension shown.



TRD Series Rated
16A. 125V.-8A. 250V. 1 HP. 125-250V.

Catalog No.	Action	Has Lock	Has Envelope
TRDA284-00	SP - ST	No	No
TRDA284-06	SP --ST	Yes	Yes
TRDK284-00	DP - ST	No	No
TRDK284-06	DP - ST	Yes	Yes

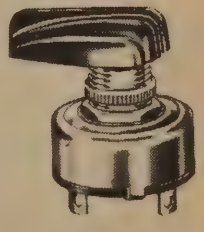
TRE Series Rated
20A. 125V.-10A. 250V. 1½ HP. 125-250V.

TREA204-00	SP - ST	No	No
TREA204-06	SP - ST	Yes	Yes
TREK204-00	DP - ST	No	No
TREK204-06	DP - ST	Yes	Yes

Additional Trigger Switch Series Available.

ROTARY SWITCHES

4 Position Rotary Switch Rated 4A. 125V. AC. 1A. 125V. DC.



Catalog No.	Action Position 1 - 2 - 3 - 4
700-BL	Off-On-On-On

Knob variations and colors available. Up to 8 position rotary switch series available. Consult Factory.

In addition to the items included in this listing are thousands of variations and adaptations designed for our customers' specific needs. We constantly engaged in the development of new products and welcome the opportunity to serve your needs.

If you do not find an item on these pages that meets your specific requirements, please contact us and we will have one of our own sales esentatives discuss your requirements in detail with you. Ask them about Carling's delivery schedules which are set up to assure you of getting switches when you need them.

COMPLETE CUSTOMER SERVICE & SATISFACTION
ENGINEERED INTO EACH PRODUCT & EVERY SALE

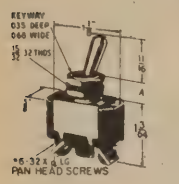
ALL CARLINGSWITCH PRODUCTS LISTED IN THIS CATALOG ARE AVAILABLE FROM MASTER STOCKING DISTRIBUTORS IN: CONNECTICUT, ILLINOIS, GEORGIA, TEXAS and CALIFORNIA.

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

CUTLER HAMMER POSITIVE ACTION SWITCHES



CIRCUIT IDENT. NO.	CIRCUIT
1	On-Off-On
2	On-None-Off
3	On-None-On
4	On-Off-None
5	On-On-None
6	On-None-Off (Mom.)
7	On-Off-On (Mom.)
8	Off-None-On (Mom.)
9	On (Mom.) Off-On (Mom.)
10	On-None-On (Mom.)
11	On-Off (Mom.)-None
12	On (Mom.)-On-None
13	None-Off-On (Mom.)

ST-40 SERIES
Single Pole with Screws

All ST-40 Series equipped with sealed lever.

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp.-28V DC. Std. Pkg. 10

DABURN No.	CH	JAN-S-23 No.	MIL-S-6745 No.	Type	Circuit Code No.
4360	8801K13	ST40A	AN3021-2	SPST	2
4361	8813K12	ST40B	AN3021-9	SPST	6
4362	8811K12	ST40C	AN3021-8	SPST	10
4363	8810K12	ST40D	AN3021-3	SPDT	3
4364	8800K13	ST40E	AN3021-1	SPDT	1
4365	8804K12	ST40F	—	SPDT	10
4366	8812K13	ST40G	AN3021-7	SPDT	9
4367	8809K13	ST40H	AN3021-5	SPDT	7

ST-42 SERIES
Single Pole with Solder Lugs

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp.-28V DC. Std. Pkg. 10

4370	8803K6	ST42A	—	SPST	2
4371	8819K5	ST42B	—	SPST	6
4372	8817K5	ST42C	—	SPST	10
4373	8816K5	ST42D	—	SPDT	3
4374	8802K6	ST42E	—	SPDT	1
4375	8805K5	ST42F	—	SPDT	10
4376	8818K5	ST42G	—	SPDT	9
4377	8815K6	ST42H	—	SPDT	7

ST-45 SERIES
Per JAN-S-23 and MIL-S-6745
Single Pole

Nom. Rating Per Pole: 15 Amp.-115V AC, 20 Amp.-28V DC. Std. Pkg. 10

4440	8201K6	ST45A	AN3022-2	SPST	2
4441	8213K6	ST45B	AN3022-9	SPST	6
4442	8211K7	ST45C	AN3022-8	SPST	10
4443	8210K7	ST45D	AN3022-3	SPDT	3
4444	8200K7	ST45E	AN3022-1	SPDT	1
4445	8215K4	ST45F	AN3022-11	SPDT	10
4446	8212K6	ST45G	AN3022-7	SPDT	9
4447	8209K6	ST45H	AN3022-5	SPDT	7

ST-50 SERIES PER JAN-S-23
2 Pole with Screw Terminals

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp. 28V DC.

4380	8822K8	ST50K	AN3027-2	*DPST	2
4381	8828K5	ST50L	—	DPST	6
4382	8826K5	ST50M	—	DPST	10
4383	8824K8	ST50N	AN3027-3	*DPDT	3
4384	8820K10	ST50P	AN3027-1	*DPDT	1
4385	8830K5	ST50R	—	DPDT	10
4386	8834K4	ST50S	AN3027-7	*DPDT	9
4387	8832K4	ST50T	AN3027-8	*DPDT	7

*Equipped with sealed lever per MIL-S-6745. Std. Pkg. 10

ST-52 SERIES PER JAN-S-23
2 Pole with Solder Lugs

Nom. Rating Per Pole: 10 Amp., 115V AC, 20 Amp., 28V DC. Std. Pkg. 10

4390	8823K5	ST52K	—	DPST	2
4391	8829K5	ST52L	—	DPST	6
4391A	8827K5	ST52M	—	DPST	10
4392	8825K5	ST52N	—	DPDT	3
4393	8821K5	ST52P	—	DPDT	1
4394	8831K5	ST52R	—	DPDT	10
4395	8835K3	ST52S	—	DPDT	9
4396	8833K3	ST52T	—	DPDT	7

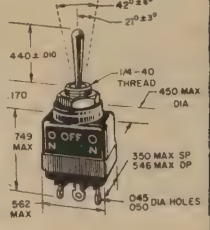
MILITARY SWITCHES

"As Small As A Dime" Built To MIL-S-8834 Specs

Designed for aircraft, missile, electronic application it is extremely compact, highly reliable, power or dry circuit switch, usable as a pre-set switch in aircraft recognition systems, walkie-talkies, instrument and communication systems. Toggle lever seal and panel bushing seal for adverse environmental conditions. Gold plated contacts.

RATINGS: 3 amps., 28V DC; 1 amp., 50V DC 2 amps., 115V AC

WEIGHT: Single pole 5.0 grams, Double pole 6.5 grams



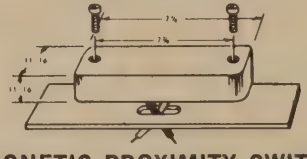
SINGLE POLE

DABURN No.	C-H	Type	Circuit
4480K1	8866K1	SPDT	on-off-on
4480K2	8866K2	SPDT	Mom. on-off-Mom. on
4480K3	8866K3	SPDT	on-off-Mom. on
4480K4	8866K4	SPDT	on-none-on
4480K5	8866K5	SPST	on-off-none
4480K6	8866K6	SPST	None-off-Mom. on
4480K7	8866K7	SPST	on-none-off
4480K8	8866K8	SPDT	None-on-Mom. off

DOUBLE POLE

4481K1	8867K1	DPDT	on-off-on
4481K2	8867K2	DPDT	Mom. on-off-Mom. on
4481K3	8867K3	DPDT	on-off-Mom. on
4481K4	8867K4	DPDT	on-none-on
4481K5	8867K5	DPST	on-off-none
4481K6	8867K6	DPST	none-off-Mom. on
4481K7	8867K7	DPST	on-none-off
4481K8	8867K8	DPDT	none-on-Mom. on

Std. Pkg. 10



MAGNETIC PROXIMITY SWITCH

For Counting Position Limiting Sequence Control Mounts in Any Position

Precision, fast acting, suitable to sequential control functions on machine tools, packaging, material handling and similar industrial devices.

Strong, encapsulated, assures freedom from contamination by cutting oils, dust, powder, chips, etc. Operates up to hundreds of millions of cycles — temperature range −30°C to +105°C. Speed (Max) 200 cycles/sec repeatability within .005".

Switch actuates when brought into proximity with ferrous metals or other magnetic materials. No mechanical linkage necessary for operation. Operating sensitivity in nom. 1/8" make, 1/2" break. Switch elements sealed in glass, unit is potted in epoxy resin. Case is impervious to oil, water, gas, all common solvents.

Typical actuators include indexing tables, cams, wheels, push rods, die sets, line objects such as food and beverage cans, components, parts, vehicles, rotating and swinging objects, etc.

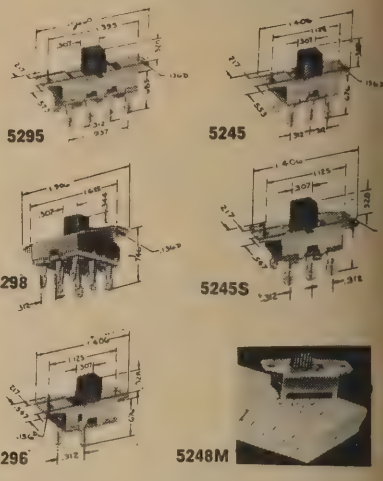
Std. Pkg. 10

1/16" H x 1/16" D x 2 7/8" W

DABURN No.	Type
4499-128	SPST Norm. Open
4499-138	SPDT
4499-139	SPST Norm. Open (Hi-Load)

Electrical	Resistive Load		Inductive Load	
(Max. Contact Rating)	−128, −138	−139	−128, −138	−139
Amps	.5	.2	.1	1
Volt AC or DC	125	125	125	125
Watts	15	50	5	15

CONTINENTAL-WIRT SLIDE SWITCHES



New "Swidget" Miniature Slide Switch

Mounting area is 1/2 of standard DPDT slide. Suitable for compact applications. UL approved.

DABURN No.	Type	Rating 125V AC-DC	Std. Pkg.
5248M	DPDT	5 Amp.	25

UL APROVED SLIDE SWITCH
STANDARD DETENT

General purpose switch for hi-fi equipment, instruments, etc. Black phenolic buttons, steel cadmium plated housing.

DABURN No.	Type	Rating at 125V Circuit DC Amp.	AC Amp.
5245	SPST	.75	.75
5246	SPDT	.75	.75
5247	DPST	.5	.5
5248	DPDT	.5	.5
5290	SPST	6.0	1.0
5291	SPDT	6.0	1.0
5292	DPST	6.0	1.0
5293	DPDT	6.0	1.0

Std. Pkg. 25

3 AND 4 POSITION SLIDE SWITCH
WITH DETENT

5294	SP 3 Pos.	.5	.5
5295	DP 3 Pos.	.5	.5
5295A	DP 3 Pos.	6.0	1.0
5295F	DP 4 Pos.	.5	.5

Std. Pkg. 25

3 AND 4 POLE SLIDE SWITCH
WITH DETENT
ALL POLES IN SAME PLANE

5298	3 PDT	.5	.5
5299*	4PDT	.5	.5

*5299 — width of switch 1.005", short terminals. Distance from mounting surface to terminal tip .595"

Std. Pkg. 25

SLIDE SWITCH — SPRING RETURN

5245S	SPST	.5	.5
5246S	SPDT	.5	.5

Std. Pkg. 25

SLIDE SWITCH SHIELD
Suitable for Electrastatic Shielding

Terminal protection. Shield is steel cadmium plated with fibre insulation.

5239	Std. Pkg. 25

* Not UL Approved.

Complete warehouse inventories on all Cutler-Hammer numbers.

© United Technical Publications

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

ARROW H & H SWITCHES



DOUBLE ACTION COMPACT PUSH-PUSH SHALLOW

QUICK MAKE AND BREAK

" sleeve diameter, 3 amp., UL approved. Molded nolic base. Complete with hex and knurled nut; kel plated. All accept snap button; supplied less ilating button (#5132). (Order separately, red or k.) 1 amp., 250V 3 amp. 125V AC-DC. Solder terminals with double wiping blades.

burn- lo.	De- scrip.	Sleeve	Width	Lgth.	Hgt.
60	SPST	9/16"	41/64"	1-1/32"	13/16"
61	SPDT	9/16"	41/64"	1-1/32"	13/16"
62	DPST	9/16"	41/64"	1-1/32"	13/16"
63	DPDT	9/16"	41/64"	1-1/32"	13/16"

Std. Pkg. 25

OMENTARY ACTION COMPACT PUSH SWITCH

QUICK MAKE AND BREAK

15/32" Sleeve Diameter — 3 Amp.

approved. Molded base. Complete with hex and ded nut; nickel plated. All accept snap button; plied less insulating button (#5132). (Order sep- ely, red or black.) Solder lug terminals with ple wiping blades.

urn e.	De- scrip.	Sleeve	Width	Lgth.	Hgt.
66	SPST	9/16"	41/64"	1-1/32"	13/16"
67	SPDT	9/16"	41/64"	1-1/32"	13/16"
68	DPST	9/16"	41/64"	1-1/32"	13/16"
69	DPDT	9/16"	41/64"	1-1/32"	13/16"

ST and DPST — normally off.
Std. Pkg. 25

HEAVY DUTY SWITCHES

TOGGLE TYPE 30 AMP

pproved. 30 Amp, 250 Volts, AC-DC, 2HP, 115V- AC; 1 HP, 460V AC. Used on machine tools, ps, food machines, sanders, grinders, etc.

ABURN No.	Description	Std. Pkg.
5171	DPST	5
5172	DPST	5

METAL PUSH BUTTON TYPE

NORMALLY OPEN — 20 AMP

UL approved. 20 Amp.-250V, 2 HP 230V AC, 2 HP 250V DC. Used on floor sander, foot switch etc.

DABURN No.	Description	Std. Pkg.
5174	DPST	5

ROTO-LOCK SWITCH

20 AMP.

UL approved. 20 Amp., 120V, 240V AC.
1½ HP — 120V AC
2 HP — 120V AC
Key removable in off position only.

DABURN No.	Description	Sleeve	Std. Pkg
5176	DPST	9/16"	5
5176K0	Key only for above		5

FEED-THRU CORD SWITCH

10 AMP.

UL approved, sliding lever, black case. 10 Amp.-125V, 5 Amp.-250V. Cord hole—5/16".

DABURN No.	Description	Std. Pkg.
5178	SP	6

FEED-THRU CORD SWITCH

15 AMP.

UL approved for appliance use only. 10 Amp-250V, 15 Amp.-125V.

DABURN No.	Description	Std. Pkg.
5179	DP (3rd Wire Gd.)	5

CORD CONNECTORS

10 AMP.

Complete brown bakelite cord connector. 10 Amp.-250 Volts, end opening for wire size up to 3/8" O.D.

DABURN No.	Description	Std. Pkg.
5140	Complete	10
5140F	Female Part Only	10
5140M	Male Part Only	10

DABURN H & H RECEPTACLES

10 AMP.

SHORT FEMALE FLUSH RECEPTACLE

UL approved. 10 Amp.-250 Volts AC.

DABURN No.	Description	Std. Pkg.
5143	Lock Nut Mounting	5
5142	2 Screw Mounting	5

Complete warehouse inventories on all AH&H numbers.

RECESSED MALE RECEPTACLE

10 AMP.

DABURN No.	Description	Std. Pkg.
5144	2 Screw Mounting	5
5145	Lock Nut Mounting	5

RECESSED FEMALE RECEPTACLE

10 AMP.

DABURN No.	Description	Std. Pkg.
5146	Lock Nut Mounting	5

COMPACT RECEPTACLES — TURN TO LOCK

3 WIRE GROUNDING TYPE

FEMALE CONNECTOR — 15 AMP.-125 VOLT

Brass metal casings, corrosion resistant finish. Black bakelite.

DABURN No.	Description	Std. Pkg.
5147	Female Connector	5

MALE CONNECTOR

15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5148	Male Connector	5

MALE RECEPTACLES

MALE RECEPTACLES
15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5149	Male Receptacle	5

FEMALE RECEPTACLE

15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5150	Female Receptacle	5

INTERSWITCH

THUMBWHEEL SWITCHES IN STOCK...

SELECTION UNLIMITED

Thousands of different standard switch configurations, numerous standard options, and a wide variety of standard accessory items are stocked in volume at our factory, over and above the most popular designs stocked by local distributors. Your exact switch assembly specifications can be supplied quickly, thanks to this **instant availability of 5 million standard types!**

- **7 Standard Switch Sizes**
- **262 Standard Logic Codes:** others produced to order
- **Up to 16 Switch Positions**
- **4 Terminal Configurations:** solder lug, PC edge connector, PC pins, wire-wrap terminals
- **2 Module/Accessory Colors:** black, tan
- **6 Thumbwheel Colors:** black, green, red, blue, yellow, white
- **Special Markings To Order**
- **Optional Features** (partial list): switch with limit stops, blind slave switch, make-before-break contacts, spacers — marked or blank.

For detailed product data, or custom designs, call your nearest **INTERSWITCH** field engineering representative or our applications engineers.

STANDARD CODES*

Configuration	Description	Part Number		
		M	B	H
DPDT Repeating	marked +, — or 0, 1	MB001	BB001/S	HB001
10 Pos. Decimal	marked 0 to 9	MB010	BB011/S	HB010
11 Pos. Decimal	marked 0 to 10	MB011	BB011/S	HB011
10 Pos. Binary	1248	MB031	BB031/S	HB031
10 Pos. Binary	1248 with long component board	MB031/L	BB031/LS	HB031/L
10 Pos. Binary	1248 plus complement	MB531	BB031/S	HB531
10 Pos. Binary	Same with long component board	MB531/L	BB031/LS	HB531/L
10 Pos. Binary	1248 two commons, true — not true	MB140	BB140/S	HB140
10 Pos. Binary	1248 complement	MB161	BB031/S	HB161

ACCESSORIES*

Description	Part Number		
	M	B	H
Pair of End Plates	MBW	BBW	HBW
Pair of Division Plates	MBV	BBV	HBV
Spacer Module	MBY	BBY	HBY
Threaded Tie Rods and Nuts — set (specify switch type and number of modules)			

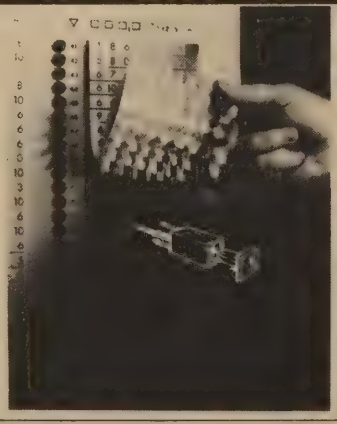
*Black modules, thumbwheels, and accessories only.

CONNECTORS (for Types M, H)

Description	Part Number
Solder lugs w/o mounting ears	CU 400 217U
Printed Circuits pins	CU 400 354

IN STOCK — DATA-PROGRAMMING MODULES

These inexpensive, miniature coding devices use binary coding techniques and a plastic key for actuating four internal switches (available with or without internal series diodes) connected to pins in the base. Insertion of a numbered key into the module body automatically produces the corresponding digital binary-coded output on the base pins. (A variety of codes is available.) Compact, visual presentation of coded programs; any element can be changed at any time; entire program can be replaced in seconds, using mylar templates. For mounting on PC boards.





STANDARD RATINGS

Maximum Working Current: 1 Ampere
Operating Life (minimum): 10^4 switching cycles
Initial Contact Resistance: 5 milliohms
Voltage Rating: 60 volts

	Part Number
Data Module With 4 Diodes	#675-022-131
Data Module Without Diodes	#675-022-100
Data Module Plastic Key	#675-043-190*
Plastic Key Set (0-9)	#42-00023
Plastic Key Set (0-15)	#42-00024

*specify digit(s) desired

© United Technical Publications

INTERSWITCH

...FOR IMMEDIATE DELIVERY

from your local INTERSWITCH distributor

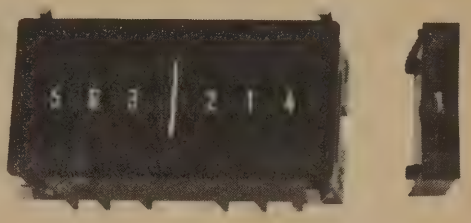
ompact size/featherweight action/positive detent/highly legible readout/many mechanical configurations

NTERSWITCH thumbwheel switches have been designed — nd thoroughly field proven — to afford the logic designer nd packaging expert complete design freedom through al- ost unlimited choice of electrical and mechanical configura- ons, switching logic, terminations, and circuit capacity.

ependable operation and unequalled stability of electrical haracteristics are built into every switch style by careful lection of materials, attention to the human-engineering spects of design, and design simplification to reduce the umber of component parts to a practical minimum.

Type M

Thinnest thumbwheel switch made



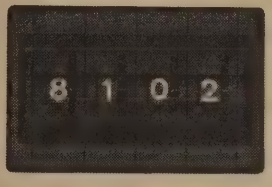
Size: 5/16" wide x 1-5/16" high x 2-5/8" deep

Component Boards: standard board or long board for mounting components

Environmental: salt spray, humidity, shock, vibration per MIL-STD-202; temperature range —40°C to +70°C

ype H

or operation ver widest mperature range



ze: 3/8" wide x 1-5/16" high x 2-5/8" deep

omponent Board: standard board or long board for mounting components

nvironmental: salt spray, humidity, shock, vibration per MIL-STD-202; temperature range —40°C to +85°C

Type B

Popular industry standard

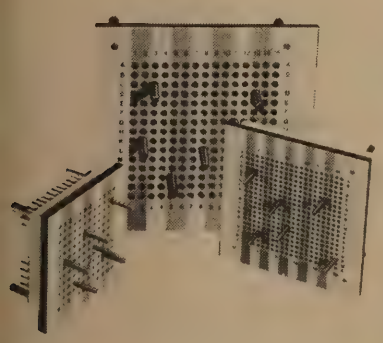


Size: 1/2" wide x 2-1/4" high x 2-5/8" deep

Component Board: standard terminal board or long board for mounting components

Environmental: salt spray, humidity, shock, vibration per MIL-STD-202; temperature range — 20°C to +70°C

IN STOCK — INTERSWITCH MATRIX BOARDS



Matrix boards are fundamental to the programming of thousands of different kinds of instruments, computers, machines, and control systems. Often, they are the most effective answer to steadily increasing demands for more interconnections per unit of space, and for more flexibility in the choice of interconnecting logic and programming means.

The three standard **INTERSWITCH** matrix boards are stocked at all times — as are accessory shorting pins and diode plugs.

10 x 10 x 4.5mm hole spacing	—#676-11-080-02
15 x 15 x 6mm hole spacing	—#674-11-800-02
20 x 20 x 3mm hole spacing	—#673-11-008-02
3mm shorting pin (black)*	—#673-31-100-00
3mm shorting pin (red)*	—#673-31-100-02
3mm diode plug (black)*	—#673-21-301-00
3mm diode plug (red)*	—#673-21-301-02
6mm shorting pin (black	—#674-31-100-00
6mm shorting pin (red)	—#674-31-100-02
6mm diode plug (black)	—#674-21-301-00
6mm diode plug (red)	—#674-21-301-02

*Fits 4.5mm boards also

INTERSWITCH

ONE OF THE **PURDY** GROUP OF COMPANIES

INTERSWITCH thumbwheel switches, matrix boards, and data-programming modules are stocked by leading electronics distributors from coast to coast. Your local distributor can make immediate delivery of any of the popular items identified above.



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

Then...

call your local distributor for fast, reliable service!

TOGGLE SWITCHES – HEAVY DUTY

J-B-T INSTRUMENTS, INC.

32nd Year

WHY IT PAYS TO SPECIFY J-B-T TOGGLE SWITCHES

• **J-B-T** concentrates on trouble - free switches. Among the four groups of toggle switches J-B-T produces more than 170 models made to Government Specifications. Market studies indicate that while these switches are a must in military applications, almost half are produced for non-military use where the principal requirement is dependability. J-B-T apparently is specified because:

1. **Materials are good.** For instance, in MIL and AN heavy duty models, J-B-T uses generous proportions of selected silver alloys in integral construction for contact surface areas — to add overload protection, dissipate heat, and keep contact resistance under .005 ohms.
2. **The design is good.** All MS models have silicone rubber bushing seal for sand, dust and specified toggle seal tests. Medium-duty types MS25098 and MS25100 also feature case-to-terminal sealing and a new design which provides fast break and wider gap to surpass the 125 VDC endurance tests of MIL-S-3950C.
3. **The value is good.** The many features required to meet Government standards, and J-B-T's rigid in-plant testing pay off in long, useful life. Nevertheless, because J-B-T makes **only** quality MIL or General Purpose switches, quantity production permits a surprisingly small price differential over run-of-the-mill brands.
4. **Deliveries are comparatively good.** See your distributor. Production is scheduled to back up his stocks with factory inventory of finished switches and work in process to meet predictable demand.



Cut-away view showing heavy duty MIL construction

Group I

HEAVY DUTY SINGLE- AND DOUBLE-POLE — MIL, AN, AND JAN TYPES

Series MS35058 and MS35059 to MIL-S-3950C; Series ST40A-H, ST42A-H, ST50K-T, ST52K-T to JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings

• **MIL-S-3950C SERIES** — Single-pole MS35058 with suffix —21 and above, and double-pole MS35059 types with suffix —21 and above are recommended when maximum reliability is required. Temperature, endurance, and altitude requirements exceed earlier MS types (suffix —1 to —19), AN3021 and AN3027 switches to MIL-S-6745, and ST styles to JAN-S-23 and MIL-S-21195A (Ships). All MS switches contain a silicone rubber bushing seal to meet sand and dust and toggleseal tests.

NOMINAL RATINGS: 20 Amp. at 125 VAC, 10 Amp. at 250 VAC. For MIL Requirements on Electrical Ratings ask for Condensed Catalog TS-966A.

SIZE: Single-hole; bushing 15/32"-32NS-2A by 15/32" high; toggle lever, 11/16" long. Bodies including terminals: **SP:** 1⅛" x ⅝" x 1-1/16" deep; **DP:** 1-21/64" x ¾" x 1-1/32" or 1-13/64" deep.

TERMINALS: Series MS35058 and Series MS35059 MIL-S-3950C switches have solderable 6-32 electro-tinned screw terminals; ST42's and ST52's use solder lug.

For more complete technical data, request Catalog TS-7.



MS35058-21 SPDT Lever Seal



MS35059-27 DPDT Lever Seal

SINGLE AND DOUBLE POLE HEAVY DUTY WITH LEVER SEAL

MIL-S-3950C Model No.		2-24★	25-49	50-99	100-249
Circuitry†	Keyway				
SPST — 2 term.					
On-Off-On	MS35058-22	$1.46	$1.28	$1.10	$ .92
On-Off-X	MS35058-24	1.48	1.28	1.10	.92
On-Off*-X	MS35058-25	1.74	1.52	1.30	1.08
X-Off-On*	MS35058-28	1.74	1.52	1.30	1.08
On-X-Off*	MS35058-29	1.67	1.46	1.25	1.04
Off-X-On*	MS35058-30	1.67	1.46	1.25	1.04
SPDT — 3 term.					
On-Off-On	MS35058-21	1.74	1.52	1.30	1.08
On-X-On	MS35058-23	1.74	1.52	1.30	1.08
On-X-On*	MS35058-26	1.87	1.64	1.40	1.17
On*-Off-On*	MS35058-27	1.87	1.64	1.40	1.17
On-Off-On*	MS35058-31	1.87	1.64	1.40	1.17
DPST — 4 term.					
On-X-Off	MS35059-22	2.06	1.88	1.50	1.21
On-Off-X	MS35059-24	2.06	1.88	1.50	1.21
On-Off*-X	MS35059-25	2.83	2.56	2.02	1.65
X-Off-On*	MS35059-28	2.55	2.33	1.85	1.50
On-X-Off*	MS35059-29	2.65	2.42	1.93	1.56
Off-X-On*	MS35059-30	2.39	2.18	1.74	1.40
DPDT — 6 term.					
On-Off-On	MS35059-21	2.39	2.18	1.74	1.40
On-X-On	MS35059-23	2.39	2.18	1.74	1.40
On-X-On*	MS35059-26	2.73	2.49	1.98	1.59
On*-Off-On*	MS35059-27	2.83	2.56	2.02	1.65
On-Off-On*	MS35059-31	2.73	2.49	1.98	1.59

TYPE TERMINALS

SINGLE AND DOUBLE POLE HEAVY DUTY§

	JAN-S-23 Model No.	2-24★	25-49	50-99	100-249
Circuitry†	Keyway				
SCREW TYPE					
SPST — 2 term.					
On-X-Off	ST40A	$1.25	$1.13	$ .98	$ .83
On-X-Off*	ST40B	1.52	1.33	1.14	.95
Off-X-On*	ST40C	1.52	1.33	1.14	.95
SPDT — 3 term.					
On-X-On	ST40D	1.53	1.35	1.17	.99
On-Off-On	ST40E	1.53	1.35	1.17	.99
On-X-On*	ST40F	1.78	1.56	1.33	1.11
On*-Off-On*	ST40G	1.68	1.47	1.26	1.05
On-Off-On*	ST40H	1.78	1.56	1.33	1.11
SOLDER TYPE					
SPST — 2 term.					
On-X-Off	ST42A	1.11	.98	.85	.72
On-X-Off*	ST42B	1.29	1.13	.97	.81
Off-X-On*	ST42C	1.19	1.05	.91	.77
SPDT — 3 term.					
On-X-On	ST42D	1.28	1.10	.96	.81
On-Off-On	ST42E	1.28	1.10	.96	.81
On-X-On*	ST42F	1.40	1.24	1.07	.91
On*-Off-On*	ST42G	1.40	1.24	1.07	.91
On-Off-On*	ST42H	1.40	1.24	1.07	.91
SCREW TYPE					
DPST — 4 term.					
On-X-Off	ST50K	1.89	1.41	1.20	.96
On-X-Off*	ST50L	2.31	1.72	1.43	1.14
Off-X-On*	ST50M	2.31	1.72	1.43	1.14
DPDT — 6 term.					
On-X-On	ST50N	2.21	1.66	1.38	1.10
On-Off-On	ST50P	2.21	1.66	1.38	1.10
On-X-On*	ST50R	2.50	1.89	1.58	1.26
On*-Off-On*	ST50S	2.60	1.99	1.67	1.33
On-Off-On*	ST50T	2.50	1.89	1.58	1.26
SOLDER TYPE					
DPST — 4 term.					
On-X-Off	ST52K	1.73	1.29	1.08	.86
On-X-Off*	ST52L	2.02	1.52	1.27	1.00
Off-X-On*	ST52M	2.02	1.52	1.27	1.00
DPDT — 6 term.					
On-X-On	ST52N	1.92	1.45	1.21	.96
On-Off-On	ST52P	1.92	1.45	1.21	.96
On-X-On*	ST52R	2.24	1.67	1.40	1.12
On*-Off-On*	ST52S	2.34	1.75	1.47	1.18
On-Off-On*	ST52T	2.24	1.67	1.40	1.12

§For UL and CSA Identification and ratings on Models ST40A through ST52T, see Table on second following page.
★ On orders for single switches, add 50c.
* Momentary

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

© United Technical Publications

J-B-T 32nd Year

TOGGLE SWITCHES — MEDIUM DUTY & CROSS-REFERENCE

J-B-T INSTRUMENTS, INC.

Group II

SINGLE & DOUBLE POLE — GOVERNMENT QUALITY

Series MS25098 and MS25100 to MIL-S-3950C; Series ST12-27 to JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings



Cut-away view showing self-wiping double-grip contacts



MS25100-23 DPDT Rear Connected; Lever Seal



ST27N, DPDT Side and Rear Connected ¼" Bushing

MEDIUM DUTY refers to current-carrying capacity rather than to life characteristics of these Group II switches which are widely used for both military and non-military applications. Some models are rated at 6 amp. at 125 VAC-DC, 3 amp. at 250 VAC-DC. Other models are rated 3 amp. at 125 VAC-DC, 1 amp. at 250 VAC-DC, as listed on next page. Self-wiping, heavily silver plated double-grip contacts provide exceptional durability. All MS25098 and MS25100 have case-to-terminal seals and silicone rubber bushing seal to meet sand and dust and toggle seal requirements.

DESIGN IMPROVEMENTS AND NOMINAL RATINGS. Significant internal improvements over earlier designs of MS25098 and MS25100 give faster break, wider gap, and increased insulation values, resulting in a longer useful life. Typical uses are: instruments, data processing, and communications circuits.

Although MIL and J-B-T general-purpose switches are substantially similar in materials and construction, differences in test procedures and test conditions cause nominal ratings for military types to differ considerably from the ratings for UL or other non-military models. (Typical ratings are shown on next page.) For instance, under MIL Specifications, switches are tested at pressures corresponding to altitudes of 65,000 ft., while non-military switches are tested to NEMA and UL procedures at sea level pressures.

SIZE AND TERMINALS — Whether MS series to latest MIL-S-3950C or ST series to Specification JAN-S-23 and MIL-S-21195A (Ships), all have solder terminals. Medium-duty types use 11/16" long, toggle lever, bushing 15/32" 32NS-2A by 15/32" (or ¼"). Bodies including terminals are: 1¼" long, 11/16" wide, 29/32" deep, except ST16A, -16B, -16C, -17A, and -27K are 1¾" long by 21/32" deep, while ST16D, -17D, -26N are 1¾" long by 29/32" deep.

SINGLE AND DOUBLE POLE MEDIUM DUTY WITH LEVER SEAL

MIL-S-3950C Circuitry†	Model No. Keyway	2-24*	25-49	50-99	100-249
SPST — 2 term.					
On-X-Off	MS25098-22	$1.69	$1.35	$1.27	$1.17
On-X-Off*	MS25098-29	2.17	1.77	1.65	1.49
Off-X-On*	MS25098-30	2.17	1.77	1.65	1.49
SPDT — 3 term.					
On-X-On	MS25098-23	1.94	1.55	1.45	1.31
DPST — 4 term.					
On-X-Off	MS25100-22	2.43	1.95	1.83	1.66
On-X-Off*	MS25100-29	2.84	2.27	2.13	1.94
Off-X-On*	MS25100-30	2.84	2.27	2.13	1.94
DPDT — 6 term.					
On-X-On	MS25100-23	2.63	2.11	1.98	1.81

SINGLE AND DOUBLE POLE MEDIUM DUTY§

JAN-S-23	Model No.	2-24*	25-49	50-99	100-249
SPST — 2 term.					
On-X-Off	ST12A	$1.20	$ .88	$ .80	$ .75
On-X-Off*	ST12B	1.45	1.06	.97	.91
Off-X-On*	ST12C	1.55	1.14	1.04	.97
On-X-Off	ST13A †	1.24	.91	.83	.78
On-X-Off	ST16A ‡	1.53	1.12	1.02	.96
On-X-Off*	ST16B ‡	1.59	1.17	1.06	1.00
Off-X-On*	ST16C ‡	1.59	1.17	1.06	1.00
On-X-Off	ST17A †‡	1.28	.94	.86	.80
SPDT — 3 term.					
On-X-On	ST12D	1.39	1.02	.93	.87
On-X-On	ST13D †	1.43	1.05	.96	.90
On-X-On	ST16D ‡	1.43	1.05	.96	.90
On-X-On	ST17D †‡	1.57	1.15	1.05	.98
DPST — 4 term.					
On-X-Off	ST22K	1.65	1.21	1.10	1.03
On-X-Off*	ST22L	1.90	1.39	1.27	1.19
Off-X-On*	ST22M	1.90	1.39	1.27	1.19
On-X-Off	ST23K †	1.69	1.24	1.13	1.06
On-X-Off	ST26K ‡	1.79	1.31	1.20	1.12
On-X-Off*	ST26L ‡	1.94	1.42	1.30	1.22
Off-X-On*	ST26M ‡	2.04	1.49	1.36	1.28
On-X-Off	ST27K †‡	1.83	1.34	1.22	1.15
DPDT — 6 term.					
On-X-On	ST22N	1.80	1.32	1.20	1.13
On-X-On	ST23N †	1.84	1.34	1.23	1.15
On-X-On	ST26N ‡	1.80	1.32	1.20	1.13
On-X-On	ST27N †‡	1.94	1.42	1.30	1.22

* On orders for single switches, add 50c; X No position.
* Momentary position. †Bushing ¼" high.
‡ Side connected terminals only, except ST16D, -17D, -26N have both side and rear connected terminals.
§ For UL identification and ratings on Models ST12A through ST27N, see table on following page.

CROSS REFERENCE: AN, MS, AND ST MODEL NUMBERS WITH SIMILAR CIRCUITRY

SCREW TERMINAL				SOLDER LUG	
MIL-S-3950C See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A
SPST				**SPST**	
MS35058-22	ST40A	AN3021-2	#	ST42A	MS35058-9
MS35058-29	ST40B	AN3021-9	#	ST42B	MS35058-10
MS35058-30	ST40C	AN3021-8	#	ST42C	MS35058-11
MS35058-24	#	AN3021-10	MS35058-1	#	MS35058-12
MS35058-28	#	AN3021-11	MS35058-2	#	MS35058-13
MS35058-25	#	AN3021-12	MS35058-3	#	MS35058-14
SPDT				**SPDT**	
MS35058-23	ST40D	AN3021-3	MS35058-4	ST42D	MS35058-15
MS35058-21	ST40E	AN3021-1	MS35058-5	ST42E	MS35058-16
MS35058-26	ST40F	#	MS35058-6	ST42F	MS35058-17
MS35058-27	ST40G	AN3021-7	MS35058-7	ST42G	MS35058-18
MS35058-31	ST40H	AN3021-5	MS35058-8	ST42H	MS35058-19
#	#	AN3021-6 **	#	#	#

SCREW TERMINAL				SOLDER LUG	
MIL-S-3950C See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A
DPST				**DPST**	
MS35059-22	ST50K	AN3027-2	#	ST52K	MS35059-9
MS35059-29§	ST50L	AN3027-4§	#	ST52L	MS35059-10§
MS35059-30§	ST50M	AN3027-5§	#	ST52M	MS35059-11§
MS35059-24	#	AN3027-9	MS35059-1	#	MS35059-12
MS35059-28	#	AN3027-11	MS35059-2	#	MS35059-13
MS35059-25§	#	AN3027-10§	MS35059-3§	#	MS35059-14§
DPDT				**DPDT**	
MS35059-23	ST50N	AN3027-3	MS35059-4	ST52N	MS35059-15
MS35059-21	ST50P	AN3027-1	MS35059-5	ST52P	MS35059-16
MS35059-26§	ST50R	AN3027-6§	MS35059-6§	ST52R	MS35059-17§
MS35059-27	ST50S§	AN3027-7§	MS35059-7§	ST52S§	MS35059-18§
MS35059-31§	ST50T§	AN3027-8§	MS35059-8§	ST52T§	MS35059-19§

Not included in this specification. ** AN3021-6 same as AN3021-5 with jumper. § Same dimensions as MS35059-27.

NOTE A: MS and AN types use internal sand and dust toggle seal and other high performance features involving extra cost over ST types. MS types to MIL-S-3950C have a silicone rubber bushing seal to meet sand and dust, and toggle seal tests. MIL-S-3950 models are superseded by MIL-S-3950C models.
NOTE B: For heavy duty switches in the MS25068, MS35058, and MS35059 Series, MIL-S-3950C calls for SCREW TERMINALS ONLY. These terminals have SOLDERABLE FINISH and may be soldered after removal of screw.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

© United Technical Publications

TOGGLE SWITCHES—4-POLE & SP & DP UL TABLES

J-B-T INSTRUMENTS, INC.

32nd Year

Group III

OUTSTANDING 4-POLE SWITCHES TO MS25068 REQUIREMENTS



• There is no mistaking the light brown color and silver printing of these distinctive J-B-T 4-pole heavy-duty switches. The superior molded body, chosen after extensive tests, features high arc resistance and low shrinkage. As a result the switches exceed the rigorous electrical endurance requirements of MS25068.

Equally important, J-B-T uses generous proportions of selected silver alloys in integral construction for contact surface areas—to add overload protection, dissipate heat, and keep contact resistance under .005 ohms. The 8 models listed here have silicone rubber bushing seals and solderable 6-32 screw terminals, the same as other heavy-duty J-B-T MS switches. Dimensions same as MS35059 except bodies including terminals: $1\frac{11}{32}$" long, $1\frac{7}{16}$" wide, $1\frac{9}{32}$" deep.

4-POLE HEAVY DUTY WITH LEVER SEAL					
MIL-S-3950C	Model No.	2-24★	25-49	50-99	100-249
Circuitry† / Keyway					
4PST — 8 term.					
On-Off-X	MS25068-24	$4.50	$3.89	$3.28	$2.59
On-Off*-X	MS25068-25	5.30	4.60	3.86	3.21
X-Off-On*	MS25068-28	5.30	4.60	3.86	3.21
4PDT — 12 term.					
On-Off-On	MS25068-21	5.22	4.52	3.81	3.16
On-X-On	MS25068-23	5.30	4.60	3.86	3.21
On-X-On*	MS25068-26	6.19	4.88	4.10	3.41
On*-Off-On*	MS25068-27	6.19	4.88	4.10	3.41
On-Off-On*	MS25068-31	6.19	4.88	4.10	3.41

★ On orders for single switches, add $1.00
X No position * Momentary position

Other MS25068 Numbers: Models with suffix -1 through -13 as set forth in MIL-S-3950 are superseded by MIL-S-3950 Revision C Types. The latter are interchangeable electrically and mechanically but meet additional performance standards above the former types. Specifically, **MS25068-1** has become MS25068-21; **-3** now -23; **-5** now -31; **-7** now -27; **-10** now -26; **-11** now -24; **-12** now -28; **13** now -25.

UL IDENTIFICATION AND RATINGS*: SINGLE AND DOUBLE-POLE; HEAVY DUTY AND MEDIUM DUTY

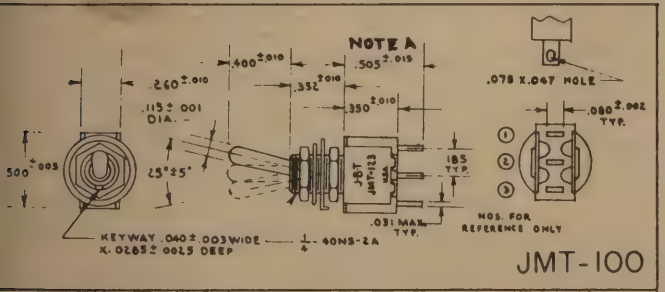
Underwriters' Laboratories, Inc. lists under "Switches, Special Use" (File E26557) models marked with the J-B-T part number shown below. In some instances, there are minor construction differences from ST switches, but the ratings and external dimensions are the same. UL-marked types are not regularly stocked but only are manufactured in substantial production runs.

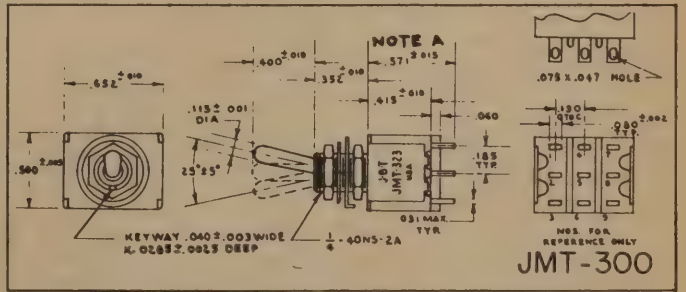
Heavy Duty — Single Pole JBT/UL/CSA Part No.**	ST Circuit Equivalent	Rating*	Heavy Duty — Double Pole JBT/UL/CSA Part No.**	ST Circuit Equivalent	Rating*	Medium Duty — Single Pole JBT/UL/CSA Part No.**	ST Circuit Equivalent	Rating*	Medium Duty — Double Pole JBT/UL/CSA Part No.**	ST Circuit Equivalent	Rating*	*Ratings
401	ST40A	A	501	ST50K	A	121	ST12A	B	221	ST22K	B	Rating A
402	ST40B	A	502	ST50L	A	122	ST12B	B	222	ST22L	B	
403	ST40C	A	503	ST50M	A	123	ST12C	B	223	ST22M	B	10 amps, 250 VAC
404	ST40D	A	504	ST50N	A	124	ST12D	C	224	ST22N	B	20 amps, 125 VAC
405	ST40E	A	505	ST50P	A	131	ST13A	B	231	ST23K	B	¾ H.P., 250 VAC
406	ST40F	A	506	ST50R	A	134	ST13D	C	234	ST23N	B	½ H.P., 125 VAC
407	ST40G	A	507	ST50S	A	161	ST16A	B	261	ST26K	B	
408	ST40H	A	508	ST50T	A	162	ST16B	B	262	ST26L	B	Rating B
421	ST42A	A	521	ST52K	A	163	ST16C	B	263	ST26M	B	
422	ST42B	A	522	ST52L	A	164	ST16D	C	264	ST26N	B	3 amps, 250 VAC-DC
423	ST42C	A	523	ST52M	A	171	ST17A	B	271	ST27K	B	6 amps, 125 VAC-DC
424	ST42D	A	524	ST52N	A	174	ST17D	C	274	ST27N	B	
425	ST42E	A	525	ST52P	A							Rating C
426	ST42F	A	526	ST52R	A	**NOTE: Above model numbers are basic ones for any given type and circuit. Variations, such as length of lever, have a suffix letter "J" and added suffix numbers.						1 amp, 250 VAC-DC
427	ST42G	A	527	ST52S	A							3 amps, 125 VAC-DC
428	ST42H	A	528	ST52T	A							

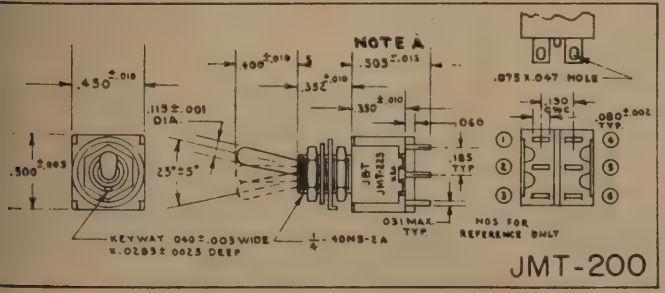
*Also CSA (File 26700)

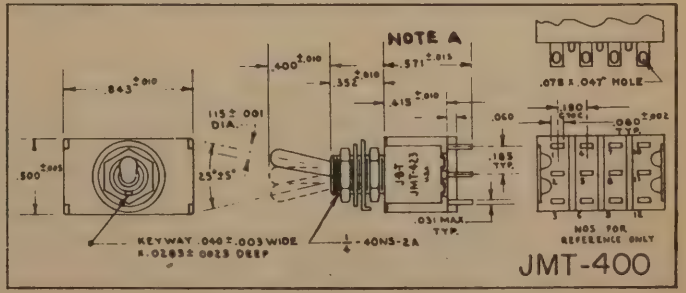
DRAWINGS FOR SUB-MINIATURE TOGGLE SWITCHES AS CATALOGED ON NEXT PAGE

NOTE A: Dimensions shown apply to standard terminals with hole. MPC switches have solid terminals, slightly larger, as shown on second following page









Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

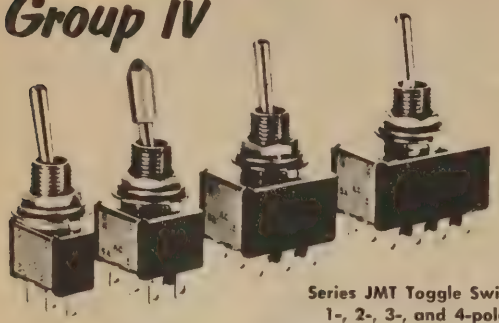
J-B-T

32nd Year ®

SUB-MINIATURE TOGGLE SWITCHES

J-B-T INSTRUMENTS, INC.

Group IV



Series JMT Toggle Switches
1-, 2-, 3-, and 4-pole DT.



SERIES JMT, SUB-MINIATURE TOGGLE SWITCHES. A BROAD LINE MANUFACTURED IN CONNECTICUT BY J-B-T.

MANUFACTURED IN J-B-T's new plant, the subminiature types illustrated on this page make up the firm's fourth and newest group of toggle switches. Series JMT combines drastic reduction in size and weight with the trouble-free construction built into standard-size J-B-T switches. Widely used in manually controlled, low-current, solid-state devices and miniaturized circuitry of computers, instruments, space, geophysical, and test apparatus, these tiny switches also have application in aircraft, communications, peripherals and bio-medical systems as well as remote control and reservation systems.

Made with a distinctive GREEN BODY, single-pole types are ¼" thin, double-pole types less than ½" square, 3-pole and 4-pole types correspondingly small. All use single-hole mounting with ¼" threaded bushing which will not turn or work loose in the J-B-T surface plate. Stringent in-plant controls assure terminals that are firmly staked and will withstand repeated soldering. Terminal holes on JMT Series accept up to three #22 wires. Dimensions are shown on the other side of this page.

SPECIFICATIONS

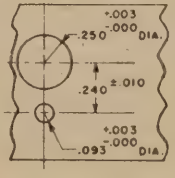
Nominal Rating: 5 Amp. resistive load, 125 VAC and 24 VDC. **Initial Contact Resistance:** 5 Milliohms max. 3 VDC, 100 Milliamps. **Insulation Resistance:** 20,000 Megohms, min. **Dielectric Strength:** 1,000 volts rms at sea level. **Life Under Load:** 100,000 make-and-break cycles minimum for all suffix-23 models; 60,000 for others. **Weight, Including Hardware:** SP, 0.19 oz.; DP, 0.23 oz.; 3-pole, 0.28 oz.; 4-pole, 0.32 oz.

MATERIALS: Switching contacts and rockers are coin silver; center terminals silver-plated. Bat handle is bright chrome-plated brass. Switch bodies are molded of plastic selected for high strength and arc resistance. Bushing, locking ring, and hex nuts are brass nickel-plated. Lockwashers are made of steel (cadmium plated) with chromate treatment. Clamps are of stainless steel.

HARDWARE AND MOUNTING

(For dimensions, see drawings on preceding page.)

Mounting hardware supplied consists of one locking ring **W-RI-12,** two hex nuts, **W-NU-11,** one internal tooth lockwasher, **W-WA-16** Knurled nut, **W-NU-12** and tapered panel dress nut, **W-NU-14,** are also available.



DIRECTION OF MOVEMENT — All JMT switches make continuity to terminal OPPOSITE throw of lever.

MOUNTING INFORMATION — When mounting switch with locking ring, use drill procedure illustrated. For push button types, see next page.

COLOR CAPS — Switches are normally supplied with bat handles. For color coding, tight-grip insulator caps are available for easy attachment before or after switches are mounted. Price, $10.00 per thousand in bulk; 2c per switch if attached. Specify color and part number:

White — **W-CAP-10A** Black — **W-CAP-10D** Yellow — **W-CAP-10G** Gray — **W-CAP-10J**
Blue — **W-CAP-10B** Brown — **W-CAP-10E** Green — **W-CAP-10H**
Red — **W-CAP-10C** Orange — **W-CAP-10F** Violet — **W-CAP-10I**



SERIES MPC, PC1 and PC2 Sub-miniature toggle switches are made with terminals for insertion in printed circuit boards; MPC for direct insertion, and PC1 and PC2 for right angle insertion. Terminals are gold plated for ease of solderability. MPC Series includes the same models as the standard JMT Series as well as such modifications as FH (Flat Handle), LL (Lever lock), 15-Series (Large Bushing) and other variations. (Illustrations approximately actual size.)



For complete technical data, request Catalog MT-40

TYPICAL MODELS

Circuitry†	Keyway	Model No.	Quantity Net Prices 2-9‡	10-29	30-99
JMT SERIES					
†SPDT — SERIES JMT-100					
On-Off-On	A	JMT-121	$1.95	$1.43	$1.30
On-None-On	A	JMT-123	1.65	1.21	1.10
On-None-On*	A	JMT-126	1.95	1.43	1.30
On*-Off-On*	A	JMT-127	2.10	1.54	1.40
On-Off-On*	A	JMT-131	2.10	1.54	1.40
None-On-On*	A	JMT-134	1.95	1.43	1.30
†DPDT — SERIES JMT-200					
On-Off-On	A	JMT-221	2.55	1.87	1.70
On-None-On	A	JMT-223	2.15	1.58	1.43
On-None-On*	A	JMT-226	2.55	1.87	1.70
On*-Off-On*	A	JMT-227	2.70	1.98	1.80
On-Off-On*	A	JMT-231	2.70	1.98	1.80
On-On-On	A	JMT-232	2.85	2.09	1.90
On-On-On*	A	JMT-233	3.15	2.31	2.10
None-On-On*	A	JMT-234	2.55	1.87	1.70
On*-On-On*	A	JMT-235	3.10	2.26	2.05
†3-POLE DT — SERIES JMT-300					
On-Off-On	A	JMT-321	4.25	3.12	2.84
On-None-On	A	JMT-323	3.85	2.82	2.57
On*-Off-On*	A	JMT-327	4.40	3.23	2.93
On-Off-On*	A	JMT-331	4.40	3.23	2.93
None-On-On*	A	JMT-334	4.50	3.30	3.00
†4-POLE DT — SERIES JMT-400					
On-Off-On	A	JMT-421	5.45	4.00	3.64
On-None-On	A	JMT-423	4.85	3.56	3.24
On*-Off-On*	A	JMT-427	5.60	4.10	3.74
On-Off-On*	A	JMT-431	5.60	4.10	3.74
On-On-On	A	JMT-432	6.00	4.40	4.00
On-On-On*	A	JMT-433	6.25	4.57	4.15
None-On-On*	A	JMT-434	5.90	4.32	3.93
On*-On-On*	A	JMT-435	6.40	4.70	4.28
MPC SERIES§					
†SPDT — SERIES MPC-100					
On-Off-On	A	MPC-121	2.05	1.53	1.38
On-None-On	A	MPC-123	1.75	1.31	1.18
On-None-On*	A	MPC-126	2.05	1.53	1.38
On*-Off-On*	A	MPC-127	2.20	1.64	1.48
†DPDT — SERIES MPC-200					
On-Off-On	A	MPC-221	2.65	1.97	1.78
On-None-On	A	MPC-223	2.25	1.68	1.51
On-None-On*	A	MPC-226	2.65	1.97	1.78
On*-Off-On*	A	MPC-227	2.80	2.08	1.88
PC1, PC2 SERIES					
†SPDT — SERIES PC1, PC2					
On-None-On	A	PC1-123	3.40	2.96	2.40
On-None-On	A	PC2-123	3.40	2.96	2.40
LFH Series — (Replaces FH Series)§					
†SPDT — SERIES LFH-100					
On-Off-On	A	LFH-121	2.95	2.23	2.00
On-None-On	A	LFH-123	2.65	2.01	1.80
On*-Off-On*	A	LFH-127	3.10	2.34	2.10
†DPDT — SERIES LFH-200					
On-Off-On	A	LFH-221	3.55	2.67	2.20
On-None-On	A	LFH-223	3.15	2.38	2.13
On*-Off-On*	A	LFH-227	3.70	2.87	2.50
LL SERIES§					
†SPDT — SERIES LL-100					
On-Off-On	A	LL-121	3.70	3.30	2.59
On-None-Off	A	LL-122	3.10	2.80	2.12
On-None-On	A	LL-123	3.10	2.80	2.12
†DPDT — SERIES LL-200					
On-Off-On	A	LL-221	4.35	3.90	3.04
On-None-Off	A	LL-222	3.70	3.35	2.59
On-None-On	A	LL-223	3.70	3.35	2.59
15 SERIES§					
†SPDT — SERIES 15-100					
On-Off-On	A	15-121	2.30	1.68	1.53
On-None-On	A	15-123	2.00	1.45	1.32
On-None-On*	A	15-126	2.30	1.68	1.53
On*-Off-On*	A	15-127	2.45	1.79	1.63
†DPDT — SERIES 15-200					
On-Off-On	A	15-221	2.90	2.12	1.93
On-None-On	A	15-223	2.50	1.83	1.66
On-None-On*	A	15-226	2.90	2.12	1.93
On*-Off-On*	A	15-227	3.05	2.23	2.03
PB SERIES					
SPDT — SERIES PB-100					
Maintained Action Switch PB-123 Push to Make Contact, and Push Again to Reverse Action.			1.95	1.47	1.30
Momentary Action Switch PB-126 Normally Open, or Normally Closed. (Determined by how wired.) See Drawing for Circuitry.			1.95	1.47	1.30

† These DT switches may also be used as ST by wiring only to applicable terminals. Example: JMT-123 can be connected as an "on and off" switch by using center terminal and terminal on one end only.
‡ On orders for single switches, add 50c.
* Momentary position.
§ Also available 3- and 4-pole.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

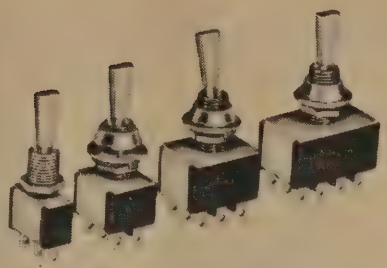
© United Technical Publications

ADDITIONAL SUB-MINIATURE TOGGLE SWITCHES

J-B-T INSTRUMENTS, INC.

32nd Year

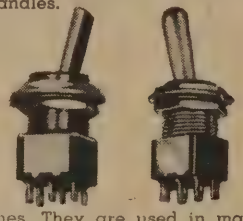
LFH SERIES with Flat Handles



SERIES LFH — provides a human engineering factor, with flat handles (paddle levers) that are easy to grasp, give good sensing of the direction of throw, and orderly panel appearance. Flatted on two sides, each lever is permanently aligned by a patented construction in its operating plane perpendicular to the flat. Standard finish is satin chrome, with bright nickel and other finishes available on special order.

The LFH Series, with .437" bushing and 22° throw is now cataloged and stocked. The earlier models, known as the FH Series, with flat handles, .352" bushing and 25° throw, are now available on special order. Both LFH and FH Series can be made in configurations corresponding to those in the JMT Series; some models are available with MPC terminals for printed circuits; some with UL listing. Also the 15 Series switches are available with flat handles.

15 SERIES with 15/32" Bushings to Match Standard Size J-B-T Toggle Switches



SERIES 15 — Sub-miniature toggle switches combine the behind-the-panel space saving feature of the standard JMT Series with the front-of-panel appearance of standard size switches. They are used in many applications where circuitry requires switches of different capacities, but good panel design calls for uniformity. Electrical and mechanical characteristics of Series 15 switches are the same as for JMT switches given in Catalog 449, except for the larger (15/32") bushing and slightly greater weight. Mounting and hardware are the same as for standard size J-B-T toggle switches. Circuit identification caps are available in red, white, and black.

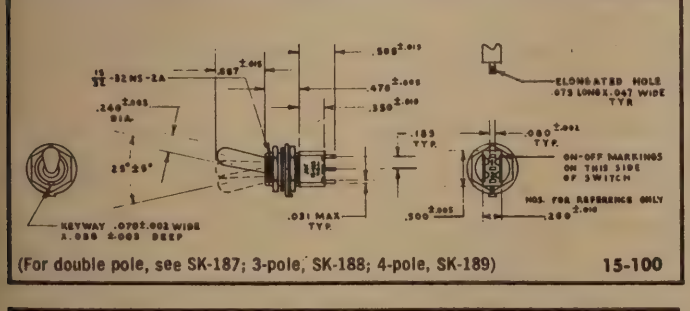
PB SERIES Push Button Switches



SPECIFICATIONS

Nominal Rating: 5 Amp. resistive-load, 125 VAC and 24 VDC. **Initial Contact Resistance:** 5 Milliohms max., measured at 3 VDC, 100 Milliamps. **Insulation Resistance:** 10,000 Megohms, min. **Dielectric Strength:** 1,000 Volts rms at sea level. **Life Under Load:** 100,000 cycles make-and-break, min. **Force Required To Operate:** Less than 2 lbs. Rapid break generates audible click. **Weight, Including Hardware:** Single-pole 0.4 oz.

Materials And Construction: Switching contacts and rocker are coin silver; center terminal silver plated, standard. Available with gold plated current carrying parts where required for dry circuit applications. Bushing and plunger are nickel plated brass; bushing has shoulder for greater strength. Clamp is stainless steel. Body is high-strength plastic, J-B-T green and black. Standard knob (W-KN-10) is anodized natural aluminum. Anodized colors, green, blue, red, black and gold are also available at slight extra cost. Buttons of other shapes, colors, materials or with imprints are also available on substantial production runs at extra cost. **Mounting Hardware** consists of 2 hex nuts, W-NU-11 nickel plated brass, and an internal tooth lockwasher, W-WA-16. A knurled face nickel plated nut (W-NU-12) is also available. Mounting in panel is in 1/4" D-shaped hole. (See drawing below.)



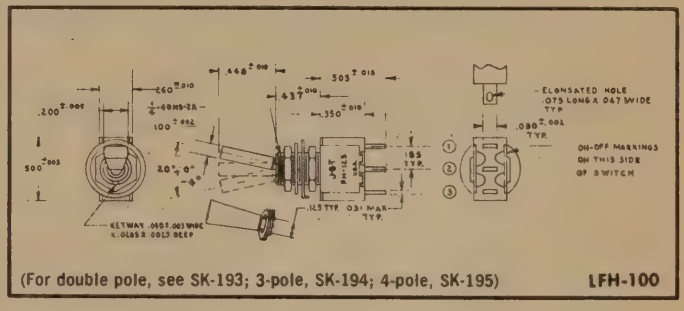
(For double pole, see SK-187; 3-pole, SK-188; 4-pole, SK-189) **15-100**

LL SERIES with Locking Levers

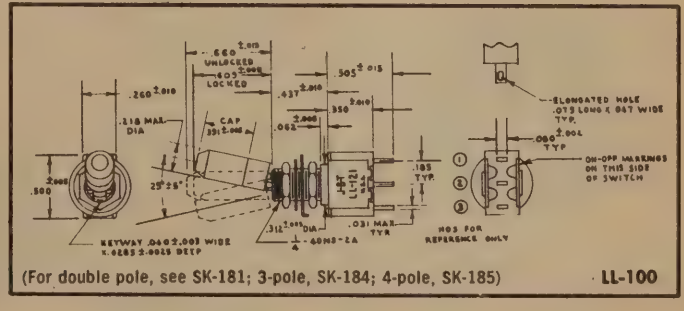


SERIES LL — Made with spring-loaded locking mechanism to prevent accidental shifting of the lever — a definite advantage on planes, ships, trains, or other vehicles where sudden motion might cause switching errors. Also, for test equipment other instrumentation or computer circuits where accumulated data might be lost through unintentional switching. As a human engineering factor, the operator must **think** about the switching operation before he can complete it.

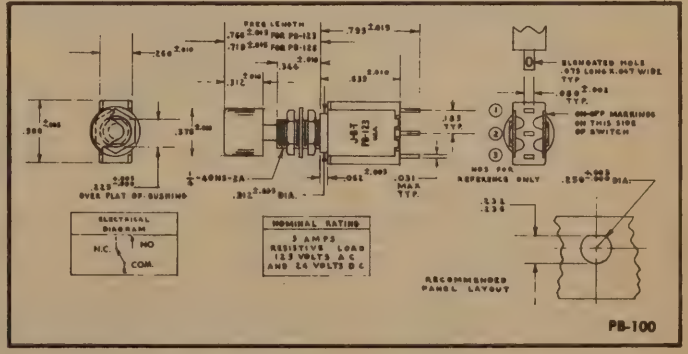
LL Series switches are normally stocked with natural aluminum caps, but for circuit identification caps can be supplied with anodized colors: red (danger), black, blue, gold or green.



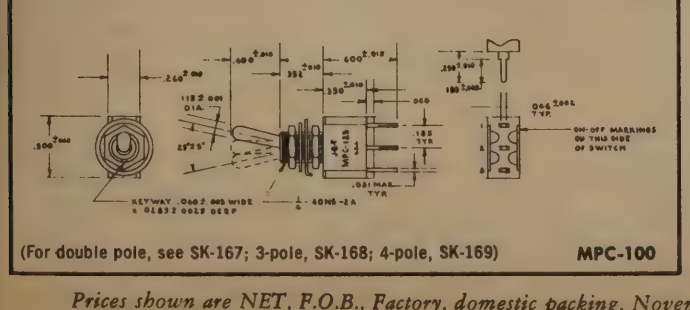
(For double pole, see SK-193; 3-pole, SK-194; 4-pole, SK-195) **LFH-100**



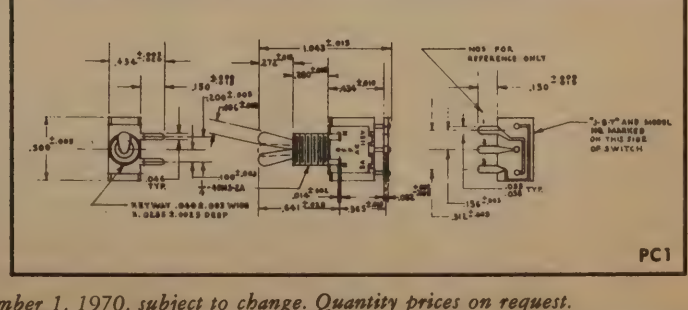
(For double pole, see SK-181; 3-pole, SK-184; 4-pole, SK-185) **LL-100**



PB-100



(For double pole, see SK-167; 3-pole, SK-168; 4-pole, SK-169) **MPC-100**



PC1

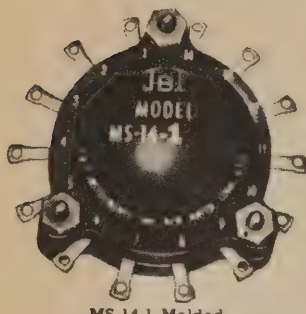
Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

J-B-T

32nd Year

ROTARY SWITCHES — LAMINATED AND MOLDED

J-B-T INSTRUMENTS, INC.

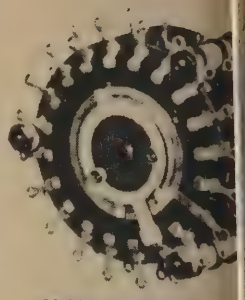


MS-14-1 Molded

- **INSTRUMENT AND TESTER TYPE**
- **14- AND 20-POSITION**
- **SINGLE AND MULTI-DECK**
- **MILITARY OR COMMERCIAL**

USES - J-B-T Rotary Selector Switches are extensively used in quality test equipment, portable instruments, inspection setups, and other military aerospace and commercial applications where trouble-free, dependable performance is of major importance.

FEATURES **Extra Contacts** - 14- and 20-position designs provide extra switching capability. **Dependability** - Sturdy rotors and decks with rigid 3-post deck suspension; current-carrying parts heavily silverplated to meet 100 hour salt spray test; sharp detent mechanism to assure positive indexing; insulation resistance above 50,000 megohms. **Low Contact Loss** - Double-grip collector arms, and large area contacts, silver to silver; average contact resistance, .007 ohms or less. **Ample Dielectric** Conservatively rated at 1 amp., 125 VAC, inductive load; maximum momentary capacity (not make-and-break), 5 amp. AC or DC; maximum voltage between contacts, 1500 VAC, R.M.S.; between decks and ground, 2000 VAC, R.M.S.



SS-20-2 Laminated

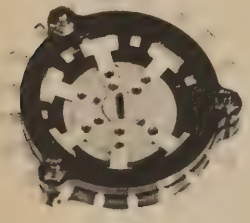
Enclosed - Molded models have all moving contacts enclosed to minimize dirt and corrosion.

Basic 14-Position: 13 circuits and "off" per deck in 2" circle **(SS-14)** or 2-3/32" circle **(MS-14)** with 25° 43' angular indexing. Supplied individually boxed with **1-1/4" Bar Knob, (KN-14),** not on bulk orders unless specified. For details, **SS-14,** 1 to 6 decks, see Print SK-42 Rev. B. **MS-14** 1 to 6 decks, Print SK-111 Rev. D, 7 decks and over, Print SK-112 Rev. C.

Basic 20-Position: 19 circuits and "off" per deck in 2-23/32" circle **(SS-20)** or 2⅝" circle **(MS-20)** with 18° angular indexing. Supplied individually boxed with 2" **Bar Knob (KN-16),** not on bulk orders unless specified. For details, **SS-20** 1 to 6 decks, see Print SK-116 Rev. A. **MS-20,** 1 to 6 decks, Print SK-113 Rev. D, 7 decks and over, Print SK-114 Rev. C.

Military or Commercial Variations: Special switches too numerous to list now are being made. Typical are: laminated models with 14 or 20 live positions, no off, designated by suffix F as in SS-14-2F or SS-20-1F*. Inquiries are invited.

***BONDED RUGGEDIZED TYPES** As indicated in the table, all molded rotary switches may be ordered with bonded construction as **MS-14B** or **MS-20B** types using cured laminations for ruggedization, shockproofing and further enclosure. This additional dependability factor adds only approx. 1/64" and 35c catalog price per deck.



MS-20-1-6DT
Double-throw Switching of 6 circuits per deck

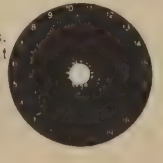
6-POLE DOUBLE-THROW PER DECK —

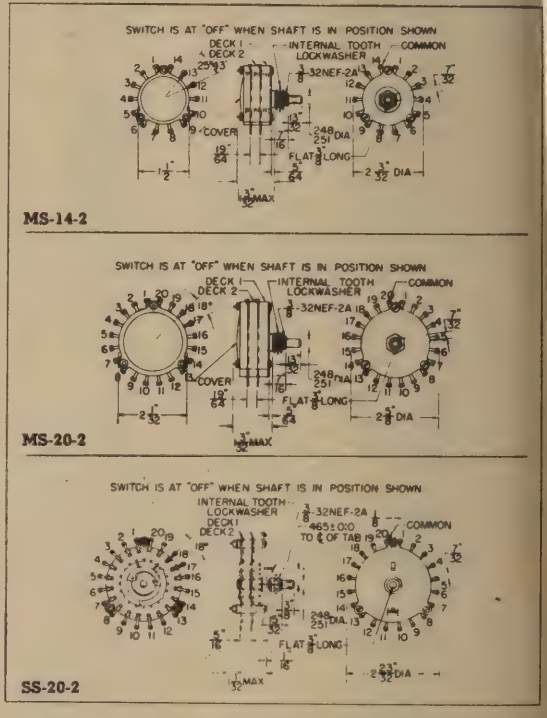
1 or 2 DECKS (DT Series). Widely used for simultaneous double-throw switching of 6 circuits per deck (18° throw). Fully enclosed - - illustration shows protective cover cut-away. Circuit arrangement printed on switch front. If DTS Shorting Type, 1500 VAC R.M.S. between contacts and ground, 1000 VAC R.M.S. between contacts. See **MS-20-1-6DT, MS-20-1-6DTS,** and **MS-20-2-6DT** in table.

ETCHED DIAL PLATES

For switches below, also 20M Series. Dull black finish, raised bright numerals, 2¾" dia.

EP-13 off thru 13	**$.25**
EP-14 1 thru 14	**.25**
EP-19 off thru 19	**.25**
EP-20 1 thru 20	**.25**





14-POSITION ROTARY SWITCHES — 25° 43' INDEXING SERIES SS-14, MS-14, MS-14B, MAS-14, and MAS-14B

Pos. Per Circ.	Cir. (Poles) Per Deck	Decks or Gangs	Short'g or Non-Sh.	LAMINATED (SS) Standard Model	Max(d) Depth Behind Panel	Boxed Inc. Knob	MOLDED (MS) Standard Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Model	Max. Depth Behind Panel	Boxed Inc. Knob	Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob
14	1	1	N-S	SS-14-1	27/32"	$2.45	MS-14-1	27/32"	$2.60	MS-14B-1	7/8"	$3.00	MAS-14-1	31/32"	$3.30	MAS-14B-1*	1"	$3.65
5(a)	2	1	N-S	SS-14-1A*	27/32"	2.60	—	—	—	—	—	—	—	—	—	—	—	—
14	1	1	S	SS-14-1S*	27/32"	2.50	MS-14-1S*	27/32"	2.65	MS-14B-1S*	7/8"	3.05	MAS-14-1S	31/32"	3.40	MAS-14B-1S*	1"	3.75
14	1	1	C-S(c)	SS-14-1CS*	23/32"	3.00	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	N-S	SS-14-2	1 5/32"	3.10	MS-14-2	1 3/32"	3.30	MS-14B-2	1 1/16"	4.05	MAS-14-2	1 1/32"	4.05	MAS-14B-2	1 1/4"	4.80
5(a)	2	2	N-S	SS-14-2A*	1 5/32"	3.40	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	S	SS-14-2S*	1 5/32"	3.20	MS-14-2S*	1 3/32"	3.40	MS-14B-2S*	1 1/16"	4.15	MAS-14-2S*	1 1/32"	4.20	MAS-14B-2S*	1 1/4"	4.95
14	1	3	N-S	SS-14-3	1 1/16"	3.70	MS-14-3	1 13/32"	4.00	MS-14B-3	1 15/32"	5.10	MAS-14-3	1 17/32"	4.90	MAS-14B-3*	1 19/32"	6.00
14	1	4	N-S	SS-14-4	1 23/32"	4.65	MS-14-4	1 23/32"	5.20	MS-14B-4	1 25/32"	6.65	MAS-14-4	1 27/32"	6.05	MAS-14B-4	1 15/16"	7.50
14	1	6	N-S	SS-14-6	2 13/32"	6.70	MS-14-6	2 13/32"	7.50	MS-14B-6	2 1/2"	9.70	MAS-14-6	2 17/32"	8.50	MAS-14B-6*	2 19/32"	10.70

20-POSITION ROTARY SWITCHES — 18° INDEXING SERIES SS-20, MS-20, and MS-20B

20	1	1	N-S	SS-20-1	23/32"	4.25	MS-20-1	27/32"	$3.30	MS-20B-1	7/8"	$3.65	
6(b)	2	1	N-S	SS-20-1A*	23/32"	4.40	—	—	—	—	—	—	
2	6	1	N-S	—	—	—	MS-20-1-6DT	27/32"	4.15	MS-20B-1-6DT*	7/8"	4.50	
2	6	1	S	—	—	—	MS-20-1-6DTS	27/32"	4.25	MS-20B-1-6DTS*	7/8"	4.60	
20	1	1	S	SS-20-1S*	23/32"	4.30	MS-20-1S	27/32"	3.35	MS-20B-1S*	7/8"	3.70	
20	1	2	N-S	SS-20-2	1 1/32"	5.05	MS-20-2	1 3/32"	4.15	MS-20B-2	1 1/8"	4.75	
2	6	2	N-S	—	—	—	MS-20-2-6DT	1 3/32"	5.85	MS-20B-2-6DT*	1 1/8"	6.60	
20	1	2	S	SS-20-2S*	1 1/32"	5.15	MS-20-2S	1 3/32"	4.25	MS-20B-2S*	1 1/8"	5.00	
20	1	3	N-S	SS-20-3	1 11/32"	6.20	MS-20-3	1 13/32"	5.30	MS-20B-3*	1 15/32"	6.40	
20	1	4	N-S	SS-20-4	1 23/32"	7.50	MS-20-4	1 23/32"	6.60	MS-20B-4	1 25/32"	8.10	
20	1	6	N-S	SS-20-6	2 11/32"	9.95	MS-20-6	2 13/32"	9.10	MS-20B-6	2 1/2"	11.35	

NOTES TO TABLES

* Standard Items, but not regularly stocked; check with your electronic parts distributor.
(a) 5 positions include 4 "live" and 1 "off."
(b) 6 positions include 5 "live" and 1 "off."
(c) Complete shorting—all contacts shorted except one use.
(d) Dimensions given are for continuous rotation switche On Standard SS-14 Models only, adjustable stops a also furnished, and when used, increase depth behi panel 3/32" and decrease effective bushing length 3/

Non-Shorting — Break before make **Shorting** — Make before break

*"F" type decks (14 full live or 20 full live positions, no "off") available on SS-14 and SS-20 Series only. Add 35c per deck to catalog price.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

© United Technical Publications

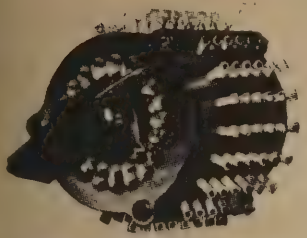
MULTI-POLE AND LEVER TYPE SWITCHES

J-B-T INSTRUMENTS, INC.

32nd Year

IMPROVED MULTI-POLE MOLDED ROTARY SWITCHES, SERIES 20M.

• Superior Molded Material • All Models Bonded & Ruggedized • Panel Seal Available



Front View Showing Panel Locator which is Normally at 3 o'clock Position.



Rear View with Back Cover Cut Away to Show 4-Pole Construction with 4 Live Switching Contacts.

Although the new 20M- Series is 1/4" longer behind the panel than the 20-position molded switches described on the preceding page, the two styles are otherwise interchangeable in dimensions. Providing 19 live positions and off, the 20M- offers these additional features:

1. **Increased Versatility of Circuitry** — up to and including four poles per deck;
2. **Upgraded Insulation Resistance and Dielectric Qualities** — by use of melamine stators and rotors (or other MIL-M-14 molded materials when specially ordered);
3. **Built-in Panel Locator or Non-Turn Device;**
4. **Extended Switch Life** — new contact design with rotor brushes of phosphor bronze heavily silver-plated;
5. **All 20M- Models are Bonded and Ruggedized Construction;**
6. **Radial Alignment of Multi-Pole Contact Surfaces** — by means of newly-designed double-ball detent with diaphragm-type springs.

VARIATIONS OF 20M- — Please request SK-142, Revision of March, 1967, or later for full dimensions and circuit diagrams. Besides the condensed listing in the accompanying table, various combinations of **shorting and non-shorting contacts for each deck** may be made. **Fixed stops** are built-in but may be altered for single-pole switches when specially ordered. **Over six decks** can be supplied for a reasonable number of poles; extra decks add 5/16" per deck and 5/16" per switch for rear support SU-3. **Ring-contact** (suffix R) may be specially ordered.

PANEL SEAL PS20M- SERIES — Sealed shaft and bushing meet the requirements of MIL-S-3786C for sealing. For details ask for SK-143, Revision of March, 1967, or later. The seal (prefix PS) adds $1.75 per switch to catalog price.

SPECIFICATIONS AND TEST DATA — Available on request.

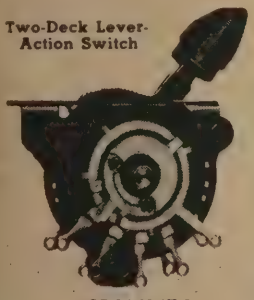
No. of Decks	Depth Behind Panel	Poles per Deck	Model Number	Circuitry Per Pole	Rotation Positions*	Boxed Incl. Knob
1	1-3/16"	1	**20M-1201N**	19 live, 1 off	Continuous	**$4.00**
		1	**20M-1191NF†**	19 live, no off	1 thru 19	**4.35**
		1	**20M-1161N**	15 live, 1 off	20 thru 15	**4.00**
		2	**20M-2101N**	9 live, 1 off	20 thru 9	**4.40**
		3	**20M-3051N**	4 live, 1 off	20 thru 4	**4.80**
		4	**20M-4051N**	4 live, 1 off	20 thru 4	**5.15**
2	1-1/2"	1	**20M-1202N**	19 live, 1 off	Continuous	**5.30**
		2	**20M-2102N**	9 live, 1 off	20 thru 9	**6.15**
		3	**20M-3052N**	4 live, 1 off	20 thru 4	**6.90**
		4	**20M-4052N**	4 live, 1 off	20 thru 4	**7.65**
3	1-13/16"	1	**20M-1203N**	19 live, 1 off	Continuous	**8.65**
		2	**20M-2103N**	9 live, 1 off	20 thru 9	**7.90**
		3	**20M-3053N**	4 live, 1 off	20 thru 4	**9.00**
		4	**20M-4053N**	4 live, 1 off	20 thru 4	**10.15**
4	2-3/16"	1	**20M-1204N**	19 live, 1 off	Continuous	**8.20**
		2	**20M-2104N**	9 live, 1 off	20 thru 9	**9.85**
		3	**20M-3054N**	4 live, 1 off	20 thru 4	**11.35**
		4	**20M-4054N**	4 live, 1 off	20 thru 4	**12.85**
		4	**20M-4044N**	3 live, 1 off	20 thru 3	**12.85**
6	2-13/16"	1	**20M-1206N**	19 live, 1 off	Continuous	**11.45**
		1	**20M-1166N**	15 live, 1 off	20 thru 15	**11.45**
		2	**20M-2106N**	9 live, 1 off	20 thru 9	**14.00**

* See MS-20 drawing on following page for location of positions.

Notes: (1) For standard switches, knob pointer (active position) is 180° opposite flat on shaft, and off is at position 20.
(2) **NON**-shorting (N) type — (break-before-make) — is shown. For shorting type (S), add $.05 per pole per deck to catalog price. Example: 3 pole, 3 deck 20M-3053S is $9.45.
(3) All models have 18° angular indexing.
(4) Maximum **LIVE** positions per single pole, 19; per 2-pole, 9; per 3- and 4-pole, 4.
(5) Switches (such as 15 or 18 position) with all live or less than maximum live positions can be provided by fixed stops.
(6) Maximum of 9 decks for 1 pole per deck
6 decks for 2 poles per deck
4 decks for 4 poles per deck.
(7) †Suffix-F denotes all rotation positions shown are **live** with no off.

LEVER ACTION SWITCHES — 6, 5, 4, 3, and 2-Position — LAMINATED, MOLDED, & SUB-MINIATURE

LAMINATED 3- AND 4-POSITION, POSITIVE INDEXING. These lever switches are derived from the J-B-T SS-14 instrument-type rotaries. Specified for tube checkers, inspection equipment, communications systems, control consoles, and other uses where quality is important. 4-position types are interchangeable with 3-position except in length of throw (1" slot for 3-position, 1 3/8" for 4-position) — mounting holes for boxed switches come with mounting hardware and KN-17 knob as illustrated; bulk shipments, without knobs. **SINGLE DECK-** spacing between centers: recommended, 3/4"; minimum, 9/16". **TWO DECK-** spacing: recommended, 15/16"; minimum, 13/16". 3/8" between decks matches TV twinlead wires. **SPRING RETURN TYPE-** single deck, 3-position switches may be ordered with spring return. Lever returns to position 11*, giving momentary action at positions 9* and 10*. For dimensions on all SS-14-IL series switches, ask for drawing SK-138.

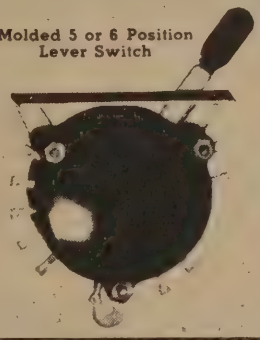


Two-Deck Lever-Action Switch

SS-14-1L4F-2

Positions Per Circuit	Circ. (Poles) Per Deck	Decks or Gangs	Short. Non-Short	Stand.* Contact Pos.	Model	Boxed Incl. Knob
3, no "off"	1	1	N-S	A	**SS-14-1L3**	**$1.10**
3, no "off"	2	1	N-S	B	**SS-14-1L3A**	**1.25**
3, no "off"	1	2	N-S	A	**SS-14-1L3-2**	**1.80**
3, & "off"	1	1	N-S	C	**SS-14-1L4**	**1.20**
4, no "off"	1	1	N-S	D	**SS-14-1L4F**	**1.20**
4, no "off"	1	2	N-S	D	**SS-14-1L4F-2**	**2.10**

* Numbers correspond to contact positions in MS-14-2 drawing on prior page. A—common at 12, contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11.



Molded 5 or 6 Position Lever Switch

MOLDED 5- and 6-POSITION, POSITIVE-INDEXING. 5 or 6 live positions, two circuits per deck, in enclosed lustrous black molded construction; adapted from the MS-20 series with electrical characteristics as shown on the next page. These models can simplify circuitry for sound systems, control, inspection, test, experimental, and hobby purposes. Individually-boxed switches come with KN-20 threaded black molded knob; bulk shipments, without knobs. For mounting data see SK-64, Rev. H on 5-position and SK-119, Rev. B on 6-position.

MS-20-1L5A-1, 5-position, 2-circuit (1 deck) **$3.45**

MS-20-1L6A-1, 6-position, 2-circuits (1 deck) **3.70**



Sub-Miniature 1 Dual Duty Deck

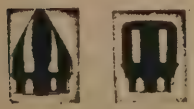
2 AND 3 POSITION, 1 TO 4 DECKS, 2 TO 8 POLES PER DECK.

SUB-MINIATURE LEVER SWITCHES — Derived from the high-performance sub-miniature switches described on another page, the VL-7000 and the VL-5000 positive indexing series and the VSRL-7000 and VSRL-5000 spring return types provide excellence in lever switches. MIL materials throughout; crisp 30° indexing. Max. depth behind panel 1.250"; panel slot .962" x .062"; other details to SK-139, Rev. A and Catalog SM-33. Typical switches are:

VL-71031N, single-pole, 3-position, one-deck, non-shorting **$4.80**

VSRL-71031N, same as above, with spring return to center position from either side **5.80**

VL-71032N, single-pole, 3-position, two-deck, non-shorting **7.05**



LEVER KNOBS

KN-17, black pointed with metal insert **$0.19**
KN-18, walnut, same as KN-19 **0.08**
KN-19, black, round, flat-type, push-on **0.08**
KN-20, black, threaded, for MS-20-IL **0.20**

TYPE SR31 LEVER-ACTUATED SWITCHES TO MIL-S-3786C, MEDIUM AND HIGH SHOCK

Sub-miniature open construction, lever-actuated switches, similar to the one illustrated above, recently have been added to MIL-S-3786C as SR31 types. This category covers shorting and non-shorting; 1 to 4 poles per section; 1 to 4 sections per switch; Medium Shock M, as in Model VL-71031N-SR31N30C3MGC (M3786/31-034), will normally be supplied, but High Shock H is available. Typical models are priced on next page.

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

J-B-T
32nd Year

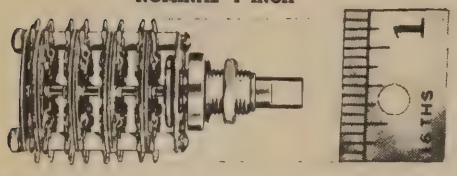
SUB-MINIATURE ROTARY AND LEVER SWITCHES

J-B-T INSTRUMENTS, INC.

SUB-MINIATURE SWITCHES MADE TO MANY PERFORMANCE LEVELS OF MIL-S-3786C, TYPE SRO5; ALSO NON-MILITARY X AND V VERSIONS.

SERIES 7000, FULL 12 LIVE SWITCHING CONTACTS PER DECK: SERIES 5000, UP TO 8 POLES PER DUAL-DUTY DECK.

NOMINAL 1 INCH



4 DECKS Series 5000

Model Number V-52114N-SRO5S30C3MGC. Terminals have hole to accept two 0.032" dia. wires, and supersede solid "T" terminals formerly supplied.

- **Precision built for Low-Current Usage where Size, Weight, Reliability are Important**
- **Unusual Versatility — More Contacts per Deck**
- **Accelerated Snap-Action Detent**
- **MIL Materials Throughout for Military & Non-Military Applications**

CAUTION—MIL-S-3786C, a sophisticated specification, spells out more than one performance level in each of several categories such as Temperature-Life, Vibration, Shock, and Altitude, J-B-T SRO5 models meet many levels.

- **USES — For test equipment, airborne and transistorized equipment, geophysical apparatus, and other miniaturized electrical and electronic devices.**

TWO BASIC SERIES — Full 12 live switching contacts per deck are available in **Series 7000** using a patented wafer design feature where rotor contacts are on the front, and switching contacts are on the rear of the same deck. 1 to 4 poles per deck 1 to 6 decks, standard.

Up to 8 poles per dual-duty deck are available in **Series 5000** which has up to 12 contacts including common on the front, and up to 12 contacts including common on the rear of the same deck. 1 to 4 poles on each side of dual-duty decks; 1 to 4 decks, standard.

THREE ROTARY TYPES — Both Basic Series are made in 3 types: **MILITARY STYLE SR05,** numbered for specific performance levels of MIL-3786C; **V TYPE,** of similar construction to SR05, but not ordinarily subjected to full military test procedures; and **X TYPE,** using the same materials as V type switches, but intended as replacements for previous models or as original components for non-military devices where requirements are similarly exacting.

LEVER SERIES (L and SR31 Types) — Outstanding design known as VL-7000 or VL-5000 Series, 1 to 4 decks. Illustrated on a preceding page.

KNOBS — Supplied with individually boxed switches on V and X types; not supplied on SR05 because separate military specification applies.

SEALED **SRO5 SHAFT AND BUSHING SEAL NOW AVAILABLE ON 1" OPEN CONSTRUCTION ROTARY SWITCHES TO MIL-S-3786C**

- The versatility of J-B-T 1" open construction sub-miniature rotary switches described in Catalog SM-33 is increased by the addition of shaft and bushing seals to meet the requirements of SRO5S Type to MIL-S-3786C.

Principal differences:	SRO5N	SRO5S
Sealed Shaft-to-bushing	No	Yes
Sealed Panel Bushing	No	Yes
Bushing Size	Round 3/8-32	Flatted (D-Shape)
Depth behind panel	See Table Preceding Page	.100" longer
Non-Turn Device	Yes (unless otherwise ordered)	Provided by flatted bushing
Other Details	Print SK-135 (E)	Print SK-179

DIFFERENCES BETWEEN SR05 MILITARY, V, and X — Switches other than X types use extra rugged index mechanisms and rotor construction.

	NON-MILITARY		MIL-S-3786C
ITEM	X-7000 X-5000	V-7000 V-5000	V-7000-SR05 V-5000-SR05
Terminals	Hole-type not bent	Hole-type not bent	Hole-type; normally not bent
Shaft	1/8" dia.	1/4" dia.	1/4" dia. only
Bushing	1/4"-32V UNEF 2A, 1/4" long	3/8"-32V UNEF 2A, 3/8" long	3/8"-32V UNEF 2A, 3/8" long
Rear Bridge	Black Identification	Red Identification	Stainless Steel, full number
Non-turn Device	Normally supplied	Normally supplied	Supplied, Spec. requires

FOR ADDITIONAL MODELS AND FULL SPECIFICATIONS, ASK FOR BULLETINS SM-33 AND LAYOUT SHEETS WITH CONTACT ARRANGEMENTS.

MOST FREQUENTLY ORDERED MODELS

DECKS	Circ. Poles per Deck	Pos. per Pole	Shorting, Non-Shorting	V-TYPE OR X-TYPE Model	1-24	25-49	SR05-TYPE Model*	1-24	25-49
1	1	12	N-S	V-71121N	$4.90	$4.41	V-71121N-SR05N	$5.25	$4.73
	1	12	S	V-71121S	4.90	4.41	V-71121S-SR05N	5.25	4.73
	1	12	N-S	X-71121N	4.70	4.23	—		
	1	12	S	X-71121S	4.70	4.23	—		
	2	6	N-S	V-72061N	5.15	4.64	V-72061N-SR05N	5.35	4.82
	4	3	N-S	V-74031N	5.20	4.68	V-74031N-SR05N	5.50	4.95
1 Dual Duty	2	11	N-S	V-52111N	5.25	4.73	V-52111N-SR05N	5.60	5.04
	2	11	S	V-52111S	5.25	4.73	V-52111S-SR05N	5.60	5.04
	4	5	N-S	V-54051N	5.35	4.82	V-54051N-SR05N	5.70	5.13
	4	5	S	V-54051S	5.35	4.82	V-54051S-SR05N	5.70	5.13
	8	2	N-S	V-58021N	5.55	5.00	V-58021N-SR05N	5.90	5.31
2	1	12	N-S	V-71122N	6.75	6.08	V-71122N1SR05N	7.20	6.48
	1	12	S	V-71122S	6.75	6.08	V-71122S-SR05N	7.20	6.48
	1	12	N-S	X-71122N	6.45	5.81	—		
	2	6	N-S	V-72062N	7.15	6.44	V-72062N-SR05N	7.40	6.66
	4	3	N-S	V-74032N	7.40	6.66	V-74032N-SR05N	7.90	7.11
2 Dual Duty	2	11	N-S	V-52112N	8.10	7.29	V-52112N-SR05N	8.65	7.79
	2	11	N-S	X-52112N	7.70	6.93	—		
	4	5	N-S	V-54052N	8.30	7.47	V-54052N-SR05N	8.85	7.87
3	1	12	N-S	V-71123N	8.85	7.97	V-71123N-SR05N	9.45	8.51
	2	6	N-S	V-72063N	9.13	8.24	V-72063N-SR05N	9.70	8.73
	4	3	N-S	V-74033N	9.85	8.87	V-74033N-SR05N	10.45	9.41
4	1	12	N-S	V-71124N	11.95	10.76	V-71124N-SR05N	12.70	11.43
6	1	12	N-S	X-71124N	11.40	10.26	—		
	1	12	N-S	V-71126N	16.05	14.44	V-71126N-SR05N	17.10	15.39
1 Lever	4	3	N-S	VL-74031N	5.15	4.64	VL-74031N-SR31	6.15	5.54
	2	3	N-S	VL-72031N	5.05	4.55	VL-72031N-SR31	6.05	5.45
	8	2	N-S	VL-58021N	5.45	4.36	VL-58021N-SR31	6.35	5.72
1 2DD	1	12	N-S	Bushing Seal and Lever Seal			V-71121N-SR05S	7.25	6.73
2 2DD	2	11	N-S				V-52112N-SR05S	10.65	9.79
3 2DD	4	5	N-S				V-54052N-SR05S	10.85	9.97
	1	12	N-S				V-71123N-SR05S	11.45	10.51

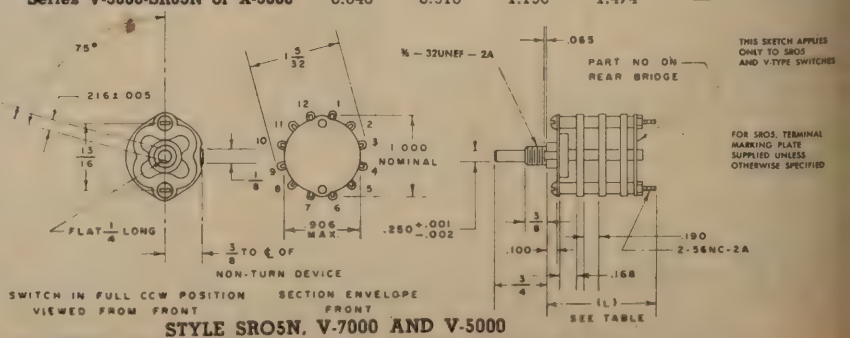
* Complete model number for a typical MIL-S-3786C rotary switch is: V-71121N-SRO5N30C3MGC, which designates specific performance levels. Likewise, for a typical lever-actuated switch; M3786/31-040. Unless otherwise ordered, switches will be furnished to this suffix (N30C3MGC). On certain models, sealed shaft and bushing are available at $2.00 extra cost; or shock type H (high impact), also at $2.00 extra, when so ordered.

SPECIFICATIONS & TEST DATA ON SR05 MILITARY STYLE

NOTE: Most of the values shown here are given in the Specification and do not indicate the extent to which the test results of J-B-T switches were more favorable.
Current-carrying capacity: 5 amps at standard ambient conditions.
Current-breaking capacity: 750 MA at 30 VDC; 300 MA at 120 VDC; 1 AMP at 115 VAC Non-Inductive.
Initial Contact Resistance: 005. ohms max.
Contact Resistance: To MIL-STD-202D, Method 307, which requires Initial — 20 milliohms; After Moisture Resistance Test — 30 milliohms; After Life Test — 40 milliohms.
Materials: Terminals (double-wiping): gold-plated 90% silver alloy. **Rotor Contact:** J-B-T #1800 Silver Alloy. **Shaft & Frame:** Stainless steel, passivated.
Insulation: Wafer, glass epoxy laminate to MIL-P-18177C Type GEB, NEMA G-11; Rotor, ceramic to MIL-I-10A, Grade L-623.
Life Rotational; Temperature-Life Characteristic C, 25,000 rotational cycles at 10 cpm, Temperature —65°C to +125°C; 25,000 cycles at 70,000', room ambient temperature.
Vibration: Grade 3 of Table III MIL-S-3786C, 10 to 2000 cps. Tested in accordance with MIL-STD-202D, Method 204. Test Condition B.
SHOCK: Shock Type M, Medium Impact per Table IV, MIL-S-3786C. Tested in accordance with MIL-STD-202D, Method 205. Mating contacts did not open for more than 10 microseconds. Shock Type H, High Impact, Method 207, specifies not more than 5 milliseconds and does not automatically cover Type M Impact.

MAXIMUM DEPTH (L) BEHIND PANEL, INCHES

	1-Deck	2-Decks	3-Decks	4-Decks	5-Decks	6-Decks
Series V-7000-SR05N or X-7000	0.640	0.918	1.196	1.474	1.752	2.030
Series V-5000-SR05N or X-5000	0.640	0.918	1.196	1.474	—	—



STYLE SRO5N, V-7000 AND V-5000

For SR05S with panel and bushing seals, add .100 to (L) in table above, per Print SK-179.

Prices shown are NET, F.O.B., Factory, domestic packing. November 1, 1970, subject to change. Quantity prices on request.

Net
© United Technical Publications

REMARKABLE NEW 12 POSITION ROTARY SWITCHES

J-B-T INSTRUMENTS, INC.

J-B-T

32nd Year

V/M SERIES 12-POSITION ROTARY SWITCHES

ULTRA-HIGH QUALITY WITH ADJUSTABLE TORQUE DETENT

This unusually fine family of fully enclosed rotary switches is being produced in J-B-T's thoroughly modern new plant. Used in precise laboratory test apparatus, test set-ups, telemetering, meter switching, calibration operations, and similar applications where circuit stability is essential to accuracy and repeatability. The V/M Series virtually eliminates the influence of extraneous factors to the circuitry, and the initial electrical and mechanical characteristics remain substantially unchanged throughout the long useful life of the switch.

SPECIFICATIONS (apply only to VMCS7 Models with coin silver contacts and rotor blades.): **Initial Contact Resistance,** .002 ohms; **Maximum Inductance,** less than .03 microhenry; **Capacitance between Segments,** less than 2 PFD; **Thermal EMF,** less than 1 microvolt; **Current Carrying Capacity,** 5 amp.; **Dielectric Strength,** 1000 volts, rms, 60 cy. — terminals tc ground and terminals to terminals; **Insulation Resistance,** greater than 500,000 megohms; **Life Cycling** (make and break), 100,000 cycles at 1 amp., 120 VAC, res. and ind., and 28 VDC res. and ind.

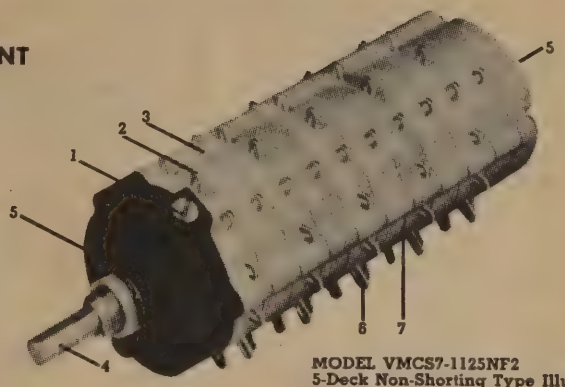
DIMENSIONS: diameter over terminals 1⅞"; bushing ⅜-32 x ⅜" long; non-turn device ⅛" diam., 17/32" from shaft centerline.

NOTES:

*Model Number shown is for VMCS7, with coin silver contacts and rotor blades. For nickel silver, model number would be VMNS7; for silver plated brass contacts and nickel silver rotor blades, VMSB7.

**Unlike other J-B-T rotary switches, VM series is normally shorting type; for non-shorting construction add 50¢ per deck per switch, Net. Made only on special order.

† Includes knob and mounting hardware. Quantity prices on request.



MODEL VMCS7-1125NF2
5-Deck Non-Shorting Type Illustrated
(Shorting Type Has Common Deck Adjacent to Front of Switch)

FEATURES:

(1) Adjustable detent action for variable torque (or factory set for 4 inch-lbs. max.) (2) Unusually sturdy molded-in terminals, .032" thick; accomodate two #18 wires. (3) Distinctive color-coded glass alkyd or diallyl phthalate decks — **gray** for coin silver alloy contacts and rotor blades; **blue** for nickel silver; and **green** for silverplated brass. (4) Husky ¼" stainless steel shaft. (5) Permanent identification of positions 0 through 11, cast in detent housing and molded in rear deck. (6) Integral connections between contacts and terminals — no mechanical joints. (7) Enclosed decks may be stacked for explosion-proof switch, per methods 3 and 4 of MIL-E-5272.

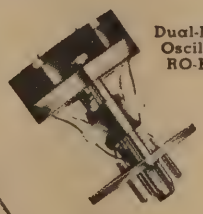
REPRESENTATIVE MODELS AND BASE PRICES VMCS7, VMNS7, AND VMSB7 ROTARY SWITCHES

Model Number* (Shorting type)	Poles Per Deck	Positions Per Pole	No. of Decks	Shorting** Non-Sht'g	NET EACH — Quantity 1-9† VMCS7 Coin Silver	VMNS7 Nickel Silver	VMSB7 S.P. Brass	"L" Length Behind Panel
VMCS7-1121SF1	1	12	1	S	$16.00	$10.50	$ 9.25	1⅝" max.
VMCS7-2061SF2	2	6	1	S	19.50	12.50	11.25	1⅝" max.
VMCS7-1122SF1	1	12	2	S	24.10	15.00	13.75	2⅜" max.
VMCS7-2062SF2	2	6	2	S	27.60	17.00	15.75	2⅜" max.
VMCS7-1124SF1	1	12	4	S	40.30	24.00	22.75	3 11/16" max.
VMCS7-2064SF2	2	6	4	S	43.80	26.00	24.75	3 11/16" max.

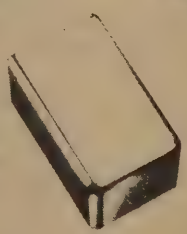
RESONANT REED RELAYS AND OSCILLATOR CONTROLS

Applications: selective-calling mobile communication equipment, remote data transmission, and simultaneous or sequential coding and decoding.

For further data, ask for Bulletins 162-R and D664A. Inquiries are invited on combination relay-oscillator types.



Dual-Reed Oscillator Control RO-B10B-188.0





Single-Reed Oscillator Control RO-D62E-250.3 (Vibration-Isolated in All Planes)



Relay RR-DO2E-250.3 (Vibration-Isolated in All Planes)

J-B-T frequency-sensitive electro-mechanical relays (decoders) are highly stable control devices. They intermittently make and break contacts when a signal of the same frequency as the tuned reed is received. Although the reed has a high Q, the bandwidth at which the relay responds will be proportional to the input signal level.

RO-B Oscillator Controls (sometimes known as tone generators or encoders) are dual-reed units internally shock mounted and of sealed construction. These units control the frequency of oscillation in vacuum tube or transistor oscillator circuits. The RO-B type oscillator control is recommended where accurate and stable AC signals are required.

RR-D types are internally shock-mounted resonant reed relays, which are square, sealed units with 7-pin miniature plug. They now are the most widely used J-B-T relays.

RO-D types are single-reed, internally shock mounted oscillator controls for applications where space saving is of importance. Dimensionally they are identical to RR-D relays.

TYPICAL REED RELAY AND OSCILLATOR CONTROL SPECIFICATIONS

Model	Enclosure	Mounting & Connections	Frequency Range CPS	DC Coil Resistance (Standard)	Accuracy to	Change per °C —40° to + 100°C	Individually Boxed
RR-D02E-Reed Relay	25/32" sq. x 3 1/32" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	19.00**
RO-B10B-Oscillator Control†	1 33/64" sq x 2 1/16" long sealed	Octal Plug In	67 to 600	2200 ohms/coil	±0.1%	±0.003 %	26.00**
RO-D62E-Oscillator Control	25/32" sq. x 3 1/32" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	18.00**

** For frequencies 400 cps and up, add $1.00 to catalog price.

† Dual reed construction.

J-B-T INSTRUMENTS, INC. Electrical Instruments, Testers, Switches and Other Components

(For other J-B-T Products, see Sec. 2900)

Prices shown are NET, F.O.B., Factory, domestic packing, November 1, 1970, subject to change. Quantity prices on request.

LICON Switches

TYPE 10 BASIC SWITCHES

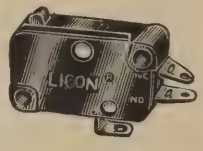


Type 10—Highly sensitive switch utilizes one-piece mechanism. Assures long life with excellent repeatability and positive snap action. Wide choice of actuators. Rated 15 amps, 125, 250, 460 VAC; ½ amp, 125 VDC. ⅓ hp, 125 VAC; ½ hp, 250 VAC. Size, 2″ x 1″ x 1 1/16″; 1″ mtg. centers. UL Listed; CSA Approved.

Licon Number	Description	Microswitch Equivalent	List Price*
10-122	Pin plunger, .020″ gap	BZ-2RT	$2.00
10-127	Pin plunger, .070″ gap	BZ-R31	1.94
10-222	Spring plunger	BZ-2RST	2.47
10-322	Panel mount plunger	BZ-2RQIT	4.20
10-422	Leaf spring	BZ-2RLT	2.15
10-522	Roller leaf spring	BZ-2RL2T	2.94
10-622	Pivoted lever	.....	2.47
10-722	Pivoted roller lever	BZ-2RW82T	3.10
10-822	Compact plunger	BZ-2RDT	2.52
10-922	Roller plunger	BZ-2RQ18T	7.46
10-72207	One way roller	.....	3.68

Also available in Type 08 heavy duty 22.5 amp version. Write for information and prices.

TYPE 23 HIGH CAPACITY SWITCHES

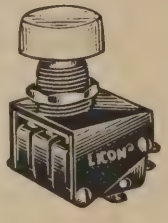


Type 23—High capacity, single-break switch provides excellent mechanical and electrical life. "Heat dam" slot eliminates flow of solder and flux into switch body. Available with screw or taper tab terminals also. Integral type roller and straight lever actuators offered. Rated 15 amps, 125/250 VAC; 8 amps resistive, 6 amps inductive, 30 VDC. Size, 1.344″ x .625″ x .410″; .875″ mounting centers. UL Listed and CSA Approved.

Licon Number	Description	Microswitch Equivalent	List Price*
23-114	SPDT, solder terminals	V3-19	$1.10
23-1141	SPDT-NC, solder terminals	V3-7	1.00
23-1142	SPDT-NO, solder terminals	V3-32	1.00
23-11401*	SPDT, solder terminals	V3-119	1.10
23-124	SPDT, screw terminals	V3-1	1.15
23-1241	SPDT-NC, screw terminals	V3-21	1.05
23-1242	SPDT-NO, screw terminals	V3-23	1.05
23-12401*	SPDT, screw terminals	V3-101	1.15
23-12411*	SPDT-NC, screw terminals	V3-121	1.05
23-12421*	SPDT-NO, screw terminals	V3-123	1.05
23-154	SPDT, taper tab terminals	V3-1-D8	1.00
23-1541	SPDT-NC, taper tab term.	V3-21-D8	.90
23-1542	SPDT-NO, taper tab term.	V3-23-D8	.90
23-254†	SPDT, taper tab, .840″ lever	V3L-1-D8	1.10
23-354†	SPDT, taper tab, 1.40″ lever	V3L-2-D8	1.10
23-454†	SPDT, .810″ roller lever	V3L-3-D8	1.35
23-554†	SPDT, 1.340″ roller lever	V3L-4-D8	1.35

*8 ounce operating force, all others 6–14 ounces. †Taper tab.

TYPE 73 LOW-COST PUSHBUTTON SWITCHES



Type 73—Low-cost pushbutton series for use with Type 23 basic switch (above). Choice of 1, 2 or 3-pole actuator; two button styles in four colors; and any Type 23 basic switch. Size, 1 3/32″ x 1⅜″ x 2 3/32″; .875″ mtg. centers.

BUTTONS

Square (.600″ x .530″) Licon No.	Round (.950″ Dia.) Licon No.	Color	List Price*
80-701280	80-701284	Red	$0.25
80-701281	80-701285	Green	.25
80-701282	80-701286	Ivory	.25
80-701283	80-701287	Black	.25

PUSHBUTTON ACTUATORS

1 3/32″-32 Mounting Bushing			⅝″-24 Mounting Bushing		
Licon No.*	No. of Poles	List Price*	Licon No.*	No. of Poles	List Price*
73-2910	1	$1.05	73-2911	1	$1.05
73-2920	2	1.10	73-2921	2	1.10
73-2930	3	1.15	73-2931	3	1.15

*To order complete unit, add slash (/) and Type 23 basic switch suffix (Example: 73-2910/154 for Type 73 1-pole actuator with 1 3/32″-32 mounting bushing and Type 23-154 basic switch); combine actuator and basic switch prices. Order buttons separately.

★QUANTITY DISCOUNT SCHEDULE "A"

These discounts apply to all items on this page.

Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–24	0%	None	100–199	35%	.65
25–49	20%	.80	200–499	37%	.63
50–99	30%	.70			

Write for additional discounts on larger quantities.

TYPE 25 MINIATURE THIN SWITCHES



Type 25—Miniature, snap action thin switch employs coil spring mechanism similar to that of the exclusive Licon Butterfly® double break switches. Provides extremely long life with 12.0-amp rating. Excellent contact wiping action, low contact resistance, high shock and vibration resistance are additional features of this Form C switch. Designed for commercial applications which require reliability at low cost. Ideal for coin and vending machines, timers and counters. Off-center plunger versions allow for extremely light operating force to 25 grams max. Rated 6 amps resistive, 3 amps inductive, 125/250 VAC. Tested to 20 million operations. Size, 1½″ x .825″ x .283″, on center version; 1½″ x 5 3/4″ x 9/32″, off-center version. 1″ mtg. centers. Solder terminals. UL Listed.

Licon Number	Plunger Location	Operating Force	Acro Equivalent	List Price*
25-100000	On-center	3–6 oz.	1MD1-1A	$1.45
25-101000	On-center	6–10 oz.	2MD1-1A	1.45
25-102000	On-center	12–16 oz.	3MD1-1A	1.45
25-205000	Off-center	25 gm. max.	1CMD1-2AXX	1.45
25-206000	Off-center	44 gm. max.	2CMD1-2AXX	1.45
25-207000	Off-center	60 gm. max.	3CMD1-2AXX	1.45

TYPE 25 SWITCHES WITH ACTUATORS

Licon Number	Plunger Location	Actuator Type	Operating Force	List Price*
25-205010	Off-center	Wire	2½ gm.	$1.75
25-205020	Off-center	Lever	2½ gm.	1.75
25-205030	Off-center	Roller lever	2½ gm.	2.00

TYPE 11 MINIATURE TWO-CIRCUIT BASIC SWITCH



Type 11—High capacity two-circuit basic switch combines long life and high electrical rating into a compact package. Rated 10 amps, 125, 250 VAC or 30 VDC. ½ hp, 125 VAC; ¼ hp, 250 VAC. Tested to 20 million operations. Choice of actuators. Reset models available in all terminal styles. Size, 1¼″ x ½″ x ½″. UL Listed; CSA Approved.

Licon Number	Description	Microswitch Equivalent	List Price*
11-104	End solder terminal	1TB2	$1.55
11-204	End screw terminal	1TB1	1.70
11-304	Side solder terminal	1TB3	1.65
11-504	¼″ quick-disconnect end	.....	1.60
11-114	Reset-end solder term.	.....	1.85
11-214	Reset-end screw term.	.....	1.95
11-314	Reset-side solder term.	.....	1.90

MS PART NUMBERS FOR TYPE 11

Licon Number	Description	List Price*
11-188051	MS25342-1	$2.70
11-288051	MS25344-1	2.70
11-388051	MS25343-1	2.70

AUXILIARY ACTUATORS ONLY FOR TYPE 11

Licon Number	Actuator Type	No. of Poles	List Price*
71-1030	Rigid lever	1	$0.40
71-1040	Rigid roller lever	1	.90
71-2010	Overtravel plunger	1	1.40
71-2077	Straight-line plunger	2	2.40
71-2657	Pushbutton (½″ dia.)	1	2.15

TYPE 14 HEAVY DUTY TWO-CIRCUIT SWITCH



Type 14—Heavy-duty industrial limit switch. Uses double break mechanism for high electrical rating. Nylon button reduces mechanical wear. Well-spaced electrical terminals. Horizontal mounting holes permit multiple side mounting. Rated 20 amps, 125/250 VAC. Size, 1 3/16″ x 1 13/16″ x 1 1/16″. UL Listed; CSA Approved.

Licon Number	Description	List Price*
14-12403	Basic switch, vertical mounting	$3.20
14-124	Basic switch, horizontal mounting	3.00
14-1241	Reset switch	3.50
14-128040	Heavy duty, vertical mounting	3.20
14-324	Overtravel plunger actuator switch	4.60
14-624	Pivoted lever actuator switch	3.60
14-724	Pivoted roller lever actuator	4.10
14-72403	Pivoted roller, vertical mounting	4.30

228-71B

©Electronic Publishing Co., Inc., 1971

Trade Discount Applies To List Prices Only

© United Technical Publications

LICON Switches

TYPE 16 SUBMINIATURE TWO-CIRCUIT BASIC SWITCH



Type 16—Two-circuit subminiature. Double break mechanism tested over 20 million mechanical cycles. Rated 10 amps 125/250 VAC or 30 VDC. Exceptional shock and vibration resistance. Solder, screw or taper tab terminals extending from various unit faces. Auxiliary actuators include levers, roller levers and toggles. Size, 2 3/32" x 7/16" x 1/4". UL Listed; CSA Approved.

Licon Number	Description	Circuit	List Price*
16-104	End solder terminal	SPDT, Form Z	$2.35
16-304	Side solder terminal	SPDT, Form Z	2.35
16-404	Bottom solder terminal	SPDT, Form Z	2.35
16-114	Reset-end solder term.	SPDT, Form Z	2.60
16-504	Bottom taper tab term.	SPDT, Form Z	2.35
16-204	Screw end terminal	SPDT, Form Z	2.35
16-4042	Hi-temperature case	SPDT, Form Z	2.75
16-40401	Gold-plated contacts	SPDT, Form Z	2.85
16-40421	Hi-temp case, gold-plated contacts	SPDT, Form Z	3.25
16-188051	MS25476-1	SPDT, Form Z	3.45
16-388051	MS27217-2	SPDT, Form Z	3.45
16-488051	MS27217-1	SPDT, Form Z	3.45

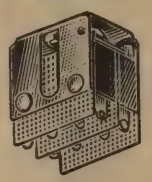
AUXILIARY ACTUATORS ONLY FOR TYPE 16

76-1200	Rigid roller lever	1 pole	$1.00
76-1210	Rigid lever	1 pole	.55
76-3200	Spring lever	1 pole	.40
76-3210	Spring roller lever	1 pole	.85
76-2190	Pushbutton	2 pole	2.35
76-2220	Pushbutton	1 pole	2.20
76-2260	Overtravel pushbutton	1 pole	2.30
76-4210	Two-position toggle	2 pole	4.95
76-4220	Two-position toggle	3 pole	5.25
76-2100	Maintained pushbutton	2 pole	4.00

TYPE 76 SNAP-TOGETHER PUSHBUTTON SWITCHES

Non-lighted, snap-together pushbutton design offers choice of 5/8" or 15/16" bushings, four button colors and a wide variety of snap-on switch modules with high performance, 10-amp subminiature double break switches. Unit price includes the three individual components.





SWITCH MODULES

Licon Number	Actuator Type	No. of Poles	Contact Form	List Price*
76-2711	Maintained	1	C	$4.35
76-2713	Maintained	1	Z	4.60
76-2721	Maintained	2	C	5.30
76-2723	Maintained	2	Z	5.85
76-2751	Momentary	1	C	2.80
76-2753	Momentary	1	Z	3.05
76-2761	Momentary	2	C	3.55
76-2763	Momentary	2	Z	4.10

BUSHINGS

Licon No.	O.D.	List Price*	Licon No.	O.D.	List Price*
76-2530	15/16"	$1.20	76-2550	5/8"	$1.40

PUSHBUTTONS

Licon No.	Color	List Pr.*	Licon No.	Color	List Pr.*
80-700903	White	$0.25	80-700909	Green	$0.25
80-700908	Red	.25	80-700910	Black	.25

TYPE 18 SUB-SUBMINIATURE SWITCHES



Type 18—Double-break switch has same reliability and precision performance of Type 16 switches. Features big switch rating. Rated 7 amps, 125/250 VAC. Size, .200" x .500" x .350". UL Listed.

Licon Number	Description	List Price
18-40121	SPST-NC-DB, solder terminals	$3.15
18-40221	SPST-NO-DB, solder terminals	3.15
18-40421	SPDT-DB, solder terminals	3.15
18-488051	MS27257-1(B)	3.50

ALWAYS SPECIFY LICON PRECISION, SNAP-ACTION SWITCHES—MADE TO MEET MIL RELIABILITY, CAPACITY AND LIFE REQUIREMENTS.

TYPE 22 FOUR-CIRCUIT BASIC SWITCH



Type 22—Features high current interruption, tested to over 10 million cycles mechanical life. DPDT, 4 independent circuits permit simultaneous multiple circuit control without complicated mechanisms. Rated 10 amps, 125, 250 VAC or 30 VDC. 1/2 hp, 125 VAC; 3/4 hp, 250 VAC. Size, 7/8" x 1 1/4" x 1/2". UL Listed.

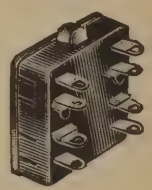
BASIC SWITCH

Licon Number	Description	Microswitch Equivalent	List Price*
22-304	DPDT—side solder terminal	41TB5-3	$4.95
22-114	DPDT—side solder terminal—reset	.....	5.15
22-204	DPDT—screw end	.....	5.05
22-104	DPDT—solder end	.....	4.95
22-504	DPDT—1/4" quick-disconnect term.	.....	4.95
22-188051	MS25348-1	.....	7.05
22-388051	MS25349-1	.....	7.05

AUXILIARY ACTUATORS FOR TYPE 22

72-1150	Rigid lever	.....	$0.55
72-1160	Rigid roller lever	.....	1.15
72-2080	Overtravel plunger	.....	1.65

TYPE 26 DOUBLE POLE SUBMINIATURE SWITCHES



Type 26—Subminiature double pole switch utilizes two Licon Butterfly® double-break mechanisms. Simultaneity of operation of both poles insured by special linkage between mechanisms. Switch eliminates need for dual components and actuating mechanism; requires less space than two single pole miniature switches. Type 76 actuators fit type 26 switches. Pushbutton and toggle actuators fit 26-800 switch series only. Rated 8 amps, 125/250 VAC; 10 amps resistive, 5 amps inductive, 28 VDC. Size, 2 3/32" x .761" x 1/4". UL Listed.

Licon Number	Description	List Price*
26-801	DPST-NC-DB, end solder terminals	$6.05
26-802	DPST-NO-DB, end solder terminals	6.05
26-804	DPDT-DB, end solder terminals	6.05
26-80401	Same, but non-simultaneous	5.00
26-8042	DPDT-DB, hi-temp., end solder	6.80
26-80421	Same, but non-simultaneous	5.80
26-901	DPST-NC-DB, side solder terminals	6.05
26-902	DPST-NO-DB, side solder terminals	6.05
26-904	DPDT-DB, side solder terminals	6.05
26-90401	Same, but non-simultaneous	5.00
26-9042	DPDT-DB, hi-temp., side solder	6.80
26-90421	Same, but non-simultaneous	5.80
26-888051	M8805/77-001	7.80
26-988051	M8805/77-002	7.80

TYPE 36 TRIPLE-POLE SUBMINIATURE SWITCHES



Type 36—Utilizes three Licon Butterfly® double-break mechanisms with simultaneous operation. Greatly reduces space requirements. Uses same actuators as Types 16 and 26. Contacts 3PDT-DB, momentary action; rated 10 amps resistive, 5 amps inductive (8 amps, U/L Listed) at 125/250 VAC or 28 VDC. Size, 2 5/32" x 1 3/16" x 1/4", excluding terminals.

Licon No.	Description	List*
36-604	End solder terminals, simultaneous action	$9.20
36-704	Side solder terminals, simultaneous	9.20
36-60401	End solder terminals, non-simultaneous	8.15
36-70401	Side solder terminals, non-simultaneous	8.15
36-688051	M8805/78-001	11.50
36-788051	M8805/78-002	11.50

★QUANTITY DISCOUNT SCHEDULE "A"

These discounts apply to all items on this page.

Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–24	0%	None	100–199	35%	.65
25–49	20%	.80	200–499	37%	.63
50–99	30%	.70			

Write for additional discounts on larger quantities.

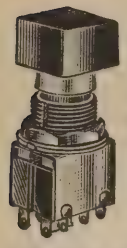
228X-71A

©Electronic Publishing Co., Inc., 1971

LICON Switches

TYPE 01 LIGHTED PUSHBUTTON SWITCH WITH SINGLE LAMP INDICATOR

(DISCOUNT SCHEDULE "B")



Type 01 pushbutton switch combines single bulb panel indicator with multi-pole pushbutton switch. For original equipment or replacement of toggles with color-lit or legend-coded button. Provides a visual reminder that a circuit is on or off at a glance. Available in red, white, yellow, green, or blue pushbutton, ⅝" and ¾" round or square, and 1⅛" diameter round lens caps; solid or projected color illumination. **Order lens cap separately.** Available in one and two-pole form C or form Z contact arrangement. Switch rated at 10 amps, 250 VAC or 30 VDC. Momentary, maintained, solenoid held and indicator models. One hole mounting with choice of 15/32" or ⅝" bushing. Uses T-1¾ lamp with screw or flange base (not included in price). Overall size: 1 29/32" x ⅝" x 2 5/32". UL Listed.

Licon Number	Unit Type	Bushing	Lamp Base	No. of Poles	Contact Form	List Price*
01-145000	Indicator	15/32-32	Screw	.....	.....	$ 3.50
01-365000	Indicator	⅝-24	Flange	.....	.....	3.50
01-145510	Momentary	15/32-32	Screw	1	C	5.40
01-145530	Momentary	15/32-32	Screw	1	Z	5.65
01-365510	Momentary	⅝-24	Flange	1	C	5.40
01-365530	Momentary	⅝-24	Flange	1	Z	5.65
01-145610	Momentary	15/32-32	Screw	2	C	7.30
01-145630	Momentary	15/32-32	Screw	2	Z	7.80
01-365610	Momentary	⅝-24	Flange	2	C	7.30
01-365630	Momentary	⅝-24	Flange	2	Z	7.80
01-145110	Maintained	15/32-32	Screw	1	C	7.90
01-145130	Maintained	15/32-32	Screw	1	Z	8.20
01-365110	Maintained	⅝-24	Flange	1	C	7.90
01-365130	Maintained	⅝-24	Flange	1	Z	8.20
01-145210	Maintained	15/32-32	Screw	2	C	9.75
01-145230	Maintained	15/32-32	Screw	2	Z	10.30
01-365210	Maintained	⅝-24	Flange	2	C	9.75
01-365230	Maintained	⅝-24	Flange	2	Z	10.30
01-145531	Solenoid held, 28 V	15/32-32	Screw	1	Z	12.65
01-365531		⅝-24	Flange	1	Z	12.65
01-145631		15/32-32	Screw	2	Z	14.80
01-365631		⅝-24	Flange	2	Z	14.80

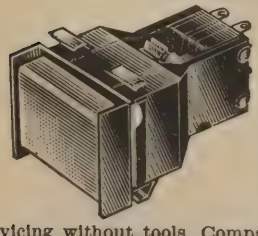
*LENS CAP (SOLID COLOR) ORDERING INFORMATION

Licon Number	Cap Shape	Cap Size	For Bushing	List Price*	Cap Color Indication
01-93131X	Round	⅜"	15/32-32	$0.45	Add proper suffix to replace **X** for cap color indication. **White:** Suffix **1** **Red:** Suffix **2** **Green:** Suffix **3** **Blue:** Suffix **4** **Yellow:** Suffix **5** **Example:** 01-931311 White cap, solid color
01-94131X	Round	⅝"	⅝-24	.45	
01-93141X	Round	¾"	15/32-32	.55	
01-94141X	Round	¾"	⅝-24	.55	
01-93181X	Round	1⅛"	15/32-32	.75	
01-94181X	Round	1⅛"	⅝-24	.75	
01-91131X	Square	⅜"	15/32-32	.45	
01-92131X	Square	⅜"	⅝-24	.45	
01-91141X	Square	¾"	15/32-32	.55	
01-92141X	Square	¾"	⅝-24	.55	

*Solid color; projected color types on request.

TYPE 01-800 SNAP-IN ILLUMINATED MATRIX MOUNTING SWITCH—WITH SINGLE LAMP INDICATOR

(DISCOUNT SCHEDULE "B")



Type 01-800 single-lamp lighted pushbutton switch offers time-saving snap-in front mounting on panels. Combination bezel-barrier eliminates misguided actuation. Choice of screen colors with solid or projected illumination. Choice of momentary or maintained contact types in Form C (SPDT) and Form Z (SPDT, double break); or, indicator-only units. Switch rated 10 amps, 125/250 VAC; UL Listed. Uses T-1¾ flange bulbs (not included in price); simple front-panel lamp servicing without tools. Compact 1⅛" x ⅞" lens cap gives ample space for engraving or hot stamping.

Indicator Licon Number	Switch Modules Description	Switch Modules List Price*	Lens Caps* Licon Number	Lens Caps* Color	Lens Caps* List Price*
01-865000	Indicator only	$2.15	01-951911	White	$0.70
01-865130	1-pole, maintained	5.80	01-951912	Red	.70
01-865230	2-pole, maintained	7.50	01-951913	Green	.70
01-865530	1-pole, momentary	3.85	01-951914	Blue	.70
01-865630	2-pole, momentary	5.55	01-951915	Yellow	.70
			01-951916	Amber	.70
			01-951917	Orange	.70

*Solid color; projected color types on request.

●QUANTITY DISCOUNT SCHEDULE "B"

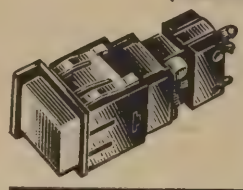
Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–49	0%	None	100–499	15%	.85
50–99	10%	.90	500–999	26%	.74

★QUANTITY DISCOUNT SCHEDULE "D"

Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–49	0%	None	500–999	26%	.74
50–99	10%	.90	1000–1999	30%	.70
100–499	18%	.82			

TYPE 01-600 SWITCH HOUSING (FOR USE WITH TYPE 01-748 LIGHTED SWITCH)

(DISCOUNT SCHEDULE "D")



Type 01-600—Easy-to-install, snap-in housing for use with Type 01-748 switch (listed below, under 01-700 series). Complete lighted switch offers versatility and flexibility at low cost. Available in bezel, single barrier or double barrier design. Individual or matrix mounting is possible with a single panel cutout. Uses lens cap 01-91141X as listed in Type 01 lens cap section. Panel cutout, .875".

Licon No.	Description	List*
01-600001	Vertical row mtg., vert. barrier	$1.20
01-600002	Horizontal row mtg., vert. barrier	1.20
01-600003	Vertical row mtg., single vert. barrier	1.20
01-600004	Horizontal row mtg., single vert. barrier	1.20
01-600005	Vertical row mtg., no barrier	1.20
01-600006	Horizontal row mtg., no barrier	1.20

TYPE 01-700 ONE-LITE PUSHBUTTON SWITCHES

(DISCOUNT SCHEDULE "D")

Type 01-700—Low cost, momentary or maintained, lighted pushbutton combines long life, double-break switch and lamp base in one plastic housing. Choice of cylindrical, translucent lens caps or regular 01 Series lens caps (if plunger converter is used). Bulb replaceable from front of panel; uses screw-base T-1¾ lamp, not supplied. Switch mechanism is one or two-pole momentary with SPDT (Form Z or C) contact. UL Listed at 10 A, 125/250 VAC.



SWITCHES WITHOUT LENS CAPS

Licon Number	Actuator	No. Poles	Contact Form	List Price*
01-745000	Indicator only (no switch)			$1.80
01-745510	Momentary	1	C	3.10
01-745530	Momentary	1	Z	3.30
01-745610	Momentary	2	C	3.80
01-745630	Momentary	2	Z	4.20
01-745110	Maintained	1	C	4.10
01-745130	Maintained	1	Z	4.30
01-745210	Maintained	2	C	4.80
01-745230	Maintained	2	Z	5.20

PLUNGER CONVERTER INSTALLED

For use with 01 Series lens caps. 15/32" bushing only.

Licon Number	Actuator	No. of Poles	Contact Form	List Price*
01-748000	Indicator only (no switch)			$2.00
01-748510	Momentary	1	C	3.30
01-748530	Momentary	1	Z	3.50
01-748610	Momentary	2	C	4.00
01-748630	Momentary	2	Z	4.40
01-748110	Maintained	1	C	4.40
01-748130	Maintained	1	Z	4.60
01-748210	Maintained	2	C	5.10
01-748230	Maintained	2	Z	5.50

TRANSLUCENT LENS CAPS

Momentary—Specify number. List Price.....20c*

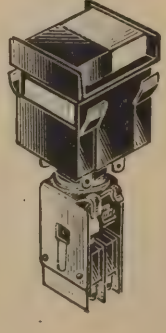
Licon No.	Color	Licon No.	Color	Licon No.	Color
80-010764	Green	80-010766	Yellow	80-010768	White
80-010765	Red	80-010767	Blue		

Maintained—Specify number. List Price.....20c*

86-010890	Green	86-010892	Yellow	86-010580	White
86-010891	Red	86-010893	Blue		

TYPE 02-800 TWO-LIGHT SWITCH

(DISCOUNT SCHEDULE "B")



Economical two-light version of the 01-800 with efficient snap-in mounting and attractive bezel barrier appearance. Size, 1⅛" x ⅞". Employs 76-27XX series snap-on switch module. To order complete unit, select a lens cap, housing, and switch module (76-27XX, as shown in 04 section).

LENS CAPS

Licon No.*	Description	List*
02-61XX	Full screen†	$0.70
02-62XX	Vertical split†	1.25
02-63XX	Horizontal split†	1.25
02-64XX	Full proj. color	1.25
02-65XX	Vert proj. color	1.80
02-66XX	Horiz. proj. color	1.80

*Indicate desired colors by substituting appropriate numbers for XX in Licon No.: **1** = white, **2** = red, **3** = green, **4** = blue, **5** = yellow, **6** = amber, **7** = orange. †Solid color.

HOUSINGS

02-73	Snap-in, flange base lamp sockets	$1.95
02-76	Indicator only	1.95

229-71A

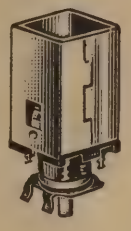
©Electronic Publishing Co., Inc., 1971

LICON Switches

TYPE 04 LIGHTED PUSHBUTTON SWITCH—WITH FOUR-LAMP INDICATOR

Type 04 illuminated pushbutton switches combine four-bulb panel indicator ⅞″ square with multipole switching. Choice of full or split screens: Projected or solid color illumination. Four different styles: Momentary or maintained contact; solenoid held switch models, with form C or form Z contact arrangements; and indicator-only units. Switch rated at 10 amps, 250 VAC or 30 VDC. Uses T-1¾ flange bulbs (not included in price). Simple front of panel lamp servicing without tools. Choice of flange, barrier, bezel or bezel barrier mounts. **Order each module individually.** A light module, a housing module and a switch module make a complete assembly. A light module and a housing only makes an indicator only.







Type 04 Indicator/Switch

LIGHT MODULE (FIG. A)
(DISCOUNT "B"—SEE PREVIOUS PAGE)

Licon Number	Screen Split or Full	Color (Specify)	For Unit	List Price*
04-601*	Full	Proj.	Indicator-switch	$2.75
04-602*	Vert. split	Proj.	Indicator-switch	3.15
04-603*	Horiz. split	Proj.	Indicator-switch	3.15
04-604*	Full	Solid	Indicator-switch	2.75
04-631*	Full	Proj.	Indic. only	2.75
04-634*	Full	Solid	Indic. only	2.75

*Indicate color filter combination for projected color module by listing color designating letters (R = red, G = green, A = amber, Y = yellow, W = white, B = blue, O = orange) clockwise in accordance with Color Key figure at right e.g., 04-602 RGGR.

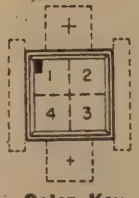
HOUSING MODULE (FIG. B)
(DISCOUNT "B"—SEE PREVIOUS PAGE)

Flush and protruding barriers also available.

Licon Number	Description	List Price*
04-71	Flange mount, ⅛″ panel	$4.15
04-72	Flange mount, ¼″ panel	4.15
04-73	Flange mount, ⅜″ panel	4.15
04-74	Flange mount, ½″ panel	4.15
04-75	Barrier mount	3.90
04-76	Bezel, black	4.15
04-77	Bezel, clear	4.15
04-78	Bezel barrier, black	4.15
04-79	Bezel barrier, clear	4.15

SWITCH MODULE (FIG. C)
(DISCOUNT SCHEDULE "A")

Licon Number	Unit Type	No. of Poles	Contact Form	List Price*
76-2711	Maintained	1	C	$4.35
76-2713	Maintained	1	Z	4.60
76-2721	Maintained	2	C	5.30
76-2723	Maintained	2	Z	5.85
76-2751	Momentary	1	C	2.80
76-2753	Momentary	1	Z	3.05
76-2761	Momentary	2	C	3.55
76-2763	Momentary	2	Z	4.10



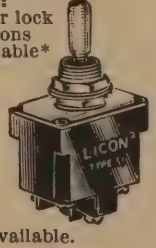
Color Key

TYPE 51 MIL APPROVED TOGGLES
(DISCOUNT SCHEDULE "E")

Heavy-duty sealed toggle, approved to MIL-S-3950C, on QPL for MS24523 (1-pole), MS24524 (2-pole), MS24525 (4-pole). Rated at 15 A resis. at 115 VAC. Dependable operation between −85° F to +250° F. Ideal aircraft and industrial uses.

Licon No.	Description	List Pr.▲
51-112200	1 pole On-Off	$ 4.40
51-122200	2 pole On-Off	7.20
51-142200	4 pole On-Off	11.45
51-112300	1 pole On-On	4.40
51-122300	2 pole On-On	7.20
51-142300	4 pole On-On	11.45
51-112100	1 pole On-Off-On	4.40
51-122100	2 pole On-Off-On	7.20
51-142100	4 pole On-Off-On	11.45
51-112700	1 pole Momen.*	4.40
51-122700	2 pole Momen.*	7.20
51-142700	4 pole Momen.*	11.45

Note: Lever lock versions available*



*MS24658, MS24659, MS24660 lever lock also available.

TYPE 65 SUBMIN. SEALED SWITCH
(DISCOUNT SCHEDULE "A")

Type 65—Dependable, environment-free snap-action switching with ratings up to 10 amps, 30 VDC. SPDT 2-Circuit configuration. Solder terminals; quick-disconnect, screw and potted leads available on special order. Size, .850″ x .875″ x .320″; mtg. centers, ½″. UL Listed.

Licon No.	Description	List Pr.*
65-101	Rigid lever	$ 8.60
65-201	Pin plunger	7.45
65-301	Roller lever	9.20
65-401	Overtravel plung.	10.40



★QUANTITY DISCOUNT SCHEDULE "A"

Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–24	0%	None	100–199	35%	.65
25–49	20%	.80	200–499	37%	.63
50–99	30%	.70			

TYPE 30 DIECAST ENCLOSED SWITCH
(DISCOUNT SCHEDULE "A")

Type 30—Offers versatility for wide applications. Superior mounting and variety of infinitely adjustable actuators. Aluminum housing is rugged; permits adequate wiring room; has ½-14 internal tap conduit hub. Rated 15 amps, 125, 250 and 480 VAC; ½ amp, 115 VDC. Size, 3″ x 1″ x 2½″.



DIECAST HOUSINGS

Licon No.	Description	List Pr.*
30-100	Overtravel plunger, side mount	$ 5.20
30-120	Overtravel plunger, base mount	5.20
30-200	Internal sealed O.T. plunger, side mount	6.83
30-220	Internal sealed O.T. plunger, base mount	6.83
30-300	Roller lever actuator, side mount	9.29
30-320	Roller lever actuator, base mount	9.29
30-400	Internal sealed roller lever, side mount	10.50
30-420	Internal sealed roller lever, base mount	10.50
30-500	Roller plunger actuator, side mount	9.29
30-520	Roller plunger actuator, base mount	9.29
30-600	Palm button actuator, side mount	11.08
30-620	Palm button actuator, base mount	11.08
30-700	Internal sealed roller plunger, side mt.	10.08
30-720	Internal sealed roller plunger, base mt.	10.08
30-800	Internal sealed 1-way roller, side mount	12.18
30-820	Internal sealed 1-way roller, base mount	12.18
30-900	One-way roller, side mount	11.08
30-920	One-way roller, base mount	11.08
30-200010	Sealed O.T. plunger with external boot seal, side mount	8.14
30-220010	Sealed O.T. plunger, seal, base mount	8.14

SPLIT HOUSINGS

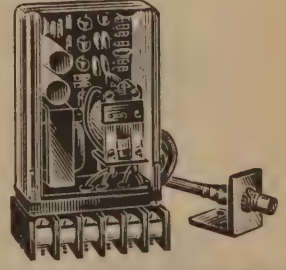
30-140	Overtravel plunger, side mount	$ 5.26
30-150	Overtravel plunger, base mount	5.26
30-240	Internal sealed O.T. plunger, side mount	6.88
30-250	Internal sealed O.T. plunger, base mount	6.88
30-340	Roller lever actuator, side mount	9.29
30-350	Roller lever actuator, base mount	9.29
30-440	Internal sealed roller lever, side mount	10.50
30-450	Internal sealed roller lever, base mount	10.50
30-540	Roller plunger actuator, side mount	9.29
30-550	Roller plunger actuator, base mount	9.29
30-640	Palm button actuator, side mount	11.08
30-650	Palm button actuator, base mount	11.08
30-740	Internal sealed roller plunger, side mt.	10.08
30-750	Internal sealed roller plunger, base mt.	10.08
30-840	Internal sealed 1-way roller, side mount	12.18
30-850	Internal sealed 1-way roller, base mount	12.18
30-940	One-way roller, side mount	11.08
30-950	One-way roller, base mount	11.08

INDIVIDUAL COMPONENTS FOR TYPE 30

73-1900	Roller lever actuator (alone)	$3.65
73-1910	Palm button actuator (alone)	4.15
73-1920	One-way roller actuator (alone)	5.15
80-300610	Split case housing bottom half, base mt.	.80
80-300609	Split case housing bottom half, side mt.	.80
80-300502	Die cast housing bottom plate, side mt.	.50
80-300508	Die cast housing bottom plate, base mt.	.50
30-030	Die cast terminal enclosure, side mount	2.00

TYPE 70-700 PROXIMITY SWITCH
(DISCOUNT SCHEDULE "C")

Ultra compact switch for precision control without physical contact. Consists of a control module (2.53″ x 3.75″ x 1.35″) which contains a 10 amp DPDT relay, plug-in terminal block (2.19″ x 2.66″ x .84″), potted sensor with 20′ cable, and potentiometer for sensitivity control. Senses both ferrous and non-ferrous metals. Up to 1000 operations per minute possible. Sensing range for .665″ dia. sensor is .110″ to .261″; for .440″ dia. sensor, .048″ to .148″ (sensing ranges based on .235″ dia. stainless steel target).



Licon No.	Description	List Pr.■
70-7021	Complete unit with .440″ dia. sensor	$90.00
70-7022	Complete unit with .665″ dia. sensor	97.00
70-7010	Component, Controls module	60.00
70-7011	Component, Terminal block	6.50
70-7026	Component, .665″ dia. sensor	25.00
70-7020	Component, .440″ dia. sensor	18.00
70-7018	Component, Potentiometer	5.50
70-7025	NEMA Class 1 enclosure	14.00

■QUANTITY DISCOUNT SCHEDULE "C"

Quantity	Discount	Multiplier	Quantity	Discount	Multiplier
1–2	0%	None	10–24	20%	.80
3–5	5%	.95	25–49	25%	.75
6–9	10%	.90	50–99	30%	.70

▲QUANTITY DISCOUNT SCHEDULE "E"

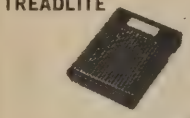
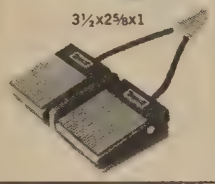
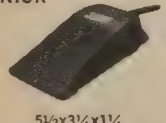
1–4	0%	None	50–249	33%	.67
5–19	18%	.82	250–999	38%	.62
20–49	27%	.73			

229X-71B

©Electronic Publishing Co., Inc., 1971

LINEMASTER

America's Footswitch Leader

TREADLITE  3½x2⅝x1 	T-51-S T-51-D T-52-S T-51-SC *T-51-SC3 **T-51-SC36 T-51-S TWIN	SINGLE STAGE MOMENTARY SINGLE STAGE MAINTAINED TWO STAGE MOMENTARY T-51-S COMPLETE WITH 6' CORD SET & SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE	SPDT SPDT BOTH STAGES SPDT BOTH SPDT	7 AMP 125-250 VAC 1/6 H.P. 125 VAC	Lowest Cost Foot Switch Formed Steel Housing. Wt.—7 ozs. *Similar to T-51-SC Except Grounded 3 Conductor Cord and 3 Prong Series Plug. **With Grounded 3 Conductor Cord, No Plug.
COMPACT  2⅞x2½x1⅛ 	491-S 491-D 492-S 494-S 491-SC *491-SC3 **491-SC36 491-S TWIN 3B-25A2-S	MOMENTARY MAINTAINED MOMENTARY MOMENTARY 491-S COMPLETE WITH 6' CORD SET & SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE	SPDT SPST SPDT DPDT BOTH SPDT	10A 125 VAC 10A 125 VAC 20A 125-250 VAC 10A 125 VAC 5A 250 VAC 3-WAY AIR VALVE	Completely Enclosed Interior Switch. Formed Steel Housing. Wt.—7 oz. *Similar to 491-SC Except Grounded 8 Ft. 3 Conductor Cord and 3 Prong Series Plug. **With 6 Ft. Grounded 3 Conductor Cord, No Plug. 25 CFM @ 100 PSI
CLIPPER  4½x3½x1½ 	632-S 632-D 635-S 634-D 636-S 632-S TWIN 3C25A2-S	MOMENTARY MAINTAINED MOMENTARY MAINTAINED TWO STAGE MOMENTARY TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE	SPDT SPDT DPDT DPDT BOTH STAGES SPDT BOTH SPDT	20A 125-250 VAC 20A 125-250 VAC 15A 125-250 VAC 10A 125 VAC 5A 250 VAC 15A 125-250 VAC 20A 125-250 VAC 3-WAY AIR VALVE	Cast Iron Housing. Also Available with Safety Guard or 7" Wide Treadle. Wt.—2¼ lbs. Twin Has Connecting Interwiring Tube So That Only One Cable Is Used. 25 CFM @ 100 PSI.
JUNIOR  5½x3¼x1¼	121-S	MOMENTARY	SPDT.	20A 125-250 VAC 1HP 125-250 VAC	Cast Aluminum Housing. Low Tapered Treadle Permits Easy Operation. Wt.—1 lb.
CADET  3⅝x1⅛	HB-2 *HB-3 **HB-36	MOMENTARY	SPST-N.O.	7A 125 VAC 1/6 H.P. 125 VAC	Round Switch Operates From Any Position. Switch Comes Complete With Cord Set. Wt.—11 ozs. *Similar To HB-2 Except. Grounded 6 Ft. 3 Conductor Cord and 3 Prong. Series Plug. **No Plug

MANY OTHER STANDARD MODELS ARE AVAILABLE—WRITE FOR CATALOG

"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"

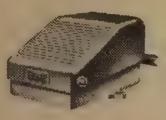
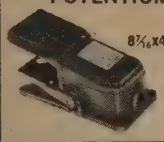
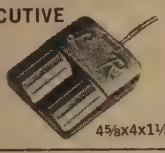
Write To Us For Complete Catalog.

LINEMASTER SWITCH CORPORATION

© United Technical Publications

A Modern FOOTSWITCH for Every Use

PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS

NAUTILUS  8x4x2¼	WP-541-S	MOMENTARY		SPDT	20A 125-250 VAC	Completely Waterproof. Can Be submerged.
	WP-541-D	MAINTAINED		SPDT	12A 125 VAC 6A 250 VAC	
SENIOR  7x4x3¼	MOMENTARY	MAINTAINED				
	4141-S	4141-D		DPST	20A 125-250 VAC&DC	Cast Iron Housing. Also Available With Complete Safety Guard. Wt.—5¼ lbs.
	4351-S	4351-D		TPST	15A 125-230 VAC 5A 575 VAC	
HERCULES  8⅞x4⅝x4½	531-SW*	571-DW*	SINGLE STAGE	SPDT	20 AMPS 125-480 VAC 1 H.P. 115-230 VAC	Cast Iron Housing. Wt.—7¼ lbs. Also Available With No Guard or Complete Hood. All Models Available in Explosion Proof Version. *Add Letter "N" For Model Without Guard; Add Letter "H", For Model With Full Side Shields.
	532-SW*	572-DW*	SINGLE STAGE	DPDT		
	533-SW*	573-DW*	SINGLE STAGE	TPDT		
	534-SW*	574-DW*	TWO STAGE	SPDT		
	535-SW*	575-DW*	THREE STAGE	SPDT		
POTENTIOMETER  8⅞x4⅝x4½	2 WATT	5 WATT	2 WATT		5 WATT	Standard Model Wt. Approx. 7¼ lbs. Details on request
	500 500-A 500-N 500-AN 500-H 500-AH	505 505-A 505-N 505-AN 505-H 505-AH	Specify maximum resistance required. Available up to 5.0 megohms.		Specify maximum resistance required. Available up to 25000 ohms.	
LEKTRO-LOK  5x2½x1⅛	L-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE		BOTH SIDES SPDT	15A 125-250 VAC	Stamped Metal Housing. Wt.—10 oz.
	L-4-S			BOTH SIDES DPDT	10A 125 VAC 5A 250 VAC	
EXECUTIVE  4⅝x4x1⅛	B-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE		BOTH SIDES SPDT	15A 125-250 VAC	Stamped Metal Housing. Wt.—14 oz.
	B-4-S			BOTH SIDES DPDT	10A 125 VAC 5A 250 VAC	
DUPLEX  8½x3½x2	475-S	MOMENTARY		BOTH SIDES SPDT	15A 125-250 VAC	Cast Aluminum Housing. Wt.—1¾ lbs.

Linemaster also manufactures many other types of foot controls with electronic impulse circuits, gear driven potentiometers, air valves, special cordsets, finishes, etc.

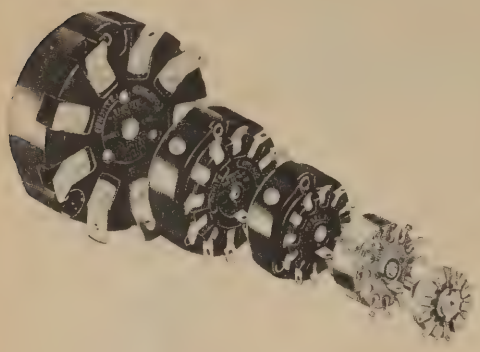
Write To Us For Complete Catalog.

LINEMASTER SWITCH CORPORATION

Printed in U.S.A.

© United Technical Publications

OHMITE power tap switches, high current, non-shorting type

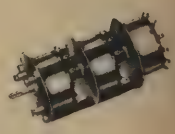


Introducing

MODEL 711
Smallest Switch for Its Rating







Ohmite single pole, rotary, multi-position switches have proven their durability over many years in demanding applications. Such applications are found in switchboards, arc welders, spot welders, battery chargers, motor controls, tapped transformers, X-ray equipment, diathermy equipment, radio transmitters, electrical machine tools and many other products. Six sizes, including the new, miniature Model 711, provide a choice of ratings from 7 amperes at 125 volts to 100 amperes at 300 volts AC. A choice of the number of taps is provided up to the maximums indicated. All switches are enclosed except for the Models 711 and 111. All switches feature the slow-break, quick-make action deemed so desirable for switching of AC current.

The five sizes offering ratings from 15 amperes to 100 amperes (Models 111, 212, 312, 412 and 608) feature all ceramic, arc-proof bodies and solid silver alloy, fixed and movable contacts. The large, thick, silver-alloy fixed contact disks are permanently welded to copper studs. These, in turn, are riveted and soldered to sturdy terminal lugs, assuring a permanent mechanical and electrical joint. The rotor (moving) contact, also of solid silver-alloy, is riveted and soldered to the contact arm. Face of the rotor contact is slightly rounded assuring a perfect seating of the contacts with a slight rubbing, self-cleaning motion on every operation.

The new Model 711 tap switch was designed to achieve high current capability with small size. It is actually smaller than many low current instrument switches. It interrupts 7 amperes at 125 VAC and can carry 15 amperes AC or DC. The Model 711 features a melamine phenolic body with solid silver alloy fixed and movable contacts. Dual-purpose terminals allow connection by soldering or by means of 3/16" quick-connectors. This switch is stocked as a single, unenclosed unit, but is available made-to-order in enclosed tandem assemblies up to 10 units or as a single enclosed unit.

The following Ohmite Tap Switches are listed by the Underwriters' Laboratories, Inc., Reexamination Service for use where the acceptability of combination (with other apparatus) has been determined by them: Models 111, 212, 312 and 412. Variations from the basic switch design, identified by suffixes A, B, C, or X are also Underwriters' approved. When the switches are not factory installed, screw terminals are specified by the Underwriters' Laboratories for Model 312 and soldering lugs for Model 412. Further information on terminal fittings is available on request. When an Underwriters' approved unit is required, specify this on the order.

MODEL 711 TAP SWITCH

Alternating Current Rating **7 Amps. 125 Volts** — Diameter 1 1/8" — Shaft Diameter 1/4" — Standard Mounting: For 1/8" panel maximum, by means of 3/8"-32 threaded bushing and hex. nut. See mounting illustration "A." Weight, single unit: .047 lb. approximately. Dual-purpose terminals accept 3/16" quick-connectors as well as soldering. Non-turn lug can be positioned at "12, 3, 6, and 9 o'clock."

Depth Behind Panel		Single Unit 13/16"	2-in-Tandem 1 25/32"	3-in-Tandem 2 15/32"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.	Catalog No.
3	60°	711-3	711-3-T2	711-3-T3
4	90°	711-4	711-4-T2	711-4-T3
5	120°	711-5	711-5-T2	711-5-T3
6	150°	711-6	711-6-T2	711-6-T3
7	180°	(711-7)	711-7-T2	711-7-T3
8	210°	711-8	711-8-T2	711-8-T3
9	240°	(711-9)	711-9-T2	711-9-T3
10	270°	(711-10)	711-10-T2	711-10-T3
11	300°	(711-11)	711-11-T2	711-11-T3
Recommended Knobs— (See p. 10 for description)		Catalog No. 5103A	Catalog No. 5103A	Catalog No. 5116A

MODEL 111 TAP SWITCH

Alternating Current Rating **15 Amps. 125 Volts** — Diameter 1 3/4" — Shaft Diameter 1/4" — Standard Mounting: For 1/4" panel maximum, by means of 3/8"-32 threaded bushing and hex. nut. See mounting illustration "A." For Tandem Mounting see illustration "B." Weight, single unit: .16 lb. approximately.

Depth Behind Panel		Single Unit 1 1/8"	2 in Tandem 2 3/4"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.[1]
3	60°	111-3	111-3 -T2
4	90°	111-4	111-4 -T2
5	120°	111-5	111-5 -T2
6	150°	111-6	111-6 -T2
7	180°	111-7	(111-7 -T2)
8	210°	111-8	111-8 -T2
9	240°	111-9	(111-9 -T2)
10	270°	111-10	(111-10-T2)
11	300°	111-11	111-11-T2
Recommended Knobs— (See p. 22 for description)		Catalog No. 5150A or 5116A	Catalog No. 5109A or 5110A

MODEL 212 TAP SWITCH

Alternating Current Rating **20 Amps. 150 Volts** — Diameter 2 1/4" — Shaft Diameter 1/4" — Standard Mounting: For 1/4" panel maximum, by means of 3/8"-32 threaded bushing and hex. nut — See mounting illustration "C." Tandem Mounting for 1/4" panel maximum, three No. 10-32 flat-head machine screws 3/8" long — See mounting illustration "D." Weight, single unit: .4 lb. approximately.

Depth Behind Panel		Single Unit 1 3/4"	2 in Tandem 4 3/16"	3 in Tandem 6 5/16"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.[1]	Catalog No.[1]
3	60°	212-3	212- 3-T2	212- 3-T3
4	90°	212-4	212- 4-T2	(212- 4-T3)
5	120°	212-5	(212- 5-T2)	(212- 5-T3)
6	150°	212-6	212- 6-T2	212- 6-T3
7	180°	212-7	(212- 7-T2)	(212- 7-T3)
8	210°	212-8	212- 8-T2	(212- 8-T3)
9	240°	212-9	(212- 9-T2)	(212- 9-T3)
10	270°	212-10	(212-10-T2)	(212-10-T3)
11	300°	212-11	(212-11-T2)	(212-11-T3)
12	330°	212-12	212-12-T2	(212-12-T3)
Recommended Knobs (See p. 22 for description)		Catalog No. 5150A or 5116A	Catalog No. 5111A or 5112A	Catalog No. 5111A or 5112A

MODEL 312 TAP SWITCH

Alternating Current Rating **30 Amps. 300 Volts** — 150V A.C. between taps — Diameter 3 1/4" — Shaft Diameter 1/4" — Standard Mounting: For 1/4" panel maximum, three No. 10-32 flat-head machine screws 3/8" long — See mtg. illus. "D." Weight, single unit: .75 lb. approx.

Depth Behind Panel		Single Unit 2 1/4"	2 in Tandem 4 5/8"	3 in Tandem 7"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.[1]	Catalog No.[1]
3	60°	312-3	(312- 3-T2)	(312- 3-T3)
4	90°	312-4	(312- 4-T2)	312- 4-T3
5	120°	312-5	312- 5-T2	312- 5-T3
6	150°	312-6	312- 6-T2	(312- 6-T3)
7	180°	312-7	(312- 7-T2)	(312- 7-T3)
8	210°	312-8	312- 8-T2	312- 8-T3
9	240°	312-9	(312- 9-T2)	312- 9-T3
10	270°	312-10	(312-10-T2)	312-10-T3
11	300°	312-11	(312-11-T2)	(312-11-T3)
12	330°	312-12	(312-12-T2)	312-12-T3
Recommended Knobs (See p. 22 for description		Catalog No. 5109A or 5110A	Catalog No. 5111A or 5112A	Catalog No. 5111A or 5112A

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

© United Technical Publications

OHMITE power tap switches, high current, non-shorting type

MODEL 412 TAP SWITCH

Alternating Current Rating **50 Amps. 300 Volts** — 150V. A.C. between taps — Diameter 4¾" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum three No. 10-32 flat-head machine screws ⅜" long — See mtg. illus. "E." Weight, single unit: 1.4 lbs. approx.

Depth Behind Panel		Single Unit 2 7/16"	2 in Tandem 5 1/32"	3 in Tandem 7 5/8"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.[1]	Catalog No.[1]
3	60°	412-3	412- 3-T2	(412- 3T-3)
4	90°	412-4	(412- 4-T2)	412- 4-T3
5	120°	412-5	(412- 5-T2)	412- 5-T3
6	150°	412-6	(412- 6-T2)	412- 6-T3
7	180°	412-7	412- 7-T2	(412- 7-T3)
8	210°	412-8	412- 8-T2	412- 8-T3
9	240°	412-9	(412- 9-T2)	(412- 9-T3)
10	270°	412-10	412-10-T2	412-10-T3
11	300°	412-11	(412-11-T2)	(412-11-T3)
12	330°	412-12	412-12-T2	412-12-T3
Recommended Knobs (see p 22)		Catalog No. 5111A or 5112A	Catalog No. 5111A or 5112A	Catalog No. 5111A or 5112A

MODEL 608 TAP SWITCH

Alternating Current Rating **100 Amps. 300 Volts** — Diameter 6" — Shaft Diameter ⅜" — Standard Mounting: For 1" panel maximum, three flat-head machine screws ¼"-20 x 1¼" — See mounting illustration "F." Weight, single unit: 5 lbs. approx.

Depth Behind Panel		Single Unit 3 3/16"	2 in Tandem 6 13/16"	3 in Tandem 10 5/16"
No. of Taps	Total Rotation	Catalog No.[1]	Catalog No.[1]	Catalog No.[1]
3	80°	608-3	(608- 3-T2)	(608- 3-T3)
4	120°	608-4	(608- 4-T2)	(608- 4-T3)
5	160°	608-5	(608- 5-T2)	608- 5-T3
6	200°	608-6	608- 6-T2	608- 6-T3
7	240°	608-7	(608- 7-T2)	(608- 7-T3)
8	280°	608-8	608- 8-T2	608- 8-T3
Recommended Knobs (see p 22)		Catalog No. 5104A or 5105A	Catalog No. 5104A, 5115 or 5105A	Catalog No. 5115

TAP SWITCH MOUNTING DIMENSIONS

A — MODEL 711 & 111 (SINGLE UNIT)



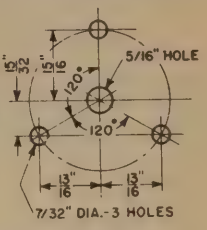
B — MODEL 111 (TANDEM)



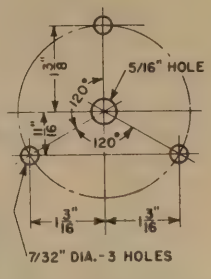
C — MODEL 212 (SINGLE UNIT)



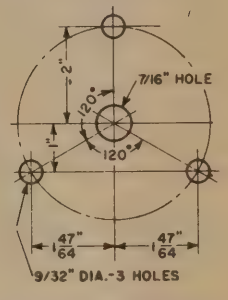
D — MODEL 212 (TANDEM) MODEL 312 (ALL UNITS)



E — MODEL 412 (ALL UNITS)



F — MODEL 608 (ALL UNITS)



LL CERAMIC OPEN TYPE TAP SWITCHES

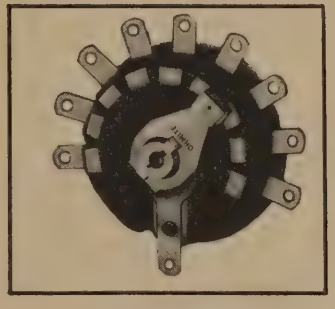
esigned to transfer currents of several amperes in circuits requiring high oltage insulation. Ceramic body construction is the same as employed in odels J and K rheostats (see page 21). Monel metal taps; silver-graphite rush.

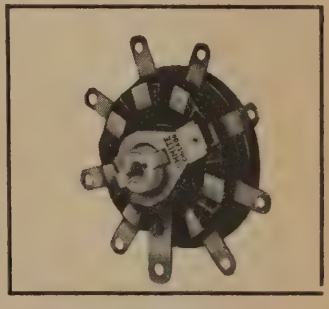
SHORTING TYPE SWITCH: Moving contact bridges closely spaced taps ompleting a new circuit before breaking the previous one. Switch arm is ot indexed and can be left in any position.

NON-SHORTING SWITCH: Positively indexed, moving contact completely sconnects from one tap before contacting succeeding tap.

Switches up to 8 taps are approximately 3¼" diameter including lugs; to 12 tap switches are approximately 4¼" diameter. Switches can be rdered assembled 2 to 3 in tandem. Single hole mounting by means of ⅜" diameter bushing and hexagon nut accommodates panels up to ¼" ick (maximum). The "non-turn" lug requires a 3/16" panel hole ½" below e center of the shaft. Shaft diameter is ¼". Recommended knob, tock No. 5150, see Rheostat Knobs in Section 4750.

Maximum current capacity is 7 amperes but only 3 amperes at 120 A.C. should be interrupted. Current ratings are less for all direct current rcuits above 20 volts, for inductive circuits and high voltages.

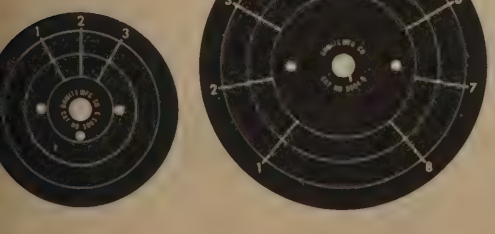




SHORTING TYPE†		NON-SHORTING TYPE†	
No. of Contacts	Catalog No.[1]	No. of Contacts	Catalog No.[1]
4	(T-504-S)	3	(T-503)
5	(T-505-S)	4	(T-504)
6	(T-506-S)	5	T-505
7	(T-507-S)	6	T-506
8	(T-508-S)	7	(T-507)
9	(T-1009-S)	8	(T-508)
10	(T-10010-S)	9	(T-1009)
11	(T-10011-S)	10	(T-10010)
12	(T-10012-S)	11	(T-10011)
		12	(T-10012)

† Avg. Wt. T-500 Series .28 lb.; T-100 Series .68 lb.

AP SWITCH DIALS



Dials for Ohmite tap switches are made of aluminum, etched and enameled black. Dial markings are bright aluminum. The number of dial calibrations or position markings agree with the actual number of positions on the switch. Note, in the table, that dials for switches Models 212 and 312 are available in two diameters to suit the recommended knob.

Catalog No.[1]	For Model	For Knob †	Dial Dia.
5002-*	111 212 (Single) 312 (Single)	5109 5116 5150	2¾"
5003-*	212 (Tandem) 312 (Tandem) 412	5111 5152A	3¾"
5004-*	608	5104 5115	5½"

* Specify no. of positions as a suffix.
†See Rheostat Knobs, Section 4750.

Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.

SPECIALTIES MANUFACTURING CO.

SPEMCO® H & H SWITCHES

TOGGLE SWITCHES
2 POSITION — MAINTAINED



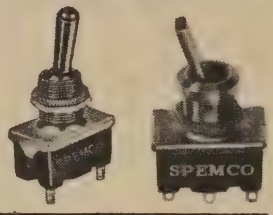
3 AMP — AC/DC

U.L. approved, 1 amp
250 V 3 amp 125 V. AC/DC.
Laminated bakelite base.
Nickel plated finish.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
*1120	SPST	15/32"	1 3/16"	1/2"	35/64"	$ .78
1122	SPDT	15/32"	1 1/2"	1/2"	35/64"	1.02
1124	DPST	15/32"	1 3/16"	21/32"	7/16"	1.44
1126	DPDT	15/32"	1 3/16"	21/32"	29/32"	1.65
*1121	SPST	1"	1 3/16"	1/2"	35/64"	1.11
1123	SPDT	1"	1 3/16"	1/2"	35/64"	1.32
1125	DPST	1"	1 3/16"	21/32"	35/64"	1.77
1127	DPDT	1"	1 3/16"	21/32"	29/32"	2.01
**1135	SPST	15/32"	1 3/16"	1/2"	35/64"	.78
**1136	SPDT	15/32"	1 1/2"	1/2"	35/64"	1.02
**1137	DPST	15/32"	1 3/16"	21/32"	7/16"	1.44
**1138	DPDT	15/32"	1 3/16"	21/32"	29/32"	1.65
**1121-B	SPST	1"	1 3/16"	1/2"	35/64"	1.11
**1123-B	SPDT	1"	1 1/2"	1/2"	35/64"	1.32
**1125-B	DPST	1"	1 3/16"	21/32"	35/64"	1.77
**1127-B	DPDT	1"	1 3/16"	21/32"	29/32"	2.01

Sleeve Diameter — 15/32" *3 Amp 250 V
**Bat Lever

"COMPACT" SWITCH



3 AMP — AC/DC

U.L. approved, 1 amp 250 V,
3 amp 125 V, AC/DC.
Knife blade contacts. Back wired.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
METAL BAT LEVER						
1205	SPST	15/32"	1 1/32"	41/64"	53/64"	$1.11
1206	SPDT	15/32"	1 1/32"	41/64"	53/64"	1.29
1207	DPST	15/32"	1 1/32"	41/64"	53/64"	1.59
1208	DPDT	15/32"	1 1/32"	41/64"	53/64"	1.80
METAL PADDLE LEVER — SATIN CHROME FINISH						
1205-P	SPST	15/32"	1 1/32"	41/64"	53/64"	$1.53
1206-P	SPDT	15/32"	1 1/32"	41/64"	53/64"	1.80
1207-P	DPST	15/32"	1 1/32"	41/64"	53/64"	2.10
1208-P	DPDT	15/32"	1 1/32"	41/64"	53/64"	2.40

Sleeve Diameter — 15/32"

BAT LEVER
MOLDED BAKELITE SWITCH



6 AMP — AC/DC

U.L. approved, 3 amp 250 V,
6 amp 125 V, (except #1143).
Back conected,
wiping blade contacts. Positive action.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1142	SPST	15/32"	1 1/4"	11/16"	15/16"	$1.11
*1143	SPDT	15/32"	1 1/4"	11/16"	15/16"	1.29
1144	DPST	15/32"	1 1/4"	11/16"	15/16"	1.59
1145	DPDT	15/32"	1 1/4"	11/16"	15/16"	1.80

Sleeve Diameter — 15/32" *1 Amp. 250 V

BALL OR BAT* LEVER
TOGGLE SWITCH



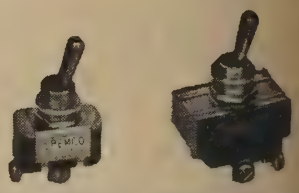
6 AMP — AC/DC

U.L. approved, 3 amp 250 V,
6 amp 125 V, molded bakelite base.
Nickel plated-finished.
With 6" wire leads.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1154	SPST	3/8"	7/8"	1/2"	5/16"	$1.14
*1154-B	SPST	3/8"	7/8"	1/2"	5/16"	1.14

Sleeve Diameter — 15/32" *Bat lever

UTILITY SERIES



15 AMP AC

U.L. approved, 10 amp
250 V, AC, 15 amp
125 V, AC.
Slow Make and
Slow Break,
butt type contacts.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1185	SPST	15/32"	1 7/32"	5/8"	31/32"	$ .96
1186	SPDT	15/32"	1 9/32"	5/8"	31/32"	1.14
1188	DPST	15/32"	1 3/16"	3/4"	1 1/16"	1.53
1194	DPDT	15/32"	1 3/16"	3/4"	1 1/16"	1.89
*1198	3PST	15/32"	1 3/16"	1 7/16"	1 1/16"	3.27
*1200	4PST	15/32"	1 3/16"	1 7/16"	1 1/16"	4.50
*1227	3PDT	15/32"	1 3/16"	1 7/16"	1 1/16"	3.96
*1228	4PDT	15/32"	1 3/16"	1 7/16"	1 1/16"	5.46

Sleeve Diameter — 15/32" *Rated at 10 amp 250 V AC, 15 amp 125 V AC
1 H.P. 1-2-3 PH 120 V AC

POWER SWITCHES



10 AMP — AC/DC

U.L. approved, 5 amp 250 V, 10A.
125 V, 3/4 H.P. 240 V,
AC 1/2 H.P. 250 V, DC.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1133	SPST	11/32"	1 3/16"	17/32"	1 1/4"	$1.41
**1133-B	SPST		1 3/16"	17/32"	1 1/16"	.99

Sleeve Diameter — 15/32" **Flush Mounting Square Lever

POWER SWITCHES



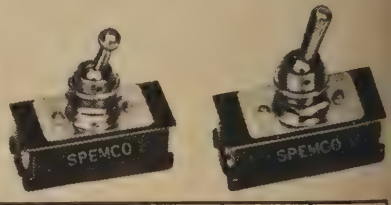
14 AMP — AC/DC

U.L. approved, 7A, 250 V, 14A, 125 V,
3/4 H.P. 250 V, sliding wedge
contacts. Fast "break" reduces
the tendency to arc.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1161-A	DPDT	13/32"	2"	1 5/16"	1"	$4.95

Sleeve Diameter — 3/4"

POWER SWITCHES



16 AMP — AC/DC

U.L. approved, 8A, 250 V, 16A,
125 V, 1 H.P. 125-250 V.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1159	DPST	15/32"	1 3/4"	13/16"	25/32"	$1.62
*1159-B	DPST	15/32"	1 3/4"	13/16"	25/32"	1.62
**1159-C	SPDT	15/32"	1 3/4"	13/16"	25/32"	1.62

Sleeve Diameter — 13/32" *Bat Lever
**Rated at 6A, 250 V, 12A, 125 V.

POWER SWITCHES



20 AMP — AC/DC

U.L. approved, 10A, 250 V,
20A, 125 V, 1 1/2 H.P.
125-250 V.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1134	DPST	15/32"	2"	31/32"	7/8"	$2.76
*1134-B	DPST	15/32"	2"	31/32"	7/8"	2.76

Sleeve Diameter — 15/32" *Bat Lever

Net

© United Technical Publications

POWER SWITCHES

20 AMP — AC/DC

U.L. approved, 10 A, 250 V, 20A, 125 V, 1½ H.P. 250 V, D.C. 2 H.P. 230 V, A.C. 5A, 600 V, 3$^{3}/_{32}$" mounting centers.

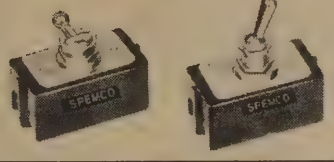


SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1161-D	DPDT	None	2½"	1$^{19}/_{32}$"	1$^{21}/_{32}$"	$7.80

POWER SWITCHES

20 AMP — AC/DC

U.L. approved, 20A, 250 V, 1½ H.P., 125 V, 2 H.P. 250 V. Quick make and break contacts.



SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
*1170	DPST	$^{15}/_{32}$"	2¼"	1⅛"	1$^{5}/_{32}$"	$3.78
**1170-S	DPST	1$^{1}/_{32}$"	2¼"	1⅛"	1$^{5}/_{32}$"	3.78

Sleeve Diameter — $^{15}/_{32}$"

*Bat Lever
**Sleeve Diameter — ½"

HEAVY DUTY TOGGLE SWITCHES

30 AMP — AC/DC

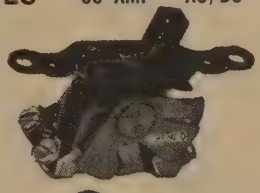
ROLLER TYPE LEVER



1190

SQUARE BAKELITE LEVER

1191

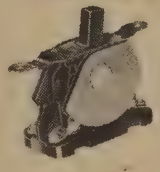


SQUARE BAKELITE LEVER



1191-B

SQUARE BAKELITE LEVER



1191-A

U.L. approved, 30A, 250 V, 2 H.P. 115 V.-230 V, AC 1 H.P. 460 V. AC. Strap type mounting.

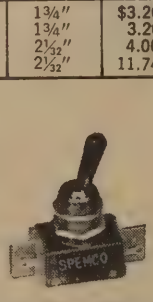
SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1190	DPST	None	2⅝"	1$^{5}/_{16}$"	1¾"	$3.20
1191	DPST	None	2⅝"	1$^{5}/_{16}$"	1¾"	3.20
*1191-A	DPST	None	2¾"	1$^{7}/_{16}$"	2$^{1}/_{32}$"	4.00
**1191-B	3PST	None	2¾"	2½"	2$^{1}/_{32}$"	11.74

*30A, 250 V, 600 V, 2 H.P. 115 V, 600 V.
**30A, 250 V, 20A, 600 V, 2 H.P. 115-575 V, 3 P.H. AC.

2 POSITION — MOMENTARY

3 AMP — AC/DC

U.L. approved, 3 Amp. 125 V. (except 1166). Laminated bakelite base. Nickel plated finish.



SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
**1166	SPST	$^{15}/_{32}$"	1¾"	½"	$^{35}/_{64}$"	$1.47
1167	SPDT	$^{15}/_{32}$"	1$^{9}/_{16}$"	½"	$^{35}/_{64}$"	1.53
*1155	DPST	$^{15}/_{32}$"	1$^{9}/_{16}$"	2$^{1}/_{32}$"	$^{35}/_{64}$"	1.95
1150	DPDT	$^{15}/_{32}$"	1$^{9}/_{16}$"	2$^{1}/_{32}$"	2$^{9}/_{32}$"	2.16

Sleeve Diameter — $^{15}/_{32}$"

*1166 Normally Off *1155 Normally Off
**3 Amp. 250 V, AC/DC

2 POSITION — MOMENTARY

15 AMP — AC

Slow make and slow break butt contacts. U.L. approved, 10A, 250 V, AC, 15A, 125 V, AC. ¾ H.P., 120-240 V, AC. Screw terminals.



SPEMCO No.	Circuit	MOM Action	Sleeve Length	Length	Width	Height	Net Each
1196	SPST	On-Off	$^{15}/_{32}$"	1$^{7}/_{32}$"	5⁄8"	3$^{1}/_{32}$"	$1.41
1241	SPDT	On-On	$^{15}/_{32}$"	1$^{9}/_{32}$"	5⁄8"	3$^{1}/_{32}$"	1.62
*1197	DPST	On-Off	$^{15}/_{32}$"	1$^{3}/_{16}$"	¾"	1$^{7}/_{16}$"	2.19
*1242	DPDT	On-On	$^{15}/_{32}$"	1$^{3}/_{16}$"	¾"	1$^{7}/_{16}$"	2.49

Sleeve Diameter — $^{15}/_{32}$"

*Rated at 10A, 250 V, AC, 15A, 125 V, AC, ¾ H.P., 115-230 V, AC.

3 POSITION CENTER OFF — MAINTAINED

6 AMP — AC/DC

U.L. approved, 3A, 250 V, 6A, 125 V.



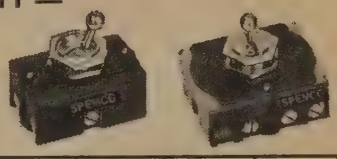
SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1175	SPDT	$^{15}/_{32}$"	1$^{27}/_{32}$"	1$^{1}/_{16}$"	1$^{3}/_{32}$"	$2.10
1176	DPDT	$^{15}/_{32}$"	1$^{27}/_{32}$"	1$^{1}/_{16}$"	1$^{3}/_{32}$"	2.49

Sleeve Diameter — $^{15}/_{32}$"

3 POSITION CENTER OFF — MAINTAINED

14 AMP — AC/DC

POSITIVE OFF POSITION. U.L. approved, 7A, 250 V, 14A, 125 V, ¾ H.P. 250 V.



SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1161	DPDT	$^{13}/_{32}$"	2"	1$^{5}/_{16}$"	1"	$4.95
*1177	3PDT	3$^{1}/_{32}$"	2"	2$^{5}/_{16}$"	1⅛"	7.50
**1178	4PDT	3$^{1}/_{32}$"	2"	2$^{5}/_{16}$"	1⅛"	9.45

Sleeve Diameter — ¾"
*Rated 5A, 250 V, 10A, 125 V, ½ H.P., 115-230 V, AC 3PH.
**Rated 5A, 250 V, 10A, 125 V, ½ H.P., 115-230 V, AC 2PH.

3 POSITION CENTER OFF — MAINTAINED

15 AMP — AC

Slow make and break butt contacts. U.L. approved, 10A, 250 V, AC, 15A, 125 V AC, ¾ H.P., 120-240, AC.



SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1187	SPDT	$^{15}/_{32}$"	1$^{3}/_{32}$"	5⁄8"	3$^{1}/_{32}$"	$1.14
1189	DPDT	$^{15}/_{32}$"	1$^{5}/_{16}$"	¾"	1$^{1}/_{16}$"	1.89
*1199	3PDT	$^{15}/_{32}$"	1$^{5}/_{16}$"	1$^{7}/_{16}$"	1$^{1}/_{16}$"	3.96
**1201	4PDT	$^{15}/_{32}$"	1$^{5}/_{16}$"	1$^{7}/_{16}$"	1$^{1}/_{16}$"	5.40

Sleeve Diameter — $^{15}/_{32}$"
*Rated at 10A, 250 V, AC, 15A, 125 V, AC, 1 H.P. 1-2-3 P.H., 120 V, AC.
**Rated at 10A, 250 V, AC, ½ H.P., 115-230 V, AC.

3 POSITION CENTER OFF — MAINTAINED

20 AMP — AC/DC

Quick make, quick break contacts. Three hole strap mounting. POSITIVE OFF POSITION. U.L. approved, 20A, 250 V, 30A, 125 V. 3$^{3}/_{32}$" mounting center.



SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
*1161-B	DPDT	None	2½"	1$^{19}/_{32}$"	1$^{21}/_{32}$"	$7.80
**1161-C	DPDT	None	2⅞"	1$^{13}/_{16}$"	2"	10.65

*Rated at 10A, 250 V, 20A, 125 V, 1½ H.P., 250 V, DC. 2 H.P., 230 V, AC, 5A, 600 V.
**Rated at 20A, 250 V, 30A, 125 V, 2 H.P., 250 V, AC/DC.

TOGGLE SWITCHES
3 POSITION CENTER OFF — MOMENTARY

15 AMP — AC

U.L. approved, 10A, 250 V, AC, 15A, 125 V, AC, ¾ H.P., 120-240 V, AC. (115-230 V. AC acceptable).



SPEMCO No.	Circuit	Mom. • Action	Length	Width	Height	Net Each
1195	SPDT	•On-Off-On•	1$^{3}/_{32}$"	5⁄8"	3$^{1}/_{32}$"	$1.56
1243	SPDT	On-Off-On•	1$^{9}/_{32}$"	5⁄8"	3$^{1}/_{32}$"	1.65
*1193	DPDT	•On-Off-On•	1$^{5}/_{16}$"	¾"	1$^{7}/_{16}$"	2.52
*1244	DPDT	On-Off-On•	1$^{5}/_{16}$"	¾"	1$^{7}/_{16}$"	2.43
**1236	3PDT	•On-Off-On•	1$^{5}/_{16}$"	1$^{7}/_{16}$"	1$^{7}/_{16}$"	4.32
**1235	3PDT	On-Off-On•	1$^{5}/_{16}$"	1$^{7}/_{16}$"	1$^{7}/_{16}$"	4.32
*1237	4PDT	•On-Off-On•	1$^{5}/_{16}$"	1$^{7}/_{16}$"	1$^{7}/_{16}$"	8.70

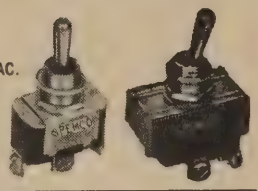
Sleeve Diameter and Length — $^{15}/_{32}$"
*Rated at 10A, 250 V, AC, 15A, 125 V, AC, ¾ H.P., 115-230 V, AC.
**Rated at 10A, 250 V, AC, 15A, 125 V, AC, 1 H.P., 1-2-3 Ph. 120 V, AC.

© United Technical Publications

SPECIALTIES MANUFACTURING CO.

SPEMCO® H & H SWITCHES

TOGGLE SWITCHES



15 AMP — AC
U.L. approved, 10A, 250 V, 15A, 125 V. AC.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1245	Off-On-Mom-On	15/32"	1 9/32"	3/4"	1 1/16"	$3.27
*1246	On-On-On	15/32"	1 9/32"	3/4"	1 1/16"	$1.98

Sleeve Diameter — 15/32" *3 circuit, 3 position.

DOUBLE ACTION / PUSH-PUSH SWITCHES



3 AMP — AC/DC
Quick make and break, U.L. approved, 1 Amp. 250 V, 3 Amp, 125 V, solder lug terminals, wiping blade mechanism.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1215	SPST	9/16"	1 1/32"	41/64"	13/16"	$1.41
**1215-B	SPST	9/16"	1 1/32"	41/64"	13/16"	1.71
*1215-R	SPST	9/16"	1 1/32"	41/64"	13/16"	1.71
1216	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.59
**1216-B	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.92
*1216-R	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.92
1217	DPST	9/16"	1 1/32"	41/64"	13/16"	2.04
**1217-B	DPST	9/16"	1 1/32"	41/64"	13/16"	2.37
*1217-R	DPST	9/16"	1 1/32"	41/64"	13/16"	2.37
1218	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.16
**1218-B	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.46
*1218-R	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.46

Sleeve Diameter — 15/32" *Red Button
**Black Button (just number-nickel)



6 AMP — AC/DC
U.L. approved, 3 Amp. 250 V, 6 Amp. 125 V, wiping blade contacts.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1156	SPST	9/16"	1 3/32"	1/2"	9/16"	$1.29
*1156-A	SPST	9/16"	1 3/32"	1/2"	9/16"	1.62
**1156-B	SPST	9/16"	1 3/32"	1/2"	9/16"	1.62

Sleeve Diameter — 15/32" *Red Button
**Black Button



16 AMP — AC/DC
U.L. approved, 8A, 250 V, 16A, 125 V, 1 H.P., 125-250 V. Wiping contacts.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1247	DPST	9/16"	1 3/4"	13/16"	25/32"	$2.76
*1248	DPST	9/16"	2"	1"	7/8"	3.81

Sleeve Diameter — 15/32" *Rated at 10A, 250 V, 20A, 125 V, 1½ H.P. 125-250 V.

PUSH SWITCHES — MOMENTARY CONTACT



1 AMP — AC
U.L. approved, 1A, 125 V, AC, 3/4A, 125 V, DC. Slow make, slow break.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
*1158-A	2 Circuit 1 Open/ 1 Closed	1 3/16"	3/16"	1/2"	17/32"	$1.41
**1158-B	2 Circuit 1 Open/ 1 Closed	1 3/16"	3/16"	1/2"	17/32"	1.41

Sleeve Diameter — 15/32" *Red Button **Black Button

PUSH SWITCHES — MOMENTARY CONTACT



3 AMP — AC
U.L. approved, 3 Amp, 120 V, AC. Slow make and break. 1/10 H.P. 120 V, AC, 1A, 250 V, AC.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1141	SPST N/C	9/16"	1 1/16"	9/16"	1/2"	$ .69
1141-A	SPST N/O	9/16"	1 1/16"	9/16"	1/2"	.69
*1157-A	SPST N/O	9/16"	1 1/16"	9/16"	1/2"	1.17
**1157-B	SPST N/O	9/16"	1 1/16"	9/16"	1/2"	1.17
*1157-C	SPST N/C	9/16"	1 1/16"	9/16"	1/2"	1.17
**1157-D	SPST N/C	9/16"	1 1/16"	9/16"	1/2"	1.17

Sleeve Diameter — 15/32" *Red Button **Black Button



3 AMP — AC/DC
Quick make and break, U.L. approved, 1 Amp. 240 V, 3 Amps. 125 V, AC/DC, double wiping blade mechanism.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1219	SPST	9/16"	1 1/32"	41/64"	13/16"	$1.74
**1219-B	SPST	9/16"	1 1/32"	41/64"	13/16"	2.04
*1219-R	SPST	9/16"	1 1/32"	41/64"	13/16"	2.04
1220	SPDT	9/16"	1 1/32"	41/64"	13/16"	2.01
**1220-B	SPDT	9/16"	1 1/32"	41/64"	13/16"	2.31
*1220-R	SPDT	9/16"	1 1/32"	41/64"	13/16"	2.31
1221	DPST	9/16"	1 1/32"	41/64"	13/16"	2.34
**1221-B	DPST	9/16"	1 1/32"	41/64"	13/16"	2.64
*1221-R	DPST	9/16"	1 1/32"	41/64"	13/16"	2.64
1222	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.52
**1222-B	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.82
*1222-R	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.82

Sleeve Diameter — 15/32" *Red Button
**Black Button (just number-nickel)



6 AMP — AC/DC
U.L. approved, 6 Amp. 125 V, 3 Amp. 250 V, AC/DC.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1146	SPST N/O	1/2"	1 1/4"	11/16"	15/16"	$2.10
*1147	SPDT	1/2"	1 1/4"	11/16"	15/16"	2.28
1148	DPST N/O	1/2"	1 1/4"	11/16"	15/16"	2.58
1149	DPDT	1/2"	1 1/4"	11/16"	15/16"	2.79

Sleeve Diameter — 15/32" *Rated at 1A, 250 V, 6A, 125 V.

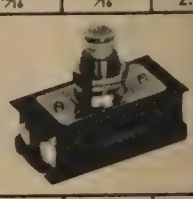
MOMENTARY POWER SWITCHES



16 AMP — AC/DC
U.L. approved, 8 Amp. 250 V, 16A, 125 V, 1 H.P., 125-250 V.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1160	DPST N/O	9/16"	1 3/4"	13/16"	15/16"	$2.37
1160-A	DPST N/C	9/16"	1 3/4"	13/16"	15/16"	2.37

Sleeve Diameter — 15/32"



20 AMP — AC/DC
U.L. approved, 10 Amp, 250 V, 20 Amp, 125 V, 1½ H.P., 125-250 V.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1230	DPST N/O	9/16"	2"	1"	7/8"	$3.72
1231	DPST N/C	9/16"	2"	1"	7/8"	3.72

Sleeve Diameter — 15/32"

Net
© United Technical Publications

METAL PUSHBUTTON TYPE NORMALLY OPEN

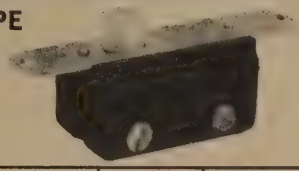


20 AMP

U.L. approved, 20A, 250 V, 2 H.P., 230 V, AC, 250 V, DC. Quick make and break.

SPEMCO No.	Circuit	Length	Width	Height	Net Each
1192	DPST N/O	2 3/32"	1 3/4"	1 1/4"	$4.00

NYLON PUSHBUTTON TYPE NORMALLY OPEN



20 AMP

U.L. approved, 20A, 120-240 V, AC, 2 H.P., 240 V, AC. Enclosed bakelite, side wired. Natural color. Nylon push button.

SPEMCO No.	Circuit	Length	Width	Height	Net Each
1240	DPST N/O	2 1/4"	1 1/4"	1"	$4.00

Mounting strap 3 3/32" 3/64" dia. 2 holes.

ROTARY CANOPY SWITCHES 2 POSITION — MAINTAINED



3 AMP — AC/DC

U.L. approved, 1A, 250 V, 3A, 125 V. Fixed plastic handle.

SPEMCO No.	Circuit	Stem	Wire Lead	Net Each
1179	SPST	7/16"	6"	$.84



3 AMP — AC/DC

U.L. approved, 1A, 250 V, 3A, 125 V, (except #1128)

SPEMCO No.	Circuit	Spindles Length	Sleeve Length	Length	Width	Height	Net Each
*1128	SPST	1 1/8"	3/8"	1 3/16"	3/4"	9/16"	$1.26
1129	SPDT	1 1/8"	3/8"	1 7/16"	3/4"	9/16"	1.53
1130	DPST	1 1/8"	3/8"	1 1/2"	3/4"	11/16"	1.89
1131	DPDT	1 1/8"	3/8"	1 1/2"	3/4"	1 1/16"	2.28

Sleeve Diameter — 11/32" *Rated at 3 Amp, 250 V, AC/DC.

ROTO-LOCK SWITCH



3 AMP — AC/DC

U.L. approved, 1A, 250 V, 3A, 125 V, (except SPST switches). One key supplied with each switch.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
*1128-K	SPST (Key removable in Off position only)	15/32"	1 3/16"	3/4"	9/16"	$2.10
1128-KA	Key only for above switch and 1130C					.27
*1128-KE	SPST (Key removable in either position)	15/32"	1 3/16"	3/4"	9/16"	2.10
1129-K	SPDT (Key removable in either position)	15/32"	1 3/16"	1/2"	9/16"	2.13
1130-C	DPST	15/32"	1 3/16"	3/4"	3/4"	2.82
1131-K	DPDT (Key removable in either position)	15/32"	1 3/16"	3/4"	3/4"	2.82
1128-KEA	Key only, fits 1128-KE, 1129-K, 1131-K					.27

Sleeve Diameter — 15/32" *Rated at 3 Amp, 250 V.



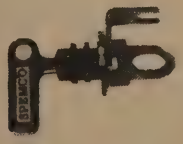
20 AMP — AC

U.L. approved, 20A, 120-240 AC, 1 1/2 H.P., 120 V, AC, 2 H.P., 120 V, AC. Slow make and break. Key removable in OFF position ONLY.

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
1130-K	DPST	5/16"	1 13/64"	1 11/64"	31/32"	$3.15
1130-KA	Key only for above switch					.33

Sleeve Diameter — 15/32"

LOCKING BRACKET



FOR ALL BAT HANDLE TOGGLE OR MOMENTARY SWITCHES — ANY AMP

Fits over 15/32" Sleeve Diameter

SPEMCO No.	Net Each
1226 — Bracket 1226-A — Key only	$2.22 .33

TUMBLER LOCK SWITCH

6 AMP — AC/DC

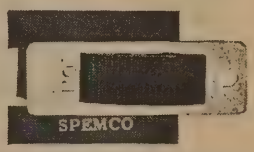
Security type tumbler lock switch, with single hole mounting sleeve. Quick make and break wiping action, and therefore can be considered for both medium power (up to maximum rating) or low energy circuits. All 6 Amp, 125 V, AC/DC, 3 Amp, 250 V, AC/DC — except 1261 and 1265, which are rated at 6 Amp, 125 V, AC/DC, 1 Amp, 250 V, AC/DC.



Circuit	Key Removable In Off Only		Key Removable In Either Position	
	SPEMCO No.	Net Each	SPEMCO No.	Net Each
SPST	1264	$10.90	1260	$10.90
SPDT	*1265	11.20	*1261	11.20
DPST	1266	11.50	1262	11.50
DPDT	1267	11.90	1263	11.90

*Rated at 1 Amp, 250 V, 6 Amp, 125 V.

INDICATING SLIDE LEVER SWITCH



6 AMP — AC/DC

U.L. approved, 3A, 250 V, 6A, 125 V, screw terminal.

SPEMCO No.	Circuit	Length	Width	Height	Net Each
1174	SP	7/8"	1/2"	17/32"	$1.74

Tongue-mounting hole.

PORTABLE TOOL HANDLE SWITCH



16 AMP — AC

U.L. approved, 8A, 250 V, 16A, 125 V, 1 H.P., 250 V. Quick make and break with locking latch.

SPEMCO No.	Circuit	Length	Width	Height	Net Each
1168	DPST N/O	1 3/4"	13/16"	7/8"	$2.40

FEED-THROUGH CORD SWITCH



10 AMP

U.L. approved, 5 Amp, 250 V, 10 Amp, 125 V, black bakelite case with sliding lever 5/16 cord hole.

SPEMCO No.	Circuit	Net Each
1163	SP	$2.49

15 AMP

13/32" (.406) inch cord hole for Appliance use only. U.L. approved, 10 Amp, 250 V, 15 Amp, 125 V.

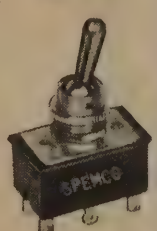


SPEMCO No.	Circuit	Net Each
1164	DP (with 3rd wire ground)	$6.90

MILITARY TYPE TOGGLE SWITCHES

Manufactured of materials and in accordance with specification MIL-S-3950, MS-25098 and MS-35058 — Single Pole. MS-25100 and MS-35059 — Double Pole.





MS Part No.	Up Position	Center Position	Down Position Keyway Side	Each List
MS-25098-22	On	None	Off	$2.21
MS-25098-23	On	None	On	2.34
MS-25100-22	On	None	Off	2.81
MS-25100-23	On	None	On	3.00
MS-35058-21	On	Off	On	2.24
MS-35058-22	On	None	Off	1.96
MS-35058-23	On	None	On	2.24
MS-35058-24	On	Off	None	1.96
MS-35058-25	On	Mom. Off	None	2.24
MS-35058-26	On	None	Mom. On	2.37
MS-35058-27	Mom. On	Off	Mom. On	2.37
MS-35058-28	None	Off	Mom. On	2.24
MS-35058-29	On	None	Mom. Off	2.17
MS-35058-30	Off	None	Mom. On	2.17
MS-35058-31	On	Off	Mom. On	2.37
MS-35059-21	On	Off	On	2.89
MS-35059-22	On	None	Off	2.56
MS-35059-23	On	None	On	2.89
MS-35059-24	On	Off	None	2.56
MS-35059-25	On	Mom. Off	None	3.33
MS-35059-26	On	None	Mom. On	3.23
MS-35059-27	Mom. On	Off	Mom. On	3.33
MS-35059-28	None	Off	Mom. On	3.05
MS-35059-29	On	None	Mom. Off	3.15
MS-35059-30	Off	None	Mom. On	2.89
MS-35059-31	On	Off	Mom. On	3.23

© United Technical Publications

SPECIALTIES MANUFACTURING CO.

SPEMCO® H & H SWITCHES

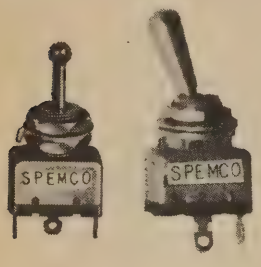
SUBMINIATURE SWITCHES

Meeting requirements of MIL-S-3950 as applicable to SCL-6305

SPEEMCO Subminiature Switches are 1/10 the volume of the standard switch.

Photos are actual size of switches.

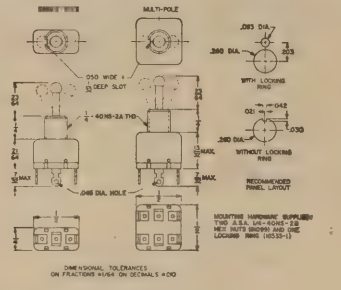
U.L. approved, 5A, 125 V, AC, 5A, 29 V DC butt type contacts, sleeve diameter ¼", combination solder, quick connect terminals ball lever.

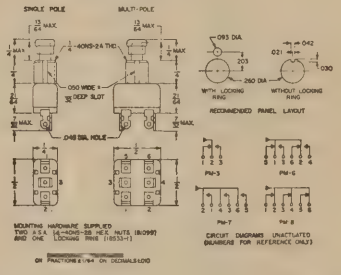


ACTUAL SIZE



ACTUAL SIZE





SPEMCO No.	Circuit	One Ext. Position Kwy. Side	Center Position	Other Ext. Position	MS Part No.	Net Each
TC-3	SPDT	On	Off	On		$3.00
*TC-3-M	SPDT	On	Off	On	MS-75028-21	3.20
TE-3	SPDT	Mom. On	Off	On		3.20
*TE-3-M	SPDT	Mom. On	Off	On	MS-75028-31	3.40
TG-3	SPDT	Mom. On	Off	Mom. On		3.20
*TG-3-M	SPDT	Mom. On	Off	Mom. On	MS-75028-27	3.40
TM-3	SPDT	Mom. On	None	On		3.20
*TM-3-M	SPDT	Mom. On	None	On	MS-75028-26	3.40
TS-1	SPST	Off	None	On		2.80
*TS-1-M	SPST	Off	None	On	MS-75028-22	3.00
TS-2	DPST	Off	None	On		3.40
*TS-2-M	DPST	Off	None	On	MS-75029-22	3.60
TS-3	SPDT	On	None	On		3.00
*TS-3-M	SPDT	On	None	On	MS-75028-23	3.20
TC-6	DPDT	On	Off	On		3.90
*TC-6-M	DPDT	On	Off	On	MS-75029-21	4.10
TE-6	DPDT	Mom. On	Off	On		5.00
*TE-6-M	DPDT	Mom. On	Off	On	MS-75029-31	5.20
TG-6	DPDT	Mom. On	Off	Mom. On		5.00
*TG-6-M	DPDT	Mom. On	Off	Mom. On	MS-75029-27	5.20
TM-6	DPDT	Mom. On	None	On		5.00
*TM-6-M	DPDT	Mom. On	None	On	MS-75029-26	5.20
TS-6	DPDT	On	None	On		3.90
*TS-6-M	DPDT	On	None	On	MS-75029-23	4.10
11-B Black rubber boot for above.						1.00

*Bat Lever

SPEMCO No.	Circuit	Sleeve Length	Length	Width	Height	Net Each
PM-3	SPDT	¼"	½"	¼"	35/64"	$2.86
PM-6	DPDT	¼"	½"	¼"	35/64"	3.51
PM-7	3PST N/O	¼"	½"	¼"	35/64"	3.31
PM-8	3PST N/C	¼"	½"	¼"	35/64"	4.65
10-B Black rubber boot						1.00

SUBMINIATURE PUSHBUTTON SWITCHES—MOMENTARY

SPEEMCO Subminiature Switches are 1/10 the volume of the standard switch. Photo is actual size of switch.
U.L. approved, 2 Amp, 29 V, DC, 1 Amp, 115 V, AC butt type contacts, combination solder, quick connect terminals supplied with standard .215" white buttons. When colored buttons are required, add 10 cents to cost of switch. Colors: black, red, yellow, green and brown.

LIGHTED PUSHBUTTON SWITCHES

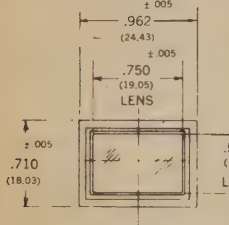
These Push Button Switches, both lighted and non-illuminated as well as indicators only, offer the maximum in design flexibility. From 31 standard components, 25,344 different switches may be built. The "Building Block" concept means you can construct your own Pushbuttons through easy fingertip assembly. No tools are required. Lenses come in three shapes: round, square and rectangular; each in seven colors. Actuators are either momentary or alternate action. Snap-on contact blocks can build up to 4-pole momentary or 3-pole alternate action pushbutton switches.

The component parts have been U.L. listed for both standard duty and dry circuit or logic load applications:

Standard Duty — Silver Contacts
5 Amps. 125 VAC
2 Amps. 250 VAC
5 Amps. 28 VDC

Low Energy — Gold Plated Contacts
For applications under 100 Milliwatts
Minimum rating — 10 Micro Amps. 50 MV

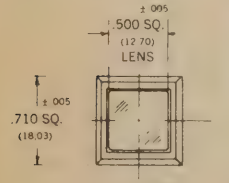
At these ratings the switches minimum mechanical and electrical life has been tested to exceed 100,000 cycles.

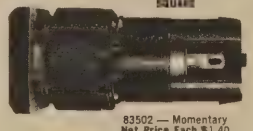




83501 — Momentary
Net Price Each $1.40

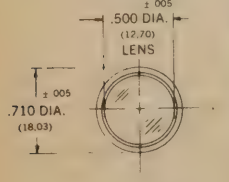
83504 — Alternate Action
Net Price Each $2.20





83502 — Momentary
Net Price Each $1.40

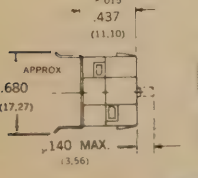
83505 — Alternate Action
Net Price Each $2.20





83503 — Momentary
Net Price Each $1.40

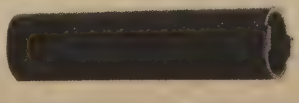
83506 — Alternate Action
Net Price Each $2.20





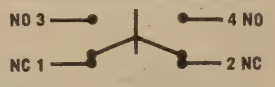
Standard Duty 83500-30
Net Price Each $1.50

Low Energy 83600-30
Net Price Each $2.50



MOUNTING WRENCH
83500-45 — Net Price Each $1.00

Contact Block Circuit Diagram



Type of Circuit	Wire to Terminals
Form A	3-4
Form B	1-2
Form C	1-3 Common
	2-4
Form Z	1-2-3-4

Contacts are momentary or alternate action depending on which Actuator-Indicator is used. Each contact block is 2 circuit and contact mechanism is of positive snap-acting design. Each contact block must be used on same polarity.

Number of Contact Blocks Needed			
SPST	1	3PST	3
SPDT	1	3PDT	3
DPST	2	4PST	4
DPDT	2	4PDT	4

LENS			Net Each	LENS			Net Each	LENS			Net Each
Rectangular	White	83500-70	.20	Square	White	83500-80	.20	Round	White	83500-90	.20
Rectangular	Red	83500-71	.20	Square	Red	83500-81	.20	Round	Red	83500-91	.20
Rectangular	Green	83500-72	.20	Square	Green	83500-82	.20	Round	Green	83500-92	.20
Rectangular	Blue	83500-73	.20	Square	Blue	83500-83	.20	Round	Blue	83500-93	.20
Rectangular	Yellow	83500-74	.20	Square	Yellow	83500-84	.20	Round	Yellow	83500-94	.20
Rectangular	Amber	83500-75	.20	Square	Amber	83500-85	.20	Round	Amber	83500-95	.20
Rectangular	Black	83500-76	.20	Square	Black	83500-86	.20	Round	Black	83500-96	.20

LAMPS

Use standard incandescent midget grove base lamp size T-1¾ 6 Volt (#337), 14 Volt (#336), 28 Volt (#334).

OPTIONAL FEATURES

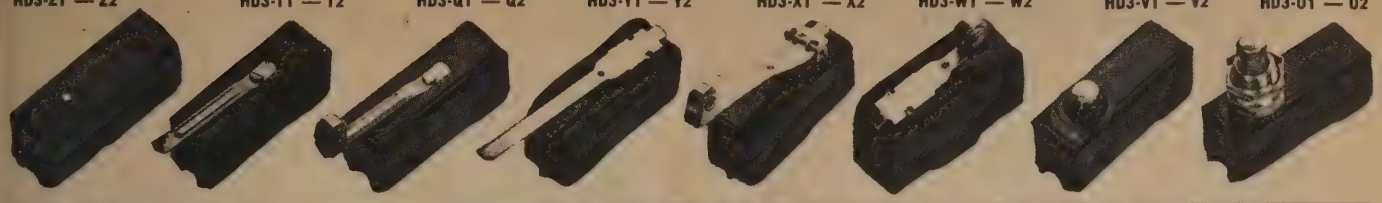
Snap-on clip to convert any actuator to indicator — 83500-51
Snap-on chrome bezel (round only) — 83500-46
Mounting wrench — 83500-45

HOW TO ORDER:

a) Determine lens shape and color — specify catalog number.
b) Determine shape and action of actuator-indicator required — specify catalog number.
c) Determine number poles required, standard duty or low energy — specify catalog number.
d) Determine optional features.

© United Technical Publications

GP3-Z1 — Z2 HD3-Z1 — Z2 | GP3-T1 — T2 HD3-T1 — T2 | GP3-Q1 — Q2 HD3-Q1 — Q2 | GP3-Y1 — Y2 HD3-Y1 — Y2 | GP3-X1 — X2 HD3-X1 — X2 | GP3-W1 — W2 HD3-W1 — W2 | GP3-V1 — V2 HD3-V1 — V2 | GP3-U1 — U2 HD3-U1 — U2



GENERAL PURPOSE PRECISION SWITCHES—SPDT

H & H General Purpose Precision Switches feature high electrical rating combined with very low operating force and long life. SPDT units may be wired normally open or normally closed.
UL and CSA approved: 15 amp. 480 VAC, ½ amp. 125 VDC, ¼ amp. 250 VDC.

SPEMCO No. Solder Lug	List Each	SPEMCO No. Screw Term.	List Each	*1 Actuator	Operating Force	Pretravel	Overtravel
GP3-Z1	$3.60	GP3-Z2	$3.80	Pin Type	9 to 13 oz.	.015″ max.	.005″ min.
GP3-T1	4.10	GP3-T2	4.60	Flexible Leaf	5 oz. max.	5/32″ max.	Not over 1/16″
GP3-Q1	5.40	GP3-Q2	5.70	Std. Roller Leaf	5 oz. max.	5/32″ max.	Not over 1/16″
GP3-Y1	4.70	GP3-Y2	4.80	Rigid Hinge Lever	2½ oz.	3/8″ max.	.219″ min.
GP3-X1	5.90	GP3-X2	6.00	Std. Roller Lever	3½ oz. max.	7/32″ max.	.156″ min.
GP3-W1	5.90	GP3-W2	6.00	Short Roller Lever	6 oz. max.	9/64″ max.	3/32″ min.
GP3-V1	4.80	GP3-V2	4.90	Short Overtravel Button	9 to 13 oz.	1/4″ max.	1/16″ min.
GP3-U1	8.00	GP3-U2	8.20	Panel Mounted Plunger	9 to 13 oz.	1/4″ max.	7/32″ min.

HEAVY DUTY PRECISION SWITCHES—SPDT

H & H Heavy Duty Precision Switches provide high inrush capacity and retain similar performance and actuating characteristics found in the General Purpose units.

SPDT switches can be wired normally open or normally closed. UL and CSA approved: 20 amp. 480 VAC, 10 amp. 125 VAC "L" load, ½ amp. 125 VDC, ¼ amp. 250 VDC, 1 H.P. 120 VAC, 2 H.P. 240 VAC.

SPEMCO No. Solder Lug	List Each	SPEMCO No. Screw Term.	List Each	*1 Actuator	Operating Force	Pretravel	Overtravel
HD3-Z1	$4.30	HD3-Z2	$3.90	Pin Type	14 to 22 oz.	.050″ max.	.010″ min.
HD3-T1	4.90	HD3-T2	4.60	Flexible Leaf	9 oz. max.	1 1/32″ max.	Not over 1/16″
HD3-Q1	6.10	HD3-Q2	5.70	Std. Roller Leaf	9 oz. max.	1 1/32″ max.	Not over 1/16″
HD3-Y1	5.50	HD3-Y2	5.00	Rigid Hinge Lever	2½ oz. max.	5/8″ max.	.078″ min.
HD3-X1	6.60	HD3-X2	6.20	Std. Roller Lever	2½ oz. max.	15/32″ max.	1/16″ min.
HD3-W1	6.60	HD3-W2	6.20	Short Roller Lever	6 oz. max.	1/4″ max.	1/32″ min.
HD3-V1	5.40	HD3-V2	4.90	Short Overtravel Button	14 to 22 oz.	.050″ max.	.093″ min.
HD3-U1	8.70	HD3-U2	8.20	Panel Mounted Plunger	14 to 22 oz.	.050″ max.	.219″ min.

*1 Switches are mounted by two .140 inch diameter holes on one inch centers.

CORD CONNECTORS

10 AMP

Brown Bakelite Cord Connector Complete, 7/8″ O.D. x 2½″ long. 10 amps. 250 volts. End opening for wire size up to 3/8″ O.D.



SPEMCO No.	Description	Net Each
1162	Complete	$2.88
1162-F	Female Part	1.44
1162-M	Male Part	1.44

PHENOLIC SNAP-ON BUTTON

SPEMCO No.	Color	Net Each
1212-B	Black	$.33
1212-R	Red	.33
1212-W	White	.33

HARDWARE

For 15/32″ diameter sleeve.

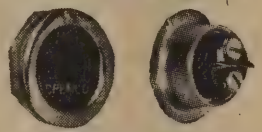


SPEMCO No.	Description	Net Each
1132-HL	Hi-Lo Plate	$0.51
1132	On and Off Plate	.051
1132-H	Hex Nut	.036
1132-K	Knurled Nut	.036
1210	Lockwasher	2.85 per C
1211	Locking Ring	5.10 per C

RECEPTACLES

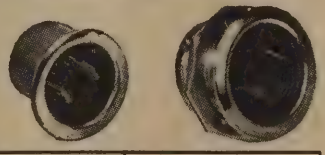
SHORT FEMALE FLUSH RECEPTACLES — 10 AMP

U.L. approved, 10 amp. 250 volts AC.



SPEMCO No.	Description	Net Each
80326	2 Screw Mounting	$1.68
80327	Lock Nut Mounting	2.37

RECESSED MALE RECEPTACLES — 10 AMP



SPEMCO No.	Description	Net Each
80328	2 Screw Mounting	$2.10
80329	Lock Nut Mounting	2.43

RECESSED FEMALE RECEPTACLES — 10 AMP



SPEMCO No.	Description	Net Each
80331	Lock Nut Mounting	$2.43

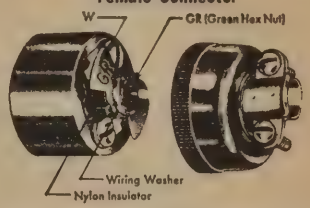
TURN TO LOCK COMPACT RECEPTACLES — 3-WIRE GROUNDING TYPE

15 AMP — 125 VOLT

Brass metal casings, finished to resist corrosion. Black bakelite is standard.

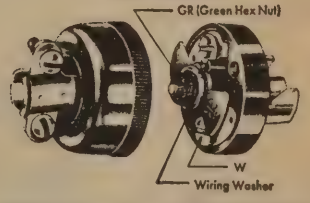


Female Connector



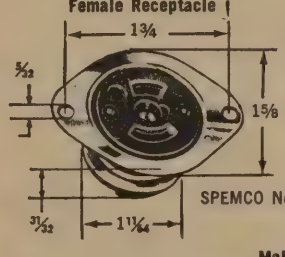
SPEMCO No. 1250 — **Net Price Each** $2.94

Male Connector



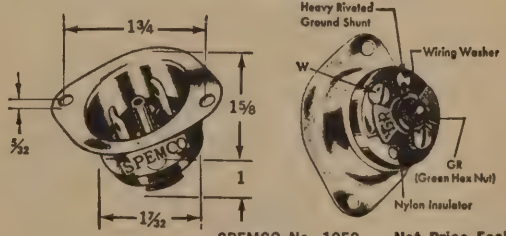
SPEMCO No. 1251 — **Net Price Each** $2.28

Female Receptacle



SPEMCO No. 1253 — **Net Price Each** $3.15

Male Receptacle

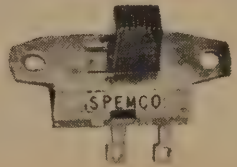


SPEMCO No. 1252 — **Net Price Each** $2.73

All aforementioned switches, connectors and receptacles are manufactured by H & H for Specialties Manufacturing Co.

SLIDE SWITCHES

Housings are made of steel and are cadmium plated, 1 13/32″ long, 35/64″ wide and 1⅛″ mounting centers.



SPEMCO No.	Description	Net Each
1180	SPST 3A-AC .5A-DC 125 V	$.156
1181	SPDT .75A AC-DC 125 V	.168
1182	DPST .5A AC-DC 125 V	.216
1183	DPDT 3A-AC .5A-DC 125 V	.258

SPEMCO®



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

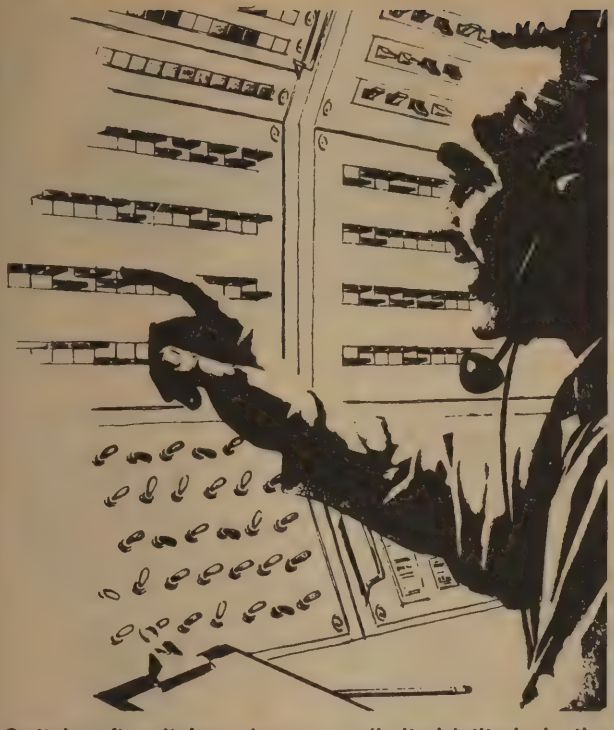
It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

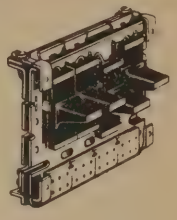
Switches

SWITCHCRAFT INC.

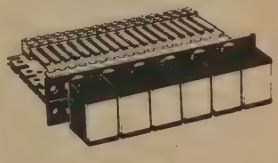


Switchcraft switches give you unlimited latitude in the selection of switching functions and actuation for customizing your equipment designs. Whether you choose pushbutton, slide or lever actuated switches, Switchcraft Authorized Industrial Distributors can aid you in the selection and specification of the proper switch to fill your particular requirements. All "Multi-Switch"® switches are factory-assembled to your specifications or select one from the standard listing shown in this catalog. Factory assembly, plus rigorous inspection and testing, is your assurance of optimum performance and dependability.

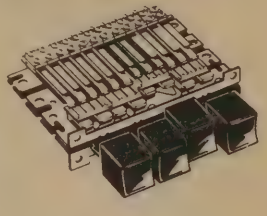
Only Switchcraft offers 3 complete lines of slide, multiple station pushbutton, and lever switches . . . 3 proven solutions to man-machine interface problems.

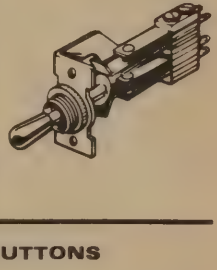


SLIDE ACTION . . . Series 39000 "Multi-Slide" switches provide design engineers with an entirely new switching method to solve man-machine system problems. "Multi-Slide" switches help eliminate operating confusion inherent in constant manipulation of pushbutton matrixes by providing slide-switch variety. Series 39000 Switches offer 3 types of actuation: interlock, all-lock, non-lock.



PUSHBUTTON ACTION . . . Whatever your requirements for switching, you will find Switchcraft "Multi-Switch"® switches enable you to design a cybernetically correct, error-reducing panel. Both illuminated and non-illuminated types are available with non-lock, all-lock, interlock, push-to-lock, push-to-release functions. Illuminated types offer single or multiple lighting effects. Series 7000 and 21000 frames are available from 1 to 37 stations in a row. littel "Multi-Switch"® switches Series 35000, 36000, 37000, are compact switching units offering 1 to 18 stations in a row. Series 65000, 66000, 67000, 70000 and 71000 are low cost switches, in all functions, up to 18 stations in a row.

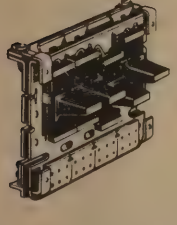




LEVER ACTION . . . Switchcraft offers the largest selection of illuminated and non-illuminated lever-type switches in the industry. They come in a wide choice of sizes, 2 or 3 position, locking and non-locking types. They range in size and style from miniaturized "Feather Lever", featuring changeable push-on color knobs to "Lever-Lite", a 3-color illuminated type lever switch; to the industry standard "Telever", a telephone type switch featuring field changeable functions.

"MULTI-SLIDE" SWITCHES

SERIES 39000



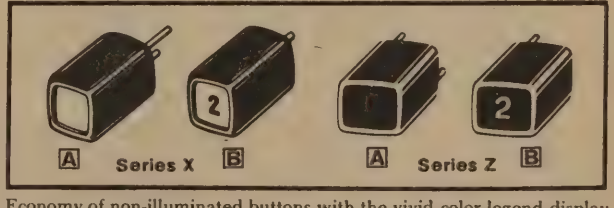
Revolutionary compact switching method provides versatile multiple station slide switching. Allows 1 to 18 stations per row standard on all but all-lock function which is limited to 12 stations. Requires only $^{3}/_{4}$" depth behind panel. Narrow frame design permits mounting on compact electronic equipment without sacrificing versatility or function. Three standard functions available: **Interlock:** actuating slidebutton automatically restores previously actuated station to normal. Only one slidebutton can be actuated at a time with standard interlock function. **Non-Lock:** each station has momentary action with no interaction between stations. **All-Lock:** all stations, except release, lock when depressed – restore to normal when release button is actuated. Special slide-to-release cancelling feature in interlock and all-lock switches permits immediate correction of switching error without cancelling actuated switches. Slidebuttons are on $^{5}/_{8}$" centers. Up to 3 miniature switch stacks, rated at 3 amps; 300 watts max., AC non-inductive load, can be mounted at each station for a minimum of 1-A (SPDT) to a max. of 3-C (3PDT) per station. For power switching, snap switch modules can be mounted to each station on special order. Refer to "PIGGY BACK" SNAP-SWITCH MODULES, Series SA, SC and SD under littel "Multi-Switch" listing. Switches mount on panels up to $^{1}/_{8}$" thick. End brackets have four 6-32 tapped mtg. holes. A black slidebutton is furnished for each station and a red slidebutton is supplied when switch requires a release. A kit of chromatic legend tabs, Part No. K-120, is available for positive color coding of an actuated station. Kit consists of 10 tabs each of 6 colors: Red, black, green, blue, white and yellow. Pressure sensitive tabs mount easily in recess of slidebutton; can be hot-stamped for identification. The following part numbers cover a completely assembled switch, in various functions, with 2-C switch stacks at each station. Only the most commonly used switches are listed here.

Part Numbers			No. of Stations	U.S.A. List Price
Interlock with Lock-Out	Non-Lock	All-Lock		
39021-206	39022-206	39023-206	2	$13.70
39041-206	39042-206	39043-206	4	22.90
39061-206	39062-206	39063-206	6	30.60
39081-206	39082-206	39083-206	8	39.30
39101-206	39102-206	39103-206	10	48.00
39121-206	39122-206	39123-206	12	56.70

Switchcraft Part No. K-120 . . . . . **U.S.A. List Price $1.20**

"GLO-BUTTON" PUSHBUTTONS

SERIES X, Y, Z

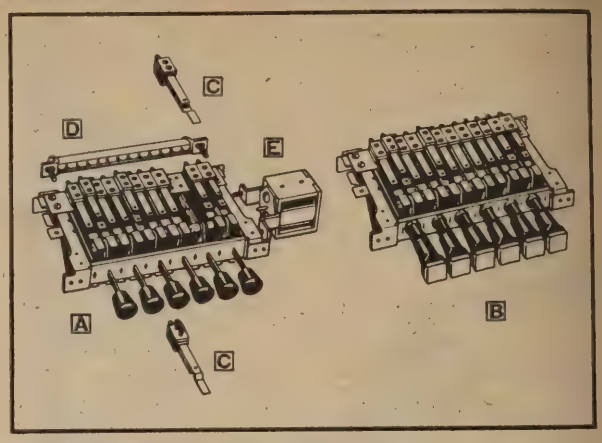


Economy of non-illuminated buttons with the vivid color-legend display of illuminated buttons. "Glo-Button" pushbuttons look and function like an illuminated button, but require no lamp or power. Mount on all pushbutton switches with standard .050" x .187" plungers, as Switchcraft Series 7000, 8000, 35000, 70000 and 71000 "Multi-Switch" ® switches, and other switches having maintained plunger action with a maximum of $^{1}/_{16}$" fallback. "Glo-Button" pushbuttons have a translucent front screen on which a legend is marked in an opaque color. The opaque color provides a background for the legend while the legend itself remains clear (Figs. A). An internal fluorescent illuminator is carried on a pusher which has two legs extending from the rear. When the button is depressed, the rear legs of the pusher bring the fluorescent illuminator flush with the screen which then lights up due to reflected ambient light, and projects a clearly visible legend, see Figs. B. All "Glo-Button" pushbuttons have black button housings and are available with standard legends: "A" thru "Z", "0" thru "50", and "ON", "OFF". Eight basic types of buttons are offered: To order, specify part number and add suffix letter or numeral to part number which describes desired legend. Example: To order $^{1}/_{2}$" sq. "Glo-Button" pushbutton with black screen, orange-red illuminator and numeral "7" part number would read X21248-7.

Series No.	Size	Screen Color	Illuminator Color	U.S.A. List Price
X21248	½" square	Black	Orange-Red	$1.25
X51248	½" square	White	Orange-Red	1.25
Y21248	¾" h. x ⅜" w.	Black	Orange-Red	1.50
Y28248	¾" h. x ⅜" w.	Black	Chartreuse	1.50
Y51248	¾" h. x ⅜" w.	White	Orange-Red	1.50
Z21248	⅜" h. x ¾" w.	Black	Orange-Red	1.50
Z28248	⅜" h. x ¾" w.	Black	Chartreuse	1.50
Z51248	⅜" h. x ¾" w.	White	Orange-Red	1.50

"Multi-Switch"® Switches

Basic design simplicity provides a unique multiple station pushbutton switch that's rugged, compact, versatile and completely flexible in switching functions. Hundreds of circuit and function combinations are possible as **all switching components**—frame, switch stacks, lamps and other accessories **are changeable.** Order the "Multi-Switch"® you now require, from stock, and later change circuits and/or functions in the field by simple positioning adjustments of stop plate, latch bar spring, and/or interchanging or adding-on switch stacks. Standard "Multi-Switch"® switches are available with these functions: **Interlock,** restores to normal any previously actuated station when another station is actuated. D **Lock-out** feature when combined with interlock prevents the operation of more than one pushbutton at a time. (Standard on all assembled interlock switches.) **Non-Lock,** momentary action of each station. **All-Lock,** accumulative locking of all stations with restoration of all stations to normal when release station is depressed. **Push-Lock/Push-Release**—pushbutton locks when depressed and is released when again depressed.



SERIES 7000 NON-ILLUMINATED SWITCHES

A Heavy gauge steel switch frames mount on panels up to $\frac{3}{8}$" thick, with $\frac{35}{16}$" depth behind panel. Rugged, welded end-mounting brackets have four 8-32 tapped holes for ease of panel mounting. Attractive, round brown push-on-buttons supplied for each station, plus extra red button for use when switch requires a release station. Center-to-center distance between buttons is $\frac{5}{8}$". Steel plunger .050" x .187" accepts standard push-on-buttons and "Glo-Button" pushbuttons. Standard plunger is $1\frac{1}{8}$" long, but can be supplied up to $5\frac{3}{4}$" long on special order. Switch frames with buttons on $\frac{3}{4}$" centers are available in Series 8000 which has all the same features as Series 7000. Switches feature switch stacks with welded-crossbar palladium contacts rated at 3 amps, 300 watts, max., A.C. non-inductive load. Series 7000 "Multi-Switch"® switches are available with from 1 to 37 stations; Series 8000 from 1 to 31 stations. When ordering Series 8000 add 10% to prices. All switches are completely assembled and tested at the factory. All assemblies listed in the Part No. table have 2-C or 4-C switch stacks at each station. Additional switching and other options are available on special order. Only the most commonly used switch assemblies are listed below.

Part Numbers/2-C PER STATION

*Interlock with Lock-Out	U.S.A. List Price	**Non-Lock	**All-Lock	**Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
7200K-606	$16.85	7202-606	7203-606	7207-606	2	$13.55
7400K-606	25.20	7402-606	7403-606	7407-606	4	21.60
7600K-606	34.05	7602-606	7603-606	7607-606	6	30.20
7800K-606	42.95	7802-606	7803-606	7807-606	8	38.80
71000K-606	52.10	71002-606	71003-606	71007-606	10	47.40
71200K-606	61.25	71202-606	71203-606	71207-606	12	56.00

Part Numbers/4-C PER STATION

7200K-612	21.05	7202-612	7203-612	7207-612	2	17.75
7400K-612	33.60	7402-612	7403-612	7407-612	4	30.00
7600K-612	46.65	7602-612	7603-612	7607-612	6	42.80
7800K-612	59.75	7802-612	7803-612	7807-612	8	55.60
71000K-612	73.10	71002-612	71003-612	71007-612	10	68.40
71200K-612	86.45	71202-612	71203-612	71207-612	12	81.20

*Changeable functions in the field.
**Not changeable in the field.

SERIES 21000 ILLUMINATED SWITCHES

B Similar in switching functions and characteristics to non-illuminated "Multi-Switch"® switch but, with these outstanding features: modern square button design with bright uniform front and side illumination provided by lamp diffusers; knurled retaining collar for quick easy front-of-panel lamp replacement. Two lamp voltages: 6V and 28V. Buttons with white jewels and white diffusers are furnished for switching and release stations. Standard switches listed below provide "L" type lighting (pushbuttons light in "IN" position). To have pushbutton light in "OUT" position, prefix Part No. with M (e.g. M21100). To have them light in both the "IN" and "OUT" positions, prefix with N. All switches include switch stacks at each station incorporating welded-crossbar palladium contacts rated at 3 amps, 300 watts, A.C., non-inductive load. Center-to-center distance between buttons is $\frac{5}{8}$" on Series 21000, available with up to 37 stations in a row. Series 22000, buttons on $\frac{3}{4}$" centers, available up to 31 stations only. Add 10% to price of Series 21000 when ordering Series 22000. Series 21000 and 22000 switches are completely assembled and inspected at the factory. All assemblies listed in the Part No. table have 2-C or 4-C switch stacks at each station and provides "L" type lighting. Additional switching and/or other types of lighting available on special order. Only the most commonly used switch assemblies are listed.

Part Numbers/2-C PER STATION

*Interlock with Lock-Out	U.S.A. List Price	**Non-Lock	**All-Lock	**Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
21200K-506	$23.45	21202-506	21203-506	21207-506	2	$20.15
21400K-506	38.95	21402-506	21403-506	21407-506	4	35.35
21600K-506	54.40	21602-506	21603-506	21607-506	6	50.55
21800K-506	69.95	21802-506	21803-506	21807-506	8	65.80
211000K-506	86.20	211002-506	211003-506	211007-506	10	81.50
211200K-506	101.95	211202-506	211203-506	211207-506	12	96.75

Part Numbers/4-C PER STATION

21200K-512	27.65	21202-512	21203-512	21207-512	2	24.35
21400K-512	47.35	21402-512	21403-512	21407-512	4	43.75
21600K-512	67.00	21602-512	21603-512	21607-512	6	63.15
21800K-512	86.75	21802-512	21803-512	21807-512	8	82.60
211000K-512	107.20	211002-512	211003-512	211007-512	10	102.50
211200K-512	127.15	211202-512	211203-512	211207-512	12	121.90

*Changeable functions in the field.
**Not changeable in the field.

SWITCH STACKS

C Interchangeable switch stacks for installation on "Multi-Switch"® switches to increase switching circuitry. Series 70P, utilizes welded-crossbar palladium contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. Use where the switching circuits of a released station will return to normal before contacts of a newly operated station are actuated. Series 700P, same as Series 70P, except to be used on push-lock/push-release functions or on other functions where contacts of a newly operated station must be actuated before contacts of a released station return to normal. Select from switch stack listing below and specify Part No. with your order for a completed switch assembly.

Part No.	Part No.	Circuit	U.S.A. List Price
71P	701P	1-A	$0.80
72P	702P	1-B	.80
73P	703P	1-C	1.05
73PD	703PD	1-D	1.20
76P	706P	2-C	1.65

LOCK-OUT BAR "K" SERIES

D Prevents operation of more than one switching station at a time. Mounts on back of standard "Multi-Switch" Series 7000, 8000, 21000 and 22000 frames with two screws (furnished). Available from 2 to 37 stations for a single frame. Lock-Out Bars listed are for $\frac{5}{8}$" center plunger only; for $\frac{3}{4}$" centers, order special.

Part No.	No. of Stations	U.S.A. List Price	Part No.	No. of Stations	U.S.A. List Price
K-02	2	$3.30	K-08	8	$4.15
K-04	4	3.60	K-10	10	4.70
K-06	6	3.85	K-12	12	5.25

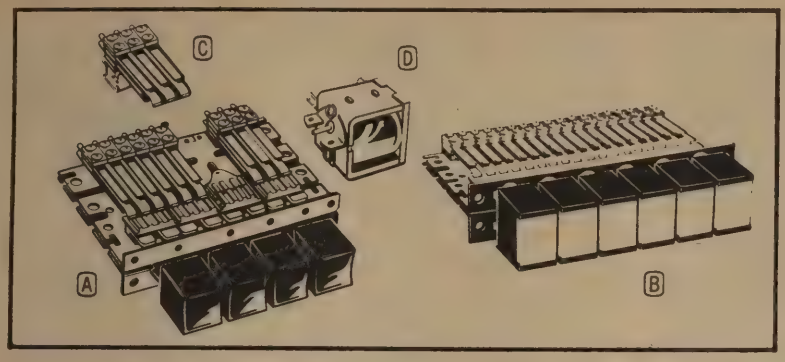
SOLENOID RELEASE—"J" SERIES

E A simple solenoid assembly which can be easily assembled on the end of a standard switch. Part No. J-1, is for use on interlocked switches; Part No. J-2, for use on all-lock switches with up to 12 stations. Both are for use in 115 volt, 60 cycle, A.C. circuits. Specify type of solenoid with your order for a standard "Multi-Switch"® switch.

Switchcraft Part No. J-1 ..... U.S.A. List Price $ 9.50
Switchcraft Part No. J-3 ..... U.S.A. List Price 10.00

Trade Discount Applies To List Prices Only
© United Technical Publications

littel "Multi-Switch"® Switches



Compact, versatile high-quality, multiple station pushbutton switches. Four standard functions available: **Interlock**—actuating a pushbutton automatically restores to normal the pushbutton previously actuated. **Lock-Out**—prevents operation of more than one pushbutton at a time. This feature is included on all interlock frames. **Non-Lock**—each pushbutton has momentary action. **All-Lock**—all pushbuttons, except release, lock when depressed. All pushbuttons restored to normal by actuating release pushbutton. **Push-Lock/Push-Release**—pushbutton locks when depressed and is released when again depressed. Buttons on 5/8" centers. **Switches available from 1 to 18 stations.**

SERIES 35000 NON-ILLUMINATED SWITCHES

A Switches mount on panels up to $^1/_8$" thick. Provides 6PDT switching in .6 sq. in. Narrow rectangular silhouette permits stacking in parallel rows on $^3/_4$" centers. Only $2^5/_{16}$" depth behind panel. End brackets have four 6-32 tapped mounting holes. A square black pushbutton is furnished for each station and an extra red pushbutton is supplied for use when switch has momentary release station (All-Lock function). Plungers made from .050" x .187" steel will accept std. push-on pushbuttons as well as Switchcraft pushbuttons, Series 590, A-590, C-590, D-590, E-590, 600 and "Glo-Button" pushbuttons Series X, Y, and Z. Refer to listings in this catalog. On 2-C PER STATION switches, each station includes two No. 83P switch stacks. On 4-C PER STATION switches, each station includes four No. 83P switch stacks. The following part numbers cover completely assembled and factory tested switches. Should you require additional switching or optional accessories as power switching, different pushbuttons, solenoid release, etc., make your selection from these product listings and add them to the switch part number of your choice shown below. Only the most commonly used switches are listed here.

Part Numbers/2-C PER STATION

Interlock with Lock-Out	Non-Lock	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
35021K-206	35022-206	35023-206	35027-206	2	$12.70
35041K-206	35042-206	35043-206	35047-206	4	20.40
35061K-206	35062-206	35063-206	35067-206	6	28.60
35081K-206	35082-206	35083-206	35087-206	8	36.80
35101K-206	35102-206	35103-206	35107-206	10	45.00
35121K-206	35122-206	35123-206	35127-206	12	53.20

Part Numbers/4-C PER STATION

35021K-212	35022-212	35023-212	35027-212	2	16.90
35041K-212	35042-212	35043-212	35047-212	4	28.80
35061K-212	35062-212	35063-212	35067-212	6	41.20
35081K-212	35082-212	35083-212	35087-212	8	53.60
35101K-212	35102-212	35103-212	35107-212	10	66.00
35121K-212	35122-212	35123-212	35127-212	12	78.40

SERIES 37000 SINGLE LAMP ILLUMINATED SWITCHES

B Identical in switching functions and characteristics as non-illuminated Series 35000, but features large rectangular shaped pushbuttons which serve as a color or legend coded panel indicator light which actuates up to 6PDT switching. Switches mount in parallel rows from 1" centers and up. Depth behind panel $2^5/_{16}$". Pushbuttons with large transparent clear display screen and white legend insert, can be hot stamped or engraved, are furnished for switching and release stations. On 2-C PER STATION switches, each station includes two Nos. 83P switch stacks, one No. H-83P lighting stack and one No. H (convenience) lighting spring. On 4-C PER STATION switches, each station includes four No. 83 switch stacks, one No. H-83P lighting stack and one No. H (convenience) spring. Lighting arrangements such as "L"—pushbuttons light in "IN" position; "M"—pushbuttons light in "OUT" position; and "N"—pushbuttons light in both "IN" and "OUT" positions, can be effected by wiring direct to the No. H-83 and No. H lighting stacks. A single 6V or 28V lamp can be used at each station, not furnished with switch. Refer to Lamp listing on page 11. The following part numbers cover completely assembled and factory tested switches. Should you require additional switching, power switch, solenoid, etc., make your selection from the various listings on page 11 and add to the switch part number you have chosen from listing below. Only the most commonly used switches are listed here.

Part Numbers/2-C PER STATION

Interlock with Lock-Out	Non-Lock	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
37021K-1206	37022-1206	37023-1206	37027-1206	2	$20.10
37041K-1206	37042-1206	37043-1206	37047-1206	4	35.70
37061K-1206	37062-1206	37063-1206	37067-1206	6	51.30
37081K-1206	37082-1206	37083-1206	37087-1206	8	67.40
37101K-1206	37102-1206	37103-1206	37107-1206	10	83.00
37121K-1206	37122-1206	37123-1206	37127-1206	12	98.60

Part Numbers/4-C PER STATION

37021K-1212	37022-1212	37023-1212	37027-1212	2	24.30
37041K-1212	37042-1212	37043-1212	37047-1212	4	44.10
37061K-1212	37062-1212	37063-1212	37067-1212	6	63.90
37081K-1212	37082-1212	37083-1212	37087-1212	8	84.20
37101K-1212	37102-1212	37103-1212	37107-1212	10	104.00
37121K-1212	37122-1212	37123-1212	37127-1212	12	123.80

SERIES 38000 TWIN LAMP ILLUMINATED SWITCHES

B Same compact assembly and versatility as Series 37000, except features twin lamp illumination at each station for redundant or two color, split-face (alternate) lighting. On 2-C PER STATION switches, each station includes three No. H-83P lighting switch stacks and one No. H lighting spring. This arrangement provides up to 3PDT circuitry. One pole is needed for lighting lamps. On 4-C PER STATION switches, each station includes three No. H-83P lighting switch stacks, two No. 83P switch stacks and one No. H lighting spring. This combination offers 5PDT circuitry; of which, one pole is required for lighting lamps. Series 38000 accepts standard industry No. 718 flange base lamp. Two at each station. Lamps are not furnished with switch. See lamp listing. The following part numbers cover completely assembled and factory tested switches. Should you require additional switching or optional accessories such as power switching modules, solenoid release, etc., make your selection from product listings shown on this page and add them to the switch part number of your choice shown below.

Part Numbers/2-C PER STATION

Interlock with Lock-Out	Non-Lock	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
38021K-1206	38022-1206	38023-1206	38027-1206	2	$25.30
38041K-1206	38042-1206	38043-1206	38047-1206	4	46.10
38061K-1206	38062-1206	38063-1206	38067-1206	6	66.90
38081K-1206	38082-1206	38083-1206	38087-1206	8	88.20
38101K-1206	38102-1206	38103-1206	38107-1206	10	109.00
38121K-1206	38122-1206	38123-1206	38127-1206	12	129.80

Part Numbers/4-C PER STATION

38021K-1212	38022-1212	38023-1212	38027-1212	2	29.50
38041K-1212	38042-1212	38043-1212	38047-1212	4	54.50
38061K-1212	38062-1212	38063-1212	38067-1212	6	79.50
38081K-1212	38082-1212	38083-1212	38087-1212	8	105.00
38101K-1212	38102-1212	38103-1212	38107-1212	10	130.00
38121K-1212	38122-1212	38123-1212	38127-1212	12	155.00

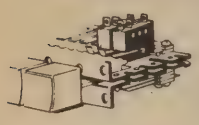
LAMP ADAPTER

Lamp Adapter. Part No. T-1, converts T-1 lamp base to a T-1 $^3/_4$ lamp base. For Series 21000, 22000, 37000. Adapter permits use of T-1 (P-1890) midget flange base in sockets designed for T-1 $^3/_4$ lamps.
Switchcraft Part No. T-1 . . . . . U.S.A. List Price **$0.75**



Accessories for littel "Multi-Switch"® Switches

"PIGGY-BACK" SNAP-SWITCH MODULES



Increases the switching load capacity of littel "Multi-Switch"® switches from 3 amps to 15 amps. Module consists of a snap-action switch, actuator and mounting bracket. Two types available: Miniature types 83SA, for all switching functions except push-lock/push-release; No. 803SA, for push-lock/push-release function. Both rated at 15 amps, ½ HP, 125/250 V.A.C. Subminiature types Nos. 83SC and 83SD, are similar to No. 83SA in function, and Nos. 803SC, 803SD are similar to No. 803SA in function. Subminiature types are rated at 10 amps, ¼ HP, 125 V.A.C. Solder terminals.

Part No.	SPDT Circuits	U.S.A. List Price	Part No.	SPDT Circuits	U.S.A. List Price
83SA	1	$3.55	83SD	2	$10.00
803SA	1	3.55	803SC	1	5.55
83SC	1	5.55	803SD	2	10.00

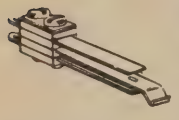
LIGHTING SWITCH STACKS



Lighting switch stacks provide convenient rear-of-frame lamp circuit wiring on Series 37000, 38000. Part No. H consists of "convenience" spring only which effectively extends lamp socket terminal to rear-of-switch. Part Nos. H-83P, H-803P consist of standard Series 80P and 800P switch stacks with a Part No. H "convenience" spring added. Use No. H for lighting only—has no switching capability. Use No. H-83P for all functions except push-lock/push-release; No. H-803P for push-lock/push-release.

Part No.	Circuit	U.S.A. List Price
H	—	$0.55
H-83P	1-C	1.45
H-803P	1-C	1.45

SWITCH STACKS



[C] Interchangeable switch stacks for littel "Multi-Switch"® switches, Series 35000, 37000, 38000, 39000. Series 80P, constructed with cross-bar welded palladium contacts. For use where switch contacts of a released station will return to normal before contacts of a newly operated station are actuated. Series 800P, same as 80P, except designed to be used on push-lock/push-release function. Both Series rated 3 amps, 300 watts max., A.C., non-inductive load. Switch stacks fasten direct to removable switch mounting brackets. Should you require more switching than a standard assembly can provide, select appropriate switch stack from listing and add to the standard switch you have selected.

Part Numbers Series 80P	Part Numbers Series 800P	Circuit	U.S.A. List Price
81P	801P	1-A	$0.80
82P	802P	1-B	.80
83P	803P	1-C	1.05
83PD	803PD	1-D	1.20

LAMPS FOR littel "MULTI-SWITCH"® SWITCHES

Lamps are not furnished with Series 37000, 38000 switches. Series 37000 will accept No. P-1593-2 (6V) and P-1593-1 (28V) lamps. Also, No. P-1890 (6V) lamp when used with *No. T-1 lamp adapter. Series 38000 accepts only No. P-1890. Specify lamps when ordering "Multi-Switch"® switches.

Part No.	Description	U.S.A. List Price
P-1593-1	28 V, 40 ma., Ind. No. 327, Flange Base.	$1.50
P-1593-2	6 V, 200 ma., Ind. No. 328, Flange Base.	1.20
*P-1890	6 V, 115 ma., Ind. No. 718, Flange Base.	3.50

SERIES NJ SOLENOID RELEASE

[D] A simple solenoid assembly which can be added to the end of a standard Series 35000, 37000, or 38000, littel "Multi-Switch"® switch to provide electrical release of activated stations. No. NJ-1 designed for use with up to 18 interlock stations; No. NJ-3 will handle up to 12 all-lock stations. Both are for use in 115 V. 60 cycle, A.C. circuits.

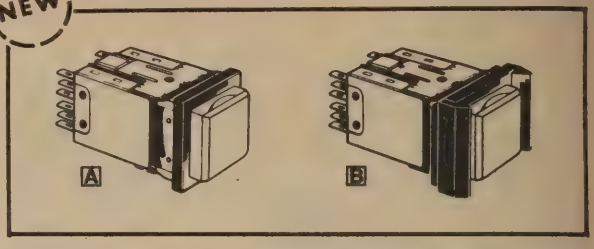
Part No.	Function Used On	Voltage	Max. Duty Cycle	U.S.A. List Price
NJ-1	Interlock	115 V.A.C.	25%	$10.00
NJ-3	All-Lock	115 V.A.C.	10%	10.00

BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



NEW SERIES PL "PUSH-LITE" SWITCHES



"Push-Lite" switch is the first completely enclosed, lighted pushbutton switch which features long-life, highly-reliable leaf-spring switching. Available in **momentary** or **push-lock/push-release** functions; single or twin lamps; with or without barriers; full or split-face display; 1-C to 4-C switching; black or grey switch housing. Standard pushbutton color is white, other colors available on special order. Molded crossbar palladium contacts rated at 2 amps, 200 watts, max., A.C., non-inductive load are standard. Power switching up to 5 amps available on special order. Mount with clamp-type bracket, no screws, washers or nuts needed. [A] Flange mounting requires 1"x.875" panel cutout; [B] barrier mounting requires 1 3/16"x.875" panel cutout. Can be mounted in vertical or horizontal rows and in matrixes. Depth behind panel only 1¾". "Push-Lite" switch accepts standard T-1¾ flange base lamps (not furnished with switch) in either 6V, 28V or neon-115V. See listing below. Specify one lamp for single lamp type or two lamps of twin-lamp type when redundant or split-face lighting is required. Barriers and colored filter snap-inserts optional.

MOMENTARY ACTION—SINGLE LAMP

Part Numbers Black Housing White Pushbutton	Part Numbers Grey Housing White Pushbutton	Action	Schematic	U.S.A. List Price
PL-1032-05	PL-4032-05	S.P.D.T.	1-C	$9.25
PL-1062-05	PL-4062-05	D.P.D.T.	2-C	9.50
PL-1122-05	PL-4122-05	4 P.D.T.	4-C	10.25

MOMENTARY ACTION—TWIN LAMP

PL-2032-05	PL-5032-05	S.P.D.T.	1-C	9.50
PL-2062-05	PL-5062-05	D.P.D.T.	2-C	9.75
PL-2122-05	PL-5122-05	4 P.D.T.	4-C	10.50

PUSH-LOCK/PUSH-RELEASE—SINGLE LAMP

PL-1037-05	PL-4037-05	S.P.D.T.	1-C	9.75
PL-1067-05	PL-4067-05	D.P.D.T.	2-C	10.00
PL-1127-05	PL-4127-05	4 P.D.T.	4-C	10.75

PUSH-LOCK/PUSH-RELEASE—TWIN LAMP

PL-2037-05	PL-5037-05	S.P.D.T.	1-C	10.75
PL-2067-05	PL-5067-05	D.P.D.T.	2-C	11.00
PL-2127-05	PL-5127-05	4 P.D.T.	4-C	11.75

COLOR FILTER SNAP-INSERTS

Translucent filters for special color-coding in "Push-Lite" switch. Use with white or clear pushbuttons. Series PL-300 filters are used for full color display; Series PL-400 for split-face display.

SERIES PL-300 FULL DISPLAY COLOR FILTERS

Part No.	Color	U.S.A. List Price Per Pkg. of 25	Part No.	Color	U.S.A. List Price Per Pkg. of 25
PL-301	Red	$2.75	PL-305	White	$2.75
PL-303	Green	2.75	PL-308	Yellow	2.75
PL-304	Blue	2.75			

SERIES PL-400 SPLIT-FACE DISPLAY COLOR FILTERS

Part No.	Color	U.S.A. List Price Per Pkg. of 50	Part No.	Color	U.S.A. List Price Per Pkg. of 50
PL-401	Red	$4.00	PL-405	White	$4.00
PL-403	Green	4.00	PL-408	Yellow	4.00
PL-404	Blue	4.00			

LIGHT DIVIDER

Light divider for use in standard "Push-Lite" switch pushbutton to separate lighting from twin-lamps. Order a light divider for each Series PL-2000 or PL-5000 switch specified where split-face lighting is desired.
Switchcraft Part No. PL-551 ..... U.S.A. List Price **$2.50** per package of 25

OPTIONAL MOUNTING BARRIERS

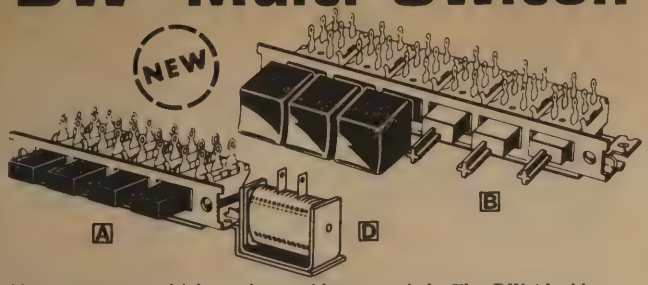
Barriers, molded of plastic, can be used to separate "Push-Lite" switches and prevent accidental operation of adjacent switches. Series PL-100 is an end barrier. One is required when switches are adjacently mounted; two are required when switches are individually mounted. Series PL-200 is a center barrier. Two are required between switches when adjacently mounted.

Part No.	Description	U.S.A. List Price Per Pkg. of 10
PL-102	End barrier—black	$1.50
PL-111	End barrier—grey	1.50
PL-202	Center barrier—black	1.50
PL-211	Center barrier—grey	1.50

For LAMP listing, refer to Page 15.

Trade Discount Applies To List Prices Only
© United Technical Publications

DW "Multi-Switch"® Switches



New, economy multiple station pushbutton switch. The DW (double-wipe) "Multi-Switch"® switch is available up to 18 stations in a single row; or on special order, ganged assemblies with interaction between rows. Max. switching per station is 4-C (D.P.D.T.). Each station utilizes specially designed switching modules with U-shaped, high reliable bifurcated contactors rated at 3 amps, A.C.; 0.5 amp, D.C., 125 V, non-inductive load. DW "Multi-Switch"® switches are available in 5 series: 65000, 66000, 67000, 70000, and 71000. All provide four standard functions: **Interlock**—actuating a pushbutton automatically restores to normal the pushbutton previously actuated. **Lock-Out**—prevents operation of more than one pushbutton at a time. This feature is included on all interlock switches. **Non-Lock**—each pushbutton has momentary action. **All-Lock**—all pushbuttons, except release, lock when depressed. All pushbuttons restored to normal by actuating (momentary) release pushbutton. **Push-Lock/Push-Release**—push-buttons lock when depressed and release when again depressed. **All Series**—pushbuttons on ⅝" centers. DW "Multi-Switch"® switches are available in single row assemblies with interlock and all-lock functions from one to twelve stations; with non-lock and push-lock/push-release functions up to eighteen stations.

SERIES 65000

A Series 65000 switches are completely assembled and tested at the factory. All standard assemblies have 2-C and/or 4-C switch modules with solder-lug terminals. Integral black pushbutton-actuators at each station. Eliminates possible pushbutton loss. Assemblies, from 1 to 18 stations mount with only two No. 6 screws (not furnished). Depth behind panel—2-C assemblies—1 1/16"; 4-C assemblies—1 15/16". Overall switch height is 2 7/32". The following part numbers cover a completed switch assembly. Only the most commonly used switch assemblies are listed here:

Part Numbers/2-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
65021K-206	65023-206	65027-206	2	$ 2.80
65041K-206	65043-206	65047-206	4	5.00
65061K-206	65063-206	65067-206	6	7.20
65081K-206	65083-206	65087-206	8	9.40
65101K-206	65103-206	65107-206	10	11.55
65121K-206	65123-206	65127-206	12	13.75

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
65022-206	2	$2.65	65082-206	8	$ 9.20
65042-206	4	4.85	65102-206	10	11.30
65062-206	6	7.00	65122-206	12	13.50

Part Numbers/4-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
65021K-212	65023-212	65027-212	2	$ 3.30
65041K-212	65043-212	65047-212	4	6.00
65061K-212	65063-212	65067-212	6	8.70
65081K-212	65083-212	65087-212	8	11.40
65101K-212	65103-212	65107-212	10	14.05
65121K-212	65123-212	65127-212	12	16.75

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
65022-212	2	$3.15	65082-212	8	$11.20
65042-212	4	5.85	65102-212	10	13.80
65062-212	6	8.50	65122-212	12	16.50

SOLENOID RELEASE—DW SERIES

D Two simple, pull-type, solenoid assemblies are available that can be added on the end of a Series 65000, 66000, 67000, 70000, 71000 DW "Multi-Switch"® switch. Solenoid assembly, mounting hardware, screws and instruction sheet furnished. Specify separately.

Part No.	Description	U.S.A. List Price
DW-1	Used with interlock function in switches having 1 to 12 stations. Operates from 115 V AC, 60 Hz source. Coil resistance is 361Ω. Duty cycle is 20%.	$6.50
DW-3	Used with all-lock function in switches having 1 to 12 stations. Operates from 115 V AC, 60 Hz source. Coil resistance is 130Ω. Duty cycle is 10%.	6.50

LAMPS FOR SERIES 67000

Lamps are not furnished with Series 67000 switches. Specify one of the flange base lamps for each station.

Part No.	Description	U.S.A. List Price
P-1593-1	28 V, 40 ma., Ind. No. 327, Flange Base.	$1.50
P-1593-2	6 V, 200 ma., Ind. No. 328, Flange Base.	1.20
P-1593-5	6 V, 200 ma., Ind. No. 377, Flange Base.	1.50
*P-1890	6 V, 115 ma., Ind. No. 718, Flange Base.	3.50

*T-1 subminiature flange base lamp. Must be used with No. T-1 Lamp Adapter.

SERIES 70000, 71000

B New, versatile DW "Multi-Switch"® switches. Series 70000, 71000 retain all features of Series 65000, but feature "Cross-Rib" actuators which accept 7 different Switchcraft pushbuttons, plus many other types and styles. Series 70000 switches have a 15/16" long "Cross-Rib" actuator to accept Series 590, A-590, C-590, D-590, E-590 and "Glo-Button" X, Y, Z. Series 71000 switches have a ¾" long "Cross-Rib" actuator to accept all the same pushbuttons as Series 70000 except Series A-590, E-590. Pushbuttons must be ordered separately as they are not supplied with switches. Only the most commonly used switch assemblies are listed here:

Part Numbers (*) 2-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
70021K-206	70023-206	70027-206	2	$ 2.80
70041K-206	70043-206	70047-206	4	5.00
70061K-206	70063-206	70067-206	6	7.20
70081K-206	70083-206	70087-206	8	9.40
70101K-206	70103-206	70107-206	10	11.55
70121K-206	70123-206	70127-206	12	13.75

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
70022-206	2	$2.65	70082-206	8	$ 9.20
70042-206	4	4.85	70102-206	10	11.30
70062-206	6	7.00	70122-206	12	13.50

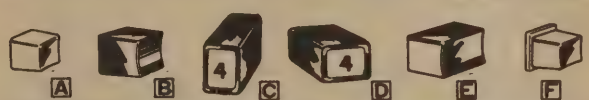
Part Numbers (*) 4-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
70021K-212	70023-212	70027-212	2	$ 3.30
70041K-212	70043-212	70047-212	4	6.00
70061K-212	70063-212	70067-212	6	8.70
70081K-212	70083-212	70087-212	8	11.40
70101K-212	70103-212	70107-212	10	14.05
70121K-212	70123-212	70127-212	12	16.75

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
70022-212	2	$3.15	70082-212	8	$11.20
70042-212	4	5.85	70102-212	10	13.80
70062-212	6	8.50	70122-212	12	16.50

(*) Series 71000 switches are the same as 70000 part numbers in table except first two digits are 71, i.e.

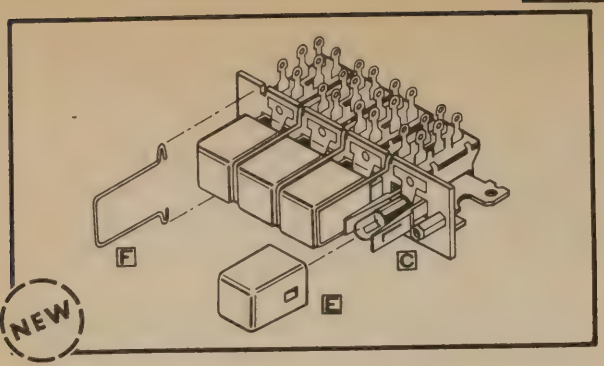
PUSHBUTTONS FOR "MULTI-SWITCH"® SWITCHES



Non-illuminated pushbuttons for Switchcraft Series 7000, 8000, 35000, 70000 and 71000 "Multi-Switch"® switches; and all other pushbutton switches with a standard .050" x .187" plunger. Also fit on Series 5000 "Push-Push" switch. Series 590, A, small pushbutton with concave face. Series A-590, B, square with lateral concave face. Series C-590, C, and D-590, D, rectangular pushbuttons with recessed face. Push-buttons have black housing with white face. Legend on face is black. Available legends are "A" thru "Z", "0" thru "60", and "ON", "OFF". Series C-590 mounts on multiple station pushbutton switches with plungers on ⅝" centers; Series D-590—plungers on ¾" centers. To order: specify Series number and add suffix letter or numeral to part number which describes desired legend. **Example:** To order C-590 with letter "A" part number would read C-590-A. Series E-590, E dual pushbutton simultaneously actuates two pushbutton stations (⅝" plunger centers) or individual switches mounted on 1¼" centers or more. Concave face. Series 600, F, similar to Series 590, except has 19/32" square shoulder.

Part No.	Fig.	Color	Size	U.S.A. List Price
591	A	Red	½" sq.	$2.50 Pkg. of 12
592	A	Black	½" sq.	2.50 Pkg. of 12
595	A	White	½" sq.	2.50 Pkg. of 12
596	A	Brown	½" sq.	2.50 Pkg. of 12
A-591	B	Red	19/32" sq.	5.40 Pkg. of 12
A-592	B	Black	19/32" sq.	5.40 Pkg. of 12
A-595	B	White	19/32" sq.	5.40 Pkg. of 12
A-596	B	Brown	19/32" sq.	5.40 Pkg. of 12
C-590	C	Black Housing White Face	⅜" W. x ¾" H.	1.00
D-590	D	Black Housing White Face	¾" W. x ⅜" H.	1.00
E-591	E	Red	1 13/32" W. x 19/32" H.	.65
E-592	E	Black	1 13/32" W. x 19/32" H.	.65
E-593	E	Green	1 13/32" W. x 19/32" H.	.65
E-594	E	Blue	1 13/32" W. x 19/32" H.	.65
E-595	E	White	1 13/32" W. x 19/32" H.	.65
E-596	E	Brown	1 13/32" W. x 19/32" H.	.65
E-598	E	Yellow	1 13/32" W. x 19/32" H.	.65
601	F	Red	½" sq.; 19/32" sq. shoulder	3.00 Pkg. of 12
602	F	Black	½" sq.; 19/32" sq. shoulder	3.00 Pkg. of 12
605	F	White	½" sq.; 19/32" sq. shoulder	3.00 Pkg. of 12
606	F	Brown	½" sq.; 19/32" sq. shoulder	3.00 Pkg. of 12

© United Technical Publications



SERIES 66000, 67000

C New non-illuminated (Series 66000) and illuminated (Series 67000) DW "Multi-Switch"® switches retain all quality construction and reliable switching of Series 65000. Series 67000 has large square pushbutton, E providing brilliant, evenly-diffused lighting. Standard white pushbuttons (other colors available on special order) easily snap-off actuators for simple front-of-panel relamping. Lamp sockets, at each station, accept a single 6V, and/or 28V lamp. Lamp socket terminals separate from switching terminals. Series 66000, 67000 mount with only two #6-32 machine screws (not furnished). Two #6-32 tapped studs ("stand offs") are integral with the frame and are used to provide proper positioning of the switches. Depth behind panel 1 1/2" (2-C switching); 2 3/8" (4-C switching). Series 66000 is 2 7/32" high; Series 67000 is 1 1/16" high. Series 66000 is a non-illumination companion to the Series 67000. Utilizes same large square white pushbutton, but less lamp socket terminal board and lamp sockets. Only the most commonly used switch assemblies are listed here:

SERIES 66000/2-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
66021K-506	66023-506	66027-506	2	$ 3.40
66041K-506	66043-506	66047-506	4	6.00
66061K-506	66063-506	66067-506	6	8.60
66081K-506	66083-506	66087-506	8	11.20
66101K-506	66103-506	66107-506	10	13.80
66121K-506	66123-506	66127-506	12	16.40

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
66022-506	2	$3.10	66082-506	8	$10.00
66042-506	4	5.40	66102-506	10	12.30
66062-506	6	7.70	66122-506	12	14.60

SERIES 67000/2-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
67021K-506	67023-506	67027-506	2	$ 3.70
67041K-506	67043-506	67047-506	4	6.70
67061K-506	67063-506	67067-506	6	9.70
67081K-506	67083-506	67087-506	8	12.70
67101K-506	67103-506	67107-506	10	15.70
67121K-506	67123-506	67127-506	12	18.70

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
67022-506	2	$3.40	67082-506	8	$11.50
67042-506	4	6.10	67102-506	10	14.20
67062-506	6	8.80	67122-506	12	16.90

SERIES 66000/4-C PER STATION

Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
66021K-512	66023-512	66027-512	2	$ 3.90
66041K-512	66043-512	66047-512	4	7.00
66061K-512	66063-512	66067-512	6	10.10
66081K-512	66083-512	66087-512	8	13.20
66101K-512	66103-512	66107-512	10	16.30
66121K-512	66123-512	66127-512	12	19.40

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
66022-512	2	$3.60	66082-512	8	$12.00
66042-512	4	6.40	66102-512	10	14.80
66062-512	6	9.20	66122-512	12	17.60

SERIES 67000/4-C PER STATION

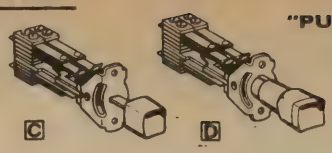
Interlock with Lock-Out	All-Lock	Push-Lock/ Push-Release	No. of Stations	U.S.A. List Price
67021K-512	67023-512	67027-512	2	$ 4.20
67041K-512	67043-512	67047-512	4	7.70
67061K-512	67063-512	67067-512	6	11.20
67081K-512	67083-512	67087-512	8	14.70
67101K-512	67103-512	67107-512	10	18.20
67121K-512	67123-512	67127-512	12	21.70

Part No. Non-Lock	No. of Stations	U.S.A. List Price	Part No. Non-Lock	No. of Stations	U.S.A. List Price
67022-512	2	$3.65	67082-512	8	$13.50
67042-512	4	7.10	67102-512	10	16.70
67062-512	6	10.30	67122-512	12	19.90

METAL BARRIERS FOR SERIES 67000

F Sturdy wire barriers fit between pushbuttons and prevent accidental simultaneous actuation of adjacent pushbuttons. Can be installed on Series 67000 only.

Switchcraft Part No. P-2359 ..... U.S.A. List Price **$1.25** per pkg. of 25



"PUSH-PUSH" SWITCHES

Push-to-lock, push-to-release or momentary action pushbutton switches. Welded cross-bar palladium contacts rated at 3 amps, 300 watts, max., non-inductive load. Mount with two 3-48 screws (not supplied) on 5/8" centers. Depth behind panel, 2 7/8". Series 5000, Fig. C, non-illuminated, supplied with square brown button. Series 15000, Fig. D, illuminated; available in three lighting arrangements. "L" button lights in "IN" position; "M" button lights in "OUT" position; "N" button lights in "IN" and "OUT" positions. Series 15000 part numbers listed below provide "L" type lighting. For "M" type prefix part no. with "M"; for "N" type prefix part no. with "N". Series 15000 supplied less lamp. 6V or 28V lamps can be used.

*Add suffix letter "L" to part number to indicate locking type.

NON-ILLUMINATED SERIES 5000

Part Number Non-Locking*	Action	Schematic Circuit	U.S.A. List Price
5006	D.P.D.T.	2-C	$ 7.20
5012	4 P.D.T.	4-C	9.60

ILLUMINATED SERIES 15000

15003	S.P.D.T.	1-C	$ 9.05
⊕15006	D.P.D.T.	2-C	—
15012	4 P.D.T.	4-C	12.20

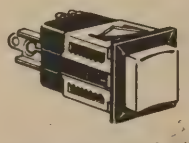
ILLUMINATED "LITTEL-LITE" SWITCHES



Series 210 "Littel-Lite" Switches are unusually small, momentary contact, illuminated pushbutton types. Requires minimum panel space; ideal for limited space applications and press-to-test circuits. One-piece, clear plastic button and shaft is illuminated by a single miniature lamp, 6V or 28V. Lamps are not furnished, see lamp listing below. Includes kit of 4 color chips (red, amber, green, and yellow), can be inserted in switch at any time. Nickel silver spring contacts are recommended for low lever circuits where contact resistance is not important. Also available, fine silver contacts (Part No. suffix "S") rated at 3 amps, 300 watts, max., A.C. non-inductive load. Lighting circuit is independent of switching circuit. Mounts in single 3/8" hole in panels up to 1/4" thick; depth behind panel 1 3/16".

Part Number	Action	Schematic Circuit	U.S.A. List Price
211	S.P.S.T. n.o.	1-A	$1.95
213	S.P.D.T.	1-C	2.40
211S	S.P.S.T. n.o.	1-A	2.25
213S	S.P.D.T.	1-C	2.65

"UNISWITCH" SWITCH



New, low cost, momentary action pushbutton switches. Only 1 1/16" sq. and mount in a single panel cutout. .615" sq. from front of panel. Contacts rated at 250 ma., 30 watts max., A.C. non-inductive load. Series US non-illuminated, Series LUS illuminated. Use one 6V, 1/2 watt, T-1 3/4 bi-pin lamp. (Not supplied with switch.) Lamps replaced from front of panel. Both switches incorporate a special "Adjusto-Clip", which allows simple, "snap-lock" mounting. The "Uniswitch" switches mount in panels 13/16" min. to 1 7/64" max. thick in .615" sq. holes. Depth behind panel only 1 5/16" max. "Uniswitch" switches available in 1-A circuit (SPST n.o.).

Part Numbers

Pushbutton Colors					U.S.A. List Price
Red	Green	Blue	White	Yellow	
LUS-01-1	LUS-03-1	LUS-04-1	LUS-05-1	LUS-08-1	$1.90
US-01-1	US-03-1	US-04-1	US-05-1	US-08-1	1.50

LUS Series—Illuminated
US Series—Non-illuminated

LAMPS FOR ILLUMINATED SWITCHES

The "Push-Lite" switch accepts 6 different incandescent flange base lamps. The "NF-Lite" and "Littel-Lite" switches accept 2 different screw base lamps. The "Push-Push" accepts 5 different incandescent flange base lamps. "Uniswitch" accepts one 6V bi-pin lamp. Switches are not supplied with lamps. When ordering these switches be sure to specify:

Part No.	Used with Switch	Voltage	Lamp Base	Ind. No.	U.S.A. List Price
P-1217	"NF-Lite" "Littel-Lite"	6	Screw	1768	$1.35
P-1218	"NF-Lite" "Littel-Lite"	28	Screw	335	2.00
P-1593-1	"Push-Lite" "Push-Push"	28	Flange	327	1.50
P-1593-2	"Push-Lite" "Push-Push"	6	Flange	328	1.20
P-1593-5	"Push-Lite" "Push-Push"	6	Flange	377	1.50
P-1593-6	"Push-Lite" "Push-Push"	28	Flange	387	1.25
P-1593-7	"Push-Lite" "Push-Push"	6	Flange	381	1.55
*P-1890	"Push-Lite"	6	Flange	718	3.50
P-2290	"Uniswitch"	6	Bi-Pin	7377	1.60

***T-1** subminiature lamp. Must use with **No. T-1 Lamp Adapter.**

LAMP ADAPTER

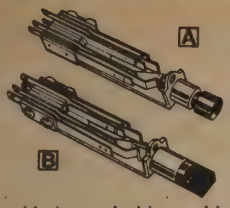
Lamp Adapter, Part No. T-1, converts T-1 lamp base to a T-1 3/4 lamp base. Adapter permits use of T-1 (P-1890) midget flange base in sockets designed for T-1 3/4 lamps such as on Series 67000.

Switchcraft Part No. T-1 ..... U.S.A. List Price **$0.75**

Trade Discount Applies To List Prices Only
© United Technical Publications

Pushbutton Switches

SWITCHCRAFT INC.



"T-SWITCH" SWITCHES

Rugged, long frame switches for quality communication equipment. Welded cross-bar palladium contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires minimum of panel space, only 9/16"x13/16"; 2 7/8" depth behind panel. Series 11000, Fig. A, pushbutton T-Switch. Available in momentary action and push-to-lock, pull-to-release action. Series 11200, Fig. B, two position turn button "T-Switch". Available in non-locking and locking action. Black button with white arrow to indicate switching position.

*Add Suffix "L" to Part Numbers to Indicate Locking Type.

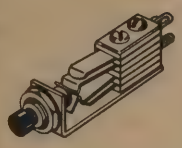
A PUSHBUTTON—SERIES 11000

Part No. Non-Locking*	Action	Schematic Circuit	U.S.A. List Price
11003	S.P.D.T.	1-C	$4.65
11006	D.P.D.T.	2-C	5.80
11006D	D.P.D.T.	2-D	5.80
11012	4 P.D.T.	4-C	7.90

B TURN BUTTON—SERIES 11200

11203	S.P.D.T.	1-C	$4.65
11206	D.P.D.T.	2-C	5.80
11206D	D.P.D.T.	2-D	5.80
11212	4 P.D.T.	4-C	7.90

MINIATURE "TF" BUTTON SWITCHES



"Tiny Frame" switches. Small, sturdily constructed, provides simple, direct acting pushbutton switching for use where space is at a premium. Available in Series 970L push-to-lock, pull-to-release; or Series 970, momentary action. Nickel silver springs, integral contacts, recommended for low level circuits where contact resistance is unimportant. Requires only 1 19/32" depth behind panel; mounts in single 1/4" hole in panels up to 3/32" thick.

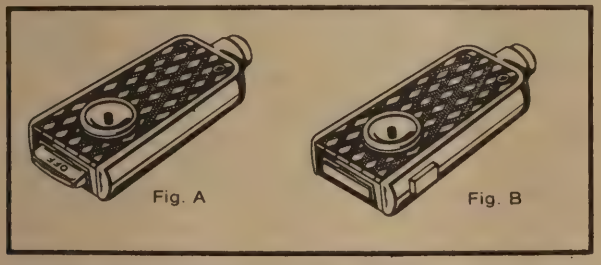
SERIES 970—NON-LOCKING

Part No.	Action	Schematic Circuit	U.S.A. List Price
976	D.P.D.T.	2-C	$1.70

SERIES 970L—LOCKING

976L	D.P.D.T.	2-C	$1.95

"CordMASTER" PENDANT SWITCH



Extremely versatile pendant (cord) switch with top or edge operated pushbutton operation, illuminated and non-illuminated. Attractively patterned stainless steel sheath fits over white shock resistant thermoplastic switch housing to provide greater strength. Series 42000, Fig. A, has top operated pushbutton action. Three standard functions available: Non-Lock—momentary action; Locking—button locks when depressed, releases when side button is depressed; Push-to-Lock, Push-to-Release—button locks when depressed and is released when depressed again. Series 42000E, Fig. B, has edge operation; supplied with "L" type illumination (top jewel lights when button is depressed). Illumination supplied by Ind. No. 377, 6 V miniature, T-1 3/4 flange base lamp (not supplied with switch). Part No. listed has locking function with front button release. Both Series have spring tempered nickel silver contact springs with cross-bar welded palladium contacts rated at 2 amps, 200 watts, max., A.C., non-inductive load. This switch is not recommended for 120 V A.C. line switching. Switches accept cables up to .270" dia. Overall dimensions: 1 3/4" W. x 3 1/16" L. x 5/8" H.

Part No.	Function	Action	Schematic	U.S.A. List Price
42206	Non-Lock	D.P.D.T.	2-C	$ 9.45
42306	Locking	D.P.D.T.	2-C	10.00
42706	Push-to-Lock, Push-to-Release	D.P.D.T.	2-C	10.50
42306E	Locking	D.P.D.T.	2-C	11.05

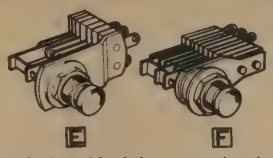
"CORD-SWITCH" SWITCHES



Attractive cord mounted switch for remote control applications. Momentary action. Rated at 250 mils, A.C., non-inductive load, 30 watts max. Part Nos. E-903 and E-913 have bright nickel plated brass housing. Part Nos. EP-903 and EP-913 feature a molded black plastic housing. Housing dia. 1 1/16", length 2 3/16".

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
E-903	E-913	S.P.D.T. "Break-Make"	1-C	$2.50
EP-903	EP-913	S.P.D.T. "Break-Make"	1-C	2.25

NON-LOCKING FLAT FRAME SWITCHES



FF Switches. Fig. E, Series 1000. Flat frame construction provides multiple pole switching with minimum depth behind panel. Fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. One piece black button and shaft. 3/8" diameter threaded shank; mounts in panels up to 1/4" thick.

NF Switches. Fig. F, Series 4000, same as FF Switches, except smaller spring design, ideal for mounting in ultra-compact equipment. Only 1/2" W.; 1 5/8" L.; mounts in 3/8" hole in panels up to 5/32" thick.

Part Numbers Series 1000	Part Numbers Series 4000	Action	Schematic Circuit	U.S.A. List Price
1001	4001	S.P.S.T. n.o	1-A	$1.40
1003	4003	S.P.D.T.	1-C	1.55
1004	4004	D.P.S.T. n.o.	2-A	1.70
1006	4006	D.P.D.T.	2-C	1.95
1009	4009	3 P.D.T.	3-C	2.80

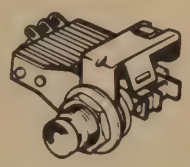
"TINY-SWITCH" PUSHBUTTON SWITCHES



Series 950, red button, and Series 960, black button, subminiature pushbutton switches for limited space applications. Integral contacts suitable for low level circuits where contact resistance is not important. Mounts in 1/4" hole in panels up to 3/32" thick; depth behind panel 3/8".

Part Number Red Button	Part Number Black Button	Action	Schematic Circuit	U.S.A. List Price
951	961	S.P.S.T. n.o.	1-A	$1.05
952	962	S.P.S.T. n.c.	1-B	1.05
953	963	S.P.D.T.	1-C	1.25

ILLUMINATED "NF-LITE" SWITCHES



Series 4100 and 4200 "NF-LITE" illuminated switches indicate switching and circuit functions at a glance. Flat frame construction provides multiple pole momentary action switching. Lighting circuit is independent of switching circuit. Ideal for control panel or press-to-test applications. Contacts are fine silver rated at 3 amps, 300 watts max., A.C., non-inductive load.

Series 4100, Fig. A, uses single miniature lamp, 6V or 28V. Light from lamp is filtered through color chip to clear plastic pushbutton. Various colored chips can be inserted at any time. Series 4200, Fig. B, same as Series 4100, except utilizes two lamps for greater illumination or color coding of two circuit conditions. Both series require 11/16" min., 1 5/16" max., depth behind panel depending on size of stack; mounts in 3/8" hole in panels up to 1/4" thick. Series 4100 furnished with one kit of 4 color chips (red, amber, green, and yellow). Series 4200 furnished with two kits. Lamps must be purchased separately. See lamp listing on page 9.

SERIES 4100

Part Number	Action	Schematic Circuit	U.S.A. List Price
4106	D.P.D.T.	2-C	$2.75
4109	D.P.D.T.	3-C	3.55

SERIES 4200

⊕4201	S.P.S.T. n.o.	1-A	—
4206	D.P.D.T.	2-C	$3.90
4209	3 P.D.T.	3-C	4.50

"BOX SWITCH"

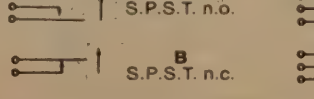


Series BX. Miniature, momentary action, pushbutton switch offers broad switching capabilities in minimum panel space. 11/16" square switch requires 55/64" min. to 1 9/64" max. depth behind panel. Molded plastic body protects against damaging dust and dirt and prevents bending or disfiguring of contacts caused by excessive handling. Attractive bezel frames pushbutton and acts as built-in escutcheon plate. Unique "Adjusto-Clips" provide snap-in, front of panel, mounting in panels from 3/64" to 17/64" thick in .615" sq. holes. Red, black, green, or white pushbuttons. 7/64" button stroke. Integral slide contacts of special spring tempered phosphor bronze, silver plated, rated at: 250 ma., 30 watts max., A.C., non-inductive load. Evenly spaced solder lug terminals are clearly identifed for ease of wiring.

Part Nos. Red Button	Part Nos. Black Button	Part Nos. Green Button	Part Nos. White Button	Action	Schematic Circuit	U.S.A. List Price
BX-01-1	BX-02-1	BX-03-1	BX-05-1	S.P.S.T. n.o.	1-A	$3.45
BX-01-3	BX-02-3	BX-03-3	BX-05-3	S.P.D.T.	1-C	3.60
BX-01-6	BX-02-6	BX-03-6	BX-05-6	D.P.D.T.	2-C	3.95
BX-01-10	BX-02-10	BX-03-10	BX-05-10	D.P.D.T. D.P.S.T. n.o.	2-C & 2-A	4.50

BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



Lever and Pushbutton Switches

"CORDETTE" PENDANT SWITCHES



Small lightweight pendant, momentary action (cord) switches provide remote switching of industrial and commercial instrumentation and control devices. Attractive one-piece grey molded body protects switching controls from dirt and dust. Switch has 1-A (S.P.S.T.) circuit. Integral brass, hard gold contacts rated at 500 MA., 50 watts max., A.C. non-inductive load. Not recommended for use in high voltage circuits. Part No. 921 has phono jax termination molded to body. Mates with Switchcraft molded cable assemblies with phono plug terminations such as 3501, 3501MC, etc. or industry standard phono plugs. Part No. 921K same as 921 except 6′ of 2-cond. unshielded cable molded to switch body. Stripped and tinned cable termination. Overall dimensions $1\frac{3}{16}$″ wide by $2\frac{15}{16}$″ long (not including cable).

Switchcraft Part No. 921 ..... U.S.A. List Price **$4.50**
Switchcraft Part No. 921K ..... U.S.A. List Price **5.25**

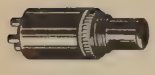
"HI-D SWITCH" SWITCHES



Series H-100, H-200—compact momentary action switches. Molded box body protects contact springs. Low electrical leakage, low capacity. Integral fine-silver plated contacts for use in circuits where contact resistance is not critical. One piece plastic button and shaft in Red—Series H-100, and Black—Series H-200. Mounts on $\frac{5}{8}$″ centers in either of two planes; in a single $\frac{3}{8}$″ hole in panels up to $\frac{5}{32}$″ thick. Depth behind panel $1\frac{3}{32}$″.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
H-101	H-201	S.P.S.T. n.o.	1-A	$1.20
H-102	H-202	S.P.S.T. n.c.	1-B	1.20
H-103	H-203	S.P.D.T.	1-C	1.35

SERIES "DA-SWITCH"



Series DA. Completely enclosed, momentary action pushbutton switch. Anodized aluminum body protects switch contacts from dirt, dust and from being bent. A-B contact arrangement provides a 1-A, 1-B or 1-C circuit when externally wired. Integral hard gold plated contacts rated at 500 MA., 50 watts max., A.C., non-inductive load. Terminals accept AMP Series 53 taper pins. Mount in $\frac{3}{8}$″ hole on $\frac{17}{32}$″ centers. Depth behind panel $\frac{15}{16}$″.

Part No.	Button Color	Part No.	Button Color	U.S.A. List Price
DA-01-3	Red	DA-04-3	Blue	$2.65
DA-02-3	Black	DA-05-3	White	2.65
DA-03-3	Green	DA-08-3	Yellow	2.65

"BUTTON-SWITCH" SWITCHES



Series 903, 923. Unusually small, momentary action pushbutton switches. Enclosed in metal housing; black or red plastic button. Series 903, Fig. G. back panel mounting; $\frac{15}{32}$″ hole, mounts in panels up to $\frac{19}{64}$″ thick. Series 923, Fig. H. front panel mounting; $\frac{1}{4}$″ hole, mounts in panels up to $\frac{5}{32}$″ thick. Both rated at 250 mils, A.C., non-inductive load, 30 watts max.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
903	913	S.P.D.T. "Break-Make"	1-C	$1.55
903D	913D	S.P.D.T. "Make-Break"	1-D	1.55
923	933	S.P.D.T. "Break-Make"	1-C	1.65
923D	933D	S.P.D.T. "Make-Break"	1-D	1.65

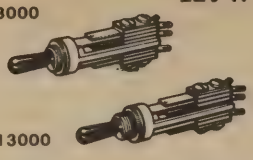
"LITTEL-SWITCH" SWITCHES



Series 100, 200, tiny momentary contact push-button switches. Rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Series 100 and 200, springs are of nickel silver, recommended only for low level circuits where contact resistance is unimportant. Series 100S and 200S have fine silver contacts rated at 3 amps or 300 watts max., A.C., non-inductive load. One-piece plastic button and shaft in red or black. Mounts in $\frac{3}{8}$″ hole in panels up to $\frac{1}{4}$″.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
101	201	S.P.S.T. n.o.	1-A	$1.05
101S	201S	S.P.S.T. n.o.	1-A	1.35
102	202	S.P.S.T. n.c.	1-B	1.05
102S	202S	S.P.S.T. n.c.	1-B	1.35
103	203	S.P.D.T.	1-C	1.25
103S	203S	S.P.D.T.	1-C	1.55

"LEV-R" SWITCHES



Small lever action switches in two and three position types, locking and non-locking action. Requires half the space usually needed for a lever switch; frame bushing and shaft nickel plated brass. Supplied with locknut and screw-on black knob. Fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. Non-locking types have spring return. Series 3000 mounts in panels up to $\frac{3}{32}$″ thick; Series 13000 mounts in panels up to $\frac{1}{4}$″ thick. Both Series are $\frac{5}{8}$″ wide; requires $2\frac{1}{4}$″ behind panel; mounts in single $\frac{1}{2}$″ dia. hole. †n.o. center position off. ‡Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side. *Add suffix letter "L" to Part No. to indicate locking type.

SERIES 3000 TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Schematic Circuit Pos. 2	U.S.A. List Price
3001	S.P.S.T. n.o.	1-A		$2.40
3003	S.P.D.T.	1-C		2.85
3004	D.P.S.T. n.o.	2-A		3.10
3006	D.P.D.T.	2-C		3.45
3006D	D.P.D.T.	2-D		3.70
3009	3 P.D.T.	3-C		4.45

THREE POSITION TYPES

3033	S.P.D.T. n.o.	1-C†		$3.10
3034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	3.20
3036	S.P.D.T. Ea. Sec.	1-C	1-C	3.60
3036D	S.P.D.T. Ea. Sec.	1-D	1-D	4.05
3037	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.70
30312	D.P.D.T. Ea. Sec.	2-C	2-C	4.85
30313	D.P.D.T. n.o. Ea. Sec.	2-C†	2-C†	4.85

SERIES 13000 TWO POSITION TYPES

13001	S.P.S.T. n.o.	1-A		$2.60
13003	S.P.D.T.	1-C		3.00
13004	D.P.S.T. n.o.	2-A		3.30
13006	D.P.D.T.	2-C		3.60
13006D	D.P.D.T.	2-D		3.85
13009	3 P.D.T.	3-C		4.80

THREE POSITION TYPES

13033	S.P.D.T. n.o.	1-C†		$3.30
13034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	3.40
13036	S.P.D.T. Ea. Sec.	1-C	1-C	3.95
13036D	S.P.D.T. Ea. Sec.	1-D	1-D	4.20
13037	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.95
130312	D.P.D.T. Ea. Sec.	2-C	2-C	5.10
130313	D.P.D.T. n.o. Ea. Sec.	2-C†	2-C†	5.10

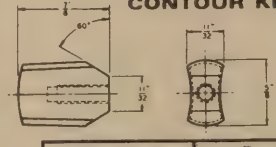
INTER-COM SWITCHES‡ SERIES 3000

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Schematic Circuit Pos. 2	U.S.A. List Price
3033T	S.P.D.T. n.o.	1-C†		$3.10
3037T	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.70

SERIES 13000

13033T	S.P.D.T. n.o.	1-C†		$3.30
13037T	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.95

CONTOUR KNOBS FOR LEVER SWITCHES



Attractive contour knobs designed for today's modern equipment. Series M-1177 knobs, 8-32″ tapped hole for use with "LEV-R" switches Series 3000, 12000 and 13000. Series M-1178 knobs, 6-32″ tapped hole for use with "TEL-EVER" switches Series 6000 and 16000.

Part No. Series 1177	Part No. Series 1178	Color	U.S.A. List Price Per Pkg. of 10
M-1177-1	M-1178-1	Red	$4.50
M-1177-2	M-1178-2	Black	4.50
M-1177-15	M-1178-15	White	4.50

SPECIAL WRENCHES

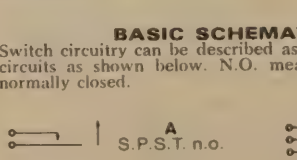


Special Switchcraft wrenches designed to assemble knurled locknuts normally furnished with lever and button switches and jacks. A-1070 wrench fits $\frac{15}{32}$″-32 locknuts; A-1071 for use with $\frac{1}{4}$″-32 knurled locknuts.

Switchcraft Part No. A-1070 ..... U.S.A. List Price **$7.90**
Switchcraft Part No. A-1071 ..... U.S.A. List Price **7.90**

BASIC SCHEMATIC CIRCUITS

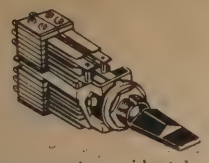
Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



Trade Discount Applies To List Prices Only
© United Technical Publications

Lever Switches

SWITCHCRAFT INC.



"LT SWITCH"

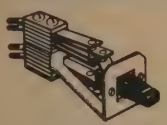
Series 41000. Smallest, high-quality, telephone type lever switch available. Two or three position types with positive locking and/or non-locking action. Special damping block guards against transient leaf bounce. "Can't-Cheat" detent guide prevents accidental actuator by-pass of switching positions. Switch has rigid "U"-shaped, twin girder frame. Its parallel steel members terminate in an interlocked box where spring combinations are mounted. The special long life, nickel-silver springs can be individually fastened to any one of the frame's four switch stacks mounting positions. Welded cross bar palladium contacts rated at 3 amps, 200 watts max., A.C., non-inductive load are standard. Series 41000 mounts on $^{23}/_{32}$" centers in a $^{15}/_{32}$" dia. hole in panels up to $^{1}/_{4}$" thick. Requires only $2^{1}/_{8}$" depth behind panel. The bushing includes a keyway to accept the non-turn ring which prevents switch turning or twisting in panel. *Add suffix "L" to Part No. to indicate locking type.

SERIES 41000
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuits Pos. 1	Pos. 2	U.S.A. List Price
41203	S.P.D.T.	1-C		$4.45
41206	D.P.D.T.	2-C		5.55
41208	4 P.S.T. n.o.	4-A		6.10
41212	4 P.S.T.	4-C		7.50

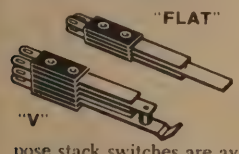
THREE POSITION TYPES

41306	S.P.D.T. Ea. Sec.	1-C	1-C	$5.55
41308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	6.10
41312	D.P.D.T. Ea. Sec.	2-C	2-C	7.50
41324	4 P.D.T. Ea. Sec.	4-C	4-C	11.05



"LK" LITTEL-KEY SWITCHES

Series 23000. Short frame lever-type switches available in 2 or 3 positions, locking or non-locking types. Ideal for applications where panel mounting space and depth behind panel is at a premium. Fine silver contacts, rated at 3 amps, 300 watts max., A.C., non-inductive load. Frame has 2 tapped No. 3-48 holes for easy mounting. Mounts in panels up to $^{1}/_{8}$" thick. Depth behind panel only $2^{3}/_{32}$". Series 23000 switches are available in circuit combinations from 1-A up to 4-A. We invite your inquiries. Samples and/or quotations will be handled promptly.



STACK SWITCHES

General purpose stack switch assemblies made from a pile-up of various actuator springs, contact springs and lifters. These stack switch assemblies can be used on manually operated devices where switching is operated by cams, levers, pushbuttons and other mechanical devices. General purpose stack switches are available with a "Flat" or "V" actuator spring. Fine silver or palladium cross bar welded contacts are standard, rated at 3 amps, 300 watts max., A.C., non-inductive load. Supplied with pressure plate and two No. 5-40 screws; mount on $^{3}/_{8}$" centers. Height of stack depends on switching circuit; 1-B circuit $^{21}/_{64}$" H., min.; 2-C circuit $^{45}/_{64}$" H., max. Only the most commonly used "Flat" actuator stack switches are listed below. Contact Switchcraft for price and delivery information on "V" actuator spring stack switches.

FLAT ACTUATOR SPRING

Part No.	Contact Material	Action	Schematic Circuit	U.S.A. List Price
AA01AA	Silver	S.P.S.T. n.o.	1-A	$0.95
AA01AB	Palladium	S.P.S.T. n.c.	1-A	1.05
AA03AA	Silver	S.P.D.T.	1-C	1.20
AA03AB	Palladium	S.P.D.T.	1-C	1.40
AA06AA	Silver	D.P.D.T.	2-C	1.70
AA06AB	Palladium	D.P.D.T.	2-C	2.00



STACK SWITCH KITS

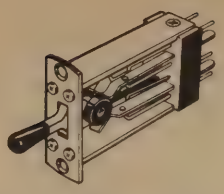
Experimental kits of component parts for assembling switch stacks. Designed to speed the assembly of engineering samples in the lab, aid maintenance men in the field and save time in general replacement. Ideal for mechanical engineers and coin machine servicing; used in relays, electronic organs, etc. Each kit consists of 136 springs in different thicknesses, over 152 phenolic spacers and insulators in various sizes, hard-rubber insulating tubing, two sets of stack assembling pins, two roller assemblies, assorted contacts, etc. Kit No. K-119, consisting of "Tini-Stack" components are miniature variations of standard switch stack springs, spacers, etc. All in compartmented plastic box.

Kit No. K-101. Assorted $^{1}/_{4}$" and $^{3}/_{8}$" mtg. center contact springs and associated parts ..... NET **$12.60**

Kit No. K-102. Assorted $^{1}/_{4}$" mtg. center contact springs and associated parts ..... NET **12.60**

Kit No. K-103. Assorted $^{3}/_{8}$" mtg. center contact springs and associated parts ..... NET **12.60**

Kit No. K-119. "Tini-Stack". Assorted $^{3}/_{16}$" mtg. center contact springs and associated parts ..... NET **12.60**



"LO-CAP" SWITCHES

Series 10000. Low-capacity lever actuated switches, previously referred to as **Federal Anti-Capacity switches.** Specially designed flat actuator springs and round contact springs are wide spaced in a large molded insulating block. This construction eliminates the build-up of induced alternating current between springs. Rugged "U" shaped aluminum frame. Roller actuation for easy lever operation. Available in 2 and 3 position models, locking and non-locking types. Actuator springs have fine silver contacts rated at 1 amp, 100 watts, max., A.C., non-inductive load. Supplied with polished chrome escutcheon plate. Mounts with two No. 6-32 flat head screws (not supplied). Mounting centers $1^{15}/_{16}$". Depth behind panel $^{37}/_{16}$". †n.o. center position off.
*Add suffix letter "L" to Part No. to indicate locking type.

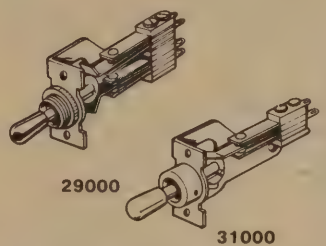
TWO POSITION TYPES

Part No. Non-Locking*	Old Federal No.**	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
10206	—	D.P.D.T.	2-C		$8.40

THREE POSITION TYPES

10307	1425	S.P.D.T.n.o. Ea. Sec.	1-C†	1-C†	$8.40
10313	1424	D.P.D.T.n.o. Ea. Sec.	2-C†	2-C†	9.20
10325	12494	4 P.D.T.n.o. Ea. Sec.	4-C†	4-C†	21.00

**Old Federal Part No. refer to locking type switches only.



"FEATHER-LEVER" SWITCHES

Miniature lever switches, lightweight, compact, mount on $^{7}/_{16}$" centers. Available in 2 and 3 position, locking and non-locking types. Actuator designed with nylon roller for smoother, easy lever operation over entire life of switch. Rugged steel frame withstands rough usage, shock and vibration. Nickel silver springs with fine silver contacts, rated at 2 amperes, 200 watts, max., A.C., non-inductive load. Supplied with black plastic push-on knob. Other push-on knobs, available in 10 colors. See listing below. Series 29000, with bushing, mounts in $^{5}/_{16}$" O.D. panel hole. Supplied with locknut. Series 31000, is available on "SPECIAL" order in all circuit combinations offered in Series 29000. Contact Switchcraft for price and delivery information. Series 31000, mounts with 2 No. 2-56 machine screws. Both Series supplied with black push-on knob. Require only $1^{9}/_{32}$" depth behind panel, mount in panels up to $^{1}/_{8}$" thick. †n.o., center position off. ‡Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side.
*Add suffix letter "L" to Part No. to indicate Locking type.

TWO POSITION TYPES

Part No. Non-Locking	Part No. Locking	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
29201	29201L	S.P.S.T. n.o.	1-A		$2.30
29203	29203L	S.P.D.T.	1-C		2.65
29206	29206L	D.P.D.T.	2-C		3.20

THREE POSITION TYPES

29303	29303L	S.P.D.T. n.o.	1-C†		$2.90
29304	29304L	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	3.00
29306	29306L	S.P.D.T. Ea. Sec.	1-C	1-C	3.40
29307	29307L	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.45
29312	29312L	D.P.D.T. Ea. Sec.	2-C	2-C	4.40

INTER-COMM SWITCHES‡

29303T	S.P.D.T. n.o.	1-C†		$2.90
29307T	S.P.D.T. n.o. Ea. Sec.	1-C	1-C	3.45



PUSH-ON COLOR KNOBS

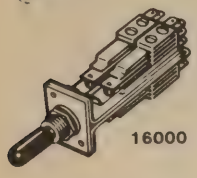
Kit of molded plastic knobs. Available in 10 colors. For "Feather-Lever" Switches, Series 29000, 31000. Knobs can be changed quickly—simply pull off present knob and push-on new one. For permanence, use plastic cement.

Part No.	Color	Part No.	Color	U.S.A. List Price Per Pkg. of 10
K-108	One of ea color	K-114	Brown	$0.90
K-109	Red	K-115	Orange	0.90
K-110	Black	K-116	Yellow	0.90
K-111	Green	K-117	Ivory	0.90
K-112	Blue	K-118	Gray	0.90
K-113	White	—	—	0.90

SWITCHCRAFT INC.

Lever Switches


6000


16000

"TELEVER" SWITCHES

Series 6000 and 16000. Rugged telephone type lever switches featuring "T-Beam" frame construction which results in a relatively light construction with sturdiness of a structural "T-Beam". Available in two and three positions, locking and non-locking types. Nylon rollers on the lever actuate the special nickel silver springs, providing smooth action; assures long dependable spring life. Welded crossbar palladium contacts are standard, rated at 3 amps, 300 watts max., A.C., non-inductive load. Series 6000 mounts with four No. 3-48 machine screws. Mounting centers $1^{7}/_{32}$" x $1^{3}/_{16}$", mounts in panels up to $^{1}/_{4}$" thick. Series 16000 features single hole mounting; $^{15}/_{32}$"-32 threaded bushing. Mounts in $^{1}/_{2}$" dia. hole in panels up to $^{1}/_{4}$" thick. Part No. 545, "Stop Plate" provides positive "stops" for two position action. Part No. 540, "Stop Plate" provides non-locking or momentary action. The "Stop Plates" can be changed in the field. Both Series switches supplied with black insulated knob. All have tinned solder lug terminals. *Add suffix letter "L" to Part No. to indicate locking type. Series 16000 non-locking type can be converted to locking type by removing "Stop Plate".

SERIES 6000
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
6006	D.P.D.T.	2-C		$5.55
60012	4 P.D.T.	4-C		7.40
60012D	4 P.D.T.	4-D		8.30
60024	8 P.D.T.	8-C		11.30

THREE POSITION TYPES

6036	S.P.D.T. Ea. Sec.	1-C	1-C	$5.55
6038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	6.15
60312	D.P.D.T. Ea. Sec.	2-C	2-C	7.40
60312D	D.P.D.T. Ea. Sec.	2-D	2-D	8.35
60316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	9.75
60324	4 P.D.T. Ea. Sec.	4-C	4-C	11.30

SERIES 16000
TWO POSITION TYPES

16006	D.P.D.T.	2-C	$5.80
16006D	D.P.D.T.	2-D	6.50
16008	4 P.S.T. n.o.	4-A	6.50
16009	3 P.D.T.	3-C	6.95
160012	4 P.D.T.	4-C	7.90
160012D	4 P.D.T.	4-D	8.70
160024	8 P.D.T.	8-C	11.55

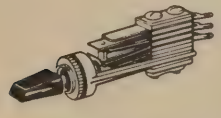
THREE POSITION TYPES

16036	S.P.D.T. Ea. Sec.	1-C	1-C	$5.80
16036D	S.P.D.T. Ea. Sec.	1-D	1-D	6.50
16038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	6.50
160312	D.P.D.T. Ea. Sec.	2-C	2-C	7.90
160312D	D.P.D.T. Ea. Sec.	2-D	2-D	8.70
160316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	10.20
160324	4 P.D.T. Ea. Sec.	4-C	4-C	11.55

Part No. 530 Escutcheon Plate. For Series 6000, Telever switches with 4 mounting screws. U.S.A. List Price **$1.05**

Part No. 540 Stop Plate. For Series 16000 Telever switches. To convert from locking to non-locking action. Includes two mounting screws. U.S.A. List Price **$0.35**

Part No. 545 Stop Plate. For Series 16000 Telever switches. To convert from 3-position to 2-position. Includes two mounting screws. U.S.A. List Price **$0.35**



"LEV-R" SWITCHES

"LEV-R" Switches. Series 28000. Compact, lever action switch in two and three position, locking and non-locking types. Smooth, easier lever action assured with special nylon roller. Supplied with locknut, non-turn ring (slips over slotted bushing to prevent switch from turning in mounting hole), and a black knob which is molded directly to the lever. Eliminates loose or lost knobs. Fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. Mounts on $^{5}/_{8}$" centers in panels up to $^{3}/_{32}$" thick. Requires only one $^{15}/_{32}$" dia. mounting hole for bushing and one $^{1}/_{8}$" dia. hole for non-turn device; depth behind panel, $2^{1}/_{4}$". *Add suffix letter "L" to Part No. to indicate locking type. †Center position open (OFF).

TWO POSITION TYPES

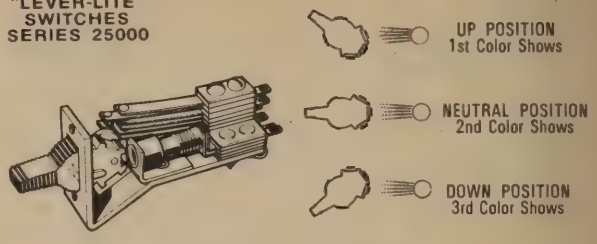
Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
28201	S.P.S.T. n.o.	1-A		$3.20
28203	S.P.D.T.	1-C		3.80
28206	D.P.D.T.	2-C		4.40

THREE POSITION TYPES

28304	S P S T n o Ea Sec	1-A	1-A	$4.15
28306	S P D T Ea Sec	1-C	1-C	4.55
28307	S P D T n o Ea Sec	1-C†	1-C†	4.65
28312	D P D T Ea Sec	2-C	2-C	5.65

3-COLOR ILLUMINATED LEVER SWITCHES

"LEVER-LITE" SWITCHES SERIES 25000



"Lever-Lite", Series 25000. Illuminated switches indicate positions at a glance. Individual color chips can be inserted in each switch position. Available in 2 or 3 position, locking and non-locking types. Reduces panel space; minimizes costly wiring. Supplied with 6V miniature screw base lamp and six color chips, Red, Green, Amber, Yellow, Blue and White; 28V lamp also available. See lamp listing below. Nickel-silver springs, silver contacts rated 3 amps, 300 watts max., A.C., non-inductive load. Requires only $2^{1}/_{4}$" depth behind panel, can be mounted on $^{5}/_{8}$" centers in panels up to $^{3}/_{32}$" thick.

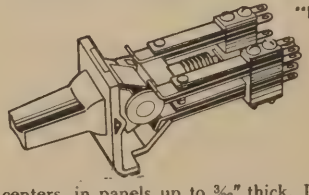
Size: $2^{1}/_{4}$" L. x $^{39}/_{64}$" W. x $1^{7}/_{32}$" H. *Add suffix letter "L" to Part No. to indicate locking type.

TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
25201	S.P.S.T. n.o.	1-A		$4.85
25203	S.P.D.T.	1-C		5.15
25206	D.P.D.T.	2-C		6.05
25209	3 P.D.T.	3-C		6.95

THREE POSITION TYPES

25304	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	$5.50
25306	S.P.D.T. Ea. Sec.	1-C	1-C	6.05
25308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	6.70
25312	D.P.D.T. Ea. Sec.	2-C	2-C	7.25



"LEVER-LITE" SWITCHES SERIES 27000

"Lever-Lite", Series 27000 illuminated lever switch, three color lighting identical to Series 25000, but utilizes a larger, contoured lever and larger, factory installed color filters. Available in 2 or 3 position, locking and non-locking types. Mounts on $^{3}/_{4}$" centers, in panels up to $^{3}/_{32}$" thick. Depth behind panel $2^{3}/_{16}$". Nickel silver springs with fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. On standard 2 position type AMBER lights in the "NEUTRAL" position; GREEN lights in the "DOWN" position. On 3 position types, RED lights in the "UP" position, AMBER in "NEUTRAL" position and GREEN in the "DOWN" position. Supplied with a 6V lamp. †n.o. center position off. *Add suffix "L" to part number to indicate locking type.

TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
27206	D.P.D.T.	2-C		$7.90
27212	4 P.D.T.	4-C		9.70

THREE POSITION TYPES

27306	S.P.D.T. Ea. Sec.	1-C	1-C	$7.90
27307	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	8.05
27312	D.P.D.T. Ea. Sec.	2-C	2-C	9.70

LAMPS FOR "LEVER-LITE" SWITCHES

Lamps are mounted in a "snap-out" frame assembly. A 6V lamp is furnished with each of the above listed switches. Specify the following part numbers when ordering replacement lamps:

Part No.	Voltage	Base	Ind. No.	U.S.A. List Price
P-1217	6V	Screw	1768	$1.35
P-1218	28V	Screw	Hudson 369	2.00

ESCUTCHEON PLATES FOR "LEVER-LITE" SWITCHES

For easy and convenient mounting of Series 25000 and 27000 Switches. Satin black finish. Eliminates punching rectangular hole in mounting panel. Part No. 531 for Series 25000, complete with two No. 3-48 black machine screws. Part No. 532 for Series 27000, complete with two No. 2-56 machine screws.

Switchcraft Part No. 531 ..... U.S.A. List Price **$0.25**
Switchcraft Part No. 532 ..... U.S.A. List Price **0.35**

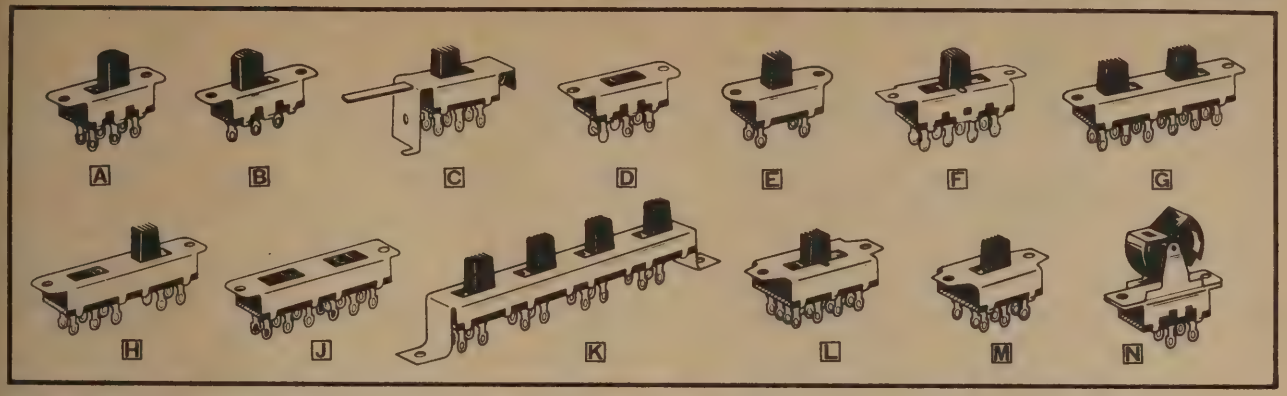
AMBIENT LIGHT SHIELD

For use where "LEVER-LITE" Series 27000 switches are mounted on minimum centers. Shield gives positive separation of lighting between switches. Shield is placed between panel and switch, held in place by mounting screws. Two shields can be used per switch if desired.

Switchcraft Part No. P-1864 ..... U.S.A. List Price **$0.20**

Trade Discount Applies To List Prices Only
© United Technical Publications

"double-wipe" Slide Switches



New low-cost, precision "double-wipe" slide switches. Switches use special U-shaped, bifurcated sliders to assure continuous wiping action. Contacts rated at 0.5 amp, D.C., 3 amps, A.C., 125 volts non-inductive load. Standard solder lug terminals have a $^{5}/_{64}$" dia. center hole and wrap-around notch for wiring ease. Most switches furnished with black $^{11}/_{32}$" knob and .140" ($^{9}/_{64}$") dia. mounting holes. Nos. 46206LFR, 46256LFR and 47227LF flush screwdriver actuated knob. All slide and rocker switches are U.L. approved unless otherwise noted. See next page for slide switch contact arrangement.

SERIES 46000R
2 AND 3 POSITION GENERAL PURPOSE TYPE

Series 46000R rated at 3 amps, A.C., 0.5 amp, D.C. 125 volts, non-inductive load; except shorting types 46203LRS and 46206LRS, rated at 0.5 amp, 125 volts, D.C. only. No. 46206MP, 2 position momentary switch with $^{11}/_{16}$" plunger and extruded and tapped 6-32 mounting holes. Nos. 46206LFR and 46256LFR feature a flush screwdriver slotted knob. No. 46204MBR pushbutton switch with $^{5}/_{16}$" knob. Series 46000R U.L. listed as approval.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
46201MR	S.P.S.T. Momentary	I	B	$0.40
46202LR	S.P.S.T. Locking	II	A	.35
46202MR	S.P.S.T. Momentary	I	B	.40
46203LR	S.P.D.T. Locking	III	A	.40
46203LSR	S.P.D.T. Locking	III	A	.45
46203MR	S.P.D.T. Momentary	III	B	.45
46204LR	D.P.S.T. Locking	2-II	A	.45
46204MR	D.P.S.T. Momentary	2-I	B	.50
46206LR	D.P.D.T. Locking	2-III	A	.50
46206LSR	D.P.D.T. Locking	2-III	A	.55
46206MR	D.P.D.T. Momentary	2-III	B	.60
46206MP	D.P.D.T. Momentary	2-III	C	.75
46206LFR	D.P.D.T. Locking	2-III	D	.65
46256LFR	D.P.D.T. Locking	V	D	.70
46204MBR	D.P.S.T. Momentary	IV	E	.65

Three position types with positive center detent action. All have shutter type dust cover to prevent dirt and dust from contaminating switch contacts. Series 46300LDR type—locking in all positions. Series 46300MDR type—momentary action on either side of center. Center position OFF. Series 46300TDR type—momentary one side of center (locking) position, locking other side.

Part No.	Circuitry	Action Positions #1 Center #2 Locking		Schematic	Fig.	U.S.A. List Price
46311LDR	S.P.T.T.	L	L	VI	F	$0.65
46311MDR	S.P.T.T.	M	M	VI	F	.75
46311TDR	S.P.T.T.	L	M	VI	F	.70
46313LDR	D.P.T.T.	L	L	2-VI	F	.70
46313MDR	D.P.T.T.	M	M	2-VI	F	.80
46313TDR	D.P.T.T.	L	M	2-VI	F	.75

SERIES 47000 TANDEM SLIDE SWITCHES

Compact, two-gang, slide switches. Series 47000L two independent knobs: Part No. 47206LC, single knob construction with coupling link between knobs. One knob $^{11}/_{32}$", other flush screwdriver operated. No. 47227LF two knobs flush with switch housing, one knob screwdriver actuated. Knobs are coupled. Shorting bar each section. Rated at 0.5 amp, D.C., 3 amps, A.C., 125 volts non-inductive load. U.L. listed as approved.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
47202L	S.P.S.T.-S.P.S.T. Locking	II II	G	$0.75
47206L	D.P.D.T.-D.P.D.T. Locking	2-III 2-III	G	1.10
47206LC			H	1.10
47227LF	D.P.D.T.-D.P.D.T. Locking	V V	J	1.75

SERIES 48000 QUADRUM SLIDE SWITCHES

Four-gang slide switches with independent knob operation. $^{11}/_{32}$" knob height and .153" mounting holes.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
48208L*	4 S.P.S.T. Locking	4-II	K	$1.80
48224L*	4 D.P.D.T. Locking	8-III	K	2.40

*Not submitted for U.L. approval.

SERIES 49000
3 POSITION GENERAL PURPOSE TYPE

Large, heavy duty 3 and 4 pole slide switches. Knob height ½". Mounting holes $^{9}/_{64}$". Series 49000L, non-shorting. U.L. listed as approved.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
49309L	3 P.D.T. Locking	3-III	L	$0.95
49329L	3 P.T.T. Locking	3-VI	L	1.00
49312L	4 P.D.T. Locking	4-III	L	1.00
49331L	4 P.T.T. Locking	4-VI	L	1.10

SERIES 50000
2 POSITION GENERAL PURPOSE TYPE

Series 50000L and M, non-shorting; Series 50000LS and MS; with shorting contacts. U.L. listed as approved.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
50207L	3 P.S.T. Locking	3-II	M	$0.90
50207M	3 P.S.T. Momentary	3-II	M	1.05
50208L	4 P.S.T. Locking	4-II	M	.95
50209L	3 P.D.T. Locking	3-III	M	1.00
50209LS				1.05
50209M	3 P.D.T. Momentary	3-III	M	1.15
50209MS				1.20
50212L	4 P.D.T. Locking	4-III	M	1.05
50212LS				1.10

SERIES 51000
2 POSITION ROCKER SWITCHES

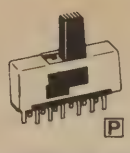
Compact rocker switches offer same quality and dependability as standard slide switches. Rugged rocker bracket is precision welded to standard slide switch housing. Rocket pivots between bracket members to allow free actuation of switch mechanism. Black rocker.

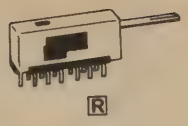
Part No.	Action	Schematic	Fig.	U.S.A. List Price
51201MR	S.P.S.T. n.o. Momentary	I	N	$0.95
51202LR	S.P.S.T. n.c. Locking	II	N	.90
51202MR	S.P.S.T. n.c. Momentary	II	N	.95
51203LR	S.P.D.T. Locking	III	N	.95
51203MR	S.P.D.T. Momentary	III	N	.90
51204LR	D.P.S.T. Locking	2-I	N	1.00
51204MR	D.P.S.T. Momentary	2-I	N	1.05
51206LR	D.P.D.T. Locking	2-III	N	1.05
51206MR	D.P.D.T. Momentary	2-III	N	1.00

SWITCHCRAFT INC.

Switches


O


P


R

SERIES 52000
2 POSITION ROCKER SWITCHES

Larger than Series 51000, offering 3 and 4 poles of switching. Series 52000L, non-shorting; Series 52000LS with shorting contacts. U.L. listed as approved.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
52207L	3 P.S.T. Locking	3-II	O	$1.25
52208L	4 P.S.T. Locking	4-II	O	1.30
52209L	3 P.D.T. Locking	3-III	O	1.35
52209LS				1.40
52212L	4 P.D.T. Locking	4-III	O	1.40
52212LS				1.45

SERIES 53000
2 POSITION MINIATURE SLIDE SWITCHES

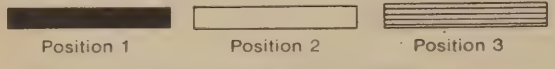
Printed circuit terminals snap easily in P.C. boards. Nos. 53206L, 53212L have $\frac{1}{2}$" knobs, plunger. No. 53212MP is constructed with a momentary plunger.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
53206L*	D.P.D.T. Locking	2-III	P	$1.20
53212L*	4 P.D.T. Locking	4-III	P	1.50
53212MP*	4 P.D.T. Momentary	4-III	R	1.70

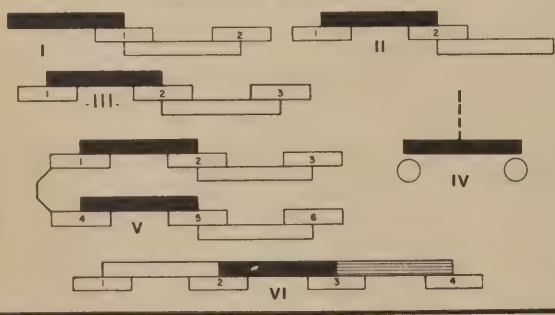
*Not submitted for U.L. approval

"DW" SLIDE SWITCH CONTACT ARRANGEMENT

Standard "break" before "make" (non-shorting). "Make" before "break" (shorting) switches are available in some models, refer to Series 46000, 49000, 50000 and 52000.



BASIC SCHEMATIC CHART





"LEV-R" SWITCHES, SERIES 12000

Small right-angle action switches requiring minimum of depth behind panel. Available in two and three position, locking and non-locking types. Long leaf-type springs insure long switch life. Fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires only $\frac{7}{8}$" depth behind panel, single $\frac{1}{2}$" dia. mounting hole; mounts in panels up to $\frac{3}{32}$" thick. Supplied with nickel plated locknut and removable black pastic knob. †n.o. center position off. *Add suffix letter "L" to Part No. to indicate locking type.

TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
12003	S.P.D.T.	1-C		$2.45
12006	D.P.D.T.	2-C		3.05
12006D	D.P.D.T.	2-D		3.35

THREE POSITION TYPES

12033	S.P.D.T. n.o.	1-C†		$2.75
12034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	2.85
12035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	2.85
12036	S.P.D.T. Ea. Sec.	1-C	1-C	3.20
12036D	S.P.D.T. Ea. Sec.	1-D	1-D	3.45
12037	S.P.D.T. Ea. Sec.	1-C†	1-C†	3.35

THREE POSITION TYPES
LOCKING ONE SIDE—NON-LOCKING OTHER SIDE

12033T	S.P.D.T. n.o.	1-C†		$2.75
12037T	S.P.D.T. Ea. Sec.	1-C†	1-C†	3.35



"RS" SWITCHES

Rugged rotary switches, available in various multiple, circuits, two and three position types, locking or non-locking action. Ideal for communication, musical and test equipment applications. Fibre cam actuates long, leaf-type springs resulting in easy action; good wiping action of contacts. Fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires only $\frac{7}{8}$" depth behind panel, mounts in single $\frac{3}{8}$" hole in panels up to $\frac{1}{4}$" thick.
*Add suffix letter "L" to part number to indicate locking type.

TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
2003	S.P.D.T.	1-C		$2.05
2006	D.P.D.T.	2-C		2.75

THREE POSITION TYPES

2036	S.P.D.T. Ea. Sec.	1-C	1-C	2.75



"double-wipe"

SLIDE SWITCH SAMPLER

Kit consisting of 15 of the most popular and frequently used "double-wipe" slide switches in a handy reusable plastic case. Offers the engineer or technician a complete line of switches for immediate use or evaluation. All types of slide switches represented—locking and non-locking action; 2 and 3 position types; one and two knobs; knob, rocker, plunger and screwdriver actuated switches; circuitry from SPDT to 4 PTT. Kit No. K-122A contains one each of the following: 46203LSR, 46203MR, 46206LR, 46256LFR, 46313LDR, 46313MDR, 46313TDR, 47206L, 47227LF, 49331L, 50212L, 51206LR, 52212L, 53212L, and 53212MP.
Switchcraft Part No. K-122A . . . . . U.S.A. List Price **$12.25**



"CRADLE-SWITCH"

High quality "Cradle Switch" holds W.E. and other standard telephone industry handsets. Housing is sturdy, yet flexible enough to withstand shocks and vibrations. Housing includes specially designed Hook Switch with a 4-C (4 P.D.T.) contact arrangement. Switch has long silver springs with gold alloy contacts rated at 1 amp., 100 watts max., A.C., non-inductive load. Ideal for use in critical low level audio circuits such as in communication and instrumentation applications.

Part No.	Description	U.S.A. List Price
14412G	Handset Cradle Switch. Black housing. 4-C (4 P.D.T.) circuit.	$8.40
14512G	As above, except beige.	8.40
14612G	As above, except white.	8.40


SERIES 14000

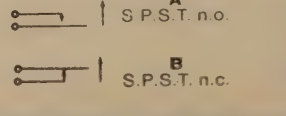
"HOOK SWITCH" SWITCHES

Quality constructed leaf-type switches actuated by a hook (or hanger) such as designed in Series 14000; or by a nylon actuator as in Series 14100G. Ideal for equipment where it is necessary to actuate a circuit by hanging an accessory on a "hook", as a headset, telephone handset or microphone. Series 14000 utilizes fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Series 14100G features welded cross-bar gold alloy contacts rated at 1 amp, 100 watts max., A.C., non-inductive load.

Part No.	Action	Schematic Circuit	U.S.A. List Price
14006	D.P.D.T.	2-C	$3.50
14106G	D.P.D.T.	2-C	3.85

BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



Trade Discount Applies To List Prices Only
© United Technical Publications

It's easy

to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

Thank you!



waldom / molex

LIGHTED PUSH-BUTTON SWITCHES

BE SWITCHED — to WALDOM/MOLEX lighted push button switches. These highly versatile and reliable switches may be used for a wide variety of applications. WALDOM/MOLEX switches are built to take most any environment . . . geared for dependability. Two popular models are now available — 1175 and 1820.

The WALDOM/MOLEX 1175 model is a high quality lighted push button switch that's sturdy, well designed and offers a wide choice of features. Bezels are high quality chrome plated. Housings are precision molded of durable phenolic, and the buttons are mar-resistant nylon.

Designed exclusively for panel mounting, all units come supplied with mounting clips for friction lock into .031 minimum panel thickness. Terminals are standard ¼" male tab for acceptance of WALDOM Type SS-1090 ¼" female quick disconnects, which are furnished with each switch. Tab also has solder hole for installing wire lead, if soldering is desirable. This single pole, single throw, lighted push button switch provides simplicity of design and flexibility.

The WALDOM/MOLEX 1820 Model lighted push button switch proves that a switch can be extremely attractive yet meet rigid extraordinary versatility and limitless design possibilities. You can use one switch or gang them together . . . depending on installation requirements. Its housing is made from highest quality nylon, ultrasonically welded for a secure, quality assembly. No rivets or screw heads protrude from the housing.

It has integrally molded ears allowing the unit to snap mount into place. Like the 1175, it is a single pole, single throw lighted push button switch for a positive mounting in panels to a maximum thickness of .09" and up to 1" for a friction fit. The buttons are made of mar-resistant nylon. The terminals are standard ⅜" male tabs for acceptance of WALDOM SS-1187 female quick disconnects which are furnished with each switch. Tab also has solder hole for installing wire lead, if soldering is desirable.

INDICATOR LIGHTS — Both the 1175 and 1820 series are available as pilot lights (without switch action). The bulb remains lit as long as the circuit is closed.

WALDOM/MOLEX Models 1175 and 1820

LIGHTED PUSH BUTTON SWITCHES have helped produce sizeable savings for companies in the:

1. appliance
2. business machine
3. instrumentation
4. medical electronics
5. pollution control
6. vending
7. computer
8. home entertainment
9. studio broadcast equipment
10. test equipment
11. and alarm systems fields

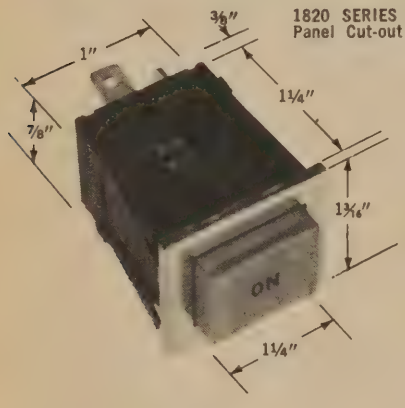
Their success is built upon design simplicity, flexibility and economy. This stems from the ability to create, engineer and modify switching devices that meet application requirements without unnecessary costs due to over-engineering. Tested minimum mechanical life of 25,000 cycles . . . many tests have run considerably higher. Both models are available in over 500 variations. Included are standard hot-stamped "ON" and "OFF" legends; in three actions — PP (PUSH ON: PUSH OFF), MNO (MOMENTARY - NORMALLY OPEN): and MNC (MOMENTARY - NORMALLY CLOSED): 6, 14, 28 and 125 volts. (All 125 volt units are UL and CSA recognized): 2 thru 9 Amps; and standard button colors — white, red, green and amber. The light is dependent upon the switch action. Indicator lights are also available.

The long mechanical life, low unit cost, and ease of replacing the entire switch make it more practical to replace the entire unit, if, or when, the bulb should fail.

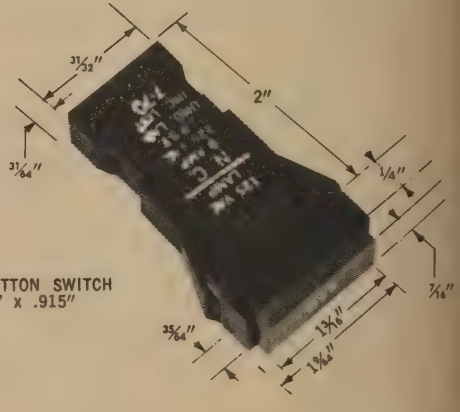
WALDOM/MOLEX has created a series of attractive packages, color coded to the model type and variation. Each switch is individually packaged in a specially molded bubble which keeps it totally visible . . . no mistake about the switch you are buying . . . and dust free.

AVAILABLE ON SPECIAL ORDER — The number of switch variations available on special order is practically unlimited. While the 1175 series is available in single pole, single throw — with the bulb action dependent upon the switch action, the 1820 series is also available in single pole, double throw with an isolated bulb circuit, if desired. Both series are available with yellow or blue buttons — and the number of various legends capable of being imprinted on the button is only limited to the imagination. Both can be furnished with wire leads instead of male tab terminals.

For specifications other than those shown, contact your distributor — or WALDOM direct.



1820 SERIES LIGHTED PUSH BUTTON SWITCH
Panel Cut-out Dimensions 1.215" x .500"



1175 SERIES LIGHTED PUSH BUTTON SWITCH
Panel Cut-out Dimensions 1.115" x .915"

Determine your exact switch requirements from the following specifications. Order by part number shown under Button Color desired, on next page.
For specifications other than shown, contact your distributor — or WALDOM direct.

1175 Series Eng. P/N	1820 Series Eng. P/N	Volts	Amps	Lamp	Legend	Switch Action	Bulb No.
117510	182010	6	2	Incan.	—	PP-MNO-MNC	2114
117520	182020	14	2	Incan.	—	PP-MNO-MNC	2182
117530	182030	28	2	Incan.	—	PP-MNO-MNC	2185
117540	—	125	8.5	Neon	—	PP-MNO-MNC	NE 2H 35K Resistor
—	182040	125	9	Neon	—	PP-MNO-MNC	NE 2H 35K Resistor
117560	182060	6	2	Incan.	ON or OFF	PP-MNO-MNC	2114
117570	182070	14	2	Incan.	ON or OFF	PP-MNO-MNC	2182
117580	182080	28	2	Incan.	ON or OFF	PP-MNO-MNC	2185
117590	—	125	8.5	Neon	ON or OFF	PP-MNO-MNC	NE 2H 35K Resistor
—	182090	125	9	Neon	ON or OFF	PP-MNO-MNC	NE 2H 35K Resistor
117515	—	6	—	Incan.	—	Pilot Light	2114
117525	—	14	—	Incan.	—	Pilot Light	2182
117535	—	28	—	Incan.	—	Pilot Light	2185
117545	—	125	—	Neon	—	Pilot Light	NE 2H 35K Resistor

Engineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

Net
© United Technical Publication

waldom / molex

LIGHTED PUSH-BUTTON SWITCHES

Eng. P/N	Switch Action	Volts	Amps	White Button New P/N	Red Button New P/N	Amber Button New P/N	Green Button New P/N	Legend	Price Each 1-9	10-24	25-49	50-99	100 up
117510	PP	6	2	01-10-6001	01-10-6002	01-10-6008	01-10-6003	—	3.38	2.76	2.46	2.34	2.03
117510	MNO	6	2	01-11-6006	01-11-6007	01-11-6001	01-11-6002	—	3.42	2.80	2.49	2.37	2.05
117510	MNC	6	2	01-12-6006	01-12-6007	01-12-6001	01-12-6002	—	3.42	2.80	2.49	2.37	2.05
117520	PP	14	2	01-10-4013	01-10-4014	01-10-4015	01-10-4016	—	3.33	2.73	2.42	2.30	1.98
117520	MNO	14	2	01-11-4003	01-11-4004	01-11-4005	01-11-4006	—	3.38	2.76	2.46	2.34	2.00
117520	MNC	14	2	01-12-4001	01-12-4002	01-12-4003	01-12-4004	—	3.38	2.76	2.46	2.34	2.00
117530	PP	28	2	01-10-3003	01-10-3004	01-10-3005	01-10-3006	—	3.45	2.83	2.51	2.38	2.10
117530	MNO	28	2	01-11-3008	01-11-3009	01-11-3010	01-11-3011	—	3.50	2.86	2.54	2.41	2.12
117530	MNC	28	2	01-12-3002	01-12-3003	01-12-3004	01-12-3005	—	3.50	2.86	2.54	2.41	2.12
117540	PP	125	8.5	01-15-1061	01-15-1062	01-15-1067	01-15-1068	—	3.61	2.95	2.62	2.49	2.03
117540	MNO	125	8.5	01-16-1049	01-16-1050	01-16-1045	01-16-1051	—	3.70	3.02	2.69	2.56	2.06
117540	MNC	125	8.5	01-17-1006	01-17-1007	01-17-1002	01-17-1008	—	3.70	3.02	2.69	2.56	2.06
117560	PP	6	2	01-10-6004	01-10-6009	01-10-6010	01-10-6005	ON	3.62	2.96	2.63	2.50	2.05
117560	PP	6	2	01-10-6006	01-10-6007	01-10-6011	01-10-6012	OFF	3.62	2.96	2.63	2.50	2.05
117560	MNO	6	2	01-11-6009	01-11-6008	01-11-6003	01-11-6004	ON	3.66	3.00	2.66	2.53	2.07
117560	MNO	6	2	01-11-6010	01-11-6011	01-11-6005	01-11-6012	OFF	3.66	3.00	2.66	2.53	2.07
117560	MNC	6	2	01-12-6008	01-12-6009	01-12-6003	01-12-6004	ON	3.66	3.00	2.66	2.53	2.07
117560	MNC	6	2	01-12-6010	01-12-6011	01-12-6005	01-12-6012	OFF	3.66	3.00	2.66	2.53	2.07
117570	PP	14	2	01-10-4017	01-10-4018	01-10-4019	01-10-4020	ON	3.58	2.93	2.60	2.47	1.99
117570	PP	14	2	01-10-4021	01-10-4022	01-10-4023	01-10-4024	OFF	3.58	2.93	2.60	2.47	1.99
117570	MNO	14	2	01-11-4007	01-11-4008	01-11-4009	01-11-4010	ON	3.62	2.96	2.63	2.50	2.01
117570	MNO	14	2	01-11-4011	01-11-4012	01-11-4013	01-11-4014	OFF	3.62	2.96	2.63	2.50	2.01
117570	MNC	14	2	01-12-4005	01-12-4006	01-12-4007	01-12-4008	ON	3.62	2.96	2.63	2.50	2.01
117570	MNC	14	2	01-12-4009	01-12-4010	01-12-4011	01-12-4012	OFF	3.62	2.96	2.63	2.50	2.01
117580	PP	28	2	01-10-3007	01-10-3008	01-10-3009	01-10-3010	ON	3.70	3.02	2.69	2.56	2.12
117580	PP	28	2	01-10-3011	01-10-3012	01-10-3013	01-10-3014	OFF	3.70	3.02	2.69	2.56	2.12
117580	MNO	28	2	01-11-3012	01-11-3013	01-11-3014	01-11-3015	ON	3.74	3.06	2.72	2.58	2.14
117580	MNO	28	2	01-11-3016	01-11-3017	01-11-3018	01-11-3019	OFF	3.74	3.06	2.72	2.58	2.14
117580	MNC	28	2	01-12-3006	01-12-3007	01-12-3008	01-12-3009	ON	3.74	3.06	2.72	2.58	2.14
117580	MNC	28	2	01-12-3010	01-12-3011	01-12-3012	01-12-3013	OFF	3.74	3.06	2.72	2.58	2.14
117590	PP	125	8.5	01-15-1063	01-15-1069	01-15-1070	01-15-1064	ON	3.85	3.15	2.80	2.66	2.04
117590	PP	125	8.5	01-15-1065	01-15-1066	01-15-1071	01-15-1072	OFF	3.85	3.15	2.80	2.66	2.04
117590	MNO	125	8.5	01-16-1052	01-16-1053	01-16-1047	01-16-1048	ON	3.94	3.22	2.86	2.72	2.08
117590	MNO	125	8.5	01-16-1054	01-16-1055	01-16-1046	01-16-1056	OFF	3.94	3.22	2.86	2.72	2.08
117590	MNC	125	8.5	01-17-1009	01-17-1010	01-17-1004	01-17-1005	ON	3.94	3.22	2.86	2.72	2.08
117590	MNC	125	8.5	01-17-1011	01-17-1012	01-17-1003	01-17-1013	OFF	3.94	3.22	2.86	2.72	2.08
PILOT LIGHTS													
117515	IL	6	—	01-20-6001	01-20-6002	01-20-6003	01-20-6004	—	3.06	2.50	2.22	2.11	1.97
117525	IL	14	—	01-20-4003	01-20-4004	01-20-4005	01-20-4006	—	3.01	2.47	2.19	2.08	1.92
117535	IL	28	—	01-20-3001	01-20-3002	01-20-3003	01-20-3004	—	3.14	2.57	2.28	2.17	2.04
117545	IL	125	—	01-20-1021	01-20-1022	01-20-1023	01-20-1024	—	2.79	2.29	2.03	1.93	1.74
117565	IL	6	—	—	—	—	—	ON	3.30	2.70	2.40	2.29	1.99
117565	IL	6	—	—	—	—	—	OFF	3.30	2.70	2.40	2.29	1.99
117575	IL	14	—	—	—	—	—	ON	3.26	2.66	2.37	2.25	1.93
117575	IL	14	—	—	—	—	—	OFF	3.26	2.66	2.37	2.25	1.93
117585	IL	28	—	—	—	—	—	ON	3.38	2.76	2.46	2.34	2.06
117585	IL	28	—	—	—	—	—	OFF	3.38	2.76	2.46	2.34	2.06
117595	IL	125	—	—	—	—	—	ON	3.04	2.48	2.21	2.10	1.75
117595	IL	125	—	—	—	—	—	OFF	3.04	2.48	2.21	2.10	1.75
8200 SERIES SWITCHES													
182010	PP	6	2	01-50-6001	01-50-6002	01-50-6008	01-50-6003	—	3.84	3.14	2.79	2.65	2.57
182010	MNO	6	2	01-52-6006	01-52-6007	01-52-6001	01-52-6002	—	3.99	3.27	2.90	2.76	2.69
182010	MNC	6	2	01-53-6006	01-53-6007	01-53-6001	01-53-6002	—	3.99	3.27	2.90	2.76	2.69
182020	PP	14	2	01-50-4001	01-50-4002	01-50-4003	01-50-4004	—	3.86	3.16	2.81	2.67	2.53
182020	MNO	14	2	01-52-4001	01-52-4002	01-52-4003	01-52-4004	—	4.02	3.29	2.92	2.77	2.57
182020	MNC	14	2	01-53-4001	01-53-4002	01-53-4003	01-53-4004	—	4.02	3.29	2.92	2.77	2.57
182030	PP	28	2	01-50-3002	01-50-3003	01-50-3004	01-50-3005	—	3.84	3.14	2.79	2.65	2.57
182030	MNO	28	2	01-52-3001	01-52-3002	01-52-3003	01-52-3004	—	3.99	3.27	2.90	2.76	2.69
182030	MNC	28	2	01-53-3001	01-53-3002	01-53-3003	01-53-3004	—	3.99	3.27	2.90	2.76	2.69
182040	PP	125	9	01-55-1002	01-55-1003	01-55-1008	01-55-1009	—	3.73	3.05	2.71	2.57	2.33
182040	MNO	125	9	01-57-1006	01-57-1007	01-57-1002	01-57-1008	—	3.88	3.18	2.82	2.68	2.38
182040	MNC	125	9	01-58-1005	01-58-1006	01-58-1001	01-58-1007	—	3.88	3.18	2.82	2.68	2.38
182060	PP	6	2	01-50-6004	01-50-6009	01-50-6010	01-50-6005	ON	4.08	3.34	2.97	2.82	2.66
182060	PP	6	2	01-50-6006	01-50-6007	01-50-6011	01-50-6012	OFF	4.08	3.34	2.97	2.82	2.66
182060	MNO	6	2	01-52-6008	01-52-6009	01-52-6003	01-52-6004	ON	4.24	3.47	3.08	2.93	2.70
182060	MNO	6	2	01-52-6010	01-52-6011	01-52-6005	01-52-6012	OFF	4.24	3.47	3.08	2.93	2.70
182060	MNC	6	2	01-53-6008	01-53-6009	01-53-6003	01-53-6004	ON	4.24	3.47	3.08	2.93	2.70
182060	MNC	6	2	01-53-6010	01-53-6011	01-53-6005	01-53-6012	OFF	4.24	3.47	3.08	2.93	2.70
182070	PP	14	2	01-50-4005	01-50-4006	01-50-4007	01-50-4008	ON	4.10	3.36	2.98	2.83	2.55
182070	PP	14	2	01-50-4009	01-50-4010	01-50-4011	01-50-4012	OFF	4.10	3.36	2.98	2.83	2.55
182070	MNO	14	2	01-52-4005	01-52-4006	01-52-4007	01-52-4008	ON	4.26	3.48	3.10	2.95	2.59
182070	MNO	14	2	01-52-4009	01-52-4010	01-52-4011	01-52-4012	OFF	4.26	3.48	3.10	2.95	2.59
182070	MNC	14	2	01-53-4005	01-53-4006	01-53-4007	01-53-4008	ON	4.26	3.48	3.10	2.95	2.59
182070	MNC	14	2	01-53-4009	01-53-4010	01-53-4011	01-53-4012	OFF	4.26	3.48	3.10	2.95	2.59
182080	PP	28	2	01-50-3006	01-50-3007	01-50-3008	01-50-3009	ON	4.08	3.34	2.97	2.82	2.66
182080	PP	28	2	01-50-3010	01-50-3011	01-50-3012	01-50-3013	OFF	4.08	3.34	2.97	2.82	2.66
182080	MNO	28	2	01-52-3005	01-52-3006	01-52-3007	01-52-3008	ON	4.24	3.47	3.08	2.93	2.70
182080	MNO	28	2	01-52-3009	01-52-3010	01-52-3011	01-52-3012	OFF	4.24	3.47	3.08	2.93	2.70
182080	MNC	28	2	01-53-3005	01-53-3006	01-53-3007	01-53-3008	ON	4.24	3.47	3.08	2.93	2.70
182080	MNC	28	2	01-53-3009	01-53-3010	01-53-3011	01-53-3012	OFF	4.24	3.47	3.08	2.93	2.70
182090	PP	125	9	01-55-1004	01-55-1010	01-55-1011	01-55-1005	ON	3.97	3.25	2.89	2.75	2.35
182090	PP	125	9	01-55-1006	01-55-1007	01-55-1012	01-55-1013	OFF	3.97	3.25	2.89	2.75	2.35
182090	MNO	125	9	01-57-1009	01-57-1010	01-57-1003	01-57-1005	ON	4.13	3.38	3.00	2.85	2.40
182090	MNO	125	9	01-57-1011	01-57-1012	01-57-1004	01-57-1013	OFF	4.13	3.38	3.00	2.85	2.40
182090	MNC	125	9	01-58-1008	01-58-1009	01-58-1002	01-58-1004	ON	4.13	3.38	3.00	2.85	2.40
182090	MNC	125	9	01-58-1010	01-58-1011	01-58-1003	01-58-1012	OFF	4.13	3.38	3.00	2.85	2.40

Engineering Part Nos. are to be used as a Reference No. only. Order by proper 8 digit Part No. shown.

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

TOOLS BY CHANNELLOCK®

Specially Designed ELECTRONICS PLIERS

Four matched, long-reach pliers with precision matched jaws, hand honed cutting edges. Drop forged of special analysis steel, properly heat treated. Polished finish. Smooth, dipped plastic, blue grips.

No.	Size	Net
718G	8″	$311
728G	7½″	3.32
738G	8″	3.11
748G	8″	3.11



NO. 718G FLAT NOSE PLIERS

Precision-matched jaws give firm grip in hard-to-reach places.



NO. 728G DIAGONAL CUTTER

Patented wire-stripping notch that **really works!**



NO. 738G ROUND NOSE PLIERS

You can pick up a hair with these precision machined points.



NO. 748G END CUTTER

Fine enough to cut a human hair, sturdy enough to cut 12 gauge copper wire.

TONGUE AND GROOVE PLIERS



The **original, genuine** tongue and groove plier. Patented, non-slip undercut channels. Patented reinforcing rib for extra strength. Dipped plastic grips optional at slight extra cost.

No.	Size	Adjust	Capacity	Net
420	9½″	5	1½″	$2.97
422	9½″	5	1½″	2.97
424	4½″	4	½″	2.40
426	6½″	5	⅞″	2.33
430	10″	7	2″	3.11
440	12″	7	2¼″	3.25
442	12″	7	2¼″	3.25
460G	16″	8	4¼″	4.52

LINEMEN'S PLIER—Bevel Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
3046	6″	$3.32
3047	7″	3.71
3048½	8½″	4.24

LINEMEN'S PLIER—Rounded Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
346	6″	$3.32
347	7″	3.71
348½	8½″	4.24

WIREMASTER PLIER



Finest wire-cutting plier ever made. Joint rivet closer to cutting edge provides 40% more cutting power than standard design pliers. Special enclosed-joint construction holds cutter edges in perfect alignment for life of plier. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
349	9″	$5.23

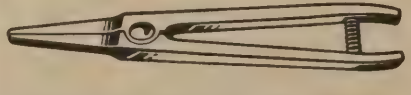
ELECTRICIAN'S WIRING PLIER



Triple-use wiring plier: Cuts, strips insulation, loops wire. Patented wire stripping notches strip insulation from 14 and 12 gauge copper wire quickly, cleanly. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
337-W	7″	$3.32

HEATSORB CLAMP



Specially designed "heat sink" that prevents heat damage to electronic components during soldering. Also a handy, self-gripping "third hand" that holds and retrieves small parts in close work.

No.	Size	Net
46	5″	$1.00

LONG NOSE PLIER



Point 3/32″ round. Polish steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Side Cutter	Net
317½	7½″	With	$3.47
3017½	7½″	Without	2.76
326	6″	With	3.04
3026	6″	Without	2.55

DIAGONAL CUTTER—Box Joint



Precision honed cutting edges. Polished steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
435	5″	$2.76
436	6″	3.04
437	7″	3.60

SLIP JOINT PLIERS



Thin Nose. Polished steel. Wire cutting shear.

No.	Size	Net
516	6″	$1.93

With Side Cutter. Polished steel. Precision tool with fine cutting edge.

No.	Size	Net
537	7″	$3.32

Heavy Duty With Cutter. Finest quality. Polished steel.

No.	Size	Net
546	6″	$2.19
548	8″	2.55
5410	10″	2.89

Net

© United Technical Publications

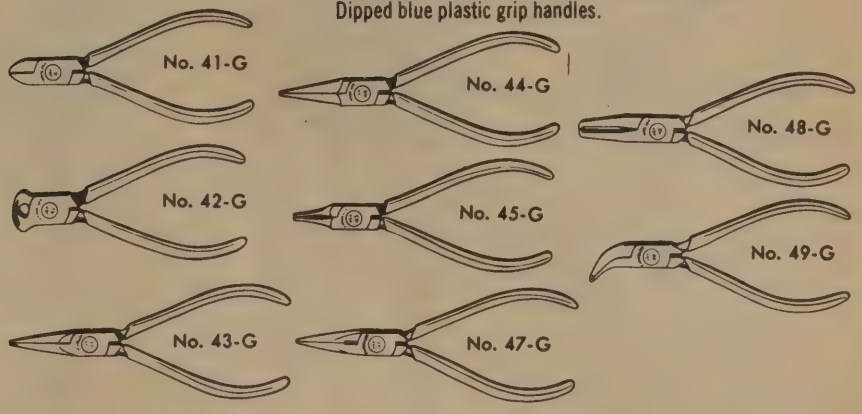
TOOLS BY

CHANNEL LOCK®

Little Champ PRECISION PLIERS

Finest quality, small precision pliers specially designed for electronic work. Drop forged from high grade steel, polished to jeweller's finish. Dipped blue plastic grip handles.

No.	Style	Length	Net
41G	Diagonal Cutter	4¼"	$3.04
41GS	Diagonal Cutter, Coiled Spring	4¼"	3.25
42G	End Cutting Nipper	4"	3.04
43G	Needle Nose, No Side Cutter, Plain Nose	4¾"	2.61
43GS	Needle Nose, No Cutter, Plain Nose, Coiled Spring	4¾"	2.83
44G	Plain Nose	4¾"	2.61
45G	Round Nose	4½"	2.89
47G	Needle Nose, Side Cutter Nose Serrations	4¾"	3.04
47GS	Needle Nose, Side Cutter, Nose Serrations, Coiled Spring	4¾"	3.25
48G	Transverse End Cutter	4¾"	3.19
49G	Curved Needle Nose	4½"	3.04



SCREWDRIVERS AND NUTDRIVERS

Blades forged from tough chrome vanadium steel. Tips ground lengthwise for greater end strength and snug fit in screw slot. Opaque blue plastic (UL) handles are shockproof, breakproof and shaped for non-slip grip.

ROUND SHANK



No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
181RD	⅛ x 1	$ .56	3161ORD	5/16 x 10	$1.12
3164RD	3/16 x 4	.84	144RD	¼ x 4	1.05
3166RD	3/16 x 6	.91	146RD	¼ x 6	1.12
3168RD	3/16 x 8	.99	5166RD	5/16 x 6	1.27

SQUARE SHANK



No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
141SQ	¼ x 1	$ .71	5166SQ	5/16 x 6	$1.33
3164SQ	3/16 x 4	.91	5168SQ	5/16 x 8	1.47
144SQ	¼ x 4	1.07	388SQ	⅜ x 8	1.68
146SQ	¼ x 6	1.19	3812SQ	⅜ x 12	2.59
148SQ	¼ x 8	1.27			

PHILLIPS SCREWDRIVERS



No.	Blade Size, In.	Net
102-SP	¼ x 15/16	$ .99
101-P	3/16 x 3	.96
102-P	¼ x 4	1.12
103-P	5/16 x 6	1.49
104-P	⅜ x 8	1.83

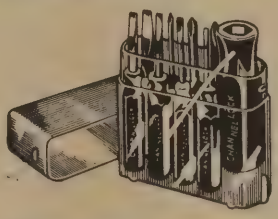
NUTDRIVERS



Hex	Lgth.	Net	Hex	Lgth.	Net
5/16	3	$1.05	11/32	3	$1.05
7/32	3	1.05	⅜	3	1.05
¼	3	1.05	7/16	3½	1.27
9/32	3	1.05	½	3½	1.27
5/16	3	1.05			

SCREWDRIVER KIT

Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.

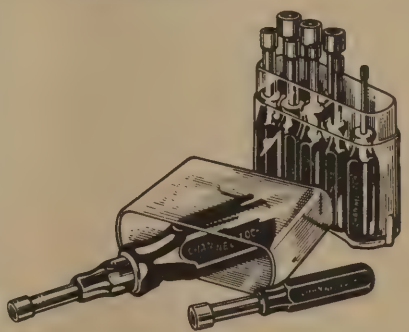


SD-5 Set Includes—
5 Screwdrivers: 3/32", ⅛", 5/32", 3/16", ¼"
3 Phillips Head: No. 0, No. 1 and No. 2

Net $4.40

NUTDRIVER KIT

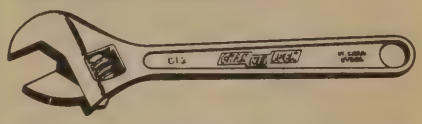
Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.



ND-1 Set Includes—
10 Nutdrivers: 3/32", ⅛", 5/32", 3/16", 7/32", ¼", 9/32", 5/16", 11/32", ⅜"

Net $6.00

ADJUSTABLE WRENCHES



Drop forged of special analysis steel. Chrome plated. Dipped plastic grips optional at slight extra cost.

No.	Size	Capacity	Net	No.	Size	Capacity	Net
804	4"	½"	$2.76	810	10"	1⅛"	$4.04
806	6"	¾"	2.80	812	12"	1 15/16"	5.85
808	8"	15/16"	3.19	815	15"	1 11/16"	8.85

ELECTRICIAN'S KNIFE

2½" precision-honed blade. 3" self-locking screwdriver. Unbreakable phenolic plastic handle.



No.	Closed Length	Net
11	3¼"	$3.20

SKINNING KNIFE

3" precision-honed blade. Self-locking. Unbreakable phenolic plastic handle.



No.	Closed Length	Net
10	4"	$3.53

TOOL HOLSTERS

Highest quality top grain leather. Stress points reinforced with rivets. Convenient knife or wrench snap.



No.	Size	No. Pkts.	Net
1	9¼" x 8½"	5	$5.03
2	9¼" x 10½"	5	5.55

SUPERIOR PLASTIC GRIPS

For maximum hand comfort, durable molded plastic grips. Blue color for good visibility, reduces plier loss. Easy to install. Order by desired grip size.

Plier Size	Grip Size	Net
6"	Small	$ .53
7"	Medium	.56
8", 9½", 10"	Large	.61

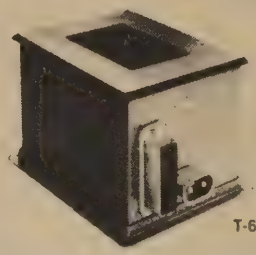


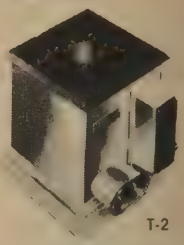
CAIG LABORATORIES INC.

RECTANGULAR AND ROUND SOLDER BATHS & SOLDER MACHINES FOR PRINTED CIRCUITS


T-50
T-100

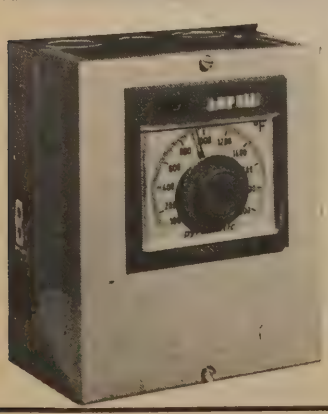

R-4A


T-6


T-2

Catalog No.	Watts	Volts	Approx. Temperature (°C)	(°F)	Internal Dimensions Approx. (Inches) Length	Width	Depth	Contents Approx. (CC)	Heat Control	Weight Approx. (Lbs.)	Price
T-50	65	115	300	572	1.10	0.78	0.55	7	Full Heat	1.00	$ 9.75
T-100	130	115	340	644	2.37	1.18	1.18	25	Full Heat	1.50	10.50
T-2*	240	115	600	1112	—	0.97 dia.	1.84	17	Full & Half	3.00	28.00
T-4*	400	115	410	770	2.00	2.00	3.28	220	Full & Half	8.50	40.00
T-6*	1000	115	560	1040	4.69	3.13	2.39	570	Full & Half	11.25	61.00
T-9**	2800	230	650	1202	6.50	5.33	3.94	2080	3 Step Sw.	31.00	175.00
T-44†	600	115	288	550	4.00	4.00	2.00	10 lbs.	Automatic	15.00	54.60
T-48†	1200	115	288	550	8.00	4.00	2.00	20 lbs.	Automatic	23.00	75.75
T-66	1900	115	538	1000	6	6	2	25 lbs.	Full Heat	30	85.00
T-66C †	1500	115	454	850	6	6	2	25 lbs.	Automatic	30	97.00
T-412 †	1500	230	372	700	12.00	4.00	2.00	30 lbs.	Automatic	35.00	108.75
T-420 †	2500	230	372	700	20.00	4.00	4.00	100 lbs.	Automatic	60.00	184.00
T-612 †	2000	230	372	700	12.00	6.00	4.00	90 lbs.	Automatic	57.00	149.50
T-912 †	1600	230	372	700	12.00	9.00	2.00	70 lbs.	Automatic	49.00	161.00
T-1212‡	2000	230	372	700	12.00	12.00	2.00	90 lbs.	Automatic	55.00	189.75
T-1218‡	2800	230	372	700	18.00	12.00	2.00	135 lbs.	Automatic	70.00	230.00
T-1418‡	3000	230	372	700	18.00	14.00	2.00	175 lbs.	Automatic	60.00	330.00
R-1.5A†	200	115	288	550	—	1.50 dia.	1.50	1 lb.	Automatic	5.00	33.00
R-1.5AX†	500	115	538	1000	—	1.50 dia.	1.50	1 lb.	Automatic	7.00	69.00
R-4A†	300	115	288	550	—	3.00 dia.	1.50	4 lbs.	Automatic	6.00	37.00
R-10A†	500	115	288	550	—	3.50 dia.	2.50	10 lbs.	Automatic	11.00	47.00
R-20A†	1250	115	372	700	—	5.00 dia.	4.00	20 lbs.	Automatic	33.00	97.00
R-40A†	1500	230	372	700	—	6.00 dia.	6.00	40 lbs.	Automatic	40.00	115.00
R-80X	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Full Heat	45.00	155.00
R-80AXP	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Automatic	60.00	310.00
R-4X	800	115	538	1000	—	3.00 dia.	1.50	4 lbs.	Full Heat	6.00	62.50
R-4AX†	900	115	538	1000	—	3.00 dia.	1.50	4 lbs.	Automatic	9.00	74.75

NOTES: (*) Can be Switched to Half Wattage Rating. (**) With 3-Step Switch. (†) Non-Indicating Thermostat Bimetal Control. (‡) For Partlow Indicating Control add $165.00 to Base Price. Otherwise non-indicating thermostat supplied, control knob. Stem thermometer may be attached to some baths - add $18.00.



SOLDER BATH TEMPERATURE CONTROLLER

TC-25 Temperature Controller. Solid State Time Proportioning, for use with all Solder Pots requiring temp. control as close as ±5°F. Ranges 100 to 800°F, or, 100 to 2000°F. I/C or C/A Thermocouple (3 ft.) plug in provided. Null-Meter, temp. set point control knob, magnetic contactor (25 Amp/3/240-115), red light, fused, on/off switch, line cord, grounded. Price.....$225.00

PRINTED CIRCUIT SOLDERING MACHINE T-2800



Soldering Machine Model T2800 — Manual dip soldering of printed circuit boards up to 3.5" x 5.1". Contains unique funnel cleaner of solder dross to allow clean solder surface to Touch P.C. Board. 2800 watts/220 volts, on/off switch, Solid State Thermocouple Temp. Control, red light. Range 50 to 450°C (842°F). Bath contents — 55 lbs. Dim. overall 17¾" long x 12⅝" wide x 20½" high. Weight empty 70 lbs. One P.C. Frame Holder included. Price $952.00

TM-28811 extra P.C. Frame Holder. Price 26.45

Soldering Machine Model T3300 — similar to above, except handles P.C. boards up to 4.7" x 7.1". Price $1349.00

TM-3311 extra P.C. Frame Holder. Price 48.60

Model FM-3380 — Wave Flow Fluxing Machine for use in-line with all above, guide rails, pump. Price $366.00

Model DR-3370 — Infra-Red Dryer for use in-line with all above, guide rails. Price..$121.50
(Description Data available on all above.)

Net

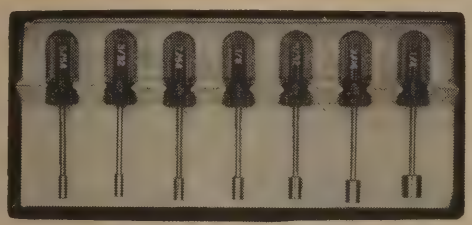
© United Technical Publications

DESCO *

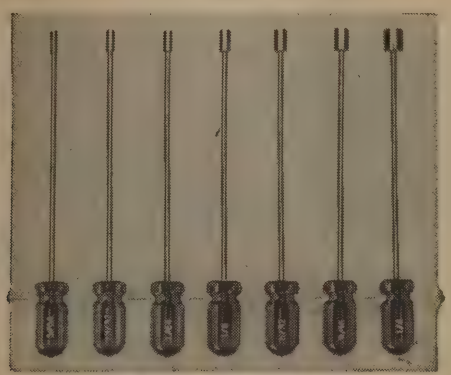
PROPERLY PROPORTIONED MINIATURE TOOLS

For precision instrument and model work use Desco "7" Miniature Nut Drivers. Available with Tenite handles, or for use with jewelers' screw driver handles. Also made with 5½" long shanks for those hard-to-get-to places.

DESCO "7" Sizes across flats
5/64 3/32 7/64 1/8 5/32 3/16 1/4

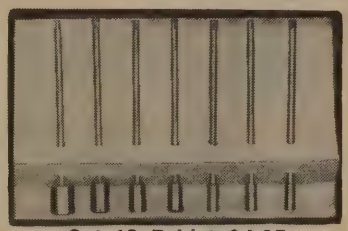


Set HS 7 List $5.95

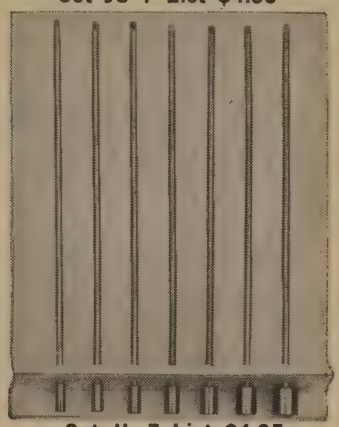


Set HL 7 List $5.95





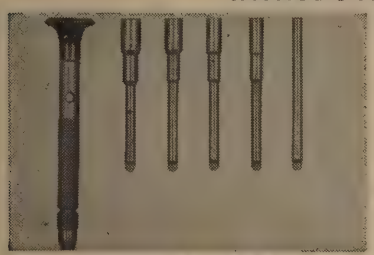
Set JS 7 List $4.95



Set JL 7 List $4.95

NON-MAGNETIC NUT DRIVERS available in HL7 and HS 7 series only.
Specify "No-Mag" with the code number — same prices.

INTRODUCING THE DESCO "5" Series of Miniature Tools



Set JD 5 List $4.50



Set HD 5 List $5.00

Deeper and more rugged than the "7" Series. Made only in 5/64, 3/32, 7/64, 1/8 and 5/32.



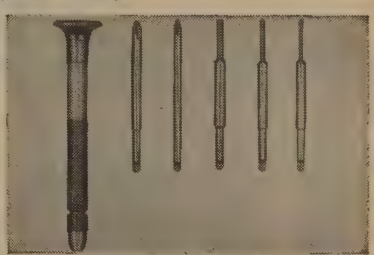
Set EW 5 Steel List $3.50
Set EWN 5 Non-Magnetic List $4.50

A practical miniature end wrench to fit the smallest nuts made 5/64 3/32 7/64 1/8 5/32.



Set SS 5 List $2.50

Contains four screw driver blades and a fine scriber.



Set PA 5 List $4.50



Set PAH 5 List $4.75

Includes the two smallest Phillips drivers and the three smallest Allen wrenches.

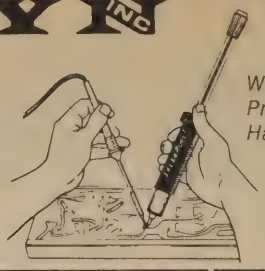
* T. M.

All of the DESCO "5" and "7" Series are complete as shown.

DESCO MFG. CO.

EDSYN INC

ENGINEERING DEDICATED to SUIT YOUR EDSYN NEEDS ®



World's Most Practical Solder Handling Tools.

SOLDERING + DESOLDERING + RESOLDERING = SOLDER (EDSYN®) ABILITY

TERMS: 1% 10th Prox./Net EOM
DELIVERY: Two weeks ARO

	UNIT Quantity	PRICE Each
DS007-17 Deluxe Model Soldapullt® desoldering tool † Patented wt. 5 oz. △ □	1-25	$9.95
	26-50	$9.20
	51-100	$8.45
DRT008-18 Deluxe Replacement Tips fits on Deluxe DS007 only	1-25	$1.50
	26-50	$1.25
	51-100	$1.00
SS001-11 Standard Model Soldapullt® desoldering tool † Patented wt. 4 oz. △ □	1-25	$5.95
	26-50	$5.50
	51-100	$5.00
SRT002-12 Standard Replacement Tips fits Standard Model SS001 and Soldavac Model SV026 only	1-25	$1.50
	26-50	$1.25
	51-100	$1.00
MMS005-15 Micro Tipped Standard Model Soldapullt® desoldering tool † Patented wt. 4 oz. △ □	1-25	$6.95
	26-50	$6.50
	51-100	$6.00
MRT006-16 Micro Replacement Tips fits Micro tipped Standard Model MMS005	1-25	$1.50
	26-50	$1.25
	51-100	$1.00
LTS003-13 Long Tipped Standard Model Soldapullt® desoldering tool † Patented wt. 4 oz. △ □	1-25	$6.95
	26-50	$6.50
	51-100	$6.00
LRT004-14 Long Tipped Replacement Tips Fits Long tipped Standard Model LTS003 only	1-25	$2.00
	26-50	$1.75
	51-100	$1.50
SV026 Soldavac™ desoldering tool—Standard tipped Replacement tip Part No. SRT002-12 † U.S. and Foreign Patents applied for. wt. 3 oz. △ □	1-5	$3.95
	6-11	$3.50
	12-25	$2.95
	26-50	$2.80
	51-100	$2.65
45ET011-21 45 Degree Extension Tip and Cleaning Shaft fits all models except Micro Tip MMS005	1-25	$2.75
	26-50	$2.50
	51-100	$2.25
LET012-22 Long Extension Tip and Cleaning Shaft fits all models except Micro Tip MMS005	1-25	$2.25
	26-50	$2.00
	51-100	$1.75
MET013-23 Micro Extension Tip and Cleaning Shaft fits all models except Micro Tip MMS005	1-25	$2.00
	26-50	$1.75
	51-100	$1.50
MIN014-24 Mini Tip Extension and Cleaning Shaft fits all models except Micro Tip MMS005	1-25	$2.00
	26-50	$1.75
	51-100	$1.50
BT 028 BURNISHING TOOL CLEANS SOLDASIP TIP OR RELAY CONTACTS	1-5	$1.95
	6-11	$1.70
	12-25	$1.50

Tools or tips may be combined for better quantity price break. Tools AND tips may not be combined.

△ 6 month warranty on tools only. Warranty does not include tips.

□ 12 page Solderability manual included with tools.

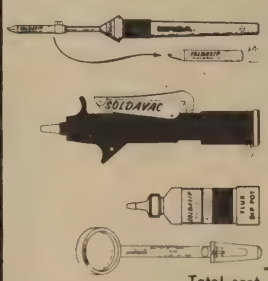
Prices subject to change without notice. Prices higher outside the continental limits of the U.S.A.

© Copyright 1971 by Edysn, Inc. PRINTED U.S.A.

ELEMENTARY TO ELITE

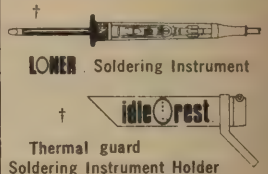
X-34 Experimenter's kit

Available as direct factory offer or from participating distributors.



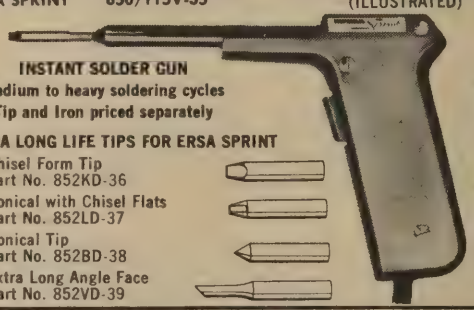
	5.55
	1.95
	3.95
	1.95
	1.95
Total cost	15.35
you save	3.58
Your cost only	11.77

P-76 Professional's kit



†	37.50
LOWER Soldering Instrument	
† idle Orest	12.50
Thermal guard Soldering Instrument Holder	
SPARE TIPS	
Spade	2.95
Flat point	2.95
† Soldasip	2.95
Limited Direct Factory Offer Total cost	58.85
You save	24.29
Introductory offer	34.56

ERSA SPRINT 850/115V-35 (ILLUSTRATED) 852KD-36 TIP △



INSTANT SOLDER GUN

Medium to heavy soldering cycles

Tip and Iron priced separately

ERSA LONG LIFE TIPS FOR ERSA SPRINT

Chisel Form Tip Part No. 852KD-36

Conical with Chisel Flats Part No. 852LD-37

Conical Tip Part No. 852BD-38

Extra Long Angle Face Part No. 852VD-39

IRON ONLY

Unit	Price
1-25	$8.55
26-50	$8.25
51-up	$8.00

TIP ONLY

Unit	Price
1-25	$1.95
26-50	$1.75
51-up	$1.50

ERSA TIP 16 16/115V-40 (ILLUSTRATED) ST025 TIP Tip and Iron priced separately



Medium soldering cycles △

ERSA LONG LIFE TIPS FOR ERSA TIP 16

Angle Face Tip Part No. 172/15LD-41

Chisel Form Tip Part No. 172/15KD-42

Reinforced Angle Face Part No. 172/15SD-43

Pencil Form Tip Part No. 172/15BD-44

EDSYN SOLDASIP RESOLDERING TIP

FOR ERSA TIP 16 One tip applies and removes solder.

Part No. ST025

IRON ONLY

Unit	Price
1-25	$5.55
26-50	$5.25
51-100	$5.00
101-up	$4.75

TIP ONLY

Unit	Price
1-25	$1.95
26-50	$1.75
51-100	$1.50
101-up	$1.25

Sips up solder like a sponge or solders like a dream . . . TRY IT!

PT074 SOLDASIP™ PRY TIP RESOLDERING TIP †



1-25	$2.95
26-50	$2.75
51-up	$2.50

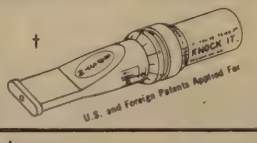
Soldasip Pry Tip is used to sip up solder, or solder, and as an aid for prying up leads. Fits Ersa Multitip 15W and Ersa Tip 16 only.

STE009 FREE SAMPLE FOR EVALUATION

Request for No Charge Sample Must Be On Your Company Stationery.

CHECK ONE ONLY

- Soldasip Resoldering Tip ST025 □ (fits Ersa Tip 16 and Ersa Multitip 15W irons only)
- Soldavac desoldering tool SV026 □
- Burnishing tool BT028 □



† U.S. and Foreign Patents Applied For

FREE KNOCK-IT desmoking aid includes a KNOCK IT desmoking cigarette holder with a four-page instruction sheet with five desmoking programs. All you need to do is select one of the five programs and start to knock your smoke inhalation now. Our sales force has dramatic evidence that live customers purchase more of our products than deceased ones. If you've tried it, KNOCK-IT with our free desmoking aid.

†

Covered by one or more of the following U.S. and Foreign Patents: U.S. 3 114 026 3 463 889 3 443 734 D 215 216 D 215 197 Argentina 170 878 170 560 Australia 786 159 404 918 Belgium 687 337 666 119 690 167 698 168 727 281 722 142 727 280 Canada 746 275 710 450 800 801 822 264 750 114 84 Costa Rica 1577 Denmark 41 142 France 1 428 706 1 522 810 1 525 845 1 596 119 1 589 846 1 596 118 Germany 1 259 687 1 289 191 5254 5255 Great Britain 995 949 1 069 720 1 110 209 1 111 195 948 499 1 189 966 1 189 806 1 199 685 Israel 4548 Italy 707 811 748 991 807 692 807 693 840 490 855 491 855 498 Japan 474 814 520 018 531 917 533 918 Luxembourg 54 252 54 251 58 178 57 111 58 179 New Zealand 142 931 149 086 149 087 151 402 Sweden 218 629 Switzerland 456 111 458 074 458 886 490 151 484 948 Other U.S. and Foreign Patents Pending

 © United Technical Publications

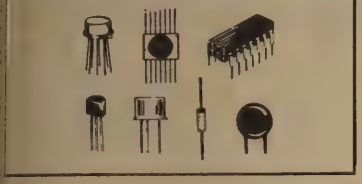
ENTERPRISE DEVELOPMENT CORPORATION

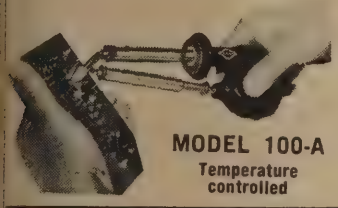
The Original Desoldering Iron

It solders too . . . easier, faster, better!

- Removes soldered components in seconds without damage
- For servicing, updating and reworking PC boards
- Only desoldering iron approved for military use

Removes these components easily





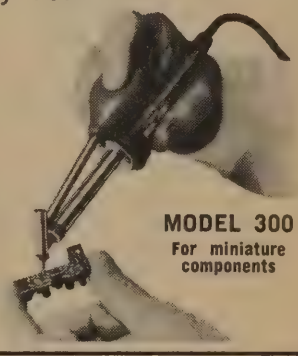
MODEL 100-A
Temperature controlled

MODEL 100-A DESOLDERING IRON (LEFT)

120 VAC 75 W

	List	1-5	6-23	24-Up
Model 100-A (with 2-wire cord)	$27.50	$20.65	$18.60	$16.75
Model 100-A-3 (with 3-wire cord)	28.85	21.65	19.50	17.55
Model 100-A-3TL (with 3-wire cord twist lock cap)		PRICES ON REQUEST		

	List	1-5	6-23	24-Up
Model 300 (with 2-wire cord)	$15.95	$11.95	$10.85	$ 9.75
Model 300 (with 3-wire cord)	17.50	13.15	11.85	10.65



MODEL 300
For miniature components

9-Piece Desoldering Kit

Kit Model 300K with Model 300 iron illustrated.

Military models available. Prices on request.

Kit Model 300MDK
Stock No. FSN 3439-907-5806.

Kit Model 100A-MDK
Stock No. FSN 3439-917-5632.

New Kit Model 100-AK with Model 100-A iron also available.

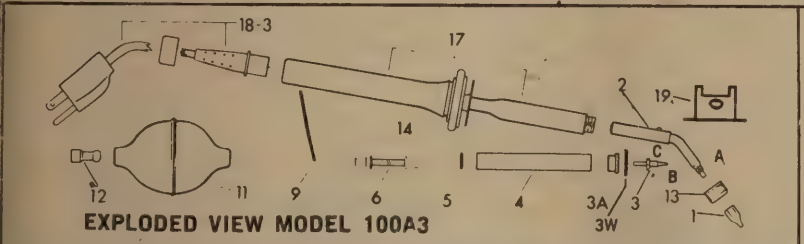


Includes everything needed to handle virtually any desoldering or re-soldering job. Includes the model iron desired, assorted tips, tip cleaning tool, and metal stand for the iron. All come in a handy, lifetime steel storage box with hasp. Kit model number indicates the model iron included. Special kits available for military use.

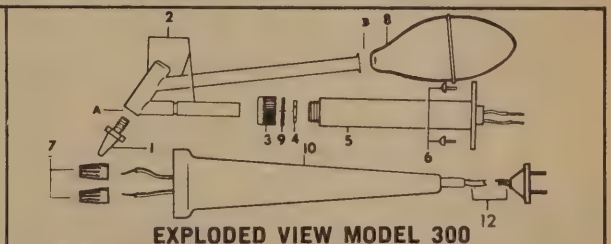
KIT PRICES

	List	1-11	12-49	50-up
Model 300K (w/2 wire cord)	$26.55	$19.90	$17.90	$16.10
Model 300K-3 (w/wire cord)	27.85	20.90	18.80	16.90
Model 100-AK (w/2 wire cord)	36.50	27.40	24.65	22.20
Model AK-3 (w/3 wire cord)	37.85	28.40	25.55	23.00

Box, Stand and Cleaning Tool Available Separately — Write for Prices



EXPLODED VIEW MODEL 100A3



EXPLODED VIEW MODEL 300

PARTS SCHEDULE

MODEL 100A PARTS SCHEDULE

Fig. No.	Part No.	Description	List	Industrial Cost
1	100T.096	Replaceable Desoldering Tip 1B	$3.00/3Pk.	$2.25/3Pk.
1	100T.078*	Replaceable Desoldering Tip 1A	3.00/3Pk.	2.25/3Pk.
1	100T.067	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	100T.059	Replaceable Desoldering Tip 1C	3.00/3Pk.	2.25/3Pk.
1	100T.046	Replaceable Desoldering Tip	3.30/3Pk.	2.50/3Pk.
1	100T.035	Replaceable Desoldering Tip 1D	3.30/3Pk.	2.50/3Pk.
1	100TP	6 Assorted Tips for Model 100A	6.00	3.50
2	2A	Tip Body (750°F. Std.) (600°F. Special)	3.35	2.50
3	3S	Front Connecting Tube	.60	.45
3A	3B	Front Air Seal	.60	.45
3W	3W	Protective Washer	.15	.10
4	4A	Solder Collection Tube	1.45	1.10
5	5A	"O" Ring (2 supplied)	.40/2	.30/2
6	6BCO	Air Seal Coupling (Rear)	3.70	2.80
9	9A	Supporting Bracket	.68	.50
11	11	Vacuum Bulb	1.35	1.00
12	12	Valve	.60	.45
13	13	Female Tip Fastening Nut	.90	.65
14	14	Rubber Shock Absorber	.90	.65
17	17	75W Iron (less cord)	11.00	2.25
17	17-2	75W Iron (w/2 wire cord)	12.50	9.40
17	17-3	75W Iron (w/3 wire cord)	13.95	10.45
18	18-2	2-Wire Cord only	2.00	1.50
18	18-3	3-Wire Cord only	3.35	2.50
18	18-3TL	3-Wire Twist Lock Cord only	4.65	3.50
19	300-KS	Iron Stand	.50	.35

* Standard Tip

MODEL 300 PARTS SCHEDULE

Fig. No.	Part No.	Description	List	Industrial Cost
1	300T.090	Replaceable Desoldering Tip	$3.00/3Pk.	$2.25/3Pk.
1	300T.078	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	300T.063*	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	300CT.063	Premium Desoldering Tip	4.50/3Pk.	3.30/3Pk.
1	300T.059	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	300T.046	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	300T.038	Replaceable Desoldering Tip	3.00/3Pk.	2.25/3Pk.
1	300TP	6 Assorted Tips for Model 300	6.00	4.50
2	300-BE	Sub-Assembly (w/part nos. 300-5, 300-6, & 300-13)	6.40	4.80
2	300-BECO	Sub-Assembly — Complete w/Tip, Fastening Nut & Bulk (ready to use)	8.50	6.35
3	300-13	Sub-Assembly Fastening Nut	.50	.35
4	300-5	Sub-Assembly Retaining Ring	.10	.08
5	300-17E	(New) Ceramic Filled Heating Element 40W	4.35	3.25
6	300-17SC	Screws (3 required)	.30/3	.23/3
7	300-17TC	Terminal Connectors (2 required)	.40/2	.30/2
8	300-11.100	Vacuum Bulb 1 oz. Heavy Duty	1.10	.80
9	300-6	Sub-Assembly Retaining Pin	.14	.10
10	300-17HA	Handle	.60	.45
12	300-18-2	2-Wire Cord Set	1.50	1.15
12	300-18-3	3-Wire Cord Set	2.70	2.00
	300-17CO-2	40W Iron w/2 Wire Cord	8.25	6.20
	300-17CO-3	40W Iron w/3 Wire Cord	9.50	7.30
	300-KS	Iron Stand	.50	.35

* Standard Tip

REPLACEABLE TIPS FOR ENDECO MODEL 100-A

Fig. No.	Part No.	Description	Formerly	Tip I.D.	Tip O.D.
1	100T.078*	Desoldering Tip	1A	.078	.156
1	100T.067	Desoldering Tip		.067	.135
1	100T.059	Desoldering Tip	1C	.059	.125
1	100T.046	Desoldering Tip		.046	.095
1	100T.035	Desoldering Tip	1D	.035	.078
1	100T.096	Desoldering Tip	1B	.096	.187

* Standard as Supplied on Iron.

REPLACEABLE TIPS FOR ENDECO MODEL 300

Fig No.	Part No.	Description	Tip I.D.	Tip O.D.
1	300T.090	Desoldering/Resoldering Tip	.090	.170
1	300T.078	Desoldering/Resoldering Tip	.078	.155
1	300T.063	Desoldering/Resoldering Tip	.063	.135*
1	300CT.063	Industrial Desoldering Tip	.063	.135
1	300T.059	Desoldering/Resoldering Tip	.059	.125
1	300T.046	Desoldering/Resoldering Tip	.046	.095
1	300T.038	Desoldering/Resoldering Tip	.038	.078

* Standard as Supplied on Iron.

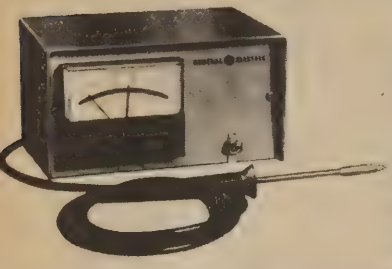
Price Subject to Change Without Notice

© United Technical Publications

Trade Discount Applies To List Prices Only

SOLDERING IRONS

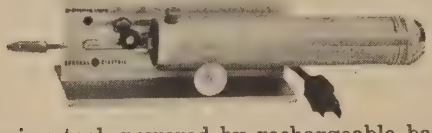
TEMPERATURE CONTROLLED SOLDERING IRON — 120 VOLTS; UP TO 135 WATTS



2½-ounce temperature controlled soldering iron maintains selected temperature which can be varied for wide range of work without changing irons or tips. The iron's 135-watt capacity enables it to handle high-mass joints, yet its precision temperature control makes it suitable for the smallest of microminiature jobs without exceeding temperature limitations. Ideal for high production and high quality work, laboratory use, service shops, and wherever temperature limits are specified.

Description	Cat. No.
Complete Iron — Includes Control Box, Handle and 5-foot Cordset, and ⅛-inch and 5/16-inch Chisel Tip and Heater Units	6A490

CORDLESS SOLDERING IRON



New soldering tool, powered by rechargeable batteries, is cordless — making it easy to use in remote and inaccessible areas. 18-watt tip unit attains 800°F in 15 seconds. Battery charging stand, with 6-foot 3-wire cordset, restores batteries to peak power; operates from 120 VAC. Optional knife edge tool is available for cutting plastic and synthetic fibres.

Handle and Battery Holder, including Tip Unit	6A298G2
Charging Stand	6A299
Battery Stack	6A672
Knife Edge Tool	6A297

DESOLDERING TOOL



The most advanced design now in production in a desolder tool • Facilitates safe and easy removal of electronic components from printed circuit boards • Operates from 120V power supply — 3-wire cord • Pressure source — self-contained freon supply—15-ounce size canister • Adapter available for connection to air hose — max. 150 PSI • Offers both suction and blowing action.

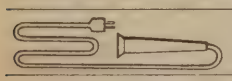
Complete tool — Includes Canister of Gas, Tip with .060" Hole Dia. and Tip with .032" Hole Dia.	6A680
Adapter for Air Hose	6A686P10

PENLINE-120 SOLDERING IRONS — 120 VOLTS; 25, 30, 40 AND 45 WATTS



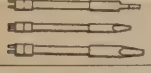
Lowest cost GE iron; ideally suited for light to medium production in electronics, communications, and allied industries, for repair and maintenance operations, and by the "do-it-yourself" electronics kit builder.

Handle and 6-foot Cordset



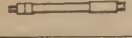
Two-conductor	6D400*
Three-conductor, with NEMA standard plug	6D400G2

Tip and Heater Units — Ironclad



3/16" Chisel Tip	30 watts	6D410*
5/32" Chisel Tip	30 watts	6D411*
3/8" Chisel Tip	45 watts	6D412*

Heater for Threaded Tips



25 watts	6D415
30 watts	6D414
40 watts	6D413*

Use interchangeable threaded tips listed on next page.

* UL Listed.

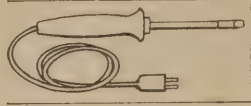
LIGHTWEIGHT SOLDERING IRONS — 120 VOLTS; 40 AND 60 WATTS



Ideal for light and medium production-line soldering and maintenance and repair operations in electronics and communications industries. Tip and heater units can be changed in seconds.

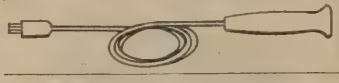
Description	Cat. No.

Complete Iron — Includes handle and 6-foot cordset, and tip and heater unit — 60 watts



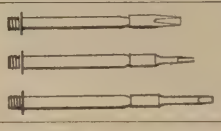
¼" Ironclad Chisel Tip	6A273*
3/16" Ironclad Pyramid Tip	6A283*
3/16" Ironclad Chisel Tip	6A283G23

Handle and 6-foot Cordset



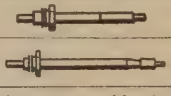
Two-conductor	6A273G62
Three-conductor with NEMA standard plug	6A273G63

Tip and Heater Units — 60 watts



¼" Ironclad Chisel Tip	6A300 ←
3/16" Ironclad Pyramid Tip	6A301
3/16" Ironclad Chisel Tip	6A301G4

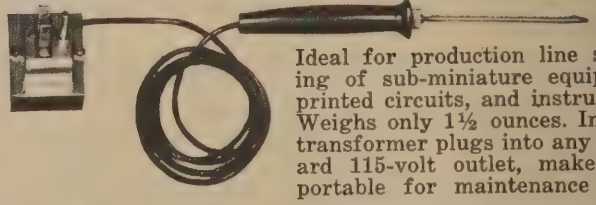
Heater Units for Threaded Tips



40 watts	6A304
60 watts	6A301G7

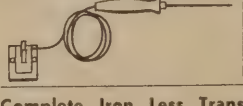
Use interchangeable threaded tips listed on next page.

MINIATURE SOLDERING IRONS — 6 VOLTS, 12 WATTS



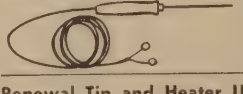
Ideal for production line soldering of sub-miniature equipment, printed circuits, and instruments. Weighs only 1½ ounces. Integral transformer plugs into any standard 115-volt outlet, makes iron portable for maintenance work.

Complete Iron — Includes tip and heater unit, 6-foot cordset, and transformer with grounded plug.



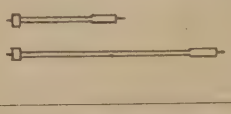
⅛" Chisel Tip	3" Shank	6A428G3
⅛" Chisel Tip	6" Shank	6A428G4
⅛" Pyramid Tip	3" Shank	6A428G7
⅛" Pyramid Tip	6" Shank	6A428G8

Complete Iron Less Transformer — Includes tip and heater unit, and 6-foot cordset with terminals



⅛" Chisel Tip	3" Shank	6A428G5
⅛" Chisel Tip	6" Shank	6A428G6

Renewal Tip and Heater Units



⅛" Chisel Tip	3" Shank	6A429G3
⅛" Chisel Tip	6" Shank	6A429G4
⅛" Pyramid Tip	3" Shank	6A429G5
⅛" Pyramid Tip	6" Shank	6A429G6

Handle and Cordset Only



6-foot Cordset with Terminals	6A428G62

Renewal Transformer — Includes — 6-foot integral cordset



6-volt Secondary 115-volt Primary	6A430

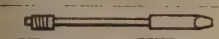
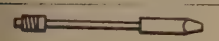
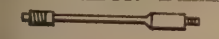
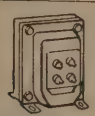
Net

© United Technical Publications

MIDGET SOLDERING IRONS — 6 VOLTS; 18 to 45 WATTS (with transformers)



A versatile iron for light production in electronics, and communication industries — handles like a pencil, weighs but 1¾ oz. Tip renewal is easy and fast — complete tip and heater unit can be changed in a few seconds. Heat output can be varied from 18 to 45 watts with standard GE transformers.

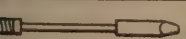
Description		Cat. No.
Handle and 6-foot cordset		
	For single- and 4-tap transformers	6A203
	For transformer with 3-heat switch	6A203G2
Tip and Heater Units — All ironclad tips		
	¼" Chisel Tip 25 watts	6A211
	⅛" Cone Tip 25 watts	6A213
	3/16" Pyramid Tip 25 watts	6A215
	3/16" Chisel Tip 25 watts	6A217
	⅜" Chisel Tip 45 watts	6A211G31
Heater for Threaded Tips		
	25 watts	6A221
Transformers for Midget Iron — 115-volt Primary‡		
	Single Tap 6.3-volt secondary	6A362G2
	Four Tap 5.4/5.7/6.0/6.3-volt secondary	6A364G2
	With Three-heat Switch 4.9/6.3/6.9-volt secondary For use only with Handle and Cordset 6A203G2.	6A434

Single- and four-tap transformers are available with 240-volt primary in quantities of 36 or more, specify catalog number desired and note on order, "except with 240-volt primary." Use interchangeable threaded tips.

MIGHTY MIDGET SOLDERING IRON — 12 VOLTS; 100 WATTS



A lightweight iron with high heat capacity for heavy soldering where larger irons, up to 200 watts, prove unwieldy for rapid repetitive soldering, such as production soldering of tuner chassis, tinware, can seams, etc.

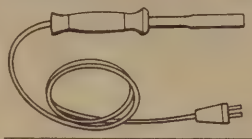
Handle and Cordset — Two-conductor		
		6A210G61
Tip and Heater Unit — Ironclad		
	½" Chisel Tip 60 watts	6A211G54
	½" Chisel Tip 80 watts	6A211G50
	½" Chisel Tip 100 watts	6A211G33
Transformer for Mighty Midget — 115-volt primary		
	Four Tap — for 55/70/85/100 watts (115-volt primary, 12-volt secondary)	6A364G7

UL Listed.

6A160 SERIES SOLDERING IRONS — 120 VOLTS§, 75 TO 140 WATTS



Ideal for medium to heavy production, and maintenance and repair operations. Available with any of 12 different tips, calorized or ironclad.

Description		Cat. No.
Complete Iron Less Tip — Includes 6-foot two-conductor cordset		
	75 Watts	6A161*
	100 Watts	6A162*
	110 Watts	6A162G6*
	125 Watts	6A162G3*
	140 Watts	6A162G12

Tips — Fit all irons listed above

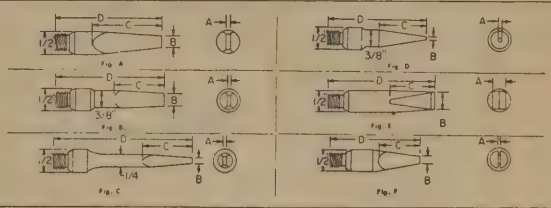


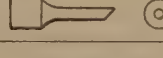
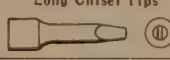
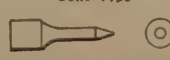
Fig.		A	B	C	D	
A. ½"-Dia. Chisel	Calorized	1/32	3/16	1½	2⅜	6D1P1
	Ironclad	1/16	7/32	1½	2⅜	6D1P2
	Calorized	1/16	7/32	2¾	4	6D1P3
	Ironclad	3/32	¼	2¾	4	6D1P4
	Calorized	5/32	¼	1¼	2⅛	6D1P11
B. ⅜"-Dia. Chisel	Ironclad	1/16	3/16	1⅛	2⅜	6D1P8
	Calorized	1/32	3/32	1⅛	2⅜	6D1P6
	Ironclad	1/16	5/16	1⅛	2⅜	6D1P7
C. ¼"-Dia. Chisel	Ironclad	1/16	⅛	1	3⅛	6D1P5
D. Cone	Ironclad	1/16	1/16	13/16	2 5/16	6D1P12
E. Pointed Chisel	Ironclad	¼	13/32	1	1⅞	6D1P9
	Ironclad	¼	13/32	1	2⅜	6D1P10
F. Slim Chisel	Ironclad	1/16	5/32	⅞	2	6D1P19

Renewal Heater — 120 Volts§

	75 Watts	6A31
	100 Watts	6A32
	110 Watts	7C342
	125 Watts	8A88
	140 Watts	7C616

§ Also available for 240-volt operation.

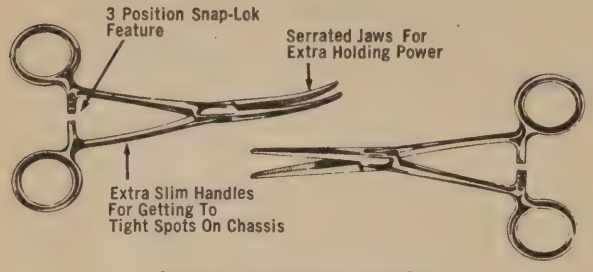
INTERCHANGEABLE THREADED TIPS For Penline-120, Pistol-grip, Lightweight, and Midget Irons

Description (Copper Tip, Surface Plating)		Cat. No.
Spade Tips 	1/16" Dia—Nickel	6D4P1
	1/32" Dia—Ironclad	6D4P2
	⅛" Dia—Nickel	6D4P3
	5/32" Dia—Ironclad	6D4P4
Chisel Tips 	1/16" Dia—Nickel	6D4P5
	1/16" Dia—Ironclad	6D4P21
	3/32" Dia—Ironclad	6D4P6
	⅛" Dia—Nickel	6D4P7
	⅛" Dia—Ironclad	6D4P22
	5/32" Dia—Ironclad	6D4P8
	3/16" Dia—Nickel	6D4P9
	7/32" Dia—Ironclad	6D4P10
	5/32" Dia—Nickel	6D4P11
	3/16" Dia—Ironclad	6D4P12
Long Chisel Tips 	3/16" Dia—Nickel	6D4P13
	7/32" Dia—Ironclad	6D4P14
Pyramid Tips 	⅛" Dia—Nickel	6D4P15
	5/32" Dia—Ironclad	6D4P16
	11/32" Dia—Nickel	6D4P17
	⅜" Dia—Ironclad	6D4P18
Cone Tips 	⅛" Dia—Nickel	6D4P19
	5/32" Dia—Ironclad	6D4P20

GC ELECTRONICS

ALIGNMENT TOOLS & Service Aids

GC'S NEWEST SOLDERING AID TOOL "SEIZERS"



Excellent clamp-type heat sink for soldering Diodes and Transistors.

STAINLESS STEEL SEIZERS

NEWEST GC SOLDERING AID TOOL! THREE POSITION SNAP LOCK ON HANDLE • EXTRA SLIM FOR GETTING INTO TIGHT SPOTS • SERRATED JAWS FOR EXTRA HOLDING POWER!

A versatile, general purpose soldering tool. Excellent clamp-type heat sink for soldering diodes and transistors. Available in straight or curved jaw type. Made of the finest stainless steel.

Cat. No.		Net
7976	Seizer, 5" straight jaw type	5.16
7977	Seizer, 6" straight jaw type	5.33
7978	Seizer, 5" curved jaw type	5.16
7979	Seizer, 6" curved jaw type	5.33



SPEEDEX AUTOMATIC WIRE STRIPPER

Equipped with "Trig-O-Matic" Stay-Open feature; keeps wires from being crushed.

No.	For Sizes Listed Below
744	12 to 20 Wire
744-A	14 to 30 Wire
744-B	10 to 18 Wire
744-D	16, 18, 20, 22 Wires
744-F	10, 12, 14 Wires
744-I	10, 12, 14, 16, 18, 20, 22 Wire
744-M	10 to 20 Wire
744-N	Straight Cutter Blades

Cat. No. 744..... **Net 7.53**

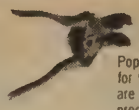


SPEEDEX SPEED-O-MATIC WIRE STRIPPER

Fully automatic delayed return action to prevent crushing fine wires. The Speed-O-Matic combines the features of all Speedex Wire Strippers.

No.	For Sizes Listed Below
766	12 to 20 Wire
766-A	14 to 30 Wire
766-B	10 to 18 Wire
766-D	16, 18, 20, 22 Wire
766-E	14, 16, 18 Wire
766-I	10, 12, 14, 16, 18, 20, 22 Wire
766-M	10 to 20 Wire

Cat. No. 766... ..... **Net 7.53**



SPEEDEX STANDARD WIRE STRIPPER

Popular inexpensive Speedex model for 90% of all stripping jobs. Blades are inter-changeable, hardened and precision ground to razor sharp edges

No.	For Sizes Listed Below
733	12 to 20 Wire
733-A	14 to 30 Wire
733-B	10 to 18 Wire
733-C	8 to 10 Wire
733-D	16, 18, 20, 22 Wires
733-F	10, 12, 14 Wires
733-I	10, 12, 14, 16, 18, 20, 22 Wire

Cat. No. 733..... **Net 5.98**



GC's New, Handy MULTI-COMBO ALIGNMENT TOOL KIT

Features three of the most useful alignment tools for radio and television service all in a handy pocket saver. Also included is one Extend-it adapter which permits making a combination of eight tools from this kit. Tools in this kit are GC 8867 Tel-a-Turn tool, GC 8282 Hex alignment tool, GC 9090 Adjustable Shorty screw driver, and Extend-it adapter.

No.	Description	Dealer Net
8456	Multi-Combo Tool Kit	1.99

CONTACT BURNISHING TOOL KIT
"A Must For Contact Maintenance"

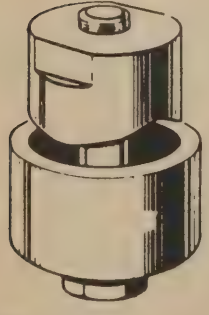
A complete kit for the servicing of relays, switches, etc., where critical contact points must be kept clean for ideal operating conditions. Contains one two-ounce bottle No. 210-2 Contact Cleaner and Burnishing Tool.

GC No.		Net
9339	Complete Kit	.97
9338	Burnishing Tool	.39

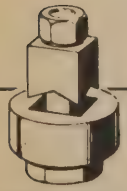
Walsco ELECTRONICS

CHASSIS PUNCHES

ROUND PUNCHES



SQUARE PUNCHES



METER HOLE PUNCHES (Round) For Standard Meters



DESCRIPTION	WALSCO CAT. NO.	GREENLEE PART NO.	PUNCH SIZE	PILOT BOLT SIZE	PILOT HOLE DRILL SIZE	NET EACH
ROUND PUNCHES	3050-R	730 1/2	1/2"	1/4"	5/16"	$3.05
	3052-R	730 9/16	9/16"	1/4"	5/16"	3.05
	3062-R	730 5/8	5/8"	1/4"	3/8"	3.05
	3069-R	730 11/16	11/16"	3/8"	7/16"	3.05
	3075-R	730 3/4	3/4"	3/8"	7/16"	3.05
	3081-R	730 13/16	13/16"	3/8"	7/16"	3.05
	3087-R	730 7/8	7/8"	3/8"	7/16"	3.05
	3094-R	730 15/16	15/16"	3/8"	7/16"	3.45
	3100-R	730 1"	1"	3/8"	7/16"	3.45
	3106-R	730 1-1/16	1-1/16"	3/8"	7/16"	3.60
	3112-R	730 1-1/8	1-1/8"	3/8"	7/16"	3.60
	3116-R	730 1-5/32	1-5/32"	3/8"	7/16"	3.60
	3119-R	730 1-3/16	1-3/16"	3/8"	7/16"	3.60
	3125-R	730 1-1/4	1-1/4"	3/8"	7/16"	3.60
	3131-R	730 1-5/16	1-5/16"	3/8"	7/16"	4.45
	3137-R	730 1-3/8	1-3/8"	1/2"	9/16"	4.45
	3150-R	730 1-1/2	1-1/2"	1/2"	9/16"	4.90
	3162-R	730 1-5/8	1-5/8"	3/4"	7/8"	5.95
	3175-R	730 1-3/4	1-3/4"	3/4"	7/8"	6.80
	3187-R	730 1-7/8	1-7/8"	3/4"	7/8"	8.40
	3200-R	730 2"	2"	3/4"	7/8"	9.00
	3212-R	730 2-1/8	2-1/8"	3/4"	7/8"	9.70
	3225-R	730 2-1/4	2-1/4"	3/4"	7/8"	10.00
	3250-R	730 2-1/2	2-1/2"	3/4"	7/8"	16.30
	3275-R	730 2-3/4	2-3/4"	3/4"	7/8"	22.65
	3300-R	730 3"	3"	3/4"	7/8"	31.30
SQUARE PUNCHES	3050-S	731 1/2	1/2"	1/4"	3/8"	8.10
	3062-S	731 5/8	5/8"	3/8"	1/2"	8.10
	3075-S	731 3/4	3/4"	3/8"	1/2"	8.80
	3087-S	731 7/8	7/8"	3/8"	1/2"	10.30
	3100-S	731 1"	1"	3/8"	1/2"	10.70
METER HOLE PUNCHES (Round) For Standard Meters	3278	730 M	2-25/32"	3/4"	7/8"	14.88

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

Net

© United Technical Publications

SERVICE AIDS

GC ELECTRONICS



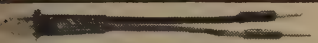
GC 7-PIN MINIATURE TEST SOCKET ADAPTER
Cat. No. 9247 Net 1.65



GC 9-PIN MINIATURE TEST SOCKET ADAPTER
Cat. No. 9249 Net 1.87



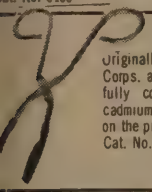
GC 8-PIN OCTAL TEST SOCKET ADAPTER
Cat. No. 9248 Net 1.57



GC NE-O-LITE
Electrical circuit tester...easy to use with a Neon Glow lamp which varies in light intensity according to voltages. Traces all types of trouble, such as grounded lines, open circuits, short circuits, etc.
Cat. No. 5100 Net .50



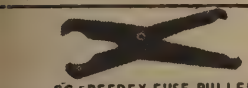
GC MINIATURE TUBE PIN STRAIGHTENER
Precision-constructed steel die, for straightening pins on fragile miniature tubes of the 1S5, 6AK5, 9002 variety.
For 7-pin Min. Tubes (red base)
Cat. No. 5191 Net 1.00
For 9-pin Jumbo Tubes (blue base)
Cat. No. 8105 Net 1.00



GC TUBE & PARTS EXTRACTOR
Originally designed by the U.S. Signal Corps. as standard equipment. Skillfully constructed of spring steel, cadmium plated. Has rubber cushion on the prongs.
Cat. No. 5092 Net .98



SOLDERLESS TERMINAL TOOL
Handy, heavy duty solderless terminal crimping tool and wire stripper. Crimps all sizes of terminals, strips No. 10 to No. 22 wire.
Cat. No. 8176-S Terminal Tool and Wire Stripper ..... Net 5.20

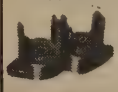


GC SPEEDEX FUSE PULLERS
Inexpensive...non-slip, fuse puller. Safe and handy for cartridge fuses.
Cat. No. 5525 Midget size for fuses 1/4" to 1/2" diameter Net .68
Cat. No. 5526 Pocket size for fuses 1/2" to 1-1/2" dia. Voltages to 200 amps at 250 volts and 100 amps at 600 volts. Net 1.30

GC AMO MINIATURE TUBE PULLER
AMO makes it possible to easily remove or insert miniature tubes such as 6AG5, 50B5, etc. It works on the suction and vacuum principle.
Cat. No. 5093 For 7-pin tubes Net 2.50
Cat. No. 8106 For 9-pin tubes Net 2.50



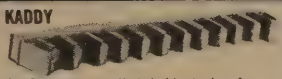
GC PHONO TURNTABLE STAND
Stand raises the turntable about 15" above the bench for repairs. Easily adjusted to all sizes and types of phono turntables. Sturdily made of steel.
Cat. No. 5205 Net 5.45



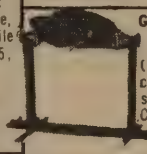
GC DUPLEX TUBE PIN STRAIGHTENER
The handiest tubepin straightener for both miniature and jumbo miniature tubes of the 7- and 9-pin types.
Cat. No. 8655 Net 2.00



GC 4-IN-1 TUBE GADGET
Four tools in one. Pure rubber, will not break.
Cat. No. 9130 Net 1.65



TOOL KADDY
The rack of many uses that holds tools of any shape and size from the largest to the smallest. This handy all-metal rack installs easily with many uses in the TV service shop, garages, home workshop, etc.
Cat. No. 9525 ..... Net 1.60



GC "QUICK-RIG" RADIO-PHONO CHASSIS REPAIR CRADLE
Complete 360 degree rotation to lock chassis at best working angle. Clamps security, makeshift setups, all metal.
Cat. No. 5212 Net 8.11



GC NO-JOLT TOOL GRIPS
Modernizes old tools with new safety grip handles. Grease and oil resistant.
Cat. No 5647 GC Small (1 pair) Net .23
Cat. No. 5648 GC Med. (1 pair) Net .27



GC HANDY PICK-UP TOOL
One of the handiest tools you can have in your home, shop, office or farm. Tool is 15 inches long.
Cat. No. 5089 GC Net 1.23
2563 Walsco



New SUPER DELUXE UNBREAKABLE PLEXIGLASS SERVICEMANS MIRROR
Unbreakable plexiglass mirror with special swivel mount. Can be adjusted to old set height and to low boy height.
Dimensions: 10" x 12"

No.	Std.Pkg.	Net
8381 Mirror & Stand	1	11.56



GC HEX-KEY AND SPLINE WRENCH KIT
For both hex and spline type screws. 12 wrenches in leatherette case
Cat. No. 5028 GC Net 1.59



GC POCKET HEX KEY WRENCH SET
7 popular size wrenches. .050 to 3/16" fitted in a steel case-like pocket knife blades.
Cat. No. 9124 GC Net 1.83



GC TWEEZERS
Self-closing tweezer opens when squeezed; blunt points.
Cat. No 7946 GC Net .99

6½" heavy duty type, with slide lock feature; blunt points.
Cat. No. 7947 GC Net 1.10

4½" tweezer, narrow pointed ends for delicate work.
Cat. No. 7948 GC Net .75



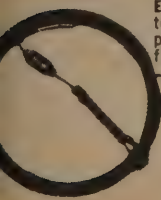
COLOR TV SERVICE MIRROR
High quality polished glass mirror in metal frame, nickel plated. 10" x 12". Complete with adjustable, collapsible stand for easy storage.
Cat. No. 8390 Net 6.95

COLOR TV SERVICE AIDS

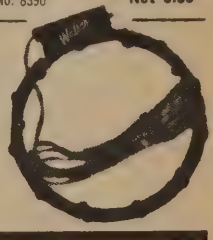


RCA COLOR TV HARNESSES & SOCKETS FOR SERVICE & REPLACEMENT

Part No.	Description	Net
9436	**ADAPTER SOCKET** ..... Converts 23" & 25" CRT Base to 21" type for use with current test equipment. RCA No. 937848; Admiral No. BP196.	3.58
9437	**UNIVERSAL KINESCOPE SOCKET EXTENSION**..... **CABLE**—fits all 21", 23" and 25" round and rectangular CRT. 48" leads. RCA No. 13B111 and 937846; Admiral No. BP191.	7.88
9438	**KINESCOPE EXTENSION SOCKET**..... 48" leads—converts a 23" or 25" CRT base to 21" type for use with current test equipment. RCA Nc 13B111 and 937847; Admiral No. BP190.	9.03
9439	**KINESCOPE SOCKET EXTENSION CABLE**..... For all 21AXP or equivalent round picture tubes. Extends kinescope socket cable for chassis removal when servicing, or use with color test tube jig. Admiral No. BP192.	5.15
9441	**REPLACEMENT SOCKET & LEADS**..... For 21" color tubes—24" leads.	2.50
9443	**REPLACEMENT SOCKET & LEADS**..... For 23" and 25" color tubes—24" leads.	2.50
9447	**DEFLECTION YOKE EXTENSION CABLE**..... For 21" color tubes—48" leads. Use with all 21AXP22 or equivalent tubes. Extends yoke cable for servicing chassis without removing picture tube.	5.00
9448	**DEFLECTION YOKE EXTENSION CABLE**..... 48" leads extend yoke cable when chassis is removed for servicing. For 23" or 25" picture tubes. Male octal plug one end, push-on connectors on other end for connecting to deflection yoke, or test jig.	2.15
9453	**ANODE EXTENSION** ..... High voltage extension cable with 48" leads for use when TV chassis is removed from set for servicing.	2.03
9445	**CONVERGENCE MAGNET DEFLECTION YOKE**..... **EXTENSION.** For RCA, Admiral, Motorola, Zenith. Extension leads for chassis removal without removing picture tube. For RCA CTC7 to CTC15 chassis. Deflection yoke extension for RCA 600 & 700 series.	5.15



GC DEGAUSSING COIL *PROFESSIONAL MODEL*
Eliminates stray magnetic fields in color TV sets as required prior to purity adjustment. Durable, molded hi-impact case. Supplied with 9' cord, momentary push-button switch which permits de-energizing of coil without pulling plug. Safe, easy to use; will last a lifetime.
Cat. No. 9317 Net 19.95



7" DEGAUSSING COIL *IN-THE-HOME MODEL*
For the home or serviceman. Molded of hi-impact plastic with momentary push-button switch, this coil will easily fit into tube caddy or will hang on the back of TV set. Low cost...easy resale to TV set owner.
Cat. No. 2592 Net 6.25
UL - CSA Rated

GC SERVICE AIDS

DESOLDERETTE
DESOLDERING TIPS FOR SOLDERING GUNS



The new Desolderette* tip for soldering guns simplifies printed circuit and standard wiring desoldering procedures by allowing gun to draw and hold solder in the tip by capillary action. Tip draws solder from those small connections which usually cool between the application of heat and use of normal suction-type solder removing devices. Desolderette is easily emptied of solder pickup by a flick of the wrist. Fits most gun type irons. *PAT. 3316384
Cat. No. 9066 ..... Net 1.30



GC TV 3-WAY ANTENNA KLIP
Buy them by the bag and have clips ready to sell and ready to install on TV sets.
Cat No. 9015-X bag of 10 Net 1.80



GC TUBE PIN STRAIGHTENER
Plastic 6" ruler tube pin straightener for Compactrons, large 7-pin, 9 and 10 pin, and 7-pin tubes. Drilled holes for bench mounting.
Cat. No. 9135 Net .59



"QUICK SNAP" ANTENNA CLIP
New side clip allows fast connecting with antenna lines;ideal for the service bench. Accepts A-N-P, Pin, and flat terminal type lines.
Cat. No. 9030 bag of 2 clips Net .49



REACH-ALL PEN OILER
Precision instrument oiler. Features extending and retracting tube. Disposes a drop or fraction of a drop of high quality oil.
Cat.No. 984 Net .99



GC 3-STEP TAP
Three-in-1 tool for tapping or rethreading holes. 3 most popular tap sizes: 6 32, 8 32 and 10 32. Heavy plastic handle.
Cat. No. 8871 G.C. Net 3.75

WRITE FOR CATALOG #FR-71-72 FOR COMPLETE LISTINGS

GC ELECTRONICS

SOLDERING AIDS

REAMER AND SCRAPER TIP

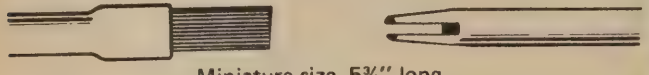


Miniature size, 5¾" long

Twist-proof, chrome plated steel to shed solder. Printed circuit type solder aid tool with straight tip. Reamer and scraper tips for scraping joints or reaming out lug holes. Both ends are insulated from each other.

GC No.		Net
9069	Reamer and Scraper Hex Plastic Handle	.90
9469	Reamer and Scraper Hex Wood Handle	.90

BRUSH AND FORKED TIP

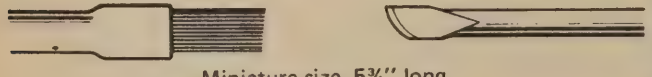


Miniature size, 5¾" long

Chrome plated steel to shed solder. Printed circuit type solder aid tool with brush on one end, forked tip on the other. Forked tip is for twisting or holding wires. Both ends are insulated from each other.

GC No.		Net
9073	Brush and Forked Tip Hex Plastic Handle	.95
9473	Brush and Forked Tip Hex Wood Handle	.95

BRUSH AND SCRAPER TIP



Miniature size, 5¾" long

Printed Circuit type solder aid with brush on one end for dusting away excess solder chips, and scraper tip for scraping joints. Both ends are insulated from each other.

GC No.		Net
9074	Brush and Scraper Tip Hex Plastic Handle	.95
9474	Brush and Scraper Tip Hex Wood Handle	.95

STRAIGHT AND FORKED TIP REAMER

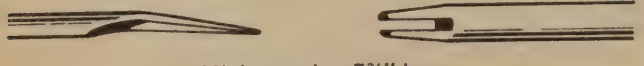


Miniature size, 5¾" long

Prevents solder from sticking. Made from heat-treated tool steel, nickel plated to eliminate solder from sticking. Forked tip on one end, straight probe on the other.

GC No.		Net
9075	Forked and Straight Tip Hex Plastic Handle	.90
9475	Forked and Straight Tip Hex Wood Handle	.90

ANGLE REAMER AND FORKED TIP

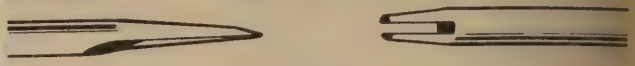


Miniature size, 5¾" long

Nickel plated tool steel prevents solder from sticking to tool. Forked tip on one end for twisting or holding wires, angled reamer on the other end.

GC No.		Net
9076	Forked and Angled Tip Hex Plastic Handle	.90
9476	Forked and Angled Tip Hex Wood Handle	.90

STRAIGHT REAMER AND FORKED TIP

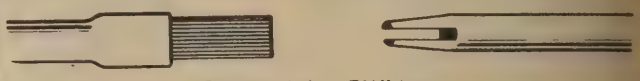


Standard size, 7½" long

Standard type soldering aid tool, with straight reamer for cleaning out lug holes. Forked tip is ideal for twisting or holding wires. Steel, chrome plated to prevent solder from sticking to tool.

GC No.		Net
9086	Straight Reamer and Forked Tip Hex Plastic Handle	1.03
9486	Straight Reamer and Forked Tip Hex Wood Handle	1.03

HEAVY DUTY BRUSH AND FORKED TIP



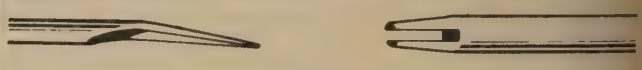
Standard size, 7½" long

Made of special stainless steel with hardened probe. Solder will not stick to it. One end has a stiff wire brush for cleaning solder off terminals. The other end is machined to help in unsoldering wires which are wrapped around terminals and lugs, and holding wires.

GC No.		Net
9088*	Brush and Forked Tip Hex Plastic Handle	1.03
9488	Brush and Forked Tip Hex Wood Handle	1.03

*FSN 5120-767-9126

ANGLE REAMER AND FORKED TIP



Standard size, 7½" long

Handy, fine point probe specially designed to aid in probing and soldering printed circuits. Made with special stainless steel hardened probes, solder will not stick to it.

GC No.		Net
9093*	Angle Reamer and Forked Tip Hex Plastic Handle	1.03
9493*	Angle Reamer and Forked Tip Hex Wood Handle	1.03

*FSN 3432-P-49-N-363

BRUSH AND SCRAPER TIP



Standard size, 7½" long

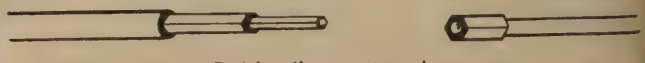
Fine stainless steel brush and hardened steel scraper are required to scrape and clean the silicone resin from the printed circuit before any repair can be made. Saves time on printed circuits.

GC No.		Net
9094*	Brush and Scraper Hex Plastic Handle	1.03
9494*	Brush and Scraper Hex Wood Handle	1.03

*FSN 3432-P-49-N-364

*FSN 5120-767-9126

3 IN 1 HEX CORE TOOL



Delrin alignment tool

For adjusting coil slugs. Both ends are Hex shaped. One end is .100" with undercut shaft; the other end is .075" and .100".

GC No.		Net
9302	3 in 1 Hex Core Tool	.55

Net

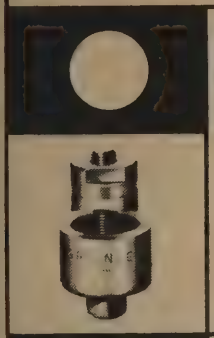
© United Technical Publications

GREENLEE TOOL CO

A Unit of Ex-Cell-O Corporation XLO

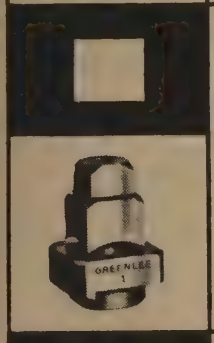
CHASSIS PUNCHES

ROUND, SQUARE, "KEY," AND "D" TYPES



NO. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. 29 sizes from ½" to 3⅛" diameter. New Ball-Bearing Drive available for even easier, speedier operation.



NO. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in five sizes for making ½", ⅝", ¾", ⅞", and 1" square holes. Drive screw fits into ½" hole, which can be drilled or made with ½" No. 730 GREENLEE Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

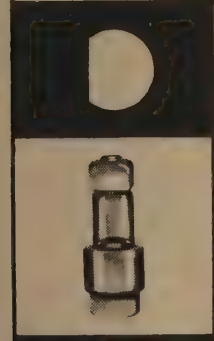
NO. 731-R KHP RELAY PUNCH

Makes clean, accurate, *finished* holes in up to 16-gauge metal for Potter & Brumfield KHP miniature relay sockets. Makes 1.018" x .861" hole.



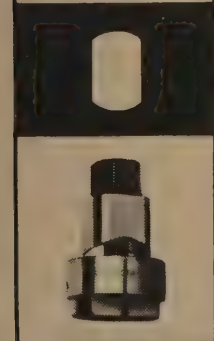
NO. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other GREENLEE Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1 11/64", 1 17/64", 1 21/64". Drive screw fits into ½" hole. Individually packed.



NO. 733 "D" PUNCH

Simplifies and speeds the work of making "D"-shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in ½" and ⅝" sizes. Operates on same principle as other GREENLEE Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into ⅜" drilled hole. Individually packed.



NO. 734 DOUBLE "D" PUNCH

Quickly makes standard electrical receptacle openings. Cuts standard hole 1⅛" dia. across parallel sides, 1⅜" dia. across rounded ends. Simply insert into a ½" hole and turn with an ordinary wrench. Does the work in less than five minutes . . . eliminates all tedious hand filing . . . gives a smooth, perfect opening.

No. 730 ROUND PUNCH

Size	Net User Price	Size	Net User Price
½"	$2.85	1¾"	$6.30
9/16"	2.85	1⅞"	7.80
⅝"	2.85	2"	8.35
11/16"	2.85	2⅛"	9.00
¾"	2.85	2¼"	9.30
13/16"	2.85	2½"	15.10
⅞"	2.85	2¾"	21.00
15/16"	3.20	2 25/32"	13.75
1"	3.20	3"	29.00
1 1/16"	3.35	3⅛"	33.00
1⅛"	3.35	Following sizes also available with larger drive screw for cutting thicker metals (No. 730X)	
1 5/32"	3.35		
1 3/16"	3.35		
1 7/32"	5.75		
1¼"	3.35	1⅛"	7.35
1 5/16"	4.15	1 3/16"	7.35
1⅜"	4.15	1¼"	7.35
1½"	4.55	1⅜"	8.50
1⅝"	5.50	1½"	9.60

No. 731 SQUARE PUNCH

Size	Net User Price	Size	Net User Price
½"	$8.10	⅞"	$10.30
⅝"	8.10	1"	10.70
¾"	8.80		

No. 731-R KHP RELAY PUNCH

Size	Net User Price
1.018" x .861"	$16.25

No. 731-R KU & KUP RELAY PUNCH

Size	Net User Price
1¼" x 1⅜"	$24.50

No. 732 "KEY" PUNCH

Size	Net User Price	Size	Net User Price
15/32"	$7.45	1 17/64"	$10.00
15/16"	7.85	1 21/64"	11.00
1 11/64"	8.50		

No. 733 "D" PUNCH

Size	Net User Price	Size	Net User Price
½"	$6.10	⅝"	$6.50

No. 734 DOUBLE "D" PUNCH

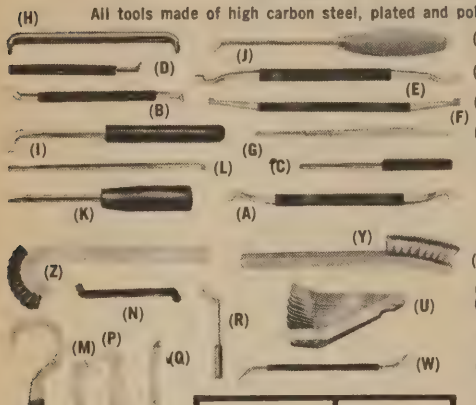
Size	Net User Price
1⅛" x 1⅜"	$32.00

RELAY & ELECTRONIC TOOLS

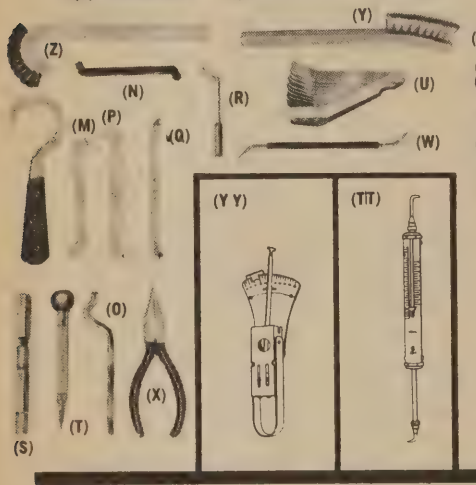
FOR PRODUCTION, SERVICE & MAINTENANCE

RELAY SPRING ADJUSTING TOOLS

All tools made of high carbon steel, plated and polished, heat treated and tempered to exact requirements. Insulated handles for work on live equipment.



(A) SA-2	Offset type, 6½" long, saw slot both ends .032"	$3.40
(B) SA-6A	Cross & lengthwise slots, 5½" long. Slot .030"	$3.35
(C) SA-7	One end saw slot straight 4½" long. Slot .015"	$1.90
(D) SA-8	Heavy duty. Round head, 4½" long. Cross slot .045"	$3.25
(E) SA-16	Offset type 6½" long, saw slot both ends .018"	$3.55
(F) SA-17	Offset slim type. Saw slot both ends .023" 8" long	$4.25
(G) SA-20	Opposite-faced thin headed slots. 7" long Slots .022"	$4.30
(H) SA-24	Crosswise slots. 5½" long, Slots .040 & .028"	$3.60
(I) SA-25	Angled. 6½" long. Saw slot .032"	$3.25
(J) SA-143	Bent, 8" long, Saw slot .025"	$3.15
(K) SA-163	Straight driver type, 5½" long, cross slot .038"	$3.10
(L) SA-175	Closely set saw slot, 5¼" long, slot .031"	$3.48



RELAY & INSTRUMENT TOOLS

(M) AB-21	Adjuster, Armature, 4" long, slot width each end .110"	$2.06
(N) AB-20	Adjuster, Armature, 3 slots .114"	$2.15
(O) SB-22	Adjuster, Armature stop, 5" long, slots .032"	$2.15
(P) S-187	Adjuster, double dog, 4" long, slot both ends. 3/32"	$2.40
(Q) S-201	Adjuster, aid spring, 4¼" long, slot both ends .034"	$3.50
(R) J-34	Adjuster, pole piece, 3" long	$1.68
(S) FW-24	Hex wrench, double end, with screw driver, 4¾" long, 3/32" and ¼" hexagon	$3.40
(T) J-23	Screwdriver, guide pin 4½" long	$3.98
(U) T-255	Angled thickness gauge, 9 blades .009" to .026"	$2.80
(V) BC-23	Bank cleaner, abrasive surface 1½" dia. 6" long	$3.58
(W) S-457	Wire & spring aid, bent 30° opposite ends, 5½" long	$3.40
(X) PL-8	Spring duck bill plier, 5½" long	$6.00
(Y) WB-65	Nickel silver wire brush, 9" long	$2.80
(Z) HB-75	Curved hair brush. Radius 1¾", Length 8"	$2.70

SPRING TENSION GAUGES (YY)

Precision-made to accurately determine the setting, testing and adjusting of relay spring tension and other delicate electronic tensioned movable components.

G-10	0-10 grams	$8.20	GP-50	0-50 grams (preset)	$8.70
G-30	0-30 grams	$8.20	G-300	0-300 grams	$8.20
G-50	0-50 grams	$8.20	G-700	0-700 grams	$9.60
G-150	0-150 grams	$8.20	G-14	0-1400 grams	$8.96

PUSH—PULL TENSION GAUGES (TT)

GPP-1	0-1000 grams	$32.80	GPP-5	0-500 gr./16 oz. in.	$16.50
GPP-2	0-110 grams	$16.40	GPP-25	0-2500 gr./80 oz. in.	$32.50

TOOL KITS

MASTER 15-PIECE RELAY TOOL KIT



Precision-made and professionally-designed group of new tools for adjusting and maintaining relays, contactors, switches, controls, and other components for the telecommunication and electronic industries.

Packed in Deluxe zippered leather case for protection of tools.

Kit contains: 2 spring adjusters, tension & thickness gauges, Duck Bill plier, Screw Driver, Tweezer, Mirror, 4-way Tool, Brush, Armature & Stop Benders, Contact Spray. Contact Burnisher. **KIT K-55 $44.00**

Kit KR-6 Compact Relay Kit, leather case (not illustrated) **$26.00**

MASTER 20-PIECE ELECTRONIC TOOL SET

Designed for assembly, service and repair. High quality tools were specially produced for serving, adjusting, trouble-shooting, of complex equipment and assembly work. Kit comes in durable leather zippered case for easy portability. Set contains Chain Nose, Groove Grip and Diagonal cutting pliers. Standard and Phillips screwdrivers, Magnifier, Solderingiron, Straight and Bent Nose tweezers, Solder aid, Alignment tool, 2 Needle files, Pin vise, Solder Core, 3/16" and 1/4" Nut drivers, 2 jewelers screwdrivers, Pen Burnisher with 12 blades. **KIT K-600 ..... Price $37.00**

Kit KE-7 Compact Electronic Set, vinyl case (not illustrated) **$12.90**



RELAY & CONTACT BURNISHERS

DIAMOND BURNISHERS



Exclusive Features:
- Strong abrasive power
- Long lasting

Consists of abrasive Diamond particles - Developed for any type contacts: Silver, Platinum, Gold, Palladium, Tungsten, Molybdenum - Length 5⅜" - Diamond coated face 1" x ¼" - Nylon Shaft - Three types to meet every application: Type 200 (coarse) for Industrial Relays - Type 300 (medium) for Intermediate and Telephone relays - Type 400 (fine) for Sensitive Relays.

K-234 Set of 3 ..... **$17.00**
Individual spatulas and Kits packaged in rigid plastic boxes.

D-200	Coarse	$5.80
D-300	Medium	$5.80
D-400	Fine	$5.80

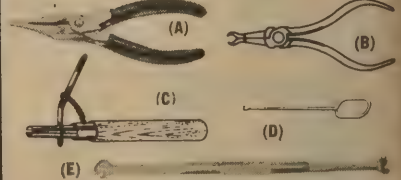
POCKET-TYPE BURNISHERS



Handy, lightweight tool with replaceable blades, adjustable for length and rigidity. For any type contacts, of any precious metal. Contact burnisher leaves no grit or dust on contact. Hard-tempered steel blades for minimum contact wear. Rust proof, with chrome plated barrel and pocket clip, aluminum chuck. Clear plastic cap for use with "live" contacts. Overall length, 5½". dia. ⅜".

P-4 Pen—With 12 RB4 Blades. Net Each..... **$4.50**
P-6 Pen—With 12 RB6 Blades. Net Each..... **$4.50**
RB4 (¼" w. 1¼" l.) or **RB6** (3/16" w. x 1¾" l.)
Replacement Blades — .007" thick. Net, Pkg. 25 **$4.50**

SPECIALIZED TOOLS



(A) PLS-7	Parallel Duck bill plier, 6" long	$7.98
(B) S-42	Plier, lamp cap extractor, 5" long	$5.46
(C) S-339	Switchboard lamp extractor	$2.68
(D) M-120	Hook spring pull, 6"	$1.60
M-125	Hook spring push, 6"	$1.60

(E) Open end wrenches, 8" long, DW-4 ¼" DW-16 3/16", DW-32 7/32" ..... **$3.48 ea.**

CONTACT OUR CUSTOM-MADE TOOL DEPARTMENT FOR SPECIAL REQUIREMENTS

Write for New Free Catalog... **OVER 500 JIC PRECISION TOOLS**

JONARD INDUSTRIES CORP. PRECISION TOOLS DIV.

Net

© United Technical Publications

PRECISION TOOLS

FOR PRODUCTION, SERVICE & MAINTENANCE

PRECISION DYNAMOMETER TENSION GAUGES

LARGE — Round Tip



SMALL — Flat Tip



Accurately measure forces required to actuate all sensitive mechanisms . . .

Available in two sizes and a total of thirteen ranges. Measure in both directions. Equipped with maximum reading pointer that retains reading.

LARGE GAUGES

Type	Range In Grams	Conversion In Ounces
GD-50	60-500	18 $32.70
GD-100	100-1000	32 $32.70
GD-200	200-2000	70 $32.70
GD-400	400-4000	140 $36.60

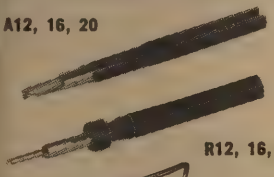
SMALL GAUGES

Type	Range In Grams	Conversion In Ounces
GD-1	0-10	3/8 $14.20
GD-2	2-20	3/4 $14.20
GD-3	4-35	1 5/16 $14.20
GD-5	6-50	1 3/4 $14.20
GD-10	10-100	3 1/2 $14.20
GD-15	15-150	5 1/4 $14.20
GD-20	20-200	7 $14.20
GD-25	30-250	9 $14.20
GD-30	40-350	12 $16.00

CONTACT INSERTION / REMOVAL TOOLS AND KITS

Just 2 tools insert and remove contacts on all types of connectors . . .

A12, 16, 20



R12, 16, 20



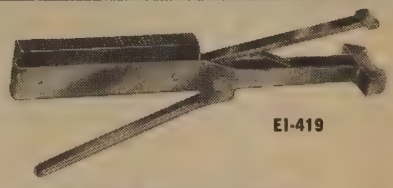
AMPHENOL, CINCH, BENDIX, CANNON, PYLE, etc. . . .

INSERTION				REMOVAL			
Type	Color	Size	Price Ea.	Type	Color	Size	Price Ea.
A-12	Yellow	12	$12.50	R-12	Yellow	12	$16.00
A-16	Blue	16	12.50	R-16	Blue	16	16.00
A-20	Red	20	12.50	R-20	Red	20	16.00

KITS

KA-260 — 3 PIECE CONTACT INSERTION TOOL KIT
Consists of one each A-12, A-16, A-20 .....Price **$36.00**

KR-260 — 3 PIECE CONTACT REMOVAL TOOL KIT
Consists of one each R-12, R-16, R-20 .....Price **$45.00**



EI-419

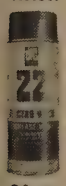
EI-419 INSERTING AND EXTRACTING TOOL

For printed circuit boards, connector assemblies, telephone-cord stoppers, flat-packs, IC's and many other applications.

Precision made, with leaf spring to remain in open position. Made of special alloy, molded finger-grip type handle for easy gripping. Fully nickel-chrome plated. Overall length 6½". .....Price **$8.90**

INNOVATIONS IN SERVICE, PRODUCTION & LAB TOOLS

WASH AND LUBE SPRAYS



24 oz.



8 oz.

JIC-22 ELECTRO-WASH
Degrease, eliminate grease, dirt, oil. No carbon-tet, safe, no residue, non-flammable. Std. pkg: 12 pcs. $3.25 ea. 6 pcs. $3.50 ea. Sample order $4.00 ea.

JIC-33 ELECTRO LUBRI-FOAM
Cleans, lubricates, protects, polishes. Exclusive foam action. Eliminates noise, non-flammable. Std. pkg: 24 pcs. $2.25 ea. 12 pcs. $2.50 ea. Sample order $3.00 ea.



(A) **PL-4** — MIDGET "GROOVE-GRIP" PLIERS. 5" **$3.00**

(B) **PLS-1** — DUCK BILL, PARALLEL, BENT NOSE PLIER. 5".. **$5.82**

(C) **PLS-2** — DIAGONAL ANGLE, FLUSH CUTTING AND STRIPPING PLIER. 5" **$6.46**

(D) **PLS-5** — HEAT COIL PLIER. 6" **$6.24**

(E) **PLS-9** — DUCK BILL, BENT NOSE, 90°, PLIER. **$6.60**

ECONOMY AND POCKET TYPE BURNISHERS



OB TYPE



PB TYPE

ECONOMY BURNISHERS — Leave no grit or dust and will not affect contact points. Plastic handles for working on live contacts.

OB-1 — For fine contacts. Abrasive coated, 3½" long, 3/16" wide, .007" thick.
Pkg. 12 pcs. Price **$5.20** Pkg. 48 pcs. Price **$18.80**

OB-2 — For extra-fine contacts. 3½" long, ¼" wide, .010" thick.
Pkg. 12 pcs. Price **$7.20** Pkg. 48 pcs. Price **$25.80**

OB-3 — General purpose type. Abrasive-coated. Hard molded handle. 3½" long, ¼" wide, .010" thick.
Pkg. 12 pcs. Price **$9.80** Pkg. 24 pcs. Price **$17.60**

OB-4 — For industrial use. Abrasive-coated. Hard molded handle. 3½" long, ¼" wide, .020" thick.
Pkg. 12 pcs. Price **$12.00** Pkg. 24 pcs. Price **$21.60**

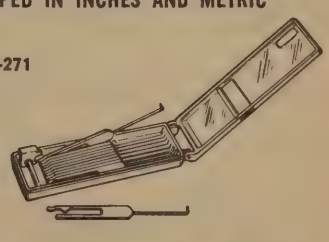
POCKET-TYPE BURNISHERS — Used for cleaning general type contacts. Supplied with 6 non-residual abrasive replaceable blades and/or 6 rods stored in pen barrel, as noted. Pen made of sturdy plastic for dielectric work. Length 4½". Diameter 3/8". Blades 3/16" wide, 1¾" long, .007" or .0035" thick.

		Price
PB-3	Pen with 6 blades .0035" thick	$4.90
PB-3R	Same as PB-3 plus 6 abrasive rods	5.80
PB-7	Pen with 6 blades .007" thick	4.80
B-3	Pkg. 25 Repl. blades for PB-3 (.0035")	4.80
B-3R	Pkg. 50 Repl. rods for PB-3	12.50
B-7	Pkg. 25 Repl. blades for PB-7 (.007")	4.50

UNIQUE GAUGE SET

STAMPED IN INCHES AND METRIC

T-271



T-271 — WIRE THICKNESS GAUGE SET. Extremely versatile. Designed for use in restricted places. Gauges can be used in or out of case. 9 round blades, .006", .008", .016", .020", .028", .031", .039", .046", .059" and one flat blade .004" thick. Blades 3" long, tips bent 90° x 3/16" high. Overall case size: 1¼" wide x ½" high x 4" long. .....Price **$19.40**

SPECIALIZED TOOLS



C-356



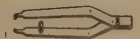
M-117



E-421



S-391



S-340

C-356 — CONNECTOR TOOL. Serves as terminal winding device, pull strength tester and spring hook. Insulated, 7" long. .....Price **$7.90**

S-391 — SPRING REMOVER. Adjusts, inserts and removes relay springs in tight spaces or hard to reach places. 6½" long. Tips bent 90° angle with .042" slots each end.....Price **$3.46**

M-117 — SPIN-TYPE SPANNER WRENCH. For use on odd shaped or extremely thin nuts and where regular nut driver cannot be used. Swivel head. 4" long. .....Price **$4.20**

S-340 — EXTRACTOR, TWEEZER TYPE. Extracts miniature, lamps, caps, readouts, flatpacks, IC's, p.c. components, etc. ½" normal opening closes to 1/16" with stop guide. 3½" long. Price **$3.20**

E-421 — EXTRACTOR, TERMINAL. Will extract terminals of most types. Finger-grip "T" type handle. Tip bent to 90° angle and tapered to fine point with center notch. Overall length 3". Price **$3.60**

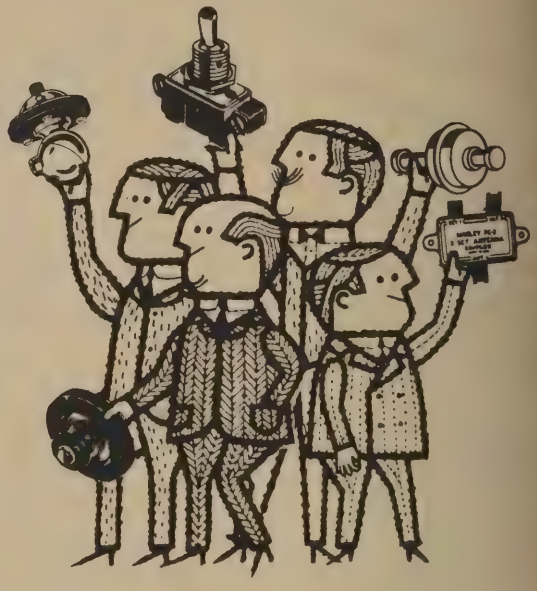
CONTACT OUR CUSTOM-MADE TOOL DEPARTMENT FOR SPECIAL REQUIREMENTS

Write for New, Free Catalog... OVER 500 JIC PRECISION TOOLS

JONARD INDUSTRIES CORP. PRECISION TOOLS DIV.

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

The original "wedge-type" screwdriver

QUICK-WEDGE®

SCREW-HOLDING SCREWDRIVERS

HOLDS - STARTS - DRIVES - SETS the Screw — Unconditionally Guaranteed

17 Different Sizes Handle Every Screwdriving Job!

Last digit(s) of model number indicates blade length. "E" after number indicates electrical sizes with color-matched, shockproof, Vinyl covered tubing. Not available on No. 1732.



© 1970 Kedman Company
Quick-Wedge Reg. U.S. Pat. Off.

• One screwdriver drives many sizes of screws • Shockproof, unbreakable Tenite II handle • Hollow-ground bit fits any slotted screw • Use instead of conventional screwdriver • Tough, durable spring steel blades. Positively will not mar screw slot • Fast positive action — easy to use • No pressure wedge to wear out • Foolproof construction.

Prices subject to change without notice. Net Prices effective January 1, 1970.

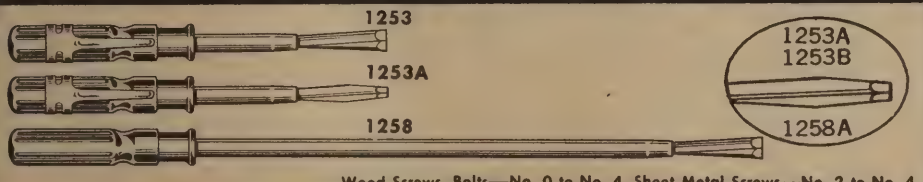
ULTRA-MINIATURE



0-80 and other extremely tiny screws

No.	Blade Diam.	Blade Tip Thickness	Wt. Lbs. Per Box*	Each Price**
1253B	1/8"	.012"	9 oz.	$1.36
1253B-E	1/8"	.012"	9 oz.	1.49

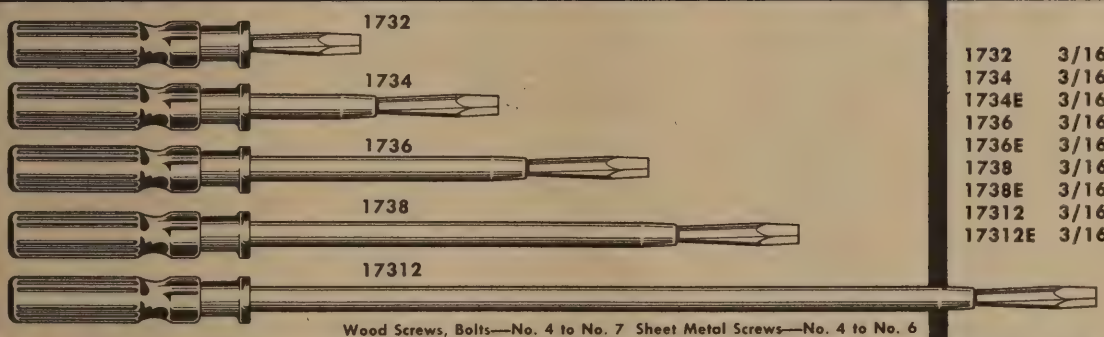
MIDGET



Wood Screws, Bolts—No. 0 to No. 4 Sheet Metal Screws—No. 2 to No. 4

No.	Blade Diam.	Blade Tip Thickness	Wt. Lbs. Per Box*	Each Price**
1253	1/8"	.020"	9 oz.	$1.13
1253E	1/8"	.020"	9 oz.	1.27
1253A	1/8"	.020"	9 oz.	1.27
1253AE	1/8"	.020"	9 oz.	1.40
1258	1/8"	.020"	15 oz.	1.36
1258E	1/8"	.020"	15 oz.	1.49
1258A	1/8"	.020"	15 oz.	1.49
1258AE	1/8"	.020"	15 oz.	1.63

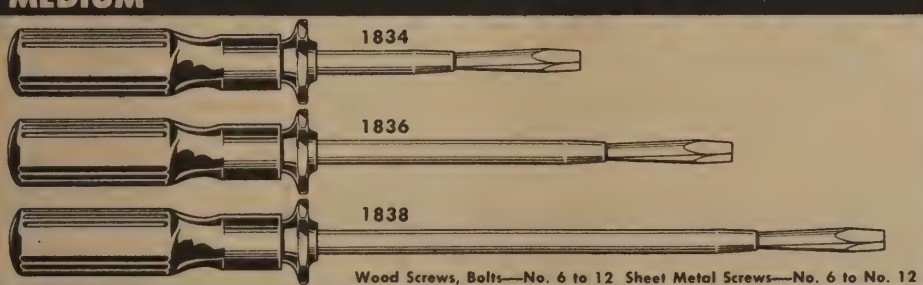
SMALL



Wood Screws, Bolts—No. 4 to No. 7 Sheet Metal Screws—No. 4 to No. 6

No.	Blade Diam.	Blade Tip Thickness	Wt. Lbs. Per Box*	Each Price**
1732	3/16"	.031"	¾	$1.18
1734	3/16"	.031"	1	1.22
1734E	3/16"	.031"	1	1.36
1736	3/16"	.031"	1¼	1.27
1736E	3/16"	.031"	1¼	1.40
1738	3/16"	.031"	1½	1.32
1738E	3/16"	.031"	1½	1.44
17312	3/16"	.031"	2	1.44
17312E	3/16"	.031"	2	1.58

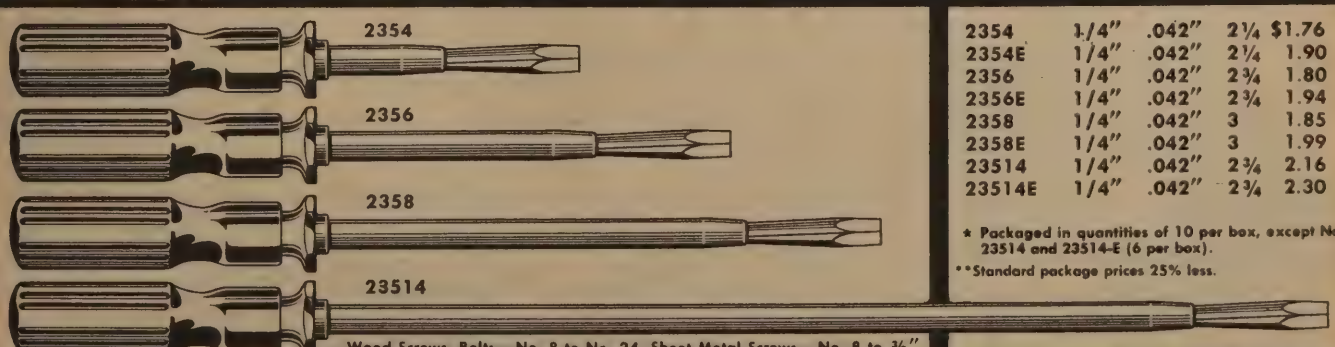
MEDIUM



Wood Screws, Bolts—No. 6 to 12 Sheet Metal Screws—No. 6 to No. 12

No.	Blade Diam.	Blade Tip Thickness	Wt. Lbs. Per Box*	Each Price**
1834	3/16"	.037"	1¾	$1.68
1834E	3/16"	.037"	1¾	1.80
1836	3/16"	.037"	2	1.72
1836E	3/16"	.037"	2	1.85
1838	3/16"	.037"	2¼	1.76
1838E	3/16"	.037"	2¼	1.90

HEAVY DUTY

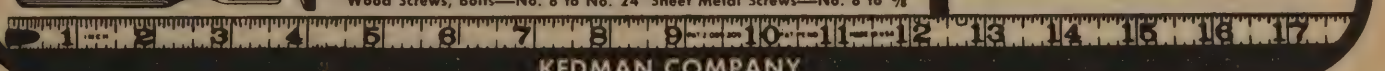


Wood Screws, Bolts—No. 8 to No. 24 Sheet Metal Screws—No. 8 to ⅜"

No.	Blade Diam.	Blade Tip Thickness	Wt. Lbs. Per Box*	Each Price**
2354	1/4"	.042"	2¼	$1.76
2354E	1/4"	.042"	2¼	1.90
2356	1/4"	.042"	2¾	1.80
2356E	1/4"	.042"	2¾	1.94
2358	1/4"	.042"	3	1.85
2358E	1/4"	.042"	3	1.99
23514	1/4"	.042"	2¾	2.16
23514E	1/4"	.042"	2¾	2.30

★ Packaged in quantities of 10 per box, except Nos. 23514 and 23514-E (6 per box).

**Standard package prices 25% less.



KEDMAN COMPANY

Kester Solder

Litton Division of Litton Systems, Inc

Manufacturing quality Solders and Fluxes since 1899.



KESTER "44" RESIN CORE SOLDER

Kester's "44" Resin Core Solder — a revolutionary solder advancement — featuring an amazing, fast-acting, instant-wetting non-corrosive and non-conductive flux that (1) makes soldering faster than ever before and (2) provides a permanent stronger, longer-lasting bond.

ALL PRICES PER POUND					INDUSTRIAL USER			DEALER
Alloy	Unit (Spl.)	Kester Part Number	Dia. Ga.	Suggested List Price per lb.	1-10 (5%)	11-24 (15%)	25-99 (25%)	(33⅓%) Any Quan.
40/60	1 lb.	24-4060-0061	.062 (16)	$2.54	$2.41	$2.16	$1.91	$1.69
40/60	5 lb.	26-4060-0061	.062 (16)	2.48	2.36	2.11	1.86	1.65
40/60	1 lb.	24-4060-0066	.093 (13)	2.44	2.32	2.07	1.83	1.63
40/60	5 lb.	26-4060-0066	.093 (13)	2.38	2.26	2.02	1.79	1.59
50/50	1 lb.	24-5050-0061	.062 (16)	3.00	2.85	2.55	2.25	2.00
50/50	5 lb.	26-5050-0061	.062 (16)	2.94	2.79	2.50	2.21	1.96
50/50	1 lb.	24-5050-0066	.093 (13)	2.90	2.76	2.47	2.18	1.93
50/50	5 lb.	26-5050-0066	.093 (13)	2.84	2.70	2.41	2.13	1.89
60/40	1 lb.	24-6040-0018	.025 (23)	5.22	4.96	4.44	3.92	3.48
60/40	5 lb.	26-6040-0018	.025 (23)	4.72	4.48	4.01	3.54	3.15
60/40	1 lb.	24-6040-0027	.031 (21)	4.18	3.97	3.55	3.14	2.79
60/40	5 lb.	26-6040-0027	.031 (21)	3.78	3.59	3.21	2.84	2.52
60/40	1 lb.	24-6040-0039	.040 (19)	4.02	3.82	3.42	3.02	2.68
60/40	5 lb.	26-6040-0039	.040 (19)	3.62	3.44	3.08	2.72	2.41
60/40	1 lb.	24-6040-0053	.050 (18)	3.80	3.61	3.23	2.85	2.53
60/40	5 lb.	26-6040-0053	.050 (18)	3.50	3.33	2.98	2.63	2.33
60/40	1 lb.	24-6040-0061	.062 (16)	3.38	3.21	2.87	2.54	2.25
60/40	5 lb.	26-6040-0061	.062 (16)	3.28	3.12	2.79	2.46	2.19
60/40	1 lb.	24-6040-0066	.093 (13)	3.28	3.12	2.79	2.46	2.19
60/40	5 lb.	26-6040-0066	.093 (13)	3.18	3.02	2.70	2.39	2.12
63/37	1 lb.	24-6337-0018	.025 (23)	5.36	5.09	4.56	4.02	3.57
63/37	5 lb.	26-6337-0018	.025 (23)	4.86	4.62	4.13	3.65	3.24
63/37	1 lb.	24-6337-0027	.031 (21)	4.32	4.10	3.67	3.24	2.88
63/37	5 lb.	26-6337-0027	.031 (21)	3.92	3.72	3.33	2.94	2.61
63/37	1 lb.	24-6337-0039	.040 (19)	4.16	3.95	3.54	3.12	2.77
63/37	5 lb.	26-6337-0039	.040 (19)	3.76	3.57	3.20	2.82	2.51
63/37	1 lb.	24-6337-0053	.050 (18)	3.94	3.74	3.35	2.96	2.63
63/37	5 lb.	26-6337-0053	.050 (18)	3.64	3.46	3.09	2.73	2.43
63/37	1 lb.	24-6337-0061	.062 (16)	3.52	3.34	2.99	2.64	2.35
63/37	5 lb.	26-6337-0061	.062 (16)	3.42	3.25	2.91	2.57	2.28
63/37	1 lb.	24-6337-0066	.093 (13)	3.42	3.25	2.91	2.57	2.28
63/37	5 lb.	26-6337-0066	.093 (13)	3.32	3.15	2.82	2.49	2.21

NOTE: Available in other sizes ranging from .005 to .250.

NOTE: Above also available for Fed. Spec. QQ-S-571d.

NOTE: Kester "44" Resin Core Solder, designed for electronic and electrical work, replaces Kester "Resin-Five" Core Solder and Kester Plastic Rosin Core Solder. This important innovation now allows you to reduce shelf inventory. Kester "44" Resin Core Solder actually outperforms "Resin-Five" and Plastic Rosin Core Solders. This important innovation is a result of Kester's continuing research connected with the Electronic Industry. Kester "44" Resin Core Solder is unsurpassed in Flux activity without danger of Flux residue corrosion or conductivity.

Plastic Rosin Core Solder still available to meet Federal Specification QQ-S-571d, Type R.

KESTER TV-RADIO SOLDER

New and improved product. The small package of Kester "44" Resin Core Solder in the practical (round) wire-size of .062" (1/16"). Ideal for the Serviceman's Kit . . . or for those sales to the occasional user for soldering TV, Radio components . . . everything electrical or electronic.



Kester Part No.	Weight	Unit	Suggested List Price	DEALER (33⅓%) Any Quan.
84-4060-0327	10 lbs.	Case (10 Ctns.-100 Boxes)	$39.00	$26.00
83-4060-0327	1 lb.	Carton (10 Boxes)	3.90	2.60

Trade Discount Applies To List Prices Only

© United Technical Publications

KESTER BAR SOLDER



Available in all the tin-lead alloys, including those for body work. The uniform distribution of tin-lead alloys in the bar provides for more efficient and easy application.

DESCRIPTION	ALL PRICES PER POUND				DEALER
	Kester Part No.	Alloy	Unit	Suggested List Price Per Pound	(33⅓%) Any Quantity
Kester Bar Solder	04-3070-0000	30% Tin 70% Lead	1 lb. Bar (Av. Weight)	$1.74	$1.16
	04-4060-0000	40% Tin 60% Lead	1 lb. Bar (Av. Weight)	2.10	1.40
	04-5050-0000	50% Tin 50% Lead	1 lb. Bar (Av. Weight)	2.40	1.60
	04-6040-0000	60% Tin 40% Lead	1 lb. Bar (Av. Weight)	2 84	1.89
	04-6337-0000	63% Tin 37% Lead	1 lb. Bar (Av. Weight)	3.04	2.03

KESTER SOLID WIRE SOLDER

DESCRIPTION	ALL PRICES PER POUND				DEALER
	Kester Part No.	Alloy	Unit	Suggested List Price Per Pound	(33⅓%) Any Quantity
Kester Solid Wire Solder Standard Diameter .125″ (⅛″)	14-3070-0125	30% Tin 70% Lead	1 lb. Spool	$2.00	$1.33
	16-3070-0125		5 lb. Spool	1.92	1.28
	18-3070-0125		20 lb. Spool	1.88	1.25
	19-3070-0125		50 lb. Reel	1.88	1.25
	14-4060-0125	40% Tin 60% Lead	1 lb. Spool	2.30	1.53
	16-4060-0125		5 lb. Spool	2.22	1.48
	18-4060-0125		20 lb. Spool	2.18	1.45
	19-4060-0125		50 lb. Reel	2.18	1.45
	14-5050-0125	50% Tin 50% Lead	1 lb. Spool	2.66	1.77
	16-5050-0125		5 lb. Spool	2.58	1.72
	18-5050-0125		20 lb. Spool	2.54	1.69
	19-5050-0125		50 lb. Reel	2.54	1.69
	14-6040-0125	60% Tin 40% Lead	1 lb. Spool	3.22	2.15
	16-6040-0125		5 lb. Spool	3.14	2.09
	18-6040-0125		20 lb. Spool	3.10	2.07
	19-6040-0125		50 lb. Reel	3.10	2.07

All Kester solid wire solders available in other diameters upon request.
NOTE: Above also available for Fed. Spec. QQ-S-571d.

KESTER SOLDERING FLUXES

Kester has the latest development in practical Fluxes, efficiently formulated to meet all manufacturing techniques, including highly specialized assembly procedures, such as automation and modular techniques, as well as a highly efficient Rosin Residue Remover.

DESCRIPTION	ALL PRICES PER UNIT				DEALER
	Kester Part No.	Unit	Weight	Suggested List Price Per Pound	(33⅓%) Any Quantity
Kester Soldering Flux Formula No. 1544	61-0000-0581	Pint	2 lbs.	$2.50	$1.67
	62-0000-0581	Quart	4 lbs.	4.20	2.80
	63-0000-0581	Gallon	16 lbs.	10.90	7.27
Kester Soldering Flux Formula No. 1587	61-0000-0486	Pint	2 lbs.	2.50	1.67
	62-0000-0486	Quart	4 lbs.	4.20	2.80
	63-0000-0486	Gallon	16 lbs.	10.90	7.27
Kester Rosin Residue Remover Formula No. 930	61-0000-0598	Pint	2 lbs.	2.50	1.67
	62-0000-0598	Quart	4 lbs.	4.20	2.80
	63-0000-0598	Gallon	16 lbs.	10.90	7.27

© United Technical Publications

MASTER HEAT TOOLS

FLAMELESS HEAT GUNS

200–1000°F of heat that travels right to the job. Ideal for shrink tubing, soldering and de-soldering, setting pre-coated rivets, softening, molding, welding and forming plastics; also quick-dries paint, plastic finishes, or parts. Speeds plastic and epoxy curing, invaluable in vinyl repair. Hundreds of other uses.

Adjustable air intake controls output temperature; double-jacketed heater; housing made of rugged die-cast aluminum. 8-foot, 3-wire, oil-resistant cord with molded plug safety keyed to element amperage. 400 cycle models available.

Attachments: a. exclusive cone has ¼″ orifice that focuses heat on a concentrated area and a patented adjustable air diffuser that eliminates back pressure and heat loss. Part No. A-206-HG. **$12.95. b. Nozzle adapter** — required for baffles A-145-HG and A-150-HG. Part No. A-100-HG. **$2.95. c. Baffle** — for tubing to ¾″ OD, requires A-100-G adapter. Part No. A-145-HG. **$2.75. d. Baffle** — for tubing to 1¼″ OD, requires A-100-HG nozzle adapter. Part No. A-150-HG. **$2.95. e. Extra wide baffle** — for long tubing to ¾″ OD. Part No. A-203-HG. **$17.95. f. Baffle** — for tubing to 1¾″ OD. Part No. A-205-HP. **$16.95.**

STANDARD MODELS

Standard Model	Temp. F.°	Voltage	Amp.	Price
HG-201	200/300	120	5	$44.30
HG-202	200/300	230	3	51.95
HG-301	300/500	120	12	44.30
HG-302	300/500	230	5	51.95
HG-501	500/750	120	14	49.90
HG-502	500/750	230	8	55.25
HG-751	750/1000	120	20	59.95
HG-752	750/1000	230	9	67.85

Los Angeles approved and chrome models also available


Standard heat gun

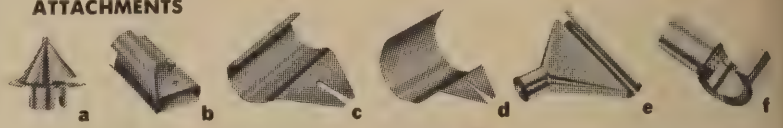
U.L. LISTED MODELS

Model	Temp. F.°	Voltage	Amp.	Price
HG-1201-U	200/300	120	5	$54.30
HG-1301-U	300/500	120	12	54.30
HG-1501-U	500/750	120	14	59.90

U.L. Listed models feature "Mitey-Mite" fuse, a trigger guard that covers the switch, a permanently attached stand, and U.L. Listed wiring.

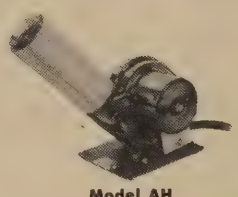

U.L. Listed heat gun

ATTACHMENTS



FLAMELESS HEAT BLOWERS

Master Blowers deliver air at up to 800°F. Heavy-duty motor for continuous use. Three-way switch provides hot or unheated air. Deluxe model (AHD) features convenient handle; adjustable intake that regulates temperature; and adjustable, removable base for 180° positioning flexibility.


Model AH


Model AHD

AH SERIES

Model	Temp. F.°	Voltage A.C.	Amp.	Price
AH-301	300	120	10	$56.65
AH-302	300	230	5	68.35
AH-501	500	120	14	59.95
AH-502	500	230	6	71.65
AH-751	700	120	18	78.35
AH-752	700	230	11	90.25

Los Angeles approved models also available

AHD SERIES

Deluxe Model	Temp. F.°	Voltage A.C.	Amp.	Price
AHD-301	300/400	120	10	$69.15
AHD-302	300/400	230	5	80.85
AHD-501	500/600	120	14	72.45
AHD-502	500/600	230	6	84.15
AHD-751	700/800	120	18	90.85
AHD-752	700/800	230	11	102.75

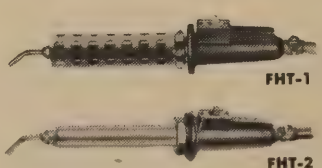
Los Angeles approved models also available

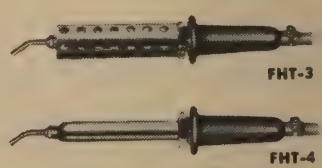
FLAMELESS HEAT TORCHES

Pinpoints heat precisely where you want it. Ideal for shrink-tubing, plastic welding, heating micro-parts or constricted areas. Your choice of predetermined temperatures from 200°–1000°F. Uses shop air or inert gas; weighs one pound. Furnished with 10-ft. hose, 3-wire cord and stand.

Torch elements — an element of your choice is included with each torch (see chart). Specify model number and wattage. If no element is specified, a 550 watt, 120V element will be supplied. 230V elements are available.

Accessories and attachments: a. Universal multipurpose tip; supplied with each torch. Part No. SS-1. **$5.00. b. Combination welding and tacking tip;** eliminates need for two tips during welding. Part No. SS-2. **$8.50. c. Universal high-speed welding tips;** for ⅛″ and 5/32″ plastic welding rod. Part No. SS-3. For 3/16″ plastic welding rod, Part No. SS-4. Either size **$27.50. d. Air gauge and regulator;** Part No. A-207-FT. **$12.95. e. Steel carrying case;** Part No. A-201-FT. **$8.95. Stand** (not shown); holds torch when not in use; supplied with torch. Part No. A-202-FT. **$1.50.**



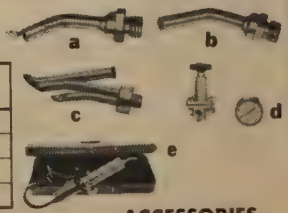


HEAT TORCHES

Model	Description	Price
FHT-1	With Switch and Shield	$89.50
FHT-2	With Switch Only	85.50
FHT-3	With Shield Only	79.00
FHT-4	No Switch or Shield	75.00

TORCH ELEMENTS

Element Wattage	Temperatures/ Air Pressure	Temperatures/ Air Pressure
250	250° F/8 p.s.i.	500° F/2 p.s.i.
350	350° F/8 p.s.i.	700° F/2 p.s.i.
450	450° F/8 p.s.i.	850° F/2 p.s.i.
550	550° F/8 p.s.i.	1050° F/2 p.s.i.



ACCESSORIES

Printed in U.S.A.

(Form K-150)

Net

© United Technical Publications

MICROFLAME, INC. GAS WELDERS

DEALER PRICE SCHEDULE



MICROFLAME DELUXE TORCH KIT NO. 4000

The Deluxe Microflame Torch Kit contains the Microflame Torch, 6 oxygen cylinders, 3 LP gas cylinders, spark igniter, 3 welding tips, 4 six inch gold/silver alloy brazing rods, a two-way bench bracket for mounting on bench or pegboard PLUS booklet on "HOW TO WELD."



MICROFLAME INDUSTRIAL TORCH NO. 1000

The Industrial Torch is comprised of the basic Microflame Torch plus large capacity oxygen and LP tanks, valves, regulator and accessories. Oxygen capacity is 75 liters; LP gas capacity is 26.7 fluid ounces. The Industrial Torch set is packaged in a heavy-duty carton.



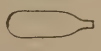
MICROFLAME GAS WELDING TORCH BLISTER PACK

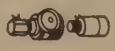
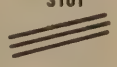
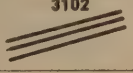
New display blister package features the Microflame torch plus oxygen and LP Gas Cylinders Package. Ideal for rack or pegboard and is set off in bright red with large immediate identification of product name and application. Card back features helpful information on the Microflame plus list of accessory products to use with unit. $12.97



MICROFLAME TORCH NO. 5000

The Microflame Torch is a self contained, miniature gas welding tool which produces over 5000° pin-point flame using miniature gas cylinders. It is designed for welding, brazing and soldering of small parts, and is basically applied like standard gas welding equipment. Supplied complete with cylinders.

Part No. & Illustration	Name, Description & Unit Quantity	Sugg. Dealer
4000 	**DELUXE Miniature Torch-Set** Deluxe set includes torch, flame tips, bench bracket, spark lighter, brazing rods, 6 oxygen, 3 butane, welding book and instructions. (1)	$19.47
1000 	**Miniature Torch Set** Contains torch, flame tips, torch tube, gaskets, butane and oxygen cylinders, and instructions. (1)	12.97
1001 	**Oxygen Cylinder** Fits all Torches (10)	.53
1002 	**Butane Cylinder** Fits all Torches (6)	.33
1003, 1004, 1005 	**Flame Tips** Fits all Torches (1 Set)	1.00
	Cylinder Gaskets Fits all Torches (1 Set)	.40
	Torch Taper Tip Tube Fits all Torches (1)	1.32
4300 	**Cylinder Kit** Contains 4 oxygen, 2 butane cylinders in Blister Pack	$2.78
1006, 1007 	**Oxygen Piercing Knob** Fits all Torches (1)	1.00
	Butane Piercing Knob Fits all Torches (1)	1.00
1008 	**Spark Lighter** (1)	.33
5000 	**Industrial Torch Set** Contains a complete Model 1000 Miniature Torch Set — plus Industrial capacity oxygen and propane gas tanks, valves, hoses, adapters, bracket, spark lighter & instructions. (1)	65.00
5001 	**Industrial Adapter Kit and Bracket** Hoses & valves to convert a miniature torch for Industrial application contains Hose Set, Oxygen & Propane valves & bracket. (1)	35.31
5002 	**Hose Set** Set of 2 hoses & adapter cartridges for Model 2000 & 5000 Tocrh Set (1)	8.00
5003 	**Industrial Bracket** Holds oxygen & propane tanks — for Industrial Torch Set (1)	8.00
5004 	**Oxygen Regulator Valve & Gauge** For Model 5000 Torch (1)	12.00

Part No. & Illustration	Name, Description & Unit Quantity	Sugg. Dealer
5005 	**Propane Valve** For Model 5000 Torch Set (1)	6.13
5006, 5007 	**Oxygen Gas Tank** For Model 5000 (1)	$14.67
	Propane Gas Tank For Model 5000 (1)	2.13
5008 	**Oxygen Pressure Gauge** For #5004 Oxygen Regulator (1)	3.20
5009 	**Industrial Adapter** Adapter to oxygen regulator for Commercial oxygen tank (1)	8.00
5010 	**Gasket for #5004 Regulator** For #5004 Regulator 3 to a package (1 set)	.27
5011	**Hose Set — 15 Ft.** Same at 5002 Except in 15 Ft. Length (1)	12.00
3000 	**Microflame Brazing Rods** Gold/Silver alloy Brazing Rods (1 pk.)	
	3000A — 4 per pack	3.33
	3000B — 12 per pack (1 pk.)	9.27
3100 	**Microflame Brazing Rod Kit** Kit contains — 18 silver solder brazing rods, 6 aluminum brazing rods, 2 jars flux, hot block, sandpaper, brush, instruction book (1)	4.00
3101 	**Silver Solder Brazing Rods (12)**	1.73
3102 	**Aluminum Brazing Rods (6)**	.67
3103 	**Flux Silver Solder (1 jar)**	.33
3104 	**Flux Aluminum (1 jar)**	.33

Send for Free Detailed Information

MICROFLAME, INC.

Moody® PRECISION HAND TOOLS

Screw Driver & Awl Set

Contains four interchangeable screw driver blades and an awl. Complete with swivel top, knurled chuck type handle.

Sizes .055", .070", .080", .100", awl

Cat. No. SC-5 **List $2.50**

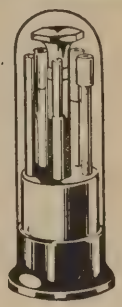


Socket Wrench Set

Five interchangeable box or socket wrenches that fit the same magnetic handle. Thread sizes #00, #0, #1.

Sizes (all hex) 5/64", 3/32", 7/64", 1/8", 5/32"

Cat. No. BW-5 **List $5.50**

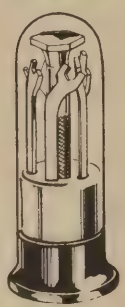


Offset Open End Wrench Set

Contains five offset open end wrenches, interchangeable in the chuck handle.

Sizes 5/64", 3/32", 7/64", 1/8", 5/32"

Cat. No. OE-5 **List $3.50**



Tap Drill Set

Contains five tap drills. Handle has a solid-locking chuck-nose and swivel-top. A companion piece to the Moody TS-5 Tap Set.

Drill Sizes 3/64", #53, #50, #47, #43

Cat. No. 70 **List $5.50**



Cross Recessed Driver & Allen Type Wrench Set

Contains five interchangeable tools with chuck-type, swivel top handle. A torque hole in the handle enables fastenings to be set up tight.

Cross recessed drivers #0, #1
Allen type wrenches #4, #6, #8

Cat. No. PA-5 **List $3.50**



Tap Set

Contains five interchangeable taps and handle for cutting inside threads. Torque hole in handle enables you to maintain a steady firm leverage.

Tap Sizes 0-80, 1-72, 2-56 3-48, 4-40

Cat. No. TS-5 **List $10.00**



Utility Screw Driver Set

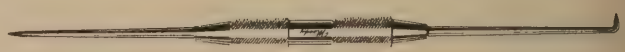
Consists of a precision screw driver and six interchangeable blades. The screw driver handle is knurled for positive gripping.

Sizes .025", .040", .055", .070", .080", .100"

Cat. No. 52 List $3.25



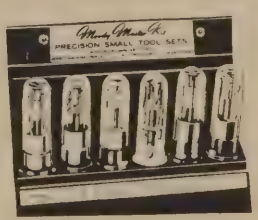
Machinist Scriber



Approximately 8½" overall with a right angle point and a straight point, both properly tapered and swaged into a knurled aluminum finger grip handle.

Cat. No. MS-2 **List $1.10**

Moody Master Kit



A popular compact kit of six tool sets, stored in a leatherette case. Contains Screw Driver & Awl Set, Cross Recessed Driver & Allen Type Wrench Set, Socket Wrench Set, Offset Open End Wrench Set, Tap Drill Set, Tap Set.

Cat. No. MMK-6 **List $35.00**

Send for Free Catalog on the complete line of Moody Tools

MOODY MACHINE PRODUCTS CO., INC.



Moody® MACHINE PRODUCTS CO., INC.

Trade Discount Applies To List Prices Only

© United Technical Publications

ERSIN Multicore

5-core solder

Available in 1-lb. and 7-lb. reels



TECHNICAL ADVANTAGES:

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high-grade, water-white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use.

Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

Conforms with all pertinent federal specifications.

Multicore construction: Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

ERSIN Multicore's national network of industrial distributors, in 50 states, facilitates prompt off-the-shelf delivery at factory-low prices.

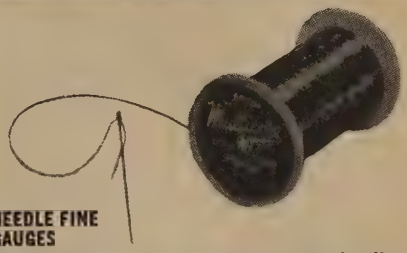
Free Evaluation Test Samples and "Modern Solders" technical booklet available. Address requests on company letterhead to: Multicore Sales

STANDARD TIN/LEAD ALLOYS AND GAUGES

Available from stock: 63/37; 60/40, 50/50; 45/55; 40/60; Savbit; Special Alloys—H.M.P. (High melting point, 565° F); L.M.P. (low melting point, 354° F). Other alloys upon request.

Gauges: 14 s.w.g. (.080") through 34 s.w.g. (.009").

NOTE: Soldering iron tips should always be 108° F above melting point of alloy.



NEEDLE FINE GAUGES

For microminiaturization, integrated circuits and other similar requirements. Off-the-shelf delivery in alloys 63/37 and 60/40, in even gauges from 24 s.w.g. (.022") through 34 s.w.g. (.009").



COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT stops the wear and erosion of copper soldering iron tips . . . increases tip life by 1,000%.

Characteristics and specifications: Savbit Alloy is available in Ersin Multicore 5-core solder containing non-corrosive extra-fast Ersin Flux in 14, 16, 18, 20 and 22 gauge. Melting point: Virtually the same as standard tin/lead alloys. Excellent conductivity, tensile and shear strength.

Available in new 1-lb. and 7-lb. reels, skin wrapped and foam packaged.

NEW MULTICORE HIGH PURITY EXTRUDED SOLID BAR SOLDER

Offers higher purity achieved through greater quality control, only possible with extrusions. Available in 1 or 2 lb. bars—either individually skin packed or bulk. Standard stock alloys 63/37 and 60/40. Other alloys on request. Meets all federal and military specifications.



NEW ERSIN LIQUID FLUXES

Meet the same high quality standards as Ersin Multicore Solder. Three new Fluxes: Formula No. 5380 and Formula No. 0360 meet Government MIL specifications for active and non-activated liquid fluxes, respectively. Formula No. 4370 is an activated liquid flux which is the external counterpart of the flux contained in Ersin Multicore 5-Core Solder. Conforms to the latest Federal Specification QQ-S-571d.

PC (PRINTED CIRCUIT) PAK
60/40—22 s.w.g. (.028")

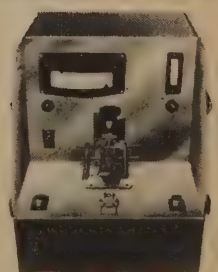
NEW EASY DISPENSER PAK
60/40—18 s.w.g. (.048")

NEW SERVICEMAN'S PAK
60/40—19 s.w.g. (.040")



Ideal for servicemen, hobbyists, lab technicians. Paks are flameproof—can be used close to the heat.

NEW SOLDERABILITY TEST MACHINE



Designed and built by Multicore Solders Ltd., this precision machine accurately measures the degree of solderability of terminal component wires and affords positive and totally reliable results. Complies with International Specification I.E.C. Publication 68-2 Test T.; developed in association with the International Electrotechnical Commission.

Imported from England
Conforms to all applicable Federal Specifications QQS-571

Multicore Sales
Div. British Industries, Corp.

© United Technical Publications

ORYX PRECISION SOLDERING INSTRUMENTS



WHY PRODUCTION MANAGERS CHOOSE ORYX SOLDERING IRONS

1. MINIATURE SIZE

ORYX soldering irons are small and easy to handle as pencils. Their miniature size helps to speed any precision soldering operation. Damage to adjacent components is eliminated. If you can see it, you can solder it with ORYX!

2. FEATHER WEIGHT

A standard, utility-type 100 watt soldering iron weighs about 2 lbs. The so-called pencil-type irons typically weigh between 2 and 6 ounces. ORYX soldering irons, by contrast, weigh as little as ¼ ounce. This true feather weight virtually eliminates hand fatigue. Workers can turn out many more joints per hour with fewer rejects.

3. HIGH EFFICIENCY

All ORYX soldering irons utilize a unique element-in-the-tip design principle. By generating the heat **within** the tip, far fewer watts are needed to achieve results comparable to much larger irons. This principle also provides quicker heat recovery because the heat path between element and joint is so very short. The need for large insulating handles is eliminated.

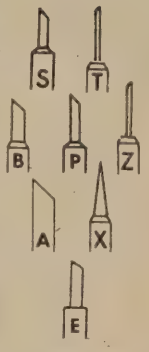
LOW-VOLTAGE SOLDERING IRONS

MODEL 5-S—(As shown in photograph). Eyepiece model less than 5″ long, for precise finger control. Weighs 7 grams. Nominal temperature 575°F. Furnished with 1/16″ S tip. Also takes T tip. 4.5-volts, 4.5-watts (Use 54204-T tapped transformer for 4.5 volts) .....Net **$6.95**

MODEL 6A—The most popular Oryx soldering iron. Designed for printed circuit soldering. Weighs only ¼ oz. Nominal temperature 690°F. Furnished with 3/32″ removable B tip. Also takes other tips listed below. 6-volts, 6-watts. Net **$6.95**

MODEL 9-6—Similar to model 6A, but greater heat capacity. Weighs ¼ ounce. Nominal temperature 750°F. Furnished with 3/32″ A tip. Also takes B tip. 6-volts. 8.3 watts **$6.95**

MODEL 11-6—Special model for high-temperature solders. Temperature 835°F. Weighs ¼ oz. Furnished with 3/32″ solid nickel E tip. Nickel tip provides long life at high temperatures. 6-volts, 10-watts .....Net **$8.95**



REPLACEMENT TIPS for low-voltage soldering irons.

Type	Material	Plating	Diameter	For Model	Net Ea.
A	Copper alloy	Nickel	5/32″	9-6	$ .68
B	Copper alloy	Nickel	3/32″	6A, 9-6	.68
E	Solid Nickel	—	3/32″	11-6	2.10
P	Copper alloy	Nickel	1/16″	6A	.68
S	Copper alloy	Nickel	1/16″ (short)	5-S	.70
T	Gold and copper	Nickel	1/25″	5-S, 6A	3.35
V-PL	Copper alloy	Iron	3/32″	6A, 9-6	1.80
X	Copper alloy	Nickel	1/25″ (pointed)	6A	.99
X-PL	Copper alloy	Iron	1/25″ (pointed)	6A, 9-6	1.85
Z	Copper alloy	Nickel	1/25″	6A	.99
Z-PL	Copper alloy	Iron	1/25″	6A	1.80

TRANSFORMER



TAPPED TRANSFORMER—Output 4½ to 6-volts in ½ v. steps. For exact temperature control on all ORYX 6-volt tools. Operates on 115 V. AC—ready to plug in. Model 54204-T .....Net **$7.80** ea.

PLUG-IN 115 V. MINIATURE IRON

NO TRANSFORMER. Standard model furnished with U/L approved 4½′ cord set. Ready to plug in! Three-wire model (less plug) also available.

COMPACT DESIGN for light production, laboratory, and service use. Irons weigh only 1 oz., plus cord.

HEATS QUICKLY (about 1 minute) to 725°F. (15 W.)

REPLACEABLE TIPS. Furnished with 3/32″ J tip



MODEL 115-15J .....Net **$8.95** ea.
MODEL 115-15J — (3-wire) .....Net **8.95** ea.

REPLACEMENT TIP "J" .....Net **$1.55** ea.
REPLACEMENT TIP "J-PL" — (iron-plated) .....Net **2.25** ea.

NEW!

ORYX-50

TEMPERATURE-CONTROLLED SOLDERING IRON



Now you can use one soldering iron for a wide variety of soldering assignments — from delicate semiconductors to heavy lugs and terminals. A simple set-screw adjustment programs the iron to any operating temperature between 400 and 750°F. — while the iron is running! Built-in thermostatic control holds the temperature constant to ±4°F., regardless of speed of soldering or line voltage variations. The husky 50-watt element provides fast heating and almost instant recovery from heavy joint loads. A unique indicator light serves as a visual guide to the control system and as a safety feature by indicating clearly when the iron is left on. The handle remains cool at all times. A long-life iron-coated tip is furnished as standard. Furnished with U/L-approved cordset (2-wire or 3-wire) ready to plug in. For 115 volts AC.

MODEL 50 — (2-wire) .....Net **$16.95** ea.
MODEL 50-3 — (3-wire) .....Net **16.95 ea.**
MODEL S-50 — stand .....Net **5.95** ea.
MODEL SP-55 — extra sponge .....Net **.49** ea.

Iron-plated Tips .....Net **$2.25** ea.
(Specify size 1/16, 3/32, 1/8, or 3/16″. Also specify single flat or double flat.)
Nickel-plated Tips .....Net **.69** ea.
(Specify size 1/16, 3/32, 1/8, or 3/16″. Also specify single flat or double flat.)

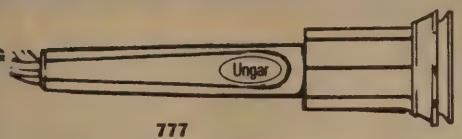
ORYX-TELVAC tools available from distributors everywhere. Ask for complete catalog.

TELVAC INSTRUMENT CO. NATIONAL SALES AGENT FOR ORYX-TELVAC TOOLS

© United Technical Publications

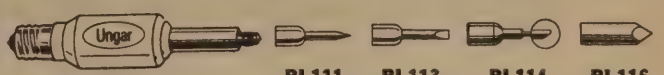
Ungar® "Standard Line" Soldering Tools

ALL IRONS AND HEATING UNITS ARE UL LISTED



777

ALL PARTS THREAD TOGETHER WITH FINGERTIP EASE



4037, 1237- 537 | PL111, 111 | PL113, 113 | PL114 | PL116, 116

MODEL 777 "CLEAN ROOM" HANDLE, KIT

"Clean Room" grip for electronic use. Pastel color handle reduces operator eye fatigue. Full contact spring socket; stainless steel heat deflector; octagonal guard washer; plated socket terminals; ceramic and glass insulator; thermo-stabilized phenolic body; polyvinyl insulated cord. Tips can't wobble.

Ungar Model 777 Handle—For 120 VAC/DC. Net, 1–9 . . . **$2.02**
Net Each, 10–49 . . . . . **$1.66** 50 Up **1.51**

Ungar Model 776 Handle—Same, but red with cork grip.
Net Each, 1–9 . . . . **$2.02** 10–49 . . . . **$1.66** 50 Up . . . **$1.51**

Ungar Model 7070 All Purpose Kit—44 W, 120 VAC with 776 handle, 1237 heating unit, and 111, 113, 116 tips.
Net Each, 1–5 . . . . **$5.98** 6–11 . . . . **$4.92** 12 Up **$4.49**

Ungar Model 7075 Heavy-Duty Kit—56½ W, 120 VAC with 777 handle, 4037 heating unit and 111, 113, 116 tips.
Net Each, 1–9 . . . . **$7.09** 10–49 . . . . **$5.75** 50 Up **$5.29**

Ungar Model 7929 Kit—27 W with 7901 handle and heating unit; 113 tip; 7951 wire stripper; 400 sponge and tray.
Net Each, 1–9 . . . . **$4.25** 10–49 . . . . **$3.49** 50 Up **$3.19**

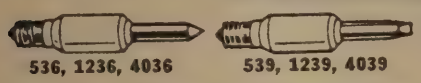
THREAD-ON HEATING UNITS AND TIPS

Provides 100% increase in recovery rate; greater heat transfer. Stops tip seizure from oxidation or solder; passivated plating prevents barrel oxidation and surface flaking. Tips copper alloy, iron clad silver-plated or unplated.

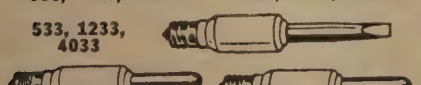
Ungar No.	Description	Net Each, Lots of 1-9	10-49	50 Up
4037	800°–850° F, 47½-watt unit*	$3.67	$3.01	$2.75
1237	700°–750° F, 37½-watt unit*	2.53	2.08	1.90
537	600°–650° F, 23½-watt unit*	2.05	1.69	1.53
PL111	Iron clad pencil, ¾" long	.93	.77	.70
PL113	Iron clad chisel, ¾" long	.93	.77	.70
PL114	Iron clad stepped micro-spade	.93	.77	.70
PL116	Iron clad pyramid, 5/16" long	.93	.77	.70
111	Unplated copper pencil	.48	.40	.36
113	Unplated copper chisel	.48	.40	.36
116	Unpltd copper pyramid 5/16" lg.	.48	.40	.36

*At 110 volts.

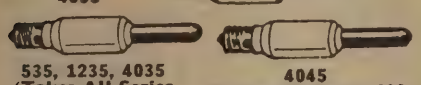
INTERCHANGEABLE TIPS, ELEMENTS AND TIPLET THREAD-IN TIPS



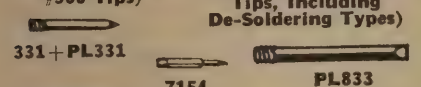
536, 1236, 4036 | 539, 1239, 4039



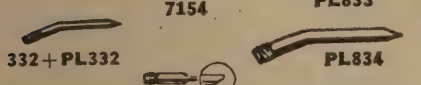
533, 1233, 4033



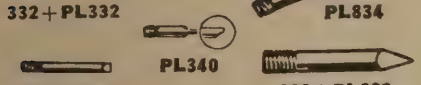
535, 1235, 4035 (Takes All Series #300 Tips) | 4045 (Takes All Series 800 Tips, Including De-Soldering Types)



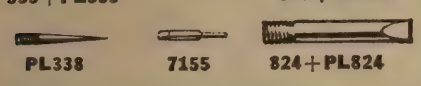
331+PL331 | 7154 | PL833



332+PL332 | PL834



PL340 | 333+PL333 | 823+PL823



PL338 | 7155 | 824+PL824

Heating Units Temperature Range: 850°–1000° F for **Super Hi-Heat** Series #4000 rated 47½–56½ W; 750°–800° F for **Hi-Heat** Series #1200 rated 37½–44 W; and 650°–750° F for **Standard** Series #500, rated 23½–27 W.

INTEGRATED HEATING UNITS WITH TIPS

Ungar No.	Description	Net Each, Lots of 1-9	10-49	50 Up
533	*23½–27 W copper, long taper chisel tip	$1.75	$1.44	$1.31
536	*23½–27 W copper, pyramid tip	1.75	1.44	1.31
539	*23½–27 W copper, short taper chisel tip	1.75	1.44	1.31
1233	†37½–44 W copper, long taper chisel tip	2.53	2.08	1.90
1236	†37½–44 W silver-pltd., solid Armco iron pyramid tip	2.53	2.08	1.90
1239	†37½–44 W silver-pltd., solid Armco iron chisel tip	2.53	2.08	1.90
4033	‡47½–56½ W iron clad, silver-plated, long chisel tip	3.67	3.01	2.75
4036	‡47½–56½ W iron clad, silver-plated, pyramid tip	3.67	3.01	2.75
4039	‡47½–56½ W iron clad, silver-plated, taper chisel tip	3.67	3.01	2.75

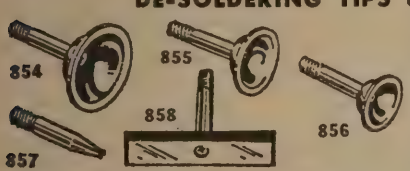
HEATING UNITS AND TIPLET THREAD-IN SOLDERING TIPS

535	*⅛" tap unit for 300 and 7100 Series Tiplets	$1.75	$1.44	$1.31
1235	† ⅛" tap unit for 300 and 7100 Series Tiplets	2.53	2.08	1.90
4035	‡ ⅛" tap unit for 300 and 7100 Series Tiplets	3.67	3.01	2.75
7062	Precision point, iron clad, ⅛" dia.	1.32	1.08	.99
PL331	Iron clad, silver-plated 1" pencil, ⅛" dia.	.72	.59	.54
331	Plain copper version of PL331 Tiplets	.30	.25	.23
PL332	Iron clad, silver-plated 1" offset pencil, ⅛" dia.	.72	.59	.54
332	Plain copper version of PL332 Tiplets	.30	.25	.23
7154	Iron clad, silver-plated stepped pencil	.72	.59	.54
PL333	Iron clad, silver-plated 1" long chisel, ⅛" dia.	.72	.59	.54
333	Plain copper version of PL333 Tiplets	.30	.25	.23
7155	Iron clad, silver-plated stepped chisel	.72	.59	.54
PL338	Iron clad, silver-plated 1¾" tapered needle, 1/16" dia.	.72	.59	.54
PL340	Iron clad, silver-plated ¾" micro-needle, 1/64" dia.	.72	.59	.54
4045	‡47½–56½ W 3/16" tap unit for Series 800 Tiplets	3.67	3.01	2.75
PL823	Iron clad, silver-plated 1" pyramid, 3/16" dia.	.82	.67	.61
823	Plain copper version of PL823 Tiplets	.35	.29	.26
PL824	Iron clad, silver-plated 1" chisel, 1/8" dia.	.82	.67	.61
824	Plain copper version of PL824 Tiplets	.35	.29	.26
PL833	Iron clad, silver-plated 1¾" chisel, 1/16" dia.	1.17	.96	.88
PL834	Iron clad, silver-plated 1¾" offset chisel, 3/16" dia.	1.17	.96	.88

Note: "Standard Line" components are interchangeable with each other; but, may NOT be used with "Imperial® Line" items.

*23½ W at 110 V AC/DC; 27 W at 120 V AC/DC. †37½ W at 110 V AC/DC; 44 W at 120 V AC/DC. ‡47½ W at 110 V AC/DC; 56½ W at 120 V AC/DC.

DE-SOLDERING TIPS & KIT



854 | 855 | 858 | 856 | 857

Removes components 70% faster than ordinary soldering iron tips. Melts solder on all terminals simultaneously. Avoids lug breakage, shorting and PC board rupturing. Use with 4045 heating unit.

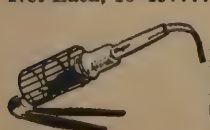
Ungar No.	Tip Type	Size, In. O.D. x L.	Net Each, Lots of 1-9	10-49	50 Up
857	Slotted	1" x 3/16"	98c	81c	74c
856	3/8" Cup	3/8"	98c	81c	74c
855	1/4" Cup	1/4"	98c	81c	74c
854	1" Cup	1"	98c	81c	74c
858	Bar	1½" x 3/8"	98c	81c	74c

Ungar No. 270 De-Soldering Kit—With five most popular tips (Nos. 854, 855, 856, 857 and 858), No. 776 handle and No. 4045 heating unit in metal case. Net Each, 1–5 . . . . . **$9.28**
Net Each, 6–11 . . . . . **$7.63** 12 Up **6.96**

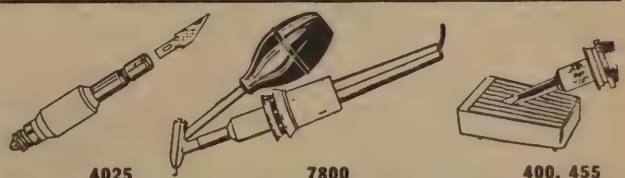
UNGAR SOLDER-OFF BULB

Desoldering bulb with TFE tip facilitates accurate printed circuit soldering and cleaning. May be used with "Imperial" and "Standard Line" soldering irons. (Not illustrated.)
Ungar No. 7805 Solder-Off Bulb—Net Each, 1–9 . . . . . **$1.48**
Net Each, 10–49 . . . . . **$1.22** 50 Up **1.10**

SOLDERING IRON HOLDER



Protects operator from burns; prevents iron breakage. Use with Ungar 776 or 777 handle. Attaches easily to bench; angle adjustable.
Ungar No. 8000 Holder—Net Ea., 1-9 . **$2.30**
Net Each, 10-49 . . **$1.86** 50 Up . . **1.73**



4025 | 7800 | 400, 455

MODEL 4025 HOT KNIFE

Cuts and seals synthetic fabrics, vinyl film, styrofoam and other plastics. Easily cuts coatings on PC boards. Blade temp., 500° F. Replaceable, tempered steel blade.
Ungar Model 4025 Hot Knife—Net Each, 1–9 . . . . . **$4.22**
Net Each, 10–49 . . . . . **$3.47** 50 Up **3.16**
Ungar Model 7930 Kit—With 4025 knife and 777 handle.
Net Each, 1–9 . . . . **$5.95** 10–49 . . . . **$5.10** 50 Up **$4.49**

HOT-VAC DESOLDERING, CLEANING TOOL

For printed circuit desoldering and cleaning; also for heat shrinkable tubing. Tip uses coating to prevent solder clogging the orifice. For use with Model 777 handle.
Ungar Model 7800 Hot-Vac Tool—Net Ea., 1–5 . . . . . **$13.95**
Net Each, 6–11 . . . . . **$11.47** 12 Up **10.45**
Ungar Model 7806 (.057") or **7813** (.069")—Replacement tips for above; hole dia. shown in parenthesis.
Net Ea., 1–9 . . . . . **90c** 10–49 . . . . . **74c** 50 Up **69c**
Ungar Model 7812 (.033")—Same as above. Net, 1–9 . . . . **$1.29**
Net Each, 10–49 . . . . . **$1.04** 50 Up . . . . . **.95**

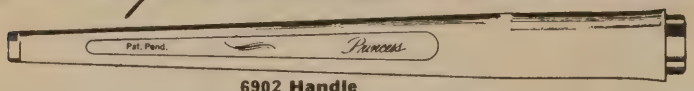
KLEEN-TIP SPONGE

Specially processed sponge provides the surest way to clean soldering tips. Removes oxidation, prevents contamination and insures soldering reliability. Phenolic tray. Fastens to bench.
Ungar No. 400—Net Each, 1–9 . . . . . **$1.32**
Net Each, 10–49 . . . . . **$1.08** 50 Up . . . . . **.99**
Ungar No. 455 Refill Sponge—Individually packaged.
Net Each, 1–9 . . . . . **53c** 10–49 . . . . . **44c** 50 Up **40c**

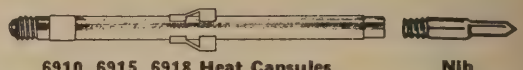
550-71B

©Electronic Publishing Co., Inc., 1971

Ungar / Princess® SOLDERING TOOLS, ACCESSORIES

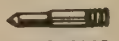


6902 Handle

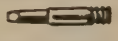


6910, 6915, 6918 Heat Capsules

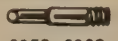
Nib



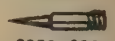
6950, 6960



6951, 6961



6952, 6962



6953, 6963

Miniature soldering iron designed to meet requirements for precision micro-electronic circuitry and high density assembly. Offer thermo-efficiency and work capacity never before achieved in small feather-weight irons. Slim design, turquoise handle assures deft soldering. Choice of easy-to-assemble units thread together for versatility in tip shapes and temperature capabilities.

Low initial investment, economical maintenance and inexpensive parts replacement.

PRINCESS HANDLES

Slim, cool design is molded of heat-resistant nylon pastel turquoise color. Midget thread-in socket accepts any Princess heat capsule. Choice of 2-conductor and 3-conductor (NEMA) vinyl-covered cords. For 120 VAC/DC operation. Weight: .05 oz., less cord; 3.0 oz., with cord.

Ungar No.	Cord Type	Net Each, Lots of 1-9	10-49	50 Up
6902	2-conductor with plug	$4.09	$3.55	$3.15
6903	3-conductor with NEMA plug	5.45	4.75	4.19
6911	Cool-grip fits all Princess handles	1.05	.86	.79

HEAT CAPSULES

Threaded to accept the special thread-in Princess soldering nibs and mating to the Princess handles with finger-tip ease. Also accept "Standard Line" ⅛" tiplets if desired (will not accept Imperial tips). Choice of three wattages and temperature ranges to suit most production requirements. For 120 VAC/DC operation. Size, 2¾" long; extends 1½" from handle. Wt., 0.2 oz.

Ungar No.	Watts	Temperature Range	Net Each, Lots of 1-9	10-49	50 Up
6910	10	550° F to 650° F	$5.00	$4.35	$3.85
6915	15	700° F to 800° F	5.00	4.35	3.85
6918	18	900° F to 1000° F	5.00	4.35	3.85

PRINCESS SOLDERING NIBS

Choice of 24 Kt. gold-plated iron clad or cadmium copper tips in four standard shapes. Finger-tip ⅛" thread-in use on any Princess heat capsule listed above. Ungar's ⅛" Standard Line tiplets may also be used (see listing on another page). Wt., .03 oz.

Ungar No.	Shape	Lgth. In.	Tip Stepped to:	Net Each, Lots of 1-9	10-49	50 Up
6950*	Pencil	.61	.080" x .015"	$0.45	$0.39	$0.35
6951*	Screwdriver	.68	.080" x .055"	.45	.39	.35
6952*	Spade, 45°	.61	.080" dia.	.45	.39	.35
6953*	Precis. point	.61	.095" x .005"	.83	.72	.64
6960	Pencil	.62	.090" x .015"	.78	.68	.60
6961	Screwdriver	.62	.090" x .060"	.78	.68	.60
6962	Spade, 45°	.62	.090" dia.	.78	.68	.60
6963	Precis. point	.61	.095" x .010"	1.52	1.32	1.17

*Cadmium copper tips; all others, gold-plated iron-clad.

PRE-ASSEMBLED PRINCESS COMBINATIONS

MODEL 6975 SOLDERING IRON

All-in-one package provides a complete Princess soldering iron with three interchangeable copper nibs. Includes one 6902 handle with 2-conductor cord and plug, one 6910 Heat Capsule rated 10 watts, one 6950 pencil nib, one 6951 screwdriver nib and one 6952 spade nib.

Ungar No. 6975 Princess Assembly—Net Each, 1-9.....**$9.98**
Net Each, 10-49.....**$8.65** 50 Up..... **7.69**

MODEL 6900 SOLDERING STATION

Fully assembled iron with three interchangeable copper nibs, plus Princess holder with cleaning sponge. Includes: 6902 handle with 2-conductor cord and plug, 6910 heat capsule rated 10 watts, 6950 pencil nib, 6951 screwdriver nib, 6952 spade nib, and 6990 soldering iron holder complete with cleaning sponge.

Ungar No. 6900 Soldering Station—Net Each, 1-9.....**$13.69**
Net Each, 10-49.....**$11.89** 50 Up..... **10.49**

PRINCESS ISOLATED, LOW VOLTAGE SOLDERING SYSTEM



Complete soldering system includes transformer, handle, heat capsule, plus three tips. Isolation protects semiconductor components from damage on voltage pulse or current leakage. **Transformer:** Completely isolated 12-volt system provides maximum thermal recovery for production soldering. Case is grounded with 3-wire cord and NEMA plug. UL Listed. Input, 120 VAC, 60 Hz. Output, 1.3 amps, 10 VAC, 60 Hz. Bayonet 3-amp fuse and pilot light. **Soldering Pencil:** Heat resistant nylon handle with flexible vinyl cord and 4-pin connector. Heat capsule provides tip temperatures 400° F to 900° F with fast recovery since heating unit located in tip for maximum transfer: rated 18 watts at 12 VAC. **Tips:** "Standard Line" Ungar ⅛" tiplets and Princess soldering nibs may be used; cadmium copper or iron-clad.

Ungar Number	Description	Net Each, Lots of 1-3	4-11	12 Up
6970	Complete station with transformer, handle, heat capsule and 6961, 6950 and 6952 soldering nibs	$35.00	$29.95	$26.95
6971	Replacement, low voltage heat capsule only (12 V, 18 W)	5.85	5.09	4.49
6972	Low voltage transformer	22.50	19.50	17.29
6973	Replacement handle only (2-wire)	5.85	5.09	4.49

PRINCESS IC DE-SOLDER KIT

Ideally suited for PC boards 1/32" or less, using low-density circuitry, unplated eyelets or mounting holes. Includes 3-wire grounded Princess handle, 18-watt heat capsule and three (No. 6945, 6947, 6948) de-solder tips. (Not Illustrated.)

Ungar No. 6939 De-Solder Kit—Net Each, 1-3.....**$16.12**
Net Each, 4-11.....**$14.01** 12 Up..... **12.40**

DE-SOLDER TIPS



6940 6941 6944 6945 6947 6948

Iron-clad, nickel-plated and pre-tinned tips may be used with Ungar "Standard" line heating units No. 535, 1235 and 4035 or Princess heat capsules (for lower or higher tip temperatures).

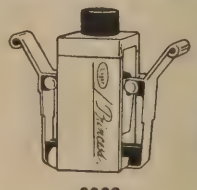
Ungar No.	Tip Temp., at 18 W	Description	Net Each, Lots of 1-9	10-49	50 Up
6940	680° F	Flat pack (Hook)	$2.50	$2.17	$1.93
6941	720° F	Flat pack (Bar)	2.37	2.06	1.82
6943	700° F	TO pkg. (cup) .6" dia.	2.37	2.06	1.82
6944	710° F	TO pkg. (cup) .5" dia.	2.37	2.06	1.82
6945	720° F	TO pkg. (cup) ⅜" dia.	2.37	2.06	1.82
6946	780° F	TO pkg. (cup) .28" dia.	2.37	2.06	1.82
6947	750° F	Slotted (lead and tab) straightener	1.98	1.72	1.53
6948	570° F	Dual inline IC	2.70	2.35	2.08

PRINCESS DUAL INLINE AND TO-5 EXTRACTORS

No. 6982 extracts up to 16-pin dual inline IC's; use 6948 de-solder tip. No. 6983 extracts most TO-5 encased devices; use with Nos. 6943, 6944, 6945, or 6946 TO de-solder tips.

Ungar No. 6982 Dual Inline—
Net Each, 1-9.....**$2.17**
10-49.**$1.88**; 50 Up. **1.67**

Ungar No. 6983 TO-5—
Net Each, 1-9.....**$2.50**
10-49.**$2.25**; 50 Up. **1.95**



6982



6983

PRINCESS SOLDERING IRON HOLDER

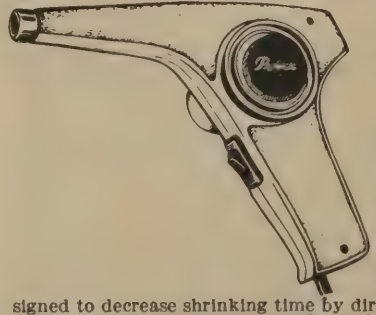
Plastic base for convenient holding of Princess iron. Comes with specially-processed slit sponge for tip cleaning. Weight, 3 oz.

Ungar Model 6990 Holder—
Net Each, 1-9..**$3.93** 10-49..**$3.42**
Net Each, 50 Up..... **3.03**

Ungar No. 6991 Sponge Refill—Replacement cleaning sponge for above holder.
Net Each, 1-9....**60c** 10-49....**52c**
Net Each, 50 Up.....**46c**



NEW PRINCESS HEAT GUN



Hot air tool offers a unique combination of features and benefits to users of heat shrinkable products as well as many other lab and industry uses. Its light weight of only 18 oz. insures firm, positive control wherever precise hot air direction is required. Reduces operator fatigue. Air stream width at nozzle is ⅜"; two baffle reflectors, ¾" and 1½" long, included for solder sleeves and shrink tubing applications. Reflectors are designed to decrease shrinking time by directing hot air flow around all tubing surfaces simultaneously. Delivers an air flow temperature at the nozzle of approximately 750° F to 800° F in seconds. Designed for either hand-held use, or may be placed on table or workbench without need for holder. With 2 switches: On-off switch at trigger position and a hot or cold air selector switch. Allows cooling or drying as well as heat applications. For solder sleeves and all polyvinyl, olefins, silicone rubber and TFE heat shrink materials; also ideal for shrink film packaging, epoxy curing, and encapsulation. UL Listed. Rated 250 watts, 120 VAC.

Ungar No. 6955 Princess Heat Gun—Net Each.....**$39.95**

550X-71C

©Electronic Publishing Co., Inc., 1971

© United Technical Publications

Ungar® / Imperial® Soldering Tools

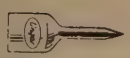

6103 Cord Set


6100 Handle


6200, 6201, 6202 and 6203 Heat Cartridges


6304


6305

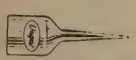

6312
6313


6316


6318
6319


6324
6325


6331
6481


6333


6366


6368


6473


6482

Interchangeable cord sets, tips and heat cartridges ideal for critical micro-miniature components. Reliable, low wattage, high temperature performance. Perma-Cool handle has double cushion of air combined to 5 heat-transition surfaces for continuous cooling. Components individually packaged on cards; assemble to suit your needs. **Not interchangeable with "Standard Line".**

PERMA-COOL COLORED HANDLE

Cool, pastel turquoise handle has been proven to reduce operator fatigue. Virtually indestructable, handle is made of high strength plastic resin. Diecast heat sink built-in. Pencil type design for easy handling. UL Listed. Size, 0.8" O.D. at grip; 4.7" lg. Weight, 1 oz.
Ungar No. 6100-1—Handle only. Net Each, 1–9....**$1.87**; 10–99....**$1.51**; 100 Up....**$1.40**

INTERCHANGEABLE CORD SETS

Instantly adapts your iron to any 2 or 3 wire outlet. Molded female connector plugs onto the Perma-Cool handle without tools. Vinyl-covered cord, 18 gauge, 65 strands extra-flexible copper; terminals and connectors molded polyvinyl chloride. Center conductor (3-wire type) is insulated with green polyvinyl. Weight: 2½ oz., 2-wire; 4 oz., 3-wire. Supplied in turquoise color only.

Ungar No.	Description	Net Each, Lots of 1-9	10-99	100 Up
6102	Standard 2-wire cord set with plug	$2.70	$2.19	$2.03
6103	3-wire cord set with NEMA plug	3.97	3.22	2.98

INTERCHANGEABLE LONG-LIFE HEAT CARTRIDGES

Stainless steel, sealed cartridge with element at tip and threaded end for quick tip changes; keeps heat at tip where it belongs. Six ratings available: **6200:** 40 watts for 750-950° F; accepts all tip Nos. 6304 through 6482. Size, 7½" l. x .363" dia. (2½" l. from flange). Wt., 1.1 oz. **6201:** Same, but 30 watts for 650–850° F. **6202:** Same, but 25 watts for 600–800° F. **6203:** 60 watts for heat range, 850° to 1150° F. Accepts all iron clad gold-plated tips plus No. 6526 beryllium oxide tip, 750°–800° F; 7⅛" long; Wt., 1.2 oz.

Ungar Number	Rated Watts	Net Each, Lots of 1-9	10-99	100 Up	Ungar Number	Rated Watts	Net Each, Lots of 1-9	10-99	100 Up
6200	40	$5.02	$4.07	$3.76	6202	25	$5.02	$4.07	$3.76
6201	30	5.02	4.07	3.76	6203	60	5.75	4.66	4.31

THREAD-ON SOLDERING TIPS

Completely interchangeable with the Imperial line (NOT interchangeable with Ungar "Standard Line"). Thread onto heat cartridge (either 25, 30, 40 or 60 watt models) with fingertip ease. Available in beryllium oxide (repels solder), copper alloy or long life, 24 kt. gold-plated iron clad types.

MINI-TIP® FOR 6200, 6201, 6202 OR 6203 HEAT CARTRIDGES

Ungar No.	Shape	Material	Size, In. O.D. x L.	Temp. (°F)*With Cartridge Rated 25 W	30 W	40 W	Net Each, Lots of 1-9	10-99	100 Up
6304	Micro-chisel	Iron clad	1/64 x ½	750	800	890	$1.30	$1.05	$0.98
6305	Micro-spade	Iron clad	1/64 x ½	750	800	890	1.30	1.05	.98
6312	Pencil	Copper	1/16 x ¾	750	800	910	.58	.47	.44
6313	Pencil	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6316	Offset pencil	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6318	Long taper chisel	Copper	1/16 x ¾	750	800	890	.58	.47	.44
6319	Long taper chisel	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6324	Long taper pyramid	Copper	1/16 x ¾	750	800	890	.58	.47	.44
6325	Long taper pyramid	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6331	Screwdriver	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6333	Needle	Iron clad	1/16 x ¾	690	750	860	1.30	1.05	.98
6366	Long taper chisel	Iron clad	1/16 x ¾	680	730	850	1.53	1.24	1.15
6368	Long taper pyramid	Copper	1/16 x ¾	.....	.....	.....	.72	.58	.54
6473	Long taper chisel	Copper	3/16 x ¾	.....	.....	.....	.72	.58	.54
6481	Tapered screwdriver	Iron clad	¾ x 1/32	690	750	860	1.30	1.05	.98
6482	Micro-spade	Iron clad	1/64 x ½	700	770	860	1.30	1.05	.98

*Slight variation in line voltage will give ±25° F deviation.

SAFETY-GUARD HOLDER



Ungar No. 6800—Designed especially for Imperial irons. Protects against hot tip burns or handle damage. Attaches to top or underside of bench. Black with gold cage guard. Net Each, 1–9.....**$2.30** 10–49..**$1.86** 50 Up.. **1.73**

ANTI-SEIZE

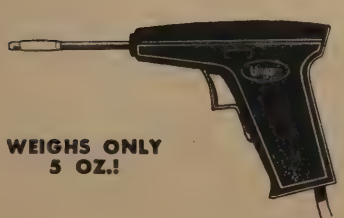
Special lubricant lengthens tip and heating unit life. For use with Princess, Imperial and "Standard Line" tools. Reduces thread seizure. Improves heat transfer.
Ungar No. 8001—½ oz. tube. Net Ea., 1-9.....**89c** 10-49....**76c** 50 Up....**67c**

IMPERIAL COMPLETE SOLDERING IRON

Ungar No. 6010—Includes one 6100 handle, one 6102 cord set, one 6200 heat cartridge and 6318, 6368, and 6473 Mini-Tips. Net Each, 1–5.....**$9.95**; 6–11.....**$7.95**; 12 Up.....**$7.50**

UNGAR SOLID STATE SOLDER GUN

Designed for damage-free soldering of sensitive semiconductor devices by servicemen, lab technicians and electronic hobbyists. Electrically isolated tip. Heat cartridge locks into gun barrel—may be rotated to any desired position. Choice of 3 interchangeable tellurium copper soldering tips. Dual-heat selector switch for choice of 500° F or 900° F tip temp. All parts separately replaceable. Complete unit includes one 6753 tip, heat cartridge and 3-wire cord with NEMA plug. Wt., 5 oz. less cord.


WEIGHS ONLY 5 OZ.!
6760


6753


6754

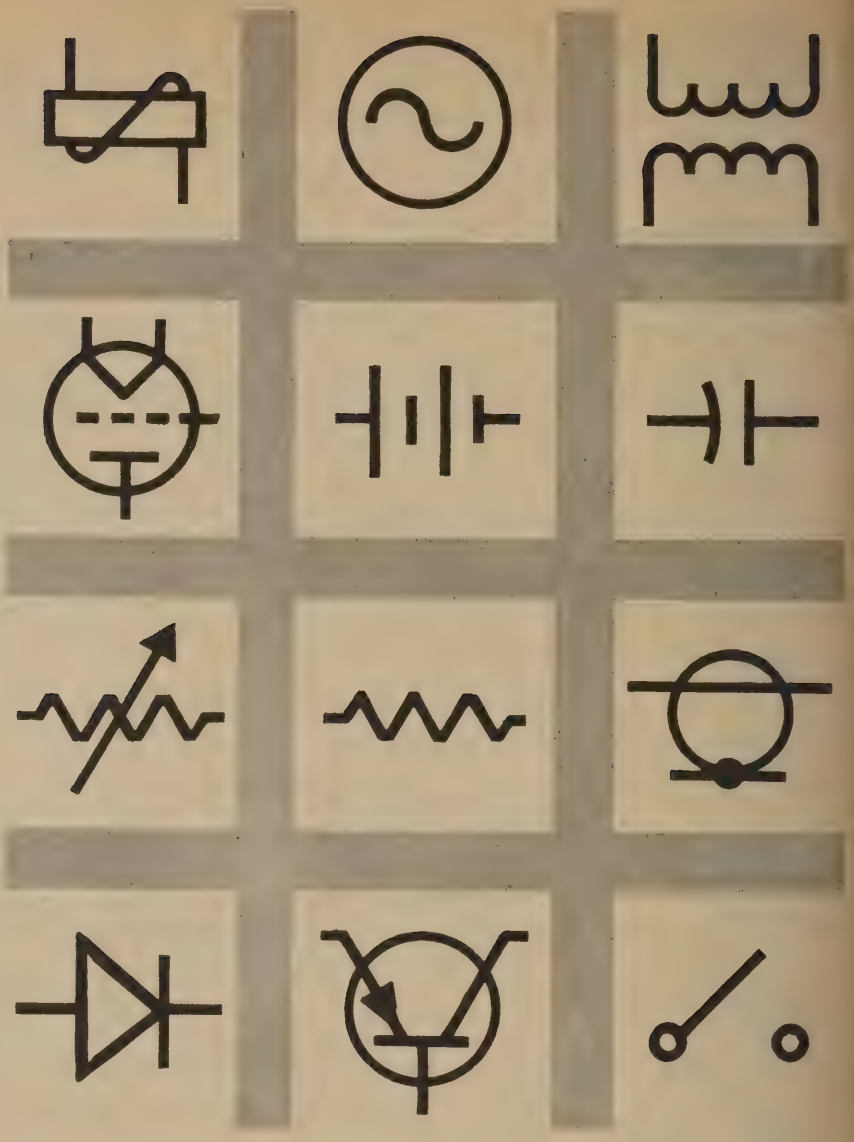

6755

Ungar No.	Description	Net Each, Lots of 1-3	4-11	12 Up
6760	Complete solder gun	$10.95	$9.95	$8.95
6763	Handle and cord set	6.95	6.12	5.60
6751	Heat cartridge	5.49	4.89	4.39
6755*	Long chisel tip, .535" length	.43	.39	.37
6753*	Short chisel tip, .410" length	.43	.39	.37
6754*	Pyramid tip, .410" length	.43	.39	.37

*Has .250" diameter.

551-71D

©Electronic Publishing Co., Inc., 1971



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

Then...

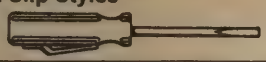
call your local distributor for fast, reliable service!

SCREW DRIVERS

- Precision Ground...Unconditionally Guaranteed
- Comfordome® Slo-Burn S/B AMBERYL® Handles are easy on the hands
- Nickel-Chrome Plated #6150 Steel Blades will not rust or corrode

ROUND BLADE SCREW DRIVERS

Pocket Clip Styles

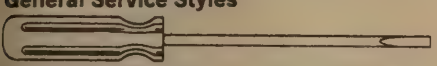


Stock No.	Blade Diameter and Length	Overall Length	Price
A 010	3/32" x 1 3/8"	3 1/8"	$ .29
A 230-2	1/8" x 2"	3 1/4"	.30
A 130-2	1/8" x 2"	3 7/8"	.37
A 130-3	1/8" x 3"	4 7/8"	.37
A 116-2	3/32" x 2"	4 1/2"	.44
A 116-3	3/32" x 3"	5 1/2"	.44
A 116-4	3/32" x 4"	6 1/2"	.44
A 131-2	1/8" x 2"	4 1/2"	.44
A 131-3	1/8" x 3"	5 1/2"	.44

Electrical and Cabinet Styles

A 216-2	1/8" x 2"	4 3/4"	.63
A 216-3	1/8" x 3"	5 3/4"	.69
A 216-4	1/8" x 4"	6 3/4"	.71
A 216-6	1/8" x 6"	8 3/4"	.73
A 216-8	1/8" x 8"	10 3/4"	.79
A 216-10	1/8" x 10"	12 3/4"	.87

General Service Styles

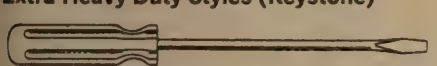


A 316-3	3/16" x 3"	6 1/2"	.87
A 316-4	3/16" x 4"	7 1/2"	.94
A 316-6	3/16" x 6"	9 1/2"	1.04
A 316-8	3/16" x 8"	11 1/2"	1.10
A 316-10	3/16" x 10"	13 1/2"	1.19
A 416-3	1/4" x 3"	6 5/8"	1.12
A 416-4	1/4" x 4"	7 5/8"	1.14
A 416-6	1/4" x 6"	9 5/8"	1.19
A 416-8	1/4" x 8"	11 5/8"	1.26
A 416-10	1/4" x 10"	13 5/8"	1.38

Heavy Duty Styles (Keystone)

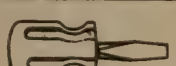
A 516-4	5/16" x 4"	8"	1.45
A 516-6	5/16" x 6"	10"	1.51
A 516-8	5/16" x 8"	12"	1.62

Extra Heavy Duty Styles (Keystone)



A 616-6	3/8" x 6"	10 1/4"	1.80
A 616-8	3/8" x 8"	12 1/4"	1.92
A 616-10	3/8" x 10"	14 1/2"	2.18

Stubby Styles



A 132	1/4" x 1 1/4"	3"	.86
A 135	5/16" x 1 3/4"	3 7/8"	1.12

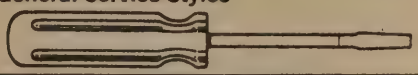
OFFSET SCREW DRIVERS—REGULAR TYPE



Stock No.	For Screw No.	Overall Length	Price
VO 1	2 to 6	3"	$ .50
VO 2	6 to 10	4"	.79
VO 3	8 to 12	5"	.90
VO 4	12 to 16	6"	1.14

SQUARE BLADE SCREW DRIVERS

General Service Styles



Stock No.	Blade Size and Length	Overall Length	Price
C 33	3/16" x 3"	6 1/2"	$1.10
C 34	3/16" x 4"	7 1/2"	1.14
C 36	3/16" x 6"	9 1/2"	1.18
C 38	3/16" x 8"	11 1/2"	1.26

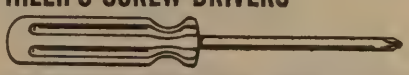
Medium Duty Styles

C 43	1/4" x 3"	6 5/8"	1.28
C 44	1/4" x 4"	7 5/8"	1.36
C 46	1/4" x 6"	9 5/8"	1.42
C 48	1/4" x 8"	11 5/8"	1.56
C 410	1/4" x 10"	13 5/8"	1.80
C 54	5/16" x 4"	8 1/4"	1.80
C 56	5/16" x 6"	10 1/4"	1.87
C 58	5/16" x 8"	12 1/4"	1.89
C 510	5/16" x 10"	14 1/4"	2.06

Heavy Duty Styles

C 66	3/4" x 6"	10 1/2"	2.06
C 68	3/4" x 8"	12 1/2"	2.21
C 610	3/4" x 10"	14 1/2"	2.52
C 612	3/8" x 12"	16 1/2"	2.61

PHILLIPS SCREW DRIVERS



Stock No.	Handle Diameter and Length	Point No.	Overall Length	Price
P 01	5/8" x 2 3/4"	0	5 1/4"	$ .76
P 1	7/8" x 3 1/2"	1	6 1/2"	1.02
P 2	1" x 3 5/8"	2	7 7/8"	1.28
P 3	1 1/16" x 4"	3	10"	1.74
P 4	1 3/16" x 4 1/2"	4	12 1/2"	2.06
P 5	1 1/4" x 2 1/4"	2	3 7/8"	1.12
P 6	1 1/8" x 1 3/4"	1	3"	1.02

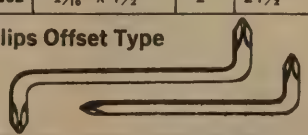
Pocket Clip Type

P 12	1/2" x 2 1/2"	0	5"	.76

Extra Long Blade

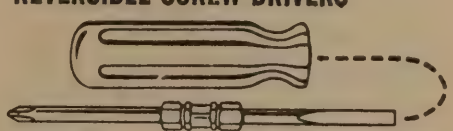
P 18	7/8" x 3 1/2"	1	11 1/4"	$1.14
P 28	1" x 3 5/8"	2	11 3/4"	1.32
P 212	1" x 3 5/8"	2	15 3/4"	1.49
P 202	1 3/16" x 4 1/2"	2	24 1/2"	2.46

Phillips Offset Type



Stock No.	Style	Point Size On End	Price
P 111	Single End	#1 on Both Ends	$ .54
P 120	Double End	#1 and #2	.69
P 222	Single End	#2 on Both Ends	.61
P 230	Double End	#2 and #3	1.14
P 340	Double End	#3 and #4	1.32

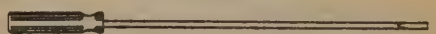
REVERSIBLE SCREW DRIVERS



Stock No.	Type and Size of Blade	Price
DU 2	No. 1 Phillips x 3/16" Regular	$1.47
DUH 4	No. 2 Phillips x 1/4" Regular	1.78
DU 5	No. 2 Phillips x 1/4" Reg. (Stubby)	1.78
DU 11	No. 1 Phillips x 3/16" Reg. plus 1/4" Hex.	1.71
DUP 12	No. 1 Phillips x No. 2 Phillips	1.96
DU 34	3/8" Regular x 1/4" Regular	1.71
DU 45	1/8" Clutch Head x 5/32" Clutch Head	—
DU 68	3/16" Clutch Head x 1/4" Clutch Head	—

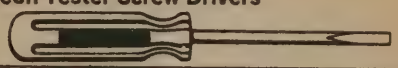
SPECIALTY SCREW DRIVERS

Radio & Television Aligners



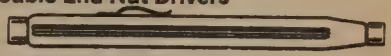
Stock No.	Size or Type	Overall Length	Price
AT 55	—	7 1/2"	$ .76
AT 510	—	12 1/2"	.88

Neon Tester Screw Drivers



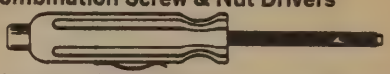
AN 2	Pocket Clip	5 1/2"	1.10
AN 44	—	7 5/8"	1.80

Double End Nut Drivers



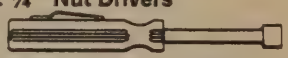
DE 810	1/4" & 5/16"	6"	1.10
DE 1210	5/16" & 3/8"	6"	1.32

Combination Screw & Nut Drivers



ND 141	Regular	5 1/2"	—

Midget 1/4" Nut Drivers



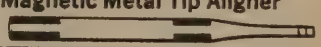
PK 8	—	3 1/4"	.65

Slimline Drivers



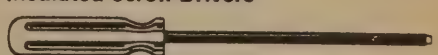
A 86	—	5 7/16"	.81
A 99	—	8"	.98

Non-Magnetic Metal Tip Aligner



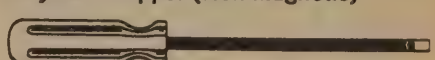
AT 45	—	5 1/2"	.62

Insulated Screw Drivers



Stock No.	Handle Size	Overall Length	Color Key	Price
VR 261	3/4" x 3"	9"	Grey	$ 1.06
VR 361	7/8" x 3 1/2"	9 1/2"	Black	1.23

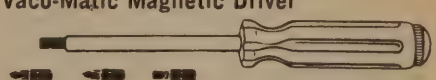
Beryllium Copper (Non-Magnetic)



Round

Stock No.	Handle Size	Overall Length	Price
VB 210	5/8" x 2 3/4"	12 3/4"	$1.50

Vaco-Matic Magnetic Driver



70035	1 1/8" x 4 1/4"	9"	$3.00

Steel Tapes



Stock No.	Size	Price
70120	1/2" x 10'	$ 1.92
70126	1/2 x 6'	1.32
70128	1/2" x 8'	1.56
70146	1/4" x 6'	1.20
71120	1/2" x 10' Automatic	2.48
71346	3/4" x 16' Automatic	5.44

NUT DRIVERS SCREW LAUNCHERS SPECIALTY TOOLS

HOLLOW SHAFT NUT DRIVERS



- Extra Hard Tempered Sockets
- Beautiful Polished Nickel-Chrome Finish
- Large Colored-For-Size Handles

Extra Small Hex Size

Stock No.	Handle Dia. and Length	Hex Size	Overall Length	Handle Color	Price
S 5	7/8" x 3 1/2"	5/32"	6 1/2"	Amber	1.06

3" Shaft Length

S 6	1" x 3 5/8"	3/16"	6 5/8"	Black	1.06
S 7	1" x 3 5/8"	7/32"	6 5/8"	Amber	1.06
S 8	1" x 3 5/8"	1/4"	6 5/8"	Red	1.06
S 9	1" x 3 5/8"	9/32"	6 5/8"	Amber	1.06
S 10	1" x 3 5/8"	5/16"	6 5/8"	Amber	1.06
S 11	1" x 3 5/8"	11/32"	6 5/8"	Green	1.06
S 12	1" x 3 5/8"	3/8"	6 5/8"	Blue	1.06
S 14	1 1/16" x 4"	7/16"	7"	Brown	1.31
S 16	1 1/16" x 4"	1/2"	7"	Orange	1.31

Extra Large Hex Size 4" Shaft Length

S 18	1 1/16" x 4"	9/16"	8"	Amber	1.66
S 20	1 1/16" x 4"	5/8"	8"	Amber	1.89

Extra Long 6" Shaft Length



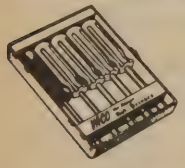
S 66	1" x 3 5/8"	3/16"	9 5/8"	Black	1.34
S 86	1" x 3 5/8"	1/4"	9 5/8"	Red	1.34
S 106	1" x 3 5/8"	5/16"	9 5/8"	Amber	1.34
S 116	1" x 3 5/8"	11/32"	9 5/8"	Green	1.34
S 126	1" x 3 5/8"	3/8"	9 5/8"	Blue	1.34
S 146	1 1/16" x 4"	7/16"	10"	Brown	1.58
S 166	1 1/16" x 4"	1/2"	10"	Orange	1.58

Stubby Style 1 1/4" Shaft Length



SS 8	1 1/4" x 2 1/16"	1/4"	3 1/2"	Amber	.94
SS 10	1 1/4" x 2 1/16"	5/16"	3 1/2"	Amber	.94
SS 12	1 1/4" x 2 1/16"	3/8"	3 1/2"	Amber	.94

SP-500 Plastic Boxed Set



An elegant two tone gift or storage box with hinged cover contains these five popular sizes: 3/16", 1/4", 5/16", 11/32", 3/8". Size of box is 5" wide x 7" long x 1 1/16" deep.

Price $5.76

K-7 Stand Up—Hang Up Kit



An ideal kit for the workbench or to roll up and store in the tool box. Contains the following drivers: S6, S8, S10, S11, S12, S14, S16.

Price $9.28

S-700 All Metal Stand

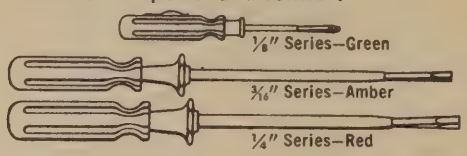


Seven of the most popular nut driver sizes are fitted into this metal stand especially designed for the workbench or for hanging on the wall. Contains one each of: S6, S8, S10, S11, S12, S14, S16.

Price $8.71

SCREW LAUNCHERS

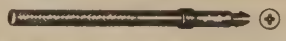
hold . . . start . . . drive screws with power and comfort



Unique design, double blade bit grips screws securely while working in tight quarters or awkward places. Easy to operate.

Stock No.	Blade Size	Handle Size	Overall Length	Price
K-21*	Mini Tip	5/8" x 2 3/4"	5 3/4"	$7.38
K-23*	1/8" x 3"	5/8" x 2 3/4"	5 3/4"	1.22
K-28	1/8" x 8"	5/8" x 2 3/4"	10 3/4"	1.47
K-34	3/16" x 4"	7/8" x 3 1/2"	7 1/2"	1.77
K-36	3/16" x 6"	7/8" x 3 1/2"	9 1/2"	1.81
K-38	3/16" x 8"	7/8" x 3 1/2"	11 1/2"	1.85
K-44	1/4" x 4"	1" x 3 5/8"	7 5/8"	1.85
K-46	1/4" x 6"	1" x 3 5/8"	9 5/8"	1.94
K-48	1/4" x 8"	1" x 3 5/8"	11 5/8"	1.98

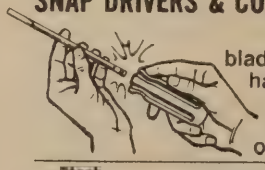
Phillips Screw Launchers



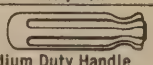
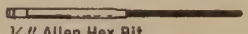
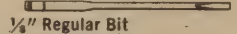
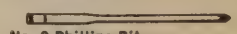
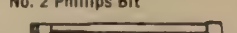
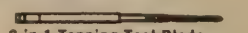
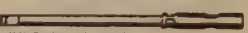
Stock No.	Length	Price
K-13	3"	$1.66
K-14*	5"	2.06
K-15	5"	1.94
K-16	7"	2.02
K-19	9"	2.11

*Pocket Clip Style

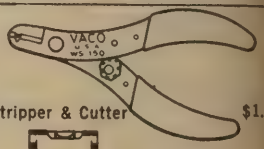
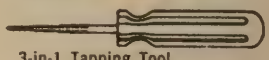
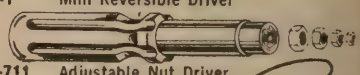
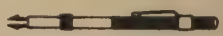
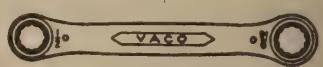
SNAP DRIVERS & COMPONENTS

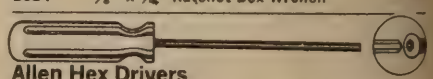


Interchangeable blades snap into Vaco handle . . . holds like one piece tool. Build your own kit of specialty blades.

Stock No.	Description	Price
		
ZH-1	Medium Duty Handle	$1.10
ZH-2	Heavy Duty Handle	1.50
		
ZA-1	1/16" Allen Hex Bit	.71
ZA-2	3/64" Allen Hex Bit	.73
ZA-3	1/32" Allen Hex Bit	.76
ZA-35	7/64" Allen Hex Bit	.79
ZA-4	1/8" Allen Hex Bit	.79
ZA-45	9/64" Allen Hex Bit	.81
ZA-5	5/32" Allen Hex Bit	.81
ZA-6	3/16" Allen Hex Bit	.86
		
ZB-24	1/4" Regular Bit	.54
ZB-34	3/16" Regular Bit	.69
ZB-45	1/4" Regular Bit	.69
		
ZP-01	No. 0 Phillips Bit	.65
ZP-14	No. 1 Phillips Bit	.69
ZP-24	No. 2 Phillips Bit	.73
		
ZS-6	3/16" Nut Driver Bit	.79
ZS-8	1/4" Nut Driver Bit	.79
ZS-10	5/16" Nut Driver Bit	.79
ZS-11	11/32" Nut Driver Bit	.79
ZS-12	3/8" Nut Driver Bit	.79
ZS-14	7/16" Nut Driver Bit	1.02
ZS-16	1/2" Nut Driver Bit	1.02
		
ZT-310	3-in-1 Tapping Tool Blade	2.34
		
ZX-56	5" Extension Piece	1.10

SPECIALTY TOOLS

Stock No.	Description	Price
		
WS-150	Wire Stripper & Cutter	$1.43
		
ML-7	Magnetic Level & Protractor	3.15
		
TT-31	3-in-1 Tapping Tool	2.47
		
DU-1*	Mini Reversible Driver	1.31
		
SA-711	Adjustable Nut Driver	3.49
		
210	Internal Snap Ring Pliers	2.61
220	External Snap Ring Pliers	2.61
		
K-21*	Mini Screw Launcher	1.38
K-23*	1/8" x 3" Screw Launcher	1.22
		
K-14*	5" Phillips Screw Launcher	2.06
		
TK-500	100-500V Circuit Tester	.93
		
HK-17	Hex Key Wrench Set	1.32
		
810	1/4" x 5/16" Ratchet Box Wrench	2.64
1214	5/16" x 7/16" Ratchet Box Wrench	3.00
1618	1/2" x 5/16" Ratchet Box Wrench	3.88
2022	5/8" x 11/16" Ratchet Box Wrench	4.00
2024	5/8" x 3/4" Ratchet Box Wrench	4.00



Allen Hex Drivers

Stock No.	Handle Size	Hex Size	Cap Screw	Set Screw	Price
AL 2	3/4" x 3"	.050"	0 & 1	3 & 4	$ .91
AL 4	3/4" x 3"	1/16"	2	5 & 6	.91
AL 5	3/4" x 3"	3/64"	3 & 4	8	.91
AL 6	7/8" x 3 1/2"	5/32"	5 & 6	10	.91
AL 7	7/8" x 3 1/2"	7/64"	7	—	1.06
AL 8	7/8" x 3 1/2"	1/8"	8	1/4	1.06
AL 9	7/8" x 3 1/2"	9/64"	9	—	1.06
AL 10	7/8" x 3 1/2"	5/32"	10	5/16	1.06
AL 12	7/8" x 3 1/2"	3/16"	1/4	3/8	1.06
AL 14	1" x 3 5/8"	7/32"	5/16	7/16	1.17
AL 16	1" x 3 5/8"	1/4"		1/2	1.17



HEX KEY WRENCHES, in above sizes, are available in short, long, extra long, and 12" lengths.

Net

© United Technical Publications

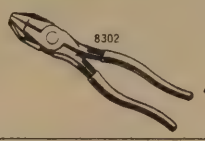
PLIERS • WRENCHES

VACO®

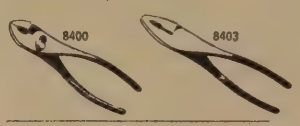
- Precision Ground and Polished Heads
- Milled Sure Grip Jaws, Hand Honed Cutters
- Cushion Grip Handles
- Unconditionally Guaranteed



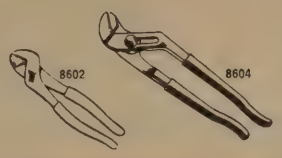
Stock No.	Description	Price
8101	Short Ndle. Nose w/Cut. 5"	$3.76
8102	Long Ndle. Nose w/Cut. 6"	3.92
8103	Long Ndle. Nose w/Cut. 7"	4.48
8104	Curved Nose 6"	4.00
8105	Long Nose 6"	3.80
8106	Long Needle Nose 7½"	4.00



8301	Lineman's Side Cut. 6½"	$3.96
8302	Lineman's Side Cut. 7½"	4.52
8303	Lineman's Side Cut. 8¾"	5.36



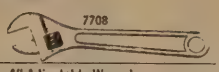
8401	Slip Joint 6½"	$1.88
8402	Slip Joint 8"	2.28
8403	6" Slip Joint w/Cutter	2.72



8602	Vacgruv Plier Wrench 6"	$3.04
8604	Vacgruv Plier Wrench 10"	4.00



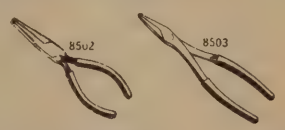
9101	Midget Long Nose 4½"	$3.64
9102	Midget Round Nose 4½"	3.64
9201	Midget Diagonal 4½"	3.64
9202	Midget End Cutter 4½"	3.64
9501	Midget Flat Nose 4½"	3.64
9601	Midget Vacgruv 5"	3.64



7704	4" Adjustable Wrench	$3.04
7706	6" Adjustable Wrench	3.12
7708	8" Adjustable Wrench	3.60
7710	10" Adjustable Wrench	4.72
7712	12" Adjustable Wrench	6.40

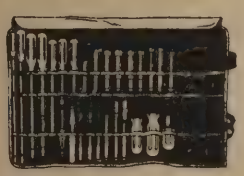


8201	Diagonal Cutter 4½"	$3.48
8202	Diagonal Cutter 5"	3.56
8203	Diagonal Cutter 6"	3.92
8204	Diagonal Cutter 7½"	4.48
8205	H. D. Diagonal Cutter 7¼"	4.00



8501	Flat Nose w/ Cutter 6"	$4.00
8503	Flat Nose 7½"	4.00

VACOMBO® KITS



KIT NO. TV-27 Deluxe 27-piece kit contains practically every hand tool necessary for TV and radio work, plus extra pockets for pliers and other personal tools. Size, 20" x 13½". Price...$26.81



KIT NO. ZB-50 A fine, all-purpose snap driver kit of interchangeable regular and Phillips blades that fit same handle. Includes durable leatherette bag. Size, 6½" x 7". Price.. $4.23

KIT NO. ZBX-51 Same as Vaco No. ZB-50 except includes 5" blade extension. Price.. $5.28



KIT NO. ZA-70 This useful snap driver kit consists of 6 Allen type hexagon blades plus handle and bag. Services screw numbers 4, 5, 6, 8, 10, ¼", 5/16", and ⅜". Size, 6½" x 7". Price...$5.19



KIT NO. RT-14 Handy 14-piece snap driver kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, heavy duty handle, and 5" blade extension which doubles the usefulness of each blade. Size, 10½" x 8". Price... $12.15



KIT NO. ZS-60 A most versatile and complete hexagon nut driver kit for radio, TV or any other work requiring speedy nut setting. All sockets are super hard. Size, 6½" x 7". Price.. $5.43

KIT NO. ZSX-61 Same as Vaco Kit No. ZS-60 except includes 5" blade extension. Price.. $6.39



KIT NO. ZC-80 Specially designed snap driver kit includes socket head (Robertson), Phillips, and regular blades; particularly suited for Canadian use. Size, 6½" x 7". Price...$5.65



KIT NO. ZF-40 Here is a special snap driver kit designed to take care of all popular sizes of fluted spline or Bristol type recess head screws used on electronic and electrical equipment, air conditioning, refrigeration, and office machines. Size, 6½", x 7". Price...$4.89

RATCHET DRIVERS QUALITY FASTENERS

VACO POW'RIVETS . . . the blind rivet for foolproof fastening every time



Step 1 Step 2 Step 3

THERE IS A DIFFERENCE! Only Vaco Pow'-Rivets adapt to hole size variance, and pull up snug regardless of material thickness. That's why 4 sizes do the job of 11 ordinary rivets. Three step illustration at left shows unique "bubble action" sequence which assures positive, goof-proof fastening every time.

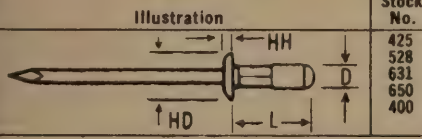


Illustration	Stock No.	Dia. "D"	Length "L"	Grip Range	Head Dia. "HD"	Head Ht. "HH"	Hole Size	Drill
	425	1/8	.400	To .250	.215	.044	.136	#29
	528	5/32	.470	To .280	.255	.057	.166	#19
	631	¾	.530	To .312	.349	.070	.199	#8
	650	3/16	.720	To .500	.349	.070	.199	#8
	400	Assortment Pak						

Available in 50¢ Paks, Dollar $ Paks, "C" (100) Paks, and "MB" (1000) Paks.

VACO POW'RIVETER



Stock No.	Description	List Price
495	Popular Rivet Tool for 1/8", 5/32", 3/16" Rivets	$4.95

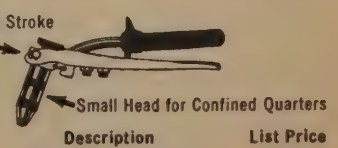
RATCHET DRIVERS



Patent Pending

Stock No.	Handle Dia. and Length	Overall Length	Blade Dia.	Price
111001	1⅛" x 4¼"	10"	¼"	$2.70
111002	1⅜" x 4½"	10½"	5/16"	2.92
111004	1⅛" x 4¼"	Handle Only	For use with Snap Blades	3.15

VACO PROFESSIONAL POW'RIVETER



Stock No.	Description	List Price
175002	Unique 2 in 1 Action for Professional Applications	$26.50



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

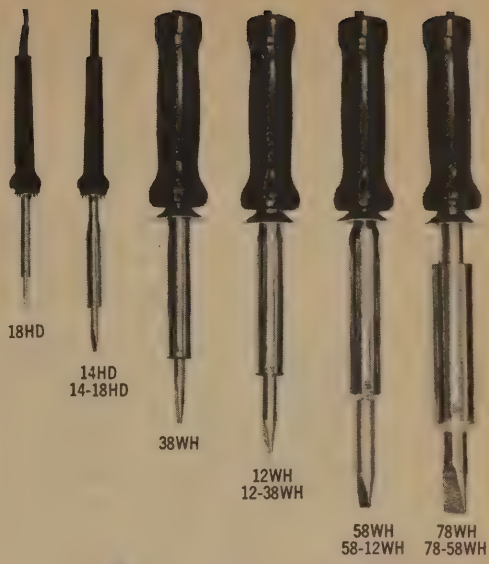
Trade discounts apply in most cases where LIST PRICES are shown.

WALL BRAND SOLDERING PRODUCTS

SINCE 1864

MADE IN USA

HOT AIR GUNS AND TIPS



HD Type and WH Type Heavy-duty Irons

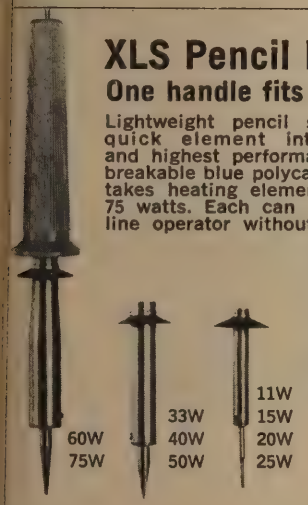
Wallbrand heavy-duty irons are engineered for highest efficiency performance. Rugged construction assures long-life for demanding production line needs. No radionic interference. Triple-life resistance wire wound on pure mica and constant tip temperature with extra fast recovery permits continuous heavy-duty use. 120 volts AC or DC. Other voltages available on request. Handles remain cool after long hours of operation. Tips are easily changed. Special irons customized to particular requirements.

Model	Watt Input	Tip Dia.	Length W/O Tip	Thermo/ Gram Value
18HD	25	1/8″	6⅝″	300
14HD	40	1/4″	7½″	900
38WH	80	3/8″	10¼″	1500
12WH	125	1/2″	10¼″	2000
12-38WH	125	3/8″	10¼″	2000
12-38HC	155	3/8″	10¼″	3500
58WH	200	5/8″	12¼″	3500
58-12WH	200	3/8″	12¼″	3500
78WH	300	7/8″	12⅜″	5400
78-58WH	300	5/8″	12⅜″	5400

XLS Pencil Iron

One handle fits 9 elements

Lightweight pencil series features quick element interchangeability and highest performance. Cool, unbreakable blue polycarbonate handle takes heating elements from 11 to 75 watts. Each can be changed by line operator without special tools. Available with either 2 or 3 wire cord. Uses regular or iron plated tips. Elements encased in long-life stainless steel jackets.



DH (DUO HEAT) Pencil

Pat. Pending

Developed for use in intermittent soldering operations

Revolutionary lightweight pencil operates continuously at low heat, but has higher heat available when needed. Constant low heat is adequate for light to medium jobs, get high heat instantly by pressing handle switch; tip and element life infinitely increased. Indestructible molded handle stays cool and comfortable. Wide variety of plug-in tips easily interchangeable.



Model	Continuous Low Heat	High Heat
DH-1	15W 520°F	47W 920°F
DH-2	20W 630°F	53W 975°F

IDL INSTANT DEPENDABLE LASTING IRON

Pat. Pending

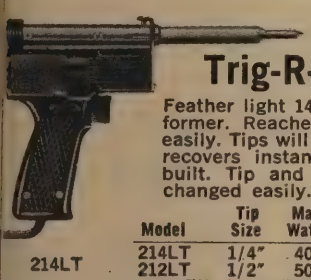
3 oz. pencil controlled by thermal time delay relay

Heats in seconds. No transformer. When handle button is depressed 180W element heats initially until soldering temperature is reached. Thermal time delay relay then cuts in 40W element automatically. Pencil cannot overheat. Interchangeable plug-in 1/8″ tips need no special tools to change. Unbreakable handle stays cool. Especially good for diversified light to medium jobs.



Trig-R-Heat Gun

Feather light 14 oz. gun has no transformer. Reaches hard-to-get at spots easily. Tips will not deform. Heats and recovers instantly. Rugged, precision built. Tip and element assemblies changed easily.



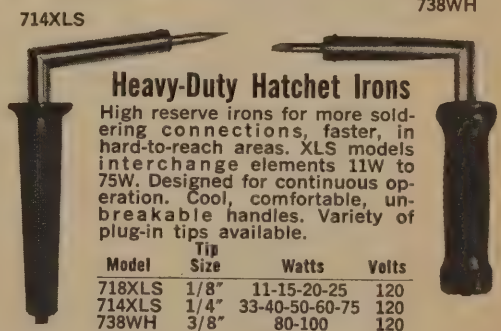
Model	Tip Size	Max. Watts	Min. Watts	AC/DC Volts	Weight W/O Cord
214LT	1/4″	400	150	120	14 oz.
212LT	1/2″	500	300	120	24 oz.
TIP AND ELEMENT ASSEMBLY					
214TE	1/4″	400	150	120	6 oz.
212TE	1/2″	500	300	120	16 oz.



864 Commercial Duty Iron

Pencil iron has cool, molded plastic handle, balanced for comfort. Triple-life resistance wound. Copper tip maintains constant temperature.

Tip Size	Watts	Volts
3/16″	30	120
3/16″	40	120



Heavy-Duty Hatchet Irons

High reserve irons for more soldering connections, faster, in hard-to-reach areas. XLS models interchange elements 11W to 75W. Designed for continuous operation. Cool, comfortable, unbreakable handles. Variety of plug-in tips available.

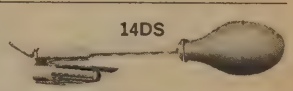
Model	Tip Size	Watts	Volts
718XLS	1/8″	11-15-20-25	120
714XLS	1/4″	33-40-50-60-75	120
738WH	3/8″	80-100	120



Soldering Pencil Holder

Can be mounted on top, in front or below bench. Adjusts to any angle. Bench model includes tip cleaning sponge and tray. SPH for up to 5/8″ shaft. Model SIH for up to 1″ shafts.

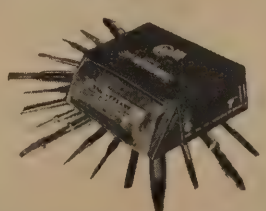
(SIH not shown)



Desoldering Tool

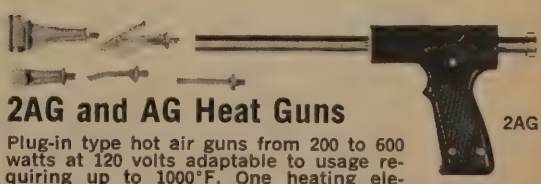
Keeps solder in molten state in reservoir. Operated with one hand. Tip replaceable with two openings — .080″ dia. and .064″ dia. Fits 614, 14HD, 714XLS and XLS 33W to 75W series.

Tips and Tip Dispenser



Tip sizes from 1/8″ through 7/8″ in wide variety of configurations for specific industrial and commercial needs. Three grades — **Anniversary type:** Super finished, iron and chrome plated. **Wallklad:** Iron coated and chrome plated. For production and critical lab use. **Wallbrand:** Commercial, copper, nickel plated. Wall's own iron plating facilities produce high quality long-life tips. 1/8″ through 3/8″ iron plated or copper tips available in handy tip dispenser. Tips individually sealed in color-coded continuous belting, plastic envelope.





2AG and AG Heat Guns

Plug-in type hot air guns from 200 to 600 watts at 120 volts adaptable to usage requiring up to 1000°F. One heating element fits both models. Pistol grip available with trigger (extra cost), opens air and heat at same time. Five tip styles interchangeable. Special tips on request. 3-wire cord assembly. Guns include neoprene air hose, hose fittings, pressure regulator and gauge. Send for Bulletin HG-1265.

WALL MANUFACTURING CO.

Industrial soldering irons and pencils are built to exceed Federal specification W-S-570. Wallbrand soldering products are UL and CSA listed.

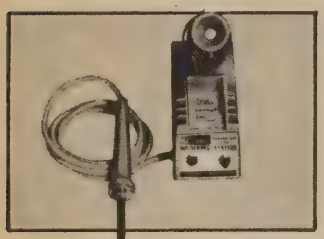
© United Technical Publications

Weller industrial soldering tools

for greater efficiency . . . lower operating costs and maximum safety

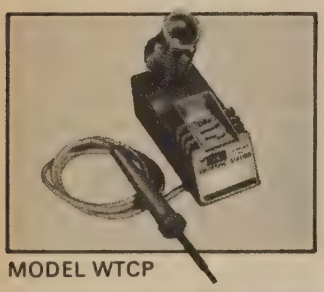
CONTROLLED OUTPUT SOLDERING TOOLS . . .

Automatically controls output and temperature independent of line voltage.



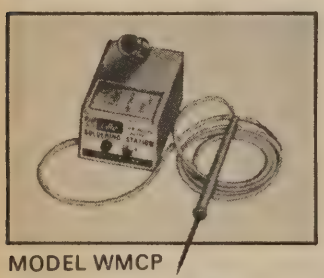
MODEL WTCPL

MODEL WTCPL. Controlled output low voltage soldering with power unit isolated for protection of sensitive devices.Temperatures of 500°F., 600°F. and 700°F. are predetermined by tip selection. Cord set will not burn. Stand will not heat sink. Built-in on/off switch and pilot light. 60W, 120V, 3 wire cord. Comes with 3/16", 700°F. screwdriver tip. New cool blue color. Also available without built-in on/off switch and pilot light as MODEL WTCP.



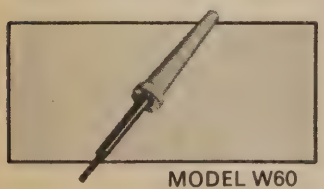
MODEL WTCP

MODEL WMCP. Weller's new miniature tool for micro-soldering, automatically controls output and temperature with power unit isolated and shielded for protection of sensitive devices. Has fixed temperature, interchangeable tips, low voltage operation, built-in on/off switch and pilot light. Available in 3 temperature ranges: 550°F.,. . . 650°F., and 750°F. control 20W, 120V, 50/400 Hz. 3 wire cord. Comes with 5/64" chisel tip. New cool blue color.



MODEL WMCP

MODEL W60. Low cost, portable, line voltage operation. Automatic control of output and temperature 60W, 2 wire cord. Comes with 700°F., 1/4" screwdriver tip. Model W60-3, 3 wire cord set. New cool blue color. For complete station order PH60 stand.



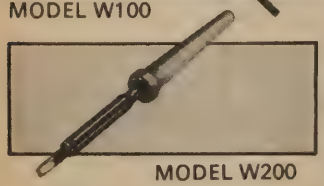
MODEL W60

MODEL W100. Low cost, portable, line voltage operation. Automatic control of output and temperature. 100W, 2 wire cord. Comes with 700°F., 3/8" screwdriver tip. Model W100-3, 3 wire cord set. New cool blue color. For complete station order PH100 stand.



MODEL W100

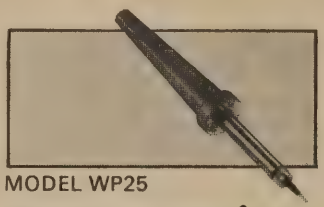
MODEL W200. Low cost, portable, line voltage operation. Automatic control of output and temperature. 200W, 2 wire cord. Comes with 700°F., 1/2" chisel tip. Model W200-3, 3 wire cord set. New cool blue color.



MODEL W200

UNCONTROLLED SOLDERING TOOLS . . .

For lowest cost soldering operations not requiring high efficiency tool.



MODEL WP25

MODEL WP25. Uncontrolled line voltage soldering tool. All stainless steel construction, 25W, 120V, 2 wire cord, with 1/16" screwdriver tip. New cool blue color. Model WP25-3, 3 wire cord set.

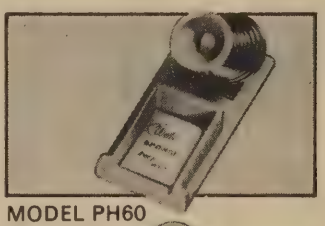


MODEL WP40

MODEL WP40. Uncontrolled line voltage soldering tool. All stainless steel construction. 40W. 120V, 2 wire cord, with 1/8" screwdriver tip. New cool blue color. Model WP40-3, 3 wire cord set.

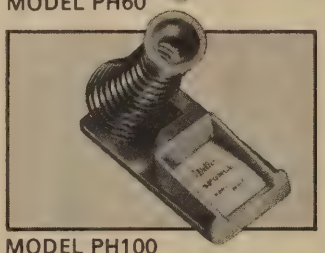
SOLDERING TOOLS STANDS . . .

Have heavy cast iron bases and built-in sponge holders. Design precludes any possible heat sinking of Weller controlled tools. New cool blue color.



MODEL PH60

MODEL PH60. Accommodates Weller Models WP25, WP40, W60, and any soldering tool with a barrel diameter up to 15/32".



MODEL PH100

MODEL PH100. Accommodates Weller Model W100 and any soldering tool with a barrel diameter up to 19/32"

TIPS AND ACCESSORIES



All Weller Industrial Soldering Tips have unique heavy iron plating with anti-oxidation coating thereby eliminating freezing . . . No other tip offers these features!

A complete line of Weller Accessories is available to greatly extend the effectiveness of Weller Soldering Tools.

FOR COMPLETE INFORMATION, WRITE OR CALL FOR WELLER'S LATEST INDUSTRIAL SOLDERING TOOLS CATALOG.

All Weller products are available in Canada.

Weller

INDUSTRIAL SOLDERING TOOLS

A DIVISION OF COOPER INDUSTRIES, INC.

© United Technical Publications

Weller professional-quality tools and accessories.



8 piece kit for homecrafters

Includes Weller 100/140 watt dual heat Homecrafter soldering gun, three soldering tips, tip-changing wrench, soldering aid, flux brush and solder—all in a rugged plastic utility case.

Model 8200PK



6 piece Heavy-duty kit

Features a Weller 240/325 watt heavy-duty gun; tips for soldering, cutting and smoothing; tip wrench; solder; rugged plastic case.

Model D-550PK

New Weller Automatic Glue Gun Kit



New automatic electric glue and caulk gun features rapid heat up, indicator and work light, automatic glue feed, drip proof with automatic flow control valve.
150W., 120V., 2 wire cord. Kit includes:

Model 2400 Automatic Glue Gun
7 Weller Glue Sticks — Reversible Storage Tray
7 Weller Caulk Sticks — Carrying Case
Portable Bench Stand — Instruction Booklet
Complete Kit, Model 2400K



Weller Dual Heat Soldering Guns

The original and still unmatched. Weller guns reach full soldering temperature up to 40% faster than other soldering guns. Deliver more heat per rated watt and up to 28% greater soldering efficiency. Exclusive two-position trigger permits instant switching to high or low heat. Long-life tip provides maximum heat transfer. Pre-focused spotlight goes on when trigger is pulled.

100/140 watts. Homecrafter Model 8200.
145/210 watts. Medium Duty Model D-440.
240/325 watts. Heavy Duty Model D-550.

Marksman Soldering Irons



Weller's fast-selling economy line. Outperforms bigger irons that cost more. There are 5 models, from a small pencil iron for light duty soldering to an extra heavy duty iron for metal mending. Each model has stainless steel barrel and replaceable tip.



Value Leading Kit includes 25-watt iron, 3 soldering tips, soldering aid, solder. Model SP-23K.

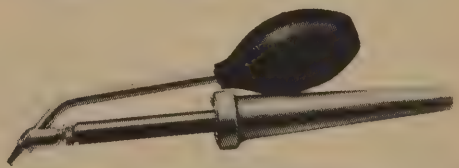
25-Watt Iron 1¾-oz. ⅛" tip. Model SP-23.
40-Watt Iron 2-oz. ¼" tip. Model SP-40.
80-Watt Iron 4-oz. ⅜" tip. Model SP-80.
120-Watt Iron 10-oz. ½" tip. Model SP-120.
175-Watt Iron 1-lb. ⅝" tip. Model SP-175.



New Professional Irons

Industrial-rated pencil types. Weigh only 1¾ ounces. Do work of bigger irons. Long life, double coated tips. 120 volts.

Model WP25 (25 watts)
Model WP40 (40 watts)



New Professional Vacuum Desoldering/Resoldering Tool

Invaluable repair tool. A must for servicing modern printed circuit boards and solid state electronics. Remove and replace components quickly, with less chance of heat damage.

Complete tool includes power handle, vacuum bulb and desoldering head assembly with .063 tip opening. 40W. 120V. 2 wire cord. Model DS40.



Replacement Tips For DS40 Desoldering Tool

#DST1—Desoldering tiplet .036"
#DST2—Desoldering tiplet .046"
#DST3—Desoldering tiplet .059"
#DST4—Desoldering tiplet .063"
#DST5—Desoldering tiplet .078"
#DST6—Desoldering tiplet .090"

WELLER DIV., COOPER INDUSTRIES, INC.

The Cooper Group

CRESCENT · KEN-TOOL · LUFKIN · WELLER

COOPER INDUSTRIES

© United Technical Publications

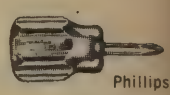
XCELITE® QUALITY PROFESSIONAL TOOLS

SCREWDRIVERS

AISI 6150 chrome vanadium steel blades, plastic (UL) handles.


Tee Allen Hex Type


Round Blade


Phillips


Allen Hex Type


Stubby


Square


Clutch


Pocket Clip

ROUND BLADE
Regular*

Number	Blade	Overall	List
R142	1/4" x 2"	6 1/8"	$1.40
R144	1/4" x 4"	8 1/8"	1.65
R146	1/4" x 6"	10 1/8"	1.80
R148	1/4" x 8"	12 1/8"	1.90
R182	1/8" x 2"	4 5/8"	.70
R184	1/8" x 4"	6 5/8"	.80
R186	1/8" x 6"	8 5/8"	.90
R188	1/8" x 8"	10 5/8"	1.05
R388	3/8" x 8"	12 1/2"	2.90
R1410	1/4" x 10"	14 1/8"	2.00
R1810	1/8" x 10"	12 5/8"	1.20
R3163	3/16" x 3"	6 5/8"	1.15
R3164	3/16" x 4"	7 5/8"	1.25
R3166	3/16" x 6"	9 5/8"	1.40
R3168	3/16" x 8"	11 5/8"	1.55
R3810	3/8" x 10"	14 1/2"	3.15
R3812	3/8" x 12"	16 1/2"	3.65
R31610	3/16" x 10"	13 5/8"	1.80
R5164	5/16" x 4"	8 1/8"	1.85
R5166	5/16" x 6"	10 1/2"	2.00
R5168	5/16" x 8"	12 1/2"	2.15
R5323	5/32" x 3"	5 5/8"	.90
R5324	5/32" x 4"	6 5/8"	.90
R5325	5/32" x 5"	7 5/8"	.95
R5328	5/32" x 8"	10 5/8"	1.20
R51610	5/16" x 10"	14 1/2"	2.65

Pocket Clip Style

R181	1/8" x 2"	4 1/4"	$ .60
R183	1/8" x 3"	5 1/4"	.65
R184 1/2	1/8" x 4"	6 1/4"	.70
R3322	3/32" x 2"	4 1/4"	.60
R3323	3/32" x 3"	5 1/4"	.65
R3324	3/32" x 4"	6 1/4"	.70

CLUTCH HEAD (Type G)

Number	Tip	Blade	Overall	List
G146	1/4"	5/32"x6"	10 1/8"	$2.15
G183	1/8"	3/16"x3"	6 5/8"	1.45
G3164	3/16"	1/4"x4"	7 7/8"	1.75
G3324	3/32"	1/8"x4"	6 5/8"	1.45
G5166	5/16"	3/8"x6"	10 1/2"	2.65
G5324	5/32"	3/16"x4"	7 5/8"	1.75

SQUARE BLADE
Regular

Number	Blade	Overall	List
S142	1/4" x 2"	6 1/8"	$1.45
S144	1/4" x 4"	8 1/8"	1.70
S146	1/4" x 6"	10 1/8"	1.85
S148	1/4" x 8"	12 1/8"	2.00
S388	3/8" x 8"	12 1/2"	3.25
S1424	1/4" x 24"	28 1/8"	4.50
S3163	3/16" x 3"	6 5/8"	1.25
S3164	3/16" x 4"	7 5/8"	1.40
S3166	3/16" x 6"	9 5/8"	1.55
S3168	3/16" x 8"	11 5/8"	1.75
S3812	3/8" x 12"	18"	4.25
S3818	3/8" x 18"	24"	4.75
S5162	5/16" x 2"	6 1/2"	1.60
S5164	5/16" x 4"	8 1/2"	1.85
S5166	5/16" x 6"	10 1/2"	2.10
S5168	5/16" x 8"	12 1/2"	2.30
S7166	7/16" x 6"	12"	3.75
S31610	3/16" x 10"	13 5/8"	2.10
S51610	5/16" x 10"	14 1/4"	2.65
S51612	5/16" x 12"	16 1/2"	3.15
S71612	7/16" x 12"	18"	4.50
S71618	7/16" x 18"	24"	5.25

Stubby

S141	1/4" x 1 1/4"	3 1/4"	$1.05
S3161	3/16" x 1 1/4"	2 3/4"	.95
S5161	5/16" x 1 1/4"	3 1/4"	1.05

SCRULOX®
Overall 7 5/8"

Number	Tip	Screw Size	List
SL-0	#0	3 & 4	$1.55
SL-1	#1	5, 6 & 7	1.55
SL-2	#2	8, 9 & 10	1.55
SL-3	#3	12 & 14	1.55

PHILLIPS
Regular*

Number	Point	Blade	Overall	List
X100	0	1/8" x 2"	4 5/8"	$ .90
X101	1	3/16" x 3"	6 5/8"	1.35
X102	2	1/4" x 4"	8 1/8"	1.65
X103	3	5/16" x 6"	10 1/2"	2.40
X104	4	3/8" x 8"	12 1/2"	3.00
X108	1	3/16" x 6"	9 5/8"	1.60

Pocket Clip Style

P12S	0	1/8" x 2"	4 1/4"	$ .80

Stubby

SX101	1	3/16" x 1 7/16"	2 15/16"	$1.25
SX102	2	1/4" x 1 5/16"	3 3/16"	1.40

Extra Long

X1010	1	3/16" x 10"	13 5/8"	$2.00
X1020	2	1/4" x 10"	14 1/8"	2.25
X2020	2	1/4" x 20"	24 1/8"	3.75

"SUPER-TRU" TIPS
Specially treated for improved wear

XST100	0	1/8" x 2"	4 5/8"	$1.00
XST101	1	3/16" x 3"	6 5/8"	1.50
XST102	2	1/4" x 4"	8 1/8"	1.65
XST103	3	5/16" x 6"	10 1/2"	2.65
XST104	4	3/8" x 8"	12 1/2"	3.30
XST108	1	3/16" x 6"	9 5/8"	1.80
XST1010	1	3/16" x 10"	13 5/8"	2.25
XST1020	2	1/4" x 10"	14 1/8"	2.50

FREARSON (Reed & Prince)

RP101	1	3/16" x 3"	6 5/8"	$1.35
RP102	2	1/4" x 4"	8 1/8"	1.70
RP103	3	5/16" x 6"	10 1/2"	2.40
RP104	4	3/8" x 8"	12 1/2"	3.00

*Available in beryllium-copper, see page 1095.

ALLEN HEX TYPE*

Number	Hex	Blade	Overall	List
LN20	.050"	4"	6 5/8"	$1.30
LN21	1/16"	4"	6 5/8"	1.30
LN22	5/64"	4"	6 5/8"	1.30
LN23	3/32"	4"	7 1/8"	1.30
LN24	1/8"	4"	7 1/8"	1.40
LN25	5/32"	6"	9 1/8"	1.40
LN26	3/16"	6"	10 1/8"	1.40
LN27	7/32"	6"	10 1/8"	1.60
LN28	1/4"	6"	10 1/8"	1.60
LN764	7/64"	4"	7 1/8"	1.30
LN964	9/64"	4"	7 1/8"	1.40

Tee Handle Allen Type

TLN20	.050"	4"	5 1/4"	1.30
TLN21	1/16"	4"	5 1/4"	1.30
TLN22	5/64"	4"	5 1/4"	1.30
TLN23	3/32"	4"	5 1/4"	1.30
TLN24	1/8"	4"	5 1/4"	1.40
TLN25	5/32"	4"	5 1/4"	1.40
TLN26	3/16"	4"	5 1/4"	1.40
TLN27	7/32"	4"	5 1/4"	1.60
TLN28	1/4"	4"	5 1/4"	1.60
TLN764	7/64"	4"	5 1/4"	1.30
TLN964	9/64"	4"	5 1/4"	1.40

Allen Hex Sets

LN11 — Complete set of Allen type (LN) drivers in roll-up case. **List $16.50**

TLN11 — Complete set of Tee Handle Allens in a roll-up case. **List $16.50**

SCREWDRIVER ASSORTMENTS



Selected popular sizes in compact plastic cases.

No. SDR11 — **List $7.10**
Contains R182, R5324, R3166, R144, R5166 round blade screwdrivers.

No. SDX-22 — **List $8.10**
Contains X100, X101, X102, X103, SX102 Phillips screwdrivers.

No. SRX33 — **List $9.20**
Contains R184, R3166, R144, R5166 round blade and X101, X102 Phillips screwdrivers.

No. SDS44 — **List $9.70**
Contains S141, S3164, S144, S5166, S388 square blade screwdrivers.

No. SD-3 — **List $2.10**
Contains 1 each R181, R3322 and P12S on a card.

COMBINATION-REVERSIBLE BLADE SCREWDRIVERS AND KITS

AISI 6150 chrome vanadium steel blades, plastic (UL) handles.
Patented spring holds blades securely. 7/16" hex opening doubles as a nutdriver.

COMPLETE UNITS

Regular Type	List
CR1—No. 25 handle & RB1 blade	$2.65
CR2—No. 25 handle & RB2 blade	2.65
CR3—No. 25 handle & RB3 blade	2.65

Stubby Type	
CS1—No. 26 handle & SB1 blade	$2.50
CS2—No. 26 handle & SB2 blade	2.50

HANDLES ONLY

25—Regular	$1.15
26—Stubby	1.10

BLADES ONLY

Regular Type	List
RB1—No. 1 Phillips & 3/16" Slotted	$1.55
RB2—No. 2 Phillips & 1/4" Slotted	1.55
RB3—No. 3 Phillips & 5/16" Slotted	1.55
RB12—No. 1 & No. 2 Phillips	1.80
GB1—3/16"G & 5/32"G Clutch	1.85
GB2—5/16"G & 1/4"G Clutch	1.85

Stubby Type	List
SB1—No. 1 Phillips & 3/16" Slotted	$1.45
SB2—No. 2 Phillips & 1/4" Slotted	1.45
GS1—3/16"G & 5/32"G Clutch	1.60

POCKET ROLL KITS

CK2 — Contains RB1, RB2 blades and No. 25 handle $5.25
CK3 — Same as CK2, plus RB3 blade 6.88
CK5 — Same as CK2, plus RB3, GB1, and GB2 blades 10.25

PLASTIC VIEW KITS

SK20 — Contains SB1, SB2 blades and No. 26 handle $4.35
CK20 — Contains RB1, RB2 blades and No. 25 Handle 5.25
CK23 — Same as CK20, plus RB3 blade 6.88

COMBINATION SCREW AND NUTDRIVER TOOL

600—Handy 4-way tool with pocket clip 1/4" and 7/16" hex openings. Reversible SB1 blade ..... List $2.85


600

CR2

© United Technical Publications

XCELITE® QUALITY PROFESSIONAL TOOLS

NUTDRIVERS (Color-Coded Handles)

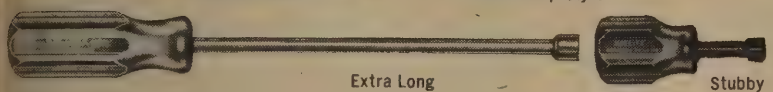
Polished-plated, steel shafts, plastic (UL) handles.
Precision, cold drawn, case hardened sockets.



Hollow Shaft



Pocket Clip Style



Extra Long — Stubby

SOLID SHAFT

REGULAR

Number	Handle Color	Hex Opening	List
	(6⅛" Overall Length)		
5	Amber	5/32"	$1.50
6	Black	3/16"	1.50
7	Brown	7/32"	1.50
8	Red	1/4"	1.50
9	Orange	9/32"	1.50
10	Amber	5/16"	1.50
11	Green	11/32"	1.50
12	Blue	3/8"	1.50
	(6¾" Overall Length)		
14	Brown	7/16"	1.85
16	Red	1/2"	1.85

STUBBY

	(3⅛" Overall Length)		
S6	Black	3/16"	$1.30
S8	Red	1/4"	1.30
S10	Amber	5/16"	1.30
S11	Green	11/32"	1.30
S12	Blue	3/8"	1.30

MIDGET POCKET CLIP STYLE

	(3½" Overall Length)		
P3	Blue	3/32"	$ .95
P4	Red	1/8"	.95
P5	Amber	5/32"	.95
P6	Black	3/16"	.95
P7	Brown	7/32"	.95
P8	Red	1/4"	.95
P9	Orange	9/32"	.95
P10	Amber	5/16"	.95
P11	Green	11/32"	.95
P12	Blue	3/8"	.95



MAGNETIC NUTDRIVERS

POCKET CLIP STYLE — MAGNETIC

	(3½" Overall Length)		
P8M	Red	1/4"	$1.50
P10M	Amber	5/16"	1.50

REGULAR MAGNETIC

	(7" Overall Length)		
8M	Red	1/4"	$2.30
10M	Amber	5/16"	2.30

EXTRA LONG — MAGNETIC

	(10" Overall Length)		
A8M	Red	1/4"	$2.90
A10M	Amber	5/16"	2.90

SUPER LONG — MAGNETIC

	(20¾" Overall Length)		
AA8M	Red	1/4"	$6.80
AA10M	Amber	5/16"	6.80

HOLLOW SHAFT*

REGULAR

Number	Handle Color	Hex Opening	List
	(6¼" Overall Length)		
HS6	Black	3/16"	$1.70
HS7	Brown	7/32"	1.70
	(7¼" Overall Length)		
HS8	Red	1/4"	1.70
HS9	Orange	9/32"	1.70
HS10	Amber	5/16"	1.70
HS11	Green	11/32"	1.70
HS12	Blue	3/8"	1.70
HS13	Amber	13/32"	1.95
HS14	Brown	7/16"	1.95
HS15	Amber	15/32"	1.95
HS16	Red	1/2"	1.95
HS17	Amber	17/32"	2.05
HS18	Orange	9/16"	2.05
HS19	Amber	19/32"	2.30
	(7⅝" Overall Length)		
HS20	Amber	5/8"	2.30
HS22	Amber	11/16"	3.50
HS24	Amber	3/4"	3.50

EXTRA LONG

	(9⅛" Overall Length)		
A6	Black	3/16"	$2.05
A7	Brown	7/32"	2.05
A8	Red	1/4"	2.05
A9	Orange	9/32"	2.05
A10	Amber	5/16"	2.05
A11	Green	11/32"	2.05
A12	Blue	3/8"	2.05

SUPER LONG

	(20⅞" Overall Length)		
AA8	Red	1/4"	$6.00
AA10	Amber	5/16"	6.00

*Available in Beryllium copper, see pg. 1095.

EXTERNAL HEX NUTDRIVER

(Hollow Shaft)



For removing inverted Palnuts on radio, TV, Hi-Fi control shafts. 6½" overall length. 7/16" external hex.

Number	Handle Color	List
PN-716	Black	$1.75

TERMINAL WRENCHES

For spanner nuts on external antenna and earphone jacks of transistor radios and CB walkie-talkies. TW140 for adjusting the AccuMatic color level control on RCA sets. 3⅝" overall length.



Number	Handle Color	Spanner Nut O.D.	List
TW32	Green	1/4"	$.90
TW140	Red	5/16"	.95

NUTDRIVER SETS (Color-Coded Handles)

No. HS6-18 CARRYING CASE — **List $19.90**
Contains hollow shaft Nos. HS6, HS7, HS8, HS9, HS10, HS11, HS12, HS14, HS16 and HS18.

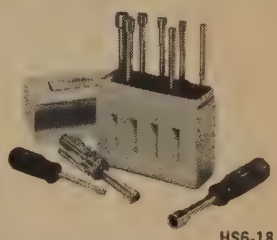
No. 127TB "TRAY BIEN" — **List $11.25**
Contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

No. 137TB "TRAY BIEN" — **List $12.75**
Contains solid shaft Nos. 6, 8, 10, 11 and 12 and hollow shaft Nos. HS16 and HS18.

No. 147TB "TRAY BIEN" — **List $14.90**
Contains hollow shaft Nos. HS8, HS9, HS10, HS11, HS12, HS14 and HS16.



127TB



HS6-18



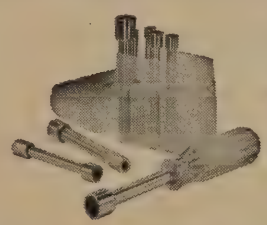
NUTDRIVER ASSORTMENTS

Selected popular sizes
in compact plastic cases.

No. 157 — **List $11.50**
Contains 6, 8, 10, 11, 12, 14, 16 regular shaft nutdrivers.

No. 167 — **List $12.35**
Contains 8, 10, 11, 12 regular shaft and HS14, HS16, HS18 hollow shaft nutdrivers.

No. 177 — **List $12.80**
Contains HS6, HS8, HS10, HS11, HS12, HS14, HS16 hollow shaft nutdrivers.



No. HSC-1 INTERCHANGEABLE HOLLOW SHAFT NUTDRIVER SET

Contains special thru-drilled handle and eight interchangeable hollow nutdriver shafts in 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", hex sizes. Screwdriver blade may be run down through center of handle and hollow nutdriver shaft to make combination locknut/slotted screw adjustments.

List $14.75

RATCHET SOCKET WRENCH SET — No. 1001

1/4" Square Drive

Contains nine 6-pt. sockets (3/16", 1/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2"), two 10-pt. sockets (1/4" & 5/16"), 2" extension, 4¾" reversible ratchet handle, 5¾" spinner/extension with 1/4" square insert in handle end for use with ratchet, molded plastic case with free initials. **List $18.60**



1001

MIDGET REVERSIBLE RATCHET OFFSET SCREWDRIVER SET — No. XL-70

Contains twelve Allen hex type screw bits (.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16"), two slotted screw bits (1/4", 3/16"), two Phillips screw bits (#1 and #2), 1/4" hex to 1/4" square adapter bit, 3¾" reversible ratchet handle, 6" spinner/extension with 1/4" square insert in handle end for use with adapter bit and ratchet, molded plastic case with free initials. **List $14.60**



XL70

RATCHET OFFSET SCREWDRIVER KIT — No. XL-75

Contains two slotted screw bits (3/16" and 1/4"), two Phillips screw bits (#1 and #2), 3¾" reversible ratchet handle, plastic snap fastener case. **List $4.64**



XL75

© United Technical Publications

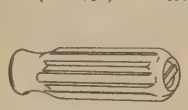
XCELITE QUALITY PROFESSIONAL TOOLS

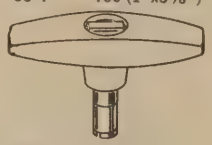
SERIES "99" HANDLES, BLADES AND SERVICE KITS

Series "99" handles will accept more than 60 nutdriver, screwdriver and special purpose shafts and blades. Plastic handles have a patented spring device that holds blades firmly yet permits quick, easy insertion and removal.

HANDLES

Cat. No.	Description	List	Cat. No.	Description	List
99-1	Regular (1 1/16"x4 1/8")	$1.20	99-3	Stubby (1 1/4" x 2)	$1.10
99-2	Junior (1"x3 1/8")	1.15	99-4	Tee (1"x3 3/8")	1.60

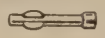


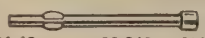


99-1R	Reversible ratchet	$8.25	99-4R	Tee ratchet	$8.25

NUTDRIVERS

Working length 1 3/8" — Working length 3 5/8"





99-5	5/32"	$1.10	99-S10	5/16" stubby	$ .90
99-6	3/16"	1.10	99-11	11/32"	1.10
99-7	7/32"	1.10	99-12	3/8"	1.10
99-8	1/4"	1.10	99-S12	3/8" stubby	.90
99-S8	1/4" stubby	.90	99-14	7/16"*	1.35
99-9	9/32"	1.10	99-16	1/2"*	1.35
99-10	5/16"	$1.10	* Working length 4"		
99-8M	1/4" magnetic	$1.75	99-10M	5/16" magnetic	$1.75
99-4MM	4MM	$1.20	99-7MM	7MM	$1.20
99-4.5MM	4.5MM	1.20	99-8MM	8MM	1.20
99-5MM	5MM	1.20	99-9MM	9MM	1.20
99-5.5MM	5.5MM	1.20	99-10MM	10MM	1.50
99-6MM	6MM	1.20	99-11MM	11MM	1.50

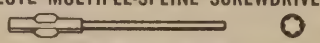
ALLEN HEX TYPE SCREWDRIVERS



Working length 4"

99-20	.050"	$1.00	99-24	1/8"	$1.00
99-21	1/16"	1.00	99-964	9/64"	1.00
99-22	5/64"	1.00	99-25	5/32"	1.00
99-23	3/32"	1.00	99-26	7/16"	1.00
99-764	7/64"	1.00			
99-71MM	1.27MM	$1.20	99-75MM	3MM	$1.20
99-72MM	1.5MM	1.20	99-76MM	4MM	1.20
99-73MM	2MM	1.20	99-77MM	5MM	1.20
99-74MM	2.5MM	1.20			

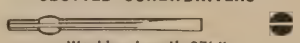
6-FLUTE MULTIPLE-SPLINE SCREWDRIVERS



Working length 4"

99-61	.048"	$1.00	99-66	.096"	$1.00
99-62	.060"	1.00	99-67	.111"	1.00
99-63	.069"*	1.00	99-68	.145"	1.00
99-64	.072"	1.00	99-69	.183"	1.00
99-65	.076"*	1.00	* 4-flute		

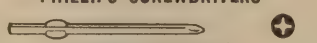
SLOTTED SCREWDRIVERS



Working length 3 7/8"

99-125	1/8"	$1.10	99-250	1/4"	$1.10
99-811	3/16"	1.10	99-312	5/16"	1.10

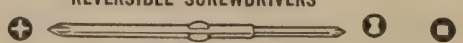
PHILLIPS SCREWDRIVERS



Working length 3 7/8"

99-820	#0	$1.10	99-822	#2	$1.10
99-821	#1	1.10			

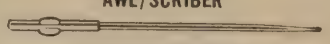
REVERSIBLE SCREWDRIVERS



Working length 3 1/4"

99-83	3/16" & 3/32" Frearson	$1.85	99-SL12	#1 & #2 Scrulox®	$1.95
99-84	3/16" G & 3/32" G Clutch Head	1.85			

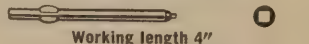
AWL/SCRIBER



Working length 4 1/2"

99-70	awl/scriber	$1.10

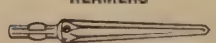
SCRULOX® SCREWDRIVERS



Working length 4"

99-SL0	#0	$1.10	99-SL2	#2	$1.10
99-SL1	#1	1.10	99-SL3	#3	1.10

REAMERS

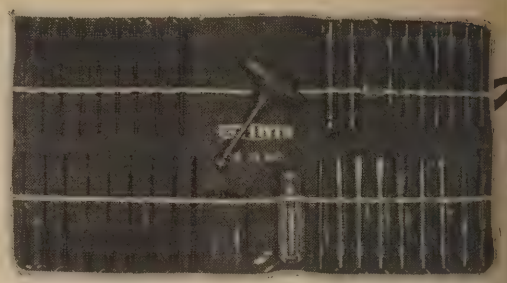


Working length 4 1/8"

99-38	1/8" to 3/8"	$2.75	99-39	1/4" to 1/2"	$3.50

NO. 99MP MULTI-PURPOSE TOOL KIT

List $48.75

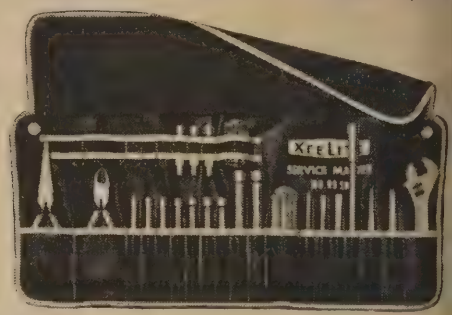


39-piece kit contains 99-1 (Regular) and 99-4 (Tee) handles, ten regular nutdrivers (99-5 thru 99-16), nine Allen Hex type screwdrivers (99-20, thru 99-26), nine Bristol Multiple Spline screwdrivers (99-61 thru 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), two reamers (99-38, 99-39), awl/scriber (99-70), extension blade (99-X5).

99MPK, Canvas case only.....**List $5.75**

NO. 99SM SERVICE MASTER TOOL KIT

List $48.38



23-piece kit contains 99-1 (Regular) and 99-3 (Stubby) handles, nine regular and three stubby nutdrivers (99-6 thru 99-16), two slotted screwdrivers (99-811, 99-250), one Phillips screwdriver (99-821), two reamers (99-38, 99-39), extension blade (99-X10), 6" long nose cushion grip plier (52CG), 5" diagonal cushion grip plier (55CG), 6" adjustable wrench (46C).

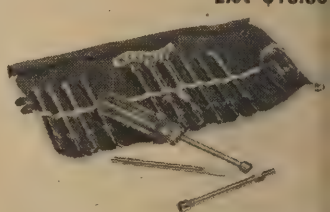
99SMK, Canvas case only.....**List $4.75**

ROLL KITS

No. 99PR ROLL KIT — **List $16.00**

Contains nine regular nutdrivers (99-6 thru 99-16), 99-811 and 99-250 (slotted) and 99-821 and 99-822 (Phillips) screwdriver blades, 99-1 handle (Regular).

99K, Kit only .....**List $1.88**

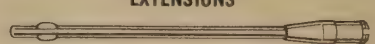


No. 99JR ROLL KIT — **List $14.25**

Contains seven regular nutdrivers (99-6 thru 99-12) four screwdriver blades 99-811 and 99-250 (Slotted), and 99-821 and 99-822 (Phillips), 99-2 handle (Junior).

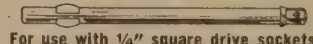
99KJR, Kit only .....**List $1.88**

EXTENSIONS



99-X5	4"	$1.60	99-X10	7"	$1.75

ADAPTERS



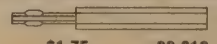
For use with 1/4" square drive sockets

99-X2	1"	$ .85	99-X4	3"	$1.10

CLUTCH HEAD SCREWDRIVER

99-G532	5/32"	$1.20

PALNUT DRIVER BLADES (EXTERNAL HEX)



99-716	7/16"	$1.75	99-816	1/2"	$1.75

© United Technical Publications

XCELITE® QUALITY PROFESSIONAL TOOLS

COMPACT SETS

Series "99" Sets

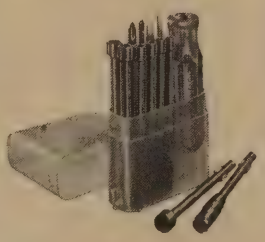
Each set contains a Series "99" regular handle and various Series "99" interchangeable blades and extension. See-thru plastic case is pocket size, has flat base that permits its use as a bench stand.



No. 99PS-40 ALLEN HEX TYPE SCREWDRIVER SET

Includes nine Allen Hex type screwdriver blades (99-20 thru 99-26), 99-X5 extension blade, 99-1 handle, and see-thru case.

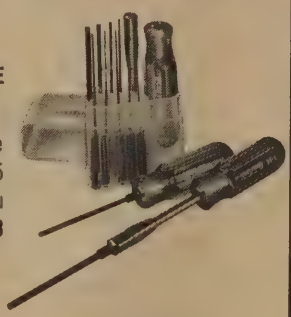
List $12.38



No. 99-PS50 NUTDRIVER/SCREWDRIVER SET

Includes seven regular nutdriver blades (99-6 thru 99-12), two slot tip screwdriver blades (99-811 and 99-250), two Phillips screwdriver blades (99-821 and 99-822), 99-X5 extension blade, 99-1 handle, and see-thru case.

List $15.25



No. 99PS-60 BRISTOL MULTIPLE-SPLINE TYPE SCREWDRIVER SET

Includes nine Bristol Multiple-Spline type screwdriver blades (99-61 thru 99-69), 99-X5 extension blade, 99-1 handle, and see-thru case.

List $12.38

PLASTIC VIEW KITS



No. 99SL **List $6.50**

Contains four Scrulox® screwdriver blades for square recess screws (99 SL 0, 1, 2, 3), 1 slotted blade (99-250), 99-1 handle (Regular).

No. 99PV4 **List $4.60**

Contains three slotted screwdriver blades (99-811, 99-250, 99-312), 99-1 handle (Regular).

No. 99PV6 **List $6.40**

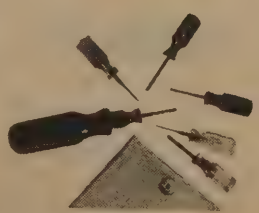
Contains three slotted screwdriver blades (99-811, 99-250, 99-312), two Phillips screwdriver blades (99-821, 99-822), 99-1 handle (Regular).

MINI SCREWDRIVER SETS



No. M-50 MINI SCREWDRIVER SET List $2.50

Contains 5 slotted screwdrivers (.040", .055", .070", .080", .100").



No. M-60 MINI SCREWDRIVER SET List $3.50

Contains 1 Phillips screwdriver (#00), 5 slotted screwdrivers (.040", .055", .070", .080", .100"), torque handle and case

COMPACT CONVERTIBLE NUTDRIVER AND SCREWDRIVER SETS

Black plastic torque amplifier handle (1" x 3⅛") slips over handles of pocket size (3½") nutdrivers and screwdrivers . . . provides larger grip, extends reach and increases driving power to that of standard size tools. See-thru plastic case fits pocket, stands upright on bench.

No. PS7 NUTDRIVER/SCREWDRIVER SET

Contains two nutdrivers (¼" and 5/16"), two slot tip screwdrivers (3/16" and 3/32"), two Phillips screwdrivers (#0 and #1), "Torque" handle and case. **List $7.13**

No. PS-130 SCREWDRIVER/ NUTDRIVER SET



Contains 2 Phillips screwdrivers (#1 and #2), 3 slotted screwdrivers (⅛", 3/16" and ¼"), 5 nutdrivers (3/16", ¼", 5/16", 11/32" & ⅜"), torque handle and case. (3/32", ⅛", 5/32"), torque handle and case.

List $9.75

No. PS-140 NUTDRIVER/SCREWDRIVER SET **List $9.50**

Contains 3 Phillips Screwdrivers (#0, #1, #2) 4 slotted screwdrivers 3/32", ⅛", 3/16" and ¼"), 3 nutdrivers (¼", 5/16", ⅜"), torque handle and case.

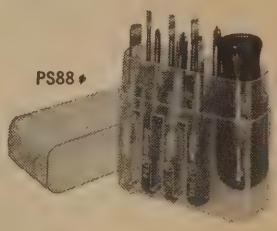
COMPACT CONVERTIBLE SCREWDRIVER SETS

No. PS-6 SCREWDRIVER COMPACT SET **List $5.75**

Contains 3 Phillips screwdrivers (#00, #0, #1) 3 slotted screwdrivers (3/32", ⅛", 5/32") torque handle and case.

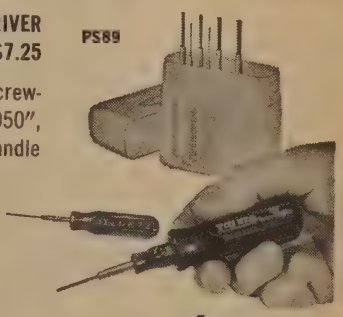
No. PS88 SCREWDRIVER SET List $7.45

Contains five slot tip screwdrivers (3/32", ⅛", 5/32", 3/16", ¼"), three Phillips screwdrivers (#0, #1, #2), torque handle and case.



No. PS89 ALLEN HEX TYPE SCREWDRIVER SET **List $7.25**

Contains eight Allen hex type screwdrivers (hex sizes .028", .035", .050", 1/16", 5/64", 3/32", 7/64", ⅛"), torque handle and case.



No. PS44 SCRULOX "SQUARE RECESS" SCREWDRIVER SET **List $7.25**

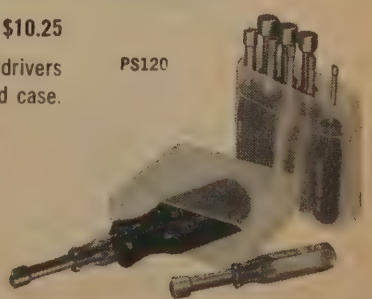
Includes 4 Scrulox screwdrivers, 1 slotted screwdriver (3/16"), one nutdriver (¼"), torque handle and case.



COMPACT CONVERTIBLE NUTDRIVER SET

No. PS120 NUTDRIVER SET List $10.25

Contains ten color coded nutdrivers (3/32" thru ⅜"), torque handle and case.



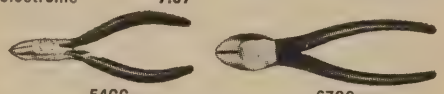
XCELITE® QUALITY PROFESSIONAL TOOLS

PLIERS

Xcelite pliers and cutters are of forged alloy steel construction, precision machined and scientifically proportioned. Clean-milled and perfectly aligned jaws grip tightly and surely. All models have permanent, plastic-coated "Cushion Grip" handles.

DIAGONAL PLIERS

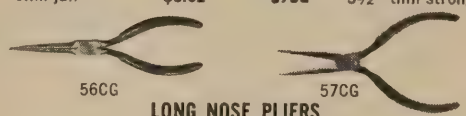
Number		List	Number		List
54CG	4″ midget	$5.54	66CG	6″ all-purpose	$6.12
55CG	5″ regular	5.66	67CG	7″ heavy duty	6.12
64CG	4″ electronic	7.07			



54CG 67CG

NEEDLE NOSE PLIERS

Number		List	Number		List
56CG	6″ slim jaw	$5.82	57CG	5½″ thin strong jaw	$6.48



56CG 57CG

LONG NOSE PLIERS

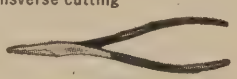
Number		List	Number		List
41CG	4″ midget	$5.07	52CG	6½″ without side cutter	$4.95
51CG	6½″ with side cutter	6.24			



41CG 51CG

SPECIAL PURPOSE PLIERS

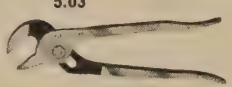
Number		List
58CG	6″ radio & tv	$7.50
59CG	8″ electrician's chain nose	6.12
62CG	6″ transverse cutting	6.83



59CG

UTILITY PLIERS

Number		List	Number		List
50CG	5″ ignition plier	$3.77	63CG	10″ utility plier	$6.86
53CG	7″ utility plier	5.03			



63CG

SIDE CUTTING PLIERS

Number		List	Number		List
60CG	6″ electrician's	$6.12	68CG	8″ lineman's	$7.31

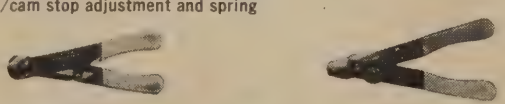


68CG

WIRE STRIPPERS & CUTTERS

Precision made, neatly strips and cuts all commonly used solid and stranded insulated wire, featuring hardened and ground blades which cut with a smooth shearing action. Cushion Grip handles.

Number		List
100	w/adjustable screw stop	$1.88
101-S	w/adjustable screw stop and spring	2.55
103-S	w/cam stop adjustment and spring	3.08

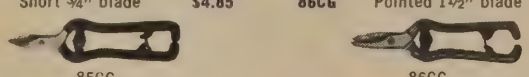


100 103-S

SNIPS

Designed to cut fine wire, filament and light sheet metal. Coil springs and Cushion Grip handles.

Number		List	Number		List
85CG	Short ¾″ blade	$4.85	86CG	Pointed 1½″ blade	$4.85

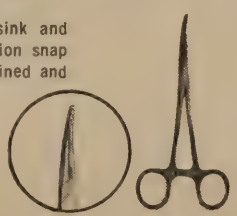


85CG 86CG

SEIZERS®

Clamps wire for soldering, acts as a heat sink and retrieves small parts. Seizers® have two-position snap lock and box-joint construction. Precision machined and polished from tempered stainless steel.

Number		List
42H	6″ straight nose - serrated	$6.20
43H	6″ curved nose - serrated	6.40
32H	5″ straight nose - smooth	6.20
33H	5″ curved nose - smooth	6.40



MINIATURE ELECTRONIC PLIERS

Small lightweight and designed primarily for holding, bending and cutting fin wires in electronics, radio, TV, electrical and jewelry work. Cushion Gri handles and coil springs.

DIAGONAL CLOSE CUTTING PLIERS

Number		Lis
74CG	4″ near-flush cutting w/tapered nose	$7.50
84CG	4″ full-flush cutting w/pointed nose	7.3
95CG	5″ full-flush cutting w/pointed nose	7.3



74CG 84CG 95CG

FLAT NOSE PLIERS

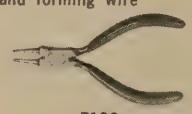
Number		Lis
70CG	5″ for fine work	$5.82



70CG

ROUND NOSE PLIERS

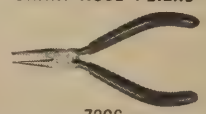
Number		List
71CG	4½″ for looping and forming wire	$6.66



71CG

CHAIN NOSE PLIERS

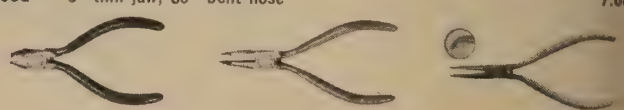
Number		List
72CG	5″ w/thin nose	$6.24



72CG

SPECIAL ELECTRONIC PLIERS

Number		List
69CG	5″ radio & tv	$8.96
73CG	4½″ oblique tip cutting	8.54
79CG	5″ thin jaw, 60° bent nose	7.08



69CG 73CG 79CG

COMBINATION SLIP JOINT PLIERS

Number		List	Number		List
75C	5″ Chrome plated	$2.76	76S	6″ Satin Finish	$1.79
76C	6″ Chrome plated	2.93	78C	8″ Chrome plated heavy duty	3.74

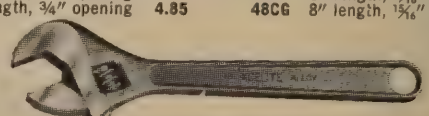


76S

ADJUSTABLE WRENCHES

Chrome Plated (C) or Cushion Grip (CG), one hand adjustment

Number		List	Number		List
44C	4″ length, ½″ opening	$4.76	46CG	6″ length, ¾″ opening	5.22
44CG	4″ length, ½″ opening	5.16	48C	8″ length, 15/16″ opening	5.51
46C	6″ length, ¾″ opening	4.85	48CG	8″ length, 15/16″ opening	5.90



ELECTRICIAN'S KNIFE

Combination knife & Screwdriver blade

Number	List
K22	$4.43



K22

TOOL HOLSTER



150

Number		List
150	Leather tool holster w/tape holder, knife clip and 5 tool pockets	$7.52

© United Technical Publications

XCELITE® QUALITY PROFESSIONAL TOOLS

BERYLLIUM-COPPER HAND TOOLS & SETS

Non-magnetic, non-sparking, rust and corrosion resistant. Used for electrical/electronic assembly and servicing and as safety equipment for use in industrial areas where volatile explosive materials, cases, liquids and dust are present. Blue handles.

SCREWDRIVERS FOR SLOTTED SCREWS

Number	Blade	Overall	List
BR-144	1/4" x 4"	8 1/8"	$2.75
BR-146	1/4" x 6"	10 1/8"	3.30
BR-148	1/4" x 8"	12 1/8"	3.60
BR-184	1/8" x 4"	6 5/8"	1.50
BR-186	1/8" x 6"	8 5/8"	1.55
BR-1810	1/8" x 10"	12 5/8"	1.80
BR-3164	3/16" x 4"	7 5/8"	2.25
BR-3168	3/16" x 8"	11 5/8"	3.00
BR-5166	5/16" x 6"	10 1/2"	5.63

POCKET CLIP STYLE

BR-181	1/8" x 2"	4 1/4"	$0.80

PHILLIPS SCREWDRIVERS

Number	Point	Blade	Overall	List
BRX-100	0	1/8" x 2"	4 5/8"	$1.13
BRX-101	1	3/16" x 3"	6 5/8"	2.80
BRX-102	2	1/4" x 4"	8 1/8"	3.00
BRX-103	3	5/16" x 6"	10 1/2"	6.12
BRX-104	4	3/8" x 8"	12 1/2"	8.25

ALLEN HEX SCREWDRIVERS

Blades 4" — Overall 6 5/8"

Number	Hex	List
BRLN-20	.050"	$1.75
BRLN-21	1/16"	1.75
BRLN-22	5/64"	1.75
	Overall 7 1/8"	
BRLN-23	3/32"	1.75
BRLN-24	1/8"	2.00
BRLN-25	5/32"	2.25
BRLN-764	7/64"	2.00
BRLN-964	9/64"	2.25
	Overall 8 1/8"	
BRLN-26	3/16"	2.50

No. BRLN-990 — **List $19.50**

Complete set of above in roll-up, plastic-coated canvas case.

No. 99PS-42BR BERYLLIUM-COPPER ALLEN HEX TYPE SCREWDRIVER SET — **List $18.13**

Includes nine beryllium-copper Allen Hex type screwdriver blades, sizes .050" thru 3/16", handle with brass spring chuck, and see-thru case.



HOLLOW SHAFT NUTDRIVERS

Number	Hex	List
	Overall 6 1/4"	
BRHS-6	3/16"	$4.00
	Overall 7 1/4"	
BRHS-8	1/4"	4.00
BRHS-10	5/16"	4.25
BRHS-11	11/32"	4.38
BRHS-12	3/8"	4.75
BRHS-14	7/16"	5.63
BRHS-16	1/2"	6.25

No. BRHS-6-16 — **List $34.75**

Set of above in clear front plastic case.

METRIC HAND TOOLS & SETS

Manufactured precisely to metric dimensions, useful in the assembly and service of foreign-designed equipment. Finished in nickel-chrome, Allen hex finished in black oxide. All dimensions given in millimeters.

NUTDRIVERS — MIDGET POCKET CLIP STYLE

Number	Hex	List
	Overall 88.90MM	
3MM	3MM	$1.60
3.5MM	3.5MM	1.60
	REGULAR	
	Overall 155.58MM	
4MM	4MM	1.60
4.5MM	4.5MM	1.60
5MM	5MM	1.60
5.5MM	5.5MM	1.60
6MM	6MM	1.60
7MM	7MM	1.60
8MM	8MM	1.60
9MM	9MM	1.60
	Overall 168.28MM	
10MM	10MM	1.95
11MM	11MM	1.95
	HOLLOW SHAFT	
	Overall 184.15MM	
12MM	12MM	2.25
13MM	13MM	2.25
14MM	14MM	2.25
15MM	15MM	2.50
16MM	16MM	2.50
17MM	17MM	2.50

No. 3-17MM — **List $34.25**

18-piece complete Metric Nutdriver Set containing all of above, packaged in cardboard carton.

No. 4-13MM — **List $17.45**

10-piece set of popular size Metric Nutdrivers: 4MM thru 8MM, 10MM, 11MM, 13MM, packaged in cardboard carton.



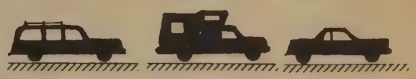
No. 99PS-41MM METRIC ALLEN HEX TYPE SCREWDRIVER SET — **List $12.38**

Includes seven metric Allen Hex type blades (99-71 thru 99-77 in mm sizes 1.27, 1.5, 2, 2.5, 3, 4, 5), 99-X5 extension blade, 99-1 handle and see-thru case.

No. 99PS-51MM METRIC NUTDRIVER SET — **List $14.90**

Includes ten metric nutdriver blades (99-4 thru 99-11 in mm sizes 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11) 99-X5 extension blade, 99-1 handle, and see-thru case.

R/V SERVICE TOOLS



No. PS-TR-1 — **List $9.80**

Compact convertible set contains 2 drivers for Scrulox® square recess head screws, 5/32" clutch head screwdriver, 1/4" hex head driver, No. 1 and No. 2 Phillips drivers and two popular sizes of slotted drivers, and torque handle.



No. 99-TR-5 — **List $6.50**

Maintenance kit contains patented handle and three interchangeable tools, 1/4" hex socket driver, double end No. 1 and No. 2 Scrulox blade and double end 5/32" and 3/16" clutch head screwdriver blade in plastic kit.

No. 99-TR-6 — **$14.25**

Contains unique new reversible ratcheting handle complete with basic maintenance tools, 1/4" hex socket driver, No. 2 Scrulox® blade, 5/32" clutch blade plus No. 2 Phillips and 1/4" slotted blade, all in plastic case.

No. 99-TR-7 — **List $9.75**

Complete maintenance kit includes handle and 6 interchangeable tools, 1/4 hex socket driver, double end Scrulox and clutch driver blades, Phillips blade, slotted blade and handy awl/scriber in plastic case.

No. TR-4—MAINTENANCE TOOL KIT — **List $6.85**

Contains 1/4" hex socket driver, 5/32" clutch head screwdriver, No. 1 and No. 2 Scrulox drivers in clear front plastic kit.

AUTOMOTIVE SERVICE TOOLS



No. 110 DISTRIBUTOR TOOL — **List $1.75**

A 2-in-1 tool for adjustment and replacement of Delco Remy distributor points.

No. 112 CARBURETOR AND BISTRIBUTOR TOOL — **List $5.15**

Flexible shaft 2-way tool with hooded screwdriver bit for carburetor idle adjustment and Allen hex type bit for adjusting distributors.

No. TC-100 ATTACHE STYLE TOOL CASE
Without Tools — List $74.82

Sturdy, spacious tool case available with selection of tools or empty for field service work. Unique design provides space for 60 individual screwdrivers, nutdrivers, pliers and wrenches plus pockets for service manuals and ample room in the case bottom for additional tools, parts and test equipment. Case only.



© United Technical Publications

Stancor transformers

LARGER QUANTITY REQUIREMENTS

Need transformers in a hurry for that rush job — (what other kind is there)? The probability is that STANCOR has the type you need — in stock and available for Immediate Delivery through Your Distributor. Here is the best, fastest and most economical way to solve your problem:

- Make your selections from this catalog. Chances are you will find just the ratings you need.
- Order samples from your STANCOR distributor. He has them in stock or, if momentarily out, can get them for you quickly from one of our six conveniently located warehouses.
- Try the samples in your prototype.
- If satisfactory in all respects, your STANCOR distributor can get production quantities, bulk-packed, from STANCOR's inventory At OEM Prices.
- Quantities of 100 to 499 will be quoted and invoiced by your STANCOR distributor but with drop-shipment to you from STANCOR. One shipment (no scheduling).
- Prices are f.o.b. Chicago **under $500** and f.o.b. Destination **over $500.**
- Requirements of 500 pieces or more per item will be quoted by your STANCOR distributor but shipped and invoiced by STANCOR. Therefore your purchase order should be issued in the STANCOR name, care of your STANCOR distributor who will relay it to us. This seemingly devious routing has been carefully planned to result in the fastest delivery and lowest cost to you.
- Quantities of 500-999 — one shipment.
- Quantities of 1000 and over per type may be released in up to four increments of 25% each over a maximum of one year. Each release **prepaid if over $500,** otherwise **f.o.b. Chicago.**
- Orders for standard catalog items with modifications (as shown below) will be accepted in minimum quantities of 500 pieces for shipment at one time to one destination. The modifications are:

A. Variation of lead length of standard lead wire.

B. Omission of end bells and/or magnetic shielding — or addition of same if practical.

C. Variation of standard bracket locations; that is, horizontal versus vertical mounting.

D. Nonhermetic-sealed enclosure within standard catalog parts structure. (Omission of/or added to open transformers, where practical.)

E. Where customer part numbers and/or special marking are required or special gray painting is involved.

F. Center tap secondary converted to four isolated leads or terminals.

G. Omission of one or more taps in multi-tap winding. Additional taps cannot be added.

- TERMS ARE NET 30 DAYS.

If you don't find exactly what you need in the STANCOR catalog, send your specifications to STANCOR, Chicago for quotation — or contact your local STANCOR representative for assistance. See the listing inside back cover.

NEED TV REPLACEMENT TRANSFORMERS
(Yokes — Flybacks — Vertical Outputs — etc.)?

STANCOR is the largest independent supplier of TV replacement transformers in America. More TV service technicians rely on STANCOR replacement components than any other brand. See your local STANCOR distributor or write to STANCOR-Chicago (complete address elsewhere in this catalog) for a complimentary copy of the latest TV replacement guide and catalog.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PRODUCT INDEX

AUDIO TRANSFORMERS

Classification	Page No.	Classification	Page No.
DRIVER	20	MODULATION	20
INPUT	17, 18, 19	OUTPUT (SINGLE PLATE)	11
INTERCOM	17	OUTPUT (PUSH-PULL PLATES)	12
INTERSTAGE	19	OUTPUT (UNIVERSAL)	13
LINE TO LINE	18	OUTPUT (HIGH FIDELITY)	14, 19
LINE TO VOICE COIL	14	PHONE PATCH	17
25 VOLT LINE TO VOICE COIL	15	TRANSCEIVER	17
70.7 VOLT LINE TO VOICE COIL	15	TRANSISTOR AUDIOS	21-28, INC.
140 VOLT LINE TO VOICE COIL	15	TRANSISTOR (P.C. BOARD TYPES)	23-28 INC.

CHOKES AND INDUCTORS

Classification	Page No.	Classification	Page No.
AUDIO INDUCTORS (PCT & UME)	21	SMOOTHING CHOKES	40, 41
AUDIO INDUCTORS (TOROIDAL)	29	SWINGING CHOKES	42
HIGH CURRENT CHOKES	43	TOROIDAL	29

POWER TRANSFORMERS

Classification	Page No.	Classification	Page No.
AUTO-TRANSFORMER	51, 52	PHOTOFLASH	36
BIAS	36	PLATE	53, 54
CATHODE RAY TUBE	36	PLATE & FILAMENT	30-35 INC.
CONTROL	50, 51	RECTIFIER & TRANSISTOR	47, 48
CONTROL/RECTIFIER (MINIATURE)	49	RECTIFIER & TRANSISTOR (MINIA.)	49
FILAMENT	37, 38, 39	REGULATED POWER SUPPLY	36
ISOLATION	52	UNIVERSAL RECTIFIER (RT SERIES)	44, 45

PART NUMBER INDEX

STANCOR Part No.	Page	Section
1BC-150	36	2
1BS-150	36	2
2BC-150	36	2
2BS-150	36	2
A-1	25	1
A-2	25	1
A-3	25	1
A-4	25	1
A-5	25	1
A-6	25	1
A-52C	19	4
A-53	19	3
A-53C	19	4
A-62C	19	4
A-63C	19	4
A-64C	19	4
A-73C	19	4
A-2203	11	1
A-2312	12	4
A-2313	11	3
A-2855	13	3
A-3250	12	4
A-3303	12	4
A-3304	12	2
A-3307	12	2
A-3309	11	2
A-3310	11	2
A-3311	12	3
A-3315	12	4
A-3326	13	1
A-3327	11	4
A-3328	11	1
A-3329	11	3
A-3330	11	1
A-3332	11	1
A-3335	12	3
A-3336	11	1
A-3337	11	2
A-3496	12	4
A-3800	12	1
A-3801	12	2
A-3802	12	1
A-3808	20	4
A-3812	20	4
A-3817	17	1
A-3818	14	4
A-3822	13	1
A-3823	13	1
A-3824	13	2
A-3825	13	2
A-3829	20	4
A-3830	13	3
A-3831	12	3
A-3833	17	1
A-3836	17	1
A-3837	14	4
A-3838	18	2
A-3839	12	3
A-3841	11	3
A-3842	12	4
A-3845	20	4
A-3848	13	1
A-3849	13	2
A-3850	13	2
A-3851	12	1
A-3852	13	3
A-3856	13	1
A-3857	12	4
A-3870	13	3
A-3871	20	4
A-3872	12	1
A-3876	11	1
A-3877	11	2
A-3878	11	3
A-3879	11	4
A-3880	13	2
A-3881	11	4
A-3882	14	4
A-3883	14	4
A-3885	12	2
A-3890	13	3
A-3891	20	5
A-3892	20	5
A-3893	20	5
A-3894	20	5
A-3898	20	5
A-3899	20	5
A-4208	19, 20	5, 2
A-4212	20	2
A-4292	20	1
A-4350	18	2
A-4351	17	2
A-4352	17	3
A-4407	18	2
A-4431	11	2
A-4432	12	2
A-4702	20	1
A-4705	17	2
A-4706	17	2
A-4708	17	2
A-4709	17	3
A-4711	19	5
A-4713	20	1
A-4719	19	4
A-4723	20	1
A-4742	17	2
A-4744	17	1
A-4745	19	4
A-4747	17	2
A-4748	17	1
A-4749	17	1
A-4752	20	1
A-4761	20	3
A-4762	20	3
A-4765	20	3
A-4770	11	3
A-4773	19	6
A-4774	19	6
A-4778	17	3
A-4779	17	3
A-4780	17	3
A-4781	15	4
A-4782	15	4
A-4783	15	4
A-4784	15	4
A-4785	15	4
A-4786	15	5
A-4787	15	4
A-4788	15	5
A-4789	15	5
A-4790	15	1
A-4791	15	1
A-4792	15	2
A-4793	15	1
A-4794	15	2
A-4795	15	2
A-4796	15	2
A-4797	15	2
A-4798	15	2
A-4799	15	5
A-7947	14	4
A-7949	14	4
A-8050	14	1
A-8052	14	1
A-8053	14	2
A-8054	14	2
A-8056	14	2
A-8060	14	1
A-8061	14	1
A-8062	14	1
A-8063	14	2
A-8064	14	2
A-8066	14	2
A-8070	11	1
A-8072	14	2
A-8076	15	5
A-8077	15	5
A-8078	15	5
A-8079	15	5
A-8080	15	3
A-8081	15	3
A-8082	15	3
A-8083	15	4
A-8084	15	4
A-8087	15	1
A-8088	15	2
A-8090	17	1
A-8091	17	1
A-8092	11	2
A-8093	12	3
A-8094	12	1
A-8095	15	1
A-8096	15	1
A-8097	15	1
A-8098	12	1
A-8099	15	1
A-8101	14	4
A-8102	15	3
A-8103	15	3
A-8104	14	4
A-8105	15	3
A-8106	15	6
A-8107	15	6
A-8108	15	6
A-8109	15	3
AS-1	25	1
AS-2	25	1
AS-3	25	1
AS-4	25	1
AS-5	25	1
AS-6	25	1
ASM-1	25	1
ASM-2	25	1
ASM-3	25	1
ASM-4	25	1
ASM-5	25	1
ASM-6	25	1
BI-1	18	3
BI-2	18	3
BI-3	18	3
BI-4	18	4
BI-5	18	4
BI-6	18	4
BI-7	18	4
BO-1	14	3
BO-2	14	3
BO-5	14	3
BO-6	14	3
BO-9	14	3
C-1	25	2
C-2	25	2
C-3	25	2
C-4	25	2
C-1001	41	2
C-1002	40	3
C-1003	40	3
C-1080	40	1
C-1215	40	2
C-1227	40	2
C-1277	40	2
C-1279	40	2
C-1325	40	2
C-1333	40	2
C-1355	40	3
C-1400	42	1
C-1401	42	1
C-1402	42	2
C-1403	42	2
C-1404	42	2
C-1405	42	2
C-1410	41	3
C-1411	41	3
C-1412	41	4
C-1413	41	5
C-1414	41	6
C-1415	41	6
C-1420	41	1
C-1421	41	2
C-1515	40	1
C-1645	42	1
C-1646	41	3
C-1702	41	1
C-1703	41	4
C-1706	40	2
C-1707	40	2
C-1708	40	3
C-1709	41	1
C-1710	41	2

© United Technical Publications

ESSEX Stancor transformers

PART NUMBER INDEX

STANCOR Part No.	Page	Section
C-1718	42	1
C-1720	42	2
C-1721	41	4
C-1722	41	5
C-1723	40	2
C-2303	41	2
C-2304	41	2
C-2305	41	1
C-2307	42	2
C-2308	41	5
C-2309	41	2
C-2317	41	2
C-2318	40	1
C-2325	41	3
C-2326	41	5
C-2327	41	3
C-2328	41	6
C-2334	41	5
C-2335	41	2
C-2340	41	2
C-2343	41	4
C-2344	40	1
C-2345	40	1
C-2346	40	1
C-2347	41	6
C-2685	43	1
C-2686	43	1
C-2687	43	1
C-2688	43	1
C-2689	43	1
C-2690	43	1
C-2691	43	1
C-2692	43	1
C-2704	41	2
C-2705	41	4
C-2706	41	6
C-2707	40	1
C-2708	41	6
C-2709	41	6
C-2717	41	4
C-2721	43	2
C-2722	43	2
C-2723	43	2
C-2724	43	2
C-2725	43	2
C-2726	43	2
C-2727	43	2
C-2728	43	2
CIC-1	18	1
CIS-1	18	1
CIS-2	18	1
COC-1	18	1
COS-1	18	1
COS-2	18	1
CS-1	25	2
CS-2	25	2
CS-3	25	2
CS-4	25	2
CSM-1	25	2
CSM-2	25	2
CSM-3	25	2
CSM-4	25	2
F-25	37	1
F-54	37	2
F-58	37	2
F-63	38	1
F-65	38	2
F-104	38	3
F-210	37	2
F-210H	37	2
F-215H	37	2
F-510H	37	3
F-516	37	3
F-520HB	37	3
F-530	37	3
F-610	38	2
F-615	38	1
F-712	38	3
F-725	38	3
F-751	38	3
F-1010	39	1
GSD-75	52	5
GSD-100	52	5
GSD-150	52	5
GSD-250	52	5
GSD-350	52	5
GSD-500	52	5
GSD-750	52	5
GSD-1000	52	5
GSD-1500	52	5
IS-50	52	1
IS-100	52	1
IS-150	52	1
IS-250	52	1
NCF-1550	50	1
NCF-1650	50	1
NCF-2425	50	1
NCF-2450	50	1
NCF-2475	50	1
NCF-3250	50	1
NCF-3275	50	1
NCF-24100	50	1
NCF-24150	50	1
NCF-32150	50	1
P-45	53	1
P-67	53	1
P-1240	53	2
P-1512	53	2
P-1834-3	39	6
P-2126	53	3
P-2520	53	3
P-3020	39	1
P-3024	37	1
P-3026	37	2
P-3060	37	1
P-3062	37	2
P-3064	38	2
P-4004	34	2
P-4019	38	2
P-4022	39	3
P-4026	37	1
P-4062	37	1
P-4063	37	1
P-4082	37	1
P-4083	37	1
P-4086	37	3
P-4088	37	2
P-4089	38	2
P-4091	38	3
P-4096	38	3
P-4097	39	1
P-5000	37	2
P-5002	39	1
P-5008	39	3
P-5009	39	3
P-5014	38	2
P-5015	38	2
P-5016	38	3
P-5059	33	2
P-5062	51	2
P-5063	51	2
P-5064	51	2
P-5065	51	2
P-6007	34	2
P-6010	32	3
P-6011	33	3
P-6012	33	3
P-6013	33	4
P-6014	33	6
P-6123	52	2
P-6124	51	2
P-6125	52	2
P-6133	37	1
P-6134	38	1
P-6135	37	2
P-6137	38	1
P-6138	38	3
P-6139	39	1
P-6141	51	2
P-6143	34	4
P-6144	39	4
P-6146	30	2
P-6160	52	2
P-6161	52	2
P-6287	51	2
P-6298	52	2
P-6302	37	3
P-6305	37	3
P-6308	38	2
P-6309	38	2
P-6315	33	6
P-6317	36	2
P-6318	36	2
P-6333	39	4
P-6338	39	3
P-6348	31	2
P-6358	32	2
P-6371	52	2
P-6375	51	1
P-6376	51	1
P-6377	51	1
P-6378	51	1
P-6379	51	1
P-6383	52	3
P-6385	52	3
P-6387	52	3
P-6389	52	3
P-6390	52	3
P-6410	52	2
P-6411	52	2
P-6412	52	2
P-6413	52	2
P-6415	52	4
P-6425	36	5
P-6426	36	5
P-6428	39	4
P-6429	39	5
P-6430	39	4
P-6431	39	5
P-6432	37	3
P-6433	37	3
P-6434	39	5
P-6454	37	1
P-6455	37	2
P-6456	38	2
P-6457	38	3
P-6458	38	3
P-6459	36	4
P-6461	39	1
P-6462	38	2
P-6463	39	4
P-6464	38	2
P-6465	38	1
P-6466	38	2
P-6467	37	2
P-6468	37	3
P-6469	39	1
P-6492	37	3
P-8025	53	2
P-8026	53	2
P-8027	53	2
P-8028	53	2
P-8029	53	2
P-8030	53	3
P-8031	53	2
P-8032	53	3
P-8033	53	3
P-8034	53	3
P-8035	53	3
P-8040	53	1
P-8041	53	1
P-8042	53	1
P-8043	53	1
P-8044	53	2
P-8130	39	1
P-8150	36	3
P-8151	36	3
P-8155	31	1
P-8158	30	1
P-8164	32	2
P-8166	33	2
P-8167	31	6
P-8169	34	1
P-8170	34	1
P-8171	34	1
P-8172	31	5
P-8173	31	3
P-8174	31	3
P-8175	32	2
P-8176	33	4
P-8177	32	2
P-8178	36	3
P-8179	36	3
P-8180	39	2
P-8181	30	2
P-8190	38	1
P-8191	38	1
P-8193	48	1
P-8194	48	1
P-8196	48	1
P-8197	48	1
P-8198	48	1
P-8331	32	3
P-8332	31	6
P-8333	32	2
P-8334	31	6
P-8335	32	2
P-8336	30	1
P-8337	32	3
P-8338	32	3
P-8339	33	1
P-8340	33	4
P-8341	33	5
P-8342	33	5
P-8343	33	5
P-8344	33	5
P-8345	33	4
P-8346	34	3
P-8347	34	2
P-8348	33	6
P-8349	33	5
P-8350	33	4
P-8351	33	5
P-8352	32	1
P-8353	31	4
P-8354	31	4
P-8355	32	1
P-8356	31	5
P-8357	39	2
P-8358	39	1
P-8359	30	3
P-8360	34	4
P-8361	49	7
P-8362	49	7
P-8363	49	7
P-8364	49	7
P-8365	32	1
P-8366	33	6
P-8367	32	1
P-8369	33	1
P-8370	32	3
P-8371	32	3
P-8372	30	3
P-8373	32	1
P-8374	31	1
P-8375	31	1
P-8376	31	5
P-8377	31	6
P-8378	32	1
P-8379	30	1
P-8380	38	3
P-8381	32	2
P-8382	31	1
P-8383	30	3
P-8384	39	1
P-8385	35	1
P-8386	30	1
P-8388	39	2
P-8389	38	1
P-8390	49	1

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PART NUMBER INDEX

STANCOR Part No.	Page	Section
P-8391	49	1
P-8392	49	1
P-8393	49	1
P-8394	49	2
P-8395	49	2
P-8396	49	2
P-8397	49	2
P-8600	49	4
P-8601	49	4
P-8602	49	4
P-8603	49	4
P-8604	48	1
P-8605	39	2
P-8606	39	2
P-8607	39	2
P-8608	39	2
P-8609	39	2
P-8610	49	5
P-8611	49	5
P-8612	49	5
P-8613	49	5
P-8614	48	1
P-8615	51	1
P-8616	51	1
P-8617	51	1
P-8618	51	1
P-8619	51	1
P-8624	30	2
P-8625	30	2
P-8626	30	2
P-8627	30	3
P-8628	37	1
P-8629	37	1
P-8630	51	2
P-8631	51	2
P-8705	38	1
P-8715	39	1
P-8720	49	3
P-8721	49	3
P-8722	49	3
P-8723	49	3
P-8728	49	6
P-9000C	30	3
PA-8421	30	2
PC-8301	54	2
PC-8302	54	2
PC-8303	54	2
PC-8304	54	2
PC-8305	54	2
PC-8306	54	2
PC-8401	31	1
PC-8402	31	2
PC-8403	31	3
PC-8404	31	4
PC-8405	31	5
PC-8406	33	1
PC-8407	33	1
PC-8408	33	2
PC-8409	33	3
PC-8410	33	4
PC-8411	33	6
PC-8412	34	3
PC-8413	34	3
PC-8414	34	4

STANCOR Part No.	Page	Section
PC-8417	30	3
PC-8418	31	1
PC-8419	31	2
PC-8420	31	4
PC-8422	33	1
PC-8431	31	2
PC-8432	31	3
PC-8433	31	3
PC-8434	31	4
PC-8436	33	2
PC-8437	33	1
PC-8438	33	3
PC-8439	33	3
PC-8441	33	6
PC-8442	34	2
PCC-40	31	1
PCC-55	31	5
PCC-60	32	2
PCC-70	33	2
PCC-85	33	2
PCC-105	33	3
PCC-120	33	6
PCC-150	33	6
PCC-200	34	1
PCC-250	34	3
PCC-24250	50	3
PCF-2025	50	2
PCF-2050	50	2
PCF-24075	50	2
PCF-24250	50	2
PCO-150	12	3
PCO-150A	12	3
PCO-200	12	2
PCR-55	35	1
PCR-70	35	1
PCR-85	35	1
PCR-105	35	2
PCR-120	35	2
PCR-150	35	2
PCR-200	35	3
PCR-300	35	3
PCT-14	21	1
PCT-15	21	1
PCT-16	21	1
PCT-17	21	1
PCT-21	21	1
PCT-23	21	1
PCT-25	21	1
PCT-30	21	2
PCT-31	21	2
PCT-39	21	2
PCT-43	21	2
PCT-54	21	2
PCT-60	21	2
PCT-61	21	2
PCT-62	21	2
PCT-70	21	3
PCT-71	21	3
PCT-76	21	3
PCT-77	21	3
PCT-116	21	3
PCT-117	21	3
PCT-118	21	3
PCT-128	21	3

STANCOR Part No.	Page	Section
PM-8401	31	1
PM-8402	31	2
PM-8403	31	3
PM-8404	31	4
PM-8405	31	5
PM-8406	33	1
PM-8407	33	1
PM-8408	33	2
PM-8409	33	3
PM-8410	33	4
PM-8411	33	6
PM-8412	34	3
PM-8418	31	1
PM-8419	31	2
PM-8420	31	4
PM-8422	33	1
PM-8423	32	2
PMT-1	25	3
PMT-2	25	3
PMT-3	25	3
PMT-4	25	3
PMT-5	25	3
PMT-6	25	3
PMT-7	25	3
PMT-8	25	3
PMT-9	25	3
PMT-10	26	1
PMT-11	26	1
PMT-12	26	1
PMT-13	26	1
PMT-14	26	1
PMT-15	26	1
PMT-16	26	1
PMT-17	26	1
PMT-18	26	1
PMT-19	26	1
PMT-20	26	1
PMT-21	26	1
PMT-22	26	1
PMT-23	26	1
PMT-24	26	1
PMT-25	26	1
PMT-26	26	1
PMT-27	26	1
PMT-28	26	1
PMT-29	26	1
PMT-30	26	1
PMT-31	26	1
PMT-32	26	1
PMT-33	26	1
PMT-34	26	1
PMT-35	26	1
PMT-36	26	1
PMT-37	26	1
PMT-38	26	1
PMT-39	26	1
PMT-40	26	1
PMT-41	26	1
PMT-50	26	2
PMT-51	26	2
PMT-52	26	2
PMT-53	26	2
PMT-54	26	2
PMT-55	27	1

STANCOR Part No.	Page	Section
PMT-56	27	1
PMT-57	27	1
PMT-58	27	1
PMT-59	27	1
PMT-60	27	1
PMT-61	27	1
PMT-62	27	1
PMT-63	27	1
PMT-64	27	1
PMT-65	27	1
PMT-66	27	1
PMT-67	27	1
PMT-68	27	1
PMT-69	27	1
PMT-70	27	1
PMT-71	27	1
PMT-72	27	1
PMT-73	27	1
PMT-74	27	1
PMT-75	27	1
PMT-76	27	2
PMT-77	27	2
PMT-78	27	2
PMT-79	27	2
PMT-80	27	2
PMT-81	27	2
PMT-82	27	2
PMT-83	27	2
PMT-84	27	2
PMT-85	27	2
PMT-86	27	2
PMT-87	27	2
PMT-88	27	2
PMT-89	27	2
PMT-90	27	2
PMT-91	27	2
PMT-92	27	2
PMT-94	28	1
PMT-95	28	1
PMT-96	28	1
PMT-97	28	1
PMT-98	28	1
PMT-99	28	1
PMT-100	28	1
PMT-101	28	1
PMT-102	28	1
PMT-103	28	1
PMT-104	28	1
PMT-105	28	1
PMT-106	28	1
PMT-107	28	1
PMT-108	28	1
PMT-109	28	1
PMT-110	28	1
PMT-111	28	1
PMT-112	28	1
PMT-113	28	1
PMT-114	28	1
PMT-115	28	1
PMT-116	28	1
PMT-117	28	1
PMT-118	28	2
PMT-119	28	2
PMT-120	28	2

STANCOR Part No.	Page	Section
PMT-121	28	2
PMT-122	28	2
PMT-123	28	2
PMT-124	28	2
PMT-125	28	2
PMT-126	28	2
PMT-127	28	2
PMT-128	28	3
PMT-129	28	3
PMT-130	28	3
PMT-131	28	3
PMT-132	28	3
PMT-133	28	3
PMT-134	28	3
PMT-135	28	3
PMT-136	28	3
PMT-137	28	3
PMT-138	28	3
PMT-139	28	3
PMT-140	28	3
PMT-141	28	3
PMT-142	28	3
PMT-143	28	3
PMT-144	28	3
PMT-145	28	3
PMT-146	28	3
PMTF-50	26	2
PMTF-51	26	2
PMTF-52	26	2
PMTF-53	26	2
PMTF-54	26	2
PMTF-55	27	1
PMTF-56	27	1
PMTF-57	27	1
PMTF-58	27	1
PMTF-59	27	1
PMTF-60	27	1
PMTF-61	27	1
PMTF-62	27	1
PMTF-63	27	1
PMTF-64	27	1
PMTF-65	27	1
PMTF-66	27	1
PMTF-67	27	1
PMTF-68	27	1
PMTF-69	27	1
PMTF-70	27	1
PMTF-71	27	1
PMTF-72	27	1
PMTF-73	27	1
PMTF-74	27	1
PMTF-75	27	1
PMTF-76	27	2
PMTF-77	27	2
PMTF-78	27	2
PMTF-79	27	2
PMTF-80	27	2
PMTF-81	27	2
PMTF-82	27	2
PMTF-83	27	2
PMTF-84	27	2
PMTF-85	27	2
PMTF-86	27	2
PMTF-87	27	2

ESSEX Stancor transformers | STANCOR

PART NUMBER INDEX

STANCOR Part No.	Page	Section
PMTF-88	27	2
PMTF-89	27	2
PMTF-90	27	2
PMTF-91	27	2
PMTF-92	27	2
PMTF-94	28	1
PMTF-95	28	1
PMTF-96	28	1
PMTF-97	28	1
PMTF-98	28	1
PMTF-99	28	1
PMTF-100	28	1
PMTF-101	28	1
PMTF-102	28	1
PMTF-103	28	1
PMTF-104	28	1
PMTF-105	28	1
PMTF-106	28	1
PMTF-107	28	1
PMTF-108	28	1
PMTF-109	28	1
PMTF-110	28	1
PMTF-111	28	1
PMTF-112	28	1
PMTF-113	28	1
PMTF-114	28	1
PMTF-115	28	1
PMTF-116	28	1
PMTF-117	28	1
PMTF-118	28	2
PMTF-119	28	2
PMTF-120	28	2
PMTF-121	28	2
PMTF-122	28	2
PMTF-123	28	2
PMTF-124	28	2
PMTF-125	28	2
PMTF-126	28	2
PMTF-127	28	2
PMTF-128	28	3
PMTF-129	28	3
PMTF-130	28	3
PMTF-131	28	3
PMTF-132	28	3
PMTF-133	28	3
PMTF-134	28	3
PMTF-135	28	3
PMTF-136	28	3
PMTF-137	28	3
PMTF-138	28	3
PMTF-139	28	3
PMTF-140	28	3
PMTF-141	28	3
PMTF-142	28	3
PMTF-143	28	3
PMTF-144	28	3
PMTF-145	28	3
PMTF-146	28	3
PMTM-1	25	3
PMTM-2	25	3
PMTM-3	25	3
PMTM-4	25	3
PMTM-5	25	3
PMTM-6	25	3
PMTM-7	25	3
PMTM-8	25	3
PMTM-9	25	3
PMTM-10	26	1
PMTM-11	26	1
PMTM-12	26	1
PMTM-13	26	1
PMTM-14	26	1
PMTM-15	26	1
PMTM-16	26	1
PMTM-17	26	1
PMTM-18	26	1
PMTM-19	26	1
PMTM-20	26	1
PMTM-21	26	1
PMTM-22	26	1
PMTM-23	26	1
PMTM-24	26	1
PMTM-25	26	1
PMTM-26	26	1
PMTM-27	26	1
PMTM-28	26	1
PMTM-29	26	1
PMTM-30	26	1
PMTM-31	26	1
PMTM-32	26	1
PMTM-33	26	1
PMTM-34	26	1
PMTM-35	26	1
PMTM-36	26	1
PMTM-37	26	1
PMTM-38	26	1
PMTM-39	26	1
PMTM-40	26	1
PMTM-41	26	1
PMTM-50	26	2
PMTM-51	26	2
PMTM-52	26	2
PMTM-53	26	2
PMTM-54	26	2
PMTM-55	27	1
PMTM-56	27	1
PMTM-57	27	1
PMTM-58	27	1
PMTM-59	27	1
PMTM-60	27	1
PMTM-61	27	1
PMTM-62	27	1
PMTM-63	27	1
PMTM-64	27	1
PMTM-65	27	1
PMTM-66	27	1
PMTM-67	27	1
PMTM-68	27	1
PMTM-69	27	1
PMTM-70	27	1
PMTM-71	27	1
PMTM-72	27	1
PMTM-73	27	1
PMTM-74	27	1
PMTM-75	27	1
PMTM-76	27	2
PMTM-77	27	2
PMTM-78	27	2
PMTM-79	27	2
PMTM-80	27	2
PMTM-81	27	2
PMTM-82	27	2
PMTM-83	27	2
PMTM-84	27	2
PMTM-85	27	2
PMTM-86	27	2
PMTM-87	27	2
PMTM-88	27	2
PMTM-89	27	2
PMTM-90	27	2
PMTM-91	27	2
PMTM-92	27	2
PMTM-94	28	1
PMTM-95	28	1
PMTM-96	28	1
PMTM-97	28	1
PMTM-98	28	1
PMTM-99	28	1
PMTM-100	28	1
PMTM-101	28	1
PMTM-102	28	1
PMTM-103	28	1
PMTM-104	28	1
PMTM-105	28	1
PMTM-106	28	1
PMTM-107	28	1
PMTM-108	28	1
PMTM-109	28	1
PMTM-110	28	1
PMTM-111	28	1
PMTM-112	28	1
PMTM-113	28	1
PMTM-114	28	1
PMTM-115	28	1
PMTM-116	28	1
PMTM-117	28	1
PMTM-118	28	2
PMTM-119	28	2
PMTM-120	28	2
PMTM-121	28	2
PMTM-122	28	2
PMTM-123	28	2
PMTM-124	28	2
PMTM-125	28	2
PMTM-126	28	2
PMTM-127	28	2
PMTM-128	28	3
PMTM-129	28	3
PMTM-130	28	3
PMTM-131	28	3
PMTM-132	28	3
PMTM-133	28	3
PMTM-134	28	3
PMTM-135	28	3
PMTM-136	28	3
PMTM-137	28	3
PMTM-138	28	3
PMTM-139	28	3
PMTM-140	28	3
PMTM-141	28	3
PMTM-142	28	3
PMTM-143	28	3
PMTM-144	28	3
PMTM-145	28	3
PMTM-146	28	3
PMTS-1	25	3
PMTS-2	25	3
PMTS-3	25	3
PMTS-4	25	3
PMTS-5	25	3
PMTS-6	25	3
PMTS-7	25	3
PMTS-8	25	3
PMTS-9	25	3
PMTS-10	26	1
PMTS-11	26	1
PMTS-12	26	1
PMTS-13	26	1
PMTS-14	26	1
PMTS-15	26	1
PMTS-16	26	1
PMTS-17	26	1
PMTS-18	26	1
PMTS-19	26	1
PMTS-20	26	1
PMTS-21	26	1
PMTS-22	26	1
PMTS-23	26	1
PMTS-24	26	1
PMTS-25	26	1
PMTS-26	26	1
PMTS-27	26	1
PMTS-28	26	1
PMTS-29	26	1
PMTS-30	26	1
PMTS-31	26	1
PMTS-32	26	1
PMTS-33	26	1
PMTS-34	26	1
PMTS-35	26	1
PMTS-36	26	1
PMTS-37	26	1
PMTS-38	26	1
PMTS-39	26	1
PMTS-40	26	1
PMTS-41	26	1
PMTS-50	26	2
PMTS-51	26	2
PMTS-52	26	2
PMTS-53	26	2
PMTS-54	26	2
PMTS-55	27	1
PMTS-56	27	1
PMTS-57	27	1
PMTS-58	27	1
PMTS-59	27	1
PMTS-60	27	1
PMTS-61	27	1
PMTS-62	27	1
PMTS-63	27	1
PMTS-64	27	1
PMTS-65	27	1
PMTS-66	27	1
PMTS-67	27	1
PMTS-68	27	1
PMTS-69	27	1
PMTS-70	27	1
PMTS-71	27	1
PMTS-72	27	1
PMTS-73	27	1
PMTS-74	27	1
PMTS-75	27	1
PMTS-76	27	2
PMTS-77	27	2
PMTS-78	27	2
PMTS-79	27	2
PMTS-80	27	2
PMTS-81	27	2
PMTS-82	27	2
PMTS-83	27	2
PMTS-84	27	2
PMTS-85	27	2
PMTS-86	27	2
PMTS-87	27	2
PMTS-88	27	2
PMTS-89	27	2
PMTS-90	27	2
PMTS-91	27	2
PMTS-92	27	2
PMTS-94	28	1
PMTS-95	28	1
PMTS-96	28	1
PMTS-97	28	1
PMTS-98	28	1
PMTS-99	28	1
PMTS-100	28	1
PMTS-101	28	1
PMTS-102	28	1
PMTS-103	28	1
PMTS-104	28	1
PMTS-105	28	1
PMTS-106	28	1
PMTS-107	28	1
PMTS-108	28	1
PMTS-109	28	1
PMTS-110	28	1
PMTS-111	28	1
PMTS-112	28	1
PMTS-113	28	1
PMTS-114	28	1
PMTS-115	28	1
PMTS-116	28	1
PMTS-117	28	1
PMTS-118	28	2
PMTS-119	28	2
PMTS-120	28	2
PMTS-121	28	2
PMTS-122	28	2
PMTS-123	28	2
PMTS-124	28	2
PMTS-125	28	2
PMTS-126	28	2
PMTS-127	28	2
PMTS-128	28	3
PMTS-129	28	3
PMTS-130	28	3
PMTS-131	28	3
PMTS-132	28	3
PMTS-133	28	3
PMTS-134	28	3

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PART NUMBER INDEX

STANCOR Part No.	Page	Section
PMTS-135	28	3
PMTS-136	28	3
PMTS-137	28	3
PMTS-138	28	3
PMTS-139	28	3
PMTS-140	28	3
PMTS-141	28	3
PMTS-142	28	3
PMTS-143	28	3
PMTS-144	28	3
PMTS-145	28	3
PMTS-146	28	3
PS-8415	30	2
PS-8416	30	2
PSC-40	31	1
PSC-55	31	5
PSC-60	32	2
PSC-70	33	2
PSC-85	33	2
PSC-105	33	3
PSC-120	33	6
PSC-150	33	6
PSC-165	36	1
PSC-200	34	1
PSC-205	36	1
PSC-250	34	4
PSO-150	12	3
PSO-200	12	2
PSR-55	35	1
PSR-70	35	1
PSR-85	35	1
PSR-105	35	2
PSR-120	35	2
PSR-150	35	2
PSR-200	35	3
PSR-300	35	3
PSU-2000	51	5
PSU-3000	51	5
PT-1	29	1
PT-2	29	1
PT-3	29	1
PT-4	29	1
PT-5	29	1
PT-6	29	1
PT-7	29	1
PT-8	29	1
PT-9	29	1
PT-10	29	1
PT-11	29	1
PT-12	29	1
PT-13	29	1
PT-14	29	1
PT-15	29	1
PT-16	29	1
PT-17	29	1
PT-18	29	1
PT-19	29	1
PT-20	29	1
PT-21	29	1
PT-22	29	1
PT-23	29	1
PT-24	29	1
PT-25	29	1
PT-26	29	1
PT-27	29	1
PT-28	29	1
PT-29	29	1
PT-30	29	1
PT-31	29	1
PT-32	29	1
PT-33	29	1
PT-34	29	1
PT-35	29	1
PT-36	29	1
PT-37	29	1
PT-38	29	2
PT-39	29	2
PT-40	29	2
PT-41	29	2
PT-42	29	2
PT-43	29	2
PT-44	29	2
PT-45	29	2
PT-46	29	2
PT-47	29	2
PT-48	29	2
PT-49	29	2
PT-50	29	2
PT-51	29	2
PT-52	29	2
PT-53	29	3
PT-54	29	3
PT-55	29	3
PT-56	29	3
PT-57	29	3
PT-58	29	3
PT-59	29	3
PT-60	29	3
PT-61	29	3
PT-62	29	3
PT-63	29	3
PT-64	29	3
PT-65	29	3
PT-66	29	3
PT-67	29	3
PT-68	29	3
PT-69	29	3
PT-70	29	3
PT-71	29	3
PT-72	29	3
PT-73	29	3
PT-74	29	4
PT-75	29	4
PT-76	29	4
PT-77	29	4
PT-78	29	4
PT-79	29	4
PT-80	29	4
PT-81	29	4
PT-82	29	4
PT-83	29	4
PT-84	29	4
PT-85	29	4
PT-86	29	4
PT-87	29	4
PT-88	29	4
PT-89	29	4
PT-90	29	4
PT-91	29	4
PT-92	29	4
PT-93	29	4
PT-94	29	4
PT-95	29	4
PT-96	29	4
PT-97	29	4
PT-98	29	4
PT-99	29	4
PT-100	29	4
PT-101	29	4
PT-102	29	4
PT-103	29	4
PT-104	29	4
PT-8311	54	1
PT-8312	54	1
PT-8313	54	1
PT-8314	54	1
PT-8315	54	1
PTH-1	29	1
PTH-2	29	1
PTH-3	29	1
PTH-4	29	1
PTH-5	29	1
PTH-6	29	1
PTH-7	29	1
PTH-8	29	1
PTH-9	29	1
PTH-10	29	1
PTH-11	29	1
PTH-12	29	1
PTH-13	29	1
PTH-14	29	1
PTH-15	29	1
PTH-16	29	1
PTH-17	29	1
PTH-18	29	1
PTH-19	29	1
PTH-20	29	1
PTH-21	29	1
PTH-22	29	1
PTH-23	29	1
PTH-24	29	1
PTH-25	29	1
PTH-26	29	1
PTH-27	29	1
PTH-28	29	1
PTH-29	29	1
PTH-30	29	1
PTH-31	29	1
PTH-32	29	1
PTH-33	29	1
PTH-34	29	1
PTH-35	29	1
PTH-36	29	1
PTH-37	29	1
PTH-38	29	2
PTH-39	29	2
PTH-40	29	2
PTH-41	29	2
PTH-42	29	2
PTH-43	29	2
PTH-44	29	2
PTH-45	29	2
PTH-46	29	2
PTH-47	29	2
PTH-48	29	2
PTH-49	29	2
PTH-50	29	2
PTH-51	29	2
PTH-52	29	2
PTH-53	29	3
PTH-54	29	3
PTH-55	29	3
PTH-56	29	3
PTH-57	29	3
PTH-58	29	3
PTH-59	29	3
PTH-60	29	3
PTH-61	29	3
PTH-62	29	3
PTH-63	29	3
PTH-64	29	3
PTH-65	29	3
PTH-66	29	3
PTH-67	29	3
PTH-68	29	3
PTH-69	29	3
PTH-70	29	3
PTH-71	29	3
PTH-72	29	3
PTH-73	29	3
PTH-74	29	4
PTH-75	29	4
PTH-76	29	4
PTH-77	29	4
PTH-78	29	4
PTH-79	29	4
PTH-80	29	4
PTH-81	29	4
PTH-82	29	4
PTH-83	29	4
PTH-84	29	4
PTH-85	29	4
PTH-86	29	4
PTH-87	29	4
PTH-88	29	4
PTH-89	29	4
PTH-90	29	4
PTH-91	29	4
PTH-92	29	4
PTH-93	29	4
PTH-94	29	4
PTH-95	29	4
PTH-96	29	4
PTH-97	29	4
PTH-98	29	4
PTH-99	29	4
PTH-100	29	4
PTH-101	29	4
PTH-102	29	4
PTH-103	29	4
PTH-104	29	4
PTM-1	29	1
PTM-2	29	1
PTM-3	29	1
PTM-4	29	1
PTM-5	29	1
PTM-6	29	1
PTM-7	29	1
PTM-8	29	1
PTM-9	29	1
PTM-10	29	1
PTM-11	29	1
PTM-12	29	1
PTM-13	29	1
PTM-14	29	1
PTM-15	29	1
PTM-16	29	1
PTM-17	29	1
PTM-18	29	1
PTM-19	29	1
PTM-20	29	1
PTM-21	29	1
PTM-22	29	1
PTM-23	29	1
PTM-24	29	1
PTM-25	29	1
PTM-26	29	1
PTM-27	29	1
PTM-28	29	1
PTM-29	29	1
PTM-30	29	1
PTM-31	29	1
PTM-32	29	1
PTM-33	29	1
PTM-34	29	1
PTM-35	29	1
PTM-36	29	1
PTM-37	29	1
PTM-38	29	2
PTM-39	29	2
PTM-40	29	2
PTM-41	29	2
PTM-42	29	2
PTM-43	29	2
PTM-44	29	2
PTM-45	29	2
PTM-46	29	2
PTM-47	29	2
PTM-48	29	2
PTM-49	29	2
PTM-50	29	2
PTM-51	29	2
PTM-52	29	2
PTM-53	29	3
PTM-54	29	3
PTM-55	29	3
PTM-56	29	3
PTM-57	29	3
PTM-58	29	3
PTM-59	29	3
PTM-60	29	3
PTM-61	29	3
PTM-62	29	3
PTM-63	29	3
PTM-64	29	3
PTM-65	29	3
PTM-66	29	3
PTM-67	29	3
PTM-68	29	3
PTM-69	29	3

© United Technical Publications

ESSEX Stancor transformers

PART NUMBER INDEX

STANCOR Part No.	Page	Section
PTM-70	29	3
PTM-71	29	3
PTM-72	29	3
PTM-73	29	3
PTM-74	29	4
PTM-75	29	4
PTM-76	29	4
PTM-77	29	4
PTM-78	29	4
PTM-79	29	4
PTM-80	29	4
PTM-81	29	4
PTM-82	29	4
PTM-83	29	4
PTM-84	29	4
PTM-85	29	4
PTM-86	29	4
PTM-87	29	4
PTM-88	29	4
PTM-89	29	4
PTM-90	29	4
PTM-91	29	4
PTM-92	29	4
PTM-93	29	4
PTM-94	29	4
PTM-95	29	4
PTM-96	29	4
PTM-97	29	4
PTM-98	29	4
PTM-99	29	4
PTM-100	29	4
PTM-101	29	4
PTM-102	29	4
PTM-103	29	4
PTM-104	29	4
PTP-1	29	1
PTP-2	29	1
PTP-3	29	1
PTP-4	29	1
PTP-5	29	1
PTP-6	29	1
PTP-7	29	1
PTP-8	29	1
PTP-9	29	1
PTP-10	29	1
PTP-11	29	1
PTP-12	29	1
PTP-13	29	1
PTP-14	29	1
PTP-15	29	1
PTP-16	29	1
PTP-17	29	1
PTP-18	29	1
PTP-19	29	1
PTP-20	29	1
PTP-21	29	1
PTP-22	29	1
PTP-23	29	1
PTP-24	29	1
PTP-25	29	1
PTP-26	29	1
PTP-27	29	1
PTP-28	29	1
PTP-29	29	1
PTP-30	29	1
PTP-31	29	1
PTP-32	29	1
PTP-33	29	1
PTP-34	29	1
PTP-35	29	1
PTP-36	29	1
PTP-37	29	1
PTP-38	29	2
PTP-39	29	2
PTP-40	29	2
PTP-41	29	2
PTP-42	29	2
PTP-43	29	2
PTP-44	29	2
PTP-45	29	2
PTP-46	29	2
PTP-47	29	2
PTP-48	29	2
PTP-49	29	2
PTP-50	29	2
PTP-51	29	2
PTP-52	29	2
PTP-53	29	3
PTP-54	29	3
PTP-55	29	3
PTP-56	29	3
PTP-57	29	3
PTP-58	29	3
PTP-59	29	3
PTP-60	29	3
PTP-61	29	3
PTP-62	29	3
PTP-63	29	3
PTP-64	29	3
PTP-65	29	3
PTP-66	29	3
PTP-67	29	3
PTP-68	29	3
PTP-69	29	3
PTP-70	29	3
PTP-71	29	3
PTP-72	29	3
PTP-73	29	3
PTP-74	29	4
PTP-75	29	4
PTP-76	29	4
PTP-77	29	4
PTP-78	29	4
PTP-79	29	4
PTP-80	29	4
PTP-81	29	4
PTP-82	29	4
PTP-83	29	4
PTP-84	29	4
PTP-85	29	4
PTP-86	29	4
PTP-87	29	4
PTP-88	29	4
PTP-89	29	4
PTP-90	29	4
PTP-91	29	4
PTP-92	29	4
PTP-93	29	4
PTP-94	29	4
PTP-95	29	4
PTP-96	29	4
PTP-97	29	4
PTP-98	29	4
PTP-99	29	4
PTP-100	29	4
PTP-101	29	4
PTP-102	29	4
PTP-103	29	4
PTP-104	29	4
PV-6441	51	4
PV-6442	51	4
PV-6443	51	4
PV-6444	51	4
R-63	41	5
R-65	41	6
R-103	41	5
R-105	41	6
RC-1055	40	3
RC-1085	41	1
RC-1540	40	1
RC-1555	40	3
RC-1585	41	1
RC-8105	41	1
RC-8150	41	2
RC-8200	41	3
RC-8250	41	4
RC-8300	41	5
RC-12105	41	1
RC-12150	41	3
RC-12200	41	4
RP-400	47	1
RP-600	47	1
RP-800	47	1
RP-1600	47	1
RP-2000	47	1
RP-2500	47	1
RS-1055	40	3
RS-1085	41	1
RS-1540	40	1
RS-1555	40	3
RS-1585	41	1
RS-8105	41	1
RS-8150	41	3
RS-8200	41	3
RS-8250	41	4
RS-8300	41	5
RS-12105	41	1
RS-12150	41	3
RS-12200	41	4
RT-201	44	1
RT-202	44	1
RT-204	44	1
RT-206	44	1
RT-208	44	1
RT-400	44	1
RT-401	44	1
RT-402	44	1
RT-408	44	1
RT-2012	44	1
RT-4012	44	1
SD-50	51	3
SD-100	51	3
SD-150	51	3
SD-250	51	3
SD-500	51	3
SD-1000	51	3
SPCT-10	21	3
TA-1	22	1
TA-2	22	1
TA-3	22	1
TA-4	22	1
TA-5	22	1
TA-6	22	1
TA-7	22	2
TA-8	22	2
TA-9	22	2
TA-10	22	2
TA-11	22	2
TA-12	22	3
TA-13	22	3
TA-14	22	3
TA-15	22	6
TA-16	22	6
TA-17	22	6
TA-18	23	1
TA-19	23	1
TA-20	23	1
TA-21	23	1
TA-22	23	1
TA-23	23	2
TA-24	23	2
TA-25	23	2
TA-26	23	2
TA-27	23	2
TA-28	23	2
TA-29	23	3
TA-30	23	3
TA-31	23	3
TA-32	23	3
TA-33	23	3
TA-34	23	4
TA-35	23	4
TA-36	23	4
TA-37	23	4
TA-38	23	4
TA-39	24	1
TA-40	24	1
TA-41	24	1
TA-42	24	1
TA-43	24	1
TA-44	24	2
TA-45	24	2
TA-46	24	2
TA-47	24	2
TA-48	22	5
TA-49	22	5
TA-50	22	5
TA-51	22	5
TA-52	24	1
TA-53	23	3
TA-54	23	4
TA-55	24	2
TA-56	22	3
TA-57	22	3
TA-58	22	4
TA-59	22	4
TA-60	22	4
TA-61	22	4
TA-62	22	4
TA-63	24	2
TAPC-5	24	5
TAPC-19	24	3
TAPC-26	24	3
TAPC-27	24	3
TAPC-28	24	3
TAPC-30	24	3
TAPC-31	24	4
TAPC-32	24	4
TAPC-34	24	4
TAPC-35	24	4
TAPC-36	24	4
TAPC-38	24	4
TAPC-47	24	6
TAPC-52	24	6
TAPC-63	24	6
TC-1	43	1
TC-2	43	1
TP-1	48	2
TP-2	48	2
TP-3	48	2
TP-4	48	2
TP-5	48	2
UME-11	21	4
UME-12	21	4
UME-13	21	4
UME-14	21	4
UME-15	21	4
UME-16	21	4
UME-17	21	4
UME-18	21	4
UME-19	21	5
UME-20	21	5
UME-21	21	5
UME-22	21	5
UME-23	21	5
UME-24	21	5
UME-25	21	6
UME-26	21	6
UME-27	21	6
UME-28	21	6
UME-29	21	6
UME-30	21	6
UME-31	21	7
UME-32	21	7
UME-33	21	7
UME-34	21	7
UME-35	21	7
UME-36	21	7
UME-37	21	7
UME-38	21	7
UME-39	21	7
WF-20	19	1
WF-21	19	1
WF-22	19	1
WF-28	19	2
WF-30	19	2
WF-35	19	2
WF-36	19	2

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PRODUCT INDEX

HERMETICALLY SEALED

Classification	Page No.	Classification	Page No.
AUDIO	55, 56	POWER	55, 56
FILAMENT	55, 58	POWER 400 CYCLE	58
FILAMENT 400 CYCLE	58	PULSE	57
INDUCTORS (TOROIDAL)	57	REACTORS (FILTER)	57, 58
ISOLATION	58	RECTIFIER	57

THESE HERMETICALLY SEALED UNITS AVAILABLE UNTIL STOCK IS DEPLETED.

PART NUMBER INDEX

STANCOR Part No.	Page	Section	STANCOR Part No.	Page	Section	STANCOR Part No.	Page	Section	STANCOR Part No.	Page	Section	STANCOR Part No.	Page	Section
AFH-63	58	4	4RMS-285	58	7	FH-210	58	1	PHC-55	56	4	RH-8150	57	4
AFH-65	58	4	4RMS-2120	58	7	FH-215H	58	1	PHC-70	56	4	RH-8200	57	4
AFH-610	58	4	4RMS-2150	58	7	FH-510H	58	1	PHC-105	56	4	RH-12105	57	4
AFH-620	58	4	4RMS-2165	58	7	FH-520HB	58	1	PHC-120	56	4	RH-12150	57	4
AFMS-65	58	3	4RMS-2200	58	7	FH-610	58	1	PHC-150	56	4	RH-12200	57	4
AFMS-122	58	3	4RMS-2300	58	7	FMS-2	58	2	PHC-165	56	6	TAMS-1	56	3
AFMS-2415	58	3	4RMS-3120	58	7	FMS-3	58	2	PHC-200	56	4	TAMS-2	56	3
AIMS-160	58	9	AMS-1	55	1	FMS-5	58	2	PHC-200A	56	6	TAMS-3	56	3
APHC-165	58	6	AMS-3	55	1	FMS-8	58	2	PHC-250	56	4	TAMS-4	56	3
APHC-200A	58	6	AMS-6	55	1	FMS-23	55	3	PHR-55	56	5	TAMS-5	56	3
APHR-300	58	6	AMS-7	55	1	FMS-53	55	3	PHR-70	56	5	TAMS-6	56	3
APMS-40	58	5	AMS-8	55	1	FMS-62	55	3	PHR-105	56	5	TAMS-7	56	3
APMS-55	58	5	AMS-9	55	1	FMS-65	55	3	PHR-120	56	5	TAMS-8	56	3
APMS-70	58	5	BIH-1	55	5	FMS-210	55	3	PHR-150	56	5	TAMS-9	56	3
APMS-85	58	5	BIH-7	55	5	FMS-210H	55	3	PHR-200	56	5	TAMS-10	56	3
APMS-105	58	5	BIH-8	55	5	FMS-510	55	3	PMS-70	55	2	TAMS-11	56	3
APMS-120	58	5	BIH-10	55	5	FMS-510H	55	3	PMS-70A	55	2	TAMS-12	56	3
APMS-150	58	5	BOH-2	55	4	HRP-400	57	1	PMS-150	55	2	TM-1A	57	2
APMS-165	58	5	BOH-4	55	4	HRP-600	57	1	PMS-175	55	2	TM-2A	57	2
APMS-200A	58	5	BOH-9	55	4	HRP-800	57	1	PMS-250	55	2	TM-5A	57	2
APMS-300	58	5	CIH-1	56	1	HRP-1600	57	1	PMS-350	55	2	TM-8A	57	2
ARH-2120	58	8	CIH-2	56	1	HRP-2000	57	1	PMS-550	55	2	TM-80A	57	2
ARH-2165	58	8	COH-1	56	2	HRP-2500	57	1	PMS-800	55	2	TM-100A	57	2
ARH-2200	58	8	COH-2	56	2	PE-50	57	3	RH-1055	57	4	TM-200A	57	2
ARMS-240	58	7	FH-25	58	1	PE-75	57	3	RH-1085	57	4	TM-500A	57	2
ARMS-255	58	7	FH-58	58	1	PE-500	57	3	RH-1585	57	4	TM-800A	57	2
ARMS-270	58	7	FH-65	58	1	PE-700	57	3	RH-8105	57	4			

© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS TECHNICAL NOTES

Audio Transformers operate on the same electro-magnetic induction principle as Power Transformers but generally over a fairly broad range of frequencies; instead of at a single power frequency, such as 60 Hertz. In common applications they may carry D.C. in one or more windings, transform Voltage and Current levels, act as an Impedance matching and coupling device or as a form of filter; passing only a limited range of frequencies (voice communication). Usually they perform more than just one of these functions simultaneously in a specific type of usage.

In some applications the frequency response, amount of magnetic shielding, maximum operating level, percentage of waveform distortion and insertion loss of the transformer are important.

The most commonly required electrical information pertaining to Audio Transformers is listed in this catalog wherever it applies, along with the physical mounting style, weight and dimensions. Information not shown is often available upon request if it pertains to the normal intended type of usage for a specific item.

The Impedance values listed for each Audio Transformer are the Reflected Impedance (Primary) for the rated value of Load Impedance (Secondary), into which the transformer is designed to operate. The Impedance Ratio between Primary and Secondary is fixed; since it is equal to the square of the turns ratio, which remains the same for different operating conditions. Turns Ratios listed are for Total Primary to Secondary, with the exception of the Driver Transformers for use with tubes. These are listed for Primary to ½ Secondary operation and are typically used in Class "B" Amplifier applications.

Accuracy of turns ratios are maintained within plus or minus 3 percent. Center taps are accurate within plus or minus 1 percent. Values of Primary D.C. listed are maximum and in the case of push-pull operation with a center-tapped winding, are the maximum amount for each half of the winding, unless otherwise indicated.

HANDY METHOD FOR APPROXIMATING THE PRIMARY TO SECONDARY RATIO REQUIRED OF A DRIVER TRANSFORMER IN CLASS B OR AB_2 SERVICE

Transformer ratio, primary: ½ secondary $= \dfrac{\sqrt{PZ_L}}{0.35E_s}$.

Where: P = Driving power in watts required for tubes to be driven.

Z_L = Plate load impedance of driver tube(s) selected.

E_s = Peak grid-to-grid signal voltage required for tubes to be driven.

Factor values for this formula are data commonly found in tube manuals. Select driver tubes capable under typical operation of delivering 1.5 times the grid driving power requirements of the stage to be driven. Pentode or tetrode drivers should be operated with inverse feedback.

TURNS/IMPEDANCE RATIOS

Turns Ratio "NR" may be expressed as the ratio of turns between the Primary and Secondary windings. It is also the Voltage Ratio between them and may be expressed as:

$$NR = \frac{N\ sec.}{N\ pri.} = \frac{E\ sec.}{E\ pri.}.$$

Since the Impedance Ratio is equal to the square of the Turns Ratio:

$$(NR)^2 = ZR \text{ or } NR = \sqrt{\frac{Z\ sec.}{Z\ pri.}}.$$

Where: N sec. = Number of Secondary Turns.
N pri. = Number of Primary Turns.
E sec. = Secondary Voltage.
E pri. = Primary Voltage.
NR = Turns Ratio between windings.
Z = Impedance in Ohms.
ZR = Impedance Ratio between windings.

INSERTION LOSS

Insertion loss is expressed in Decibels (db) as a measure of efficiency, thusly:

$$\text{Insertion loss in db} = 10 \log \frac{P\ input}{P\ output}.$$

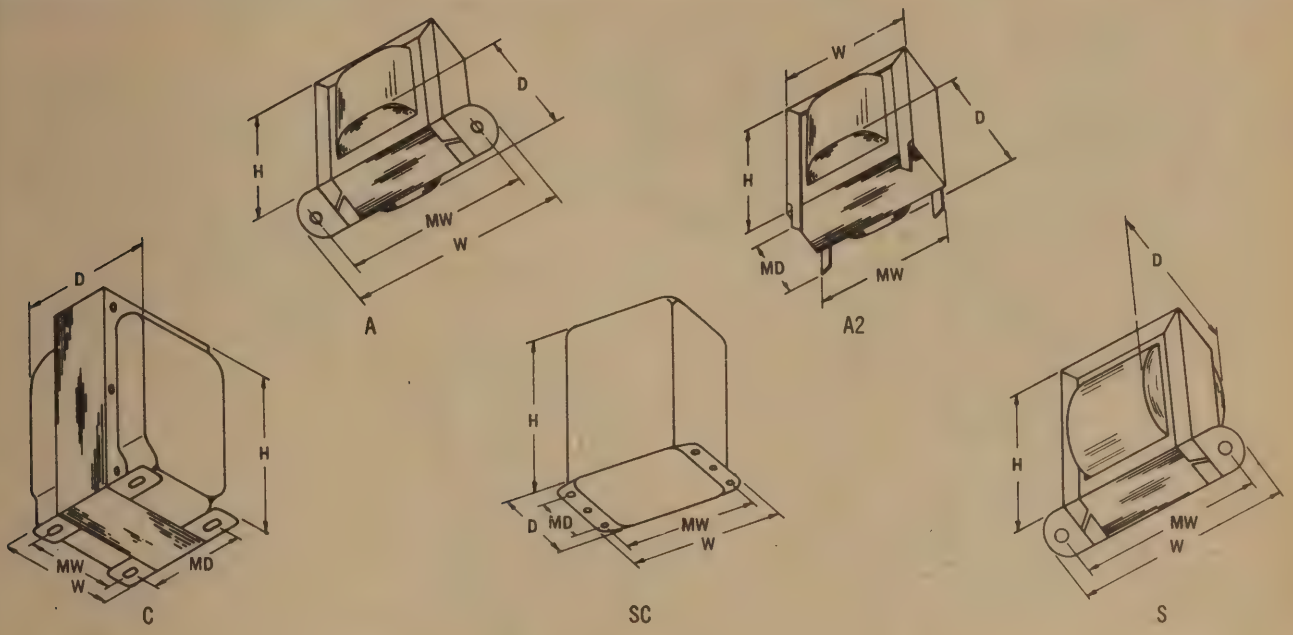
Where P = power (in Watts).

If it is measured at mid-band Frequency it is a simple expression of the transformer efficiency. At other frequencies it includes the Frequency Response characteristics of the transformer for specific conditions.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS



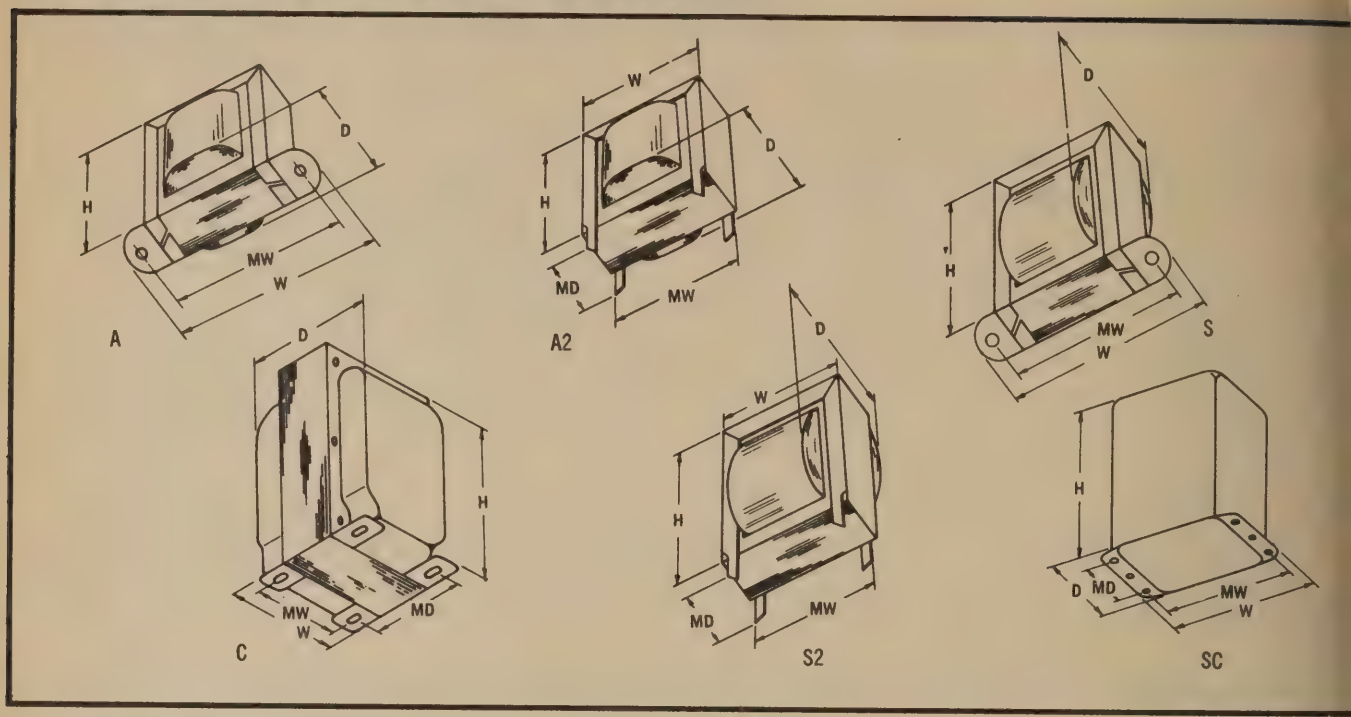
OUTPUT: SINGLE PLATE TO VOICE COIL AND/OR LINE

Sec-tion	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max Pri. DCMA	Audio Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs.
	A-8070	A	1000	4.0	90	4	Leads	Leads	20	0.27	16:1	200-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-3332	A	2000	3.2	50	3	Leads	Leads	140	0.63	24.3:1	100-20000	1000	1¼	2⅛	1¼	1¾	—	0.4
	A-3330	A	2000 a	3.5	60	5	Leads	Leads	225	0.56	25.7:1	60-20000	1000	1⅜	2⅜	1½	2	—	0.4
1	A-3878	A	2000	4.0	60	5	Leads	Leads	47	0.27	22.3:1	50-20000	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-3336	A	2500 b	3.5	50	5	Leads	Leads	200	0.56	28.1:1	200-20000	1500	1⅜	2⅜	1⅝	2	—	0.4
	A-3328	A	4000	3.5	10	3	Leads	Leads	350	0.53	33.8:1	80-20000	1000	1¼	2⅛	1⅛	1⅜	—	0.4
	A-2203	A	4000	8.0	40	5	Leads	Leads	210	0.34	23.4:1	100-20000	1000	1⅝	2⅞	1½	2⅜	—	0.7
	A-3877	A	5000	4.0	40	5	Leads	Leads	125	0.30	35.2:1	200-20000	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-3309	A	5000	3-4	35	3	Leads	Leads	340	0.50	37.3:1	200-15000	1500	1¼	2⅛	1⅜	1¾	—	0.4
	A-8092	A	5000	3-4	50	8	Leads	Leads	300	0.43	37.5:1	200-20000	1500	1⅝	2⅞	1½	2⅜	—	0.5
2	A-3337	S	5000	6-8	40	10	Leads	Leads	350	0.66	26:1	200-20000	1000	2⅜	2⅞	1¾	2⅜	—	1.0
	A-3310	C	5000	500/15/8/4	55	20	Leads	Leads	400	40	3.22:1	50-20000	1500	3⅛	2½	2¾	2	1¾	2.5
	COC-1	SC	5000	600/150/16/8/4	55	5	Leads	Leads	260	29	2.83:1	200- 3500	1500	3 1/16	3	2½	2 1/16	1¾	2.25
	COS-1	SC	5000	600/150/16/8/4	55	5	Lugs	Lugs	260	29	2.83:1	200- 3500	1500	3 1/16	3	2½	2 1/16	1¾	2.25
	A-4431	A2	6000	3-4	35	5	Leads	Leads	350	0.27	41:1	200-15000	1500	1⅝	1 13/16	1½	1 1/16	1 1/16	0.8
	A-3878	A	7000	4.0	30	5	Leads	Leads	350	0.43	42.1:1	200-20000	1000	1⅜	2⅜	1¼	2	—	0.4
	A-2313	A	7000	8.0	40	10	Leads	Leads	500	0.64	30:1	100-20000	1000	2	3¼	2	2 13/16	—	1.0
	A-3841	S	7000/6000/ 5000/4000/ 2500	500	60	10	Lugs	Lugs	265	27	3.74:1	200-10000	1500	2¾	3⅛	2	2 13/16	—	1.5
3	A-4770	S	7000/6000/ 5000/4000/ 2500	500	60	20	Leads	Lugs	550	55	3.75:1	200-10000	1000	3⅛	3⅝	2⅛	3⅛	—	2.4
	A-8114	A	7600	3.2	32	5	Leads	Leads	350	0.32	46:1	100-15000	1500	1⅜	2⅜	1⅜	2	—	0.4
	A-3329	A	8000	3.5	10	3	Leads	Leads	500	0.51	49.1:1	200-15000	1000	1¼	2⅛	1⅛	1¾	—	0.4
	COC-2	SC	8000	600/150/16/8/4	55	5	Leads	Leads	330	29	3.58:1	200- 3500	1500	3 1/16	3	2½	2 1/16	1¾	2.25
	COS-2	SC	8000	600/150/16/8/4	55	5	Lugs	Lugs	330	29	3.58:1	200- 3500	1500	3 1/16	3	2½	2 1/16	1¾	2.25
	A-3879	A	10000	4.0	30	5	Leads	Leads	275	0.28	49.7:1	200-20000	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-3881	A	15000	4.0	10	5	Leads	Leads	640	0.33	59.3:1	200-20000	1000	1⅜	2⅜	1⅜	2	—	0.4
4	A-3250	A	20000/ 10000/5000	500/332/200 125/50	15	5	Lugs	Lugs	1500	55	6.25:1	50-20000	1500	2	3¼	1⅞	2 13/16	—	1.0
	A-3315	C	20000/ 10000/5000	500/332/200 125/50	35	20	Lugs	Lugs	1150	55	6.36:1	50-20000	1500	3⅛	2½	2¾	2	1¾	2.7
	A-3327	A	25000	4.0	5	5	Leads	Leads	1200	0.6	80.4:1	200-15000	1000	1⅜	2⅜	1⅜	2	—	0.4

a Has 4.5% primary Tap b Has 3% and 6% primary Taps. c Has Tertiary Winding to provide 10% inverse feedback.

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS



OUTPUT: PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

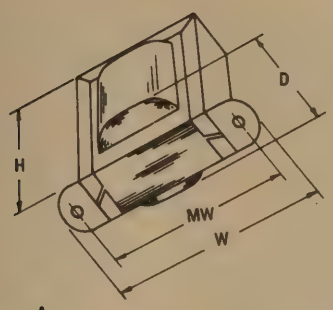
Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max Pri. DCMA	Audio Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs
	A-8098	C	2000 C.T.	32/16/8	140	15	Leads	Leads	115	1.5	7.7:1	100-15000	1500	3⅛	2½	3¼	2	2¼	3.3
	A-3802	C	3800/3300 C.T.	500/250/8/4	125	75	Leads	Leads	70	10	2.8:1	50-20000	2000	4 1/16	3¾	4	3	2 13/16	7.9
1	A-8094	A	4000 C.T.	32/16/8	80	7.5	Leads	Leads	180	1.4	11.1:1	100-15000	1500	2⅜	3¾	2¼	3⅛	—	1.5
	A3851	C	4400 C.T.	500/250/15/8/4	70	30	Leads	Leads	335	20	3.16:1	50-20000	500	3½	2 13/16	3¼	2¼	2	3.6
	A-3872	SC	5000 C.T.	15/8/4	75	18	Leads	Leads	200	1.1	18.2:1	70-15000	1500	2 1/16	2¾	2¼	2⅜	1½	1.7
	A-3800	C	5000 C.T.	500/250/15/8/4	80	30	Leads	Leads	280	21	3.12:1	20-20000	1500	3½	2 13/16	3¼	2¼	2	3.7
	A-3307	C	6000 C.T.	500/15/8/4	100	30	Leads	Leads	150	17	3.46:1	100-15000	1500	3½	2 13/16	3¼	2¼	2	3.5
	PCO-200	SC	6000 C.T. c	600/150/16/8/4	250*	30	Leads	Leads	220	27	3.08:1	50-10000	2500	5 5/16	5¼	4 5/16	4¾	2½	9.0
	PSO-200	SC	6000 C.T. c	600/150/16/8/4	250*	30	Lugs	Lugs	220	27	3.08:1	50-10000	2500	5 5/16	5¼	4 5/16	4¾	2½	9.0
2	A-3801	C	6600 C.T.	500/250/15/8/4	150	35	Leads	Leads	125	10	3.64:1	30-20000	2000	3⅞	3⅛	3½	2½	2 3/16	4.8
	A-3885	C	9000 C.T.	500/250/15/8/4	150	35	Leads	Leads	125	9.0	4.24:1	50-15000	1500	3⅞	3⅛	3½	2½	2 3/16	4.8
	A-4432	S2	10000 C.T.	4.0	50	10	Leads	Leads	350	0.2	50:1	100-10000	1500	2⅜	1 13/16	1⅝	1 3/16	1 1/16	1.0
	A-3304	C	10000/7000 C.T.	500/15/8/4	60	25	Leads	Leads	280	20	4.5:1	100-20000	2000	3⅛	2½	2¾	2	1¾	2.7
	A-3311	C	10000 C.T.	500/15/8/4	70	25	Leads	Leads	450	22	4.47:1	60-20000	1500	3½	2 13/16	3¼	2¼	2	3.5
	A-3831	A	10000 C.T.	8/4/2	40	5	Leads	Leads	300	0.67	35.7:1	100-15000	1000	1⅝	2⅞	1¾	2⅜	—	0.7
	A-8093	A	10000 C.T.	3-4	40	10	Leads	Leads	500	0.46	53.7:1	100-15000	1500	1⅝	2⅞	1½	2⅜	—	0.7
	A-3335	S	10000 C.T.	6-8/3.2-4	40	10	Leads	Leads	550	0.5	36.2:1	100-15000	2000	2⅜	2⅞	2	2⅜	—	1.0
3	PCO-150	SC	10000 C.T. c	600/150/16/8/4	200*	15	Leads	Leads	475	30	3.94:1	50-10000	2500	4¼	4	3¼	3½	2¼	5.0
	PSO-150	SC	10000 C.T. c	600/150/16/8/4	200*	15	Lugs	Lugs	475	30	3.94:1	50-10000	2500	4¼	4	3¼	3½	2¼	5.0
	A-3839	SC	10000 C.T.	2000 and 15/8/4	30	10	Leads	Leads	650	300	2.45:1	100-15000	1500	2 1/16	2¾	2¼	2⅜	1½	1.3
	PCO-150A	SC	12000 C.T.	600/150/16/8/4	200*	15	Leads	Leads	550	35	4.32:1	50-10000	2000	4¼	4	3¼	3½	2¼	5.0
	A-2312	A	14000 C.T.	4.0	40	10	Leads	Leads	600	0.35	54:1	100-15000	1000	1⅝	2⅞	1⅞	2⅜	—	1.0
	A-3496	A	14000 C.T.	4.0	25	5	Leads	Leads	600	0.33	59.3:1	100-15000	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-3303	C	14000 C.T.	500/15/8/4	55	20	Leads	Leads	550	25	5.27:1	70-15000	1500	3⅛	2½	2⅝	2	1 1/16	2.7
4	A-3842	S	14000/12000/10000/8000 C.T.	500	55	10	Lugs	Lugs	450	30	5.28:1	100-12000	1500	2¾	3⅛	2	2 13/16	—	1.7
	A-3250	A	20000 C.T.	500/333/200 125/50	15	5	Lugs	Lugs	1450	55	6.25:1	40-15000	1500	2	3¼	1⅞	2 13/16	—	1.0
	A-3315	C	20000 C.T.	500/333/200 125/50	35	20	Lugs	Lugs	1100	55	6.36:1	50- 9000	1500	3⅛	2½	2¾	2	1 1/16	2.7
	A-3857	A	25000 C.T.	4.0	10	5	Leads	Leads	1200	0.6	78.2:1	100-15000	1000	1⅜	2⅜	1½	2	—	0.4

c Has Teriary Winding to provide 10% inverse feedback. *Total for both halves.

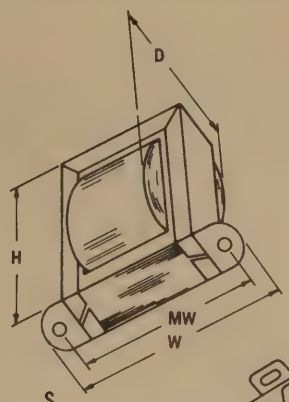
© United Technical Publications

ESSEX Stancor transformers | STANCOR

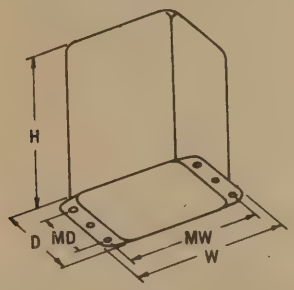
AUDIO TRANSFORMERS



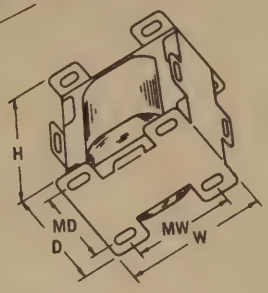
A



S



SC



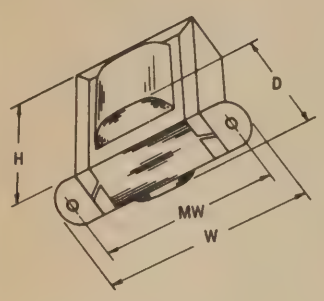
L

UNIVERSAL OUTPUT: "POLY-PEDANCE" — SINGLE OR PUSH-PULL PLATES TO VOICE COIL

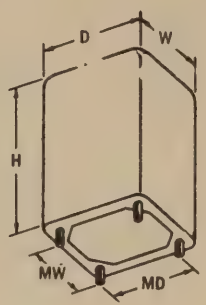
Sec-tion	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max Pri. DCMA	Audio Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs.
1	A-3856	A	S. or P.P. Plates 4000 to 14000	.05 to 122	35	4	Leads	Lugs	300	1.2	18.3:1	—	1500	1⅜	2⅜	1½	2	—	0.4
	A-3822	A	S. Plate 7000 to 10000	.7 to 4	35	4	Leads	Lugs	275	0.4	50:1	—	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-3848	A	S. Plate 7000 to 16000	.4 to 4	10	5	Leads	Lugs	975	0.5	60:1	—	1500	1⅜	2⅜	1⅜	2	—	0.4
	A-3326	A	S. or P.P. Plates 1500 to 7000	.48 to 28.7	50	6	Leads	Lugs	240	0.9	18.7:1	—	1000	1⅜	2⅜	1⅝	2	—	0.4
	A-3823	A	S. or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	525	2.2	18.2:1	—	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
2	A-3850	S	S. or P.P. Plates 5000 to 14000	.05 to 122	40	8	Leads	Lugs	500	1.7	18.2:1	—	1000	2	2⅜	1⅝	2	—	0.7
	A-3825	A	S. Plate 1500 to 4500	.3 to 4	75	8	Leads	Lugs	140	0.9	25:1	—	1500	2	3¼	1¾	2 13/16	—	0.9
	A-3824	A	S. or P.P. Plates 6000 to 10000	.6 to 4	75	8	Leads	Lugs	175	0.5	44:1	—	1500	2	3¼	2	2 13/16	—	1.4
	A-3849	A	S. Plate 1500 to 10000	.02 to 21	55	10	Lugs	Lugs	260	1.4	18.2:1	—	1000	1⅝	2⅞	1½	2⅜	—	0.7
	A-3880	A	P.P. Plates 4000 to 14000	.02 to 122	40	15	Lugs	Lugs	350	1.0	18.2:1	—	1500	2⅜	3¾	2⅛	3⅛	—	1.7
3	A-2855	L	P.P. Plates 4000 to 14000	.05 to 122	50	15	Lugs	Lugs	500	1.7	18.2:1	—	1000	2	2⅜	1¾	1½	1 13/16	1.0
	A-3890	SC	P.P. Plates 4000 to 14000	.05 to 122	50	15	Leads	Leads	500	1.7	18.2:1	—	1000	2 11/16	2¾	2¼	2⅜	1½	1.5
	A-3852	S	P.P. Plates 4000 to 14000	.05 to 122	40	18	Leads	Lugs	475	1.0	22.4:1	—	1500	2⅜	2⅞	2	2⅜	—	1.3
	A-3870	A	P.P. Plates 4000 to 14000	.05 to 122	50	18	Lugs	Lugs	600	2.0	18.2:1	—	1500	2	3¼	2	2 13/16	—	1.3
	A-3830	S	P.P. Plates 3000 to 10000	.04 to 122	60	20	Leads	Lugs	170	0.7	18.2:1	—	1500	2¾	3⅛	2⅛	2 13/16	—	1.8

ESSEX Stancor transformers | STANCOR

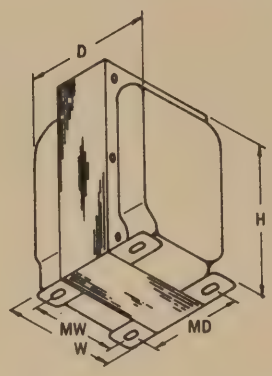
AUDIO TRANSFORMERS



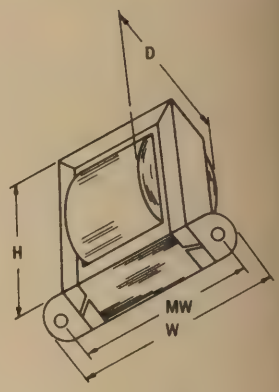
A



B



C



S

OUTPUT: HIGH FIDELITY

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max Pri. DCMA	Audio Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±1 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs.
1	A-8050	C	1500 C.T.	16/8	200	50	Leads	Leads	62.3	0.9	9.7:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8060	C	1500 C.T.	500	200	50	Leads	Leads	59.1	22.0	18:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A8051	C	2500 C.T.	16/8	150	50	Leads	Leads	100	0.7	12:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8061	C	2500 C.T.	500	150	50	Leads	Leads	97.0	21.1	2.2:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8052	C	3000 C.T.	16/8	175	50	Leads	Leads	99.1	0.8	13:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8062	C	3000 C.T.	500	175	50	Leads	Leads	93.7	19.4	2.4:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
2	A-8053	C	5000 C.T.	16/8	150	50	Leads	Leads	155	0.75	5.5:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8063	C	5000 C.T.	500	150	50	Leads	Leads	158	19.5	3.2:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8056	C	6600 C.T.	16/8	125	50	Leads	Leads	235	0.75	20:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8066	C	6600 C.T.	500	125	50	Leads	Leads	237	19.3	3.5:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8072	C	7600 C.T. a	16/8/4	100	25	Leads	Leads	292	1.0	22:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8054	C	9000 C.T.	16/8	100	50	Leads	Leads	260	0.72	23:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5
	A-8064	C	9000 C.T.	500	100	50	Leads	Leads	252	17.9	4.2:1	20-20000	2000	4¼	3 7/16	4¼	2¾	3 5/16	6.5

OUTPUT: HIGH FIDELITY

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max Pri. DCMA	Audio Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±1.5 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs.
3	BO-1	B	15000 b	600/150	10	.032	Lugs	Lugs	1650	52	4.6:1	30-20000	1500	3 1/16	2½	2 3/8	1 13/16	1 11/16	2.25
	BO-2	B	20000 C.T.	600/150	10	1.0	Lugs	Lugs	600	16	5.5:1	30-20000	1500	3½	2 7/8	2 1/16	2	1 7/8	3.0
	BO-5	B	10000 C.T.	600/150/16/8/4	45	5.0	Lugs	Lugs	310	33	4:1	30-20000	2000	3 7/8	3¼	3	2 3/8	2 1/8	4.0
	BO-6	B	7500 C.T.	20/8	80	20	Lugs	Lugs	360	0.9	19:1	30-20000	2500	4 5/16	3 11/16	3 5/16	2 5/8	2 3/8	5.75
	BO-9	B	5000/3000 C.T.	600/150/16/8/4	75	15	Lugs	Lugs	225	35	2.9:1	30-20000	2000	4 5/16	3 11/16	3 5/16	2 5/8	2 3/8	6.0

LINE TO VOICE COIL

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	Specific Types D.C. Resist. Pri. Ohms	Specific Types D.C. Resist. Sec. Ohms	Specific Types Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	Wt. Lbs.
4	A-8104	S	3000/2000/1500/ 1000/500	4/8/16	10	Lugs	Lugs	175	1.5	12.8:1	50-15000	1500	2 3/8	2 7/8	1¾	2 3/8	—	1.5
	A-3882	C	500/333/250	4/8/15	25	Lugs	Lugs	33	0.9	5.85:1	50-15000	1000	3 1/8	2½	2 7/8	2	1 11/16	2.4
	A-3818	S	1500/1000/500	4/8/15	25	Lugs	Lugs	60	0.9	9.9:1	60-20000	1500	3 1/8	3 5/8	2 1/8	3 1/8	—	2.2
	A-3883	S	500	4/6/8/15	25	Lugs	Lugs	24	1.0	5.75:1	50-15000	1500	2 3/8	2 7/8	1¾	2 3/8	—	1.1
	A-8101	A	500	3.2/6-8	5	Lugs	Leads	40	0.5	8.8:1	60-20000	1000	1 3/8	2 3/8	1 3/8	2	—	0.4
	A-7947	A	2000/1500/1000/500	3.2/6-8	8	Lugs	Lugs	150	0.8	17.2:1	60-15000	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.7
	A-7949	S	2000/1500/1000/500	3.2/6-8	12	Lugs	Lugs	120	08	17.7:1	50-15000	1500	2 3/8	2 7/8	1¾	2 3/8	—	1.1
	A-3837	S	500	.06 to 48	15	Lugs	Lugs	50	0.4	7.9:1	60-15000	1500	2 3/8	2 7/8	2	2 3/8	—	1.4

a. Has Screen grid taps on primary. b. Has Tertiary Winding to provide 15% inverse feedback. c. Has cathode feedback Winding

© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS

5 VOLT LINE TO VOICE COIL

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Power Steps in Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	WT. Lbs.
1	A-8096	S	78/156/312/625/1250	4/8/16	8/4/2/1/0.5	Lugs	Lugs	72	1.0	8.8:1	30-20000	1000	2	2⅜	1⅝	2	—	0.65
	A-8097	S	39/78/156/312/625/1250	4/8/16	16/8/4/2/1/0.5	Lugs	Lugs	60	1.1	8.68:1	30-20000	1000	2¾	3⅛	2¼	2 13/16	—	1.6
	A-8095	A	125/250/500/1000/2000	4/8	5/2.5/1.25/.62/.31	Lugs	Lugs	100	0.6	15.6:1	30-20000	1000	1⅜	2⅜	1½	2	—	0.4
	A-8099	A	312/625/1250	4/8	2/1/0.5	Lugs	Lugs	85	0.6	12.2:1	50-15000	1000	1¼	2⅛	1⅜	1¾	—	0.3
	A-8087	A	312/625/1250	8	2/1/0.5	Leads	Leads	85	0.7	12.2:1	40-15000	1000	1⅜	2⅜	1⅜	2	—	0.4
	A-4790	A	500/1000/2000	8	1.25/.62/.31	Lugs	Lugs	99	0.6	15.6:1	40-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-4791	A	125/250/500	8	5/2.5/1.25	Lugs	Lugs	46	0.6	7.8:1	40-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-4793	S	78/156/312/625 1250	8	8/4/2/1/0.5	Lugs	Lugs	68	0.7	11.9:1	40-15000	1000	2	2⅜	1⅝	2	—	0.65
2	A-4795	S	39/78/156/312/625/1250	8	16/8/4/2/1/0.5	Lugs	Lugs	60	0.8	11.7:1	20-20000	1000	2¾	3⅛	2¼	2 13/16	—	1.6
	A-8088	A	156/312/625/1250 2500/5000	8	4/2/1/.5/.25/.12	Leads	Leads	130	0.5	24.3:1	40-20000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4797	A	156/312/625/1250 2500	8	4/2/1/.5/.25	Lugs	Lugs	85	0.5	17:1	40-20000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4798	A	62.5/125/250	8	10/5/2.5	Lugs	Lugs	18	0.7	5.4:1	30-20000	1000	1⅝	2⅞	1⅝	2⅜	—	0.5
	A-4792	A	125/250/500/1000/2000	4	5/2.5/1.25/.62/.31	Lugs	Lugs	100	0.4	21.7:1	40-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-4794	S	78/156/312/625 1250	4	8/4/2/1/0.5	Lugs	Lugs	66	0.5	16.8:1	40-15000	1000	2	2⅜	1⅝	2	—	0.65
	A-4796	S	39/78/156/312/625/1250	4	16/8/4/2/1/0.5	Lugs	Lugs	60	0.6	16.7:1	30-20000	1000	2¾	3⅛	2¼	2 13/16	—	1.6

70.7 VOLT LINE TO VOICE COIL

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Power Steps in Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	WT. Lbs.
3	A-8102	S	625/1250/2500/5000/10000	4/8/16	8/4/2/1/0.5	Lugs	Lugs	670	1.0	24.9:1	50-20000	1000	2	2⅜	1⅝	2	—	0.7
	A-8103	S	312/625/1250/2500 5000/10000	4/8/16	16/8/4/2/1/0.5	Lugs	Lugs	585	1.1	24.5:1	40-15000	1000	2¾	3⅛	2¼	2 13/16	—	1.5
	A-8105	A	1000/2000/4000 8000/16000	4/8	5/2.5/1.25/.62/.31	Lugs	Lugs	950	0.6	44.2:1	50-20000	1000	1⅜	2⅜	1½	2	—	0.4
	A-8109	A	2500/5000/10000	4/8	2/1/0.5	Lugs	Lugs	800	0.6	34.9:1	50-15000	1000	1¼	2⅛	1⅜	1¾	—	0.3
	A-8080	A	1000/1250/1667 2500/5000	8/16	5/4/3/2/1	Lugs	Lugs	275	1.5	17.2:1	50-20000	1000	1⅜	2⅜	1½	2	—	0.4
	A-8082	S	333/357/384/417/455	8/16	15/14/13/12/11	Lugs	Lugs	30	1.1	5.1:1	50-20000	1000	2⅜	2⅞	1¾	2⅜	—	1.2
	A-8081	S	500/555/625/715/833	8/16	10/9/8/7/6	Lugs	Lugs	70	1.3	6.86:1	50-20000	1000	2	2⅜	1⅝	2	—	0.7
4	A-8083	A	2500/5000/10000	8	2/1/0.5	Leads	Leads	635	0.7	34.7:1	50-20000	1000	2	2⅜	1⅜	2	—	0.4
	A-4781	A	1000/1250/1667/2500/5000	8	5/4/3/2/1	Lugs	Lugs	260	1.0	24.4:1	50-20000	1000	1⅜	2⅜	1½	2	—	0.4
	A-4782	S	333/357/384/417/455	8	15/14/13/12/11	Lugs	Lugs	28	0.8	7.15:1	40-20000	1000	2⅜	2⅞	1¾	2⅜	—	1.2
	A-8084	A	1250/2500/5000/10000/20000/40000	8	4/2/1/.5/.25/.12	Leads	Leads	1150	0.4	67.6:1	50-20000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4783	A	1250/2500/5000 10000/20000	8	4/2/1/.5/.25	Lugs	Lugs	800	0.4	48:1	50-20000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4784	S	500/625/833	8	10/8/6	Lugs	Lugs	65	0.8	9.7:1	50-20000	1000	2	2⅜	1⅝	2	—	0.7
	A-4785	S	625/1250/2500/5000/10000	8	8/4/2/1/0.5	Lugs	Lugs	600	0.7	33.7:1	50-20000	1000	2	2⅜	1⅝	2	—	0.7
	A-4787	A	4000/8000/16000	8	1.25/.62/.31	Lugs	Lugs	950	0.6	44.2:1	50-15000	1000	1⅜	2⅜	1½	2	—	0.4
5	A-4789	A	1000/2000/4000	8	5/2.5/1.25	Lugs	Lugs	450	0.6	22.1:1	50-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-4799	A	500/1000/2000	8	10/5/2.5	Lugs	Lugs	130	0.9	14.7:1	50-20000	1000	1⅝	2¾	1⅝	2⅜	—	0.5
	A-4786	S	625/1250/2500/5000/10000	4	8/4/2/1/0.5	Lugs	Lugs	585	0.5	47.4:1	50-20000	1000	2	2⅜	1⅝	2	—	0.7
	A-4788	A	1000/2000/4000/8000/16000	4	5/2.5/1.25/.62/.31	Lugs	Lugs	900	0.4	61.3:1	50-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-8076	S	250/500/1000/2000	4/8/16	20/10/5/2.5	Lugs	Lugs	65	0.7	11.2:1	50-20000	1000	2⅜	2⅞	1⅞	2⅜	—	1.0
	A-8077	S	208/416/833/1666/3333	4/8/16	24/12/6/3/1.5	Lugs	Lugs	63	0.7	14:1	40-20000	1000	2¾	3⅛	2	2 13/16	—	1.5
	A-8078	S	167/250/500/1000	4/8/16	30/20/10/5	Lugs	Lugs	35	0.8	8:1	40-20000	1500	2⅜	2⅞	1¾	2⅜	—	1.0
	A-8079	S	100/125/200/333	4/8/16	50/40/25/15	Lugs	Lugs	22	1.2	4.46:1	40-20000	1000	2⅜	2⅞	2	2⅜	—	1.4

140 VOLT LINE TO VOICE COIL

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Power Steps in Watts	Termination Pri.	Termination Sec.	D.C. Resist. Pri. Ohms	D.C. Resist. Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 DB	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mounting Dimension MW	Mounting Dimension MD	WT. Lbs.
6	A-8108	A	4000/8000/16000/32000	4/8	5/2.5/1.25/.62	Lugs	Lugs	2000	0.7	64.2:1	40-15000	1000	1⅜	2⅜	1½	2	—	0.4
	A-8106	S	2500/5000/10000/20000	4/8/16	8/4/2/1	Lugs	Lugs	1250	1.0	35.3:1	40-15000	1000	2	2⅜	1⅝	2	—	0.7
	A-8107	S	1250/2500/5000/10000/20000	4/8/16	16/8/4/2/1	Lugs	Lugs	1100	1.2	36.1:1	30-20000	1000	2¾	3⅛	2	2 13/16	—	1.8

© United Technical Publications

ESSEX Stancor transformers | STANCOR

OUTPUT TRANSFORMERS

TECHNICAL DATA FOR CONSTANT VOLTAGE TYPES

The Constant Voltage Line Sound Distribution Systems have become the most widely accepted systems in use today. They offer the Sound Engineer an easy means of establishing the volume level of each speaker in a system without the use of potentiometers or similar devices. The proven simplicity and versatility of these systems minimize the problem of speaker impedance mismatching thereby insuring high quality sound reproduction and minimum power losses. The use of higher power driving the constant voltage lines also helps to lower power losses over longer distances.

Most of the newer P. A. amplifiers have a designated 25 volt, 70.7 volt or 140 volt outlet on the output transformer, but almost any older amplifier has an impedance tap which may be used for the desired voltage output.

To insure a steady maintenance of the desired line voltage, it is recommended that the amplifier should be capable of producing 1½ times the total power of the various speakers connected. Hence, if the sum of the speakers equals 25 watts, the driving amplifier should be capable of producing 37½ watts. The power and impedance figures shown here with the formulas are based on the total power actually supplied to the speakers and not on the maximum capability of the amplifier.

The following table lists various amplifier power ouputs with the corresponding impedance tap on the output transformer which will supply these three basic line voltages:

Power Output	Impedance For 140 Volt Line	Impedance For 70.7 Volt Line	Impedance For 25 Volt Line
5	4,000	1,000	125
10	2,000	500	62.5
15	3,333	333	41.7
20	1,000	250	31.2
25	800	200	25
30	666	166	21
40	500	125	15.6
50	400	100	12.5
60	333	83	10.5
80	250	62.5	7.8
100	200	50	6.3

For power ratings not shown in this table, use the following formul:

Z = E²/W
Z = Ohms
E = Volts
W = Watts Output

Impedance Tap for: 140 volt line = 20,000/W
70.7 volt line = 5,000/W
25 volt line = 625/W

To establish the volume level of the various speakers in the system it is necessary to know the power output of the amplifier and th power desired at each speaker. To choose the correct line transformers match the power to be delivered to each speaker with the power ta on the line transformer. Then connect the primaries of the line transformers in parallel to the proper voltage tap on the output transforme of the amplifier. When the sum of the power ratings shown on each line transformer is equal to the power rating of the amplifier, an the speakers are connected to the appropriate secondary taps, th system is correctly matched.

To determine the proper tap on the primary of the line transforme for a given wattage input to the speaker, use the formula:

Z = E²/W

EXAMPLE: In a 70.7 volt system assume that the speaker requires 5 watts What is the impedance of the tap required to produce this wattage?

Z = E²/W = 70.7 x 70.7/5 = 5,000/5 = 1,000 ohms

To determine the wattage input to the speaker when the tap is already connected, use the formula:

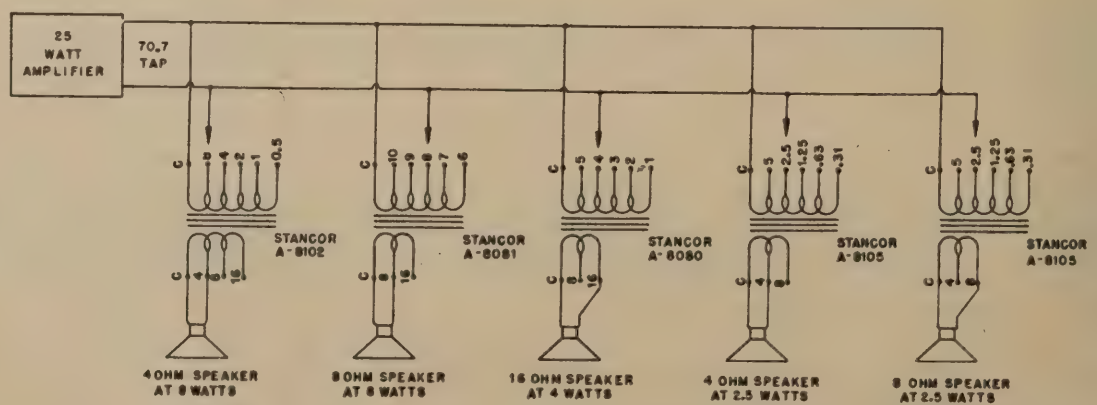
W = E²/Z

EXAMPLE: In a 70.7 volt system, assume a speaker connected to the 500 Ohm tap of the primary of the line transformer. What wattage is produced by the use of this tap?

W = E²/Z = 70.7 x 70.7/500 = 5,000/500 = 10 Watts

REMEMBER: Each speaker must have its own line-matching transformer and all of the line-matching transformers are connected in parallel to the proper voltage tap on the output transformer of the amplifier.

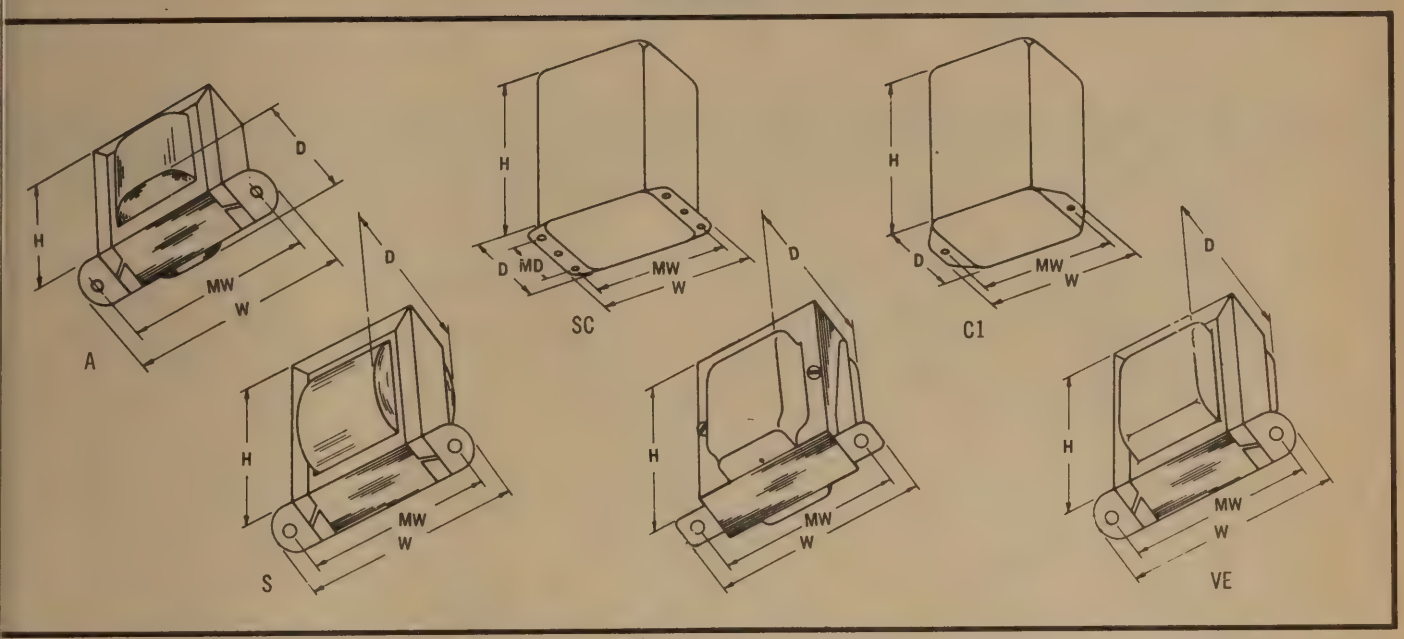
A TYPICAL 70.7 VOLT LINE DISTRIBUTION SYSTEM SHOWING THE PROPER STANCOR UNIT



© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS



FOR INTERCOMS AND TRANSCEIVERS

Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance in Ohms Pri.	DC Resistance in Ohms Sec.	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	A-4744	VE	Intercom Input	4	25000	—	Leads	Leads	0.6	750	1:79.5	200-7000	1500	1⅜	2⅜	1½	2	—	0.5
	A-4748	A	Intercom Input	45 or 50	50000	—	Leads	Leads	2.7	500	1:33	100-20000	1500	1¼	2⅛	1⅜	1¾	—	0.4
	A-8090	A	Line to Voice Coil	45 or 50	6-8/3-4	3	Lugs	Lugs	4.0	0.5	2.52:1	100-20000	1000	1⅜	2⅜	1¼	2	—	0.5
	A-8091	A	Line to Voice Coil	45 or 50	6-8/3-4	8	Lugs	Lugs	4.2	0.5	2.52:1	100-20000	1000	1⅝	2⅞	1½	2⅜	—	0.7
	A-3817	S	Transceiver Modulation and Output	5000/6750 @ 50Madc	4	10	Leads	Leads	350	1.0	36.2:1	200-5000	1500	2	2⅜	2	2	—	0.7
	A-3833	A	Transceiver Input Mic. or Plate to Grid	5000/200	60000	5	Leads	Leads	600	2300	1:2.87	200-5000	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-3836	A	Transceiver Output	10000	2000/50	5	Leads	Leads	450	150	1:97:1	200-8000	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4749	TD	Telephone Patch Circuit	10000	500	—	Leads	Leads	1325	20	7.8:1	200-4000	1000	2	2¼	1⅞	1 15/16	—	1.0

MICROPHONE, PICKUP OR LINE TO GRID

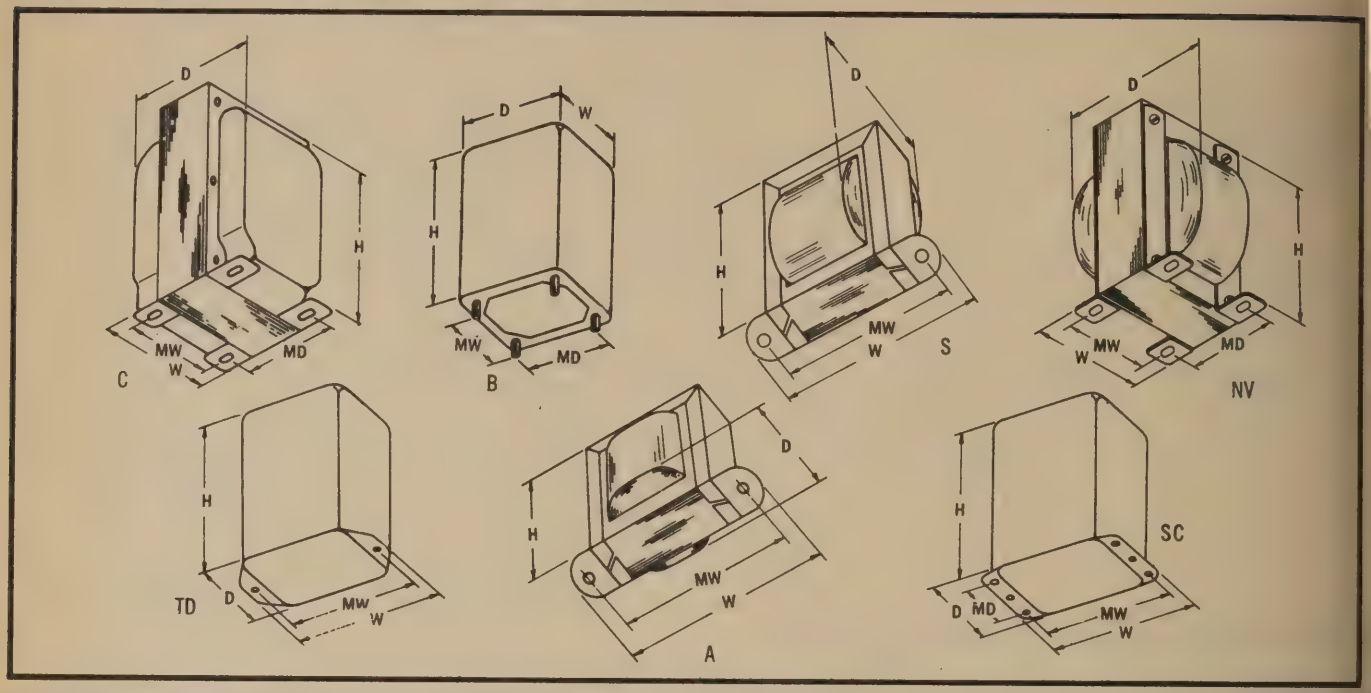
Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance in Ohms Pri.	DC Resistance in Ohms Sec.	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
2	A-4705	A	S.B. Mic. to S. Grid	200/70	80000	1:20	Leads	Leads	12	1050	1:20	200-5000	1500	1⅜	2⅜	1⅜	2	—	0.5
	A-4706	A	S.B. Mic. to S. Grid	100	60000	1:24.5	Leads	Leads	26	1850	1:24.6	200-5000	1500	1⅜	2⅜	1½	2	—	0.5
	A-4708	S	D.B. Mic. to S. Grid	200 C.T.	57000	1:17	Lugs	Lugs	46	2500	1:17	200-7000	1500	2	2⅜	1½	2	—	0.7
	A-4742	S	S.B. Mic. to P.P. Grids	100	400,000 C.T.	1:64	Leads	Leads	20	5300	1:64	100-10000	1500	2⅜	2⅞	1⅞	2⅜	—	1.2
	A-4747	VE	S.B. Mic. or Line to S. Grid	70	1,300,000	1:137	Leads	Leads	2.7	3300	1:137	200-5000	1500	1½	1 3/16	1¼	1½	—	0.5
	A-4351	SC	Mic. or Line to S. Grid	500/333/200/125/50	89000	1:13.3	Leads	Leads	22	3100	1:13.3	60-10000	1500	2 11/16	2 11/16	2¼	2⅜	1½	1.4
3	A-4352	A	Mic. or Line to P.P. Grids	500/333/200/125/50	89000 C.T.	1:13.3	Lugs	Lugs	25	3500	1:13.3	60-10000	1000	2	3¼	1⅞	2 13/16	—	1.0
	A-4709	SC	Dyn. Mic. or Pickup to S. Grid	30/15/8/4	106,000	1:60	Leads	Leads	2.2	36000	1:60	30-15000	1500	2 11/16	2 11/16	2¼	2⅜	1½	1.7
	A-4778	C1	Line to S. Grid	600/500 C.T.	240,000	1:20	Leads	Leads	35	5500	1:20	200-7000	1500	2¼	2⅞	1 3/16	2⅜	—	1.0
	A-4779	A	Line to S. or P.P. Grids	600/500 C.T.	60000 C.T.	1:10	Leads	Leads	37	1600	1:10	100-10000	1500	1⅜	2⅜	1⅜	2	—	0.5
	A-4780	VE	Line to P.P. Grids	600/500 C.T.	240,000 C.T.	1:20	Leads	Leads	35	5300	1:20	70-15000	1500	2	3¼	1 1/16	2 13/16	—	1.0

a. Has Multiple Internal Magnetic Shields.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS



MICROPHONE, PICKUP OR LINE TO GRID (Cont'd)

Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance in Ohms Pri.	DC Resistance in Ohms Sec.	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	CIC-1	TD	Line to P.P. Grids	600/150	100,000 C.T.	1:13	Leads	Leads	42	2650	1:13	200-3500	500	2⅛	2¼	1½	1 15/16	—	0.75
	CIS-1	TD	Line to P.P. Grids	600/150	100,000 C.T.	1:13	Lugs	Lugs	42	2650	1:13	200-3500	500	2⅛	2¼	1½	1 15/16	—	0.75
	CIS-2	TD	S.B. or D.B. Mic. to P.P. Grids	125/50	125,000	1:32	Lugs	Lugs	12	4300	1:32	200-3500	500	2⅛	2¼	1½	1 15/16	—	0.75

LINE TO LINE

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Frequency Response in Hz ±3 db	Audio Watts	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension W	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
2	A-4350	A	50/125/200/333/500	50/125/200/333/500	200-15000	10	Lugs	Lugs	2	3¼	1⅞	2 13/16	—	1.0
	A-4407	C	50/125/200/333/500	50/125/200/333/500	100-15000	20	Lugs	Lugs	3⅛	2½	2¾	2	1¾	2.4
	A-3838	NV	500	84/100/125/166/250	40-20000	30	Lugs	Lugs	3⅛	2½	2 11/16	2	2	2.3

INPUT: HIGH FIDELITY

Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance in Ohms Pri.	DC Resistance in Ohms Sec.	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
3	BI-1	B	Line to S. or P.P. Grids	600/150 C.T.	50000 C.T.	+15 dbm	Lugs	Lugs	57	2900	1:9.2	30-15000	500	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5
	BI-2	B	Line to S. or P.P. Grids a	600/150 C.T.	50000 C.T.	+15 dbm	Lugs	Lugs	53	2750	1:9.2	30-15000	500	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5
	BI-3	B	Line Bridging to P.P. Grids	8000/6000 C.T.	50000 C.T.	+15 dbm	Lugs	Lugs	470	3650	1:2.5	30-15000	500	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5
4	BI-4	B	Line to Line	600/150 C.T.	600/150 C.T.	+15 dbm	Lugs	Lugs	40	46	1:1	30-15000	500	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5
	BI-5	B	Line to Line	600/150 C.T.	600/150 C.T.	+30 dbm	Lugs	Lugs	37	43	1:1	30-15000	1000	3⅞	3¼	3	2⅜	2⅛	3.25
	BI-6	B	P.P. Plates to S. or P.P. Grids	20000 C.T.	50000 C.T.	+15 dbm	Lugs	Lugs	1400	4400	1:1.5	30-15000	750	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5
	BI-7	B	Mic., Pickup or Line to Grid	600/250/150/50	50000 C.T.	+15 dbm	Lugs	Lugs	67	3000	1:9.2	30-15000	750	2 11/16	2¼	2⅛	1 5/16	1⅜	1.5

a. Has Multiple Internal Magnetic Shields.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

AUDIO TRANSFORMERS

HI-FI: WF SERIES — SHIELDED

Sec-tion	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance in Ohms Pri.	DC Resistance in Ohms Sec.	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	WF-20	WF	Mic., Pickup or Line to Grid	500-600/333/250/200/125-.50/50	50000 C.T.	+7 db	Lugs	Lugs	88.0	3150	1:10	30-20000	500	2	1½	1½	1 5/32	1 5/32	0.6
	WF-21	WF	Mic., Pickup or Line to Grid	500/200/50	50000 C.T.	+7 db	Lugs	Lugs	61.2	3760	1:10	30-20000	500	2	1½	1½	1 5/32	1 5/32	0.6
	WF-22	WF	Mic., Pickup or Line to Grid	500-600/333/250/200/125-150/50	80000 C.T.	+7 db	Lugs	Lugs	62.9	3310	1:12.2	30-20000	500	2	1½	1½	1 5/32	1 5/32	0.6
2	WF-28	WF	S. or P.P. Plates to S. or P.P. Grids	15000 C.T.	80000 C.T.	+7 db	Lugs	Lugs	1070	3000	1:2.3	30-20000	1500	2	1½	1½	1 5/32	1 5/32	0.6
	WF-30	WF	Mixer, Mic., Pickup, or Line to Line	500-600/333/250/200/125-150/50	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	80.0	84.2	1:1	30-20000	500	2	1½	1½	1 5/32	1 5/32	0.6
	WF-35	WF	S. Plate to Line	15000	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	1600	77.0	5.5:1	30-20000	1500	2	1½	1½	1 5/32	1 5/32	0.6
	WF-36	WF	P.P. Plates to Line	30000 C.T.	500-600/333/250/200/125-150/50	+7 db	Lugs	Lugs	2310	96.1	7.6:1	30-20000	1000	2	1½	1½	1 5/32	1 5/32	0.6

INTERSTAGE: SINGLE PLATE (7,000 TO 20,000 OHM) TO SINGLE GRID

	STANCOR Part No.	Style	Ratio	Max. Pri. DCMA	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
3	A-53	A	1:3	10	Leads	Leads	400	1500	1:3	100-10000	1000	1⅜	2⅜	1⅜	2	—	0.5

INTERSTAGE: PUSH-PULL PLATES (7,000 TO 15,000 OHM) TO PUSH-PULL GRIDS

4	A-52C	A	1:2	10	Leads	Leads	570	1450	1:2	100-10000	1000	1⅜	2⅜	1½	2	—	0.4
	A-62C	A	1:2	10	Leads	Leads	750	1850	1:2	100-10000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4745	SC	1:2	10	Leads	Leads	1500	3950	1:2	60-10000	1500	2 11/16	2 11/16	2¼	2⅜	1½	1.7
	A-53C	A	1:3	10	Leads	Leads	400	1500	1:3	100-10000	1000	1⅜	2⅜	1½	2	—	0.5
	A-63C	A	1:3	10	Leads	Leads	565	2050	1:3	100-10000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-73C	A	1:3	10	Leads	Leads	900	3300	1:3	70-10000	1000	2	3¼	1¾	2 13/16	—	1.0
	A-4719	SC	1:3	10	Leads	Leads	1250	4500	1:3	60-10000	1500	2 11/16	2 11/16	2¼	2⅜	1½	1.7
	A-64C	S	1:4	10	Leads	Leads	450	2250	1:4	100-10000	1000	2	2⅜	1⅝	2	—	0.7

INTERSTAGE: SINGLE PLATE (7,000 TO 15,000 OHM) TO PUSH-PULL GRIDS

5	A-4711	A	1:1	10	Leads	Leads	1300	1600	1:1	60-10000	1000	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4208	C	1:1.4	15	Leads	Leads	1250	1750	1:1.4	60-10000	1500	3⅛	2½	2¾	2	1¾	2.5

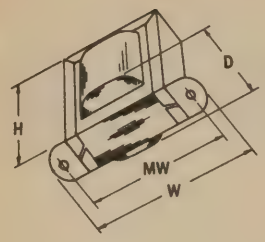
INTERSTAGE: MULTI-PURPOSE (7,000 TO 15,000 OHM PLATES)

6	A-4774	S	1:3	10	Leads	Leads	1250	4000	1:3	70-10000	1000	2⅜	2⅞	1¾	2⅜	—	1.2
	A-4773	SC	1:3	10	Leads	Leads	1350	4850	1:3	70-10000	1000	2 11/16	2 11/16	2¼	2⅜	1½	1.7
			Proper Connections will provide Ratios of 1:1, 1:3, or 1:6. May be used for Single or Push-Pull Plates to Single or Push-Pull Grids.														

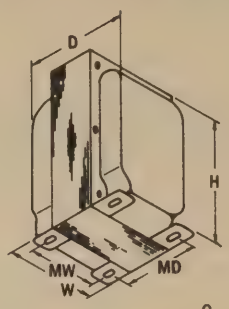
a. Has Multiple Internal Magnetic Shields.

ESSEX Stancor transformers | STANCOR

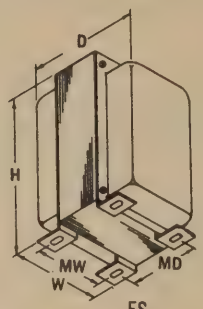
AUDIO TRANSFORMERS



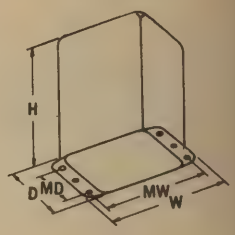
A



C



FS



SC

DRIVER: SINGLE PLATE TO PUSH-PULL GRIDS*

Section	STANCOR Part No.	Style	Pri. Impedance in Ohms	Max. Pri. DCMA	Ratio Pri.: ½ Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	A-4713	A	10000	30	2:1	5	Leads	Leads	550	875	2:1	100-20000	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4752	A	10000	40	2/1.5/1:1	10	Leads	Leads	420	650	2/1.5/1:1	60-10000	1500	2	3¼	1¾	2 1/16	—	1.2
	A-4292	A	10000	20	2.5:1	5	Leads	Leads	1125	725	2.5:1	100-10000	1000	1⅝	2⅞	1½	2⅜	—	0.7
	A-4723	A	10000	30	3:1	5	Leads	Leads	435	435	3:1	200-15000	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-4702	C	1500 to 5000	80	5:1	20	Leads	Leads	325	150	5:1	60-10000	1500	3⅛	2½	2¾	2	1¾	2.5

DRIVER: PUSH-PULL PLATES TO PUSH-PULL GRIDS*

Section	STANCOR Part No.	Style	Pri. Impedance in Ohms	Max. Pri. DCMA	Ratio Pri.: ½ Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
2	A-4208	C	10000 to 30000 C.T.	15	2.8:1	15	Leads	Leads	1750	1250	2.8:1	60-10000	1500	3⅛	2½	2¾	2	1¾	2.5
	A-4212	C	1500 to 5000 C.T.	50	3.2:1	20	Leads	Leads	575	425	3.2:1	60-10000	1500	3⅛	2½	2¾	2	1¾	2.5

DRIVER: "POLY-PEDANCE" — MULTIPLE TAPS OFFER A WIDE RANGE OF RATIO SELECTION*

Section	STANCOR Part No.	Style	Pri. Impedance in Ohms	Max. Pri. DCMA	Ratio Pri.: ½ Sec.	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
3	A-4761	C	5000 to 15000 C.T.	100	2.4/2.2/2.1/1.8/1.6/1.4/1.25:1	15	Leads	Leads Lugs	100	190	UNIV.	200-4000	1000	3⅛	2½	3⅛	2	2⅛	3.4
	A-4762	C	5000 to 15000 C.T.	100	5/4.5/4/3.4/3.4/3.2/3.1/2.6:1	15	Leads	Leads Lugs	88	83	UNIV.	200-4000	1000	3⅛	2½	2¾	2	1¾	2.7
	A-4765	C	500	—	1.33/1.2/1/.8/.7/.5/.45/.4/.36/.32:1	15	Leads	Leads Lugs	45	210	UNIV.	200-4000	1000	3⅛	2½	2¾	2	1¾	3.2

MODULATION

Section	STANCOR Part No.	Style	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max. Sec. DCMA	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
4	A-3812	A	10000 C.T.	4000	50	5	Leads	Leads	435	165	1.58:1	200-5000	1500	1⅝	2⅞	1⅝	2⅜	—	0.7
	A-3871	SC	4500	8500	50	10	Leads	Leads	150	350	1:13.7	200-5000	1500	2 1/16	2 1/16	2¼	2⅜	1½	1.4
	A-3845	C	10000 C.T.	8000/6500/5000/3000	100	25	Leads	Leads	150	165	1.13:1	200-5000	2500	3⅛	2½	2⅞	2	1⅞	2.8
	A-3808	C	3800/3300 C.T.	10000/7500/5000/4000	170	60	Lugs	Lugs	52	175	1:1.62	200-5000	3500	4 1/16	3¾	4	3	2 13/16	7.7
	A-3829	C	9000/6900 C.T.	6250/5000/4000/3300	300	175	Lugs	Lugs	84	83	1.2:1	200-5000	5000	4 1/16	3¾	5	3	2 13/16	11.4

MODULATION: "POLY-PEDANCE" — MULTIPLE TAPS OFFER A WIDE RANGE OF IMPEDANCE MATCH

Section	STANCOR Part No.	Style	Pri. Impedance in Ohms	Sec. Impedance in Ohms	Max. Sec. DCMA	Audio Watts	Termination Pri.	Termination Sec.	DC Resistance Pri. Ohms	DC Resistance Sec. Ohms	Overall Turns Ratio	Frequency Response in Hz ±3 db	RMS Test Voltage	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
5	A-3891	C	2000 to 20000	2000 to 20000	100	15	Lugs	Lugs	170	240	UNIV.	200-4000	2500	3⅛	2½	2¾	2	1¾	2.5
	A-3892	C	2000 to 20000	2000 to 20000	150	30	Lugs	Lugs	215	275	UNIV.	200-4000	2500	3⅞	3⅛	3½	2½	2 3/16	4.3
	A-3893	C	2000 to 20000	2000 to 20000	180	60	Lugs	Lugs	190	250	UNIV.	200-4000	3000	3⅞	3⅛	4	2½	2 1/16	6.2
	A-3894	C	2000 to 20000	2000 to 20000	225	125	Lugs	Lugs	120	150	UNIV.	200-4000	4000	4 1/16	3¾	4 1/16	3	3 3/16	9.4
	A-3898	FS	2000 to 20000	2000 to 20000	260	300	Terms	Terms	150	200	UNIV.	200-4000	7500	8⅛	5¾	7⅝	4⅝	4¾	3.8
	A-3899	FS	2000 to 20000	2000 to 20000	500	600	Terms	Terms	165	215	UNIV.	200-4000	12000	9⅛	7¼	10¼	6	5⅝	7.0

*Refer to information pertaining to turns ratios shown on page 10.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

MINIATURE TRANSISTOR TRANSFORMERS

FOR PC BOARD APPLICATIONS

COLOR CODING by application to assure immediate and positive transformer identification.

RECTANGULAR SHAPE allows the utmost utilization of space and stacking in limited area.

PROTECTIVE STAND-OFF prevents solder flow-back and maximum lead exit protection.

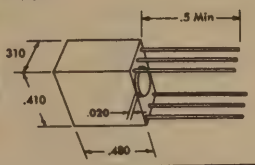
SPACED LEADS of fatigue resistant gold plated nickel-iron alloy are .020" in diameter, ¾" long and have multiples of 0.1" grid spacing for printed circuit application.

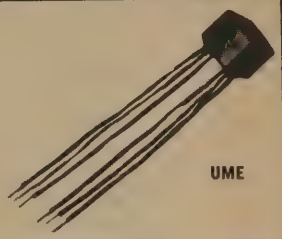
Magnetic Shielding Available*





PCT





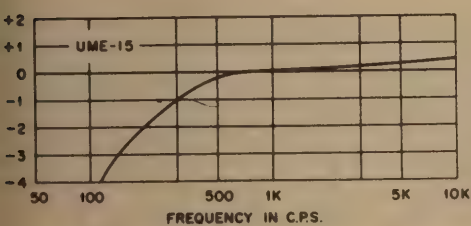
UME

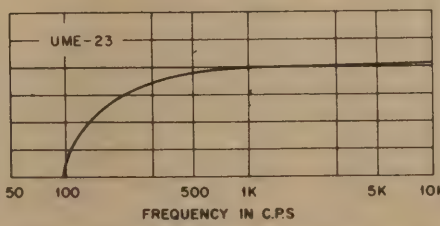
POLYCHROMATRANS: WITH MULTIPLES OF 0.1" GRID SPACING FOR PRINTED CIRCUITS

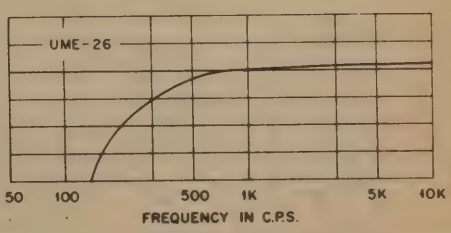
Section	STANCOR Part No.	Power Level in M.W.	Application	Color Application Guide	Matching Impedance Pri.	Matching Impedance Sec.	Max. MA. D.C. Unbal. in Pri.	D.C. Resistance Pri.	D.C. Resistance Sec.	Overall Turns Ratio	RMS Test Volts
1	PCT-14	15	Input	Brown	200,000 C.T.	1000 C.T.	0	6300	130	14.1:1	500
	PCT-15	35	Input	Brown	50000 C.T.	1000 C.T.	0	4600	90	7.1:1	500
	PCT-16	.5	Input	Brown	250,000 C.T.	250,000	0	3500	4500	1:1	500
	PCT-17	15	Input	Brown	200,000	1000	0	6300	130	14.1:1	500
	PCT-21	55	Interstage	Red	25000	1000	.5	2000	140	5:1	500
	PCT-23	55	Interstage	Red	25000 C.T.	1000 C.T.	.5	2000	140	5:1	500
	PCT-25	75	Interstage	Red	10000 C.T.	1500 C.T.	1	1250	360	2.57:1	500
2	PCT-30	75	Driver	Orange	10000 C.T.	1200 C.T.	1	1000	250	2.88:1	500
	PCT-31	75	Driver	Orange	10000 C.T.	2000 C.T.	1	1000	400	2.24:1	500
	PCT-39	75	Driver	Orange	10000 C.T.	500 C.T.	1	1000	85	4.47:1	500
	PCT-43	75	Output	Yellow	1000	50	3	175	9.5	4.4:1	500
	PCT-54	75	Output	Yellow	600 C.T.	12	4.5	92	4	7.06:1	500
	PCT-60	75	Output	Yellow	500 C.T.	600	3	80	118	1.1:1	500
	PCT-61	75	Output	Yellow	900 C.T.	600	4	125	115	1.22:1	500
	PCT-62	75	Output	Yellow	1500 C.T.	600	3	200	110	1.58:1	500
3	PCT-70	75	Output	Yellow	320 C.T.	3.2	6	52	.9	10:1	500
	PCT-71	75	Output	Yellow	600 C.T.	3.2	4.5	95	.07	13.6:1	500
	PCT-76	75	Output Isolation	Green	10000 C.T.	10000 C.T.	1	1100	1400	1:1	500
	PCT-77	75	Output Isolation	Green	600 C.T.	600 C.T.	3	85	110	1:1	500
	PCT-116	—	Choke	Blue	6 HYS.	—	2	1800	—	—	500
	PCT-117	—	Choke	Blue	1.25 HYS.	—	2	1200	—	—	500
	PCT-118	—	Choke	Blue	3.5 HYS.	—	2	200	—	—	500
	PCT-128	—	Choke	Blue	.3 HY.	—	4	500	—	—	500

* SPCT-10 Magnetic Alloy Shield - fits all PCT Transformers.

ULTRA MINIATURE ENCAPSULATED TRANSFORMERS: SIZE .312" x .400" x .426" — INSULATION TEST, 100 VOLTS





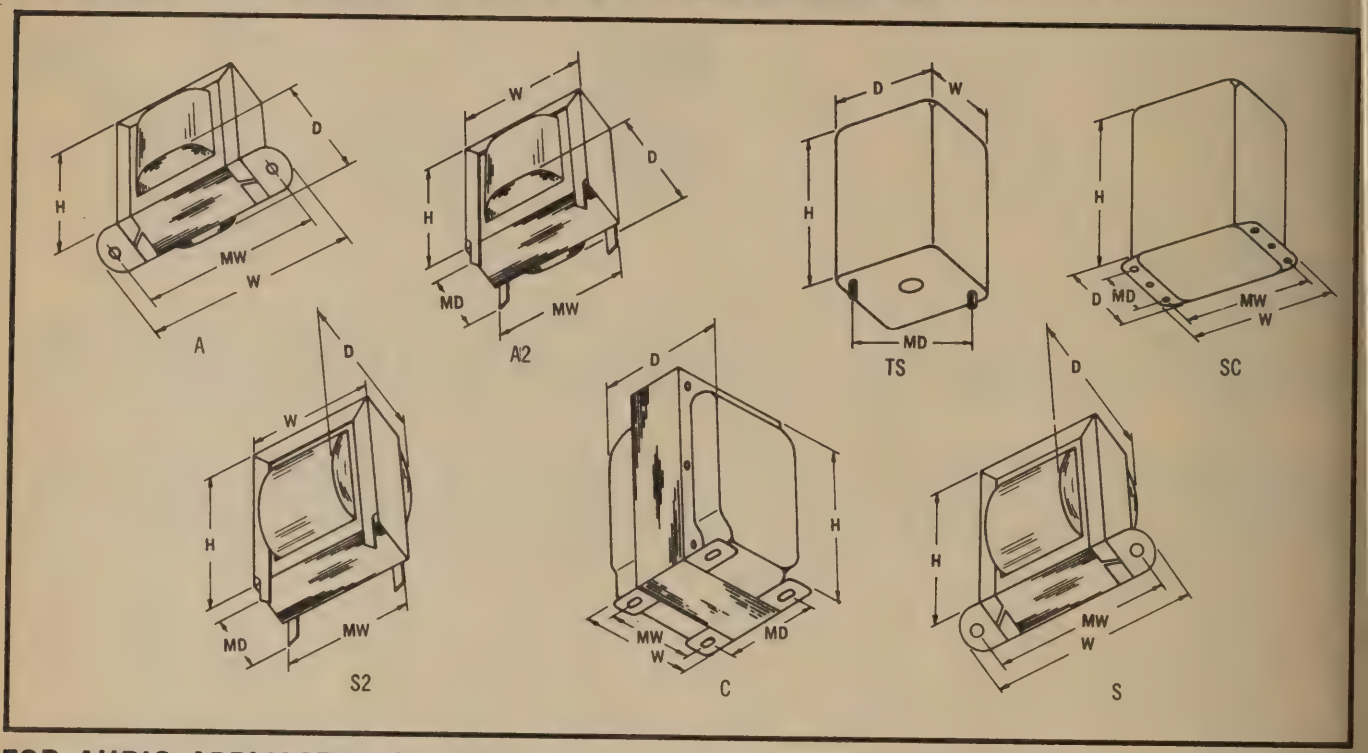


Section	STANCOR Part No.	Application	Pri. Res.	Pri. Imp. in Ohms	D.C. MA in Pri.	Sec. Imp. in Ohms	Sec. Res.	Mw. Level
4	UME-11	Interstage	1500	30000	.5	1200	185	50
	UME-12	Output	120	600	3	60	13	100
	UME-13	Output	250	1200	3	60	17	100
	UME-14	Output	70	600	3	3.2	.7	100
	UME-15	Output	170	1200	2	3.2	.75	100
	UME-16	Output	1200	10000 C.T.	1	3.2	.7	100
	UME-17	Input	7500	200,000		1000	260	25
	UME-18	Reactor	1000	3 hy @ 2 MADC	2	—	—	—
5	UME-19	Output or driver	1100	12500 C.T.	1	600 C.T.	45	100
	UME-20	Driver	1000	12500	1	1500 C.T.	100	100
	UME-21	Driver	1100	12500	1	2500 C.T.	160	100
	UME-22	Single or PP output	25	200 C.T.	10	16	3	500
	UME-23	Single or PP output	35	400 C.T.	7	16	2.5	500
	UME-24	Single or PP output	75	800 C.T.	5	16	2	500
6	UME-25	Single or PP output	85	1070 C.T.	4	16	2	500
	UME-26	Single or PP output	120	1330 C.T.	3.5	16	2	500
	UME-27	Single or PP output	225	2000 C.T.	3	16	2.5	500
	UME-28	Single or PP output	750	10000 C.T.	1	16	2.5	500
	UME-29	Output	35	300 C.T.	7	600	110	500
	UME-30	Output	60	900 C.T.	4	600	110	500
7	UME-31	Output	105	900 C.T.	4	600	110	500
	UME-32	Output	200	1500 C.T.	3	600	120	500
	UME-33	Interstage	1500	30000 C.T.	.5	1200 C.T.	175	100
	UME-34	Input	6500	200,000 C.T.	0	1000 C.T.	250	25
	UME-35	Interstage	1000	12000 C.T.	1	1800 C.T.	115	100
	UME-36	Reactor	2600	6 hy @ 2 MADC	2	—	—	—
	UME-37	Reactor	190	1 hy @ 2 MADC	2	—	—	—
	UME-38	Reactor	1800	12 hy @ 0 DC	0	—	—	—
	UME-39	Reactor	2700	20 hy @ 0 DC	0	—	—	—

© United Technical Publications

ESSEX Stancor transformers | STANCOR

TRANSISTOR TRANSFORMERS



FOR AUDIO APPLICATIONS: ALL UNITS TERMINATE WITH LEADS

Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max. Pri. DCMA	Audio Watts	DC Res. in Ohms Pri.	DC Res. in Ohms Sec.	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mtg. Dimensions MW	Mtg. Dimensions MD	Wt. Lbs.
1	TA-1	A	Input	600 C.T.	10	20	.05	42	0.8	1 3/16	1 5/8	1	1 3/8	—	.07
	TA-2	A	Interstage	100 C.T.	10 C.T.	100	.25	4.3	0.8	1 1/4	2 1/8	1 1/2	1 3/4	—	.25
	TA-3	A	Interstage	100	1000 C.T.	100	.25	5.8	45	1 3/8	2 3/8	1 1/2	2	—	.35
	TA-4	A	Interstage	500 C.T.	5000 C.T.	12	.03	37	250	1 3/8	2 3/8	1 5/8	2	—	.35
	TA-5	A	Driver	1000	200 C.T.	10	.05	400	115	1 1/16	1 5/16	5/8	1 1/16	—	.05
	TA-6	A	Driver	2000	200 C.T.	5	.05	720	115	1 1/16	1 5/16	5/8	1 1/16	—	.05
2	TA-7	A	Driver	100	100 C.T.	100	.5	12	12	1 5/8	2 7/8	1 5/8	2 3/8	—	.60
	TA-8	A	Output	9800	15	2	.05	640	2	1 1/16	1 5/16	5/8	1 1/16	—	.05
	TA-9	A	Output	1000	16/8/4	10	.2	180	3.5	1 3/16	1 5/8	7/8	1 3/8	—	.07
	TA-10	A	Output	2000 C.T.	16/8/4	—	.2	250	4	1 3/16	1 5/8	7/8	1 3/8	—	.08
	TA-11	A	Output	48 C.T.	16/8	275	5	5	1.5	2	3 1/4	1 7/8	2 13/16	—	1.0
3	TA-12	A	Output	20 C.T.	8	500	10	.55	.35	1 3/8	2 3/8	1 5/8	2	—	.45
	TA-13	SC	Driver	200 C.T.	400 C.T.	10	.6	4	7	2 13/16	2 11/16	2 1/4	2 3/8	1 1/2	1.5
	TA-14	SC	Output	24 C.T.	16/4	200	10	2	1.2	4 3/16	4 7/16	3 11/16	3 7/8	2 3/4	6.6
	TA-56	S†	Output	48 C.T.	16/8/3.2	550	10	3.6	1.4	2 3/8	2 7/8	1 3/4	2 3/8	—	.90
	TA-57	S	Output	100 C.T.	16/8/3.2	500	10	6.6	1.5	2 3/8	2 7/8	1 7/8	2 3/8	—	.95
4	TA-58	A	Driver	100	200 C.T.	200	.5	6.5	15.5	1 1/4	2 1/8	1 3/8	1 3/4	—	.20
	TA-59	A	Driver	500 C.T.	200 C.T.	50	.5	36.5	15.5	1 1/4	2 1/8	1 3/8	1 3/4	—	.20
	TA-60	TS	Output	125 C.T.	8	50	1.5	7.5	0.9	1 11/16	1 5/16	1 5/16	—	1 3/32	.30
	TA-61	S	Driver	*	*	—	—	1.8	1.8	2	2 3/8	1 1/2	2	—	.60
	TA-62	A	Output	25	4	400	4	1.5	0.4	1 5/8	2 7/8	1 5/8	2 3/8	—	.60

FOR TRANSISTORIZED AUTO RADIOS

5	TA-48	S2	Interstage	1000	40	10	2	136	2.8	1 3/4	1 7/16	1 1/4	1 1/16	5/16	.35
	TA-49	S	Output	30 C.T.	4	50	10	2.2	0.3	2 3/8	2 7/8	1 1/2	2 3/8	—	.80
	TA-50	A2	Output	9	4	920	10	.15	1.0	2	2 5/16	1 5/8	1 7/8	3/16	1.0
	TA-51	S2	Interstage	1000	10	10	2	170	1.0	1 3/4	1 7/16	1 1/4	1 1/16	5/16	.35

FOR TRANSISTOR MOBILE MODULATOR (WRITE FOR BULLETIN 545 FOR CIRCUIT)

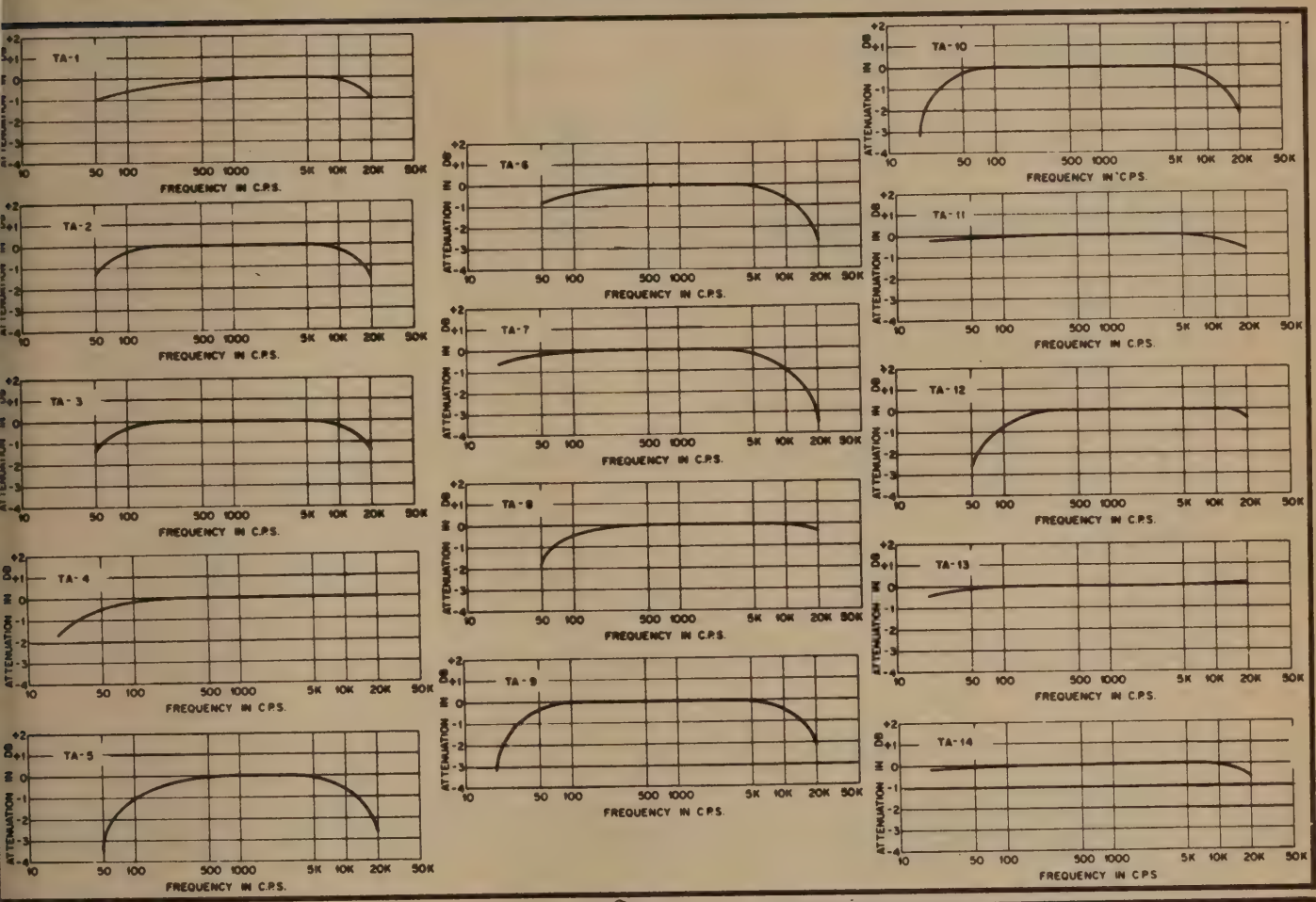
Section	STANCOR Part No.	Style	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max. Pri. DCMA	Audio Watts	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mtg. Dimensions MW	Mtg. Dimensions MD	Wt. Lbs.
6	TA-15	A	Input	50 to 100	10	50	.005	15/16	1 5/8	1	1 3/8	—	0.15
	TA-16	A	Driver	20	36 C.T.	400	1.0	1 1/4	2 1/8	1 1/8	1 3/4	—	0.20
	TA-17	C	Modulation	8 C.T.	7500/5000 @ 120 Ma	—	35.0	3 1/8	2 1/2	3	2	2	3.0

*Trifilar Wound-Ratio 1:1:1. †Has Lugs on Secondary.

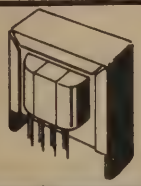
© United Technical Publications

ESSEX Stancor transformers | STANCOR

TRANSISTOR TRANSFORMERS

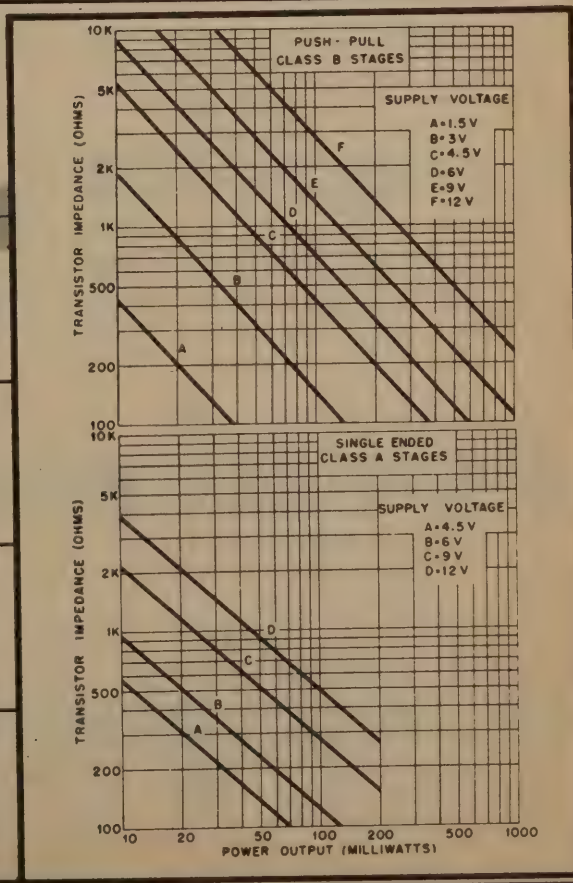


MINIATURE AUDIOS
.150 WATT GROUP



Dimensions: 21/32"H x 13/16"W x 5/8"D.
Mounting tabs 3/16" wide, 25/32" centers.
Weight: .65 oz. **Mounting Type** A1.

Section	STANCOR Type No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms		DC Res. in Ohms	
				Pri.	Sec.	Pri.	Sec.
1	TA-18	Input	1.00:45.5	30 C.T.	50000	14.7	4060
	TA-19	Interstage	3.08:1	100 C.T.	10 C.T.	19	1.27
	TA-20	Output	5.22:1	350 C.T.	4, 12	38	1.45
	TA-21	Output	5.53:1	500 C.T.	4, 8, 16	75.3	3.55
	TA-22	Interstage	3.16:1	500 C.T.	50	59.7	7.9
2	TA-23	Output	5.65:1	600 C.T.	4, 8, 16	73.2	3.2
	TA-24	Interstage	3.16:1	500 C.T.	50000	76.8	5135
	TA-25	Output	6.75:1	825 C.T.	4, 8, 16	74	2.7
	TA-26	Output	9.80:1	1250	4, 12	132.5	1.4
	TA-27	Interstage	1:4.08	1200	20000 C.T.	142	1860
	TA-28	Interstage	1.65:1	1500	500 C.T.	104	46.5
3	TA-29	Output	11.8:1	2500	4, 16	370	2.3
	TA-30	Interstage	1.00:1.22	5000 C.T.	7500 C.T.	650	790
	TA-31	Interstage	1.00:1.41	5000 C.T.	10000 C.T.	635	825
	TA-53	Interstage	1:3	5000 C.T.	45000	310	1400
	TA-32	Interstage	1.00:4	5000 C.T.	80000 C.T.	500	5200
	TA-33	Output	24.6:1	10000 C.T.	4, 8, 16	1174	2.6
4	TA-34	Interstage	6.97:1	10000	200 C.T.	1200	25.0
	TA-35	Interstage	2.24:1	10000	2000 C.T.	1200	257
	TA-36	Interstage	1.83:1	10000	3000 C.T.	1200	385
	TA-54	Interstage	5.1	20000	800 C.T.	1350	95
	TA-37	Output	5.55:1	400 C.T.	11	71.5	1.5
	TA-38	Interstage	1.72:1	500 C.T.	150 C.T.	62	21.2

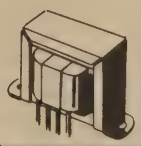


© United Technical Publications

ESSEX Stancor transformers | STANCOR

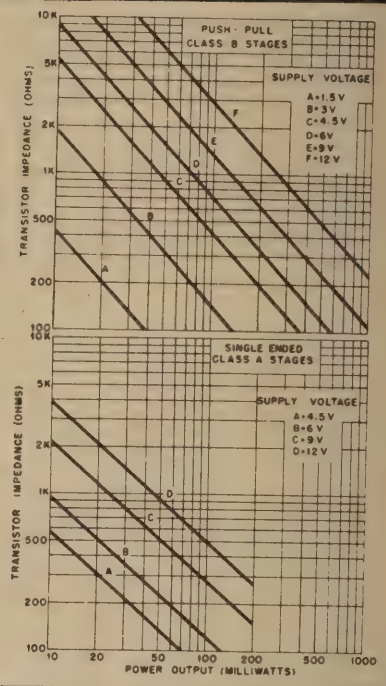
TRANSISTOR TRANSFORMERS

MINIATURE AUDIOS
.300 WATT GROUP



Dimensions: 1 3/16"H x 1 5/8"W x 3/4"D.
Mounting Centers: 1 3/8".
Weight: 1.2 oz. Mounting Type A.

Section	STANCOR Type No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Impedance in Ohms Sec.	DC Res. in Ohms Pri.	DC Res. in Ohms Sec.
1	TA-39	Output	2.5:1	100 C.T.	4, 8, 16	10.9	1.45
	TA-40	Output	3.27:1	160	4, 8, 16	18.7	1.4
	TA-41	Output	5.00:1	400 C.T.	4, 8, 16	34	1.5
	TA-42	Output	5.60:1	500 C.T.	4, 8, 16	47	.85
	TA-52	Interstage	1:1	500 C.T.	500 C.T.	40	55
	TA-43	Output	6.63:1	700 C.T.	4, 8, 16	77	1.15
2	TA-44	Output	12.5:1	2500	4, 8, 16	172	1.15
	TA-45	Output	13.7:1	3000	4, 8, 16	192	1.2
	TA-46	Interstage	8.17:1	100000	1500 C.T.	3250	143
	TA-55	Input	50:1	500000	200 C.T.	7000	8.5
	TA-47	Input	1.00:14.1	1000 C.T.	200000 C.T.	123	1815
	TA-63	Driver	3.17:1	20000 C.T.	2000 C.T.	2140	325



MINIATURE AUDIOS FOR PRINTED CIRCUITS
.150 WATT GROUP (FIG. A)

3	TAPC-19	Interstage	3.08:1	100 C.T.	10 C.T.	19	1.27
	TAPC-26	Output	9.80:1	1250	4, 12	132.5	1.4
	TAPC-27	Interstage	1:4.08	1200	20000 C.T.	142	1860
	TAPC-28	Interstage	1.65:1	1500	500 C.T.	104	46.5
	TAPC-30	Interstage	1.00:1.22	5000 C.T.	7500 C.T.	650	790
4	TAPC-31	Interstage	1.00:1.41	5000 C.T.	10000 C.T.	635	825
	TAPC-32	Interstage	1.00:4	5000 C.T.	80000 C.T.	500	5200
	TAPC-34	Interstage	6.97:1	10000	200 C.T.	1200	25
	TAPC-35	Interstage	2.24:1	10000	2000 C.T.	1200	257
	TAPC-36	Integstage	1.83:1	10000	3000 C.T.	1200	385
	TAPC-38	Interstage	1.72:1	500 C.T.	150 C.T.	62	21.2

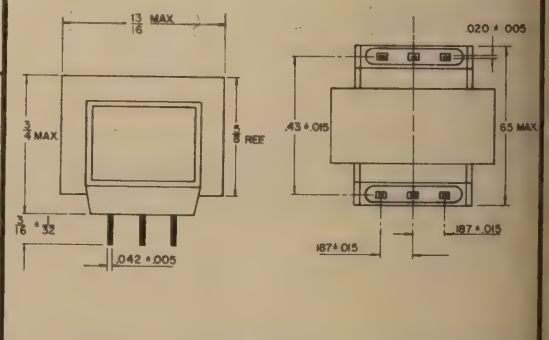


Fig. A

.050 WATT GROUP (FIG. A)

Section	STANCOR Type No.	Application	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Max. Pri. DCMA	Audio Watts	DC Res. in Ohms Pri.	DC Res. in Ohms Sec.	Wt. Lbs.
5	TAPC-5	Driver	2000	200	5	.05	400	115	.05

.300 WATT GROUP (FIG. B)

Section	STANCOR Type No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Impedance in Ohms Sec.	DC Res. in Ohms Pri.	DC Res. in Ohms Sec.
6	TAPC-47	Input	1:14.1	1000 C.T.	200000 C.T.	123	1815
	TAPC-52	Interstage	1:1	500 C.T.	500 C.T.	40	55
	TAPC-63	Driver	3.17:1	20000 C.T.	2000 C.T.	2140	325

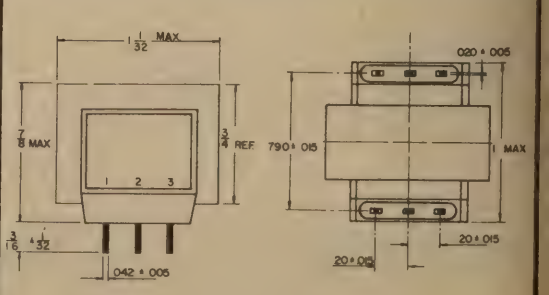


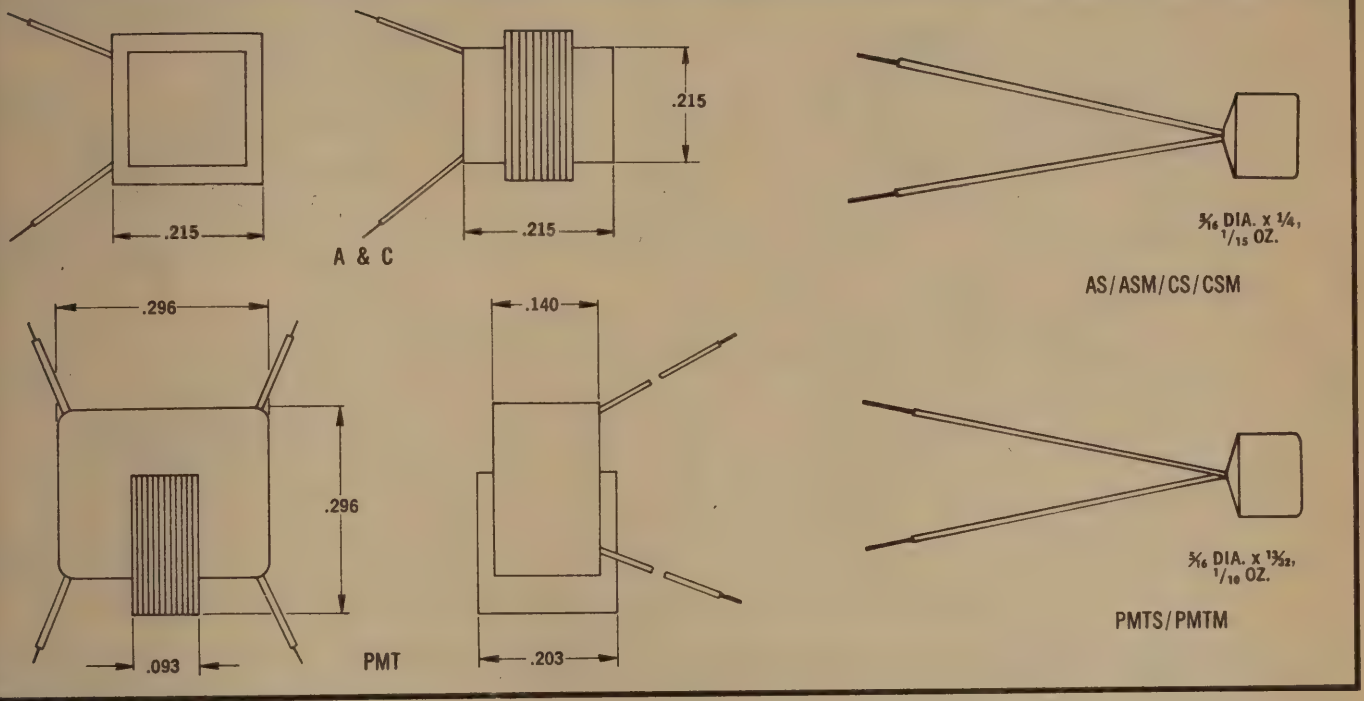
Fig. B

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PICO-MINIATURE TRANSISTOR TRANSFORMERS

FOR PC BOARD APPLICATIONS



A & C — AS/ASM/CS/CSM

Section	STANCOR Part No.			Application	Turns Ratio Pri. to Sec.	Impedance (Ohms)		DC Res. (Ohms)		Power Level (MW)
						Pri.	Sec.	Pri.	Sec.	
1	A-1	AS-1	ASM-1	Driver	1:3.2	60 C.T.	600 C.T.	12	105	5
	A-2	AS-2	ASM-2	Output	4.0:1	1000	50	225	16	5
	A-3	AS-3	ASM-3	Interstage	1:1.04	6000 C.T.	6000 C.T.	1200	1000	5
	A-4	AS-4	ASM-4	Driver	2.85:1	10000	1000	1500	425	5
	A-5	AS-5	ASM-5	Interstage	1:1.02	10000	10000	1620	2040	5
	A-6	AS-6	ASM-6	Input or Output	14.1:1	90000*	500**	3500	2050	1

Section	STANCOR Part No.			Application	Inductance	DC Resistance (Ohms)	Power Level (MW)
2	C-1	CS-1	CSM-1	Reactor	0.22 HYS @ 4.0 MADC 2.10 HYS @ 0.0 MADC	515 OHMS 515 OHMS	5 10
	C-2	CS-2	CSM-2	Reactor	0.60 HYS @ 2.0 MADC 5.60 HYS @ 0.0 MADC	1350 OHMS 1350 OHMS	5 10
	C-3	CS-3	CSM-3	Reactor	3.0 HYS @ 1.0 MADC 8.3 HYS @ 0.0 MADC	3400 OHMS 3400 OHMS	5 10
	C-4	CS-4	CSM-4	Reactor	20.0 HYS @ 0.0 MADC	3400 OHMS	10

PMT-1 THRU 9 — PMTS/PMTM-1 THRU 9

Section	STANCOR Part No.			Application	Turns Ratio Pri. to Sec.	Impedance (Ohms)		DC Res. (Ohms)		Power Level (MW)
						Pri.	Sec.	Pri.	Sec.	
3	PMT-1	PMTS-1	PMTM-1	Output	3.77:1	1000	50	260	40	10
	PMT-2	PMTS-2	PMTM-2	Driver	1.51:1	1500	600	260	117	10
	PMT-3	PMTS-3	PMTM-3	Interstage	2.22:1	10000	2000	1240	280	10
	PMT-4	PMTS-4	PMTM-4	Interstage	4.48:1	20000	1000	2500	330	10
	PMT-5	PMTS-5	PMTM-5	Reactor		0.5 HYS. @ 1 MADC		155		
	PMT-6	PMTS-6	PMTM-6	Reactor		10.0 HYS @ 0 MADC		1950		
	PMT-7	PMTS-7	PMTM-7	Interstage	1:1	10000 C.T. 12000 C.T.	10000 C.T. 12000 C.T.	1000	1600	100
	PMT-8	PMTS-8	PMTM-8	Interstage	1:1:1	2000 C.T. 2500 C.T.	8000 split 10000 split	300	1600	100
	PMT-9	PMTS-9	PMTM-9	Interstage or Output		40000 C.T. 50000C.T.	400 split 500 split	3500	100	50

* 90,000 ohms with 1000 secondary load. ** 500 ohms with 100,000 ohms primary load.

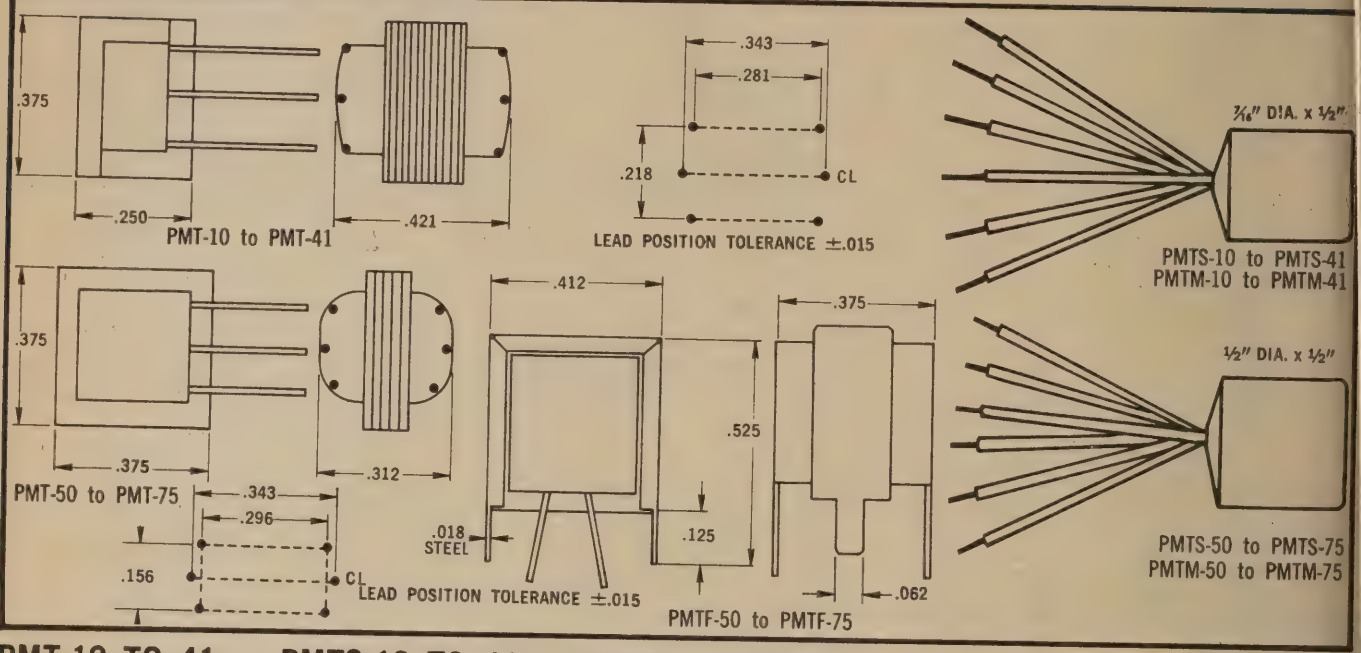
ALL UNITS HAVE 2" LEAD LENGTHS — COLOR CODED.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PICO-MINIATURE TRANSISTOR TRANSFORMERS

FOR PC BOARD APPLICATIONS



PMT-10 TO 41 — PMTS-10 TO 41 — PMTM-10 TO 41

Section	STANCOR Part No.			Application	Turns Ratio Pri. to Sec.	Impedance (Ohms)		DC Res. (Ohms)		Power Level (MW)
						Pri.	Sec.	Pri.	Sec.	
1	PMT-10	PMTS-10	PMTM-10	Interstage	4.47:1	20000	1000	1700	275	50
	PMT-11	PMTS-11	PMTM-11	Interstage	5.01:1	20000	800	1600	170	50
	PMT-12	PMTS-12	PMTM-12	Interstage	2.56:1	10000 C.T.	1500 C.T.	1500	110	100
	PMT-13	PMTS-13	PMTM-13	Output	2.83:1	500	50	115	12	250
	PMT-14	PMTS-14	PMTM-14	Output	2.82:1	400	50	70	10	250
	PMT-15	PMTS-15	PMTM-15	Input	14.1:1	200,000	1000	6500	245	25
	PMT-16	PMTS-16	PMTM-16	Output	4.00:1	1000	50	240	16	100
	PMT-17	PMTS-17	PMTM-17	Input	14.0:1	200,000 C.T.	1000 C.T.	6500	245	25
	PMT-18	PMTS-18	PMTM-18	Output	1.54:1	1500 C.T.	600	210	120	250
	PMT-19	PMTS-19	PMTM-19	Reactor		3 HYS @ 2 ma		1100		
	PMT-20	PMTS-20	PMTM-20	Reactor		1 HY @ 2 ma		200		
	PMT-21	PMTS-21	PMTM-21	Reactor		6 HYS @ 2 ma		2600		
	PMT-22	PMTS-22	PMTM-22	Output	13.5:1	600	3.2	90	0.8	250
	PMT-23	PMTS-23	PMTM-23	Output	18.0:1	1200	3.2	190	0.8	100
	PMT-24	PMTS-24	PMTM-24	Output	53.2:1	10000	3.2	1500	0.8	100
	PMT-25	PMTS-25	PMTM-25	Driver	4.44:1	10000 C.T.	500 C.T.	1160	45	100
	PMT-26	PMTS-26	PMTM-26	Driver	3.03:1	10000	1200 C.T.	1160	100	100
	PMT-27	PMTS-27	PMTM-27	Driver	2.22:1	10000	2000 C.T.	1380	170	100
	PMT-28	PMTS-28	PMTM-28	Output	1.23:1	900 C.T.	600	105	110	250
	PMT-29	PMTS-29	PMTM-29	Output	1:1.10	500 C.T.	600	60	105	250
	PMT-30	PMTS-30	PMTM-30	Output	1:1.42	300 C.T.	600	40	110	250
	PMT-31	PMTS-31	PMTM-31	Output	3.30:1	150 C.T.	12	25	3	250
	PMT-32	PMTS-32	PMTM-32	Output	4.85:1	300 C.T.	12	40	2	250
	PMT-33	PMTS-33	PMTM-33	Output	6.98:1	600 C.T.	12	85	2	250
	PMT-34	PMTS-34	PMTM-34	Output	8.14:1	800 C.T.	12	100	2	250
	PMT-35	PMTS-35	PMTM-35	Output	9.07:1	1000 C.T.	12	150	2	250
	PMT-36	PMTS-36	PMTM-36	Output	10.0:1	1500 C.T.	12	230	2	250
	PMT-37	PMTS-37	PMTM-37	Output	25.0:1	7500 C.T.	12	750	2	250
	PMT-38	PMTS-38	PMTM-38	Interstage	5.0:1	20000 C.T.	800 C.T.	1500	160	50
	PMT-39	PMTS-39	PMTM-39	Reactor		12 HYS @ 0 ma		2000		
	PMT-40	PMTS-40	PMTM-40	Reactor		20 HYS @ 0 ma		2800		
	PMT-41	PMTS-41	PMTM-41	Interstage	1:3.00	10000	90000	980	5600	50

PMT-50 TO 54 — PMTF-50 TO 54 — PMTS-50 TO 54 — PMTM-50 TO 54

Section	STANCOR Part No.				Application	Turns Ratio Pri. to Sec.	Impedance (Ohms)		DC Resistance (Ohms)		Power Level (MW)
							Pri.	Sec.	Pri.	Sec.	
2	PMT-50	PMTF-50	PMTS-50	PMTM-50	Interstage	4.48:1	20000	1000	1150	175	150
	PMT-51	PMTF-51	PMTS-51	PMTM-51	Interstage	4.50:1	20000	1000 C.T.	930	95	150
	PMT-52	PMTF-52	PMTS-52	PMTM-52	Output	3.46:1	600	50	110	9	300
	PMT-53	PMTF-53	PMTS-53	PMTM-53	Output	3.26:1	600 C.T.	50	66	7.7	300
	PMT-54	PMTF-54	PMTS-54	PMTM-54	Output	2.71:1	400	50	70	9.3	350

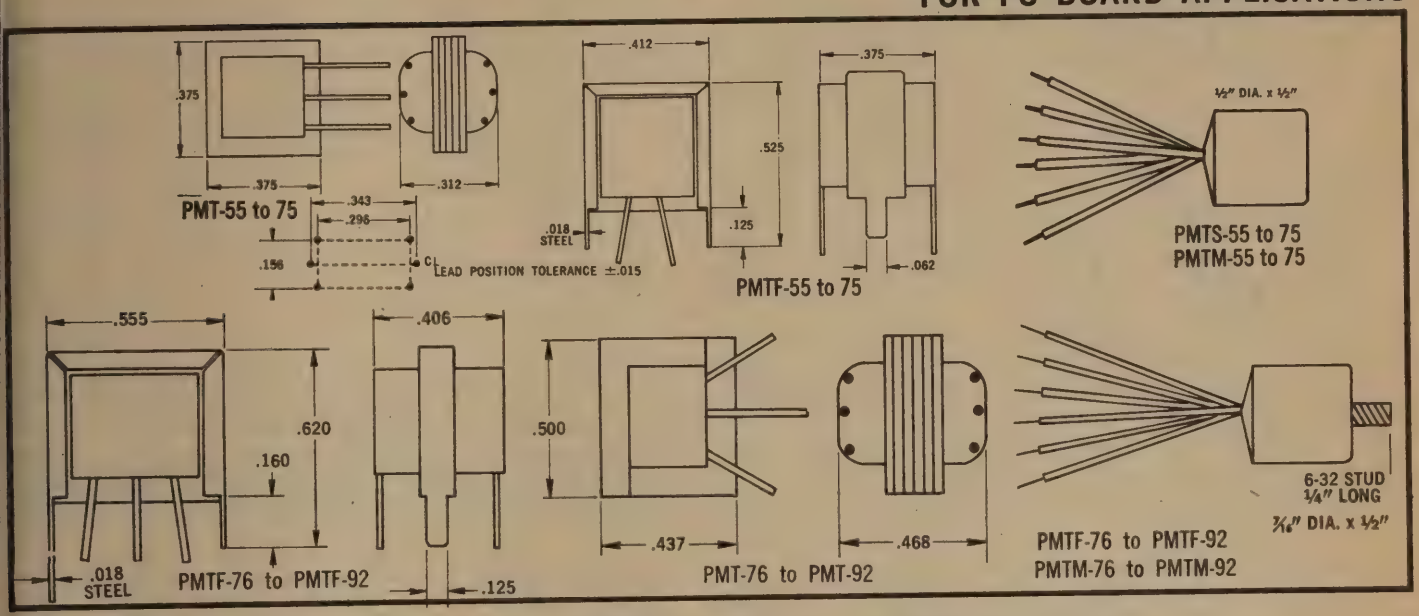
ALL UNITS HAVE 2" LEAD LENGTHS — COLOR CODED.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PICO-MINIATURE TRANSISTOR TRANSFORMERS

FOR PC BOARD APPLICATIONS



PMT-55 TO 75 — PMTF-55 TO 75 — PMTS-55 TO 75 — PMTM-55 TO 75

Section	STANCOR Part No.				Application	Turns Ratio Pri. to Sec.	Impedance (Ohms) Pri.	Impedance (Ohms) Sec.	DC Resistance (Ohms) Pri.	DC Resistance (Ohms) Sec.	Power Level (MW)
1	PMT-55	PMTF-55	PMTS-55	PMTM-55	Input	14.0:1	200,000	1000	2600	135	35
	PMT-56	PMTF-56	PMTS-56	PMTM-56	Ouput	4.30:1	1000	50/60	160	9	250
	PMT-57	PMTF-57	PMTS-57	PMTM-57	Output	7.06:1	10000	200	890	27	200
	PMT-58	PMTF-58	PMTS-58	PMTM-58	Microphone	1.31:1	40	50000	3.35	1440	75
	PMT-59	PMTF-59	PMTS-59	PMTM-59	Output	3.64:1	20000	1000 C.T.	939	119	150
	PMT-60	PMTF-60	PMTS-60	PMTM-60	Output	7.75:1	20000	300	910	36	200
	PMT-61	PMTF-61	PMTS-61	PMTM-61	Output	10.8:1	20000	150	910	16.1	200
	PMT-62	PMTF-62	PMTS-62	PMTM-62	Output	4.97:1	30000	1000	1450	137	150
	PMT-63	PMTF-63	PMTS-63	PMTM-63	Reactor		12 HY @ 0.0 MADC		830		
	PMT-64	PMTF-64	PMTS-64	PMTM-64	Reactor		5 HY @ 0.8 MADC		1100		
	PMT-65	PMTF-65	PMTS-65	PMTM-65	Reactor		1.5 HY @ 0.1 MADC		175		
	PMT-66	PMTF-66	PMTS-66	PMTM-66	Reactor		.0015 HY @ 0.0 MADC		3.00		
	PMT-67	PMTF-67	PMTS-67	PMTM-67	Interstage	4.50:1	20000	1000 C.T.	930	95	150
	PMT-68	PMTF-68	PMTS-68	PMTM-68	Input	9.71:1	100000	1000	1900	140	70
	PMT-69	PMTF-69	PMTS-69	PMTM-69	Output	5.60:1	400 C.T.	12	70	2	350
	PMT-70	PMTF-70	PMTS-70	PMTM-70	Interstage	2.83:1	10000 C.T.	1200 C.T.	900	122	200
	PMT-71	PMTF-71	PMTS-71	PMTM-71	Output	1.55:1	1500 C.T.	600	170	50	250
	PMT-72	PMTF-72	PMTS-72	PMTM-72	Output	1.26:1	1000 C.T.	600	160	65	250
	PMT-73	PMTF-73	PMTS-73	PMTM-73	Driver	4.00:1	10000 C.T.	600 C.T.	900	50	200
	PMT-74	PMTF-74	PMTS-74	PMTM-74	Interstage	1.00:1	600 C.T.	600 C.T.	48	60	300
	PMT-75	PMTF-75	PMTS-75	PMTM-75	Isolation	1.00:1	15000 C.T.	15000 C.T.	925	1200	200

PMT-76 TO 92 — PMTF-76 TO 92 — PMTS-76 TO 92 — PMTM-76 TO 92

	PMT-76	PMTF-76	PMTS-76	PMTM-76	Interstage	1:1	500	500	45	45	30
	PMT-77	PMTF-77	PMTS-77	PMTM-77	Output	3.4:1	600	50	57.5	5.4	30
	PMT-78	PMTF-78	PMTS-78	PMTM-78	Output	121:1	50000	3.4	2270	0.9	30
	PMT-79	PMTF-79	PMTS-79	PMTM-79	Interstage	9:1	100,000	1200 C.T.	2850	94	30
	PMT-80	PMTF-80	PMTS-80	PMTM-80	Interstage	4.6:1	25000	1200	1580	97	30
2	PMT-81	PMTF-81	PMTS-81	PMTM-81	Input	1:1.4	600 C.T.	1200 C.T.	55	109	30
	PMT-82	PMTF-82	PMTS-82	PMTM-82	Interstage	6.4:1	25000 C.T.	600	1620	36	30
	PMT-83	PMTF-83	PMTS-83	PMTM-83	Output	35:1	4000 C.T.	3.2	488	0.5	30
	PMT-84	PMTF-84	PMTS-84	PMTM-84	Reactor		30 HYS @ 1 MADC		4000		30
	PMT-85	PMTF-85	PMTS-85	PMTM-85	Reactor		6 HYS @ 0.0 MADC		1400		30
	PMT-86	PMTF-86	PMTS-86	PMTM-86	Interstage	4.48:1	20000	1000	1200	63	30
	PMT-87	PMTF-87	PMTS-87	PMTM-87	Interstage	2.91:1	10000 C.T.	1000 C.T.	448	126	30
	PMT-88	PMTF-88	PMTS-88	PMTM-88	Input	1.35	50	62500	13	2450	30
	PMT-89	PMTF-89	PMTS-89	PMTM-89	Interstage	6.31:1	20000	1000 C.T.	1250	54	30
	PMT-90	PMTF-90	PMTS-90	PMTM-90	Output	30.4:1	4000 C.T.	3	410	0.85	30
	PMT-91	PMTF-91	PMTS-91	PMTM-91	Input	1:16	1000	250,000	73	4300	30
	PMT-92	PMTF-92	PMTS-92	PMTM-92	Output	4.05:1	15000	850	735	66	30

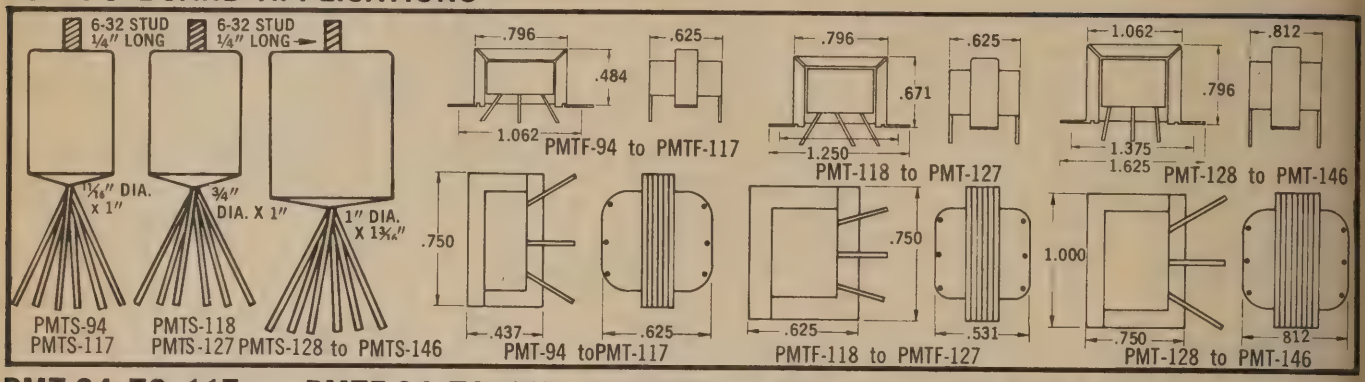
ALL UNITS HAVE 2" LEAD LENGTHS — COLOR CODED.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PICO-MINIATURE TRANSISTOR TRANSFORMERS

FOR PC BOARD APPLICATIONS



PMT-94 TO 117 — PMTF-94 TO 117 — PMTM-94 TO 117 — PMTS-94 TO 117

Section	STANCOR Part No.				Application	Turns Ratio Pri. to Sec.	Impedance (Ohms) Pri.	Impedance (Ohms) Sec.	DC Resistance (Ohms) Pri.	DC Resistance (Ohms) Sec.	Power Level (MW)
1	PMT-94	PMTF-94	PMTS-94	PMTM-94	Input	1:35	200	250,000	13.4	3580	50
	PMT-95	PMTF-95	PMTS-95	PMTM-95	Interstage	1:3	10000	90000	820	3500	50
	PMT-96	PMTF-96	PMTS-96	PMTM-96	Output	7:1	25000	500	1750	30	100
	PMT-97	PMTF-97	PMTS-97	PMTM-97	Output	24:1	30000	50	2600	4.75	100
	PMT-98	PMTF-98	PMTS-98	PMTM-98	Output	40:1	100,000	60	4800	3.5	100
	PMT-99	PMTF-99	PMTS-99	PMTM-99	Reactor		50 HYS @ 1 MADC		4500		
	PMT-100	PMTF-100	PMTS-100	PMTM-100	Input	15.8:1	250,000	1000	2580	33	50
	PMT-101	PMTF-101	PMTS-101	PMTM-101	Input	28:1	78000	100	1700	20	100
	PMT-102	PMTF-102	PMTS-102	PMTM-102	Input	27:1	100,000	120	5300	28	50
	PMT-103	PMTF-103	PMTS-103	PMTM-103	Input	18.85:1	250,000	700	1900	20	50
	PMT-104	PMTF-104	PMTF-104	PMTM-104	Interstage	4.35:1	20000	1000	1100	95	100
	PMT-105	PMTF-105	PMTS-105	PMTM-105	Interstage	2.29:1	20000	2000	1530	185	100
	PMT-106	PMTF-106	PMTS-106	PMTM-106	Output	19.2:1	50000	120	2380	28	100
	PMT-107	PMTF-107	PMTS-107	PMTM-107	Output	18.7:1	20000	50	1530	10	75
	PMT-108	PMTF-108	PMTS-108	PMTM-108	Output	8.84:1	2500 C.T.	50	406	7	150
	PMT-109	PMTF-109	PMTS-109	PMTM-109	Output	4.44:1	1250	50	160	6	150
	PMT-110	PMTF-110	PMTS-110	PMTM-110	Output	2.72:1	400	50	30	9	75
	PMT-111	PMTF-111	PMTS-111	PMTM-111	Output	3.64:1	30000	4000	1470	147	100
	PMT-112	PMTF-112	PMTS-112	PMTM-112	Output	7.87:1	10000	125	1250	20	150
	PMT-113	PMTF-113	PMTS-113	PMTM-113	Output	1:3	10000	90000	685	2820	50
	PMT-114	PMTF-114	PMTS-114	PMTM-114	Interstage	2:1	20000	4000	1980	490	100
	PMT-115	PMTF-115	PMTS-115	PMTM-115	Output	22.8:1	4000	6.4	472	0.8	150
	PMT-116	PMTF-116	PMTS-116	PMTM-116	Input	9.8:1	100000	1000	970	29	50
	PMT-117	PMTF-117	PMTS-117	PMTM-117	Reactor		6 HYS @ 1 MADC		1530		

PMT-118 TO 127 — PMTF-118 TO 127 — PMTM-118 TO 127 — PMTS-118 TO 127

2	PMT-118	PMTF-118	PMTS-118	PMTM-118	Input	1:35	200	250,000	21.5	2650	150
	PMT-119	PMTF-119	PMTS-119	PMTM-119	Interstage	1:3	10000	90000	222	2800	150
	PMT-120	PMTF-120	PMTS-120	PMTM-120	Output	7:1	25000	500	1750	29	150
	PMT-121	PMTF-121	PMTS-121	PMTM-121	Output	24:1	30000	50	1900	3.9	150
	PMT-122	PMTF-122	PMTS-122	PMTM-122	Output	40:1	100000	60	4000	4.38	150
	PMT-123	PMTF-123	PMTS-123	PMTM-123	Reactor		50 HYS @ 1 MADC		3200		150
	PMT-124	PMTF-124	PMTS-124	PMTM-124	Output	6.05:1	2500	50	372	7.6	150
	PMT-125	PMTF-125	PMTS-125	PMTM-125	Output	1:1.56	1250	2500	107	2.69	150
	PMT-126	PMTF-126	PMTS-126	PMTM-126	Interstage	1:10	2500	250,000	329	7200	150
	PMT-127	PMTF-127	PMTS-127	PMTM-127	Interstage	1:5	10000	250,000	1000	7200	150

PMT-128 TO 146 — PMTM-128 TO 146 — PMTF-128 TO 146 — PMTS-128 TO 146

3	PMT-128	PMTF-128	PMTS-128	PMTM-128	Mike Input	1.9	50/250/600	50000 C.T.	24.5	2480	200
	PMT-129	PMTF-129	PMTS-129	PMTM-129	Mike Input	1:8	4/8	50000 C.T.	0.35	2600	200
	PMT-130	PMTF-130	PMTS-130	PMTM-130	Output	7:1	400 C.T.	4/8	37	1.0	200
	PMT-131	PMTF-131	PMTS-131	PMTM-131	Interstage	1:2	15000	60000	1250	3450	200
	PMT-132	PMTF-132	PMTS-132	PMTM-132	Interstage	1:2.5	15000	90000	1250	5900	200
	PMT-133	PMTF-133	PMTS-133	PMTM-133	Output	5:1	15000	50/250/600	1250	32	200
	PMT-134	PMTF-134	PMTS-134	PMTM-134	Output	5:1	160	4/8	13.7	0.72	200
	PMT-135	PMTF-135	PMTS-135	PMTM-135	Mike To Line	9:1	50000	50/250/600	2480	24.5	200
	PMT-136	PMTF-136	PMTS-136	PMTM-136	Mike To Line	1:1.5	50/250	50/250/600	17.5	33.5	200
	PMT-137	PMTF-137	PMTS-137	PMTM-137	Input	1.50	200	500,000	17.5	4800	200
	PMT-138	PMTF-138	PMTS-138	PMTM-138	Interstage	1:10	10000	1 MEG	377	5400	200
	PMT-139	PMTF-139	PMTS-139	PMTM-139	Reactor		50 HYS @ 3 MADC		5000		200
	PMT-140	PMTF-140	PMTS-140	PMTM-140	Reactor		10 HYS @ 10 MADC		.720		200
	PMT-141	PMTF-141	PMTS-141	PMTM-141	Reactor		1.6 HYS @ 3 MADC		.165		200
	PMT-142	PMTF-142	PMTS-142	PMTM-142	Input	1:10	8000	800,000	377	5400	200
	PMT-143	PMTF-143	PMTS-143	PMTM-143	Output	7.9:1	10000	225	1000	42	200
	PMT-144	PMTF-144	PMTS-144	PMTM-144	Input	1:35	82	100,000	14	4500	200
	PMT-145	PMTF-145	PMTS-145	PMTM-145	Input	1:11	600	75000 C.T.	48	1300	200
	PMT-146	PMTF-146	PMTS-146	PMTM-146	Microphone	1:25.4	1000	500,000	242	3500	200

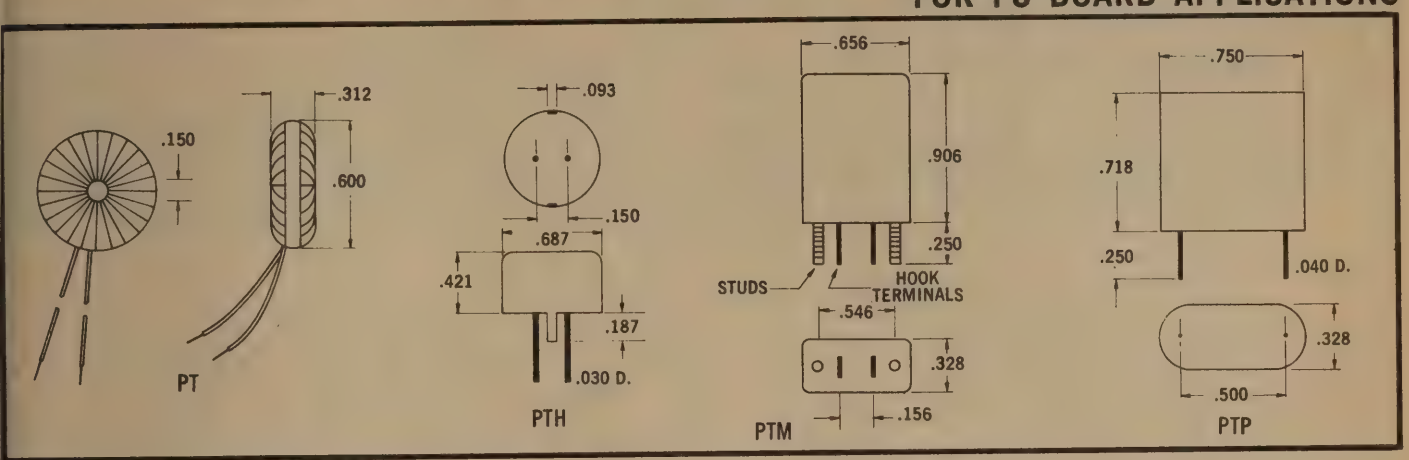
ALL UNITS HAVE 2" LEAD LENGTHS — COLOR CODED.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PICO-MINIATURE TOROIDAL INDUCTORS

FOR PC BOARD APPLICATIONS



FOR FREQUENCIES UP TO 15 KHz.

Section	STANCOR Part No.				Inductance	DCR (Ohms)	Dist. Cap (mmfd)
1	PT-1	PTM-1	PTP-1	PTH-1	5.0MH	2.3	30
	PT-2	PTM-2	PTP-2	PTH-2	6.0	3.1	31
	PT-3	PTM-3	PTP-3	PTH-3	7.2	3.5	32
	PT-4	PTM-4	PTP-4	PTH-4	8.6	4.2	33
	PT-5	PTM-5	PTP-5	PTH-5	10.0	4.9	33
	PT-6	PTM-6	PTP-6	PTH-6	12.0	5.4	34
	PT-7	PTM-7	PTP-7	PTH-7	15.0	7.3	34
	PT-8	PTM-8	PTP-8	PTH-8	17.5	8.5	35
	PT-9	PTM-9	PTP-9	PTH-9	20.0	11.2	36
	PT-10	PTM-10	PTP-10	PTH-10	24.0	13.1	37
	PT-11	PTM-11	PTP-11	PTH-11	30.0	14.3	37
	PT-12	PTM-12	PTP-12	PTH-12	36.0	18.0	38
	PT-13	PTM-13	PTP-13	PTH-13	43.0	22.0	39
	PT-14	PTM-14	PTP-14	PTH-14	50.0	25.0	40
	PT-15	PTM-15	PTP-15	PTH-15	60.0	33.0	40
	PT-16	PTM-16	PTP-16	PTH-16	72.0	35.0	41
	PT-17	PTM-17	PTP-17	PTH-17	86.0	39.0	42
	PT-18	PTM-18	PTP-18	PTH-18	100.0	49.0	42
	PT-19	PTM-19	PTP-19	PTH-19	120.0	59.0	43
	PT-20	PTM-20	PTP-20	PTH-20	150.0	78.0	44
	PT-21	PTM-21	PTP-21	PTH-21	175.0	85.0	44
	PT-22	PTM-22	PTP-22	PTH-22	200.0	115.0	45
	PT-23	PTM-23	PTP-23	PTH-23	240.0	130.0	46
	PT-24	PTM-24	PTP-24	PTH-24	300.0	150.0	46
	PT-25	PTM-25	PTP-25	PTH-25	360.0	190.0	47
	PT-26	PTM-26	PTP-26	PTH-26	430.0	210.0	48
	PT-27	PTM-27	PTP-27	PTH-27	500.0	290.0	48
	PT-28	PTM-28	PTP-28	PTH-28	600.0	320.0	49
	PT-29	PTM-29	PTP-29	PTH-29	720.0	350.0	50
	PT-30	PTM-30	PTP-30	PTH-30	860.0	380.0	50
	PT-31	PTM-31	PTP-31	PTH-31	1.0HY	520.0	51
	PT-32	PTM-32	PTP-32	PTH-32	1.2	580.0	52
	PT-33	PTM-33	PTP-33	PTH-33	1.5	780.0	53
	PT-34	PTM-34	PTP-34	PTH-34	1.7	880.0	53
	PT-35	PTM-35	PTP-35	PTH-35	2.0	1050.0	54
	PT-36	PTM-36	PTP-36	PTH-36	2.4	1230.0	54
	PT-37	PTM-37	PTP-37	PTH-37	3.0	1700.0	56

FOR FREQUENCIES UP TO 100 KHz.

Section	STANCOR Part No.				Inductance	DCR (Ohms)	Dist. Cap (mmfd)
2	PT-38	PTM-38	PTP-38	PTH-38	1.0MH	1.2	22
	PT-39	PTM-39	PTP-39	PTH-39	1.2	1.3	23
	PT-40	PTM-40	PTP-40	PTH-40	1.5	1.8	24
	PT-41	PTM-41	PTP-41	PTH-41	1.7	2.0	25
	PT-42	PTM-42	PTP-42	PTH-42	2.0	2.1	25
	PT-43	PTM-43	PTP-43	PTH-43	2.4	2.9	26
	PT-44	PTM-44	PTP-44	PTH-44	3.0	3.2	26
	PT-45	PTM-45	PTP-45	PTH-45	3.6	4.6	27
	PT-46	PTM-46	PTP-46	PTH-46	4.3	4.8	28
	PT-47	PTM-47	PTP-47	PTH-47	5.0	5.3	28
	PT-48	PTM-48	PTP-48	PTH-48	6.0	7.2	29
	PT-49	PTM-49	PTP-49	PTH-49	7.2	8.1	30
	PT-50	PTM-50	PTP-50	PTH-50	8.6	8.7	30
	PT-51	PTM-51	PTP-51	PTH-51	10.0	12.0	31
	PT-52	PTM-52	PTP-52	PTH-52	12.0	12.5	31

FOR FREQUENCIES UP TO 100 KHz. (Cont'd)

Section	STANCOR Part No.				Inductance	DCR (Ohms)	Dist. Cap (mmfd)
3	PT-53	PTM-53	PTP-53	PTH-53	15.0MH	14.0	32
	PT-54	PTM-54	PTP-54	PTH-54	17.5	19.5	33
	PT-55	PTM-55	PTP-55	PTH-55	20.0	22.0	33
	PT-56	PTM-56	PTP-56	PTH-56	24.0	24.0	34
	PT-57	PTM-57	PTP-57	PTH-57	30.0	32.0	35
	PT-58	PTM-58	PTP-58	PTH-58	36.0	34.0	36
	PT-59	PTM-59	PTP-59	PTH-59	43.0	47.0	36
	PT-60	PTM-60	PTP-60	PTH-60	50.0	51.0	37
	PT-61	PTM-61	PTP-61	PTH-61	60.0	73.0	37
	PT-62	PTM-62	PTP-62	PTH-62	72.0	79.0	38
	PT-63	PTM-63	PTP-63	PTH-63	86.0	86.0	38
	PT-64	PTM-64	PTP-64	PTH-64	100.0	115.0	39
	PT-65	PTM-65	PTP-65	PTH-65	120.0	130.0	40
	PT-66	PTM-66	PTP-66	PTH-66	150.0	180.0	40
	PT-67	PTM-67	PTP-67	PTH-67	175.0	190.0	41
	PT-68	PTM-68	PTP-68	PTH-68	200.0	210.0	42
	PT-69	PTM-69	PTP-69	PTH-69	240.0	300.0	42
	PT-70	PTM-70	PTP-70	PTH-70	300.0	330.0	43
	PT-71	PTM-71	PTP-71	PTH-71	360.0	350.0	44
	PT-72	PTM-72	PTP-72	PTH-72	430.0	470.0	45
	PT-73	PTM-73	PTP-73	PTH-73	500.0	510.0	45

FOR FREQUENCIES UP TO 5 MHz.

Section	STANCOR Part No.				Inductance	DCR (Ohms)	Dist. Cap (mmfd)
4	PT-74	PTM-74	PTP-74	PTH-74	.05MH	.8	10
	PT-75	PTM-75	PTP-75	PTH-75	.06	.9	10
	PT-76	PTM-76	PTP-76	PTH-76	.072	1.0	11
	PT-77	PTM-77	PTP-77	PTH-77	.086	1.05	11
	PT-78	PTM-78	PTP-78	PTH-78	.10	1.10	12
	PT-79	PTM-79	PTP-79	PTH-79	.12	1.125	13
	PT-80	PTM-80	PTP-80	PTH-80	.15	1.7	14
	PT-81	PTM-81	PTP-81	PTH-81	.175	2.0	14
	PT-82	PTM-82	PTP-82	PTH-82	.20	2.2	15
	PT-83	PTM-83	PTP-83	PTH-83	.24	2.4	15
	PT-84	PTM-84	PTP-84	PTH-84	.30	2.7	16
	PT-85	PTM-85	PTP-85	PTH-85	.36	2.9	16
	PT-86	PTM-86	PTP-86	PTH-86	.43	3.2	17
	PT-87	PTM-87	PTP-87	PTH-87	.50	3.9	17
	PT-88	PTM-88	PTP-88	PTH-88	.60	5.0	18
	PT-89	PTM-89	PTP-89	PTH-89	.72	5.4	18
	PT-90	PTM-90	PTP-90	PTH-90	.86	7.1	19
	PT-91	PTM-91	PTP-91	PTH-91	1.00	8.9	20
	PT-92	PTM-92	PTP-92	PTH-92	1.20	9.7	20
	PT-93	PTM-93	PTP-93	PTH-93	1.50	11.0	21
	PT-94	PTM-94	PTP-94	PTH-94	1.75	11.7	21
	PT-95	PTM-95	PTP-95	PTH-95	2.00	12.8	22
	PT-96	PTM-96	PTP-96	PTH-96	2.40	14.0	23
	PT-97	PTM-97	PTP-97	PTH-97	3.00	18.7	23
	PT-98	PTM-98	PTP-98	PTH-98	3.60	20.6	24
	PT-99	PTM-99	PTP-99	PTH-99	4.30	22.4	25
	PT-100	PTM-100	PTP-100	PTH-100	5.00	24.2	25
	PT-101	PTM-101	PTP-101	PTH-101	6.00	33.6	26
	PT-102	PTM-102	PTP-102	PTH-102	7.20	37.6	27
	PT-103	PTM-103	PTP-103	PTH-103	8.60	50.5	28
	PT-104	PTM-104	PTP-104	PTH-104	10.00	54.5	29

© United Technical Publications

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS
PLATE AND FILAMENT TYPE

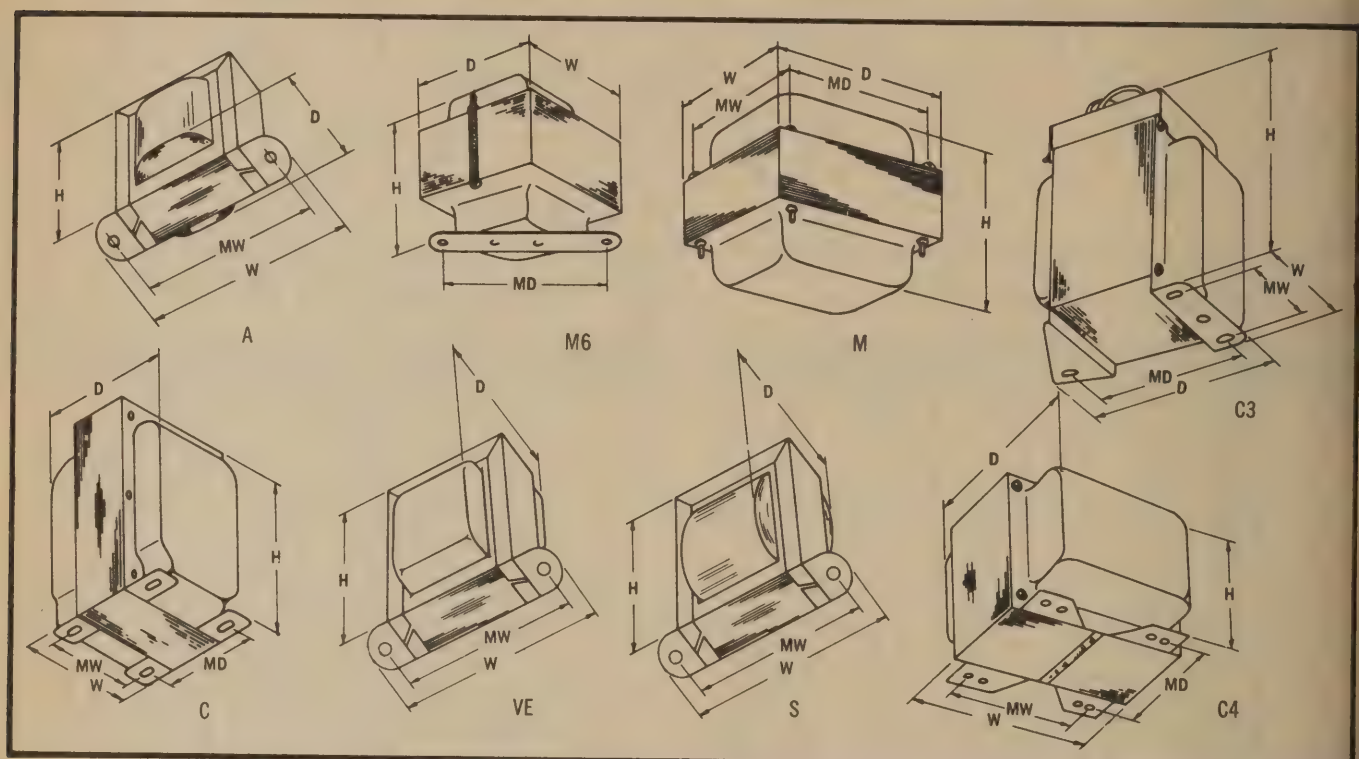
Stancor's broad line of commercial grade power transformers offers a choice of standard mounting styles. Listings are in ascending order of plate-supply voltage for ease of selection.

All units are designed and built to meet the exacting requirements of EIA for electrical tolerances, dielectric strength, temperature rise and construction. All are insulated with class A materials; (105°C max. operating temperature).

Transformers designed for full-wave C.T. rectification with capacitor input filte may be used with choke input filter allowing an increase in D.C. current of 30%

Transformers designed for full-wave C.T. rectification with choke input filter ma be used with capacitor input filter requiring a decrease in D.C. current of 25%

CONSULT FACTORY for detailed information concerning electrical rating and/o mechanical characteristics.



FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 60 Hz.

Section	STANCOR Part No.	Style	Plate Winding AC Volts	Plate Winding DCMA	Rectifier Fila. Volts	Rectifier Fila. Amps	Other Windings Volts	Other Windings Amps	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	P-8379	M†	115§	290			2.7 6.3	.45 8.0	Leads	Leads	4	2 13/16	3 1/16	2 1/16	3	5.7
	P-8158	M†	117§	200			6.3 6.3 6.3	4.25 4.0 2.0	Leads	Leads	3 5/8	3 1/16	4 1/16	2 3/4	3 1/16	6.2
	P-8336	M†	117§	280			6.3 6.3 6.3	9.5 1.2 .6	Leads	Leads	4 1/4	3 3/4	4 5/16	3 1/4	4 1/16	8.0
	P-8386	C4†	117§	300			6.3	10.0	Leads	Leads	3 1/8	3 3/4	4	2 1/8	2 1/2	6.9
2	P-6146	C	120-0-120	250	5.0	3.0			Leads	Leads	3 7/8	3 1/8	3 1/4	2 1/2	1 15/16	4.2
	PS-8415	S	125¶	15			6.3	.6	Leads	Leads	1 15/16	2 3/8	1 5/8	2	—	0.7
	•P-8624	S	125¶	15			12.6	0.3	Leads	Leads	1 15/16	2 3/8	1 3/8	2	—	0.7
	PS-8416	S	125-0-125	25			6.3	1.0	Leads	Leads	2 5/16	2 13/16	1 3/4	2 3/8	—	1.0
	•P-8625	S	125-0-125	25			12.6	0.6	Leads	Leads	2 5/16	2 13/16	1 3/4	2 3/8	—	1.0
	PA-8421	A	125§	50			6.3	2.0	Leads	Leads	2 1/4	3 11/16	2 1/8	3 1/8	—	1.5
	•P-8626	A	125¶	50			12.6	1.0	Leads	Leads	2 1/4	3 11/16	2 1/8	3 1/8	—	1.5
	P-8181	VE	150¶	25			6.3 C.T.	.5	Leads	Leads	1 15/16	2 3/8	1 13/16	2	—	0.8
3	•P-8627	VE	150¶	25			12.6 C.T.	0.3	Leads	Leads	1 15/16	2 3/8	1 13/16	2	—	0.8
	P-8372	M	150¶	250			6.3 6.3	8.0 1.2	Leads	Leads	4 1/8	3 3/4	4 1/2	3	3 3/4	8.7
	P-9000C	C†	155§	450			6.3 6.3	2.0 13.5	Leads	Leads	4 3/16	3 1/2	4 7/8	3 1/16	3 13/16	12.0
	P-8359	C	190-160-0-160-190	70			6.3 C.T. 6.3	3.0 .6	Leads	Leads	3 1/8	2 1/2	2 5/8	2	1 7/8	2.8
	P-8383	C	200-0-200	110			6.3 6.3 C.T.	2.0 4.0	Leads	Leads	3 1/8	2 1/2	3 1/4	2	2 1/4	3.0
	PC-8417	C	220-0-220	50			6.3 25.2	.6 .5	Leads	Leads	3 1/8	2 1/2	2 5/8	2	1 5/16	2.2

§ For use in Voltage Doubler Circuits ¶ For use in Half-Wave Circuits • New Part Number † With Copper shorting band to reduce external Magnetic Field. May be operated from a 400 Hz. source with no change in output ratings. **ALL SECONDARY AC VOLTAGES ±3% ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 Hz.**

© United Technical Publications

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS

PLATE AND FILAMENT TYPE

FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 60 Hz. (Cont'd)

Section	STANCOR Part No.	Style	Plate Winding		Rectifier Fila.		Other Windings		Termination		Case Dimension			Mtg. Dimension		Wt. Lbs.
			AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.	H	W	D	MW	MD	
1	PCC-40	SC	225-0-225	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3½	3½	2⅞	3⅛	2	3.2
	PSC-40	SC	225-0-225	40	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	3¾	3½	2⅞	3⅛	2	3.2
	P-8155	M	225-0-225	90	5.0	2.0	6.3	5.15	Leads	Leads	3¾	2 13/16	3⅜	2¼	2 13/16	4.5
	PC-8418	C	230-0-230	50			6.3	2.5	Leads	Leads	3⅛	2½	2⅝	2	1 5/16	2.2
	PM-8418	M	230-0-230	50			6.3	2.5	Leads	Leads	2⅝	2½	3	2	2½	2.2
	PC-8401	C	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3⅛	2½	2⅝	2	1 5/16	2.2
	PM-8401	M	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	2⅝	2½	3	2	2½	2.2
	P-8374	M†	235-0-235	260	5.0	6.0	6.3 6.3 6.3	5.0 5.0 1.2	Leads	Leads	4⅞	3 1/16	4 3/16	3	3 1/16	10.0
2	P-8382	M6	235¶ 35	20 1	5.0	2.0	6.3	2.85	Leads	Leads	3⅛	2 3/16	2⅝	—	2 13/16	2.5
	PC-8402	C	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3⅛	2½	2¾	2	1¾	2.4
	PM-8402	M	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	2¾	2½	3	2	2½	2.4
	P-8348	M	240-0-240	60			6.3 C.T.	2.75	Leads	Leads	2¾	2 3/16	2⅝	1 15/16	—	2.3
	PC-8419	C	240-0-240	70			6.3	3.0	Leads	Leads	3⅛	2½	2⅞	2	1 13/16	2.6
	PM-8419	M	240-0-240	70			6.3	3.0	Leads	Leads	2⅞	2½	3	2	2½	2.6
	PC-8431	C	245-0-245	40			6.3 C.T.	2.0	Leads	Leads	2⅝	2 3/16	2 3/16	1¾	1 5/16	1.6
3	P-8173	C1	250-0-250	10			6.3 6.3	.6 1.2	Leads	Leads	2¼	2⅞	2¼	2⅜	—	1.0
	P-8174	C1	250-0-250	20			6.3 6.3	.6 1.2	Leads	Leads	2⅝	3 5/16	2¼	2 13/16	—	1.5
	PC-8432	C	250-0-250	55			6.3 C.T.	2.0	Leads	Leads	2⅝	2 3/16	2 3/16	1¾	1 11/16	1.9
	PC-8403	C	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	3⅛	2½	3½	2	2 1/16	3.2
	PM-8403	M	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	3⅛	2½	3	2	2½	3.2
	PC-8433	C	255-0-255	70			6.3 C.T.	2.5	Leads	Leads	3⅛	2½	2⅝	2	1 11/16	2.3
4	PC-8404	C	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3½	2 13/16	3½	2¼	2¼	4.0
	PM-8404	M	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3½	2 13/16	3⅜	2¼	2 13/16	4.0
	PC-8420	C	260-0-260	90			6.3	4.0	Leads	Leads	3½	2 13/16	3¼	2¼	2	3.5
	PM-8420	M	260-0-260	90			6.3	4.0	Leads	Leads	3½	2 13/16	3⅜	2¼	2 13/16	3.5
	P-8354	M5†	260-0-260	325	50 C.T.	6.0	6.3	11.0	Leads	Leads‡	5¼	3¾	4½	3 5/16	4 1/16	1.0
	P-8353	C3	265-0-265	300	5.0	6.0	12.6 C.T.	6.0	Leads	Leads‡	5⅞	3¾	4¾	3	4	12.5
	PC-8434	C	270-0-270	90			6.3 C.T.	2.5	Leads	Leads	3⅛	2½	2⅝	2	1 11/16	2.3
5	PCC-55	SC	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3½	3½	2⅞	3⅛	2	3.5
	PSC-55	SC	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	3¾	3½	2⅞	3⅛	2	3.5
	PC-8405	C	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	3⅞	3⅛	3½	2½	2 3/16	4.9
	PM-8405	M	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	3 7/16	3⅛	3¾	2½	3⅛	4.9
	P-8172	M	270-0-270	200	5.0	3.0	6.3	8.5	Leads	Leads	4 1/16	3⅛	3¾	2 11/16	3 5/16	7.0
	P-8356	C†	270-0-270	260	5.0	3.0	6.3	8.8	Leads	Leads	3⅞	3⅛	3⅜	2½	2¼	6.5
	P-8376	M†	270-0-270	320	5.0	4.0	6.3	10.0	Leads	Leads	4⅛	3 7/16	4¼	3	3 1/16	8.5
6	P-8377	M†	270-0-270	280	5.0	3.0	6.3	10.0	Leads	Leads	3⅝	3⅛	3 15/16	2 11/16	3 5/16	6.7
	P-8334	M†	275-0-275	305	5.0	5.0	6.8 6.3	8.5 1.2	Leads	Leads	5⅛	3¾	4 5/16	3¼	4 1/16	13.0
	P-8167	M†	280-0-280	400	5.0	6.0	6.3 6.3	4.5 8.5	Leads	Leads	5½	3¾	4 5/16	3¼	4 1/16	13.0
	P-8332	M†	280-0-280	260	5.0	5.0	6.3 6.3 6.3	7.1 1.2 .9	Leads	Leads	4 13/16	3¾	4 5/16	3¼	4 1/16	11.0

† With Copper shorting band to reduce external Magentic Field. ‡ Plate winding and rectifier filament winding Connected to Tube Socket.

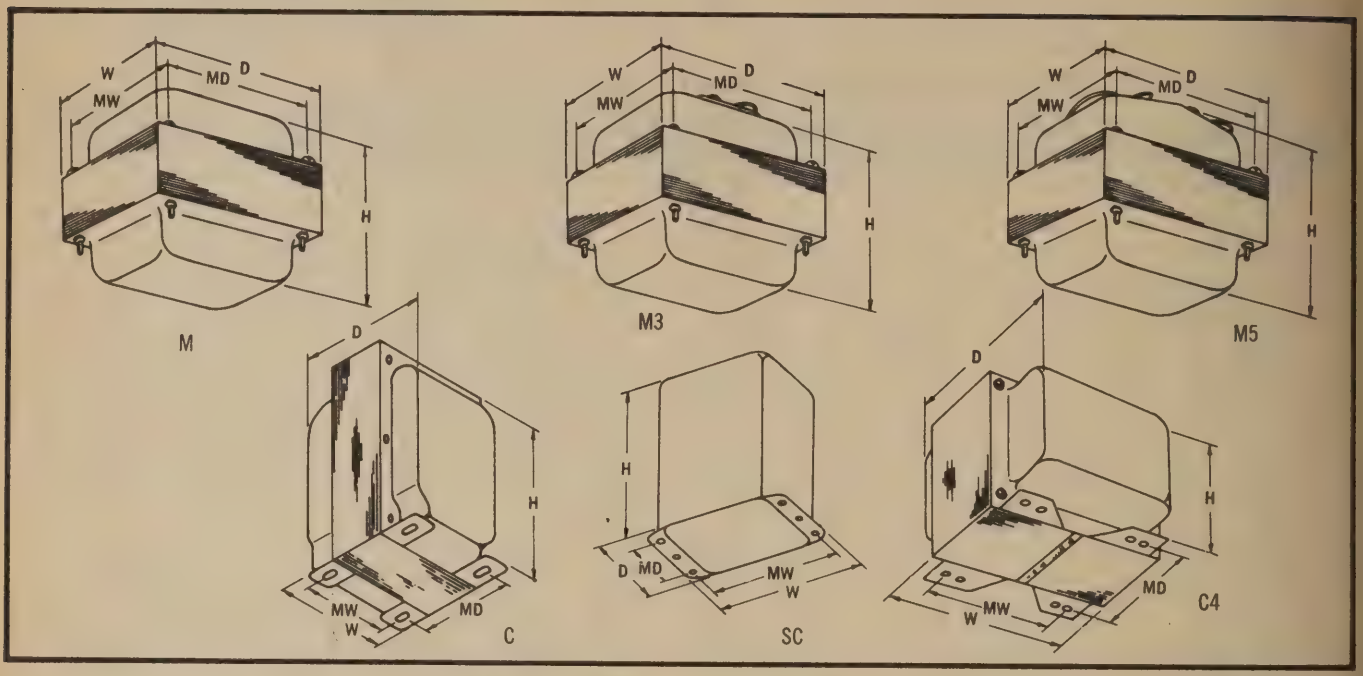
ALL SECONDARY AC VOLTAGES ±3%

All PCC AND PSC NUMBERS MAY BE OPERATED AT 50 Hz.

May be operated from a 400 Hz. source with no change in output ratings.

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS
PLATE AND FILAMENT TYPE



FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 60 Hz. (Cont'd)

Section	STANCOR Part No.	Style	Plate Winding		Rectifier Fila.		Other Windings		Termination		Case Dimension			Mtg. Dimension		Wt. Lbs.
			AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.	H	W	D	MW	MD	
1	P-8373	M	280-0-280	280	5.0	3.0	6.3 24.0	10.0 2.6	Leads	Leads	4¼	3⅛	3¾	2 1⁄16	3⅝	8.0
	P-8378	C†	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3 24.0	10.0 1.2	Leads	Leads	3⅞	3⅛	4⅝	2½	3¼	7.9
	P-8375	M3†	283-0-283	210	5.0 C.T.	3.0	6.3 6.3 6.3	7.5 1.5 1.2	Leads	Leads‡	4⅝	3¾	4 5⁄16	3	3¾	8.3
	P-8355	C4†	285-0-285	250	5.0	3.0	6.3	9.5	Leads	Leads	3 3⁄16	3¾	3½	2½	2 3⁄16	6.5
	P-8365	M†	285-0-285	325	5.0	6.0	12.6 C.T.	6.0	Leads	Leads	4 3⁄16	3¾	4 5⁄16	3	3¾	10.2
	P-8352	C	290-0-290	240	5.0	3.0	12.6 C.T.	5.25	Leads	Leads	4 13⁄16	3¾	3 15⁄16	3	3⅝	8.5
	P-8367	M5†	290-0-290	270	5.0	6.0	6.3 6.3	8.5 1.2	Leads	Leads‡	5⅛	3¾	4½	3	3¾	12.5
2	P-8381	M†	290-0-290	290	5.0	3.0	6.3 6.3	5.0 5.0	Leads	Leads	5	3⅛	3 13⁄16	2 1⁄16	3 5⁄16	6.9
	P-8333	M3†	295-0-295	225	5.0 C.T.	3.0	6.3 6.3	11.4 .9	Leads	Leads‡	4⅞	3¾	4 5⁄16	3¼	4 5⁄16	10.0
	PCC-60	SC	300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3⅞	4	3¼	3½	2¼	4.5
	PSC-60	SC	300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4¼	4	3¼	3½	2¼	4.5
	P-6358	C	300-0-300	65			6.3 C.T.	2.7	Leads	Leads	3⅛	2½	2½	2	1¾	3.0
	P-8175	C	300-0-300	70	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	3½	2⅞	3½	2¼	2⅜	4.0
	PM-8423	M	300-0-300	90	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	3	2 13⁄16	3⅜	2¼	2 13⁄16	4.0
	P-8177	C	300-0-300	120	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	3⅞	3 1⁄16	3⅝	2¾	2 1⁄16	5.8
	P-8164	M†	300-0-300	225	5.0	3.0	6.3	9.0	Leads	Leads	4⅛	3 1⁄16	4 5⁄16	2¾	3 1⁄16	7.5
	P-8335	M†	300-0-300	325	5.0	6.0	6.3 6.3	8.8 1.5	Leads	Leads	5⅛	3¾	4 5⁄16	3¼	4 1⁄16	13.0
3	P-8331	M†	310-0-310	240	5.0	3.0	6.3 6.3	6.4 3.0	Leads	Leads	4½	3¾	4 5⁄16	3¼	4 1⁄16	9.0
	P-8370	M5†	310-0-310	320	5.0 C.T.	6.0	6.3 6.3 6.3	11.0 1.2 1.2	Leads	Leads‡	5⅜	3¾	4⅝	3	3¾	14.0
	P-8337	M3†	315-0-315	225	5.0	3.0	6.3	8.25	Leads	Leads‡	4½	3¾	4½	3¼	4 1⁄16	8.5
	P-8338	M†	315-0-315	310	5.0	6.0	6.7 6.4	10.0 1.6	Leads	Leads	5⅛	3⅞	4¾	3	3¾	12.5
	P-8371	M3†	320-0-320 200-0-200	200 80	5.0 C.T.	3.0	6.3 6.3 6.3	4.0 4.0 3.0	Leads	Leads‡	5⅜	3¾	4⅝	3	3¾	11.3
	P-6010	M	325-0-325	40	5.0 C.T.	2.0	6.3 C.T.	2.0	Leads	Leads	2¾	2½	3	2	2½	2.4

† With Copper shorting band to reduce external Magnetic Field.
ALL SECONDARY AC VOLTAGES ±3%
May be operated from a 400 Hz. source with no change in output ratings.

‡Plate winding and rectifier filament winding Connected to Tube Socket.
All PCC AND PSC NUMBERS MAY BE OPERATED AT 50 Hz.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS

PLATE AND FILAMENT TYPE

FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 60 Hz. (Cont'd)

Section	STANCOR Part No.	Style	Plate Winding		Rectifier Fila.		Other Windings		Termination		Case Dimension			Mtg. Dimension		Wt. Lbs.
			AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.	H	W	D	MW	MD	
1	PC-8406	C	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3⅛	2½	2¾	2	1 11/16	2.4
	PM-8406	M	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	2¾	2½	3	2	2½	2.4
	PC-8407	C	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3⅛	2½	3⅛	2	2 1/16	3.2
	PM-8407	M	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3⅛	2½	3	2	2½	3.2
	PC-8437	C	325-0-325	55			6.3 C.T.	2.0	Leads	Leads	2⅝	2 3/16	2 5/16	1¾	1⅝	1.9
	PC-8422	C	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	3⅞	3⅛	3⅞	2½	2 5/16	5.8
	PM-8422	M	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	3⅝	3⅛	3¾	2½	3⅛	5.8
	P-8339	C	325-0-325	255	5.0	3.0	12.6 C.T.	5.25	Leads	Leads	4⅞	3¾	4	3	3¾	8.5
	P-8369	M3†	325-0-325	240	5.0 C.T.	3.0	6.3 6.3 6.3	10.0 .9 1.2	Leads	Leads‡	5⅜	3¾	4⅝	3	3¾	11.5
2	PC-8436	C	330-0-330	40			6.3 C.T.	2.0	Leads	Leads	2⅝	2 3/16	2 5/16	1¾	1⅝	1.9
	PCC-85	SC	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	4⅝	4 1/16	3 11/16	3⅞	2¾	6.0
	PSC-85	SC	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4⅝	4 1/16	3 11/16	3⅞	2¾	6.0
	PCC-70	SC	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3⅞	4	3¼	3½	2¼	4.5
	PSC-70	SC	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4¼	4	3¼	3½	2¼	4.5
	P-5059	C	337-0-337	200	5.0 C.T.	3.0	6.3 C.T.	5.0	Leads*	Leads	4 11/16	3¾	4 3/16	3	3 5/16	9.6
	PC-8408	C	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	3½	2 13/16	3⅜	2¼	2⅛	3.8
	PM-8408	M	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	3½	2 13/16	3⅜	2¼	2 13/16	3.8
	P-8166	M†	340-0-340	330	5.0	6.0	6.3 6.3 6.3	2.5 5.0 5.0	Leads	Leads	5⅜	3¾	4 5/16	3¼	4 1/16	13.0
3	PC-8438	C	345-0-345	70			6.3 C.T.	2.5	Leads	Leads	3⅛	2½	2¾	2	1¾	2.5
	PCC-105	SC	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	4⅝	4 1/16	3 11/16	3⅞	2¾	6.5
	PSC-105	SC	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Lugs	Lugs	4 11/16	4 1/16	3 11/16	3⅞	2¾	6.5
	P-6011	M	350-0-350	70	5.0 C.T.	3.0	6.3 C.T.	2.5	Leads	Leads	3⅜	2½	3	2	2½	3.5
	PC-8439	C	350-0-350	90			6.3 C.T.	3.0	Leads	Leads	3⅛	2½	3⅛	2	2 5/16	3.1
	P-6012	M	350-0-350	90	5.0 C.T.	3.0	6.3 C.T.	3.5	Leads	Leads	3½	2 13/16	3⅜	2¼	2 13/16	4.2
	PC-8409	C	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3½	2 13/16	3⅝	2¼	2⅜	4.5
	PM-8409	M	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3½	2 13/16	3⅜	2¼	2 13/16	4.5
4	P-8176	C	350-0-350	110	5.0	2.0	6.3 C.T. 6.3 C.T.	3.0 3.0	Leads	Leads	3 13/16	3¼	3⅛	2¾	3	5.5
	P-6013	M	350-0-350	120	5.0 C.T.	3.0	6.3 C.T.	4.7	Leads	Leads	3⅜	3⅛	3¾	2½	3⅛	5.2
	P-8345	M†	350-0-350	215	5.0	3.0	6.3 6.3	9.0 1.2	Leads	Leads	5	3¾	4 5/16	3¼	4 1/16	11.5
	P-8350	M†	350-0-350	270	5.0 5.0	6.0 2.0	6.3 6.6	1.5 7.8	Leads	Leads	5½	3¾	4 5/16	3¼	4 1/16	13.0
	P-8340	M†	355-0-355	270	5.0	6.0	6.3 6.3 6.3	9.5 1.65 2.4	Leads	Leads	5⅜	3¾	4 5/16	3¼	4 1/16	12.0
	PC-8410	C	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	3⅞	3⅛	3¾	2½	2 5/16	5.5
	PM-8410	M	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	3½	3⅛	3¾	2½	3⅛	5.5
5	P-8341	C†	360-0-360 220-0-220	175 110	5.0 5.0	3.0 2.0	12.6 C.T.	5.45	Leads	Leads	4¾	3¾	4⅞	3	3½	11.0
	P-8349	M†	360-0-360	260	5.0	6.0	5.0 6.3	2.0 8.85	Leads	Leads	5½	3¾	4 5/16	3¼	4 1/16	13.0
	P-8351	M	360-0-360	240	5.0	6.0	6.5	9.3	Leads	Leads	4 13/16	3¾	4 5/16	3¼	4 1/16	10.5
	P-8343	C	360-0-360 220-0-220	220 110	5.0 5.0	3.0 2.0	12.8 C.T.	5.8	Leads	Leads	4¾	3¾	5¼	3	3⅞	11.5
	P-8344	C†	365-0-365 200-0-200	170 84	5.0 5.0	3.0 2.0	12.6	4.25	Leads	Leads	4¾	3¾	4½	3	3⅛	9.0
	P-8342	M†	365-0-365	260	5.0	6.0	6.3 6.3	8.85 1.2	Leads	Leads	5⅜	3¾	4 5/16	3¼	4 1/16	13.0
6	P-8348	M†	365-0-365	270	5.0	6.0	6.7	4.5	Leads	Leads	4⅞	3¾	4 5/16	3¼	4 1/16	10.0
	PCC-150	SC	370-0-370	150	5.0	3.0	6.3 C.T. 6.3 C.T.	4.0 1.0	Leads	Leads	5 5/16	5¼	4 5/16	4¾	2½	11.5
	PSC-150	SC	370-0-370	150	5.0	3.0	6.3 C.T. 6.3 C.T.	4.0 1.0	Lugs	Lugs	5 5/16	5¼	4 5/16	4¾	2½	11.5
	P-6315	M	370-0-370	275	5.0 C.T.	3.0	6.3 C.T.	7.0	Leads	Leads	4¼	3¾	4½	3¾	3	9.3
	P-8366	M†	370-0-370	220	5.0	6.0	6.3 6.3 6.3	6.0 4.0 1.2	Leads	Leads	5¼	3¾	4 5/16	3	3¾	11.0
	PC-8441	C	375-0-375	150	5.0	3.0	6.3 C.T.	4.5	Leads	Leads	3⅞	3⅛	3⅝	2½	2⅜	4.9
	PCC-120	SC	375-0-375	120	5.0	3.0	6.3 C.T.	4.0	Leads	Leads	5 5/16	5¼	4 5/16	4¾	2½	9.5
	PSC-120	SC	375-0-375	120	5.0 C.T.	3.0	6.3 C.T.	4.0	Lugs	Lugs	5 5/16	5¼	4 5/16	4¾	2½	9.5
	P-6014	M	375-0-375	150			6.3 C.T.	5.0	Leads	Leads	3¾	3⅛	3¾	2½	3⅛	6.0
	PC-8411	C	375-0-375	150	5.0	3.0	6.3 C.T.	4.5	Leads	Leads	4¼	3 3/16	4	2¾	2 13/16	5.8
	PM-8411	M	375-0-375	150	5.0	3.0	6.3 C.T.	4.5	Leads	Leads	3⅞	3 3/16	4⅛	2¾	3 3/16	5.8

† With Copper shorting band to reduce external Magnetic Field. ‡Plate winding and rectifier filament winding Connected to Tube Socket. * Primary for 117-107 volts.

ALL SECONDARY AC VOLTAGES ±3% **ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 Hz.**

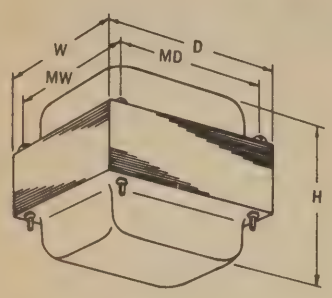
May be operated from a 400 Hz. source with no change in output ratings.

© United Technical Publications

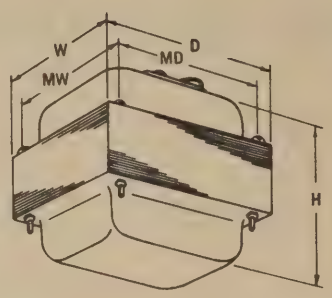
ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS

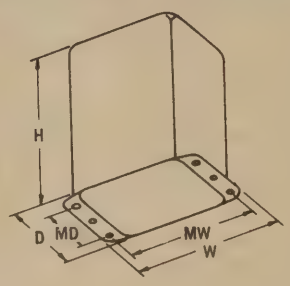
PLATE AND FILAMENT TYPE



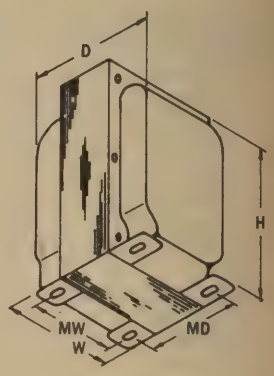
M



M3



SC



C

FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 60 Hz. (Cont'd)

	STANCOR Part No.	Style	Plate Winding AC Volts	Plate Winding DCMA	Rectifier Fils. Volts	Rectifier Fils. Amps	Other Windings Volts	Other Windings Amps	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	P-8171	M3†‡	375-0-375	225	5.0 C.T.	3.0	6.3 6.3	2.0 9.0	Leads	Leads	4⅞	3¾	4½	3	3¾	10.5
	P-8169	M†	380-0-380	220	5.0	3.0	6.3 6.3 6.3	1.2 5.0 7.0	Leads	Leads	4¾	3¾	4⅜	3	3¾	10.5
	P-8170	C†	380-0-380	220	5.0	3.0	6.3 6.3 6.3	1.2 5.0 7.0	Leads	Leads	4¾	3¾	4¾	3	3⅜	10.5
	PCC-200	SC	385-0-385	200	5.0	3.0	6.3 C.T. 6.3 C.T.	4.5 1.0	Leads	Leads	5⅜	5¼	4⅜	4¾	2½	12.0
	PSC-200	SC	385-0-385	200	5.0	3.0	6.3 C.T. 6.3 C.T.	4.5 1.0	Lugs	Lugs	5⅜	5¼	4⅜	4¾	2½	12.0
2	P-8347	M†	385-0-385	230	5.0	3.0	5.0 6.45 6.3	2.0 7.4 1.6	Leads	Leads	5⅜	3¾	4⅜	3¼	4⅛	13.0
	PC-8442	C	400-0-400	200			6.3 C.T.	5.0	Leads	Leads	3⅞	3⅛	3⅞	2½	2⅝	5.7
	P-6007	M	400-0-400	110	5.0 C.T.	3.0	2.5 C.T. 2.5 C.T.	15.0 3.5	Leads	Leads	3½	3⅛	3¾	2½	3⅛	5.4
	P-4004	C*	400-0-400 80v. Bias	175	5.0 C.T.	3.0	2.5 6.3 C.T. 6.3 C.T.	1.75 2.5 2.5	Leads	Leads	4¹⁵⁄₁₆	3¾	3⅞	3	2¹³⁄₁₆	8.3
3	P-8346	C	400-0-400 330-0-330	180 180	5.0 5.0	3.0 3.0			Leads	Leads	4¾	3¾	4¾	3	3½	11.0
	PC-8412	C	400-0-400	200	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	4¹⁵⁄₁₆	3¾	4	3	2¹³⁄₁₆	8.2
	PM-8412	M	400-0-400	200	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	3⅞	3¾	4½	3	3¾	8.2
	PC-8413	C	400-0-400	250	5.0	4.0	6.3 C.T.	5.0	Leads	Leads	4¹⁵⁄₁₆	3¾	4½	3	3⅝	10.0
	PCC-250	SC	400-80-0- 80-400	250	5.0	6.0	5.0 6.3 C.T.	2.0 7.0	Leads	Leads	6⅛	5⅞	5⅜	5⅜	3½	15.0
	PSC-250	SC	400-80-0- 80-400	250	5.0	6.0	5.0 6.3 C.T.	2.0 7.0	Lugs	Lugs	6⅛	5⅞	5⅜	5⅜	3½	15.0
4	P-8360	C	437-0-437	185	5.0	3.0	6.3 6.3	3.0 4.0	Leads	Leads	4¹⁵⁄₁₆	3¾	4½	3	3⅜	9.5
	P-6143	C	440-0-440	130	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	4¼	3⅞	4⅛	2¾	2¹³⁄₁₆	7.0
	PC-8414	C	600-0-600	200	5.0	3.0	6.3 6.3	3.0 3.0	Leads	Leads	4¹⁵⁄₁₆	3¾	4¼	3	3⅛	8.3

† With Copper shorting band to reduce external Magnetic Field.

‡ Plate winding and rectifier filament winding Connected to Tube Socket.

ALL SECONDARY AC VOLTAGES ±3%

* Primary for 117-107 volts. May be operated from a 400 Hz. source with no change in output ratings.

All PCC AND PSC NUMBERS MAY BE OPERATED AT 50 Hz.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS
PLATE AND FILAMENT TYPE

SELECTING THE CORRECT POWER TRANSFORMER FOR CAPACITOR INPUT SYSTEMS

STEP 1. Check rectifier tube and all other tube filament voltage and current requirements.

STEP 2. Add together total current drawn by:
- A. Plates and screen grids
- B. Resistor networks

Select a power transformer which will supply maximum required D.C. voltage at total current before filter.

STEP 3. Check type of rectifier circuit and load to obtain required secondary A.C. voltage from transformer.

EXAMPLE: Power transformer for typical 10 watt audio amplifier.

Quality of Tubes	Type No. of Tubes	Filament Voltage	Filament Current
1	5Y3-GT	5.0 V	2.0A
1	12AX7	6.3 V	0.3 A
2	12AU7	6.3 V	0.3 A (each)
2	6AQ5	6.3 V	0.45 A (each)

Total filament and heater requirements are: 5.0 V 2.0 A
6.3 V @ 1.8 A

Maximum D.C. voltage after filter: 285 volts.
At input capacitor of filter it will be approximately 325 volts D.C.

Current ratings for various amplifier stages (approximate):

12AX7	RC Coupled	2 ma. (total both sections)
12AU7	RC Coupled	10 ma. (total both sections)
6AQ5	(thru output transformer)	74 ma.*
		86 ma.

Tube characteristic data for the 5Y3-GT rectifier tube with capacitor input filter indicates an A.C. voltage requirement of approximately 335 volts R.M.S. per plate.

Selection based on total requirements: PC-8410 or PM-8410 depending on physical mounting style used.

* Includes screen grid current for each tube in the output stage.

FOR REACTOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 50/60 Hz.

Section	STANCOR Part No.	Style	Plate Winding		Rectifier Fila.		Other Windings		Termination		Case Dimension			Mtg. Dimension		Wt. Lbs.
			AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.	H	W	D	MW	MD	
1	PCR-55	SC	350-0-350	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	3½	3½	2⅞	3⅛	2	3.25
	PSR-55	SC	350-0-350	55	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	3¾	3½	2⅞	3⅛	2	3.25
	PCR-70	SC	425-0-425	70	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	3⅞	3¼	4	3½	2¼	4.5
	PSR-70	SC	425-0-425	70	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4¼	3¼	4	3½	2¼	4.5
	PCR-85	SC	440-0-440	85	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	4⅝	4⅞	3 11/16	3⅞	2¾	6.0
	PSR-85	SC	440-0-440	85	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4⅝	4⅞	3 11/16	3⅞	2¾	6.0
2	PCR-105	SC	450-0-450	105	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	4⅝	4⅞	3 11/16	3⅞	2¾	6.5
	PSR-105	SC	450-0-450	105	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	4 13/16	4⅞	3 11/16	3⅞	2¾	6.5
	PCR-120	SC	500-0-500	120	5.0	3.0	6.3 C.T.	4.0	Leads	Leads	5⅜	5¼	4⅜	4¾	2½	9.5
	PSR-120	SC	500-0-500	120	3.0	3.0	6.3 C.T.	4.0	Lugs	Lugs	5⅜	5¼	4⅜	4¾	2½	9.5
	PCR-150	SC	510-0-510	150	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.0	Leads	Leads	5⅜	5¼	4⅜	4¾	2½	11.5
	PSR-150	SC	510-0-510	150	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.0	Lugs	Lugs	5⅜	5¼	4⅜	4¾	2½	11.5
3	PCR-200	SC	520-0-520	200	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.5	Leads	Leads	5⅜	5¼	4⅜	4¾	2½	12.25
	PSR-200	SC	520-0-520	200	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.5	Lugs	Lugs	5⅜	5¼	4⅜	4¾	2½	12.25
	PCR-300	SC	550-370-75-0 -75-370-550	300	5.0	6.0	6.3 C.T. 6.3 C.T.	1.0 5.0	Leads	Leads	6⅛	5⅞	5⅝	5⅜	3½	17.5
	PSR-300	SC	550-370-75-0 -75-370-550	300	5.0	6.0	6.3 C.T. 6.3 C.T.	1.0 5.0	Lugs	Lugs	6⅛	5⅞	5⅝	5⅜	3½	17.5

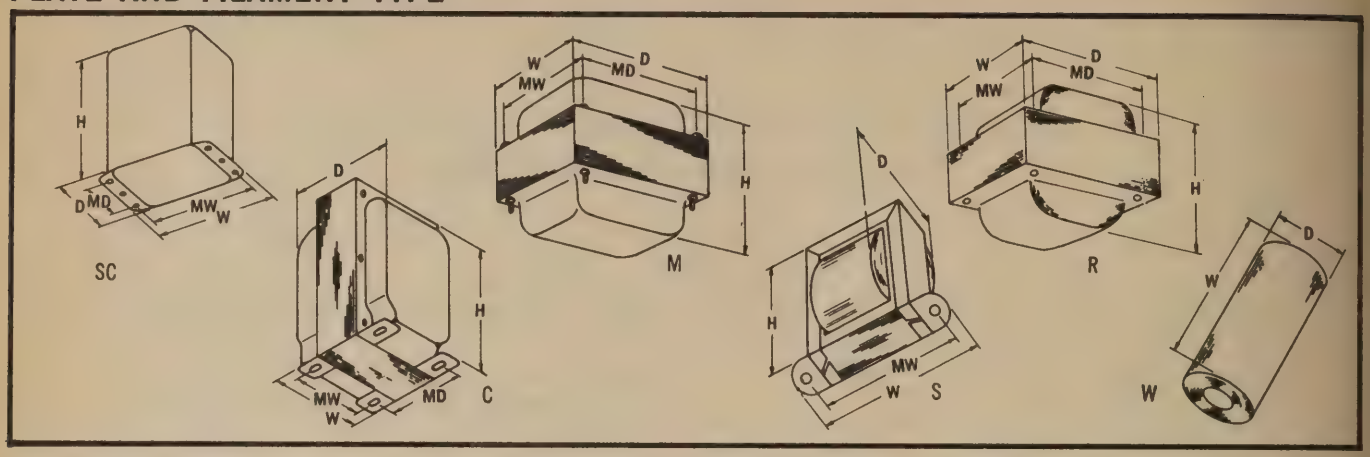
ALL SECONDARY AC VOLTAGES ±3% May be operated from a 400 Hz. source with no change in output ratings.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

POWER TRANSFORMERS

PLATE AND FILAMENT TYPE



FOR REGULATED POWER SUPPLIES: PRIMARIES 117 VOLTS 50/60 Hz.

Section	STANCOR Part No.	Style	Plate Winding AC Volts	Plate Winding DCMA	Rectifier Fila. Volts	Rectifier Fila. Amps	Other Windings Volts	Other Windings Amps	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	PSC-165	SC	440-0-440	165	5.0	3.0	6.3 6.4 6.3 6.3	0.6 3.0 3.0 7.5	Lugs	Lugs	5 5/16	5 1/4	4 3/16	4 3/4	2 1/2	12.0
	PSC-205	SC	450-0-450	200	5.0	2.0	6.3 6.3 6.3	0.6 4.0 4.0	Lugs	Lugs	5 5/16	5 1/4	4 3/16	4 3/4	2 1/2	12.0

May be operated from a 400 Hz. source with no change in output ratings.

FOR BIAS SUPPLIES: PRIMARIES 117 VOLTS 50/60 Hz.

2	1BC-150	SC	180-160-140-120-0-120-140-160-180	150	5.0	3.0			Leads	Leads	4 1/4	4	3 1/4	3 1/2	2 1/4	5.0
	1BS-150	SC	180-160-140-120-0-120-140-160-180	150	5.0	3.0			Lugs	Lugs	4 1/4	4	3 1/4	3 1/2	2 1/4	5.0
	2BC-150	SC	180-160-140-120-0-120-140-160-180	150	5.0	3.0	(Pri.-230v.)		Leads	Leads	4 1/4	4	3 1/4	3 1/2	2 1/4	5.0
	2BS-150	SC	180-160-140-120-0-120-140-160-180	150	5.0	3.0	(Pri.-230v.)		Lugs	Lugs	4 1/4	4	3 1/4	3 1/2	2 1/4	5.0
	P-6317	C	200-170-130-90-0-90-130-170-200	200	5.0	3.0			Leads	Leads/Lugs	3 7/8	3 1/8	3 7/8	2 1/2	2 5/16	4.9
	P-6318	C	450-400-350-250-0-250-350-400-450	200	5.0	3.0			Leads	Leads/Lugs	4 5/16	3 7/16	4 1/4	2 3/4	2 13/16	7.0

May be operated from a 400 Hz. source with no change in output ratings.

FOR CATHODE RAY TUBES: PRIMARIES 117 VOLTS 60 Hz.

3	P-6150	SC	1550¶	1.5	2.5	1.75			Leads	Leads	3 1/16	3	2 1/2	2 1/16	1 3/4	1.8
	P-6179	M	1600¶	3.0			6.3/5/2.5 6.3/5/2.5	1.0 3.0	Lugs	Lugs	3 1/2	2 1/2	3	2	2 1/2	3.5
	P-6178	C	1800¶	2.0	2.5	1.8	2.5 6.3	2.2 0.6	Leads	Leads	3 7/8	3 1/8	3 3/4	2 1/2	2 1/2	5.0
	P-6151	C	2400¶	5.0	2.5	2.0	2.5	2.0	Leads	Leads	4 1/4	3 7/16	3 7/8	2 3/4	2 13/16	6.4

May be operated from a 400 Hz. source with no change in output ratings.

FOR SOLAR CF-160 CONDENSER TESTER: PRIMARIES 117 VOLTS 60 Hz.

4	P-6459	R	550¶ 55	30 60			6.3 6.3	0.9 0.6	Leads	Leads	2 1/4	2 5/16	2 5/8	1 3/4	2 5/16	1.4

May be operated from a 400 Hz. source with no change in output ratings.

FOR 100 WS ELECTRONIC PHOTOFLASH: PRIMARIES 105/115/125 VOLTS 60 Hz.

5	P-6425	S	380¶ 20 Charges 1050 mfd. to 450 volts D.C.						Leads	Leads	2 5/16	2 7/8	2	2 3/8	—	1.4
	P-6426	W	Trigger Coil for use with P-6425. Ratio 1 to 35 Write for Bulletin #470R for Circuit Details						Leads	Leads	—	3/4	3/16	—	—	0.2

¶ For use in Half-Wave Circuits. May be operated from a 400 Hz. source with no change in output ratings.

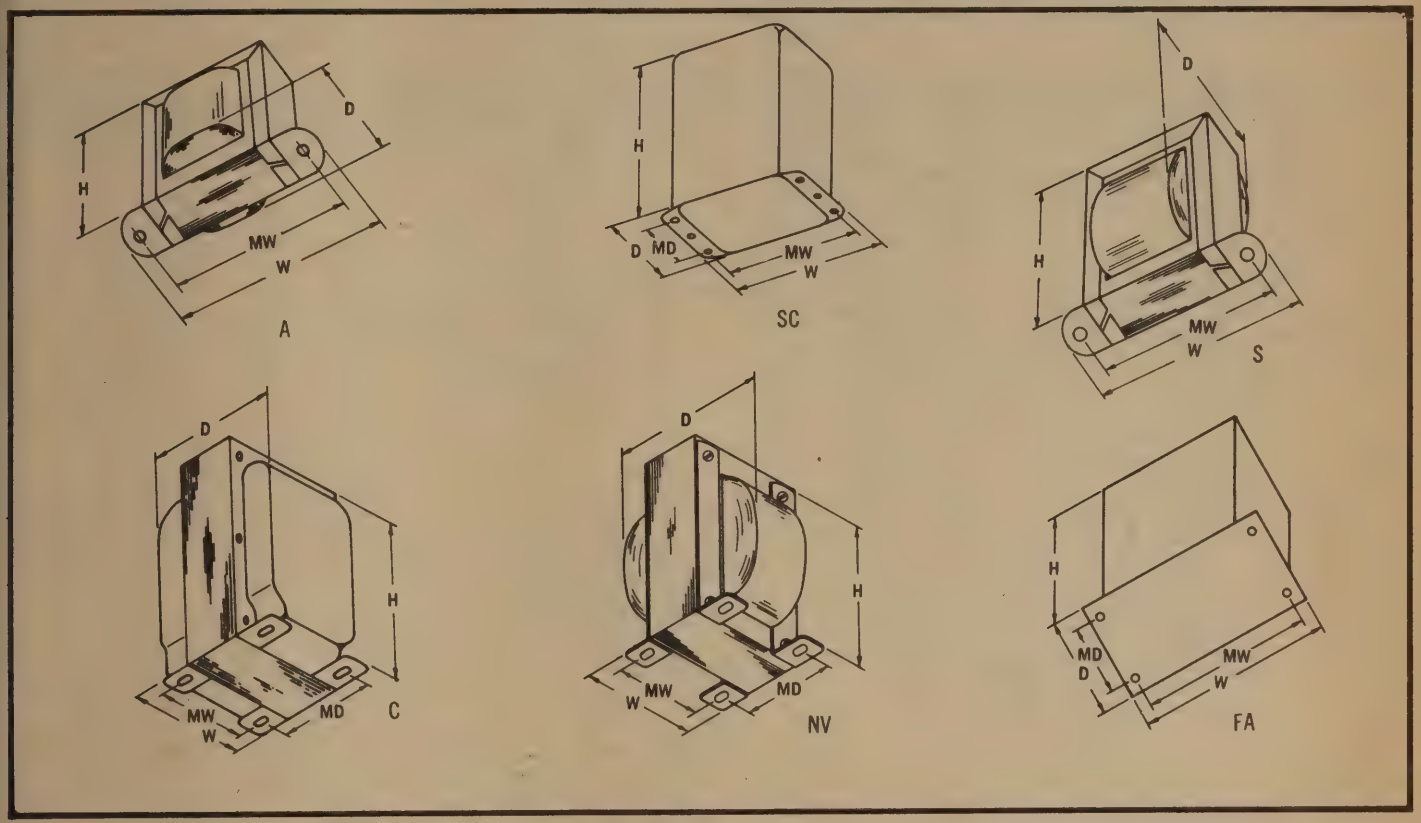
ALL SECONDARY AC VOLTAGES ±3%

© United Technical Publications

ESSEX Stancor transformers | STANCOR

FILAMENT TRANSFORMERS

ALSO USED IN CONTROL/RECTIFIER APPLICATIONS



WITH SINGLE SECONDARY: ALL PRIMARIES 50/60 Hz.

Section	STANCOR Part No.	Style	Secondary Volts	Secondary Amps.	Insulation Test RMS Volts*	Primary Volts	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	•P-8628	A	2.5 C.T.	0.3	1500	117	Leads	Leads	1¼	2⅛	1⅝	1¾	—	0.3
	•P-8629	A	2.5	1.0	1500	117	Leads	Leads	1⅜	2⅜	1⅜	2	—	0.4
	P-4026	A	2.5	1.5	2500	117	Leads	Leads	1⅝	2⅞	1⅝	2⅜	—	0.7
	P-4082	SC	2.5 C.T.	2.5	2500	117/107	Leads	Leads	2 1/16	2 1/16	2¼	2⅜	1½	1.5
	P-6133†	S	2.5 C.T.	5.0	7500	117	Leads	Leads	2¾	3⅛	2¼	2 13/16	—	1.5
	F-25	SC	2.5 C.T.	5.25	3500	115/230	Lugs	Lugs	3 1/16	3	2½	2 1/16	1¾	2.0
	P-4083†	C	2.5 C.T.	6.0	2500	117/107	Leads	Leads	3⅛	2½	2½	2	1½	2.2
	P-3024†	C	2.5 C.T.	10.0	2500	117/107	Leads	Leads	3⅛	2½	2¾	2	1¾	2.5
	P-6454	S	2.5 C.T.	10.0	7500	117/107	Leads	Leads	3⅛	3⅝	2½	3⅛	—	2.5
	P-3060	NV	2.5 C.T.	10.0	10000	117	Lugs	Lugs	3 3/16	2 13/16	2⅜	2¼	1⅞	2.5
2	F-210	SC	2.5 C.T.	10.0	5000	115/230	Terms	Terms	3¾	3½	2⅞	3⅛	2	3.0
	F-210H	SC	2.5 C.T.	10.0	9000	115/230	Terms	Terms	4¼	4	3¼	3½	2¼	4.0
	F-215H	SC	2.5 C.T.	15.0	9000	115/230	Terms	Terms	4 5/16	4 1/16	3 11/16	3⅞	2¾	6.0
	P-3026†	C	5.0 C.T.	3.0	2500	117/107	Leads	Leads	3⅛	2½	2⅝	2	1⅝	2.4
	P-4088†	NV	5.0 C.T.	3.0	2500	117	Lugs	Lugs	3⅛	2½	2¼	2	1⅝	1.8
	P-6467	A	5.0 C.T.	3.0	2500	117	Leads	Leads	2	3¼	2⅛	2 13/16	—	1.4
	F-54†	SC	5.0 C.T.	4.0	2500	115/230	Lugs	Lugs	3 5/16	3	2½	2 1/16	1¾	2.2
	P-6455	S	5.0 C.T.	6.0	2000	117/107	Leads	Leads	2¾	3⅛	2⅛	2 13/16	—	2.0
	P-3062†	NV	5.0 C.T.	6.0	2500	117	Lugs	Lugs	3⅛	2½	2¼	2	2	2.3
	P-5000†	C	5.0 C.T.	6.0	2500	117/107	Leads	Leads	3⅛	2½	3	2	2	3.1
	P-6135	NV	5.0 C.T.	10.0	2500	117	Leads	Leads	3⅛	2½	2¾	2	2⅜	3.0
	F-58	SC	5.0 C.T.	10.0	2500	115/230	Terms	Terms	3¾	3½	2⅞	3⅛	2	3.5
3	F-510H†	SC	5.0 C.T.	10.0	10000	115/230	Terms	Terms	4 1/16	4 1/16	3 11/16	3⅞	2¾	6.5
	P-4086†	FA	5.0 C.T.	14.0	10000	117/107	Terms	Terms	5⅛	7	4¼	6	2¾	12.3
	P-6433†	NV	5.0 C.T.	15.0	2500	117	Leads	Leads Lugs	3⅛	2½	2¾	2	2¼	3.0
	F-516	SC	5.0 C.T.	20.0	2500	115/230	Terms	Terms	4 1/16	4 1/16	3 11/16	3⅞	2¾	6.5
	F-520HB	SC	5.0 C.T.	20.0	10000	115/230	Terms	Terms	5 5/16	5¼	4 5/16	4¾	2½	13.0
	P-6432†	NV	5.0 C.T.	21.0	2500	117	Leads	Leads Lugs	3 13/16	3⅛	2⅞	2½	2¼	4.5
	P-6302†	FA	5.0 C.T.	22.0	10000	117/107	Terms	Terms	5⅛	7	4¼	6	2¾	13.5
	P-6492	C	5.0 C.T.	30.0	2500	117	Leads	Leads	4 1/16	3¾	4	3	2 13/16	7.5
	P-6468†	C	5.0 C.T.	30.0	2500	117/107	Lugs	Lugs	4¼	3 7/16	3⅞	2¾	2 1/16	6.3
	F-530	SC	5.0 C.T.	30.0	2500	115/230	Terms	Terms	5 5/16	5¼	4 5/16	4¾	2½	10.5
	P-6305†	FA	5.0 C.T.	30.0	10000	117/107	Terms	Terms	5⅛	7	4¼	6	2¾	18.3

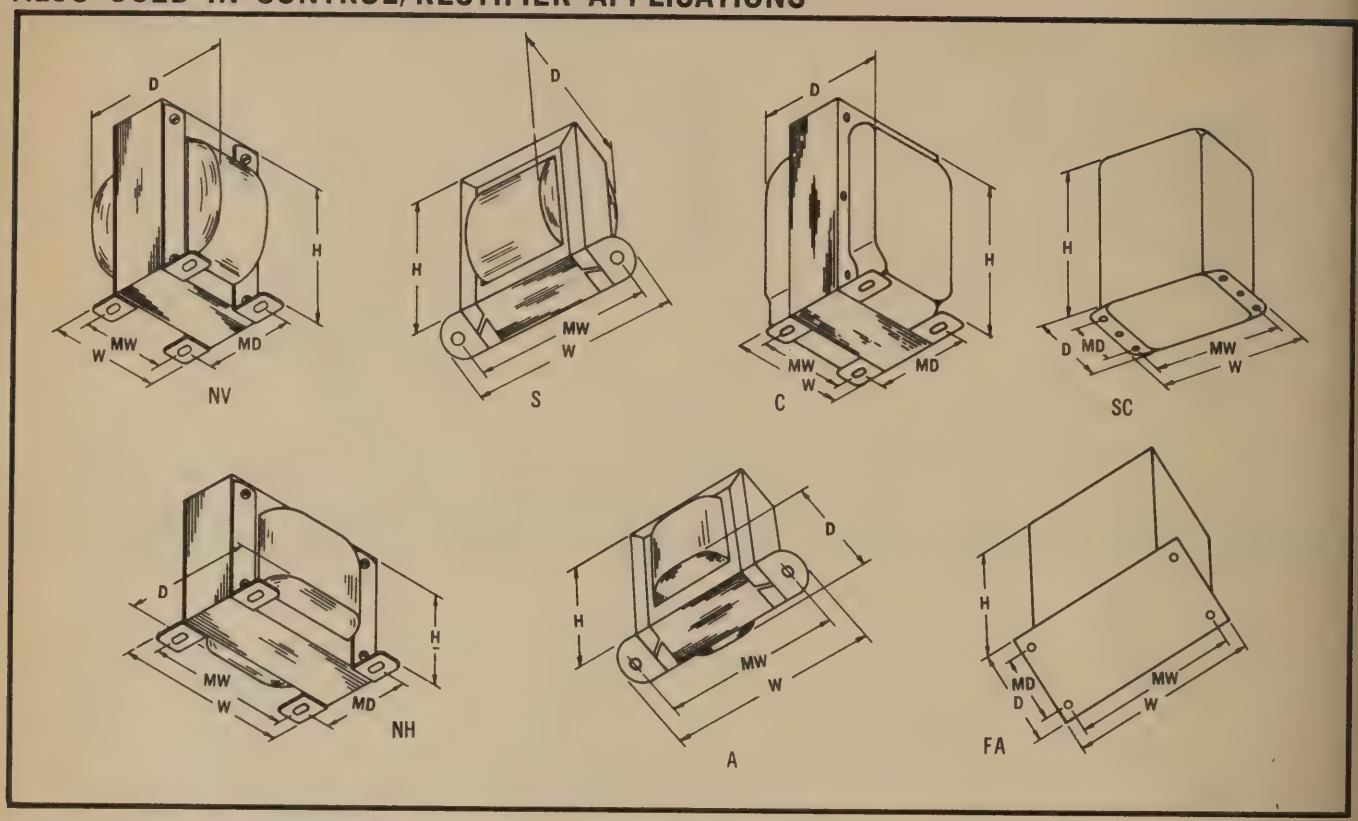
† Has Electrostatic shield. * Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts. • New Part Number.
May be operated from a 400 Hz. source with no change in output ratings. **ALL SECONDARY VOLTAGES ±3%**

© United Technical Publications

ESSEX Stancor transformers | STANCOR

FILAMENT TRANSFORMERS

ALSO USED IN CONTROL/RECTIFIER APPLICATIONS



WITH SINGLE SECONDARY: ALL PRIMARIES 50/60 Hz. (Cont'd)

Section	STANCOR Part No.	Style	Secondary Volts	Secondary Amps.	Insulation Test RMS Volts*	Primary Volts	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	P-6137†	NV	5.25 C.T.	13.0	2500	117	Leads	Leads	3 13/16	3 1/8	3 1/8	2 1/2	2 1/2	5.2
	P-8385	A	6.3 C.T.	0.3	1500	117	Leads	Leads	1 1/4	2 1/8	1 3/8	1 3/4	—	0.3
	P-6465	A	6.3 C.T.	.6	1500	117	Leads	Leads	1 3/8	2 3/8	1 1/2	2	—	0.4
	•P-8705	A	6.3 C.T.	0.6	1500	230	Leads	Leads	1 3/8	2 3/8	2 1/2	2	—	0.4
	P-8389	A	6.3	1.0	1500	117	Leads	Leads	1 5/8	2 7/8	1 1/2	2 3/8	—	0.6
	P-6134	A	6.3 C.T.	1.2	3000	117	Leads	Leads	1 5/8	2 7/8	1 7/8	2 3/8	—	0.8
	P-8190	A	6.3	1.2	5000	117	Leads	Leads	2	3 1/4	1 7/8	2 13/16	—	1.0
	P-8191	A	6.3	1.2	5000	6.3	Leads	Leads	2	3 1/4	2	2 13/16	—	1.0
	F-615†	SC	6.3 C.T.	1.5	2500	115/230	Lugs	Lugs	2 11/16	2 11/16	2 1/4	2 3/8	1 1/2	1.0
	F-63†	SC	6.3 C.T.	3.0	2500	115/230	Lugs	Lugs	3 1/16	3	2 1/2	2 11/16	1 3/4	2.0
2	P-5014†	NV	6.3 C.T.	3.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 1/2	2	1 3/4	2.0
	P-6466	A	6.3 C.T.	3.0	2500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.4
	P-6462	S	6.3	3.0	7000	117/107	Leads	Leads	3 1/8	3 5/8	2 3/8	3 1/8	—	2.0
	P-4019†	C	6.3 C.T.	4.0	2500	117/107	Leads	Leads	3 1/8	2 1/2	2 3/4	2	1 3/4	2.7
	F-65	SC	6.3 C.T.	5.5	2500	115/230	Lugs	Lugs	3 3/4	3 1/2	2 7/8	3 1/8	2	3.0
	P-3064†	NV	6.3 C.T.	6.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 3/8	2	2	2.4
	P-4089	C	6.3 C.T.	6.0	2500	117/107	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.5
	P-6456	A	6.3 C.T.	6.0	2000	117/107	Leads	Leads	2 3/8	3 3/4	2 3/8	3 1/8	—	2.0
	P-6464	C	6.3 C.T.	10.0	2000	117	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.5
	P-6308†	NV	6.3 C.T.	10.0	2500	117/107	Leads	Leads	3 7/16	2 13/16	2 5/8	2 1/4	2 1/8	3.4
	F-610	SC	6.3 C.T.	10.0	2500	115/230	Terms	Terms	4 1/4	4	3 1/4	3 1/2	2 1/4	9.0
	P-6309	NV	6.3 C.T.	20.0	2500	117/107	Leads	Leads	4 5/16	3 3/4	3 3/8	3	2 3/8	6.7
	P-5015†	NV	7.5 C.T.	4.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 1/4	2	2 1/8	2.7
3	P-4091†	C	7.5 C.T.	5.0	2500	117/107	Leads	Leads	3 1/2	2 13/16	3 1/8	2 1/4	1 7/8	3.4
	P-6138†	NV	7.5 C.T.	8.0	2500	117	Leads	Leads	3 13/16	3 1/8	2 3/4	2 1/2	2 3/8	4.7
	F-712	SC	7.5 C.T.	12.0	2500	115/230	Terms	Terms	4 11/16	4 7/16	3 11/16	3 7/8	2 3/4	6.5
	P-6457	C	7.5 C.T.	21.0	2000	117/107	Leads	Leads	4 5/8	3 3/4	4	3	2 3/4	8.0
	F-725	SC	7.5 C.T.	25.0	2500	115/230	Terms	Terms	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	12.0
	F-751	SC	7.75 C.T.	51.0	2500	115/230	Terms	Terms	7 1/16	6 1/2	6 1/8	6	4 1/4	29.0
	P-8380	A	10.0 C.T.	3.0	1500	117	Leads	Leads	2 3/8	3 3/4	2 1/4	3 1/8	—	1.6
	F-104	SC	10.0 C.T.	4.0	2500	115/230	Lugs	Lugs	3 3/4	3 1/2	2 7/8	3 1/8	2	3.2
	P-5016†	NV	10.0 C.T.	4.0	2500	117	Lugs	Lugs	3 7/16	2 13/16	2 1/2	2 1/4	2	3.3
	P-6458	NV	10.0 C.T.	5.0	2000	117/107	Leads	Leads	3 1/16	2 1/2	2 1/2	2 1/8	1 15/16	3.0
	P-4096†	C	10.0 C.T.	5.0	2500	117/107	Leads	Leads	3 7/8	3 1/8	3 1/4	2 1/2	1 15/16	4.0
	F-106	SC	10.0 C.T.	6.5	2500	115/230	Terms	Terms	4 1/4	4	3 1/4	3 1/2	2 1/4	5.0

† Has Electrostatic shield. * Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.
May be operated from a 400 Hz. source with no change in output ratings. **ALL SECONDARY VOLTAGES ±3%** • New Part Number.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

FILAMENT TRANSFORMERS
ALSO USED IN CONTROL/RECTIFIER APPLICATIONS

WITH SINGLE SECONDARY: ALL PRIMARIES 50/60 Hz. (Cont'd)

Section	STANCOR Part No.	Style	Secondary Volts	Secondary Amps.	Insulation Test RMS Volts*	Primary Volts	Termination Pri.	Termination Sec.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	P-6139†	NV	10.0 C.T.	8.0	2500	117	Leads	Leads	3 13/16	3 1/8	3	2 1/2	2 3/8	4.9
	P-4097†	C	10.0 C.T.	8.0	2500	117/107	Leads	Leads	3 7/8	3 1/8	3 3/4	2 1/2	2 1/2	5.2
	P-6461	C	10.0 C.T.	10.0	2000	117	Leads	Leads	3 7/8	3 1/4	3 5/16	2 3/4	2 11/16	5.0
	F-1010	SC	10.0 C.T.	10.0	2500	115/230	Terms	Terms	4 11/16	4 7/16	3 11/16	3 7/8	2 3/4	6.5
	P-5002†	FA	10.0 C.T.	12.0	7500	117/107	Terms	Terms	5 1/8	7	4 1/4	6	2 3/4	14.7
	P-3020†	C	11.0 C.T.	10.0	2500	117/107	Leads	Leads	4 11/16	3 3/4	3 5/8	3	2 7/16	7.7
	P-8384	A	12.6 C.T.	1.0	1500	117	Leads	Leads	2	3 1/4	1 3/4	2 13/16	—	0.9
	P-8130	A	12.6 C.T.	2.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.4
	•P-8715	A	12.6 C.T.	2.0	1500	230	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.4
	P-8358	A	12.6 C.T.	3.0	1500	117	Leads	Leads	2 3/8	3 3/4	2 1/4	3 1/8	—	1.6
	P-6469	A	25.2	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.4
2	P-8180	A	25.2 C.T.	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.4
	P-8357	A	25.2 C.T.	2.0	1500	117	Leads	Leads	2 5/8	4	2 1/4	3 5/16	—	2.2
	P-8388	A	25.2 C.T.	2.8	1500	117	Leads	Leads	2 5/8	4	2 1/4	3 5/16	—	2.2
	P-8608	A	26.5 C.T.	.6	2500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.3
	P-8609	A	26.8 C.T.	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	—	1.3
	P-8606	A	26 V C.T. Nominal	.040	2500	117	Leads	Leads	1 1/4	2 1/8	1 3/8	1 3/4	—	.25
			* Primary tapped to provide secondary voltages of 24.5 CT or 27.5 CT or 29 CT.											
	P-8607	A	26 V C.T. Nominal	.25	2500	117*	Leads	Leads	1 5/8	2 7/8	1 3/4	2 3/8	—	.70
			* Primary tapped to provide secondary voltages of 24.5 CT or 27.5 CT or 29 CT.											
	P-8605	A	48 V C.T. Nominal	1.0	2500	117*	Leads	Leads	2 5/8	4	2 3/8	3 5/16	—	2.3
			* Primary tapped to provide secondary voltages of 45 CT or 51 CT or 54 CT.											

May be operated from a 400 Hz. source with no change in output ratings.

WITH MULTIPLE SECONDARIES: ALL PRIMARIES 50/60 Hz.

3	P-6144†	C	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	2500	117*	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.7
	P-6335	NH	2.5 6.0 6.0 C.T. 6.3 C.T.	3.0 3.0 2.0 3.0	2500	117	Leads	Leads	2 7/8	3 3/8	2 3/4	2 13/16	2 1/8	3.4
	P-5009†	C	5.0 C.T. 6.3 C.T.	3.0 6.0	2500	117/107	Leads	Leads	3 7/8	3 1/8	3 3/8	2 1/2	2 1/16	4.5
	P-5008†	C	5.0 C.T. 6.3 C.T.	4.0 3.6	2500	117/107	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.8
	P-4022†	C	5.0 C.T. 6.3 C.T.	6.0 6.0	2500	117/107	Leads	Leads	3 7/8	3 1/8	3 1/2	2 1/2	2 1/16	4.8
4	P-6333	NH	5.0 5.0 6.3 C.T. 7.5/6.3 C.T.	3.0 3.0 4.0 3.0	2500	117	Lugs	Lugs	2 7/8	3 3/8	3 1/4	2 13/16	2 3/4	4.7
	P-6463	NV	6.0 C.T. or 6.5 C.T. or 7.0 C.T.	13	2000	117	Lugs	Lugs	3 7/16	2 13/16	2 7/8	2 1/4	2 11/16	4.5
	P-6428†	C	6.3 6.3 6.3 6.3 C.T.	1.75 1.75 1.75 1.75	2500	117	Leads	Leads	3 1/8	2 1/2	3 1/8	2	2	3.0
	P-6430†	C	6.3 C.T. 6.3 C.T.	3.0 3.0	2500	117	Leads	Leads	3 1/8	2 1/2	2 7/8	2	1 7/8	2.8
5	P-6429†	C	6.3 6.3 6.3 6.3 C.T.	3.5 3.5 3.5 3.5	2500	117	Leads	Leads	3 7/8	3 1/8	3 1/2	2 1/2	2 5/16	4.8
	P-6431†	C	6.3 C.T. 6.3 C.T.	6.0 6.0	2500	117	Leads	Leads	3 7/8	3 1/8	3 1/2	2 1/2	2 5/16	4.8
	P-6434‡	C	12.6 12.6 C.T.	2.5 2.5	1500	117	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.5

May be operated from a 400 Hz. source with no change in output ratings.

MULTI-TAPPED FOR TUBE CHECKERS: PRIMARIES 50/60 Hz.

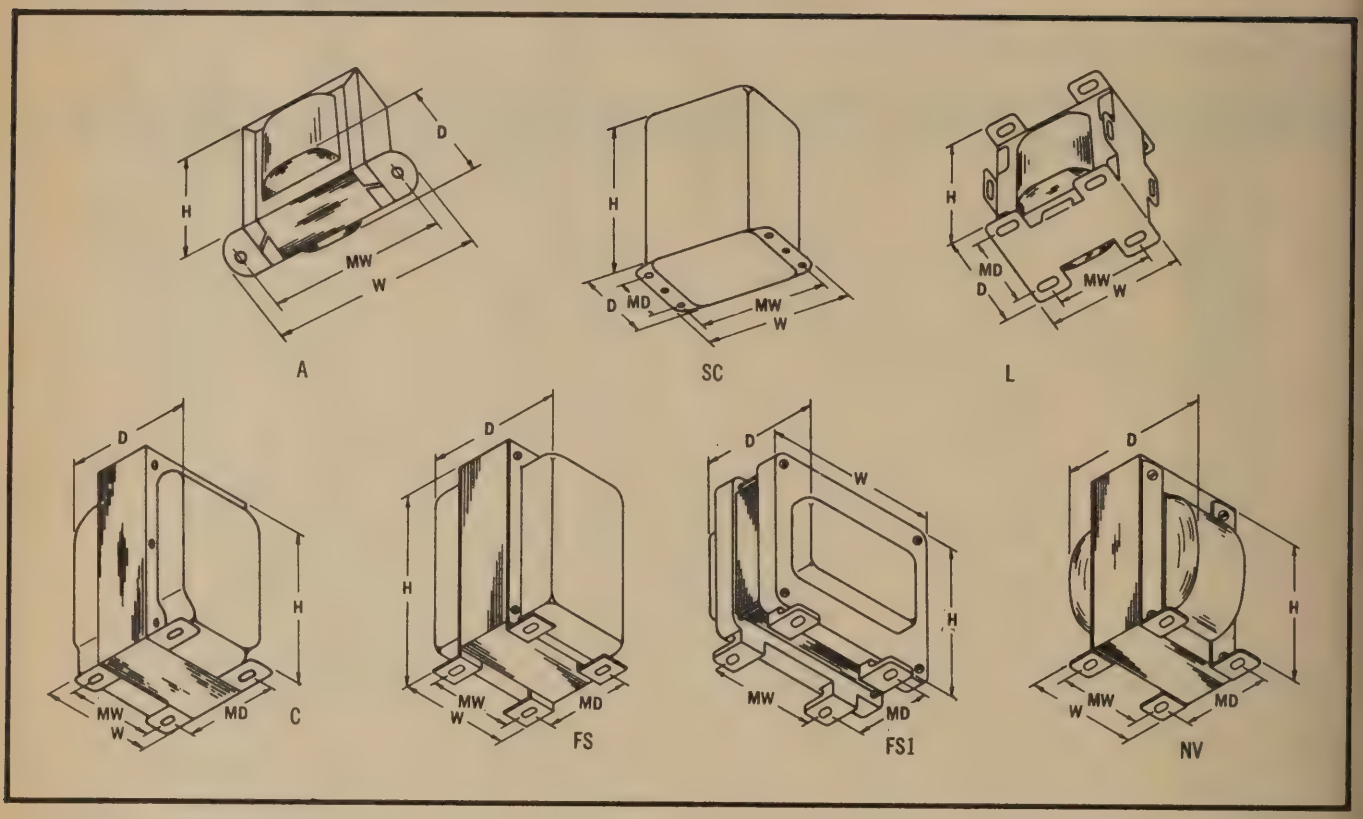
			Secondary Rating (RMS)									
6	P-1834-3	A	117/107/85 @ .20A 70 @ .30A 50 @ .50A 35 @ .60A 30/25/20/12 @ .80A 7.5/7/6.3/5 @ 3.0A 4/3.3/2.5/2 1.5/1.4/1.1	1500 1500 1500 1500 1500 1500	105/115/125	Leads	Leads/ Lugs	2 5/8	4	2 7/8	3 5/16	—	2.4

† Has Electrostatic shield. * Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts. ALL SECONDARY VOLTAGES ±3%

‡ Windings May Be Connected in Series or Parallel if Properly Phased. • New Part Number. May be operated from a 400 Hz. source with no change in output ratings.

ESSEX Stancor transformers | STANCOR

FILTER CHOKES



SMOOTHING CHOKES: INDUCTANCE TOLERANCE - MINUS 15% PLUS 50% AT 10 VOLTS 60 Hz.

Section	STANCOR Part No.	Style	Inductance Henries	DCMA	DC Res. Ohms	Insul. Test RMS Volts*	Termination	Case Dimension			Mtg. Dimension		Wt. Lbs.
								H	W	D	MW	MD	
1	C-2345	A	350	5	5600	2500	Leads	2	3¼	1¾	2 13/16	—	1.0
	C-2344	A	1.5	10	85	2500	Leads	1¼	2⅛	1⅛	1¾	—	0.4
	C-2707	A	2.0	15	70	1500	Leads	1¼	2⅛	1⅛	1¾	—	0.4
	C-1515	A	20.0	15	900	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
	C-2346	A	35	15	1800	1500	Leads	1⅜	2⅜	1⅜	2	—	0.5
	C-2318	A	12.0	30	400	2000	Leads	1⅜	2⅜	1⅜	2	—	0.5
	RC-1540	SC	15.0	40	475	2500	Leads	2 11/16	2 11/16	2¼	2⅜	1½	1.5
	RS-1540	SC	15.0	40	475	2500	Lugs	2 11/16	2 11/16	2¼	2⅜	1½	1.5
	C-1080	A	3.5	50	200	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
2	C-1708	A	4.5	50	300	1500	Leads	1⅜	2⅜	1¼	2	—	0.5
	C-1723	A	4.5	50	325	1500	Leads	1⅜	2⅜	1⅜	2	—	0.5
	C-1325	A	5.0	50	250	1500	Leads	1⅝	2⅞	1¼	2⅜	—	0.7
	C-1277	A	7.0	50	300	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
	C-1227	A	7.0	50	350	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
	C-1707	A	7.0	50	550	1500	Leads	1⅜	2⅜	1¼	2	—	0.5
	C-1333	A	8.0	50	450	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
	C-1279	A	8.5	50	400	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
	C-1215	A	9.0	50	500	1500	Leads	1⅝	2⅞	1⅜	2⅜	—	0.7
3	C-1003	A	16.0	50	580	1500	Leads	2	3¼	1⅜	2 13/16	—	1.0
	RC-1055	SC	10.0	55	230	2500	Leads	2 11/16	2 11/16	2¼	2⅜	1½	1.7
	RS-1055	SC	10.0	55	230	2500	Lugs	2 11/16	2 11/16	2¼	2⅜	1½	1.7
	RC-1555	SC	15.0	55	380	2500	Leads	2 11/16	2 11/16	2¼	2⅜	1½	2.0
	RS-1555	SC	15.0	55	380	2500	Lugs	2 11/16	2 11/16	2¼	2⅜	1½	2.0
	C-1708	A	13.0	65	500	1500	Leads	2	3¼	1¾	2 13/16	—	1.0
	C-1355	L	8.0	75	290	1500	Lugs	2	2	2⅜	1 13/16	1½	1.0
	C-1002	A	15.0	75	400	1500	Leads	2⅜	3¾	2	3⅛	—	1.7

* Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

FILTER CHOKES

SMOOTHING CHOKES: INDUCTANCE TOLERANCE - MINUS 15% PLUS 50% AT 10 VOLTS 60 Hz. (Cont'd)

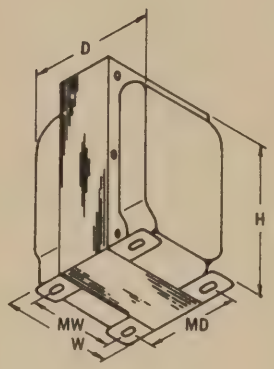
Section	STANCOR Part No.	Style	Inductance Henries	DCMA	DC Res. Ohms	Insul. Test RMS Volts*	Termination	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	C-1420	C	16.0	80	360	1500	Leads	3 1/8	2 1/2	2 3/4	2	1 3/4	2.5
	C-1709	A	8.0	85	250	1500	Leads	2	3 1/4	1 7/8	2 13/16	—	1.4
	RC-1085	SC	10.0	85	175	2500	Leads	3 1/16	3	2 1/2	2 11/16	1 3/4	2.5
	RS-1085	SC	10.0	85	175	2500	Lugs	3 5/16	3	2 1/2	2 11/16	1 3/4	2.5
	RC-1585	SC	15.0	85	285	2500	Leads	3 1/16	3	2 1/2	2 11/16	1 3/4	2.7
	RS-1585	SC	15.0	85	285	2500	Lugs	3 5/16	3	2 1/2	2 11/16	1 3/4	2.7
	C-2305	SC	5.0	100	300	1500	Leads	2 11/16	2 11/16	2 1/4	2 3/8	1 1/2	1.5
	RC-8105	SC	8.0	105	100	2500	Leads	3 1/2	3 1/2	2 7/8	3 1/8	2	3.7
	RS-8105	SC	8.0	105	100	2500	Lugs	3 3/4	3 1/2	2 7/8	3 1/8	2	3.7
	RC-12105	SC	12.0	105	170	2500	Leads	3 1/2	3 1/2	2 7/8	3 1/8	2	4.0
	RS-12105	SC	12.0	105	170	2500	Lugs	3 3/4	3 1/2	2 7/8	3 1/8	2	4.0
2	C-1001	A	10.5	110	225	3000	Leads	2 5/8	4	2 1/8	3 5/16	—	2.3
	C-2704	A	9.0	125	250	1500	Leads	2 3/8	3 3/4	1 7/8	3 1/8	—	1.8
	C-2303	A	2.5	130	100	2000	Leads	2	3 1/4	1 5/8	2 13/16	—	1.0
	C-1421	C	7.0	140	165	3000	Leads	3 1/8	2 1/2	2 3/4	2	1 3/4	2.5
	C-2304	A	2.3	150	60	1500	Leads	2	3 1/4	1 3/4	2 13/16	—	1.0
	C-2309	A	3.0	150	90	2000	Leads	2 3/8	3 3/4	1 7/8	3 1/8	—	1.7
	C-2335	SC	7.0	150	170	1500	Leads	3 1/16	3	2 1/2	2 11/16	1 3/4	2.3
	C-1710	A	7.0	150	200	1500	Leads	2 5/8	4	2	3 5/16	—	2.2
	RC-8150	SC	8.0	150	100	2500	Leads	3 7/8	4	3 1/4	3 1/2	2 1/4	5.2
3	RS-8150	SC	8.0	150	100	2500	Lugs	4 1/4	4	3 1/4	3 1/2	2 1/4	5.2
	RC-12150	SC	12.0	150	150	2500	Lugs	3 7/8	4	3 1/4	3 1/2	2 1/4	5.5
	RS-12150	SC	12.0	150	150	2500	Leads	4 1/4	4	3 1/4	3 1/2	2 1/4	5.5
	C-1410	C	4.0	175	100	3000	Leads	3 1/8	2 1/2	2 3/4	2	1 3/4	2.4
	C-2327	A	1.5	200	85	1500	Leads	1 5/8	2 7/8	1 1/2	2 3/8	—	0.7
	C-2325	A	2.0	200	60	1500	Leads	2 3/8	3 3/4	1 7/8	3 1/8	—	1.8
	C-1411	C	4.5	200	80	3000	Leads	3 1/2	2 13/16	4 1/4	2 1/4	2	3.5
	C-1646	C	5.0	200	90	5000	Leads	3 7/8	3 1/8	3 1/2	2 1/2	2 5/16	4.5
	RC-8200	SC	8.0	200	85	2500	Leads	4 5/16	4 7/16	3 13/16	3 7/8	2 3/4	7.0
	RS-8200	SC	8.0	200	85	2500	Lugs	4 11/16	4 7/16	3 11/16	3 7/8	2 3/4	7.0
4	C-1721	NV	8.5	200	120	3000	Leads	3 7/16	2 13/16	2 5/8	2 1/4	2 1/2	4.4
	C-2705	C	10.0	200	150	2500	Leads	3 1/2	2 13/16	3 5/16	2 1/4	2 5/16	4.5
	RC-12200	SC	12.0	200	140	2500	Leads	4 5/16	4 7/16	3 11/16	3 7/8	2 3/4	5.0
	RS-12200	SC	12.0	200	140	2500	Lugs	4 11/16	4 7/16	3 11/16	3 7/8	2 3/4	7.0
	C-2717	A	4.0	250	100	2500	Leads	2 5/8	4	2 1/8	3 5/16	—	2.4
	C-1703	NV	4.0	250	60	3000	Lugs	3 7/16	2 13/16	2 5/8	2 1/4	2 1/2	4.2
	C-1412	C	4.0	250	60	3000	Leads	3 1/2	2 13/16	3 5/8	2 1/4	2 3/8	4.3
	RC-8250	SC	8.0	250	90	2500	Leads	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	10.5
	RS-8250	SC	8.0	250	90	2500	Lugs	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	10.5
	C-2343	A	0.75	300	32	1500	Leads	1 5/8	2 7/8	1 3/8	2 3/8	—	0.7
	C-2326	A	1.0	300	43	1500	Leads	2 3/8	3 3/4	2	3 1/8	—	1.7
	C-2334	A	2.8	300	60	1500	Leads	2 5/8	4	2 1/8	3 5/16	—	2.5
5	R-63	SC	6.0	300	35	7500	Terms	6 1/16	5 7/8	5 5/16	5 3/8	3 1/2	16.5
	RC-8300	SC	8.0	300	60	3500	Leads	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	12.5
	RS-8300	SC	8.0	300	60	3500	Lugs	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	12.5
	C-1722	NV	8.0	300	80	3000	Leads	4 5/16	3 3/4	3	3	2 1/2	7.3
	C-2308	C	8.0	300	80	3000	Leads	4 11/16	3 3/4	4	3	2 13/16	7.8
	C-1413	C	8.0	300	80	3000	Lugs	4 5/16	3 3/4	4	3	2 13/16	7.8
	R-103	SC	10.0	300	40	2500	Terms	7 1/16	6 1/2	6 1/8	6	4 1/4	2.0
6	C-2706	C	2.6	310	50	1500	Leads	3 1/8	2 1/2	3 3/8	2	3 3/8	4.0
	C-2347	A	1.0	350	40	1500	Leads	2	3 1/4	1 3/4	2 13/16	—	1.0
	C-2328	A	0.8	375	25	1500	Leads	2 3/8	3 3/4	1 7/8	3 1/8	—	1.5
	C-2709	A	2.0	400	40	2500	Leads	2 5/8	4	2 1/8	3 5/16	—	2.3
	C-1414	C	7.5	400	60	5000	Lugs	4 11/16	3 3/4	5	3	3 13/16	11.8
	R-85	FS1	6.0	500	35	9000	Terms	7	7 1/2	6 3/8	4 3/4	5 1/2	35.0
	C-1415	FS	6.0	500	75	7500	Terms	7 1/8	5 5/8	5 3/8	4 5/8	3 5/8	23.7
	R-105	FS1	10.0	500	40	9000	Terms	7	7 1/2	7 1/8	4 3/4	6 1/4	35.0
	C-2708	A	0.32	600	10	1500	Leads	2	3 1/4	1 5/8	2 13/16	—	1.3

* Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

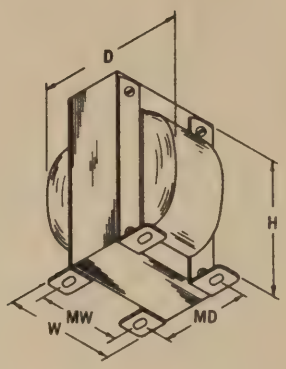
© United Technical Publications

ESSEX Stancor transformers | STANCOR

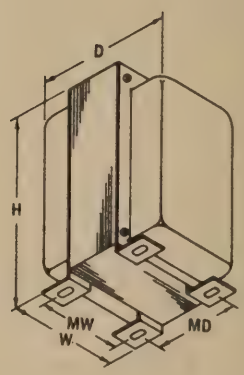
FILTER CHOKES



C



FS



NV

SWINGING CHOKES: INDUCTANCE MEASURED AT 50 VOLTS 60 Hz.

Section	STANCOR Part No.	Style	Inductance Henries	DCMA	DC Res. Ohms	Insul. Test* RMS Volts	Termination	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	C-1718	C	13.5 3.5	15 150	130	2000	Leads	3⅛	2½	2⅝	2	1⅝	2.3
	C-1400	C	12.0 2.0	17.5 175	100	3000	Leads	3⅛	2½	2¾	2	1¾	2.4
	C-1401	C	12.0 2.0	20 200	80	3000	Leads	3½	2 13/16	3¼	2¼	2	3.5
	C-1645	C	12.0 2.0	20 200	90	5000	Leads	3⅞	3⅛	3½	2½	2 3/16	4.5
	C-1702	NV	12.0 2.0	25 250	60	3000	Lugs	3 3/16	2 3/16	2¾	2¼	2½	4.3
2	C-1402	C	12.0 2.0	25 250	60	3000	Leads	3½	2 13/16	3⅝	2¼	2⅜	4.3
	C-1720	NV	20.0 4.0	30 300	80	3000	Leads	4 3/16	3¾	3⅛	3	2½	7.2
	C-2307	C	20.0 4.0	30 300	80	3000	Leads	4 11/16	3¾	4	3	2 13/16	7.9
	C-1403	C	20.0 4.0	30 300	80	5000	Lugs	4 11/16	3¾	4	3	2 13/16	7.7
	C-1404	C	17.0 3.0	40 400	60	5000	Lugs	4 11/16	3¾	5	3	3 13/16	11.7
	C-1405	FS	16.0 4.0	50 500	75	7500	Terms	7⅛	5⅝	5⅜	4⅝	3⅝	24.3

* Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

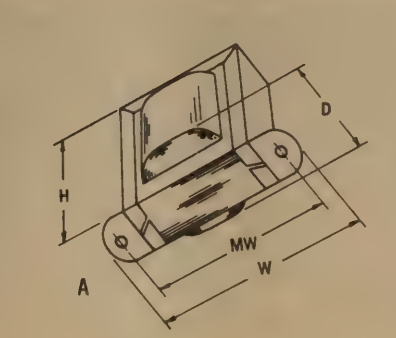
The Stancor line of "Smoothing" and "Swinging" types of Filter Chokes has been designed for use with the various Power and Plate Transformers listed in this catalog. The range of electrical ratings available covers requirements for practically all of the Filter Chokes used in Home Radio and Television Receivers, Audio Amplifiers and low power Radio Transmitters. In addition, a myriad of other electronic apparatus applications for these items exists.

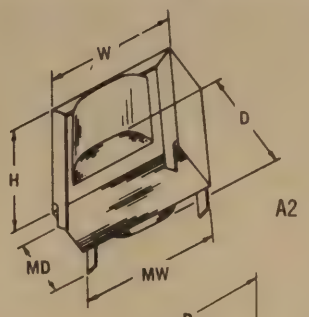
Inductance values shown are measured at the full amount of D.C. listed and at the specified values of RMS Voltage and Frequency. All of these items are made with Class "A" insulating materials and will withstand operation up to a limit of 105°C., continuously.

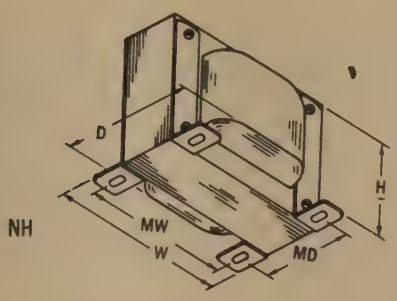
© United Technical Publications

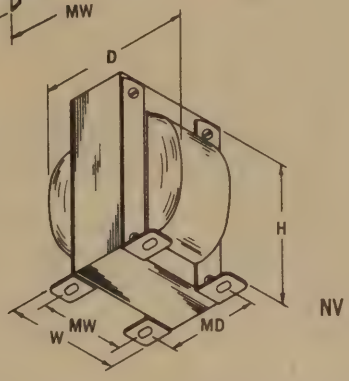
ESSEX Stancor transformers | STANCOR

FILTER CHOKES









HIGH CURRENT CHOKES: INDUCTANCE MEASURED AT 1 VOLT 60 Hz.

Section	STANCOR Part No.	Style	Inductance Millihenries	DC Amps	DC Res. Ohms	Insul. Test* RMS Volts	Termination	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	TC-1	A2	3.0	1.0	.25	1000	Leads	1 3/16	1 1/2	1 1/8	1 3/16	7/16	0.6
	TC-2	A2	11.0	1.0	.75	1000	Leads	1 3/16	1 1/2	1 1/8	1 3/16	7/16	0.6
	C-2690	NV	300 or 75	1.0 2.0	3.0 .75	1500	Leads	3 7/16	2 13/16	3	2 1/4	2 5/8	5.0
	C-2685	NH	35	2.0	.75	1500	Leads	2 5/16	2 5/8	2 1/8	2 3/16	2	1.9
	C-2691	NV	80 or 20	2.5 2.0	.60 .75	1500	Leads	3 13/16	3 1/8	3 1/2	2 1/2	3	7.0
	C-2686	NH	25	4.0	4.25	1500	Leads	2 7/8	3 3/8	2 5/8	2 13/16	2 1/8	3.4
	C-2687	NH	10	8.0	.15	1500	Leads	3 3/16	3 3/4	3	3 1/8	2 1/2	5.3
	C-2688	NH	10	12.5	.11	1500	Leads	3 1/2	4 1/8	2 7/8	3 3/16	2 3/8	5.9
	C-2689	NH	5	22.5	.03	1500	Leads	3 13/16	4 1/2	4 3/8	3 3/4	3 1/2	11.9
	C-2692	NV	24 6	20 40	.12 .029	1500	Self Leads	5 1/4	4 7/16	5 1/4	3 1/2	4 1/4	21.2

MINIATURIZED HIGH CURRENT CHOKES: INDUCTANCE MEASURED AT 1 VOLT 60 Hz.

Section	STANCOR Part No.	Style	Inductance Henries	DCMA	DC Res. Ohms	Insul. Test* RMS Volts	Termination	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
2	• C-2721	A	2000	.065	180	1500	Leads	1 1/4	2 1/8	1 1/8	1 3/4	—	0.25
	• C-2722	A	400	.135	31	1500	Leads	1 1/4	2 1/8	1 1/8	1 3/4	—	0.25
	• C-2723	A	700	.135	40	1500	Leads	1 7/16	2 3/8	1 1/4	2	—	0.35
	• C-2724	A	250	.275	16	1500	Leads	1 7/16	2 3/8	1 1/4	2	—	0.35
	• C-2725	A	400	.275	22	1500	Leads	1 5/8	2 7/8	1 7/16	2 3/8	—	0.65
	• C-2726	A	125	.550	6.0	1500	Leads	1 5/8	2 7/8	1 7/16	2 3/8	—	0.65
	• C-2727	A	250	.500	10	1500	Leads	2	3 1/4	1 11/16	2 13/16	—	1.00
	• C-2728	A	75	1.000	2.5	1500	Leads	2	3 1/4	1 11/16	2 13/16	—	1.00

* Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts. • New Part Number.

The above listed "HIGH CURRENT CHOKES" are normally used in low voltage, high current D.C. power supply filter applications, where low voltage drop across the filter and good voltage regulation is required, without any type of voltage regulator.

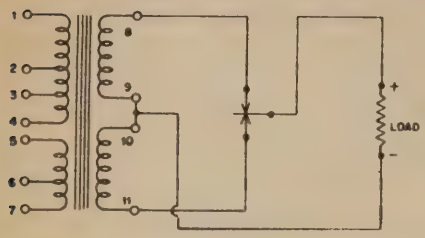
The "MINIATURIZED HIGH CURRENT CHOKES" are primarily for use with the "Miniaturized Control / Rectifier Transformers" listed elsewhere in this catalog. When used in small D.C. power supplies with these transformers, a combination of small physical size and adequate voltage regulation for many applications is possible, without a solid state voltage regulator.

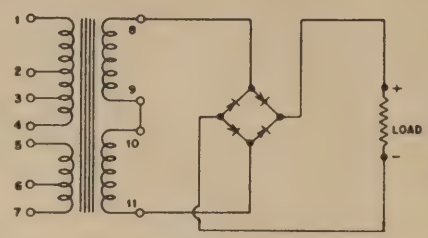
These chokes are made with Class "A" insulating materials and may be operated up to a maximum limit of 105°C., continuously.

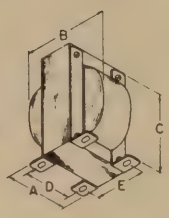
ESSEX Stancor transformers | STANCOR

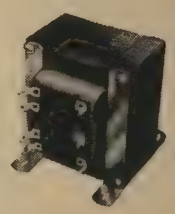
RECTIFIER TRANSFORMERS

UNIVERSAL RECTIFIER TRANSFORMERS: PRIMARIES 117 VOLTS 50/60 Hz. — SOLDER LUG TERMINATION









Section	STANCOR Part No.	Style	Rectifier Circuit	Range of Applied AC Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. DC Volts	Output Resistive or Inductive Load Max. DC Amps.	Output Capacitive Load* Max. DC Volts	Output Capacitive Load* Max. DC Amps.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	RT-201	NV	C.T.	11.7 to 29.4	11.2	2.0	13.8[1]	2.0	3⅛	2½	2⅜	2	2⅛	2.5
			Bridge	11.1 to 28.5	23.0	1.25	30.0[2]	1.25						
	RT-202	NV	C.T.	12.0 to 29.8	11.1	4.0	14.7[3]	4.0	3⅞	2¹³⁄₁₆	2¾	2¼	2⅜	3.8
			Bridge	12.0 to 29.8	24.3	2.0	33.0[1]	2.0						
	RT-204	NV	C.T.	11.7 to 29.2	12.0	8.0	14.5[4]	8.0	3¹³⁄₁₆	3⅛	3½	2½	2⅞	6.1
			Bridge	11.6 to 29.2	24.0	4.0	32.4[3]	4.0						
	RT-206	NV	C.T.	12.0 to 29.7	11.5	12.0	14.4[5]	12.0	4⅞	3⅞	4	2¾	3¼	9.1
			Bridge	12.0 to 29.7	24.0	6.0	32.0[6]	6.0						
	RT-208	NV	C.T.	12.1 to 29.2	11.4	15.0	14.8[7]	15.0	4⅞	3¾	5	2¹³⁄₁₆	3¾	12.6
			Bridge	12.1 to 29.2	23.7	8.0	32.5[4]	8.0						
	RT-2012	NV	C.T.	12.2 to 29.0	11.4	22.5	14.3[8]	22.5	5¾	4⅜	5⅞	3½	4¼	20.5
			Bridge	12.2 to 29.0	23.5	12.0	33.0[5]	12.0						
	•RT-400	NV	C.T.	23.5 to 60.0	25.0	1.0	34.0[9]	1.0	3⅛	2½	3⅜	2	2¼	2.7
			Bridge	23.5 to 60.0	53.0	0.5	74.0[10]	0.5						
	•RT-401	NV	C.T.	24.0 to 59.0	25.0	2.0	34.0[11]	2.0	3⅞	2¹³⁄₁₆	3¹¹⁄₁₆	2¼	2½	4.1
			Bridge	24.0 to 59.0	52.5	1.0	73.5[9]	1.0						
	•RT-402	NV	C.T.	23.0 to 58.0	25.0	4.0	33.5[6]	4.0	3¹³⁄₁₆	3⅛	4½	2½	3¹⁄₁₆	6.9
			Bridge	23.0 to 58.0	51.5	2.0	72.5[9]	2.0						
	RT-408	NV	C.T.	25.0 to 53.5	—	—	—	—	5¾	4⅜	6¾	3½	5¼	26.5
			Bridge	25.0 to 53.5	44.0	8.0	63.0[4]	8.0						
	RT-4012	NV	C.T.	25.0 to 53.0	—	—	—	—	7⅛	5⅝	6½	4⅝	5½	34.0
			Bridge	25.0 to 53.0	43.5	12.0	60.0[5]	12.0						

* MFD Filter Capacitor: 1-1000, 2-5000, 3-2000, 4-4000, 5-6000, 6-3000, 7-7500, 8-12000, 9-1500, 10-600, 11-2500. • New Part Number

Each transformer has the winding arrangement and terminal numbering shown in the schematic diagrams above. The primary winding is connected to terminals 1, 2, 3 & 4. A separate winding is connected to terminals 5, 6 & 7 that may be used in series with the primary to raise or lower the secondary voltage output. A variety of combinations is possible using the taps on both windings, plus the "Aiding" or "Bucking" action of the extra winding.

Designed for 117 V. 50/60 cycle operation; may also be satisfactorily operated at 400 cycles.

The secondary winding of each transformer consists of two identical windings connected to terminals 8 & 9 and to 10 & 11 respectively. Use the tables showing the various output voltages for specific terminal connections as your guide. Many combinations are possible other than those listed in the tables. All ratings shown are for normal convection air cooled applications. Select only rectifiers capable of handling the output voltages and currents described.

RECTIFIER CIRCUIT POWER TRANSFORMERS

When operating these transformers continuously at maximum rated output voltage and current and because of certain other conditions, it is sometimes necessary to derate the rectified output current (DC) as much as 20%; in order to stay within the recommended operating temperature limit of 105 degrees Centigrade. The type of rectifier circuit and load (capacitive, inductive or resistive) determines the relative amount of current (RMS) in the transformer secondary winding. The relationship of AC to DC (secondary RMS current to rectified DC output) for typical circuits and loads is given in the Technical Data on Page 46 of this catalog. Operating duty cycle, type of cooling (natural convection in free air or otherwise) and the power line input voltage and frequency also have an effect on the transformer temperature. These things should all be properly related to the results in any specific application.

The "RT-Series" of transformers may also be used in other rectifier circuits than the Full-wave C.T. and Full-wave Bridge shown above. In circuits such as the Half-wave or Full-wave Voltage Doubler (symmetrical) and Full-wave Bridge, where a C.T. connection is not required, both secondary windings may be connected in parallel, to double the RMS current that is available from each secondary separately. The RMS voltage will, of course, be half of the amount available than that obtained with the secondaries connected in series. Please refer to the adjacent data to obtain the secondary RMS current as related to each rectifier circuit and type of load.

RT-201 STANCOR Power Supply		Full-Wave C.T. Output 2.0 A. DC				Full-Wave Bridge Output 1.25 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.4	11.2	28.8	13.8	28.5	23.0	27.9	30.0
1-7	2-6	26.0	9.8	25.7	11.7	25.4	20.0	25.1	26.4
1-6	2-5	23.0	8.4	22.7	9.9	22.3	17.3	21.8	22.2
1-7	2-5	20.9	7.4	20.8	8.6	20.2	15.4	19.8	19.7
1-3	—	19.4	6.7	19.1	7.6	18.6	13.9	18.2	17.6
1-7	3-6	17.8	6.1	17.6	6.7	17.2	12.8	16.8	15.7
1-6	3-5	16.3	5.3	16.1	6.0	15.7	11.2	15.2	13.8
1-7	3-5	14.9	4.7	14.8	5.3	14.3	10.3	14.1	12.4
1-4	—	14.2	4.4	14.2	5.0	13.7	9.7	13.5	11.6
1-7	4-6	13.4	4.0	13.3	4.4	12.7	8.8	12.5	10.4
1-6	4-5	12.4	3.6	12.4	3.9	11.7	7.9	11.7	9.5
1-7	4-5	11.7	3.3	11.7	3.5	11.1	7.4	11.1	8.7

* 1000 MFD. † 500 MFD.

RT-202 STANCOR Power Supply		Full-Wave C.T. Output 4.0 A. DC				Full-Wave Bridge Output 2.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.7	11.1	29.3	14.7	29.7	24.3	24.3	33.0
1-7	2-6	26.2	9.8	26.0	12.6	26.2	21.5	26.0	29.0
1-6	2-5	24.4	8.8	24.0	11.3	24.3	19.5	23.9	26.0
1-7	2-5	21.9	7.8	21.7	9.9	21.8	17.6	21.5	23.1
1-3	—	20.9	7.4	20.7	9.3	20.9	16.6	20.6	21.7
1-7	3-6	19.2	6.6	18.9	8.2	19.1	15.1	18.9	19.6
1-6	3-5	18.0	6.1	17.8	7.5	18.0	14.2	17.8	18.2
1-7	3-5	16.6	5.5	16.4	6.6	16.6	12.8	16.4	16.3
1-4	—	14.4	4.4	14.2	5.3	14.4	19.8	14.2	13.7
1-7	4-6	13.5	4.1	13.4	4.9	13.5	10.1	13.4	12.6
1-6	4-5	12.9	3.9	12.7	4.4	12.9	9.5	12.7	11.7
1-7	4-5	12.2	3.7	12.0	4.0	12.2	8.9	12.0	10.8

* 2000 MFD. † 1000 MFD.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

RECTIFIER TRANSFORMERS

RT-204		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 8.0 A. DC				Output 4.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.2	12.0	28.8	14.5	29.2	24.0	29.0	32.4
1-7	2-6	25.7	10.5	25.7	12.6	25.7	21.1	25.4	29.2
1-6	2-5	22.8	9.2	22.8	10.9	22.8	18.7	22.7	25.7
1-7	2-5	20.6	8.3	20.6	9.6	20.7	16.6	20.6	22.8
1-3	—	19.3	7.7	19.3	8.7	19.4	15.4	19.0	21.0
1-7	3-6	17.6	7.0	17.6	7.8	17.8	14.0	17.6	19.0
1-6	3-5	16.2	6.3	16.2	6.9	16.3	12.7	16.1	17.2
1-7	3-5	15.0	5.8	15.0	6.3	15.1	11.6	14.9	15.6
1-4	—	14.2	5.4	14.2	5.8	14.4	11.0	14.2	14.8
1-7	4-6	13.3	5.0	13.3	5.3	13.4	10.2	15.3	13.5
1-6	4-5	12.5	4.6	12.5	4.9	12.6	9.4	12.5	12.4
1-7	4-5	11.7	4.3	11.7	4.5	11.8	8.8	11.6	11.4

* 4000 MFD. † 2000 MFD.

RT-206		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 12.0 A. DC				Output 6.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.8	11.5	29.6	14.4	29.6	24.0	29.2	32.0
1-7	2-6	26.0	9.9	25.8	12.0	25.8	20.6	25.4	27.3
1-6	2-5	23.8	8.8	23.6	10.7	23.8	18.6	23.6	24.6
1-7	2-5	21.2	7.6	21.0	9.0	21.2	16.4	21.0	21.4
1-3	—	19.7	7.0	19.7	8.4	19.7	15.2	19.4	19.2
1-7	3-6	17.9	6.2	17.8	7.2	17.9	13.5	17.8	17.3
1-6	3-5	16.7	5.7	16.6	6.6	16.8	12.5	16.6	15.8
1-7	3-5	15.4	5.1	15.4	5.9	15.4	11.4	15.2	14.0
1-4	—	14.6	4.7	14.5	5.2	14.6	10.6	14.5	13.4
1-7	4-6	13.5	4.2	13.4	4.7	13.5	9.8	13.4	12.0
1-6	4-5	12.9	3.9	12.8	4.3	12.9	9.2	12.8	11.0
1-7	4-5	12.0	8.4	12.0	3.9	12.0	8.4	12.0	10.0

* 6000 MFD. † 3000 MFD.

RT-208		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 15.0 A. DC				Output 8.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.2	11.4	29.2	14.8	29.2	23.7	29.0	32.5
1-7	2-6	25.4	9.9	25.4	12.5	25.3	21.0	25.2	27.0
1-6	2-5	24.1	9.3	24.0	11.6	24.0	19.4	23.9	25.5
1-7	2-5	21.5	8.2	21.5	10.0	21.3	17.0	21.3	22.0
1-3	—	19.3	7.1	19.3	8.7	19.1	14.9	19.1	21.2
1-7	3-6	17.6	6.4	17.5	7.7	17.4	13.4	17.4	17.0
1-6	3-5	16.8	6.0	16.8	7.2	16.8	12.9	16.7	16.1
1-7	3-5	15.6	5.5	15.5	6.5	15.4	11.7	15.4	14.5
1-4	—	14.4	5.0	14.4	5.7	14.2	10.7	14.2	13.1
1-7	4-6	13.4	4.5	13.4	5.1	13.3	9.8	13.3	11.9
1-6	4-5	13.0	4.3	12.9	4.8	12.9	9.5	12.8	11.4
1-7	4-5	12.2	3.9	12.1	4.4	12.1	8.7	12.1	10.4

* 7500 MFD. † 4000 MFD.

RT-2012		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 22.5 A. DC				Output 12.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	29.1	11.4	28.8	14.3	29.0	23.5	28.7	33.0
1-7	2-6	25.2	9.7	25.1	12.0	25.3	20.4	25.1	28.0
1-6	2-5	23.6	8.9	23.6	10.9	23.5	18.8	23.5	25.7
1-7	2-5	21.1	7.7	21.0	9.4	21.0	16.3	20.9	22.3
1-3	—	19.3	7.2	19.3	8.3	19.2	14.8	19.2	20.2
1-7	3-6	17.7	6.3	17.7	7.2	17.5	13.4	17.5	17.7
1-6	3-5	16.9	6.0	16.9	6.7	16.8	12.5	16.8	16.7
1-7	3-5	15.6	5.4	15.7	5.9	15.5	11.5	15.5	15.1
1-4	—	14.6	4.9	14.6	5.4	14.5	10.7	14.5	13.7
1-7	4-6	13.5	4.4	13.5	4.7	13.5	9.7	13.4	12.6
1-6	4-5	13.0	4.3	13.0	4.5	13.0	9.3	13.0	11.9
1-7	4-5	12.2	3.9	12.1	4.0	12.2	8.6	12.0	10.8

* 11,250 MFD. † 6000 MFD.

RT-400		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 1.0 A. DC				Output 0.5 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	60.0	25.0	60.0	34.0	60.0	53.0	60.0	74.0
1-7	2-6	53.5	22.0	53.5	30.0	53.0	47.0	53.0	65.0
1-6	2-5	47.0	19.0	47.0	25.0	47.0	41.5	47.0	57.0
1-7	2-5	42.5	17.0	42.5	22.5	42.5	37.5	42.5	51.5
1-3	—	39.0	16.0	39.0	20.0	39.0	34.5	39.5	47.0
1-7	3-6	36.0	14.0	36.0	18.5	36.0	32.0	36.0	43.0
1-6	3-5	32.5	13.0	32.5	16.5	32.5	29.0	32.5	38.5
1-7	3-5	30.5	12.0	30.5	15.0	30.5	26.5	30.5	36.0
1-4	—	29.0	11.0	29.0	14.5	29.0	25.0	29.0	34.0
1-7	4-6	27.5	10.0	27.5	13.0	27.0	23.5	27.0	32.0
1-6	4-5	25.5	9.5	25.5	12.0	25.0	22.0	25.0	29.0
1-7	4-5	23.5	9.0	23.5	11.0	23.5	20.5	23.5	27.0

* 1500 MFD. † 600 MFD.

RT-401		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 2.0 A. DC				Output 1.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	59.0	25.0	59.0	34.0	59.5	52.5	59.5	73.5
1-7	2-6	53.0	22.0	52.5	30.0	53.0	46.5	52.5	65.0
1-6	2-5	48.5	20.0	48.0	27.0	48.5	43.0	48.0	59.5
1-7	2-5	43.5	18.0	43.5	24.0	44.0	39.0	44.0	53.5
1-3	—	42.0	17.0	42.0	22.5	42.0	37.0	42.0	51.0
1-7	3-6	38.0	15.0	38.0	20.5	38.5	33.5	38.5	46.5
1-6	3-5	36.0	14.5	36.0	19.0	36.0	31.5	36.0	43.5
1-7	3-5	33.0	13.0	33.0	17.0	33.5	29.0	33.5	40.0
1-4	—	29.0	11.0	29.0	14.5	29.0	25.0	29.0	34.5
1-7	4-6	27.0	10.5	27.0	13.0	27.0	23.0	27.0	32.0
1-6	4-5	25.5	10.0	25.5	12.5	26.0	22.0	26.0	30.5
1-7	4-5	24.0	9.0	24.0	11.5	24.5	20.5	24.5	28.5

* 2500 MFD. † 1500 MFD.

RT-402		Full-Wave C.T.				Full-Wave Bridge			
STANCOR Power Supply		Output 4.0 A. DC				Output 2.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	58.0	25.0	58.0	33.5	58.0	51.5	58.0	72.5
1-7	2-6	51.0	21.5	51.0	29.0	51.0	45.0	51.0	63.5
1-6	2-5	45.5	19.0	45.5	25.0	45.5	40.0	45.5	56.0
1-7	2-5	41.0	17.0	41.0	22.0	41.0	36.0	41.0	50.0
1-3	—	38.0	15.5	38.0	20.5	38.5	33.5	38.5	46.5
1-7	3-6	35.0	14.0	35.0	18.5	35.0	30.5	35.0	42.5
1-6	3-5	32.0	13.0	32.0	16.5	32.0	28.0	32.0	39.0
1-7	3-5	29.5	12.0	29.5	15.0	30.0	26.0	30.0	36.0
1-4	—	28.0	11.0	28.0	14.0	28.5	24.5	28.5	33.5
1-7	4-6	26.0	10.0	26.0	13.0	26.5	22.5	26.5	31.5
1-6	4-5	24.5	9.5	24.5	12.0	25.0	21.0	25.0	29.0
1-7	4-5	23.0	9.0	23.0	11.0	23.5	20.0	23.5	27.0

* 3000 MFD. † 1500 MFD.

RT-408/RT-4012		RT-408 Full-Wave Bridge				RT-4012 Full-Wave Bridge			
STANCOR Power Supply		Output 8.0 A. DC				Output 12.0 A. DC			
		Resistive Load		Capacitive Load*		Resistive Load		Capacitive Load†	
Input 117 vac Term. No.	Connect Term. No.	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC	Sec. Volts AC	Output Volts DC
1-2	—	53.5	44.0	53.0	63.0	53.0	43.5	53.0	60.0
1-7	2-6	50.0	40.5	50.0	59.0	49.5	40.0	49.0	55.0
1-6	2-5	45.3	37.0	45.0	52.0	43.5	34.0	43.0	48.0
1-7	2-5	42.5	34.5	42.0	48.0	41.5	32.0	41.0	45.4
1-3	—	37.5	30.5	37.5	40.0	37.5	29.0	37.0	40.0
1-7	3-6	35.5	27.5	35.5	39.0	35.5	27.0	35.0	37.5
1-6	3-5	32.5	25.0	33.0	35.5	32.8	24.0	32.7	34.0
1-7	3-5	31.5	24.0	31.5	31.5	31.0	23.0	30.8	31.0
1-4	—	29.0	21.5	29.0	29.5	29.0	21.2	29.0	29.0
1-7	4-6	27.5	20.5	27.5	28.0	27.8	20.0	28.0	28.0
1-6	4-5	26.0	19.5	26.0	26.0	26.0	19.0	26.0	25.0
1-7	4-5	25.0	18.0	25.0	25.0	25.0	18.0	25.0	24.0

* 4000 MFD. † 6000 MFD.

ESSEX Stancor transformers | STANCOR

CONTROL AND RECTIFIER TRANSFORMERS

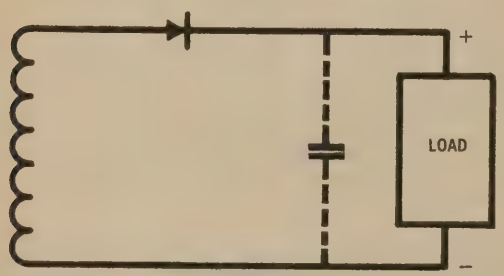
TECHNICAL NOTES

The tabular data for the Control and Rectifier transformers listed in this Catalog shows RMS secondary current ratings plus some D.C. output ratings. The items listed as Filament, Isolation and Dual Winding Control Transformers have only the RMS AC ratings given.

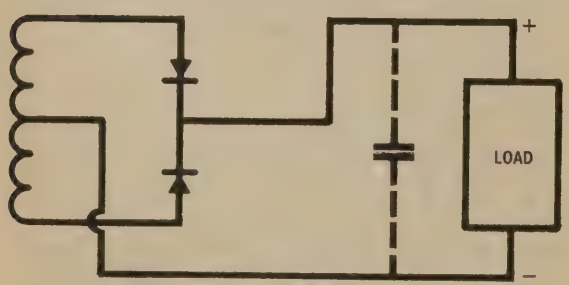
When used in various rectifier circuits, with the possibility of different types of loads, the RMS secondary current will be different for each specific condition. To assist the user, the following information is given so that the proper transformer may be selected.

The rectifier circuits as related to these transformers are:

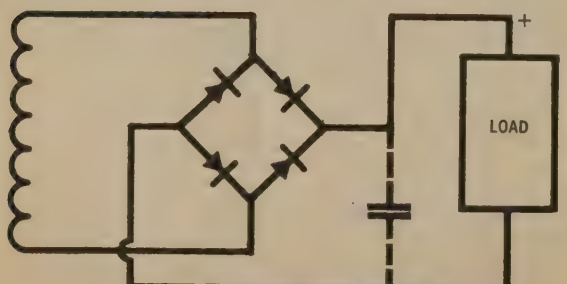
HW = Half-Wave
FWCT = Full-Wave Center Tap
FWB = Full-Wave Bridge
FWD = Full-Wave Doubler



HW



FWCT



FWB

The formula for the relation between secondary RMS current (I_{AC}) which the transformer has to deliver and the D.C. output current taken from the rectifier (I_{DC}) is:

$$I_{AC} = K_{FF} \times I_{DC}$$

Where K_{FF} is the form factor. The factor for each circuit and type of load is as follows:

REACTOR OR RESISTOR LOAD

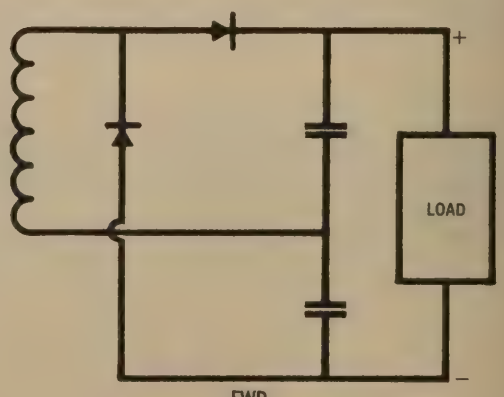
Rectifier Circuit	Form Factor
HW	1.25
FWCT	0.7
FWB	1.0

CAPACITOR LOAD

Rectifier Circuit	Form Factor
HW	2.3
FWCT	1.2
FWB	1.8
FWD	4.0 (approx.)

Only transformers with a CT connection are usable in the FWCT circuit and the FWD circuit will have only a capacity load. The size and type of capacitors used in the FWD circuit will affect the form factor. The factor shown is an approximate maximum for the full-wave symmetrical voltage doubler circuit using two similar electrolytic capacitors.

The transformer selected for a specific D.C. output voltage and current rating, with known type of load after the rectifier, should deliver sufficient RMS voltage to make up for the voltage drop in each rectifier junction plus any drop in a filter or regulator that is used.

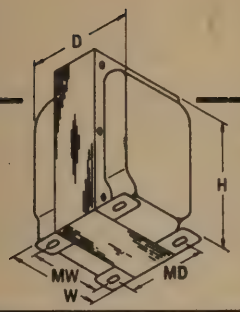


FWD

© United Technical Publications

ESSEX Stancor transformers

RECTIFIER & TRANSISTOR POWER TRANSFORMERS

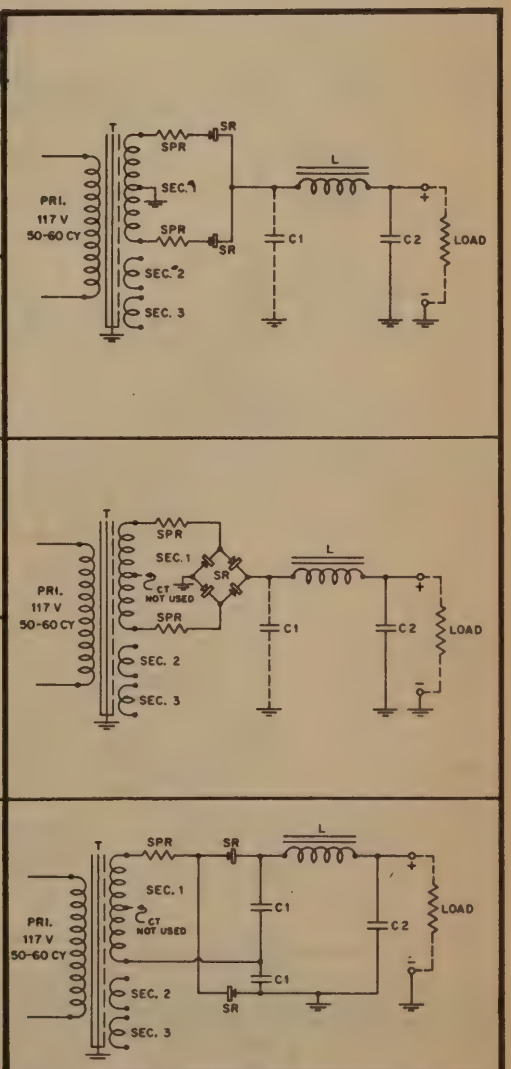


SILICON RECTIFIER POWER TRANSFORMERS: PRIMARIES 117 VOLTS 50/60 Hz. LEAD WIRE TERMINATION

Section	STANCOR Part No.	Style	Secondary #1 Volts	Secondary #1 DCMA‡	Secondary #2 Volts	Secondary #2 Amps.	Secondary #3 Volts	Secondary #3 Amps.	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	RP-400	C	400 C.T.	400	6.3	3.0	6.3	3.0	4¼	3⅞	4¼	2¾	3⅛	7.1
	RP-600	C	300 C.T.	600	6.3	2.5	6.3	2.5	4¼	3⅞	4¼	2¾	3⅛	7.1
	RP-800	C	200 C.T.	800	6.3	2.0	6.3	2.0	4¼	3⅞	4⅛	2¾	2⅝	6.9
	RP-1600	C	100 C.T.	1600	6.3	1.5	6.3	1.5	4¼	3⅞	3⅞	2¾	2⅛	6.0
	RP-2000	C	80 C.T.	2000	6.3	1.5	6.3	1.5	4¼	3⅞	4	2¾	2⅛	6.5
	RP-2500	C	60 C.T.	2500	6.3	1.5	6.3	1.5	4¼	3⅞	3⅞	2¾	2⅛	6.0

‡ Refer to operating. Conditions as shown below.

Section	T STANCOR No.	SR†	L STANCOR No.	C1 (in MFD)	C2 (in MFD)	SPR*	DC Output Volts	DC Output MA.	Rectifier Load
2	RP-400	Four #F-4	C-2709	10	10	Yes	192	400	Capacitive
	RP-400	Four #F-4	C-2690	—	200	No	173	540	Inductive
	RP-600	Four #F-6	C-2690	80	80	Yes	190	600	Capacitive
	RP-600	Four #F-6	C-2690	—	125	No	126	1090	Inductive
	RP-800	Two #40-L	C-2690	40	150	Yes	105	800	Capacitive
	RP-800	Two #40-L	C-2690	—	350	No	86	1340	Inductive
	RP-1600	Two #40-L	C-2690	200	200	Yes	53	1600	Capacitive
	RP-1600	Two #40-L	C-2690	—	300	No.	41	2600	Inductive
	RP-2000	Two #40-L	C-2690	500	500	Yes	47	2000	Capacitive
	RP-2000	Two #40-L	C-2686	—	1000	No	33	2950	Inductive
	RP-2500	Two #40-LF	C-2691	500	500	Yes	31	2500	Capacitive
	RP-2500	Two #40-LF	C-2686	—	1000	No	23	3950	Inductive
3	RP-400	Four #F-4	C-1710	8	10	Yes	502	150	Capacitive
	RP-400	Four #F-4	C-1722	—	20	No	330	302	Inductive
	RP-600	Four #F-6	C-2334	8	20	Yes	322	305	Capacitive
	RP-600	Four #F-6	C-2690	—	125	No	285	425	Inductive
	RP-800	Four #F-6	C-2709	30	40	Yes	247	377	Capacitive
	RP-800	Four #F-6	C-2708	—	250	No	172	625	Inductive
	RP-1600	Four #F-4	C-2690	40	80	Yes	100	880	Capacitive
	RP-1600	Four #F-4	C-2690	—	300	No	88	1160	Inductive
	RP-2000	Four #F-4	C-2690	100	100	Yes	93	810	Capacitive
	RP-2000	Four #40-L	C-2690	—	250	No	71	1450	Inductive
	RP-2500	Four #40-L	C-2690	200	200	Yes	70	1060	Capacitive
	RP-2500	Four #40-L	C-2690	—	500	No	50	1950	Inductive
4	RP-400	Four #F-6	C-1420	8	0.5	Yes	1040	75	Capacitive
	RP-600	Four #F-6	—	60	—	Yes	802	142	Capacitive
	RP-800	Two #F-6	—	80	—	Yes	536	188	Capacitive
	RP-1600	Two #F-6	C-2326	80	16	Yes	240	325	Capacitive
	RP-2000	Two #F-6	—	150	—	Yes	212	390	Capacitive
	RP-2500	Two #40-L	—	500	—	Yes	150	553	Capacitive



NOTE: Filtering shown permits maximum output ripple voltage of 3% or less. May be operated from a 400 Hz. source with no change in output ratings.

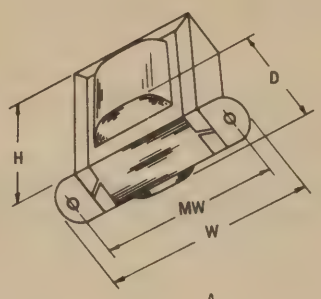
† Quantity Shown is Total Number used in a given circuit. Rectifiers should be equivalent to Sarkes Tarzian numbers shown.

* Surge protection resistors are recommended when capacitor input filters are used. Allow 3.3 ohms per 70 volts R.M.S. applied voltage. Transformers secondary winding DC resistance may be used as part or all of the amount required.

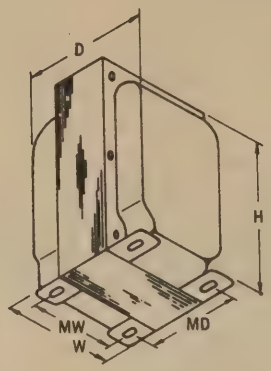
© United Technical Publications

ESSEX Stancor transformers | STANCOR

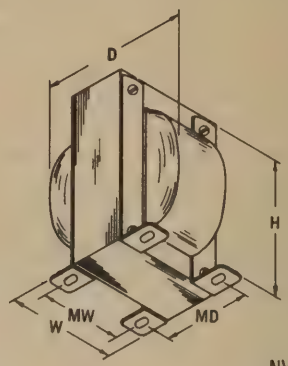
RECTIFIER & TRANSISTOR POWER TRANSFORMERS



A



C



NV

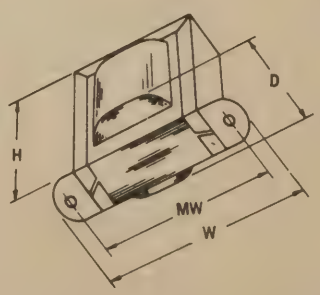
FOR TRANSISTOR POWER SUPPLIES: PRIMARIES 117 VOLTS 60 Hz. — LEAD WIRE TERMINATION

Section	STANCOR Part No.	Style	Secondary #1		Secondary #2		Case Dimension			Mtg. Dimension		Wt. Lbs.
			Volts	Amperes	Volts	Amperes	H	W	D	MW	MD	
1	• P-8604*	A	20 C.T.	1.0 Amps. RMS	—	—	2	3¼	2⅛	2 3/16	—	1.4
	• P-8614*	C	30	3.0 Amps. RMS	—	—	3½	2 13/16	3⅝	2¼	2 7/16	4.2
	P-8197	C	50 C.T.	1.0 Amps. RMS	—	—	3⅛	2½	2 11/16	2	1¾	2.3
	P-8198	C	54 C.T.	.5 Amps. RMS	6.3	.5 Amps. RMS	2⅝	2 3/16	2 3/16	1¾	1⅝	1.7
	P-8193•	NV	17/18	6 Amps. RMS	—	—	3 13/16	3⅛	3⅛	2½	2⅝	6.0
	P-8194•	NV	36	3 Amps. RMS	36	3 Amps. RMS	4 5/16	3¾	3¾	3	3	10
	P-8196	C	80 C.T.	1.2 Amps. DC	—	—	3½	2 13/16	3⅝	2¼	2⅜	4.5

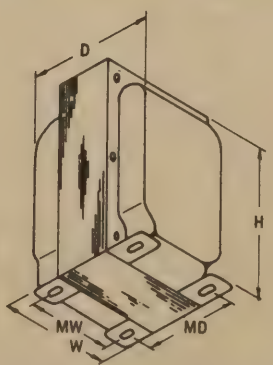
• Write for Bulletin #587 for Rectifier Circuits showing DC Voltages and allowable DC Current. * May be operated from 117 volts 50/60 Hz. at full rated load.
• New Part Number. May be operated from a 400 Hz. source with no change in output ratings.

RECTIFIER TRANSFORMERS: PRIMARIES 117 VOLTS 60 Hz. — LEAD WIRE TERMINATION

Multiple Primary and Secondary Taps offer a wide selection of output Voltages. All DC current ratings are based on capacitor input Filtering. Max. DC Ma For TP-1 is for each Secondary.



A



C

May be operated from a 400 Hz. source with no change in output ratings.

Section	STANCOR Part No.	Style	Max. DC MA.			Case Dimension			Mounting Dimension		Wt. Lbs.
			Full-Wave C.T.	Bridge	Half-Wave	H	W	D	MW	MD	
2	TP-1	C	1500	900	450	3⅛	2½	3	2	2	2.7
	TP-2	A	150	100	50	1⅝	2⅞	1⅞	2⅜	—	0.7
	TP-3	A	400	300	150	2⅜	3¾	2⅛	3⅛	—	1.5
	TP-4	C	1500	1000	500	3⅛	2½	3⅛	2	2⅛	3.2
	TP-5	A	1100	750	375	2⅝	4	2⅜	3 5/16	—	2.3

© United Technical Publications

ESSEX Stancor transformers | STANCOR

RECTIFIER & TRANSISTOR POWER TRANSFORMERS

MINIATURIZED CONTROL TRANSFORMERS

Section	STANCOR Part No.	Style	Secondary Amperes RMS	Bridge†	Half-Wave†	Case Dimension H	W	D	Mtg. Dimension MW	Wt. Lbs.
PRIMARIES 117 VOLTS 50/60 Hz SECONDARIES 12 VOLTS—LEAD WIRE TERMINATION										
1	P-8390	A	.150	.100 DC	.050 DC	1¼	2⅛	1¼	1¾	.25
	P-8391	A	.350	.200 DC	.110 DC	1⅜	2⅜	1⅜	2	.35
	P-8392	A	.700	.450 DC	.225 DC	1⅝	2⅞	1½	2⅜	.60
	P-8393	A	1.200	.750 DC	.375 DC	2	3¼	1⅝	2 13/16	.85

May be operated from a 400 Hz. source with no change in output ratings.

MINIATURIZED CONTROL TRANSFORMERS

Section	STANCOR Part No.	Style	Secondary Amperes RMS	Full-Wave†	Bridge†	Case Dimension H	W	D	Mtg. Dimension MW	Wt. Lbs.
PRIMARIES 117 VOLTS 50/60 Hz. SECONDARIES 24 VOLTS C.T.—LEAD WIRE TERMINATION										
2	P-8394	A	.085	.135 DC	.065 DC	1¼	2⅛	1¼	1¾	.25
	P-8395	A	.200	.275 DC	.135 DC	1⅜	2⅜	1⅜	2	.35
	P-8396	A	.400	.550 DC	.270 DC	1⅝	2⅞	1½	2⅜	.60
	P-8397	A	.700	.925 DC	.450 DC	2	3¼	1⅝	2 13/16	.85
PRIMARIES 230 VOLTS 50/60 Hz. SECONDARIES 24 VOLTS C.T.—LEAD WIRE TERMINATION										
3	•P-8720	A	.085	.135 DC	.065 DC	1¼	2⅛	1¼	1¾	.25
	•P-8721	A	.200	.275 DC	.135 DC	1⅜	2⅜	1⅜	2	.35
	•P-8722	A	.400	.550 DC	.270 DC	1⅝	2⅞	1½	2⅜	.60
	•P-8723	A	.700	.925 DC	.450 DC	2	3¼	1⅝	2 13/16	.85
PRIMARIES 117 VOLTS 50/60 Hz. SECONDARIES 28 VOLTS C.T.—LEAD WIRE TERMINATION										
4	P-8600	A	.085	.110 DC	.065 DC	1¼	2⅛	1¼	1¾	.25
	P-8601	A	.175	.225 DC	.125 DC	1⅜	2⅜	1⅜	2	.35
	P-8602	A	.300	.350 DC	.200 DC	1⅝	2⅞	1½	2⅜	.60
	P-8603	A	.800	1.000 DC	.500 DC	2	3¼	2	2 13/16	1.0
PRIMARIES 117 VOLTS 50/60 Hz. SECONDARIES 36 VOLTS C.T.—LEAD WIRE TERMINATION										
5	•P-8610	A	.065	.075 DC	.045 DC	1¼	2⅛	1¼	1¾	.25
	•P-8611	A	.135	.175 DC	.100 DC	1⅜	2⅜	1⅜	2	.35
	•P-8612	A	.300	.350 DC	.200 DC	1⅝	2⅞	1½	2⅜	.60
	•P-8613	A	.550	.650 DC	.350 DC	2	3¼	1⅝	2 13/16	1.0
PRIMARIES 230 VOLTS 50/60 Hz. SECONDARIES 36 VOLTS C.T.—LEAD WIRE TERMINATION										
6	•P-8728	A	.065	.075 DC	.045 DC	1¼	2⅛	1¼	1¾	.25

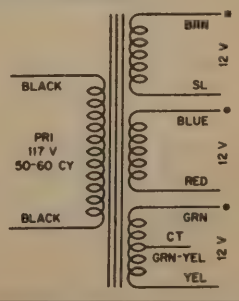
May be operated from a 400 Hz. source with no change in output ratings.

VERSATILE LOW CURRENT CONTROL TRANSFORMERS:

PRIMARIES 117 VOLTS 50/60 Hz.
LEAD WIRE TERMINATION
MULTIPLE SECONDARIES

Three isolated 12 Volt Secondaries (one with a center tap) provide many combinations of output voltages and current by series or parallel combinations.

Section	STANCOR Part No.	Style	Amperes Each Sec.	Case Dimension H	W	Mtg. Dimension D	MW	Wt. Lbs.
7	P-8361	S	.10	1¾	2	1½	1¾	.36
	P-8362	S	.15	2	2⅜	1¾	2	.60
	P-8363	S	.25	2⅜	2⅞	1¾	2⅜	.85
	P-8364	S	.50	2⅜	2⅞	2⅛	2⅜	1.25

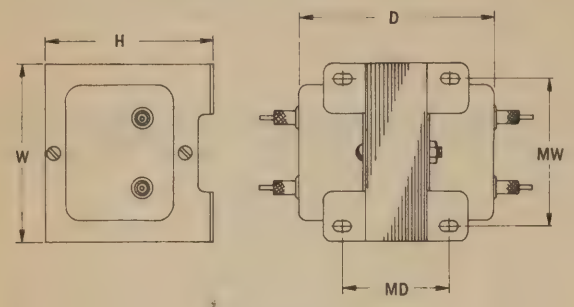


• New Part Number † All values of output DC are based on a capacitive load.
May be operated from a 400 Hz. source with no change in output ratings.

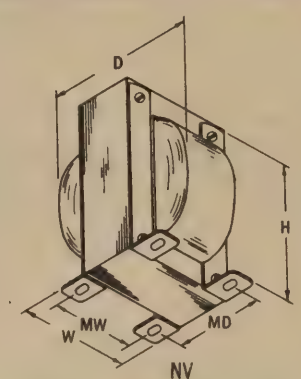
© United Technical Publications

ESSEX Stancor transformers

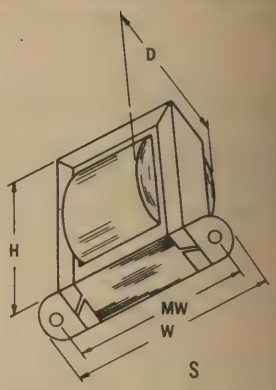
CONTROL TRANSFORMERS



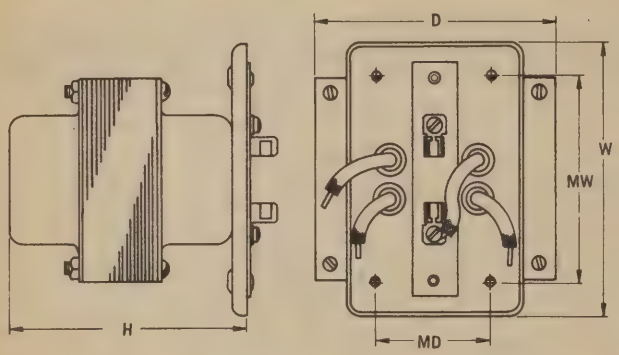
STYLE NCF & PCF



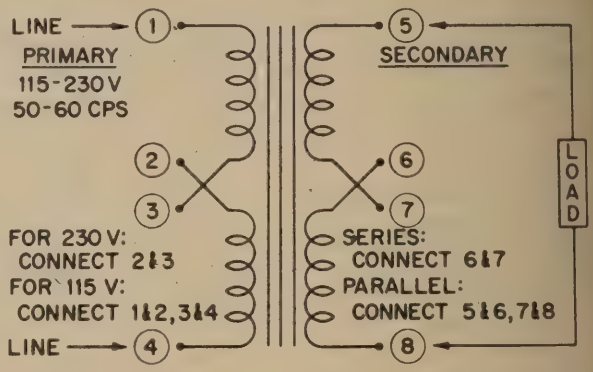
NV



S



STYLE PCC



NORMAL REACTANCE TYPE: PRIMARIES 115 VOLTS 50/60 Hz. —LEAD WIRE TERMINATION

Section	STANCOR Part No.	Secondary			Case Dimensions			Mounting Dimensions		Approx. Weight Lbs.
		Volts	Amps.	V-A Cap.	H	W	D	MW	MD	
1	NCF-1650	16	3.15	50	2¾	3	3¼	2⅜	1¾	3½
	NCF-2425	24	1.05	25	2½	2⅝	2½	2⅛	1½	2¼
	NCF-2450	24	2.1	50	2¾	3	3¼	2⅜	1¾	3½
	NCF-2475	24	3.15	75	3 3/16	3½	3⅝	3	2¼	3½
	NCF-24100	24	4.15	100	3½	3 15/16	3 15/16	3 3/16	2 15/16	5¼
	NCF-24150	24	6.25	150	4	4½	4⅛	3¾	3	8½
	NCF-3250	32	1.55	50	2¾	3	3¼	2⅜	1¾	3½
	NCF-3275	32	2.35	75	3 3/16	3½	3⅝	3	2¼	4½
	NCF-32150	32	4.7	150	4	4½	4⅛	3¾	3	8½
	NCF-1550	550	(NL)	50	3½	2⅞	3¼	2¼	2	3½

May be operated from a 400 Hz. source with no change in output ratings.

POWER CIRCUIT TRANSFORMERS: PRIMARIES 50/60 Hz. —LEAD WIRE TERMINATION

Section	STANCOR Part No.	Primary Volts	Secondary			Case Dimensions			Mounting Dimensions		Weight Lbs.
			Volts	Amps.	V-A Cap.	H	W	D	MW	MD	
2	PCF-2025	230	115	.25	25	2 13/16	3	3	2⅜	1½	2
	PCF-2050	230	115	.45	50	2 13/16	3	3½	2⅜	2	2¾
	PCF-24075	230/460	115	.65	75	3 3/16	3½	3⅝	3	2¼	4¼
	PCF-24250	230/460	115	2.2	250	4 5/16	5¼	4 5/16	4¼	3	12

POWER CIRCUIT TRANSFORMERS: CONDUIT BOX MOUNTING

Section	STANCOR Part No.	Primary		Secondary			Case Dimensions			Mounting Dimensions		Weight Lbs.
		Volts	Hz.	Volts	Amps.	V-A Cap.	H	W	D	MW	MD	
3	PCC-24250	230/460	50-60	115	2.2	250	4⅞	4⅜	5¼	3¼	1⅞	11½

© United Technical Publications

ESSEX Stancor transformers | STANCOR

CONTROL TRANSFORMERS

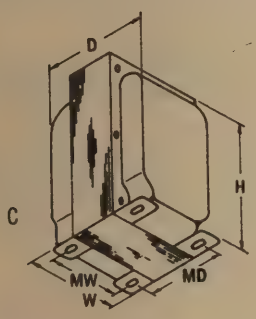
PRIMARIES 115/230 VOLTS 50/60 Hz. — SOLDER LUG TERMINATION — WITH DUAL SECONDARY WINDINGS

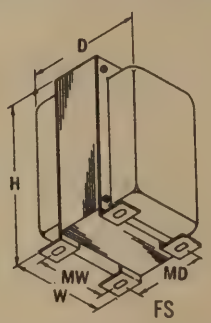
Typical Applications: Automatic Assembly equipment. Relays, Solenoids, Small Motors, Speed Changers, Recording Devices, Pumps, Electronic Tubes, Heating Elements, Elevators, Door Openers, Automatic Musical Instruments, Low Voltage Lighting Signal Lamps, Spark Plug Testers, Control Valves for Fluids and Gases, Fans and Blowers, Mechanical and Electrical Signs and similar applications.

Section	STANCOR Part No.	Style	V-A Cap.	Output From Two Secondary Windings*			Case Dimensions			Mtg. Dimensions		Weight Lbs.
				Individually	Parallel	Series	H	W	D	MW	MD	
1	P-6375	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2⅜	2⅞	1⅝	2⅜	—	1.0
	P-6376	S	24	6V @ 2A	6V @ 4A	12V @ 2A	2¾	3⅛	1⅞	2 1/16	—	1.5
	P-6377	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3⅛	3⅝	2¼	3⅛	—	2.5
	P-6378	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 7/16	2 13/16	2⅞	2¼	2¼	4.2
	P-6379	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4 3/16	3 7/16	3⅜	2¾	3	8.0
	•P-8615	S	12	24V @ 0.25A	24V @ 0.5A	48V @ 0.25A	2⅜	2⅞	1⅝	2⅜	—	1.0
	•P-8616	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2¾	3⅛	1⅞	2 3/16	—	1.5
	•P-8617	S	48	24V @ 1A	24V @ 2A	48V @ 1A	3⅛	3⅝	2¼	3⅛	—	2.5
	•P-8618	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 7/16	2 13/16	2⅞	2¼	2¼	4.2
	•P-8619	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4 3/16	3 7/16	3⅜	2¾	3	8.0

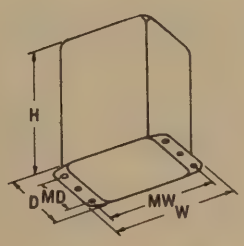
By connecting primaries in series (for 230 Volts) but using only 115 Volts input, a series of half voltage output ratings becomes available at the full rated current from each secondary. (Refer to Schematic Diagram on opposite page.)

AUTO TRANSFORMERS

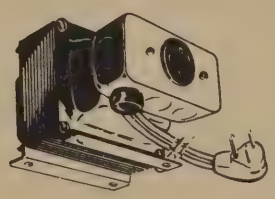




FS



SC



STEP-DOWN AUTO-TRANSFORMERS: PRIMARIES 230 VOLTS 50/60 Hz., LINE CORD & PLUG SECONDARIES 115 VOLTS, STANDARD FEMALE RECEPTACLE

Section	STANCOR Part No.	Input Voltage	Output Voltage	RMS Test Voltage	Style	VA Cap.	Case Dimensions			Mounting Dimensions		Weight Lbs.
							H	W	D	MW	MD	
2	P-6287	230	115	1500	C	40	3½	2⅝	2½	2	1½	2.2
	P-5062	230	115	1500	C	80	3½	2 13/16	3⅜	2¼	2⅛	3.8
	•P-8630	230	115	1500	C	85	3½	2⅝	2¾	2	1¾	2.5
	P-5063	230	115	1500	C	100	3⅞	3⅛	3⅝	2½	2 1/16	4.5
	•P-8631	230	115	1500	C	125	3½	2⅝	3	2	2	3.0
	P-5064	230	115	1500	C	150	4¼	3 7/16	3⅝	2¾	2 7/16	5.2
	P-5065	230	115	1500	C	300	4 11/16	3¾	4¼	3	3 1/16	8.8
	P-6141	230	115	1500	C	500	4 11/16	3¾	5¼	3	4 1/16	13.7
	P-6124	230	115	1500	FS	1000	7⅛	5⅝	6¾	4⅝	4	24.7
3	SD-50	230	115	1500	SC	50	3½	3½	2⅞	3⅛	2	2.8
	SD-100	230	115	1500	SC	100	4 3/16	4 3/16	3 11/16	3⅞	2¾	4.3
	SD-150	230	115	1500	SC	150	5 3/16	5¼	4 5/16	4¾	2½	7.0
	SD-250	230	115	1500	SC	250	5 3/16	5¼	4 5/16	4¾	2½	8.8
	SD-500	230	115	1500	SC	500	6 1/16	5⅞	5 5/16	5⅜	3½	14.5
	SD-1000	230	115	1500	SC	1000	7 1/16	6½	6⅛	6	4¼	22.5

LINE ADJUSTING AUTO-TRANSFORMERS: PRIMARIES 50/60 Hz., LINE CORD & SELECTOR SWITCH SECONDARIES FEMALE RECEPTACLE WITH VOLTMETER

Section	STANCOR Part No.	Input Voltage	Output Voltage	RMS Test Voltage	Style	VA Cap.	Case Dimensions			Mtg. Dimensions		Weight Lbs.
							H	W	D	MW	MD	
4	PV-6441	65/75/90/100/115/130/145	115	500	C	150	5½	3¾	5⅜	3	4 5/16	6.4
	PV-6442	65/75/90/100/115/130/145	115	500	C	350	5½	3¾	6½	3	5 1/16	10.5
	PV-6443	65/75/90/100/115/130/145	115	500	C	500	5½	3¾	7¼	3	5 13/16	15.0
	PV-6444	65/75/90/100/115/130/145	115	500	C	750	6 5/16	4⅝	8½	3½	6⅝	19.0

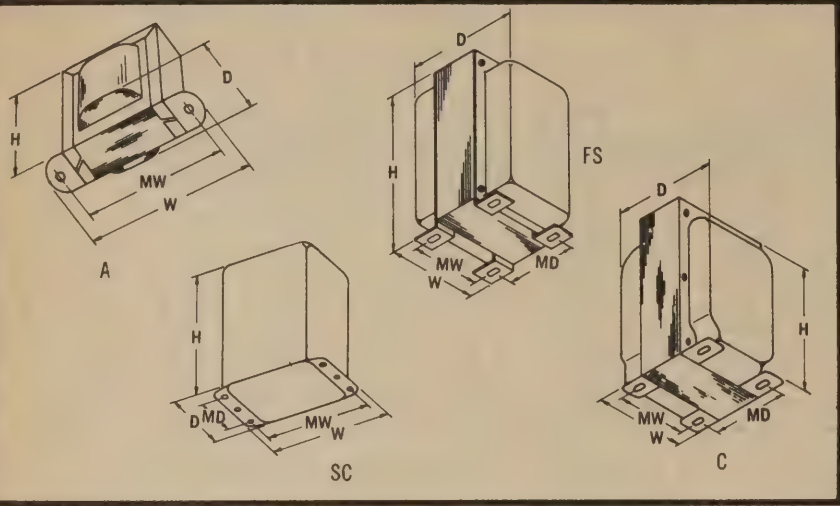
STEP-UP—STEP-DOWN AUTO-TRANSFORMERS: (Three Wire Line Cord and Receptacle) 208/230 VOLTS OR 230/208 VOLTS 60 Hz. BY MEANS OF CONNECTION CHANGE INSIDE OUTLET BOX

5	PSU-2000	208	230	1750	PSU	2300	3½	4 5/16	6½	3¼	2⅞	9.0
	PSU-3000	208	230	1750	PSU	3000	4	4½	6	3¾	2 5/16	10.0

• New Part Number. May be operated from a 400 Hz. source with no change in output ratings.

ESSEX Stancor transformers

ISOLATION/AUTO TRANSFORMERS





GSD SERIES

Available in 9 sizes to handle continuous duty power requirements from 75 VA. to 1.5 KVA., 230 volts 50/60 Hz. to 115 volts, single phase.
All units built in type "C" mounting style semi-shielded construction. Case and core are connected internally to third wire in line cord and output receptacle, to comply with modern safety standards.

LINE ADJUSTING ISOLATION TRANSFORMERS:

PRIMARIES 50/60 Hz., LINE CORD & SELECTOR SWITCH SECONDARY STANDARD FEMALE RECEPTACLE

Section	STANCOR Part No.	Input Voltage	Output Voltage	RMS Test Voltage	Style	VA Cap.	Case Dimensions H	W	D	Mtg. Dimensions MW	MD	Weight Lbs.
1	IS-50	105/115/125	125/115/105	1500	SC	50	4 1/16	4 7/16	3 1/16	3 7/8	2 3/4	5.0
	IS-100	105/115/125	125/115/105	1500	SC	100	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	8.5
	IS-150	105/115/125	125/115/105	1500	SC	150	6 1/16	5 7/8	5 5/16	5 3/8	3 1/2	12.5
	IS-250	105/115/125	125/115/105	1500	SC	250	6 1/16	5 7/8	5 5/16	5 3/8	3 1/2	18.3

STRAIGHT ISOLATION: ELECTROSTATIC SHIELDS GRNDED. TO CORE:

PRIMARIES 50/60 Hz., LINE CORD SECONDARY FEMALE RECEPTACLE EXCEPT P-6411, P-6412 & P6413 LEAD TERMINATION

2	•P-6413	115	115	1500	A	0.6	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25
	P-6411	115	115	1500	A	15	2	3 1/4	1 7/8	2 13/16	—	1.0
	P-6412	115	115	1500	A	35	2 3/8	2 3/4	2	3 1/8	—	1.7
	P-6410	115	115	1500	C	50	3 1/2	2 13/16	3 1/8	2 1/4	1 7/8	3.7
	P-6160	105/115/125	115	1500	C	100	4 1/16	3 3/4	3 3/4	3	2 5/16	7.0
	P-6371	117	115	1500	SC	175	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	9.0
	P-6161	105/115/125	115	1500	C	250	4 1/16	3 3/4	5 1/2	3	4 5/16	14.2
	P-6298	105/115/125	115	1500	FS	500	7 5/8	5 5/8	7 1/4	4 5/8	4 1/4	28.0
	P-6125	105/115/125	115	1500	FS	1000	7 5/8	5 5/8	7 3/4	4 5/8	5	35.0
	P-6123	105/115/125	115	1500	FS	1500	7 5/8	5 5/8	9	4 5/8	6 1/4	50.0

STEP-DOWN ISOLATION: ELECTROSTATIC SHIELDS GRNDED TO CORE:

PRIMARIES 50/60 Hz., LINE CORD SECONDARY FEMALE RECEPTACLE

3	P-6383	210/230/250	115	1500	C	100	4 1/16	3 3/4	3 3/4	3	2 5/16	7.3
	P-6385	210/230/250	115	1500	C	250	4 1/16	3 3/4	5 1/2	3	4 5/16	14.2
	P-6387	210/230/250	115	1500	FS	500	7 3/4	5 5/8	7 1/8	4 5/8	4 1/4	29.5
	P-6389	210/230/250	115	1500	FS	1000	7 5/8	5 5/8	7 3/4	4 5/8	5	34.0
	P-6390	210/230/250	115	1500	FS	1500	7 5/8	5 5/8	9 1/4	4 5/8	6 1/2	50.0

ISOLATION TESTING TRANSFORMERS: ELECTROSTATIC SHIELD GROUNDED TO CORE:

PRIMARIES 50/60 Hz., LINE CORD SECONDARY THREE FEMALE RECEPTACLES

4	P-6415	117	105/115/125	1500	C	350	5 1/2	4 5/8	5 13/16	3 1/2	4 1/16	17.0

STEP-DOWN AUTO-TRANSFORMERS: (Three Conductor Line Cord and Receptacle)

230/115 VOLTS, 50/60 Hz. CASE AND CORE INTERNALLY CONNECTED TO THIRD CONDUCTOR OF NEMA STANDARD CORD AND RECEPTACLE FOR SAFETY

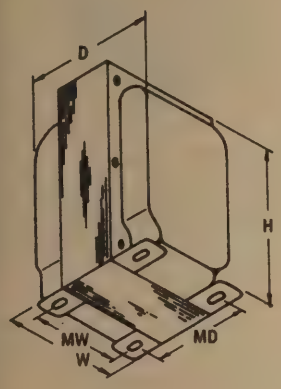
5	•GSD-75	230	115	1500	C	75	3 7/8	3 3/16	2 3/4	2 1/2	1 1/2	3.0
	•GSD-100	230	115	1500	C	100	3 7/8	3 3/16	3	2 1/2	1 3/4	3.7
	•GSD-150	230	115	1500	C	150	3 7/8	3 3/16	3 1/4	2 1/2	2	4.4
	•GSD-250	230	115	1500	C	250	4 5/8	3 13/16	3 3/4	3	2 5/8	7.6
	•GSD-350	230	115	1500	C	350	4 5/8	3 13/16	3 3/4	3	2 5/8	7.4
	•GSD-500	230	115	1500	C	500	4 5/8	3 13/16	4 3/16	3	3 1/16	9.6
	•GSD-750	230	115	1500	C	750	5 1/2	4 5/8	4 5/16	3 1/2	2 7/8	12.1
	•GSD-1000	230	115	1500	C	1000	5 1/2	4 5/8	5 3/8	3 1/2	3 3/4	16.5
	•GSD-1500	230	115	1500	C	1500	5 1/2	4 5/8	5 7/8	3 1/2	4 1/4	20.1

• New Part Number. May be operated from a 400 Hz. source with no change in output ratings.

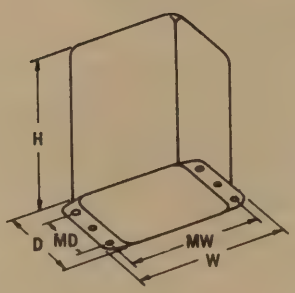
© United Technical Publications

ESSEX Stancor transformers | STANCOR

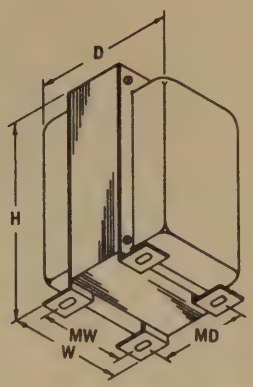
PLATE TRANSFORMERS



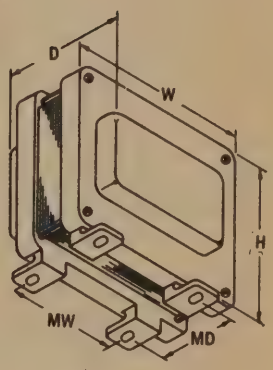
C



SC



FS



FS1

FOR REACTOR INPUT SYSTEMS: ALL PRIMARIES 50/60 Hz.

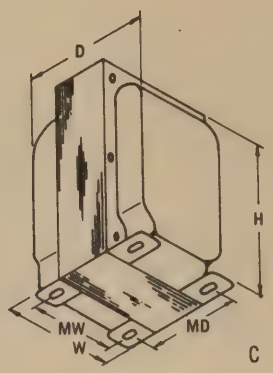
Section	STANCOR No.	Style	Plate Winding AC Volts	DC Volts	DCMA CCS	DCMA ICAS	Primary Volts	Case Dimension H	Case Dimension W	Case Dimension D	Mtg. Dimension MW	Mtg. Dimension MD	Wt. Lbs.
1	P-8040*	C	500-40-0-500	400 40	300	375	115	4 1/16	3 3/4	4 5/8	3	3 1/16	9.8
	P-8041*	C	615-520-40-0 520-615	500 400 40	250	310	115	4 1/16	3 3/4	5 1/4	3	4 1/16	13.6
	P-45‡	SC	675-575-0 575-675	500 400	250	325	115/230	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	12.0
	P-8042*	C	770-510-40-0 510-770	600 400 40	300	375	115	4 1/16	3 3/4	6 1/2	3	5 1/16	18.0
	P-67‡	SC	900-735-0 735-900	750 600	250	325	115/230	5 5/16	5 1/4	4 5/16	4 3/4	2 1/2	13.5
	P-8043*	FS	950-750-40-0 750-950	750 600 40	300	375	115	7 1/8	5 5/8	6 3/4	4 5/8	4	29.0
2	P-8044*	FS	1200-0-1200† 535-0-535	1000 400	150 150	190 190	115	7 5/8	6 1/8	8 1/4	4 3/4	4	29.8
	P-8025*	FS	1230-940-0 940-1230	1000 750	400	500	115	7 1/8	5 5/8	7 1/2	4 5/8	4 3/4	35.0
	P-1240‡	SC	1425-0-1425† 600-0-600	1250 400	150 200	200 260	115/230	6 1/16	5 5/16	5 7/8	5 3/8	3 1/2	26.0
	P-8026*	FS	1475-1175-0 1175-1475	1250 1000	300	375	115	7 1/8	5 5/8	7 1/2	4 5/8	4 3/4	36.5
	P-8027*	FS	1510-1210-0 1210-1510	1250 1000	500	625	115	7 1/8	5 5/8	8 1/4	4 5/8	5 1/2	45.2
	P-1512‡	FS-1	1710-1430 1430-1710	1500 1250	300	425	115/230	7	7 1/2	7	4 3/4	6	43.0
	P-8028*	FS	1740-1460-0 1460-1740	1500 1250	300	375	115	7 1/8	5 5/8	7 3/4	4 5/8	5	38.7
	P-8029*	FS	1775-1500-0 1500-1775	1500 1250	500	625	115/230	9 1/16	7 1/4	8 1/8	6	5 5/8	65.0
	P-8031*	FS	2075-1775-0 1775-2075	1750 1500	500	625	115/230	9 1/16	7 1/4	8 1/8	6	5 5/8	65.0
3	P-8030*	FS	2100-1800-0 1800-2100	1750 1500	300	375	115	7 1/8	5 5/8	7 1/4	4 5/8	5 1/2	45.8
	P-8033*	FS	2375-2065-0 2065-2375	2000 1750	500	625	115/230	9 1/16	7 1/4	8 13/16	6	5 7/8	77.0
	P-8032*	FS	2400-2100-0 2100-2400	2000 1750	300	375	115	7 1/8	5 5/8	8	4 5/8	6 1/4	46.0
	P-2520‡	FS-1	2820-2260-0 2260-2820	2500 2000	300	425	115/230	8 1/2	8 7/8	7 1/2	5 1/2	6 5/8	71.0
	P-8034*	FS	2900-2385-0 2385-2900	2500 2000	300	375	115/230	9 1/16	7 1/4	8 1/8	6	5 5/8	62.8
	P-2126‡	FS	2900-2320-0 2320-2900	2600 2100	500	700	115/230	9 1/16	7 1/4	10 1/2	6	7 3/4	95.0
	P-8035*	FS	2950-2375-0 2375-2950	2500 2000	500	575	115/230	9 1/16	7 1/4	9 5/8	6	7 1/16	80.0

All "C" style have Leads; "SC" style have Lugs; "FS" and "FS1" have Terminals. Maximum output current rating will be reduced according to form factor for rectifier circuit and type of load used. ‡ Secondary C.T. must be grounded.
† Both Secondaries may be loaded Simultaneously.
* Secondary C.T. does not have to be grounded. ALL SECONDARY AC VOLTAGES ±3%. May be operated from a 400 Hz. source with no change in output ratings.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

PLATE TRANSFORMERS



WITH PLATE LEADS OUT OF TOP: FOR REACTOR INPUT SYSTEMS — ALL PRIMARIES 50/60 Hz.

Section	STANCOR No.	Style	Plate Winding AC Volts	DC Volts	DCMA		Primary Volts	Case Dimension			Mtg. Dimension		Wt. Lbs.
					CCS	ICAS		H	W	D	MW	MD	
1	PT-8311‡	C	1200-0-1200	1000	225	280	117	4 1/16	3 3/4	5 1/4	3	4 1/16	13.0
	PT-8312‡	C	1200-0-1200	1000	325	405	117	5 3/8	4 5/8	6 3/4	3 1/2	5 1/8	22.5
	PT-8313‡	C	1475-0-1475	1250	250	310	117	5 3/8	4 5/8	6 5/8	3 1/2	5	22.0
	PT-8314‡	C	1790-0-1790	1500	225	280	117	5 3/8	4 5/8	6 1/2	3 1/2	4 7/8	21.5
	PT-8315‡	C	2065-0-2065	1750	200	250	117	5 3/8	4 5/8	6 5/8	3 1/2	5	22.0

CCS RATING FOR REACTOR INPUT-ICAS RATING FOR CAPACITOR INPUT: ALL PRIMARIES 50/60 Hz.

2	PC-8301‡	C	415-0-415	300 425	200	160	117	3 7/8	3 1/8	3 1/2	2 1/2	2 3/16	4.8
	PC-8302‡	C	515-0-515	385 500	235	200	117	4 1/4	3 7/16	4 1/8	2 3/4	2 13/16	6.8
	PC-8303‡	C	665-0-665	500 750	250	200	117	4 1/16	3 3/4	4 3/8	3	3 3/16	9.6
	PC-8304‡	C	750-0-750	600 850	265	200	117	4 1/16	3 3/4	4 7/8	3	3 1/16	11.5
	PC-8305‡	C	920-0-920	750 1000	250	200	117	4 1/16	3 3/4	5	3	3 13/16	11.9
	PC-8306‡	C	920-0-920†	750 1100	150	125	117	4 1/16	3 3/4	5	3	3 13/16	11.9
			500-0-500†	380 550	150	125							

All "C" style have Leads; "SC" style have lugs; "FS" and "FS1" have Terminals. Maximum output current rating will be reduced according to form factor for rectifier cicuit and type of load used. ‡Secondary C.T. must be grounded.
† Both Secondaries may be Loaded Simultaneously.
May be operated from a 400 Hz. source with no change in output ratings. **All Secondary AC Voltages ±3%.**

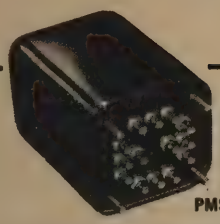
NOTE

The following pages contain listings of hermetically sealed and military type items which we no longer manufacture. They will be available from stock as commercial items until the supply is depleted.

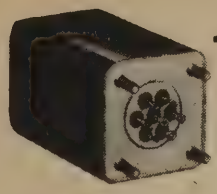
© United Technical Publications

ESSEX Stancor transformers | STANCOR

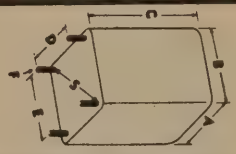
HERMETICALLY SEALED STANDARD TRANSFORMERS



PMS FMS



AMS



AUDIO TRANSFORMERS: FREQUENCY RESPONSE ±2 db 300-10,000 Hz. MAXIMUM OPERATING ALTITUDE 50,000 FT.

Section	STANCOR No.	Application	Impedance	Operating Level	Pri. DCMA	Max. Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F
1	AMS-1	P-P Plates to P-P Grids	Pri: 10,000 ohms C.T. Sec: 90,000 ohms C.T. 22,500 ohms C.T.	15 dbm.	10	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32
	AMS-3	Line to P-P Grids	Pri: 600 ohms C.T./150 ohms Sec: 135,000 ohms C.T.	15 dbm.	—	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32
	AMS-6	Single Plate to Voice Coil	Pri: 7600/4800 ohms Sec: 4/8/16 ohms	2W	40	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32
	AMS-7	P-P Plates to Line	Pri: 15,000 ohms C.T. Sec: 600 ohms C.T./150 ohms	2W	10	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32
	AMS-8	P-P Plates to Line	Pri: 24,000 ohms C.T. Sec: 600 ohms C.T./150 ohms	1W	20	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32
	AMS-9	P-P Plates to Line	Pri: 60,000 ohms C.T. Sec: 600 ohms C.T./150 ohms	5W	20	.6	1⅝	1⅝	2⅜	1¾₆	1¾₆	6-32

POWER TRANSFORMERS: FOR REACTOR INPUT SYSTEMS — PRIMARIES 105/115/125 VOLTS, 54-66 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	High Voltage Secondary AC Volts	DC Ma.	DC, V Output	Rectifier Fliment Volts	Amps	Filament No. 2 Volts	Amps	Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F
2	PMS-70	200-100-0 100-200	70	156	6.3/5	2	6.3	3	4	3¼₆	2⅝	4¼	2¹⁹⁄₆₄	1⁵⁵⁄₆₄	8-32
	PMS-70A	325-0-325	70	260	6.3/5	2	6.3	4	5	3¾₆	3¼₆	3⅞	2⅝	2⅛	8-32
	PMS-150	325-0-325	150	245	6.3	5	5	3	7¼	3¹⁵⁄₆	3⅜	4⅝₆	3	2⅞₆	10-32
	PMS-175	400-0-400	175	318	5	3	6.3	8	10	4⅝₆	3¹¹⁄₆	4½	3⅝₆	2¹¹⁄₆	10-32
	PMS-250	450-0-450	250	345	5	3	6.3	8	13	4¹¹⁄₆	4	4¹³⁄₆	3¹¹⁄₆	3	¼-20
	PMS-350	350-0-350	250	255	—	—	—	—	7½	3¹⁵⁄₆	3⅜	4⅝₆	3	2⅞₆	10-32
	PMS-550	550-0-550	250	419	—	—	—	—	11	4⅝₆	3¹¹⁄₆	4½	3⅝₆	2¹¹⁄₆	10-32
	PMS-800	800-0-800	250	250	—	—	—	—	16½	5¹⁄₆	4⅝₆	5½	4¹⁄₆	3⅝₆	¼-20

FILAMENT TRANSFORMERS: PRIMARIES 105/115/125 VOLTS, 54-66 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Secondary Volts	Amps	Insul. Test Volts RMS	Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F
3	FMS-23	2.5	3.0	2500	1½	1¹⁵⁄₆	1¹³⁄₆	2¹⁄₆	1⅜	1¼	6-32
	FMS-210	2.5	10	2500	2½	2¾	2⅜	2¹³⁄₆	2⅛	1¾	6-32
	FMS-53	5.0	3.0	2500	1¾	2⅝₆	2¼₆	2½	1¹¹⁄₆	1⅞₆	6-32
	FMS-510	5.0	10	2500	4	3¼₆	2⅝	3⅜₆	2¹³⁄₆	1⁵⁵⁄₆	8-32
	FMS-62	6.3	2.0	2500	1¾	2⅝₆	2¼₆	2½	1¹¹⁄₆	1⅞₆	6-32
	FMS-65	6.3	5.0	2500	2¾	2¾	2⅜	2¹³⁄₆	2⅛	1¾	6-32
	FMS-210H	2.5	10	10000	4¾	3⅝₆	3¼₆	3⅞	2⅝	2⅛	8-32
	FMS-510H	5.0	10	10000	7	3¹⁵⁄₆	3⅜	4⅝₆	3	2¼₆	10-32

WIDE RANGE OUTPUT: FREQUENCY RESPONSE ±1 db 30 TO 15,000 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Application	Impedance Ohms Pri. — Sec.	Operating Level	Output Tubes	Wt. Lbs.	Dimensions A	B	C	D	E	F
4	BOH-2	Push-Pull Plates to Line	Pri: 20,000 C.T. Sec: 600/150 C.T.	+30 dbm.	6C5's or equiv.	3	2.861	2.711	3.492	2.000	1.875	8-32
	BOH-4	Push-Pull Plates to Line	Pri: 7500 C.T. Sec. 600/150 C.T.	+43 dbm.	6L6's or equiv.	6	3.667	3.292	4.305	2.625	2.375	10-32
	BOH-9	Push-Pull Plates to Line or Voice Coil	Pri: 5000/3000 C.T. Sec: 600/16/8 C.T. and 150/4	+42 dbm.	6GB4's or equiv.	6	3.667	3.292	4.305	2.625	2.375	10-32

WIDE RANGE INPUT: FREQUENCY RESPONSE ±1 db 30 TO 15,000 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Application	Impedance Ohms Pri. — Sec.	Operating Level	Hum Reduction	Wt. Lbs.	Dimensions A	B	C	D	E	F
5	BIH-1	Line to Single or Push-Pull Grids	Pri: 600/150 C.T. Sec: 50000 C.T.	+15 dbm.	−70 dbm.	1½	2.241	2.101	2.930	1.562	1.375	6-32
	BIH-7	Low imped. mike, pickup, or multiple line to grid	Pri: 50/150/250/600 Sec: 50000 C.T.	+15 dbm.	−70 dbm.	1½	2.241	2.101	2.930	1.562	1.375	6-32
	BIH-8	Single Plate to Push-Pull Grids	Pri: 10000 Sec: 50000 C.T.	+15 dbm.	−70 dbm.	1½	2.241	2.101	2.930	1.562	1.375	6-32
	BIH-10	Sgl.or P.P. Plates to S. or P.P. Grids	Pri: 20000 C.T./5000 Sec: 20000 C.T/5000	+35 dbm.	—	2.0	2.312	2.062	3.125	1.687	1.437	6-32

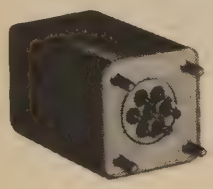
Available until stock is depleted.
ALL SECONDARY AC VOLTAGES ±3%.

Refer to note on bottom of Stancor Page 54 for availability.

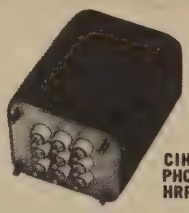
© United Technical Publications

ESSEX Stancor transformers | STANCOR

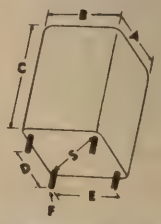
HERMETICALLY SEALED STANDARD TRANSFORMERS



TAMS



CIH COH
PHC PHR
HRP RH



COMMUNICATIONS RANGE INPUT: FREQUENCY RESPONSE ±1 db 200 TO 3500 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Application	Impedances Ohms Pri. — Sec.	Wt. Lbs.	Dimensions A	B	C	D	E	F
1	CIH-1	Low Level Line to Single or P-P Grids	Pri: 600/150 Sec: 100,000 C.T.	¾	1.546	1.546	2.143	1.000	1.000	6-32
	CIH-2	Low Level SB or DB Microphone to Sgl. or P-P Grids	Pri: 125/50, 80 ma. Sec: 125,000 C.T.	¾	2.241	2.101	2.680	1.562	1.375	6-32

COMMUNICATIONS RANGE OUTPUT: FREQUENCY RESPONSE ±1 db 200 TO 3500 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Typical Output Tubes	Class	Impedances Ohms Pri. — Sec.	Max. DC in Pri.	Power Level	Wt. Lbs.	Dimensions A	B	C	D	E	F
2	COH-1	Sgl. 6L6, 6V6, 25A6 etc.	A	Pri: 5000 Sec. 600/150/16/8/4	55 ma.	5 watts	2¼	2.381	2.381	3.049	1.812	1.687	6-32
	COH-2	Sgl. 6F6, 6V6, 6N6, 6K6, 7B5	A	Pri: 8000 Sec. 600/150/16/8/4	55 ma.	5 watts	2¼	2.521	2.381	3.049	1.812	1.687	6-32

TRANSISTOR AUDIO: MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Application	Impedance in Ohms Pri.	Sec.	Max. Pri. DC Ma.	DC Res. in Ohms Pri.	Sec.	Power in Watts	Wt. Lbs.	Dimensions A	B	C	D	E	S	F
3	TAMS-1	Input	600 C.T.	10	20	42	.8	.05	2½ oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-2	Interstage	100 C.T.	10 C.T.	100	4.3	.8	.25	5 oz.	1⅝	1⅝	1¾	—	—	1¼	6-32 x ⅜
	TAMS-3	Interstage	100	1000 C.T.	100	5.8	45	.25	11 oz.	1⅝	1⅝	2⅜	1⅜	1⅜	—	6-32 x ⅜
	TAMS-4	Interstage	500 C.T.	5000 C.T.	12	37	250	.03	11 oz.	1⅝	1⅝	2⅜	1⅜	1⅜	—	6-32 x ⅜
	TAMS-5	Driver	1000	200 C.T.	10	400	115	.05	2 oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-6	Driver	2000	200 C.T.	5	720	115	.05	2 oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-7	Driver	100	100 C.T.	100	12	12	.5	1 lb.	1⅛	1⅜	2⅛	1⅜	1¼	—	6-32 x ⅜
	TAMS-8	Output	9800	15	2	640	2	.05	2 oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-9	Output	1000	4/8/16	10	180	3.5	.2	2½ oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-10	Output	2000 C.T.	4/8/16	—	250	4	.2	2½ oz.	1	1	1⅜	—	—	¾	4-40 x ⅜
	TAMS-11	Output	48 C.T.	8/16	275	5	1.5	5	1½ lb.	2⅝	2⅛	3⅛	1⅛	1⅞	—	6-32 x ⅜
	TAMS-12	Output	20 C.T.	8	500	.55	.35	10	12 oz.	1⅝	1⅝	2⅜	1⅜	1⅜	—	6-32 x ⅜

FOR CAPACITOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 50/60 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	High Voltage Secondary AC Volts	DC Ma.	DC V. Output	Rectifier Volts	Amps	Filament No. 2 Volts	Amps	Filament No. 3 Volts	Amps	Wt. Lbs.	Dimensions A	B	C	D	E	F
4	PHC-55	270-0-270	55	260	5	2	6.3 C.T.	2	—	—	3½	2.861	2.711	3.742	2.000	1.875	8-32
	PHC-70	335-0-335	70	320	5	2	6.3 C.T.	3	—	—	4½	3.245	2.979	4.242	2.375	2.125	8-32
	PHC-105	345-0345	105	320	5	2	6.3 C.T.	3.5	—	—	6½	3.667	3.292	4.680	2.625	2.375	10-32
	PHC-120	375-0-375	120	380	5	3	6.3 C.T.	4	—	—	9½	3.667	3.292	4.680	2.625	2.375	10-32
	PHC-150	370-0-370	150	390	5	3	6.3 C.T.	4	6.3 C.T.	1	11½	4.573	4.120	5.318	3.375	3.000	10-32
	PHC-200	385-0-385	200	390	5	3	6.3 C.T.	4.5	6.3 C.T.	1	12	4.573	4.120	5.318	3.375	3.000	10-32
	PHC-250	400-80-0-80-400	250	410	5	6	6.3 C.T.	7	5	2	15	5.323	4.792	6.068	3.375	3.000	12-24

FOR REACTOR INPUT SYSTEMS: PRIMARIES 117 VOLTS 50/60 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	AC Volts	DC Ma.	DC V. Output	Rectifier Volts	Amps	Filament No. 2 Volts	Amps	Filament No. 3 Volts	Amps	Wt. Lbs.	Dimensions A	B	C	D	E	F
5	PHR-55	350-0-350	55	260	5	2	6.3 C.T.	2	—	—	3¼	2.861	2.711	3.742	2.000	1.875	8-32
	PHR-70	425-0-425	70	320	5	2	6.3 C.T.	3	—	—	4½	3.245	2.979	4.242	2.375	2.125	8-32
	PHR-105	450-0-450	105	320	5	2	6.3 C.T.	3.5	—	—	6½	3.667	3.292	4.680	2.625	2.375	10-32
	PHR-120	500-0-500	120	390	5	3	6.3 C.T.	4	—	—	9½	3.667	3.292	4.680	2.625	2.375	10-32
	PHR-150	510-0-510	150	395	5	3	6.3 C.T.	4	6.3 C.T.	1	11½	4.573	4.120	5.318	3.375	3.000	10-32
	PHR-200	520-0-520	200	390	5	3	6.3 C.T.	4.5	6.3 C.T.	1	12¼	4.573	4.120	5.318	3.375	3.000	10-32

FOR REGULATED POWER SUPPLIES: PRIMARIES 117 VOLTS 50/60 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	AC Volts	DC Ma.	DC V. Output	Rectifier Volts	Amps	Filament No. 2 Volts	Amps	Filament No. 3 Volts	Amps	Wt. Lbs.	Dimensions A	B	C	D	E	F
6	PHC-165	440-0-440	165	430	5	2	6.3 6.3	7.5 0.6	6.3 6.3	3 3	12	4.573	4.120	5.318	3.375	3.000	10-32
	PHC-200A	450-0-450	200	442	5	3	6.3 6.3	4 4	6.3 —	0.6 —	12	4.573	4.120	5.318	3.375	3.000	10-32

Available until stock is depleted.

Refer to note on bottom of Stancor Page 54 for availability.

© United Technical Publications

ESSEX Stancor transformers | STANCOR

HERMETICALLY SEALED STANDARD TRANSFORMERS

OR SILICON RECTIFIER POWER SUPPLIES: PRIMARIES 117 VOLTS 50/60 Hz. MAXIMUM OPERATING ALTITUDE 10,000 FT.

Section	STANCOR No.	Sec. No. 1		Sec. No. 2		Sec. No. 3		Style	Wt. Lbs.	Dimensions						
		Volts	DCMA	Volts	Amps	Volts	Amps			A	B	C	D	E	S	F
1	HRP-400	400 C.T.	400	6.3	3.0	6.3	3.0	HRP	10.5	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½
	HRP-600	300 C.T.	600	6.3	2.5	6.3	2.5	HRP	10.5	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½
	HRP-800	200 C.T.	800	6.3	2.0	6.3	2.0	HRP	10.0	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½
	HRP-1600	100 C.T.	1600	6.3	1.5	6.3	1.5	HRP	10.5	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½
	HRP-2000	80 C.T.	2000	6.3	1.5	6.3	1.5	HRP	9.6	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½
	HRP-2500	60 C.T.	2500	6.3	1.5	6.3	1.5	HRP	9.0	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	10-32 x ½

l Secondary AC Voltage ±3%.

ILTER REACTORS: MAX. ALTITUDE 10,000 FT.

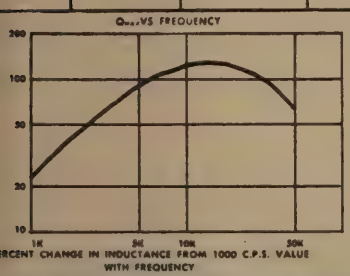
Section	STANCOR No.	Ind. Henries	Max. DC Ma	DC Res. In Ohms	Insul. Test RMS V	Wt. Lbs.	Dimensions					
							A	B	C	D	E	F
2	RH-1055	10	55	230	2500	1¾	2.241	2.101	2.930	1.562	1.375	6-32
	RH-1085	10	85	175	2500	2½	2.521	2.381	3.049	1.812	1.687	6-32
	RH-1585	15	85	285	2500	2¾	2.521	2.381	3.049	1.812	1.687	6-32
	RH-8105	8	105	100	2500	3¾	2.861	2.711	3.742	2.000	1.875	8-32
	RH-12105	12	105	170	2500	4	2.861	2.711	3.742	2.000	1.875	8-32
	RH-8150	8	150	100	2500	5¼	3.245	2.979	3.867	2.375	2.125	8-32
	RH-12150	12	150	150	2500	5½	3.245	2.979	4.242	2.375	2.125	8-32
	RH-12150	8	200	85	2500	7	3.667	3.292	4.305	2.625	2.375	10-32
	RH-12200	12	200	140	2500	7	3.667	3.292	4.305	2.625	2.375	10-32

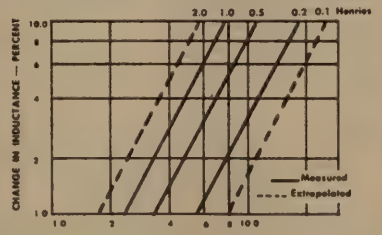
vailable Until Stock is Depleted.

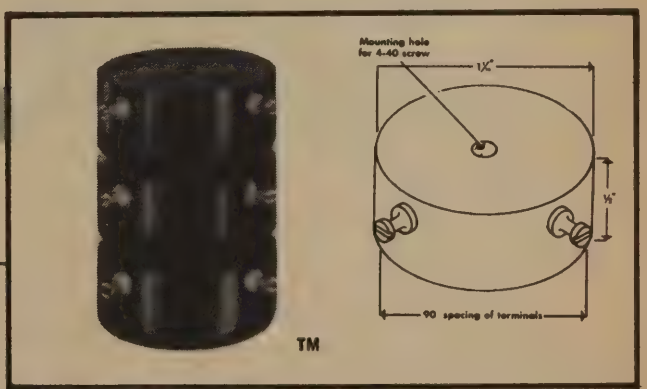
TOROIDAL INDUCTORS:

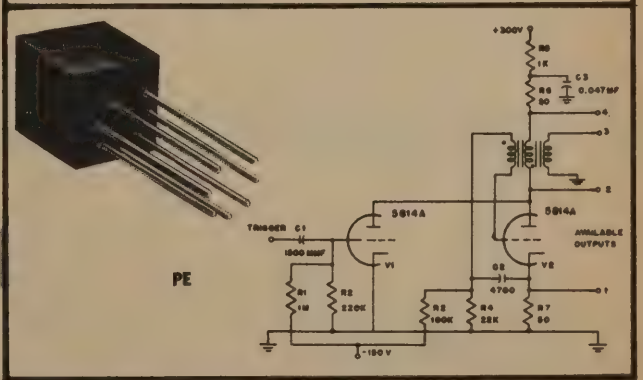
NDUCTANCE TOLERANCE ±1%, MAX. ALTITUDE 10,000 FT.

Section	STANCOR No.	Inductance (m.h.)	DC Res. (ohms)	Catalog No.	Inductance (m.h.)	DC Res. (ohms)
3	TM-1A	1	.32	TM-80A	80	29.5
	TM-2A	2	.72	TM-100A	100	32.5
	TM-5A	5	1.85	TM-200A	200	71.5
	TM-8A	8	2.25	TM-500A	500	185
				TM-800A	800	300





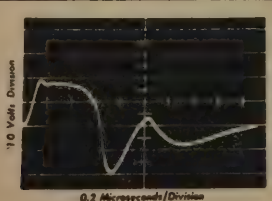




PULSE TRANSFORMERS: RATIO 1:1:1

ITS 7 PIN MINIATURE TUBE SOCKET

Section	STANCOR No.	Nominal Pulse Width In Microseconds	Rise Time in Microseconds	Height	Width	Depth	Approx. Wt. Lbs.
4	PE-50	0.5	.07	5/16	5/16	5/16	.01
	PE-75	0.75	.07	5/16	5/16	5/16	.01
	PE-500	5	.07	¾	11/16	11/16	.01
	PE-700	7	.1	¾	11/16	11/16	.01







Refer to note on bottom of Stancor Page 54 for availability.

ESSEX Stancor transformers | STANCOR

HERMETICALLY SEALED STANDARD TRANSFORMERS

FILAMENT TRANSFORMERS: PRIMARIES 115/230 VOLTS, 50/60 Hz. MAX. ALTITUDE 10,000 FT.

Section	STANCOR Number	Secondary Volts	Secondary Amps	Insulation Test Volts RMS	Wt. Lbs.	Dimensions A	B	C	D	E	F
1	FH-25	2.5 C.T.	5.25	3500	2	2.521	2.381	3.299	1.812	1.687	6-32
	FH-210	2.5 C.T.	10.	5000	3	2.521	2.381	3.299	1.812	1.687	6-32
	FH-215H	2.5 C.T.	15.	9000	5¼	3.667	3.292	4.680	2.625	2.375	10-32
	FH-58	5.0 C.T.	10.	2500	3½	2.861	2.711	3.742	2.000	1.875	8-32
	FH-510H	5.0 C.T.	10.	8000	6	3.667	3.292	4.680	2.625	2.375	10-32
	FH-520HB	5.0 C.T.	20.	10000	13	5.323	4.792	6.068	3.375	3.000	12-24
	FH-65	6.3-C.T.	5.5	2500	3	2.861	2.711	3.492	2.000	1.875	8-32
	FH-610	6.3 C.T.	10.	2500	5	3.245	2.979	4.242	2.375	2.125	8-32

PRIMARIES 105/115/125 VOLTS, 50/60 Hz., MAX. ALTITUDE 10,000 FT.

Section	STANCOR Number	Sec. No. 1	Sec. No. 2	Sec. No. 3	Insul. Test	Wt. Lbs.	Dimensions A	B	C	D	E	F
2	FMS-2	5V 2A	6.3V C.T. 5A	—	2500V	4	2¾	2⅜	3 1⅜16	2⅛	1¾	6-32 x ⅜
	FMS-3	5V 3A	12.6V C.T. 1.25A	—	2500V	3½	3 1⁄16	2⅝	4¼	2 1⅜16	1 55⁄64	8-32 x ⅜
	FMS-8	5V C.T. 3A	5V C.T. 3A	5V C.T. 6A	5000V	7	3 1⁄16	3 1⁄16	3⅞	2⅝	2⅛	8-32 x ⅜
	FMS-5	5V 3A	6.3V C.T. 1A	6.3V C.T. 5A	2500V	4¾	3 15⁄16	3⅜	5¼	3	2 7⁄16	10-32 x ½

PRIMARIES 105/115/125 VOLTS, 380-1000 Hz. MAX. ALTITUDE 70,000 MT., MAX. AMBIENT TEMP. 85°C

Section	STANCOR Number	Sec. Volts	Sec. Amps	Insul. Test Volts RMS	Wt. Lbs.	Dimensions A	B	C	D	E	S	F
3	4FMS-65	6.3 C.T.	5.5	2500	1¼	1 15⁄16	1 13⁄16	2¾	1⅜	1¼	—	6-32 x ⅜
	4FMS-2415	24. C.T.	1.5	1500	1.2	1 15⁄16	1 13⁄16	2¾	1⅜	1¼	—	6-32 x ⅜
	4FMS-122	12.6 C.T. 12.6	2.0 2.0	1500 1500	1.3	1 15⁄16	1 13⁄16	2¾	1⅜	1¼	—	6-32 x ⅜

MAX. ALTITUDE 10,000 MT., MAX. AMBIENT TEMP. 85°C

Section												
4	4FH-63	6.3 C.T.	3.	2500	¾	1.901	1.791	2.205	1.312	1.062	—	6-32
	4FH-65	6.3 C.T.	5.5	2500	1	1.901	1.791	2.424	1.312	1.062	—	6-32
	4FH-610	6.3 C.T.	10	2500	1¾	2.241	2.101	2.930	1.562	1.375	—	6-32
	4FH-620	6.3 C.T.	20.	2500	2½	2.521	2.381	3.299	1.812	1.687	—	6-32

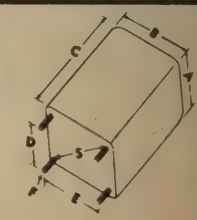


FH
4FH
4PHC
4PHR
4RH

FOR CAPACITOR INPUT SYSTEMS:

PRIMARIES 105/115/125 VOLTS, 380-1000 Hz. MAX. ALTITUDE 70,000 MT., MAX. AMBIENT TEMP. 85°C

Section	STANCOR Number	High Voltage Secondary AC Volts	DC Ma.	Rectifier Filament Volts	Amps	Other Filaments Volts	Amps	Wt. Lbs.	Dimensions A	B	C	D	E	S	F
5	4PMS-40	255-0-255	40	5.0	2	6.3 C.T.	2	1½	2¾	2⅜	2 1⅜16	2⅛	1¾	—	6-32 x ⅜
	4PMS-55	270-0-270	55	5.0	2	6.3 C.T.	2	1¾	2¾	2⅜	2 1⅜16	2⅛	1¾	—	6-32 x ⅜
	4PMS-70	335-0-335	70	5.0	2	6.3 C.T.	3	1¾	2¾	2⅜	2 1⅜16	2⅛	1¾	—	6-32 x ⅜
	4PMS-85	330-0-330	85	5.0	2	6.3 C.T.	3	2½	2¾	2⅜	3 1⅜16	2⅛	1¾	—	6-32 x ⅜
	4PMS-105	345-0-345	105	5.0	2	6.3 C.T.	3.5	2¼	2¾	2⅜	3 1⅜16	2⅛	1¾	—	6-32 x ⅜
	4PMS-120	375-0-375	120	5.0	3	6.3 C.T.	4	3½	3 1⁄16	2⅝	4¼	2 1⅜64	1 55⁄64	—	8-32 x ⅜
	4PMS-150	370-0-370	150	5.0	3	6.3 C.T.	4	4¼	3 1⁄16	3 1⁄16	3⅞	2⅝	2⅛	—	8-32 x ⅜
						6.3 C.T.	1								
	4PMS-165	440-0-440	165	5.0	3	6.3	7.5	6½	3 15⁄16	3⅜	4⅝	3	2 7⁄16	—	10-32 x ½
	4PMS-200A	450-0-450	200	5.0	2	6.3	4	6¼	3 15⁄16	3⅜	4⅝	3	2 7⁄16	—	10-32 x ½
		550-370-75-0	300	5.0	6	6.3 C.T.	5								
	4PMS-300*	75-370-550				6.3 C.T.	1	7½	3 15⁄16	3⅛	5¼	3	2 7⁄16	—	10-32 x ½
6	4PHC-165	440-0-440	165	5.0	3	6.3	7.5	6	3.667	3.292	4.305	2.625	2.375	—	10-32
						6.3	3								
	4PHC-200A	450-0-450	200	5.0	2	6.3	4	5¾	3.667	3.292	4.305	2.625	2.375	—	10-32
		550-370-75-0	300	5.0	6	6.3 C.T.	5								
	4PHR-300*	75-370-550				6.3 C.T.	1	6½	3.667	3.292	4.680	2.625	2.375	—	10-32



FILTER REACTORS: †MAX. ALTITUDE 70,000 FT., MAX. AMBIENT TEMP. 85°C

Section	STANCOR Number	Inductance (Hz)	Maximum DC Ma.	DC Resistance (ohms)	Insul. Test Volts RMS	Wt. Lbs.	Dimensions A	B	C	D	E	S	F
7	4RMS-240	2.0	40	190	2500	¼	1 1⁄16	1 1⁄16	1¾	—	—	1¼	6-32 x ⅜
	4RMS-255	2.0	55	160	2500	¼	1 1⁄16	1 1⁄16	1¾	—	—	1¼	6-32 x ⅜
	4RMS-270	2.0	70	165	2500	¾	1 5⁄16	1 5⁄16	2⅜	1 3⁄16	1 3⁄16	—	6-32 x ⅜
	4RMS-285	2.0	85	135	2500	⅜	1 3⁄16	1 3⁄16	1¾	—	—	1¼	6-32 x ⅜
	4RMS-2120	2.0	120	100	2500	1	1 15⁄16	1 13⁄16	2 7⁄16	1⅜	1¼	—	6-32 x ⅜
	4RMS-3120	3.0	120	150	1500	1.2	1 15⁄16	1 13⁄16	2 7⁄16	1⅜	1¼	—	6-32 x ⅜
	4RMS-2150	2.0	150	95	2500	1	1 15⁄16	1 13⁄16	2 7⁄16	1⅜	1¼	—	6-32 x ⅜
	4RMS-2165	2.0	165	90	2500	1	1 15⁄16	1 13⁄16	2 7⁄16	1⅜	1¼	—	6-32 x ⅜
	4RMS-2200	2.0	200	73	2500	2	2 3⁄16	2 1⁄16	3 1⁄16	1 11⁄16	1 7⁄16	—	6-32 x ⅜
	4RMS-2300	2.0	300	47	2500	4	3 1⁄16	2 5⁄8	4¼	2 1⅜64	1 55⁄64	—	8-32 x ⅜



FMS
4FMS
4PMS
4RMS
4IMS

FILTER REACTORS: MAX. ALTITUDE 10,000 FT., MAX. AMBIENT TEMP. 85°C

Section													
8	4RH-2120	2.0	120	100	2500	1	1.901	1.791	2.424	1.312	1.062	—	6-32
	4RH-2165	2.0	165	90	2500	1½	1.901	1.791	2.424	1.312	1.062	—	6-32
	4RH-2200	2.0	200	73	2500	1¾	2.241	2.101	2.930	1.562	1.375	—	6-32

ISOLATION: PRIMARIES 115 VOLTS, 380-1000 Hz., MAX. ALTITUDE 70,000 FT., MAX. AMBIENT TEMP. 85°C

Section	STANCOR Number	Secondary Volts	Secondary Amps	V.A.	Insul. Test Volts RMS	Wt. Lbs.	Dimensions A	B	C	D	E	S	F
9	4IMS-160	115	1.39	160	1500	3.1	2¾	2⅜	3 1⁄16	2⅛	1¾	—	6-32 x ⅜

*For Reactor Input Systems. Available until stock is depleted.

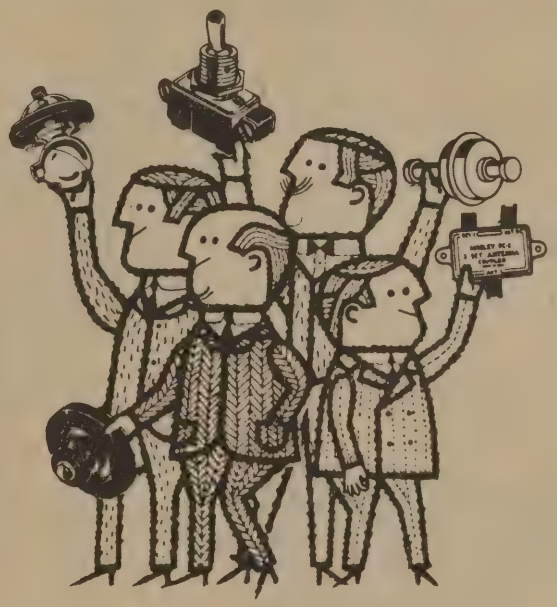
ALL SECONDARY AC VOLTAGES ±3%.

Refer to note on bottom of Stancor Page 54 for availability.

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

AUTO-TRANSFORMERS — 50/60 CYCLE

100-2000 VA — 230/115V

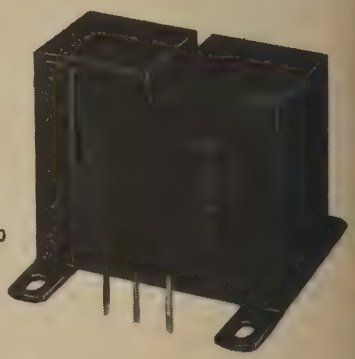


ENCLOSED
STYLE "EB"

VA	Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.
120	112	2⅞	2⅞	3½	2¼ x 1¾	2.5
150	115	2⅞	3⅛	3½	2¼ x 2	3.2
200	120	2⅞	3¼	3½	2¼ x 2⅛	3.5
250	125	2⅞	3⅝	3½	2¼ x 2½	4.2
300	130	3¼	3⅝	3⅞	2½ x 2⁷⁄₁₆	5
500	150	3¼	4⅝	3⅞	2½ x 3⁷⁄₁₆	8
750	175	3¼	5⅝	3⅞	2½ x 4⁷⁄₁₆	11
1000	1100	4½	5	5⅜	3½ x 3½	13
1500	1150	4½	6	5⅜	3½ x 4½	20
2000	1200	4½	7	5⅜	3½ x 5½	25

UL APPROVED 2 PRONG LINE CORD RECEPTACLE
LOW REGULATION. BLACK ENAMEL FINISH.

VA	Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.
120	OF-112	3⅜	2⅜	2⅞	2¹³⁄₁₆x 1⅞	2.5
150	OF-115	3⅜	2⅝	2⅞	2¹³⁄₁₆x 2⅛	3.2
200	OF-120	3⅜	2¾	2⅞	2¹³⁄₁₆x 2¼	3.5
250	OF-125	3⅜	3⅛	2⅞	2¹³⁄₁₆x 2⅝	4.2
300	OF-130	3¾	3¼	3⅛	3⅛ x 2½	5
500	OF-150	3¾	4¼	3⅛	3⅛ x 3½	8
750	OF-175	3¾	5¼	3⅛	3⅛ x 4½	11
1000	OF-1100	5¼	4½	4⅜	4⅜ x 3⅛	13
1500	OF-1150	5¼	5½	4⅜	4⅜ x 4⅛	20
2000	OF-1200	5¼	6½	4⅜	4⅜ x 5⅛	25



OPEN FRAME
STYLE "OF"
(May be used step-up or step-down)

BLACK ENAMEL FINISH. 8" LEADS
INEXPENSIVE VERSION FOR USE IN EQUIPMENT.

HEAVY DUTY — 3 to 6 KVA 230/115V or 115/230V MAY BE USED STEP-UP OR STEP-DOWN



"JB". VERY LOW REGULATION. GRAY ENAMEL ENCLOSURES
PANEL MOUNTED. KNOCKOUTS ON ALL SIDES OF JUNCTION BOX.

KVA	Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.
3	1300	9⅛	9	6½	8⅛ x 4¼	35
4	1400	9⅛	9½	6½	8⅛ x 4¾	41
5	1500	9⅛	10	6½	8⅛ x 5¼	47
6	1600	9⅛	11¼	6½	8⅛ x 6½	60

STYLE "JB"



"OF". BLACK ENAMEL FINISH. OPEN FRAME. 8" LEADS.
INEXPENSIVE VERSION FOR USE IN EQUIPMENT

KVA	Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.
3	OF-1300	7⅛	5½	6⅛	5¹³⁄₁₆x 3¾	30
4	OF-1400	7⅛	6	6⅛	5¹³⁄₁₆x 4¼	36
5	OF-1500	7⅛	6½	6⅛	5¹³⁄₁₆x 4¾	41
6	OF-1600	7⅛	7¾	6⅛	5¹³⁄₁₆x 6	54

STYLE "OF"

FLEISHMAN ELECTRIC

DIVISION OF
SIGNAL TRANSFORMER CO., INC.

© United Technical Publications

VOLTAGE REGULATORS (manually controlled)

LINE VOLTAGE ADJUSTMENT 65 to 145V, or 145 to 245V. OUTPUTS 115V or 230V.



STYLE "EB"

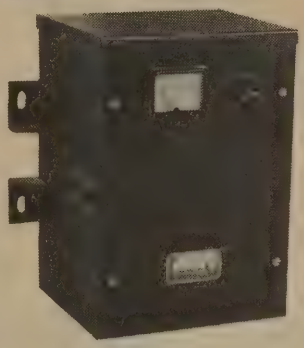
Easy Line Voltage Adjustment: Switch provided for 65 to 145V or 145 to 245V inputs, 50/60 cycle.

Built-In Meter: Output continuously monitored with Red Line at 115V or 230V output, as required.

Simple Installation:

Up to 2KVA (Style EB): Receptacle and Line Cord with Plug.

Over 2KVA (Style JB): Enclosed Junction Box, Panel Mounted with Leads. Knock-outs provided on all sides.



STYLE "JB"

	VA	Cat. No.	Style	Width	Depth	Height	Mtg. Centers	Lbs.
"300" SERIES INPUT RANGE: 65-75-90-100-115-130-145V. OUTPUT: 115V. — 50/60 CYCLE	150	315	EB	3⅞	6¼	4⅝	3 x 5 3/16	5
	350	335	EB	4½	7	5⅜	3½ x 5½	8
	500	350	EB	4½	7½	5⅜	3½ x 6	10
	750	375	EB	4½	8¼	5⅜	3½ x 6¾	15
	1000	3100	EB	4½	9½	5⅜	3½ x 8	20
	1500	3150	EB	4½	11	5⅜	3½ x 9½	29
	2000	3200	JB	9⅛	9	6½	8⅛ x 4¼	38
	3000	3300	JB	9⅛	9¾	6½	8⅛ x 5	46
	5000	3500	JB	9⅛	12¼	6½	8⅛ x 7½	74
"400" SERIES INPUT RANGE: 65-75-90-100-115-130-145V. OUTPUT: 230V. — 50/60 CYCLE	150	415	EB	3⅞	6¼	4⅝	3 x 5 3/16	5
	350	435	EB	4½	7	5⅜	3½ x 5½	8
	500	450	EB	4½	8	5⅜	3½ x 6½	14
	750	475	EB	4½	8½	5⅜	3½ x 7	17
	1000	4100	EB	4½	9¼	5⅜	3½ x 7¾	19
"500" SERIES INPUT RANGE: 145-160-175-190-210-225-245V. OUTPUT: 115V. — 50/60 CYCLE	150	515	EB	3⅞	6¼	4⅝	3 x 5 3/16	5
	350	535	EB	4½	7	5⅜	3½ x 5½	8
	500	550	EB	4½	7½	5⅜	3½ x 6	10
	750	575	EB	4½	8½	5⅜	3½ x 7	17
	1000	5100	EB	4½	9½	5⅜	3½ x 8	20
	1500	5150	EB	4½	11	5⅜	3½ x 9½	29
	2000	5200	JB	9⅛	9	6½	8⅛ x 4¼	38
	3000	5300	JB	9⅛	9¾	6½	8⅛ x 5	46
	5000	5500	JB	9⅛	12¼	6½	8⅛ x 7½	74
"600" SERIES INPUT RANGE: 145-160-175-190-210-225-245V. OUTPUT: 230V. — 50/60 CYCLE	150	615	EB	3⅞	6¼	4⅝	3 x 5 3/16	5
	350	635	EB	4½	7	5⅜	3½ x 5½	8
	500	650	EB	4½	7½	5⅜	3½ x 6	10
	750	675	EB	4½	8½	5⅜	3½ x 7	17
	1000	6100	EB	4½	9½	5⅜	3½ x 8	20

REFRIGERATOR TRANSFORMERS

for hermetically sealed motors of 115V.



Cat No.	Motor Size	VA	Width	Depth	Height	Mtg. Centers	Wt.
235	to ⅕ HP	350	4½	4¼	5 5/16	3½ x 2¾	9
255	to ⅓ HP	550	4½	4¾	5 5/16	3½ x 3¼	11
275	to ½ HP	750	4½	5	5 5/16	3½ x 3½	13
2,100	to ¾ HP	1,000	4½	6	5 5/16	3½ x 4	17

Used where power line has an odd voltage. Self-contained Receptacle & Line Cord with Plug. Built-In Switch (High-Medium-Low) for EASY INSTALLATION and ADJUSTMENT for correct line voltage without danger or need for any tools.

Switch Position	Line Voltage 50 cy.	60 cy.
High	240-260	250-270
Medium	220-240	230-250
Low	200-220	210-230

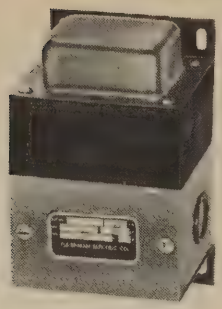
FLEISHMAN ELECTRIC

DIVISION OF
SIGNAL TRANSFORMER CO., INC.

© United Technical Publications

AUTO-TRANSFORMERS — 50/60 CYCLE

208/230V or 230/208V — IDEAL FOR AIR CONDITIONERS



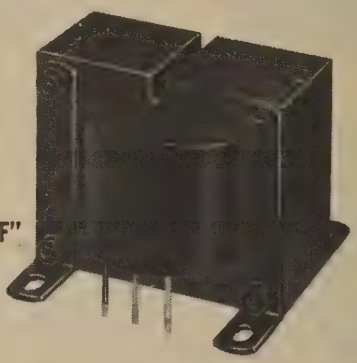
STYLE "JB"

— SINGLE PHASE —

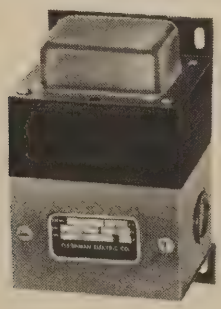
KVA	Cat No.	Motor HP	Width	Depth	Height	Mtg. Centers	Wt.
1	1P-1K-JB	⅓	3¾	5¼	3½	3¼ x 4½	5
2	1P-2K-JB	1	3¾	6¼	3½	3¼ x 5½	8
3	1P-3K-JB	2	4½	6½	4⅛	3¾ x 5½	10
5	1P-5K-JB	3	4½	7¾	4⅛	3¾ x 6¾	15
7.5	1P-7.5K-JB	5	5¼	8⅜	4⅞	4⅜ x 7¼	23
10	1P-10K-JB	7½	5¼	9⅜	4⅞	4⅜ x 8¼	29
15	1P-15K-JB	10	9⅛	8¾	6½	8⅛ x 4	35
25	1P-25K-JB	15	9⅛	10	6½	8⅛ x 5¼	48

— SINGLE PHASE —

KVA	Cat No.	Motor HP	Width	Depth	Height	Mtg. Centers	Wt.
1	1P-1K-OF	⅓	3¾	2¾	3⅛	3⅛ x 2	4
2	1P-2K-OF	1	3¾	3¾	3⅛	3⅛ x 3	6
3	1P-3K-OF	2	4½	4	3¾	3¾ x 2¾	9
5	1P-5K-OF	3	4½	5¼	3¾	3¾ x 4	14
7.5	1P-7.5K-OF	5	5¼	5¼	4⅜	4⅜ x 4⅛	20
10	1P-10K-OF	7½	5¼	6½	4⅜	4⅜ x 5⅛	26
15	1P-15K-OF	10	7⅛	5½	6⅛	5 13/16 x 3½	29
25	1P-25K-OF	15	7⅛	6¾	6⅛	5 13/16 x 4¾	43



STYLE "OF"



STYLE "JB" ONLY

— THREE PHASE —

KVA	Cat No.	Motor HP	Width	Depth	Height	Mtg. Centers	Wt.
1	3P-1K-JB	⅓	4½	8¾	4⅛	3¾ x 7¾	7
2	3P-2K-JB	1	4½	9¾	4⅛	3¾ x 8¾	12
3	3P-3K-JB	2	4½	10¼	4⅛	3¾ x 9¼	13
5	3P-5K-JB	3	4½	11¼	4⅛	3¾ x 10¼	18
7.5	3P-7.5K-JB	5	4½	12¾	4⅛	3¾ x 11¾	25
10	3P-10K-JB	7½	5¼	12⅜	4⅞	4⅜ x 11¼	28
15	3P-15K-JB	10	5¼	13⅞	4⅞	4⅜ x 12¾	38
25	3P-25K-JB	15	9⅛	14¾	6½	8⅛ x 10	59

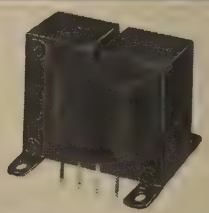
LINE ISOLATION



ELECTRO-STATIC SHIELD GROUNDED TO CORE
115V OUTPUT — 50/60 CYCLES
2500V RMS TEST

STYLE "EB"
UL LINE CORD
& RECEPTACLE

STYLE "OF"
OPEN FRAME
8" LEADS



	Cat. No.	VA	Width	Depth	Height	Mtg. Ctrs.	Lbs.	Cat. No.	VA	Width	Depth	Height	Mtg. Ctrs.	Lbs.
115 to 115V	I-50-EB	50	2⅞	2⅞	3½	2¼ x 1¾	2.5	I-50-OF	50	3⅜	2⅜	2⅞	2 1/16 x 1⅞	2.5
	I-100-EB	100	2⅞	3¼	3½	2¼ x 2⅛	3.5	I-100-OF	100	3⅜	2¾	2⅞	2 1/16 x 2¼	3.5
	I-250-EB	250	3 3/16	4⅝	3⅞	2½ x 3 3/16	8	I-250-OF	250	3¾	4¼	3⅛	3⅛ x 3½	8
	I-500-EB	500	4½	5	5⅜	3½ x 3½	13	I-500-OF	500	5¼	4½	4⅜	4⅜ x 3⅛	13
	I-750-EB	750	4½	6	5⅜	3½ x 4½	20	I-750-OF	750	5¼	5½	4⅜	4⅜ x 4⅛	20
	I-1000-EB	1000	4½	7	5⅜	3½ x 5½	25	I-1000-OF	1000	5¼	6½	4⅜	4⅜ x 5⅛	25
230 to 115V	IH-100-EB	100	2⅞	3¼	3½	2¼ x 2⅛	3.5	IH-100-OF	100	3⅜	2¾	2⅞	2 1/16 x 2¼	3.5
	IH-250-EB	250	3 3/16	4⅝	3⅞	2½ x 3 3/16	8	IH-250-OF	250	3¾	4¼	3⅛	3⅛ x 3½	8
	IH-500-EB	500	4½	5	5⅜	3½ x 3½	13	IH-500-OF	500	5¼	4½	4⅜	4⅜ x 3⅛	13
	IH-1000-EB	1000	4½	7	5⅜	3½ x 5½	25	IH-1000-OF	1000	5¼	6½	4⅜	4⅜ x 5⅛	25

FLEISHMAN ELECTRIC

DIVISION OF
SIGNAL TRANSFORMER CO., INC.

© United Technical Publications

DRY TYPE POWER TRANSFORMERS—50/60 CYCLE



STYLE "JB"

- Enclosed with Junction Box (Style JB)
  Knockouts provided on all sides of Junction Box.

ISOLATION TWO WINDING — SINGLE PHASE
AVAILABLE IN 2 STYLES



STYLE "OF"

- Open Frame with 8" leads (Style OF)
  Inexpensive version for use in equipment.

STYLE "JB"

	Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.	KVA
A SERIES PRIMARY 240/480V SECONDARY 240 x 120V	A-050-JB	3¾	5	3½	3¼ x 4¼	4	.050
	A-100-JB	3¾	5½	3½	3¼ x 4¾	5.5	.100
	A-250-JB	3¾	6¾	3½	3¼ x 6	9.2	.250
	A-500-JB	5¼	7⅝	4⅞	4⅜ x 6½	18	.500
	A-750-JB	5¼	8⅝	4⅞	4⅜ x 7½	24	.750
	A-1K-JB	5¼	9⅞	4⅞	4⅜ x 8¾	31	1.0
	A-2K-JB	9⅛	10	6½	8⅛ x 5¼	46	2.0
	A-3K-JB	9⅛	11¾	6½	8⅛ x 7	66	3.0
	A-5K-JB	9⅛	12¾	6½	8⅛ x 8	78	5.0
	A-7.5K-JB	9⅛	15¼	6½	8⅛ x 10½	106	7.5
B SERIES PRIMARY 554/277V SECONDARY 120 x 240V	B-050-JB	3¾	5	3½	3¼ x 4¼	4	.050
	B-100-JB	3¾	5½	3½	3¼ x 4¾	5.5	.100
	B-250-JB	3¾	6¾	3½	3¼ x 6	9.2	.250
	B-500-JB	5¼	7⅝	4⅞	4⅜ x 6½	18	.500
	B-750-JB	5¼	8⅝	4⅞	4⅜ x 7½	24	.750
	B-1K-JB	5¼	9⅞	4⅞	4⅜ x 8¾	31	1.0
	B-2K-JB	9⅛	10	6½	8⅛ x 5¼	46	2.0
	B-3K-JB	9⅛	11¾	6½	8⅛ x 7	66	3.0
	B-5K-JB	9⅛	12¾	6½	8⅛ x 8	78	5.0
	B-7.5K-JB	9⅛	15¼	6½	8⅛ x 10½	106	7.5
C SERIES PRIMARY 120/240V SECONDARY 32 x 16V ISOLATION OR BUCK-BOOST	C-050-JB	3¾	5	3½	3¼ x 4¼	4	.050
	C-100-JB	3¾	5½	3½	3¼ x 4¾	5.5	.100
	C-250-JB	4½	6½	4⅛	3¾ x 5½	10	.250
	C-500-JB	4½	7¾	4⅛	3¾ x 6¾	15	.500
	C-750-JB	5¼	8⅛	4⅞	4⅜ x 7	19	.750
	C-1K-JB	5¼	8⅞	4⅞	4⅜ x 7¾	26	1.0
	C-2K-JB	9⅛	9¾	6½	8⅛ x 5	46	2.0
D SERIES PRIMARY 120/240V SECONDARY 24 x 12V ISOLATION OR BUCK-BOOST	D-050-JB	3¾	5	3½	3¼ x 4¼	4	.050
	D-100-JB	3¾	5½	3½	3¼ x 4¾	5.5	.100
	D-250-JB	4½	6¼	4⅛	3¾ x 5¼	9	.250
	D-500-JB	4½	7¾	4⅛	3¾ x 6¾	15	.500
	D-750-JB	5¼	8⅛	4⅞	4⅜ x 7	19	.750
	D-1K-JB	5¼	8⅞	4⅞	4⅜ x 7¾	26	1.0
	D-2K-JB	9⅛	9¾	6½	8⅛ x 5	46	2.0

STYLE "OF"

Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.
A-050-OF	3¾	2½	3⅛	3⅛ x 1¾	2.8
A-100-OF	3¾	3	3⅛	3⅛ x 2¼	4.3
A-250-OF	3¾	4¼	3⅛	3⅛ x 3½	8
A-500-OF	5¼	4½	4⅜	4⅜ x 3⅜	15
A-750-OF	5¼	5½	4⅜	4⅜ x 4⅜	21
A-1K-OF	5¼	7	4⅜	4⅜ x 5⅝	28
A-2K-OF	7⅛	6¾	6⅛	6⅛ x 4¾	41
A-3K-OF	7⅛	8½	6⅛	6⅛ x 6½	61
A-5K-OF	7⅛	9½	6⅛	6⅛ x 7½	73
A-7.5K-OF	7⅛	12	6⅛	6⅛ x 10	101
B-050-OF	3¾	2½	3⅛	3⅛ x 1¾	2.8
B-100-OF	3¾	3	3⅛	3⅛ x 2¼	4.3
B-250-OF	3¾	4¼	3⅛	3⅛ x 3½	8
B-500-OF	5¼	4½	4⅜	4⅜ x 3⅜	15
B-750-OF	5¼	5½	4⅜	4⅜ x 4⅜	21
B-1K-OF	5¼	7	4⅜	4⅜ x 5⅝	28
B-2K-OF	7⅛	6¾	6⅛	6⅛ x 4¾	41
B-3K-OF	7⅛	8½	6⅛	6⅛ x 6½	61
B-5K-OF	7⅛	9½	6⅛	6⅛ x 7½	73
B-7.5K-OF	7⅛	12	6⅛	6⅛ x 10	101
C-050-OF	3¾	2½	3⅛	3⅛ x 1¾	2.7
C-100-OF	3¾	3	3⅛	3⅛ x 2¼	4.2
C-250-OF	4½	4	3¾	3¾ x 2¾	8.5
C-500-OF	4½	5¼	3¾	3¾ x 4	14
C-750-OF	5¼	5	4⅜	4⅜ x 3⅞	16
C-1K-OF	5¼	6	4⅜	4⅜ x 4⅝	23
C-2K-OF	7⅛	6½	6⅛	5 13/16 x 4½	39
D-050-OF	3¾	2½	3⅛	3⅛ x 1¾	2.7
D-100-OF	3¾	3	3⅛	3⅛ x 2¼	4.2
D-250-OF	4½	3¾	3¾	3¾ x 2½	7.2
D-500-OF	4½	5¼	3¾	3¾ x 4	14
D-750-OF	5¼	5	4⅜	4⅜ x 3⅞	16
D-1K-OF	5¼	6	4⅜	4⅜ x 4⅝	23
D-2K-OF	7⅛	6½	6⅛	5 13/16 x 4½	39

AUTO-TRANSFORMERS 480/240 or 240/480 V

SINGLE PHASE

Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.	KVA
E-1K-JB	5¼	7⅜	4⅞	4⅜ x 6¼	16	1
E-2K-JB	5¼	9⅛	4⅞	4⅜ x 8	26	2
E-3K-JB	9⅛	9	6½	8⅛ x 4¼	36	3
E-5K-JB	9⅛	10½	6½	8⅛ x 5¾	43	5
E-10K-JB	9⅛	12¼	6½	8⅛ x 7½	72	10
E-1K-OF	5¼	4¼	4⅜	4⅜ x 3⅛	14	1
E-2K-OF	5¼	6¼	4⅜	4⅜ x 4⅞	24	2
E-3K-OF	7⅛	5¾	6⅛	5 13/16 x 3¾	30	3
E-5K-OF	7⅛	7¼	6⅛	5 13/16 x 5¼	37	5
E-10K-OF	7⅛	9	6⅛	5 13/16 x 7	66	10

3 PHASE

Cat. No.	Width	Depth	Height	Mtg. Centers	Lbs.	KVA
G-1K-JB	4½	11¼	4⅛	3¾ x 10¼	19	1
G-2K-JB	5¼	12⅜	4⅞	4⅜ x 11¼	30	2
G-3K-JB	5¼	13⅝	4⅞	4⅜ x 12½	45	3
G-5K-JB	9⅛	15¼	6½	8⅛ x 10½	65	5
G-10K-JB	9⅛	18¾	6½	8⅛ x 14	103	10

AVAILABLE IN STYLE JB ONLY

PRICE LIST

Cat. No.	User Net
112	8.10
115	8.55
120	9.00
125	9.80
130	11.25
150	13.50
175	18.00
1100	24.30
1150	30.00
1200	46.00
1300	59.00
1400	79.00
1500	89.00
1600	99.00
112-OF	6.20
115-CF	6.90
120-OF	7.30
125-OF	8.10
130-OF	9.30
150-OF	12.00
175-OF	16.80
1100-OF	22.00
1150-OF	31.00
1200-OF	36.00
1300-OF	56.00
1400-OF	73.00
1500-OF	78.00
1600-OF	92.00
235	20.00
255	23.00
275	27.00
2100	34.00
315	25.00
335	30.00
350	32.40
375	37.00
3100	42.00
3150	48.00
3200	67.00
3300	81.00
3500	109.00
415	25.00
435	30.00
450	32.40
475	37.00
4100	42.00
515	25.00
535	30.00
550	32.40
575	37.00
5100	42.00
5150	48.00
5200	67.00
5300	81.00
5500	109.00
615	25.00
635	30.00
650	32.40
675	37.00
6100	42.00
1P-1K-JB	19.20
1P-2K-JB	24.00
1P-3K-JB	28.80
1P-5K-JB	38.00
1P-7.5K-JB	49.00
1P-10K-JB	58.00
1P-15K-JB	70.00
1P-25K-JB	98.00
1P-1K-OF	14.40
1P-2K-OF	19.20
1P-3K-OF	24.00
1P-5K-OF	33.50
1P-7.5K-OF	42.00
1P-10K-OF	50.00
1P-15K-OF	61.00
1P-25K-OF	90.00
3P-1K-JB	45.00
3P-2K-JB	57.00
3P-3K-JB	68.00
3P-5K-JB	84.00
3P-7.5K-JB	95.00
3P-10K-JB	110.00
3P-15K-JB	133.00
3P-25K-JB	180.00
I-50-EB	9.50
I-100-EB	10.40
I-250-EB	15.00
I-500-EB	25.00
I-750-EB	34.80
I-1000-EB	41.50
I-50-OF	7.80
I-100-OF	8.90
I-250-OF	13.40
I-500-OF	23.60
I-750-OF	32.80
I-1000-OF	38.40
IH-100-EB	10.90
IH-250-EB	15.60
IH-500-EB	26.00
IH-1000-EB	42.80
IH-100-OF	9.50
IH-250-OF	14.00
IH-500-OF	24.50
IH-1000-OF	44.00
A-050-JB	15.30
A-100-JB	18.00
A-250-JB	23.40
A-500-JB	37.00
A-750-JB	49.00
A-1K-JB	60.00
A-2K-JB	84.00
A-3K-JB	109.00
A-5K-JB	160.00
A-7.5K-JB	210.00
A-050-OF	10.20
A-100-OF	12.50
A-250-OF	18.00
A-500-OF	27.70
A-750-OF	39.00
A-1K-OF	50.00
A-2K-OF	74.00
A-3K-OF	99.00
A-5K-OF	150.00
A-7.5K-OF	199.00
B-050-JB	16.80
B-100-JB	19.20
B-250-JB	25.00
B-500-JB	38.00
B-750-JB	50.00
B-1K-JB	62.00
B-2K-JB	88.00
B-3K-JB	111.00
B-5K-JB	162.00
B-7.5K-JB	225.00
B-050-OF	11.40
B-100-OF	13.80
B-250-OF	19.20
B-500-OF	30.00
B-750-OF	41.50
B-1K-OF	54.00
B-2K-OF	77.00
B-3K-OF	102.00
B-5K-OF	155.00
B-7.5K-OF	209.00
C-050-JB	16.80
C-100-JB	20.40
C-250-JB	26.00
C-500-JB	39.00
C-750-JB	52.00
C-1K-JB	63.00
C-2K-JB	90.00
C-050-OF	13.20
C-100-OF	15.60
C-250-OF	20.20
C-500-OF	30.80
C-750-OF	42.80
C-1K-OF	57.00
C-2K-OF	81.00
D-050-JB	18.00
D-100-JB	21.60
D-250-JB	27.60
D-500-JB	40.00
D-750-JB	53.00
D-1K-JB	66.00
D-2K-JB	91.00
D-050-OF	14.40
D-100-OF	16.80
D-250-OF	21.50
D-500-OF	30.80
D-750-OF	44.00
D-1K-OF	58.00
D-2K-OF	82.00
E-1K-JB	35.00
E-2K-JB	58.00
E-3K-JB	71.00
E-5K-JB	99.00
E-10K-JB	159.00
E-1K-OF	25.80
E-2K-OF	49.00
E-3K-OF	65.00
E-5K-OF	93.00
E-10K-OF	151.00
G-1K-JB	70.00
G-2K-JB	95.00
G-3K-JB	114.00
G-5K-JB	150.00
G-10K-JB	225.00

FLEISHMAN ELECTRIC

DIVISION OF SIGNAL TRANSFORMER CO., INC.

OEM DISCOUNT SCHEDULE

QTY.	DISCOUNT	QTY.	DISCOUNT
1-4	Net	50-99	42%
5-9	10%	100-249	48%
10-24	25%	250 over	Quote
25-49	35%		

© United Technical Publications

FREED TRANSFORMER CO., INC.

SUB–MINIATURE TRANSISTOR AUDIO TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetic sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27 Specifications. Transistor transformers can also be supplied in an open or encapsulated type of construction.

TYPE		TSA	TNA	TPA	TTA
MAX. POWER		300 MW	1 W	3 W	5 W
FREQ. RESPONSE		.3-15 KHz ±2 DB	.2 — 15 KHz ±2 DB	.15-15 KHz ±2 DB	.15-15 KHz ±2 DB
SIZE	UNCASED	———	———	7/16 x 15/32 x 3/4	1 3/4 x 1 3/4 x 1 3/4
	CASED MIL-T-27 -4RX	3/4 D. x 15/32 H.	3/4 D. x 25/32 H.	1 3/4 D. x 1 3/4 H.	1 3/4 D. x 1 3/4 H.
	MOLDED MIL-T-27 -5RX	1/2 D. x 1/2 H.	15/32 x 17/32 x 17/32	7/8 x 15/32 x 17/32	1 3/32 x 1 x 3/32

MATCHING IMP. Pri.	MATCHING IMP. Sec.	TSA Cat. No.	TSA Max. I (MA) Total Pri.	TSA Max I dc (MA) Unbal. 1/2 Pri.	TNA Cat. No.	TNA Max. I (MA) Total Pri.	TNA Max I dc (MA) Unbal. 1/2 Pri.	TPA Cat. No.	TPA Max. I (MA) Total Pri.	TPA Max I dc (MA) Unbal. 1/2 Pri.	TTA Cat. No.	TTA Max. I (MA) Total Pri.	TTA Max I dc (MA) Unbal. 1/2 Pri.
150 (CT)	3.2	28	44	12	28	81	16	30	140	20	15	180	50
150 (CT)	12	29	44	12	29	81	16	31	140	20	17	180	50
150 (CT)	50	30	44	12	30	81	16	32	140	20	18	180	50
300 (CT)	3.2	31	32	8	31	58	14	33	100	16	20	130	35
300 (CT)	12	32	32	8	32	58	14	34	100	16	21	130	35
300 (CT)	50	33	32	8	33	58	14	35	100	16	22	130	35
500 (CT)	500	34	25	6	34	45	10	36	78	12	1	130	25
600 (SP)	3.2	1	23	6	1	41	8	1	71	10	23	100	25
600 (SP)	12	2	23	6	2	41	8	2	71	10	24	91	25
600 (SP)	50	35	23	6	35	41	8	3	71	10	25	91	25
600 (SP)	600 (SP)	3	23	6	3	41	8	4	71	10	26	91	25
600 (SP)	1.2K (CT)	22	23	6	22	41	8	37	71	10	7	91	25
1K (CT)	3.2	36	17	4	36	32	6	38	55	8	19	91	20
1K (CT)	12	37	17	4	37	32	6	39	55	8	27	71	20
1K (CT)	50	26	17	4	26	32	6	40	55	8	13	71	20
1.2K (SP)	3.2	4	16	4	4	29	6	5	50	8	28	65	15
1.2K (SP)	12	5	16	4	5	29	6	6	50	8	29	65	15
1.2K (SP)	50	38	16	4	38	29	6	7	50	8	30	65	15
1.2K (SP)	600 (SP)	6	16	4	6	29	6	8	50	8	31	65	15
2K (SP)	3.2	7	12	3	7	22	5	9	39	6	10	50	12
2K (SP)	12	8	12	3	8	22	5	10	39	6	32	50	12
2K (SP)	600 (SP)	9	12	3	9	22	5	11	39	6	33	50	12
4K (SP)	3.2	10	9	2	10	16	3	12	27	4	11	35	10
4K (SP)	12	11	9	2	11	16	3	13	27	4	34	35	10
4K (SP)	600 (SP)	12	9	2	12	16	3	14	27	4	9	35	10
10K (SP)	3.2	13	5	1	13	10	2	15	17	3	35	22	9
10K (SP)	12	14	5	1	14	10	2	16	17	3	36	22	9
10K (SP)	50	39	5	1	39	10	2	17	17	3	37	22	9
10K (SP)	600 (SP)	15	5	1	15	10	2	18	17	3	38	22	9
10K	1K	40	5	1	40	10	1.5	19	17	1.8	39	22	5
10K	10K (SP)	16	5	1	16	10	1.5	20	17	1.8	40	22	5
20K (CT)	50	25	4	.8	25	7	1	21	12	2	12	16	6
20K (CT)	600 (CT)	41	4	.8	41	7	1	22	12	2	16	16	6
25K (CT)	600 (CT)	23	3	.8	23	7	1	23	11	2	8	14	4
25K (CT)	1.2K (CT)	21	3	.8	21	7	1	24	11	2	5	14	4
50K (CT)	6 (CT)	18	2	.6	18	4	1	25	8	1	3	10	3
50K (CT)	500 (CT)	17	2	.6	17	4	1	26	8	1	2	10	3
50K (CT)	1.2K (CT)	20	2	.6	20	4	1	27	8	1	6	10	3
100K (CT)	1K (CT)	27	2	.4	27	3	.8	28	5	1	14	7	2
100K (CT)	1.2K (CT)	19	2	.4	19	3	.8	29	5	1	4	7	2



TTA, TPA UNCASED



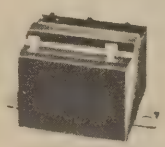
TPA MOLDED



TTA, TPA CASED



TNA MOLDED



TTA MOLDED



TUA, TSA, TNA CASED TSA MOLDED

TYPE	TUA	SIZE	UNCASED
MAX. POWER	100 MW		CASED MIL-T-27 -4RX
FREQ. RESPONSE	.4-15 KHz ±2 DB		MOLDED

MATCHING IMP. Pri.	MATCHING IMP. Sec.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.	MATCHING IMP. Pri.	MATCHING IMP. Sec.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. 1/2 Pri.
150 (CT)	3.2	16	26	10	2K (CT)	3.2	28	7	2.5
150 (CT)	12	17	26	10	2K (CT)	12	29	7	2.5
150 (CT)	50	21	26	10	2K (CT)	600	30	7	2.5
300 (CT)	3.2	20	18	7	4K (CT)	3.2	8	5	1.5
300 (CT)	12	19	18	7	4K (CT)	12	9	5	1.5
300 (CT)	50	22	18	7	4K (CT)	600	10	5	1.5
500 (CT)	500	23	13	5	10K (CT)	3.2	7	3	1
600 (CT)	3.2	1	13	5	10K (CT)	12	11	3	1
600 (CT)	12	2	13	5	10K (CT)	50	12	3	1
600 (CT)	50	13	13	5	10K (CT)	600	15	3	1
600 (CT)	600	3	13	5	10K (CT)	1K	18	3	1
600 (CT)	1.2K	24	13	5	10K	10K (CT)	31	3	1
1K (CT)	3.2	4	10	3.5	20K (CT)	50	32	2	.8
1K (CT)	12	25	10	3.5	20K (CT)	600 (CT)	33	2	.8
1K (CT)	50	14	10	3.5	25K (CT)	600 (CT)	34	2	.8
1.2K (CT)	3.2	26	9	3.5	25K (CT)	1.2K (CT)	35	2	.8
1.2K (CT)	12	5	9	3.5	50K (CT)	6 (CT)	36	1	.6
1.2K (CT)	50	27	9	3.5	50K (CT)	500 (CT)	37	1	.5
1.2K (CT)	600	6	9	3.5	50K (CT)	1.2K (CT)	38	1	.5

CT = Center Tap. SP = Split Winding.

MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetically sealed for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27 Specifications.

Frequency response:
±2DB 30-20,000 Hz
* ±2DB 200-10,000 Hz
All units supplied in DM-20 cases

Catalog No.	Application	MIL Type	Impedance Level Ohms Primary	Impedance Level Ohms Secondary	Max. Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Catalog No.
PMA 1	Line or microphone to single or push-pull grids.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11		0	0	PMA 1
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	TF4RX10YY	4/8	60,000 C.T.	+8	1:86.6		0	0	PMA 2
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11	30	0	0	PMA 3
PMA 4	Single triode plate to single or push-pull grids	TF4RX10YY	15,000	60,000 C.T.	+8	1:2		0	0	PMA 4
PMA 5*	Single triode plate to push-pull grids.	TF4RX12YY	15,000	60,000 C.T.	+8	1:2		2	2	PMA 5*
PMA 6	Single triode plate to multiple line.	TF4RX16YY	15,000	50/200/500	−8	5.48:1		0	0	PMA 6
PMA 7*	Single triode plate to multiple line.	TF4RX12YY	15,000	50/200/500	−8	5.48:1		2	2	PMA 7*
PMA 8	Push-pull triode plates to multiple line.	TF4RX12YY	30,000 C.T.	50/200/500	−8	7.75:1		2	0.25	PMA 8
PMA 9	Crystal mike or pickup to multiple line.	TF4RX16YY	60,000 C.T.	50/200/500	+8	11:1		0	0	PMA 9
PMA 10	Mixing or matching.	TF4RX16YY	50/200	50/200/500	+8	1:1.50		0	0	PMA 10
PMA 11	Parallel Feed Reactor.	TF4RX20YY	40 hy. 3 ma dc, 3500 ohms d.c. resistance							PMA 11
PMA 12	Microphone or line to grid.	TF4RX10YY	50/200/500 C.T.	60,000 C.T.	+5	1.11		0	0	PMA 12
PMA 13	Mixing and matching.	TF4RX16YY	150/600	600 C.T.	−8	1.1		0	0	PMA 13
PMA 14	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	+5	1:2.5		0	0	PMA 14
PMA 15*	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	15	1:2.5		4	4	PMA 15*

CASE DIMENSIONS



DM-20 CASE

Height: 1 9/16"
Dia.: 15/16"
Mtg. Cen.: 1 1/8" to 1 17/32"
Mtg. 2 holes: 166 x .120
Flange Lgth.: 1 13/32"
Flange D.: .975"

MINIATURE TRANSISTOR TRANSFORMERS

Catalog No.	MIL Type	Impedance Ohms Pri.	Ct.	Sec.	Ct.	O.B.	Frequency Response Hz	Unbalance Primary Current MA/DC	D.C. Resistance Ohms Pri.	D.C. Resistance Ohms Sec.	Max. Power Output MW	Catalog No
TMA 1*	TF4RX16YY	500		500		1	200 to 15,000	0	18	24	250	TMA 1*
TMA 2*	TF4RX12YY	50K		500		2	300 to 15,000	3	2,200	49	250	TMA 2*
TMA 3*	TF4RX13YY	50K		6		2	300 to 15,000	3	2,200	.55	250	TMA 3*
TMA 4*	TF4RX12YY	100K		1.2K	✓	3	300 to 15,000	1	2,790	95	100	TMA 4*
TMA 5*	TF4RX12YY	25K		1.2K	✓	2	200 to 15,000	3	1,740	110	250	TMA 5*
TMA 6*	TF4RX12YY	50K		1.2K	✓	2	300 to 15,000	3	2,200	106	250	TMA 6*
TMA 7*	TF4RX17YY	600/150		1.2K	✓	1	200 to 15,000	4	30	95	250	TMA 7*
TMA 8*	TF4RX12YY	25K		600		2	200 to 15,000	3	1,740	61	250	TMA 8*
TMA 9*	TF4RX12YY	4K	✓	600/150	✓	1	200 to 15,000	1	274	43	250	TMA 9*
TMA 10*	TF4RX13YY	2K		3.2		2	200 to 15,000	10	160	28	250	TMA 10*
TMA 11*	TF4RX13YY	4K	✓	3.2		1	200 to 15,000	1	274	26	250	TMA 11*
TMA 12*	TF4RX13YY	20K		50		2	300 to 15,000	4	1,340	2.9	250	TMA 12*
TMA 13*	TF4RX17YY	1K		50		2	300 to 15,000	8	42.6	2.5	250	TMA 13*
TMA 14*	TF4RX16YY	100K		1K		2	300 to 15,000	0	1,550	16.8	100	TMA 14*

*When ordering open units specify TMO — when ordering encapsulated units specify TMC.

© United Technical Publications

FREED TRANSFORMER CO., INC.

MIL-T-27 COMPONENTS

TRANSISTOR SUPPLY TRANSFORMERS
TST SERIES

Manufactured and Guaranteed to Specifications MIL-T-27

TST-6 — Frequency 57 Hz to 63 Hz — Primary 115 volts units with * primary 115 and/or 230 volts

TST-4 — Frequency 380 Hz to 1000 Hz — Primary 115 volts

TST units can be supplied in commercial type construction (channel or shell type with leads).

**When ordering specify (6) for 57 to 63 Hz and (4) for 380 to 1000 H-

D.C. to RMS Conversion Chart

Resistive or Inductive Loads		Capacitive Loads	
Full Wave Center Tapped	Full Wave Bridge	Full Wave Center Tapped	Full Wave Bridge
E_{RMS} = 2.22 Edc	E_{RMS} = 1.11 Edc	E_{RMS} = 1.6 Edc	E_{RMS} = .8 Edc
I_{RMS} = .75 Idc	I_{RMS} = 1.05 Idc	I_{RMS} = 1.1 Idc	I_{RMS} = 1.55 Idc

Edc – should include voltage drop across reactor and voltage drop across one diode for F.W.C.T. and voltage drop across two diodes for F.W. Bridge

Part No.	R.M.S. Output Volt	Amp	Case —4	Case —6
TST(**)-1	6.3 CT	.30	AH	AH
TST(**)-2	6.3 CT	.60	AH	AJ
TST(**)-3	12.6 Split	.80	AJ	EB
TST(**)-4	12.6 Split	1.5	AJ	FA
TST(**)-5	12.6 Split	2.0	AJ	GB*
TST(**)-6	25.2 Split	1.5	EB	GA*
TST(**)-7	25.2 Split	4.0	GB	JA*
TST(**)-8	30 Split	.50	AJ	FA
TST(**)-9	30 Split	1.0	AJ	GB*
TST(**)-10	30 Split	1.5	EB	GA*
TST(**)-11	30 Split	2.0	FA	HA*
TST(**)-12	40 Split	.50	AJ	FA
TST(**)-13	40 Split	1.0	EB	GA*
TST(**)-14	40 Split	1.5	FA	HA*
TST(**)-15	40 Split	2.0	FA	JB*
TST(**)-16	50 Split	.50	AJ	GB*
TST(**)-17	50 Split	1.0	FA	GA*
TST(**)-18	50 Split	1.5	FA	JB*
TST(**)-19	50 Split	2.0	GB	JA*
TST(**)-20	60 Split	.50	AJ	GB*
TST(**)-21	60 Split	1.0	FA	HA*
TST(**)-22	60 Split	1.5	FA	JA*
TST(**)-23	70 Split	.50	EB	GA*
TST(**)-24	70 Split	1.0	FA	JB*
TST(**)-25	70 Split	1.5	GB	JA*
TST(**)-26	80 Split	.25	AJ	FA
TST(**)-27	80 Split	.50	EB	GA*
TST(**)-28	80 Split	1.0	FA	JB*
TST(**)-29	90 Split	.25	AJ	GB*
TST(**)-30	90 Split	.50	EB	GA*
TST(**)-31	90 Split	1.0	FA	JA*
TST(**)-32	100 Split	.25	AJ	GB*
TST(**)-33	100 Split	.50	FA	GA*
TST(**)-34	100 Split	1.20	GA	KB*

STANDARD MILITARY AUDIO TRANSFORMERS
Frequency Response 300-10,000 Hz ±2 DB

Catalog No.	Application	Type Designation	Impedance Level in Ohms Primary	Secondary	Ratio	Max. Power Level DBM	Pri. D.C. Per Side in Ma	Max. D.C. unbalance	Case
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grid	TF4RX15AJ	10,000 C.T.	90,000 split and C.T.	1:3 overall	+15	10	10	AJ
MGA 2	Transformer; matching 600 ohm line to voice coil.	TF4RX16AJ	600 split	4, 8, 16	6.12:1 overall	+33	0	0	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids.	TF4RX10AJ	600 split	135,000 C.T.	1:15	+15	0	0	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line.	TF4RX16AJ	600 split	600 split	1:1	+15	0	0	AJ
MGA 5	Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line.	TF4RX13AJ	7,600 tap @ 4,800	600 split	3.56:1	+33	40	40	AJ
MGA 6	Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil.	TF4RX13AJ	7,600 tap @ 4,800	4, 8, 16	21.8:1	+33	40	40	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line.	TF4RX13AJ	15,000 C.T.	600 split	5:1	+33	10	10	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	24,000 C.T.	600 split	6.32:1	+30	10	1	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	60,000 C.T.	600 split	10:1	+27	10	1	AJ

STANDARD MILITARY POWER AND FILAMENT TRANSFORMERS
Primary 105/115/125V 60~

SINGLE PHASE 400 Hz , AND THREE PHASE 60 AND 400 Hz TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

Catalog No.	MIL-T-27 Type Designation	Hi Volt	D.C. Volts	D.C. Amps	Fil. No. 1	Fil. No. 2	Case
MGP 1	TF4RX03HA001	200/100/0/100/200	185	.070	5. 6. 3V @ 2A	6. 3V @ 3A	HA
MGP 2	TF4RX03JB002	650 C.T.	260	.070	5 6. 3V @ 2A	6. 3V @ 4A	JB
MGP 3	TF4RX03KB006	650 C.T.	245	.150	6. 3V @ 5A	5V @ 3A	KB
MGP 4	TF4RX03LB003	800 C.T.	318	.175	5V @ 3A	6. 3V @ 8A	LB
MGP 5	TF4RX03MB004	900 C.T.	345	.250	5V @ 3A	6. 3V @ 8A	MB
MGP 6	TF4RX02KB001	700 C.T.	255	.250			KB
MGP 7	TF4RX02LB002	1100 C.T.	419	.250			LB
MGP 8	TF4RX02NB003	1600 C.T.	640	.250			NB

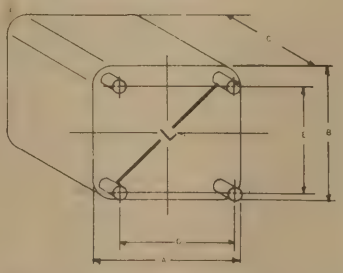
Catalog No.	MIL-T-27 Type Designation	Secondary Volts	Secondary Current Amps	Secondary Test Volts RMS	Case
MGF 1	TF4RX01EB002	2.5	3.0	2,500	EB
MGF 2	TF4RX01GB003	2.5	10.0	2,500	GB
MGF 3	TF4RX01FB004	5.0	3.0	2,500	FB
MGF 4	TF4RX01HB005	5.0	10.0	2,500	HB
MGF 5	TF4RX01FB006	6.3	2.0	2,500	FB
MGF 6	TF4RX01GB007	6.3	5.0	2,500	GB
MGF 7	TF4RX01JB008	6.3	10.0	2,500	JB
MGF 8	TF4RX01KB009	6.3	20.0	2,500	KB
MGF 9	TF4RX01JB012	2.5	10.0	10,000	JB
MGF 10	TF4RX01KB013	5.0	10.0	10,000	KB

MIL-FILTER REACTORS

Catalog No.	MIL Type	Inductance Henry	Rat. Current DC Ma.	DC Res. Ohms	Test Volt Kilovolts	Case No.
MGC 1	TF4RX04AJ	100	10	3,500	1.	AJ
MGC 2	TF4RX04AJ	4	50	230	1.	AJ
MGC 3	TF4RX04EB	10	50	325	1.	EB
MGC 4	TF4RX04FA	20	50	475	1.5	FA
MGC 5	TF4RX04FA	30	50	650	1.5	FA
MGC 6	TF4RX04AJ	3	75	175	1.	AJ
MGC 7	TF4RX04EB	6	75	235	1.5	EB
MGC 8	TF4RX04FA	12	75	265	1.5	FA
MGC 9	TF4RX04EB	3.5	100	145	1.	EB
MGC 10	TF4RX04FA	8	100	180	1.5	FA
MGC 11	TF4RX04GA	12	100	190	2.	GA
MGC 12	TF4RX04EB	2	150	92	1.5	EB
MGC 13	TF4RX04FA	4	150	115	1.5	FA
MGC 14	TF4RX04GA	8	150	125	2.	GA
MGC 15	TF4RX04JB	11	150	120	2.5	JB
MGC 16	TF4RX04FA	2.5	200	70	1.5	FA
MGC 17	TF4RX04GA	4	200	80	2.	GA
MGC 18	TF4RX04HB	7	200	135	2.	HB
MGC 19	TF4RX04JA	10	200	125	2.5	JA
MGC 20	TF4RX04GA	2.5	300	50	2.	GA
MGC 21*	TF4RX04HB	4	300	62	2.5	HB
MGC 22	TF4RX04JB	6	300	85	2.5	JB
MGC 23*	TF4RX04KB	8	300	65	2.5	KB
MGC 24	TF4RX04LA	10	300	100	2.5	LA
MGC 25*	TF4RX04HB	2	400	37	2.5	HB
MGC 26	TF4RX04KB	6	400	60	2.5	KB
MGC 27*	TF4RX04JA	2	500	35	2.5	JA
MGC 28	TF4RX04KB	4	500	45	2.5	KB
MGC 29*	TF4RX04MB	7	500	50	2.5	MB
MGC 30*	TF4RX04LB	2	700	20	2.5	LB
MGC 31*	TF4RX04MB	1.75	1,000	12.5	2.5	MB

*Not stocked, available on short delivery. Above units available in Grade 4. Class S-T-U, grade 4 or 5, can be supplied on special order

MIL CASES, NOMINAL DIMENSIONS, INCHES



Mil Case	A	B	C	D	L	E	Mtg. Studs	Wt. Lbs.
AH	1 5/16	1 5/16	1 3/4		1 1/4		6-32 x 3/8	3/8
AJ	1 3/8	1 3/8	2 3/8	1 3/16		1 3/16	6-32 x 3/8	1/2
EA	1 15/16	1 13/16	2 3/4	1 5/8		1 1/2	6-32 x 3/8	1
EB	●1 15/16	1 13/16	2 7/16	1 5/8		1 1/2	6-32 x 3/8	7/8
FA	2 5/16	2 1/16	3 1/8	1 11/16		1 7/16	6-32 x 3/8	1 3/4
FB	2 5/16	2 1/16	2 1/2	1 11/16		1 7/16	6-32 x 3/8	1 1/2
GA	2 3/4	2 3/8	3 13/16	2 1/8		1 3/4	6-23 x 3/8	3 1/2
GB	2 3/4	2 3/8	2 13/16	2 1/8		1 1/4	6-32 x 3/8	2 1/2
HA	3 1/16	2 5/8	4 1/2	2 19/64		1 55/64	8-32 x 3/8	4 1/2
HB	3 1/16	2 5/8	3 3/16	2 19/64		1 55/64	8-32 x 3/8	3 1/2
JA	3 9/16	3 1/16	4 7/8	2 5/8		2 1/8	8-32 x 3/8	6
JB	3 9/16	3 1/16	3 1/8	2 5/8		2 1/8	8-32 x 3/8	5
KA	3 15/16	3 3/8	5 1/4	3		2 7/16	10-32 x 1/2	8 1/2
KB	3 15/16	3 3/8	4 5/16	3		2 7/16	10-32 x 1/2	7

See our complete listing in Radio Electronic MASTER.

© United Technical Publications

FREED TRANSFORMER CO., INC.

HERMETICALLY SEALED PULSE TRANSFORMERS

Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

CASE DIMENSIONS



DM-8 CASE
Height: 1½"
Width: 1 3/32"
Flange D.: 1¼"



DM-01 CASE
Height: 2"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout: 1¼ dia.



DM-20 CASE
Height: 1 5/16"
Diameter: 1 1/16"
Flange L: 1 13/32"
Flange D: 0.975"
Mtg. Cen.: 1⅛"x1 3/32"
2 Holes: .147 wide
Knockout: .875



DM-18 CASE
Height: 1"
Width: 2¼"
Depth: 1⅛"
Mtg. Cen.: 5/8"
Studs: 2 6-32

MM-1
Length: ¾"
Diameter: ½"

MM-2
Length: 23/32"
Width: 23/32"
Height: ½"

MM-3
Length: 1¼"
Width: 1¼"
Height: ½"
Mtg. Cen.: 1½"
Mtg. Flange: 1 1/16"

MM-4
Length: 1 13/16"
Depth: 1¼"
Height: ½"
Mtg. Cen.: 2⅛"
Mtg. Flange: 2½"

MOLDED DIMENSIONS

MMO-1
Diameter: 1 1/16"
Thickness: 29/64"

MMO-2
Diameter: 1 3/16"
Thickness: 19/32"

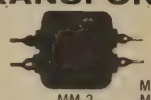
PULSE TRANSFORMERS

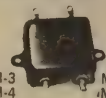
Catalog No.	MIL Type	Blocking Osc.	Interstage Coupling	Low Power Output	Pulse Voltage Kilovolts	Pulse Duration Microseconds	Duty Date	No. of Windings	Test Voltage KV., RMS	Characteristic Impedance Ohms	Case No.
MPT-1	TF4RX35YY	✓	✓		0.25/0.25/0.25	0.2-1.0	.004	3	0.7	250	DM-20
MPT-2	TF4RX35YY	✓	✓		0.25/0.25	0.2-1.0	.004	2	0.7	250	DM-20
MPT-3	TF4RX35YY	✓	✓		0.5/0.5/0.5	0.2-1.5	.002	3	1.0	250	DM-18
MPT-4	TF4RX35YY	✓	✓		0.5/0.5	0.2-1.5	.002	2	1.0	250	DM-18
MPT-5	TF4RX35YY	✓	✓		0.5/0.5/0.5	0.5-2.0	.002	3	1.0	500	DM-20
MPT-6	TF4RX35YY	✓	✓		0.5/0.5	0.5-2.0	.002	2	1.0	500	DM-20
MPT-7	TF4RX35YY	✓	✓	✓	0.7/0.7/0.7	0.5-1.5	.002	3	1.5	200	DM-18
MPT-8	TF4RX35YY	✓	✓	✓	0.7/0.7	0.5-1.5	.002	2	1.5	200	DM-18
MPT-9	TF4RX35YY	✓	✓	✓	1.0/1.0/1.0	0.7-3.5	.002	3	2.0	200	DM-18
MPT-10	TF4RX35YY	✓	✓	✓	1.0/1.0	0.7-3.5	.002	2	2.0	200	DM-18
MPT-11	TF4RX35YY	✓	✓	✓	1.0/1.0/1.0	1.0-5.0	.002	3	2.0	500	DM-01
MPT-12	TF4RX35YY	✓	✓	✓	0.15/0.15/0.3/0.3	0.2-1.0	.004	4	0.7	700	DM-8

MINIATURE PULSE TRANSFORMERS

- Meet all requirements of MIL-T-27
- Negligible weight.
- Exceedingly small size.
- Encapsulated or hermetically sealed.


MM-1


MM-2

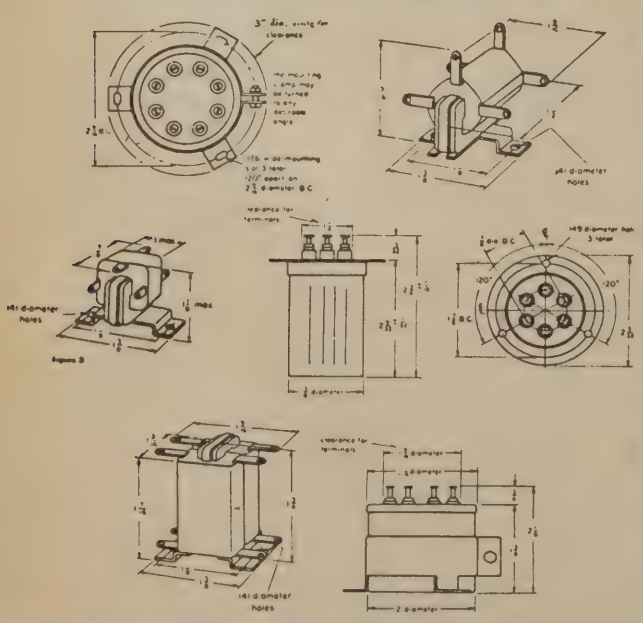

MM-3
MM-4


MMO-1
MMO-2

Catalog No.	MIL Type	Application	Pulse Volts	Pulse Width usec	Rise time usec	Inductance Prin. uhy	Inductance Leakage uhy	PPS. Mcs	Turns Ratio	Zo ohms	Case Des.
EPT-1	TF4RX31YY		20	.07	.03	125	12	2	1:1	200	MM-1
EPT-2	TF4RX31YY		20	.07	.03	150	15	2	2:1	200	MM-1
EPT-3	TF4RX31YY	Impedance	20	.07	.03	160	15	2	3:1	100	MM-1
EPT-4	TF4RX31YY	matching	20	.07	.03	200	20	2	4:1	100	MM-1
EPT-5	TF4RX31YY	&	17	.10	.04	200	6	2	4:1	100	MM-1
EPT-6	TF4RX31YY	Interstage	15	.10	.04	200	5	2	5:1	100	MM-1
EPT-7	TF4RX31YY	coupling	25	.50	.05	1,200	20	1	7:1:1		MM-1
EPT-8	TF4RX31YY		10	10	.04	12,000	70	.01	5:1		MM-2
EPT-9	TF4RX31YY		10	5	.04	7,500	22	.01	3:1	100	MM-2
EPT-11	TF4RX35YY		100	.25	.02	200	2	.012	1:1		MM-1
EPT-12	TF4RX35YY	Blocking	50	.33	.07	240	2	.002	1:1		MM-1
EPT-13	TF4RX35YY	oscillator	40	.5	.07	6,000	15		2:1		MM-2
EPT-14	TF4RX35YY		15	6	.1	16,000	15	.0004	1:1.4		MM-2
EPT-15	TF4RX36YY	Memory core &	5	1.5	.25	4,000	300		5:5:1PP	10	MM-4
EPT-16	TF4RX36YY	Current driver	2.5	2.4	.2	2,800	200		3.3:3.3:1PP	6	MM-4
EPT-17	TF4RX32YY	Current driver	21	1.4	.22	18,000	800	.250	6:1	200	MM-3
EPT-18	TF4RX32YY	Current transformer	10	6	.2	90,000	200	.05	11:1	75	MM-3
EPT-19	TF4RX36YY	Pulse inversion	22	1.7	.25	55,000	300	.05	6:1.1	400	MM-3

When ordering encapsulated units add "M" to the catalog number.

PULSE TRANSFORMERS



Freed No.	Radiation Laboratory No.	Westinghouse No.	Dimension Figure	GUIDANCE VALUES Pulse Voltage (KV)	Pulse Duration (Microseconds)	Maximum Duty Ratio	Load Impedance (Ohms)	Test Voltage (60 Cycle RMS)
BLOCKING OSCILLATOR, REGENERATIVE DRIVER OR COUPLING TRANSFORMERS								
MPT-13C	132AW2	1P1	1	1.0/1.0/1.0	0.3 to 1.5	0.002	250	1000
MPT-13M	132AW2F	7P1	1					
MPT-13H	132AW2P	4P101	4					
MPT-14C	132BW2	1P2	1	0.5/0.5/0.5/0.15	0.3 to 1.5	0.002	200	1000
MPT-14M	132BW2F	7P2	1					
MPT-14H	132BW2P	4P102	5					
MPT-15C	132DW2	1P3	1	0.5/0.5/0.5	0.1 to 0.5	0.002	300	1000
MPT-15M	132DW2F	7P3	1					
MPT-15H	132DW2P	4P103	4					
MPT-16C	134BW2	1P4	3	2.5/2.5; 2.5/1.25	½ to 2.5	0.002	1500	1500
MPT-16M	134BW2F	7P4	3	1.5/1.5; 1.5/0.75	1 to 5	0.002	1500	
MPT-16H	134BW2P	4P104	5					
MPT-17C	134CW2	1P5	1	2.0/2.0/1.0	1 to 2.5	0.002	1200	1000
MPT-17M	134CW2F	7P5	1	1.5/1.5/0.75	1 to 5	0.002	1200	
MPT-17H	134CW2P	4P105	4					
MPT-18C	134EW2	1P6	2	2.0/2.0/1.0	0.3 to 1	0.002	800	750
MPT-18M	134EW2F	7P6	2	1.5/1.4/0.75	0.3 to 1.5	0.002	800	
MPT-19C	145CW2	1P7	1	0.5/0.5/0.5	1.0 to 5	0.002	500	1000
MPT-19M	145CW2F	7P7	1					
MPT-19H	145CW2P	4P107	4					
MPT-20C	145EW2	1P8	1	1.0/1.0/1.0	1.0 to 5	0.002	800	1000
MPT-20M	145EW2F	7P8	1					
MPT-20H	145EW2P	4P108	4					
MPT-21C	166AW2	1P9	1	1.0/0.67/0.67	1.0 to 5	0.002	800	1000
MPT-21M	166AW2F	7P9	1					
MPT-21H	166AW2P	4P109	4					
MPT-22C	176AW2	1P10	1	2.0/1.0/1.0	1 to 2.5	0.002	1000	1000
MPT-22M	176AW2F	7P10	1	1.5/0.75/0.75		0.002	1000	
MPT-22H	176AW2P	4P110	4					
MPT-23C	187AW2	1P11	1	1.0/0.5/0.5	0.5 to 2	0.002	400	1000
MPT-23M	187AW2F	7P11	1					
MPT-23H	187AW2P	4P111	4					
MPT-24C	224AW2	1P12	2	1.0/1.0/1.0/0.3	0.1 to 0.5	0.002	1000	750
MPT-24M	224AW2F	7P12	2					
PULSE TRIGGERING OR CURRENT TRANSFORMERS								
MPT-25C	139DW2	1P13	1		0.25 to 5	0.002		1000
MPT-25M	139DW2F	7P13	1					
MPT-25H	139DW2P	4P113	4					
PULSE OUTPUT TRANSFORMERS								
MPT-26C	148CW2	1P14	3	0.2/2.0	0.6 to 3	0.002	1600	1500
MPT-26M	148CW2F	7P14	3	0.4/2.0	0.25 to 1.25	0.002	1000	
MPT-26H	148CW2P	4P114	5	0.4/2.0	0.5 to 2.5	0.002	2000	
MPT-27C	148DW2	1P15	3	0.29/2.0	0.5 to 2.5	0.002	1200	1500
MPT-27M	148DW2F	7P15	3	0.57/2.0	0.2 to 1.0	0.002	800	
MPT-27H	148DW2P	4P115	5	0.57/2.0	0.4 to 2.0	0.002	1500	

C Indicates—varnish impregnated commercial construction.
M Indicates—encapsulated or molded construction to MIL-T-27 Grade 5 Class R.
H Indicates—hermetically sealed to MIL-T-27 Grade 4 Class R.

FREED TRANSFORMER COMPANY, INC.

© United Technical Publications

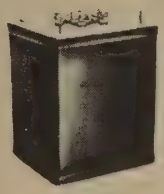
FREED TRANSFORMER CO., INC.

TRANSISTORIZED CONVERTERS—TDC LINE

For DC/DC conversion from low voltage DC sources to high voltage DC output. Stock units are available in power capabilities to 45 watts, with input voltages of 6, 12, 24, 28, and 48 volts.

All TDC converters are hermetically sealed and oil filled. Outputs are filtered with ripple less than .1%. Operating temperatures from −55°C to +70°C. They are ruggedly built to withstand shock and vibration.





CAT. #	NOM. VDC INPUT	VDC OUT	MAX 1 OUT MA	CASE SIZE
TDC 6-15-05	6	150	50	
TDC 12-30-15	12	300	150	2⅝ x 2½ x 3½
TDC 12-25-12	12	250	120	2⅝ x 2¼ x 3½
TDC 12-30-05	12	300	50	2 x 2¼ x 3½
TDC 12-20-05	12	200	50	2 x 2¼ x 3⅛
TDC 12-12-12	12	120	120	2 x 2¼ x 3
TDC 12-2.4-100	12	24	1000	2¼ x 2⅝ x 3½
TDC 28-30-15	28	300	150	2⅝ x 2¼ x 3½
TDC 28-25-12	28	250	120	2⅝ x 2¼ x 3½
TDC 28-30-05	28	300	50	2 x 2¼ x 3⅛
TDC 28-30-05	28	200	50	2 x 2¼ x 3⅛
TDC 48-20-15	48	200	150	2⅝ x 2¼ x 3½
TDC 48-30-15	48	300	150	2⅝ x 2¼ x 3½

DC TO AC TRANSISTOR INVERTERS—TAC LINE



115 volt outputs at 60 Hz at powers ranging from 50 VA to 350 VA.

Output wave form-square wave; Output frequency – 60 Hz ±1 Hz;

Hermetically sealed-oil filled; Maximum operating temperature – 70°C.

AVAILABLE TYPES:

CAT. #	NOM. VDC IN	OUTPUT VA	SIZE
TAC 6-50	6	50	4⅛ x 3½ x 4½
TAC 12-50	12	50	4⅛ x 3½ x 4½
TAC 12-90	12	90	4⅛ x 3½ x 4⅞
TAC 12-175	12	175	5 x 4⅛ x 6
TAC 28-50	28	50	4⅛ x 3½ x 4½
TAC 28-100	28	100	4⅛ x 3½ x 4⅞
TAC 28-175	28	175	5 x 4⅛ x 6
TAC 28-250	28	250	5½ x 5 x 6¾
TAC 28-350	28	350	5½ x 5 x 6¾
TAC converters are also available with 400 Hz outputs in three models:			
TAC 12-100-4	12	100	4½ x 3½ x 4½
TAC 28-150-4	28	150	4⅛ x 3½ x 4½
TAC 28-250-4	28	250	5 x 4⅛ x 6

DC TO AC TRANSISTOR INVERTERS—PTC LINE

A new line of DC/AC inverters for operation from a 12 volt D.C. source. Output is square wave, 115 volts RMS at 60 Hz. Regulated to ±2 Hz over an input voltage range of 10.5 to 13.5 VDC.

Efficiency on all units is 80% min. at full load. Ambient temperature to 55°C.

Available models listed below:

CAT. #	VA OUT	SIZE	MTG.
PTC 12-15	15	3 x 2½ x 4	1⁹⁄₁₆ x 1¹³⁄₁₆
PTC 12-50	50	3½ x 3 x 4¹³⁄₁₆	2 x 2¾
PTC 12-100	100	5⅞ x 4 x 5¼ HI	3¼ x 3⅛
PTC 12-175	175	7⅝ x 4¹³⁄₁₆ x 5¼ HI	6 x 3½

PTC 12-15 and PTC 12-50 are supplied with 4-terminal headers for input and output connections.

PTC 12-100 and PTC 12-175 use barrier strip terminals and in addition have an auxiliary output receptacle.

DC TO AC TRANSISTOR INVERTERS — VC LINE

A low priced efficient transistor inverter for applications not requiring frequency regulation closer than ±5 Hz is available in 15 VA and 100 VA output capabilities. Input nominal 12 V.D.C. Output square wave 115 volt.

Cat. #	Power	Freq.	Size
VC 12-15	15 watt	55-65 Hz	3 x 3⅛ x 3¾ Hi.
VC 12-100	100 watt	55-65 Hz	4½ x 3½ x 4½ Hi.

MCV – CONSTANT VOLTAGE TRANSFORMERS – MCV
(FERRO-RESONANT TRANSFORMERS)

The MCV line of constant voltage transformers provides accurate regulation against line and/or load variations, without the use of tubes or moving parts.

Input Voltage Range
95 to 130

Rated output within ±2% of nominal value. Regulation automatically maintained within ± 1%. Regulation from 25% to full load ± 2%.

- MILITARY SPECIFICATIONS
- NO TUBES
- COMMERCIAL
- NO MOVING PARTS
- ACCURATE REGULATIONS
- FAST RESPONSE
- FULLY AUTOMATIC
- SUPPLIED WITH CONDENSERS

Reg. Output in R.M.S. Volts	Output in V.A. P.F-1	CATALOG NUMBERS			
		60 Cycles		400 Cycles	
		Comm.	Military*	Comm.*	Military*
115	5	MCV65LC	MCV65LM	MCV45LC	MCV45LM
115	25	MCV625LC	MCV625LM	MCV425LC	MCV425LM
115	75	MCV675LC	MCV675LM	MCV475LC	MCV475LM
115	125	MCV6125LC	MCV6125LM	MCV4125LC	MCV4125LM
115	175	MCV6175LC	MCV6175LM	MCV4175LC	MCV4175LM
115	250	MCV6250LC	MCV6250LM	MCV4250LC	MCV4250LM
115	375	MCV6375LC	MCV6375LM	MCV4375LC	MCV4375LM
115	500	MCV6500LC	MCV6500LM	MCV4500LC	MCV4500LM
115	750	MCV6750LC	MCV6750LM	MCV4750LC	MCV4750LM
115	1000	MCV61000LC	MCV61000LM	MCV41000LC	MCV41000LM
26	5	MCV654FC	MCV654FM	MCV454FC	MCV454FM
26	25	MCV6254FC	MCV6254FM	MCV4254FC	MCV4254FM
26	75	MCV6754FC	MCV6754FM	MCV4754FC	MCV4754FM
26	125	MCV61254FC	MCV61254FM	MCV41254FC	MCV41254FM
6.4	5	MCV65FC	MCV65FM	MCV45FC	MCV45FM
6.4	25	MCV625FC	MCV625FM	MCV425FC	MCV425FM
6.4	75	MCV675FC	MCV675FM	MCV475FC	MCV475FM
6.4	125	MCV6125FC	MCV6125FM	MCV4125FC	MCV4125FM

*Condensers are not provided with units. Where condensers are provided they are external to units.

AVAILABLE UPON REQUEST
MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

FREED TRANSFORMER COMPANY, INC.

© United Technical Publications

FREED TRANSFORMER CO., INC.

HERMETICALLY SEALED MINIATURE AND SUB-MINIATURE FILTERS TO MIL-F-18327

Freed Standard Filters are **Hermetically Sealed Miniature and Sub-Miniature** high performance components designed for both production and laboratory applications in the Communications and Electronic industry. In order to achieve attenuation requirements not obtainable with one single filter, one can combine several standard filters of different transmission characteristics. Wide Band Pass characteristics are obtainable by combining low and high Pass Units. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters.

Low Pass Filters: The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency • **ILP-ILM Interstage Low Pass Filter.** Characteristic impedance 10,000 ohms, in and out • **LLP-LLM Line Low Pass Filter.** Characteristic Impedance 500 to 600 ohms, in and out • **High Pass Filters:** The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency • **IHP-IHM Interstage High Pass Filter.** Characteristic Impedance 10,000 ohms, in and out. • **LHP-LHM Line High Pass Filter.** Characteristic Impedance 500 to 600 ohms, in and out • **Band Pass Filters:** The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency • **IBP-IBM Interstage Band Pass Filter.** Normal input impedance — 10,000 ohms. Output impedance .5 megohms. Effective voltage step-up 2:1. (Output voltage to source voltage.) • **LBP-LBM Line Band Pass Filter.** Nominal input impedance 500 to 600 ohms. Output impedance .5 megohms. Effective voltage step-up 5:1. (Output voltage to source voltage.)

Special filters in all six types are available upon request.

MINIATURE

Catalog No.	Cut-off Frequency Hz	
ILP- 100	100	Low Pass Filters attenuation ≧35 Db at 1.5 x Fc ≧40 Db at 2 x Fc
ILP- 200	200	
ILP- 300	300	
ILP- 500	500	
ILP- 750	750	
ILP- 1,000	1,000	
ILP- 1,500	1,500	
ILP- 2,000	2,000	
ILP- 2,500	2,500	
ILP- 3,000	3,000	
ILP- 5,000	5,000	
ILP- 7,000	7,000	
ILP- 10,000	10,000	
ILP- 15,000	15,000	
ILP- 20,000	20,000	
ILP- 23,000	23,000	
ILP- 25,000	25,000	
ILP- 32,000	32,000	
ILP-130,000	130,000	
ILP-150,000	150,000	
LLP- 500	500	
LLP- 1,000	1,000	
LLP- 1,500	1,500	
LLP- 1,600	1,600	
LLP- 2,000	2,000	
LLP- 2,500	2,500	
LLP- 3,000	3,000	
LLP-16,000	16,000	
LLP-20,000	20,000	
LLP-70,000	70,000	
LLP-80,000	80,000	
IHP- 200	200	High Pass Filters attenuation ≧35 Db at .67 x Fc ≧40 Db at .5 Fc
IHP- 250	250	
IHP- 300	300	
IHP- 400	400	
IHP- 500	500	
IHP- 1,000	1,000	
IHP- 2,000	2,000	
IHP- 3,000	3,000	
IHP-10,000	10,000	
IHP-15,000	15,000	
LHP- 200	200	
LHP- 300	300	
LHP- 400	400	
LHP- 500	500	
LHP- 800	800	
LHP- 1,000	1,000	
LHP- 2,000	2,000	
LHP- 6,000	6,000	
LHP-10,000	10,000	
IBP- 100	100	Band Pass Filters attenuation ≧40 Db at 0.5 x Fc and 2 x Fc
IBP- 200	200	
IBP- 250	250	
IBP- 400	400	
IBP- 500	500	
IBP- 700	700	
IBP- 800	800	
IBP- 900	900	
IBP- 1,000	1,000	
IBP- 1,500	1,500	
IBP- 2,000	2,000	
IBP- 3,000	3,000	
IBP- 5,000	5,000	
IBP- 7,200	7,200	
IBP-10,000	10,000	
IBP-12,000	12,000	
IBP-15,000	15,000	
IBP-30,000	30,000	
IBP-57,600	57,600	
LBP- 100	100	
LBP- 300	300	
LBP- 400	400	
LBP- 600	600	
LBP- 800	800	
LBP- 1,000	1,000	
LBP- 1,500	1,500	
LBP- 2,000	2,000	
LBP- 3,000	3,000	
LBP- 7,200	7,200	
LBP-10,000	10,000	
LBP-14,400	14,400	
LBP-20,000	20,000	
LBP-28,800	28,800	

SUB-MINIATURE

Catalog No.	Cut-off Freq. Hz	Case No.	
ILM- 300	300	DF-01	Low Pass Filters attenuation ≧30 Db at 1.5 x Fc ≧40 Db at 2 x Fc
ILM- 500	500	DF 01	
ILM- 750	750	DF-01	
ILM- 1,000	1,000	DF-01	
ILM- 1,500	1,500	DF-01	
ILM- 2,000	2,000	DF-01	
ILM- 2,500	2,500	DF-01	
ILM- 3,000	3,000	DF-01	
ILM- 5,000	5,000	DF-01	
ILM- 7,000	7,000	DF-01	
ILM- 10,000	10,000	DF-01	
ILM- 15,000	15,000	DF-01	
ILM- 20,000	20,000	DF-01	
ILM- 23,000	23,000	DF-01	
ILM- 25,000	25,000	DF-01	
ILM- 32,000	32,000	DF-01	
ILM-130,000	130,000	DF-01	
ILM-150,000	150,000	DF-01	
LLM- 500	500	DF-03	
LLM- 1,000	1,000	DF-03	
LLM- 1,500	1,500	DF-02	
LLM- 1,600	1,600	DF-02	
LLM- 2,000	2,000	DF-02	
LLM- 2,500	2,500	DF-02	
LLM- 3,000	3,000	DF-02	
LLM-16,000	16,000	DF-02	
LLM-20,000	20,000	DF-02	
LLM-70,000	70,000	DF-02	
LLM-80,000	80,000	DF-02	
IHM- 300	300	DF-01	High Pass Filters attenuation ≧30 Db at .67 x Fc ≧40 Db at .5 Fc
IHM- 400	400	DF-01	
IHM- 500	500	DF-01	
IHM- 1,000	1,000	DF-01	
IHM- 2,000	2,000	DF-01	
IHM- 3,000	3,000	DF-01	
IHM-10,000	10,000	DF-01	
IHM-15,000	15,000	DF-01	
LHM- 300	300	DF-03	
LHM- 400	400	DF-03	
LHM- 500	500	DF-03	
LHM- 800	800	DF-03	
LHM- 1,000	1,000	DF-02	
LHM- 2,000	2,000	DF-02	
LHM- 6,000	6,000	DF-02	
LHM-10,000	10,000	DF-02	
IBM- 400	400	DF-02	Band Pass Filters attenuation ≧35 Db at 0.5 x Fc and 2 x Fc
IBM- 500	500	DF-02	
IBM- 700	700	DF-02	
IBM- 800	800	DF-02	
IBM- 900	900	DF-02	
IBM- 1,000	1,000	DF-02	
IBM- 1,500	1,500	DF-02	
IBM- 2,000	2,000	DF-01	
IBM- 3,000	3,000	DF-01	
IBM- 5,000	5,000	DF-01	
IBM- 7,200	7,200	DF-01	
IBM-10,000	10,000	DF-01	
IBM-12,000	12,000	DF-01	
IBM-15,000	15,000	DF-01	
IBM-30,000	30,000	DF-01	
IBM-57,600	57,600	DF-01	
LBM- 300	300	DF-02	
LBM- 400	400	DF-02	
LBM- 600	600	DF-02	
LBM- 800	800	DF-02	
LBM- 1,000	1,000	DF-01	
LBM- 1,500	1,500	DF-01	
LBM- 2,000	2,000	DF-01	
LBM- 3,000	3,000	DF-01	
LBM- 7,200	7,200	DF-01	
LBM-10,000	10,000	DF-01	
LBM-14,400	14,400	DF-01	
LBM-20,000	20,000	DF-01	
LBM-28,800	28,800	DF-01	

ALL MINIATURE FILTERS ARE SUPPLIED IN DF-1 CASE



DF-1 CASE
Height: 2½"
Width: 1 1/16"
Depth: 1 3/16"
Mtg. Cen.: 1¼"x¾"
Studs: 4 6-32x⅜"
Knockout: ⅞" dia.



DF CASE STYLE DF-01
Height: 1¾"
Width: ¾"
Depth.: ¾"
Mtg. Cen.: 9/16" Diag.
Studs: 2 : 4-40

DF-02
Height: 1⅜"
Width: 1"
Depth.: 1"
Mtg. Cen.: ¾" Diag.
Studs: 2 : 4-40

DF-03
Height: 1¾"
Width: 1"
Depth.: 1"
Mtg. Cen.: ¾"
Studs: 2 : 4-40

SUBMINIATURE TELEMETERING BAND PASS FILTERS

Type No.	Center Frequency Fo - in Hz	Band Width <3DB	Stop Band Attenuation
MTN-.4	.4	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.56	.56	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.73	.73	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.96	.96	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-1.3	1.3	±7½%	≧38 DB @ 1.75 & .58 Fo
MTN-1.7	1.7	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-2.3	2.3	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-3.0	3.0	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTH-3.9	3.9	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-5.4	5.4	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-7.35	7.35	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTH-10.5	10.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-14.5	14.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-22	22	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-30	30	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-40	40	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-52.5	52.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-70	70	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-22	22	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTW-30	30	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTW-40	40	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTW-52.5	52.5	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTW-70	70	±15%	≧ 40 DB @ 2.5 & .4 Fo

DF-01 CASE SIZES ¾ x ¾ x 1¾ MTN-2.3 Thru MTW-70
DF-02 1 x 1 x 1¾ MTN-4 Thru MTN 1.7

NULL "T" FILTERS SERIES 1950

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network will give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of ±2%.

All Null T Filters are hermetically sealed. Prices on request.

Catalog No.	Frequency
NTF- 30	30 Hz
NTF- 60	60 Hz
NTF-120	120 Hz

© United Technical Publications

FREED TRANSFORMER CO., INC.

TOROIDAL INDUCTORS

Using the latest developments in the field of magnetic materials and new impregnation and molding techniques the Freed Transformer Co. makes available to the industry the most extensive line of toroidal inductors.

Freed toroids are available in three types of constructions. Open units coated with a special high temperature extremely low loss compound, hermetically sealed in metal cases or molded in special **Freed Epoxy Resin.** Both hermetically sealed and molded units meet the latest military specification MIL-T-27A(graded 1 or 4 and 2 or 5 respectively.)Freed toroidal inductors are supplied with either molypermalloy or carbonyl iron powder cores

1. Temperature Stabilization:

The molypermalloy and carbonyl iron powder cores have a temperature coefficient of inductance. Depending on the degree of temperature stabilization the cores have different temperature coefficients. The degree of stabilization is denoted by a two-letter code.

SF Non-stabilized cores, ±2½% inductance variations from —55°C to +85°C.
SN Non-stabilized cores, +2% inductance variations from —55°C to +85°C.
SE Temperature stabilized cores, +0.1% to —0.4% inductance variations from —1.5°C to +54°C.
SB Temperature stabilized cores, ±0.1% inductance variations from +13°C to +35°C.
SD Temperature stabilized cores, ±0.1% inductance variations from —1.5°C to +54°C.
SW Temperature stabilized cores, ±0.25% inductance variations from —54°C to +85°C.
SM Temperature stabilized cores, ±.25% —65°C to +125°C.
SP Temperature stable carbonyl iron cores, ±0.3% inductance variations from —55°C to +85°C.

The temperature (stabilization) coefficient of an inductor will depend upon the nominal inductance value, operating frequency and A.C. voltage across the coil. Under some unfavorable working conditions the temperature coefficient of inductance corresponding to a given stability characteristic may be exceeded.

Toroids with special requirements such as tapped toroids, toroidal transformers, molded and cased units with dimensions other than standard sizes and high temperature toroids can be supplied on request. Our engineering and laboratory facilities are available for consultation, research and development.

TOROIDAL INDUCTORS

Type	Ω/H	Max. Norm. Idc	Max. Norm. Iac	Max. Norm. Vac	Uncased	Mold	Case	Frequency
TI- 1	70	55	73.5	0.46	OS-8	MR-6	DT-3, DT-5	1–15 KHz
TI- 1A	68	75	90.5	0.57	OS-9	MR-7	DT-4	1–15 KHz
TI- 2	160	90	135	0.85	OS-6	MR-5	DT-3, DT-5	10–50 KHz
TI- 3	600	100	67	0.42	OS-6	MR-5	DT-3, DT-5	50–200 KHz
TI- 3A	310	150	240	1.5	OS-10	MR-8	DT-4	50–200 KHz
TI- 4	110	55	67	0.42	OS-5	MR-4	DT-2, DM-11	1–15 KHz
TI- 5	260	28	35	0.22	OS-3	MR-3	DT-1, DM-2	1–15 KHz
TI- 6	230	75	125	0.80	OS-10	MR-8	DT-4	10–50 KHz
TI- 7	480	40	53	0.33	OS-3	MR-3	DT-1, DM-2	10–50 KHz
TI- 8	1,500	50	80	0.5	OS-3	MR-3	DT-1, DM-2	30–75 KHz
TI- 9	150	200	240	1.5	OS-10	MR-3	DT-4	30–75 KHz
TI-10	430	125	270	1.7	OS-7	MR-5	DT-3, DT-5	30–75 KHz
TI-11	30	120	190	1.2	OS-11	MR-10	DT-4	1–15 KHz
TI-12	45	100	160	1	OS-9	MR-8	DT-4	1–15 KHz
TI-13	55	140	175	1.1	OS-9	MR-8	DT-4	10–50 KHz
TI-14	580	150	—	—	OS-5	MR-4	DT-2, DM-11	10–100 KHz
TI-15	900	100	—	—	OS-3	MR-3	DT-1, DM-2	10–100 KHz
TI-16	600	16	21	0.13	OS-1	MR-1, MS-1	DST-1	1–15 KHz
TI-17	1,200	20	29	0.18	OS-1	MR-1, MS-1	DST-1	10–50 KHz
TI-18	2,600	30	40	0.25	OS-1	MR-1, MS-1	DST-1	30–75 KHz
TI-19	4,500	25	29	0.18	OS-1	MR-1, MS-1	DST-1	50–200 KHz
TI-20	2,750	100	*	*	OS-4	MR-3A	DT-2	20KHz–2MHz
TI-21	1,200	350	*	*	OS-1	MR-1, MS-1	DT-1	100KH –10MHz
TI-22	5,600	210	*	*	OS-2	MR-2	DT-1	50KHz–5MHz
TI-23	7,000	250	*	*	OS-2	MR-2	DT-1	50KHz–5MHz
TI-24	330	15	18	0.11	OS-1	MR-1, MS-1	DST-1	200Hz–12KHz
TI-25	200	20	24	0.15	OS-12	MR-2	DT-1	200Hz–12KHz
TI-26	150	25	32	0.20	OS-3	MR-3	DT-1, DM-3	200Hz–12KHz
TI-27	76.5	50	62	0.39	OS-5	MR-4	DT-2, DM-11	200Hz–12KHz
TI-28	48.5	50	64	0.40	OS-8	MR-6	DT-3, DT-5	200Hz–12KHz
TI-29	33.5	70	88	0.55	OS-9	MR-7	DT-4	200Hz–12KHz
TI-30	28	100	135	0.84	OS-9	MR-8	DT-4	200Hz–12KHz
TI-31	19.5	100	136	0.85	OS-11	MR-10	DT-4	200Hz–12KHz
TI-32	48.5	6	14.5	0.09	OS-3	MR-3	DT-1, DM-2	100Hz–10KHz
TI-33	2,150	8	13	0.08	OS-13	MR-11	DT-6	1–15 KHz
TI-34	1,700	8	9.5	0.06	OS-14	MR-11	DT-6	1–15 KHz
TI-35	4,100	10	18	0.11	OS-13	MR-11	DT-6	10–50 KHz
TI-36	3,950	10	11	0.07	OS-14	MR-11	DT-6	10–50 KHz
TI-37	23.5	10	32	0.20	OS-5	MR-14	DT-2, DM-11	100Hz–10KHz
TI-38	100	4	9.5	0.06	OS-1	MR-1, MS-1	DST-1	100Hz–10KHz

*TI-20 through TI-23 have a very low voltage coefficient and inductance will change very little with voltage. Because of high frequency application, the maximum voltage is limited rather by breakdown than by saturation.

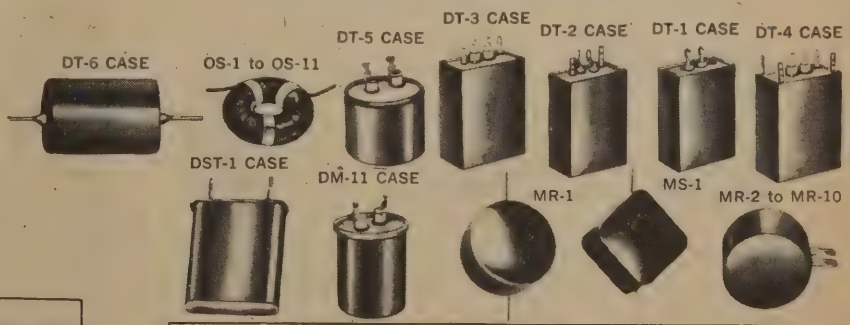
$$\text{Normalized } V_{AC} = \frac{V}{F}\,\frac{1}{\sqrt{L_H}}$$

$$\text{Normalized } I_{AC} = I_{AC}\sqrt{L_H}$$

$$\text{Normalized } I_{DC} = I_{DC}\sqrt{L_H}$$

where F —operating frequency in Hz
L_H —inductance in henries
Iac—A.C. current in MA
Idc—D.C. current in MA
V —A.C. voltage across the core

CASED, UNCASED AND MOLDED UNITS



UNCASED

Type	O.D.	Hi.
OS-1	5/16"	5/16"
OS-2	7/8"	3/8"
OS-3	1"	3/8"
OS-4	1"	9/16"
OS-5	1 3/16"	5/8"
OS-6	1 3/4"	7/8"
OS-7	1 11/16"	5/8"
OS-8	1 7/8"	11/16"
OS-9	2 1/4"	1 1/8"
OS-10	2 3/8"	1 1/4"
OS-11	2 3/8"	1 1/8"
OS-12	13/16"	3/8"
OS-13	3/8"	1/4"
OS-14	7/16"	7/32"

MOLDED

Type	O.D.	Hi.	Clearance Hole Mounting
MR-1	7/8"	13/32"	Pig Tails
MR-2	1 1/16"	1/2"	No. 4
MR-3	1 3/16"	1/2"	No. 6
MR-3A	1 3/16"	11/16"	No. 6
MR-4	1 1/2"	3/4"	No. 8
MR-5	1 7/8"	1"	No. 8
MR-6	2 1/8"	7/8"	No. 8
MR-7	2 3/8"	1 5/16"	No. 10
MR-8	2 1/2"	1 3/8"	No. 10
MR-9	2 5/8"	1 7/16"	No. 10
MR-10	2 7/8"	1 3/8"	No. 10
MR-11	7/16"	1/4"	Pig Tails
MS-1	25/32" x 25/32"	13/32"	Pig Tails

CASED

Type	Hi.	Dia.	Length	Width	Mtg.	Mtg. Cen.	Cutout
DT-1	1 7/32"		1 1/16"	1/2"	2 4-40 inserts	3/4"	5/16" x 1/2"
DT-2	1 3/4"		1 7/16"	13/16"	2 6-32 studs	7/8" x 5/32"	3/8" x 11/16"
DT-3	2"		1 25/32"	7/8"	2 6-32 studs	1 1/4" x 3/8"	3/8" x 3/4"
DT-4	3 1/8"		2 3/4"	1 5/16"	4 8-32 studs	2 1/16" x 1 1/16"	3/4" x 3/8"
DT-5	1 3/16"	1 13/16"			2 6-32 inserts	1 1/8"	3/8" x 1"
DT-6	5/16"	1/2"			Pig Tails		
DM-2	1"	1 1/4"			2 4-40 inserts	5/8"	3/8" x 7/8"
DM-11	1 1/2"	1 3/8"			2 6-32 inserts	7/8"	3/4" x 7/8"
DST-1	25/32"		3/4"	11/32"	1/4" long pins	To fit 1/2" crystal socket	

FREED TRANSFORMER COMPANY. INC.

FREED TRANSFORMER CO., INC.

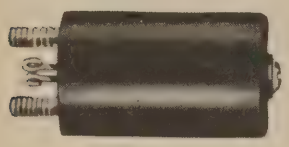
HIGH "Q" REACTORS

MINIATURE VARIABLE HIGH FREQUENCY INDUCTORS

- Continuous variation of inductance
- Q practically constant over whole range of variation
- Hermetically sealed
- Inductances other than those listed can be supplied to special order

Catalog No.	Test Freq. (MC)	Inductance Min.	Inductance Max.	Variations of Q @ L Min.	Variations of Q @ L Max.	RDC (Ω) Nominal	Self Res. Freq. MHZ @ L Max.	Max. Non Destruct Current (MA)	Case Size
VHI-1	.1	1.1 MH	1.75 MH	93.5	100.5	.75	2.2	250	VI-1
VHI-2	.1	1.7 MH	2.5 MH	94.5	96.5	1.1	1.9	200	VI-1
VHI-3	.1	2.3 MH	3.7 MH	94.5	97.2	1.4	1.6	200	VI-1
VHI-4	.1	3. MH	4.5 MH	100.7	101.7	1.9	1.4	160	VI-1
VHI-5	.1	4. MH	5.7 MH	107.	108.	2.2	1.3	160	VI-1
VHI-6	.1	5.5 MH	7.5 MH	112.	119.	3.1	1.	130	VI-1
VHI-7	.1	7. MH	10.5 MH	116.	120.5	4.5	.9	100	VI-1
VHI-8	.1	10. MH	15. MH	106.	109.	6.6	.85	80	VI-1
VHI-9	.1	14.5 MH	20.5 MH	101.	101.5	9.2	.6	60	VI-1
VHI-10	.1	20. MH	30. MH	105.	115.	13.7	.55	50	VI-1
VHI-11	1.	9.50 μH	11.0 μH	104.	114.	.24	>10	150	VI-1
VHI-12	1.	14.0 μH	15.6 μH	113.	127.	.29	>10	150	VI-1
VHI-13	1.	24.5 μH	28.0 μH	145.	156.	.37	>10	150	VI-1
VHI-14	1.	47.0 μH	52.0 μH	178.	195.	.46	>10	150	VI-1
VHI-15	.5	71.0 μH	79.5 μH	152.	168.	.56	>10	150	VI-1
VHI-16	.5	94.0 μH	105.0 μH	165.	173.	.64	>10	150	VI-1
VHI-17	.5	145.0 μH	165.0 μH	200.	222.	.75	9.7	150	VI-1
VHI-18	.5	191.0 μH	218.0 μH	204.	229.	.9	9.4	150	VI-1
VHI-19	.5	234.0 μH	265.0 μH	216.	238.	1.0	8.3	150	VI-1
VHI-20	.5	279.0 μH	318.0 μH	219.	236.	1.1	7.	150	VI-1
VHI-21	.5	380.0 μH	416.0 μH	216.	230.	1.3	6.5	150	VI-1
VHI-22	.5	480.0 μH	545.0 μH	220.	237.	1.5	7.	150	VI-1

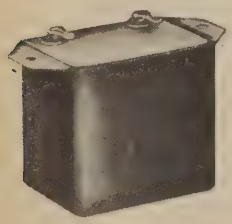
CASE DIMENSIONS



VI-1
Height: 1"
Diameter: ¾"
2 Studs: 4-40
Mtg. Cen.: ⅜"

PQC– HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.



CASE DIMENSIONS
DM-02 CASE
Height: 1 21/32"
Width: 1 21/32"
Depth: 1 13/32"
Flange L: 2 3/8"
Mtg. Cen.: 2"

Catalog No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (MF)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	15 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	15 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	15 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	15 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	15 @ 4 KC		DM-02

QGC–HIGH "Q" REACTORS

QGC—are hermetically sealed, MIL-T-27, Grade 4, Class R, High Q Reactors for low audio frequency application with an excellent inductance stability with variations of A.C. and D.C. currents, frequencies and temperatures.

SPECIAL REACTORS:
(1) with a center tap
(2) with a split winding
(3) with inductances other than those listed can be supplied.



DC-2A CASE
Height: 3"
Width: 2 5/16"
Depth: 2 1/4"
Mtg. Cen.: 2" x 1 3/4"
Studs: 4 8-32
Knockout: 1 1/2" x 1 3/4"



AJ CASE
Height: 2 3/4"
Width: 1 5/8"
Depth: 1 5/8"
Mtg. Cen: 1 3/16" x 1 3/16"
Studs: 4 6-32



AH CASE
Height: 1 3/4"
Width: 1 5/16"
Depth: 1 5/16"
Mtg. Cen.: 1 1/4"
Studs: 2 6-32



DM-20 CASE
Height: 1 3/4"
Diameter: 1 5/16"
Flange L: 1 13/32"
Flange D: 0.975"
Mtg. Cen.: 1 1/8" x 1 13/32"
2 Slots: .166" x .120"
Knockouts: .875"



DM-30 CASE
Height: 2 13/32"
Diameter: 1 13/16"
Flange L: 1 13/32"
Flange D: 0.975"
Mtg. Cen.: 1 1/8" to 1 13/32"
2 Slots: .166" x .120"
Knockouts: .875"



DM-40 CASE
Height: 2 1/32"
Diameter: 2 5/16"
Pig Tails:

Catalog No.	Ind. H (±2%)	Q/H Max.	Max. Norm DC*	Max. Norm AC**	Self Res. Freq. ±25%	Case	"Q" Max.	@ Freq.
QGC-1	100						40	250
QGC-2	75						48	280
QGC-3	50						51	300
QGC-4	25	20	85	0.58	$F_O = 22/\sqrt{L_H}$	DC-2A	53	320
QGC-5	10						58	350
QGC-6	5						59	400
QGC-7	1						60	400
QGC-8	75						32	600
QGC-9	50						37	600
QGC-10	25						39	700
QGC-11	10	55	60	0.5	$F_O = 7.2/\sqrt{L_H}$	AJ	43	700
QGC-12	5						46	700
QGC-13	1						53	800
QGC-14	50						29.5	500
QGC-15	25						31.5	500
QGC-16	10	70	40	0.25	$F_O = 35/\sqrt{L_H}$	AH	32	600
QGC-17	5						33	600
QGC-18	1						36	700
QGC-19	10						23	700
QGC-20	7.5						23	730
QGC-21	5	110	15	0.15	$F_O = 34/\sqrt{L_H}$	DM-20	24	730
QGC-22	2.5						24	750
QGC-23	1						25	750
QGC-24	.5						25	750
QGC-25	5						23	1500
QGC-26	2.5						23	1550
QGC-27	1						24	1600
QGC-28	.75	220	13	0.11	$F_O = 35/\sqrt{L_H}$	DM-30	24	1650
QGC-29	.5						24	1700
QGC-30	.2						25	1750
QGC-31	.1						25	1800
QGC-32	2						15	1500
QGC-33	1.5						15	1500
QGC-34	1						15	1800
QGC-35	.75						15	1800
QGC-36	.5						16	2000
QGC-37	.25	500	10	0.04	$F_O = 45/\sqrt{L_H}$	DM-40	16	2000
QGC-38	.1						16	2000
QGC-39	.075						17	2200
QGC-40	.05						17	2200
QGC-41	.025						17	2500
QGC-42	.01						17	2500

*Max. Norm. D.C. = I D.C. (MA) $\sqrt{L_H}$ } at which the inductance
**Max. Norm. A.C. = V/F ~ $\sqrt{L_H}$ } will decrease by 20%.

© United Technical Publications

FREED TRANSFORMER CO., INC.



HIGH "Q" INDUCTORS



FREQUENCY RANGE: 1 KHz to 30 KHz

MIL-T-27: TF4(OR 5)RX

TYPE		PFL 1	PFL 2	PFL 3	PFL 4	PFL 5	PFL 6	PFL 7	PFL 8
Size	Dia.	21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	2"
	H'ght	15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	1-1/2
Typical "Q"	Ind.	1.5 MH	2.7 MH	3.9 MH	10 MH	22 MH	39 MH	68 MH	180 MH
	Freq.	250KHz	200KHz	180KHz	50KHz	35KHz	15KHz	10KHz	5KHz
	"Q"	300	350	300	400	400	450	380	300
Inductance		Catalog Number							
1.0	MH	F5000	F5050	F5100	F5150	F5200	F5250	F5300	F5400
1.2	MH	F5001	F5051	F5101	F5151	F5201	F5251	F5301	F5401
1.5	MH	F5002	F5052	F5102	F5152	F5202	F5252	F5302	F5402
1.8	MH	F5003	F5053	F5103	F5153	F5203	F5253	F5303	F5403
2.2	MH	F5004	F5054	F5104	F5154	F5204	F5254	F5304	F5404
2.7	MH	F5005	F5055	F5105	F5155	F5205	F5255	F5305	F5405
3.3	MH	F5006	F5056	F5106	F5156	F5206	F5256	F5306	F5406
3.9	MH	F5007	F5057	F5107	F5157	F5207	F5257	F5307	F5407
4.7	MH	F5008	F5058	F5108	F5158	F5208	F5258	F3308	F5408
5.6	MH	F5009	F5059	F5109	F5159	F5209	F5259	F5309	F5409
6.8	MH	F5010	F5060	F5110	F5160	F5210	F5260	F5310	F5410
8.2	MH	F5011	F5061	F5111	F5161	F5211	F5261	F5311	F5411
10	MH	F5012	F5062	F5112	F5162	F5212	F5262	F5312	F5412
12	MH	F5013	F5063	F5113	F5163	F5213	F5263	F5313	F5413
15	MH	F5014	F5064	F5114	F5164	F5214	F5264	F5314	F5414
18	MH	F5015	F5065	F5115	F5165	F5215	F5265	F5315	F5415
22	MH	F5016	F5066	F5116	F5166	F5216	F5266	F5316	F5416
27	MH	F5017	F5067	F5117	F5167	F5217	F5267	F5317	F5417
33	MH	F5018	F5068	F5118	F5168	F5218	F5268	F5318	F5418
39	MH		F5069	F5119	F5169	F5219	F5269	F5319	F5419
47	MH		F5070	F5120	F5170	F5220	F5270	F5320	F5420
56	MH		F5071	F5121	F5171	F5221	F5271	F5321	F5421
68	MH		F5072	F5122	F5172	F5222	F5272	F5322	F5422
82	MH		F5073	F5123	F5173	F5223	F5273	F5323	F5423
100	MH		F5074	F5124	F5174	F5224	F5274	F5324	F5424
120	MH		F5075	F5125	F5175	F5225	F5275	F5325	F5425
150	MH		F5076	F5126	F5176	F5226	F5276	F5326	F5426
180	MH		F5077	F5127	F5177	F5227	F5277	F5327	F5427
220	MH		F5078	F5128	F5178	F5228	F5278	F5328	F5428
270	MH		F5079	F5129	F5179	F5229	F5279	F5329	F5429
330	MH			F5130	F5180	F5230	F5280	F5330	F5430
390	MH			F5131	F5181	F5231	F5281	F5331	F5431
470	MH			F5132	F5182	F5232	F5282	F5332	F5432
560	MH			F5133	F5183	F5233	F5283	F5333	F5433
680	MH				F5184	F5234	F5284	F5334	F5434
820	MH				F5185	F5235	F5285	F5335	F5435
1.0	H				F5186	F5236	F5286	F5336	F5436
1.2	H				F5187	F5237	F5287	F5337	F5437
1.5	H				F5188	F5238	F5288	F5338	F5438
1.8	H				F5189	F5239	F5289	F5339	F5439
2.2	H				F5190	F5240	F5290	F5340	F5440
2.7	H					F5241	F5291	F5341	F5441
3.3	H					F5242	F5292	F5342	F5442
3.9	H					F5243	F5293	F5343	F5443
4.7	H					F5244	F5294	F5344	F5444
5.6	H					F5245	F5295	F5345	F5445
6.8	H						F5296	F5346	F5446
8.2	H						F5297	F5347	F5447
10	H						F5298	F5348	F5448
12	H							F5349	F5449
15	H							F5350	F5450
18	H							F5351	F5451
22	H							F5352	F5452
27	H								F5453
33	H								F5454

FREQUENCY RANGE: 200 KHz to 2,500 KHz

MIL-T-27: TF4(OR 5)RX

TYPE		PFM 1	PFM 2	PFM 3	PFM 4	PFM 5	PFM 6	PFM 7	PFM 8
Size	Dia.	21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	
	H'ght	15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	
Typical "Q"	Ind.	56 μH	68 μH	100 μH	150 μH	270 μH	680 μH	2.2 MH	
	Freq.	1 MHz	400KHz	400KHz	250KHz	200KHz	150KHz	100KHz	
	"Q"	300	300	400	500	700	650	750	
Inductance		Catalog Number							
15	μH	F5500	F5550	F5600	F5650	F5700	F5750	F5800	
18	μH	F5501	F5551	F5601	F5651	F5701	F5751	F5801	
22	μH	F5502	F5552	F5602	F5652	F5702	F5752	F5802	
27	μH	F5503	F5553	F5603	F5653	F5703	F5753	F5803	
33	μH	F5504	F5554	F5604	F5654	F5704	F5754	F5804	
39	μH	F5505	F5555	F5605	F5655	F5705	F5755	F5805	
47	μH	F5506	F5556	F5606	F5656	F5706	F5756	F5806	
56	μH	F5507	F5557	F5607	F5657	F5707	F5757	F5807	
68	μH	F5508	F5558	F5608	F5658	F5708	F5758	F5808	
82	μH	F5509	F5559	F5609	F5659	F5709	F5759	F5809	
100	μH	F5510	F5560	F5610	F5660	F5710	F5760	F5810	
120	μH	F5511	F5561	F5611	F5661	F5711	F5761	F5811	
150	μH	F5512	F5562	F5612	F5662	F5712	F5762	F5812	
180	μH	F5513	F5563	F5613	F5663	F5713	F5763	F5713	
220	μH	F5514	F5564	F5614	F5664	F5714	F5764	F5814	
270	μH	F5515	F5565	F5615	F5665	F5715	F5765	F5815	
330	μH	F5516	F5566	F5616	F5666	F5716	F5766	F5816	
390	μH	F5517	F5567	F5617	F5667	F5717	F5767	F5817	
470	μH	F5518	F5568	F5618	F5668	F5718	F5768	F5818	
560	μH	F5519	F5569	F5619	F5669	F5719	F5769	F5819	
680	μH	F5520	F5570	F5620	F5670	F5720	F5770	F5820	
820	μH	F5521	F5571	F5621	F5671	F5721	F5771	F5821	
1.0	MH	F5522	F5572	F5622	F5672	F5722	F5772	F5822	
1.2	MH	F5523	F5573	F5623	F5673	F5723	F5773	F5823	
1.5	MH	F5524	F5574	F5624	F5674	F5724	F5774	F5824	
1.8	MH	F5525	F5575	F5625	F5675	F5725	F5775	F5825	
2.2	MH	F5526	F5576	F5626	F5676	F5726	F5776	F5826	
2.7	MH	F5527	F5577	F5627	F5677	F5727	F5777	F5827	
3.3	MH	F5528	F5578	F5628	F5678	F5728	F5778	F5828	
3.9	MH	F5529	F5579	F5629	F5679	F5729	F5779	F5829	
4.7	MH	F5530	F5580	F5630	F5680	F5730	F5780	F5830	
5.6	MH	F5531	F5581	F5631	F5681	F5731	F5781	F5831	
6.8	MH	F5532	F5582	F5632	F5682	F5732	F5782	F5832	
8.2	MH	F5533	F5583	F5633	F5683	F5733	F5783	F5733	
10.0	MH	F5534	F5584	F5634	F5684	F5734	F5784	F5834	
12.0	MH	F5535	F5585	F5635	F5685	F5735	F5785	F5835	
15.0	MH	F5536	F5586	F5636	F5686	F5736	F5786	F5836	
18.0	MH	F5537	F5587	F5637	F5687	F5737	F5787	F5837	
22.0	MH		F5588	F5638	F5688	F5738	F5788	F5838	
27.0	MH		F5589	F5639	F5689	F5739	F5789	F5839	
33.0	MH		F5590	F5640	F5690	F5740	F5790	F5840	
39.0	MH		F5591	F5641	F5691	F5741	F5791	F5841	
47.0	MH		F5592	F5642	F5692	F5742	F5792	F5842	
56.0	MH			F5643	F5693	F5743	F5793	F5843	
68.0	MH			F5644	F5694	F5744	F5794	F5844	
82.0	MH				F5695	F5745	F5795	F5845	
100.0	MH						F5796	F5846	

FREED TRANSFORMER CO., INC.

COMMERCIAL GRADE COMPONENTS

These components are designed to meet the demand for low-cost replacement parts for commercial electronic equipment.

The best commercially available materials have been utilized in the design of these units, to insure reliability and excellent performance characteristics. Vacuum impregnation with a non-hygroscopic varnish to prevent penetration of humidity are employed to give these units long life and trouble-free performance.

230-115 V, 50-60 C.P.S. Stepdown Transformers rated from 25 V A up to 5,000 V A Rating and line booster transformers are included in this series.

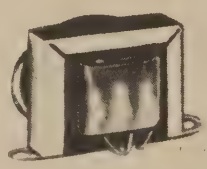
All units, with only a few exceptions, are uncased or of shell-type construction.

Isolation transformers and Stepdown transformers are equipped with line cord and receptacle.

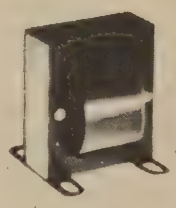


DC

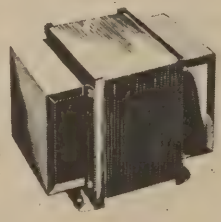
Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
DC2B	3 1/2	2 5/8	2 1/4	2x1 3/4	(4)8-32
DC4A	3 3/4	3 1/8	3	2 1/2x2 1/2	(4)8-32
DC5C	4 7/8	4 1/8	3 1/2	3 1/8x2 5/8	(4)10-32
DC6A	4 7/8	5	4 1/8	3 3/4x3	(4)10-32
CH40	1 7/16	2 3/8	1 3/16	2	(2) 3/16
CH50	1 11/16	2 13/16	1 3/4	2 3/8	(2) 3/16
CH60	2	3 1/4	1 3/4	2 13/16	(2) 3/16
CH62	2	3 1/4	2 1/8	2 13/16	(2) 3/16
CH70	2 5/16	3 11/16	2 1/4	3 1/8	(2) 3/16
CH80	2 5/8	4	2 5/8	3 5/16	(2) 3/16
FV10	3 1/16	2 1/2	2 9/16	2x2	(4) 13/64x21/64
FV12	3 1/16	2 1/2	2 11/16	2x2 1/8	(4) 13/64x21/64
FV22	3 7/16	2 13/16	2 7/8	2 1/4x2 1/4	(4) 3/16x3/8
FV30	4 1/32	3 1/8	3	2 1/2x2 1/4	(4) 13/64x21/64
HB718	6 1/4	6 1/2	8 1/2	4 3/4x4 1/2	(4) 9/32x21/32
HB728	6 1/4	6 1/2	9 3/4	4 3/4x5 3/4	(4) 9/32x21/32
HB828	6 5/8	7 5/16	9 7/8	5 5/8x5 3/4	(4) 9/32x21/32
HB920	6 5/8	7 7/8	10 1/4	6 1/2x7 5/16	(4) 9/32x21/32
HS300	2 5/8	3	2 1/2	2 1/2x2	(4) 3/16x3/8
HS303	2 7/8	3	2 1/2	2 1/2x2	(4) 3/16x3/8
HS306	3 1/4	3	2 1/2	2 1/2x2	(4) 3/16x3/8
HS307	3 3/8	3	2 1/2	2 1/2x2	(4) 3/16x3/8
HS503	3 1/2	3 3/4	3 1/8	3 1/8x2 1/2	(4) 3/16x3/8
HS505	3 3/4	3 3/4	3 1/8	3 1/8x2 1/2	(4) 3/16x3/8
HS603	3 3/4	4 1/2	3 3/4	3 3/4x3	(4) 3/16x3/8
HS605	4	4 1/2	3 3/4	3 3/4x3	(4) 3/16x3/8
HS606	4 5/16	4 1/2	3 3/4	3 3/4x3	(4) 3/16x3/8
HS610	4 5/8	4 1/2	3 3/4	3 3/4x3	(4) 3/16x3/8
HS612	4 7/8	4 1/2	3 3/4	3 3/4x3	(4) 3/16x3/8
HS708	5 7/8	5 1/4	4 3/8	4 3/8x3 1/2	(4) 9/32x21/32
HS709	6	5 1/4	4 3/8	4 3/8x3 1/2	(4) 9/32x21/32
VS100	2 11/32	1 7/8	2 1/4	1 1/2x1 7/16	(4) 3/16x3/8
VS300	3 5/32	2 5/8	2 3/4	2x1 11/16	(4) 3/16x3/8
VS303	3 5/32	2 5/8	3	2x1 15/16	(4) 3/16x3/8
VS304	3 29/32	4 1/4	3 1/4	2 1/2x3	(4) 3/16x 3/8
VS306	3 5/32	2 5/8	3 3/8	2x2 1/16	(4) 3/16x3/8
VS307	3 5/32	2 5/8	3 1/2	2x2 7/16	(4) 3/16x3/8
VS401	3 9/16	2 13/16	3 1/4	2 1/4x1 15/16	(4) 3/16x3/8
VS501	3 29/32	3 1/4	3 3/8	2 1/2x2 1/16	(4) 3/16x3/8
VS503	3 29/32	3 1/4	3 5/8	2 1/2x2 5/16	(4) 3/16x3/8
VS505	3 29/32	3 1/4	3 7/8	2 1/2x2 5/8	(4) 3/16x3/8
VS506	3 29/32	3 1/4	4 1/4	2 1/4x3	(4) 3/16x3/8
VS508	3 5/8	2 5/8	3 1/8	2x2 1/8	(4) 3/16x3/8
VS601	4 21/32	3 7/8	3 5/8	3x2 7/16	(4) 3/16x3/8
VS603	4 21/32	3 7/8	3 7/8	3x2 11/16	(4) 3/16x3/8
VS604	4 21/32	3 7/8	4	3x2 7/8	(4) 3/16x3/8
VS605	4 21/32	3 7/8	4 1/8	3x2 15/16	(4) 3/16x3/8
VS606	4 21/32	3 7/8	4 1/4	3x3 1/8	(4) 3/16x3/8
VS610	4 21/32	3 7/8	4 3/4	3x3 5/16	(4) 3/16x3/8
VS611	4 21/32	3 7/8	4 7/8	3x3 11/16	(4) 3/16x3/8
VS612	4 21/32	3 7/8	5	3x3 13/16	(4) 3/16x3/8
VS700	5 7/16	3 7/8	5	3 1/2x3 1/4	(4) 3/16x3/8
VS706	5 7/16	4 5/16	5 1/2	3 1/2x3 3/4	(4) 3/16x3/8
VS708	5 7/16	4 5/16	5 3/4	3 1/2x4	(4) 9/32x21/32
VS709	5 7/16	4 5/16	5 7/8	3 1/2x4 1/8	(4) 9/32x21/32
VS714	5 7/16	4 5/16	6 1/2	3 1/2x4 3/4	(4) 3/16x3/8
VS718	5 7/16	4 5/16	7	3 1/2x5 1/4	(4) 9/32x21/32
VS728	5 7/16	4 5/16	8 1/4	3 1/2x6 1/2	(4) 3/16x3/8



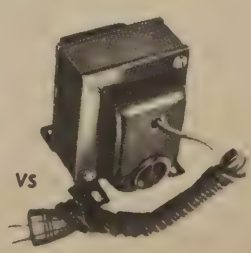
CH



FV



HB



VS

COMMERCIAL GRADE CHOKES

Catalog No	Inductance in Henries	Rated Current D C Ma	D C Resistance	Dielectric Test Voltage	Case Number
RGC 17	10	15	2000	1000	CH 40
RGC 1	4	40	200	1000	CH 40
RGC 2	9	40	400	1000	CH 40
RGC 3	6	50	400	1000	CH 40
RGC 18	20	50	475	1500	CH 60
RGC 4	10	55	400	1500	CH 50
RGC 19	3	75	200	1500	CH 40
RGC 5	10	75	250	1500	CH 60
RGC 6	10	75	250	1500	VS 100
RGC 7	6	100	150	1500	CH 60
RGC 8	6	100	150	1500	VS 100
RGC 9	15	150	100	1500	CH 60
RGC 10	15	150	100	1500	VS 100
RGC 20	12	160	180	2500	VS 306
RGC 11	2	200	60	1500	CH 60
RGC 12	2	200	60	1500	VS 100
RGC 13	3.7	200	65	1500	CH 80
RGC 21	7	200	100	2500	VS 303
RGC 14	3.7	200	65	1500	VS 300
RGC 15	2.8	300	65	1500	CH 80
RGC 16	2.8	300	65	1500	VS 300
RGC 22	5	300	65	2500	VS 308

FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

Catalog No.	Secondary Voltage	Secondary Current Amps	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2B
TF 4	2.5 (C.T.)	10	7500	DC4A
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6A
TF 11	6.3 (C.T.)	1.35	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	5	1500	CH70
TF 14	6.3 (C.T.)	7	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	10 (C.T.) or 11 (C.T.) (tapped primary)	12 or 11	7500	DC-5C
TF 19	12.6 (C.T.)	2	1500	CH62

TF 3, 4, 10 & 18 supplied with terminals. All others with leads.

AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

Catalog No.	Transformation	VA Rating	Weight (lbs.)	Case Size
SDT 1*	230/115 V. 50/60 c.p.s.	25	1	CH-60
SDT 2*	230/115 V. 50/60 c.p.s.	50	1 1/4	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	2 1/2	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	3	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	5	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	6 1/2	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	8	VS-604
SDT 8	230/115 V. 50/60 c.p.s.	500	11	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	15	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	23	VS-718
SDT 11	230/115 V. 50/60 c.p.s.	1500	29 1/2	VS-728
SDT 12*	230/115 V. 50/60 c.p.s.	2000	37	HB-718
SDT 13*	230/115 V. 50/60 c.p.s.	2500	47	HB-728
SDT 14*	230/115 V. 50/60 c.p.s.	3000	58	HB-828
SDT 15*	230/115 V. 50/60 c.p.s.	5000	72	HB-920

*Supplied with leads without line cord and receptacle.

ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Catalog Number	Primary Voltage 50/60 c.p.s.	Secondary Voltage	VA Rating	Case Size
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-503
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714
IT 5*	220/440	110/220	250	VS-612
IT 6*	220/440	110/220	500	VS-714

*Supplied with leads without line cords and receptacle.

FREED TRANSFORMER CO., INC.

PRICE LIST

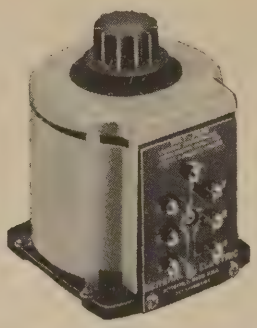
Catalog No.	Page No.	Net Price
EPT-1	1164	10.05
EPT-2		10.05
EPT-3		10.05
EPT-4		10.05
EPT-5		10.05
EPT-6		10.05
EPT-7		10.05
EPT-8		12.65
EPT-8		12.65
EPT-11		10.05
EPT-12		10.05
EPT-13		12.65
EPT-14		12.65
EPT-15		16.10
EPT-16		16.10
EPT-17		15.50
EPT-18		15.50
EPT-19		15.50
Note—Molded Units $1.00 additional.		
IT-1	1170	8.35
IT-2		13.10
IT-3		30.35
IT-4		36.75
IT-5		30.35
IT-6		40.20
MCV-4-5LC	1165	16.10
MCV-4-25LC		23.00
MCV-4-75LC		34.50
MCV-4-125LC		43.70
MCV-4-175LC		51.75
MCV-4-250LC		62.10
MCV-4-375LC		79.35
MCV-4-500LC		97.75
MCV-4-750LC		132.25
MCV-4-1000LC		164.65
MCV-4-5-4FC		16.10
MCV-4-25-4FC		23.00
MCV-4-75-4FC		34.50
MCV-4-125-4FC		43.70
MCV-4-5FC		17.25
MCV-4-25FC		24.15
MCV-4-75FC		35.65
MCV-4-125FC		44.85
MCV-4-5LM		25.30
MCV-4-25LM		32.20
MCV-4-75LM		44.85
MCV-4-125LM		55.20
MCV-4-175LM		63.25
MCV-4-250LM		75.90
MCV-4-375LM		93.15
MCV-4-500LM		115.00
MCV-4-750LM		150.65
MCV-4-1000LM		184.00
MCV-4-5-4FM		25.30
MCV-4-25-4FM		32.20
MCV-4-75-4FM		44.85
MCV-4-125-4FM		55.20
MCV-4-5FM		26.45
MCV-4-25FM		33.35
MCV-4-75FM		46.00
MCV-4-125FM		56.35
MCV-6-5LC		11.00
MCV-6-25LC		17.00
MCV-6-75LC		27.00
MCV-6-125LC		34.00
MCV-6-175LC		41.00
MCV-6-250LC		50.00
MCV-6-375LC		64.00
MCV-6-500LC		76.00
MCV-6-750LC		104.00
MCV-6-1000LC		128.00
MCV-6-5-4FC		11.00
MCV-6-25-4FC		17.00
MCV-6-75-4FC		27.00
MCV-6-125-4FC		34.00
MCV-6-5FC		12.00
MCV-6-25FC		18.00
MCV-6-75FC		28.00
MCV-6-125FC		35.00
MCV-6-5LM		20.00
MCV-6-25LM		26.00
MCV-6-75LM		37.00
MCV-6-125LM		45.00
MCV-6-175LM		53.00
MCV-6-250LM		62.00
MCV-6-375LM		76.00
MCV-6-500LM		90.00
MCV-6-750LM		123.00
MCV-6-1000LM		150.00
MCV-6-5-4FM		20.00
MCV-6-25-4FM		26.00
MCV-6-75-4FM		37.00
MCV-6-125-4FM		45.00
MCV-6-5FM		21.00
MCV-6-25FM		27.00
MCV-6-75FM		38.00
MCV-6-125FM		46.00
MGA-1	1163	15.80
MGA-2		15.25
MGA-3		14.65
MGA-4		14.65
MGA-5		13.40
MGA-6		13.80
MGA-7		13.40
MGA-8		13.80
MGA-9		13.40
MGC-1		9.95
MGC-2		8.20
MGC-3		8.60
MGC-4		9.60
MGC-5		9.95
MGC-6		8.20
MGC-7		8.60
MGC-8		9.80
MGC-9		8.60
MGC-10		9.25
MGC-11		11.50
MGC-12		8.60
MGC-13		9.25
MGC-14		11.50
MGC 15		12 60
MGC-16		9.25
MGC-17		11.50
MGC-18	1163	13.25
MGC-19		16.55
MGC-20		11.50
MGC-21		*
MGC-22		25.90
MGC-23		*
MGC-24		23.80
MGC-25		*
MGC-26		21.15
MGC-27		*
MGC-28		21.15
MGC-29		*
MGC-30		*
MGC-31		*
MGC-32		9.00
MGC-33		9.00
MGC-34		9.00
MGC-35		9.00
MGC-36		9.00
MGC-37		9.00
*Not stocked, available on short delivery. Prices on request.		
MGF-1	1163	15.55
MGF-2		17.25
MGF-3		15.55
MGF-4		20.70
MGF-5		15.55
MGF-6		17.25
MGF-7		22.40
MGF-8		27.60
MGF-9		22.40
MGF-10		25.90
MGP-1	1168	25.50
MGP-2		27.60
MGP-3		30.35
MGP-4		37.95
MGP-5		44.85
MGP-6		24.15
MGP-7		32.80
MGP-8		43.10
MPT-1	1164	20.20
MPT-2		17.25
MPT-3		25.90
MPT-4		23.00
MPT-5		20.20
MPT-6		17.25
MPT-7		20.20
MPT-8		17.25
MPT-9		25.90
MPT-10		23.00
MPT-11		20.20
MPT-12		31.60
MPT-13C		13.40
MPT-13M		17.70
MPT-13H		22.10
MPT-14C		19.45
MPT-14M		24.00
MPT-14H		29.00
MPT-15C		17.95
MPT-15M		22.40
MPT-15H		30.50
MPT-16C		21.70
MPT-16M		26.30
MPT-16H		32.30
MPT-17C		22.40
MPT-17M		26.00
MPT-17H		30.60
MPT-18C		14.70
MPT-18M		19.10
MPT-18C		22.40
MPT-19M		26.00
MPT-19H		26.00
MPT-20C		17.00
MPT-20M		21.40
MPT-20H		27.60
MPT-21C		24.00
MPT-21M		27.00
MPT-21H		27.60
MPT-22C		22.40
MPT-22M		26.00
MPT-22H		30.60
MPT-23C		24.00
MPT-23M		27.10
MPT-23H		29.40
MPT-24C		15.75
MPT-24M		19.30
MPT-25C		16.10
MPT-25M		20.80
MPT-25H		26.60
MPT-26C		24.00
MPT-26M		25.30
MPT-26H		34.50
MPT-27C		23.40
MPT-27M		25.30
MPT-27H		34.50
PMA-1	1162	10.90
PMA-2		8.93
PMA-3		12.58
PMA-4		8.93
PMA-5		8.93
PMA-6		10.90
PMA-7		10.90
PMA-8		10.90
PMA-9		10.90
PMA-10		10.23
PMA-11		7.92
PMA-12		10.90
PMA-13		9.90
PMA-14		11.10
PMA-15		10.90
PQC-1	1168	9.40
PQC-2		9.40
PQC-3		9.40
PQC-4		9.40
PQC-5		9.40
PQC-6		9.40
PQC-7		9.40
PQC-8		9.40
PQC-9		9.40
PTC-12-15	1165	39.50
PTC-12-50		52.50
PTC-12-100		68.50
PTC-12-175		71.50
QGC-1	1168	25.85
QGC-2		25.85
QGC-3		25.85
QGC-4		25.85
QGC-5		25.85
QGC-6		25.85
QGC-7		25.85
QGC-8		15.00
QGC-9		15.00
QGC-10		15.00
QGC-11		15.00
QGC-12		15.00
QGC-13		15.00
QGC-14		13.50
QGC-15		13.50
QGC-16		13.50
QGC-17		13.50
QGC-18		13.50
QGC-19		11.50
QGC-20		11.50
QGC-21		11.50
QGC-22		11.50
QGC-23		11.50
QGC-24		11.50
QGC-25		10.50
QGC-26		10.50
QGC-27		10.50
QGC-28		10.50
QGC-29		10.50
QGC-30		10.50
QGC-31		10.50
QGC-32		10.50
QGC-33		10.50
QGC-34		10.50
QGC-35		10.50
QGC-36		10.50
QGC-37		10.50
QGC-38		10.80
QGC-39		10.50
QGC-40		10.50
QGC-41		10.50
QGC-42		10.50
RGC-1	1170	1.95
RGC-2		1.95
RGC-3		1.95
RGC-4		2.20
RGC-5		2.60
RGC-6		3.90
RGC-7		2.60
RGC-8		3.90
RGC-9		2.60
RGC-10		3.90
RGC-11		2.60
RGC-12		3.90
RGC-13		4.15
RGC-14		5.95
RGC-15		4.15
RGC-16		5.95
RGC-17		2.38
RGC-18		3.00
RGC-19		1.95
RGC-20		6.75
RGC-21		6.75
RGC-22		8.75
RGP-1		7.94
RGP-2		7.94
RGP-3		8.45
RGP-4		8.45
RGP-5		8.45
RGP-6		8.45
RGP-7		9.30
RGP-8		9.30
RGP-9		11.40
RGP-10		11.40
RGP-11		9.30
RGP-12		9.30
RGP-13		11.40
RGP-14		11.40
RGP-15		12.00
RGP-16		12.00
RGP-17		14.09
RGP-18		14.09
RGP-19		14.88
RGP-20		14.88
RGP-21		19.44
RGP-22		19.44
RGP-23		26.16
RGP-24		26.16
RGP-25		31.20
RGP-26		31.20
RGP-27		11.58
RGP-28		11.58
RGP-29		14.09
RGP-30		14.09
RGP-31		20.76
RGP-32		20.76
RGP-33		26.16
RGP-34		26.16
RGP-35		31.20
RGP-36		31.20
SDT-1	1170	2.90
SDT-2		3.35
SDT-3		5.85
SDT-4		7.90
SDT-5		9.90
SDT-6		13.25
SDT-7		14.05
SDT-8		14.85
SDT-9		20.15
SDT-10		25.65
SDT-11		39.70
SDT-12		46.20
SDT-13		60.30
SDT-14		79.20
SDT-15		123.75
TAC-6-50	1165	55.75
TAC-12-50		65.55
TAC-12-90		73.00
TAC-12-175		88.50
TAC-28-50		73.50
TAC-28-100		81.50
TAC-28-175		95.50
TAC-28-250		105.50
TAC-12-100-4		77.50
TAC-28-150-4		81.50
TAC-28-250-4		125.00
TDC-6-15-05	1165	39.50
TDC-12-30-15		51.70
TDC-12-25-12		50.55
TDC-12-30-05		42.50
TDC-12-20-05		39.50
TDC-28-30-15		56.45
TDC-28-25-12		54.80
TDC-28-30-05		45.30
TDC-28-20-05		42.90
TDC-48-20-15		78.50
TDC-48-30-15		82.50
TF-1	1170	3.95
TF-2		5.25
TF-3		13.10
TF-4		16.10
TF-5		3.95
TF-6		5.25
TF-7		5.75
TF-8		6.10
TF-9		10.05
TF-10		20.95
TF-11		2.60
TF-12		3.95
TF-13		5.25
TF-14		6.35
TF-15		7.75
TF-16		5.75
TF-17		8.20
TF-18		20.95
TF-19		4.35
TMA-1	1162	8.25
TMA-2		10.56
TMA-3		8.60
TMA-4		10.90
TMA-5		10.90
TMA-6		10.90
TMA-7		8.90
TMA-8		10.56
TMA-9		8.60
TMA-10		8.25
TMA-11		8.60
TMA-12		10.90
TMA-13		8.25
TMA-14		10.90
TMO-15	60 Hz	4.30
TMO-16		4.30
TMO-17		3.64
TMO-18		4.30
TMA-19		8.25
TNA-1	1162	6.95
TNA-2		6.95
TNA-3		7.38
TNA-4		6.60
TNA-5		6.60
TNA-6		7.38
TNA-7		6.95
TNA-8		6.95
TNA-9		8.15
TNA-10		7.50
TNA-11		7.50
TNA-12		8.15
TNA-13		8.15
TNA-14		8.15
TNA-15		8.25
TNA-16		7.38
TNA-17		7.38
TNA-18		7.38
TNA-19		7.93
TNA-20		7.38
TNA-21		6.60
TNA-22		7.25
TNA-23		6.95
TNA-25		6.95
TNA-26		6.50
TNA-27		7.93
TNA-28		6.38
TNA-29		6.38
TNA-30		6.60
TNA-31		6.38
TNA-32		6.38
TNA-33		6.60
TNA-34		6.95
TNA-35		6.95
TNA-36		6.50
TNA-37		6.50
TNA-38		6.95
TNA-39		7.60
TNA-40		6.95
TNA-41		7.15
TPA-1	1163	8.36
TPA-2		8.36
TPA-3		8.36
TPA-4		8.85
TPA-5		8.36
TPA-6		8.36
TPA-7		8.36
TPA-8		8.85
TPA-9		8.36
TPA-10		8.36
TPA-11		8.85
TPA-12		8.36
TPA-13		8.36
TPA-14		8.85
TPA-15		9.13
TPA-16		9.13
TPA-17		8.60
TPA-18		9.35
TPA-19		8.25
TPA-20		9.13
TPA-21		8.58
TPA-22		9.13
TPA-23		9.13
TPA-24		9.13
TPA-25		9.13
TPA-26		9.13
TPA-27		9.13
TPA-28		9.68
TPA-29		9.68
TPA-30		8.03
TPA-31		8.03
TPA-32		8.03
TPA-33		8.03
TPA-34		8.03
TPA-35		8.03
TPA-36		8.03
TPA-37	1162	8.75
TPA-38		8.03
TPA-39		8.03
TPA-40		8.03
TSA-1	1163	7.15
TSA-2		7.15
TSA-3		7.70
TSA-4		6.93
TSA-5		6.93
TSA-6		7.70
TSA-7		7.15
TSA-8		7.15
TSA-9		7.15
TSA-10		7.70
TSA-11		7.70
TSA-12		8.25
TSA-13		8.25
TSA-14		8.25
TSA-15		8.80
TSA-16		7.70
TSA-17		7.70
TSA-18		7.70
TSA-19		8.25
TSA-20		7.70
TSA-21		7.15
TSA-22		7.42
TSA-23		7.15
TSA-25		7.15
TSA-26		6.60
TSA-27		8.25
TSA-28		6.60
TSA-29		6.60
TSA-30		6.93
TSA-31		6.60
TSA-32		6.60
TSA-33		6.93
TSA-34		7.15
TSA-35		7.15
TSA-36		6.60
TSA-37		6.60
TSA-38		7.15
TSA-39		7.70
TSA-40		7.15
TSA-41		7.42
TST-1	400 Hz	9.00
TST-2		11.25
TST-3		12.50
TST-4		15.00
TST-5		16.25
TST-6		17.50
TST-7		22.50
TST-8		15.00
TST-9		16.25
TST-10		17.50
TST-11		21.25
TST-12		15.00
TST-13		17.50
TST-14		21.25
TST-15		21.88
TST-16		16.25
TST-17		17.50
TST-18		21.88
TST-19		22.50
TST-20		16.25
TST-21		21.25
TST-22		22.50
TST-23		17.50
TST-24		21.88
TST-25		22.50
TST-26		15.00
TST-27		17.50
TST-28		21.88
TST-29		16.25
TST-30		17.50
TST-31		22.50
TST-32		16.25
TST-33		17.50
TST-34		25.00
TST-1	400 Hz	9.00
TST-2		10.00
TST-3		11.25
TST-4		12.50
TST-5		13.75
TST-6		15.00
TST-7		18.75
TST-8		12.50
TST-9		14.38
TST-10		15.00
TST-11		16.25
TST-12		12.50
TST-13		15.00
TST-14		16.25
TST-15		17.50
TST-16		14.38
TST-17		16.25
TST-18		17.50
TST-19		18.75
TST-20		14.38
TST-21		16.25
TST-22		18.75
TST-23		15.00
TST-24		17.50
TST-25		18.75
TST-26		13.75
TST-27		15.00
TST-28		17.50
TST-29		13.75
TST-30		15.63
TST-31		18.75
TST-32		14.38
TST-33		16.25
TST-34		20.00
TTA-1	1162	8.00
TTA-2		7.26
TTA-3		9.46
TTA-4		10.00
TTA-5		9.48
TTA-6		7.26
TTA-7		9.63
TTA-8		9.46
TTA-9		9.76
TTA-10	1162	9.30
TTA-11		9.30
TTA-12		9.35
TTA-13		8.90
TTA-14		10.00
TTA-15		8.90
TTA-16		9.40
TTA-17		8.90
TTA-18		8.90
TTA-19		8.90
TTA-20		8.90
TTA-21		8.90
TTA-22		8.90
TTA-23		9.30
TTA-24		9.30
TTA-25		9.30
TTA-26		9.79
TTA-27		8.90
TTA-28		9.30
TTA-29		9.30
TTA-30		9.30
TTA-31		9.79
TTA-32		9.30
TTA-33		9.79
TTA-34		9.30
TTA-35		9.46
TTA-36		9.46
TTA-37		9.35
TTA-38		10.00
TTA-39		9.20
TTA-40		9.46
TUA-1	1162	6.60
TUA-2		6.60
TUA-3		6.60
TUA-4		6.60
TUA-5		6.60
TUA-6		6.60
TUA-7		6.93
TUA-8		6.93
TUA-9		6.93
TUA-10		7.26
TUA-11		6.93
TUA-12		7.15
TUA-13		5.94
TUA-14		6.93
TUA-15		7.26
TUA-16		6.27
TUA-17		6.27
TUA-18		7.26
TUA-19		6.27
TUA-20		6.27
TUA-21		6.32
TUA-22		6.32
TUA-23		6.60
TUA-24		6.71
TUA-25		6.60
TUA-26		6.60
TUA-27		5.94
TUA-28		6.60
TUA-29		6.60
TUA-30		7.26
TUA-31		8.25
TUA-32		7.26
TUA-33		7.59
TUA-34		7.59
TUA-35		7.59
TUA-36		7.59
TUA-37		7.59
TUA-38		7.59
VCI-12-15	1165	27.50
VCI-12-100		38.50
VHI-1	1168	10.95
VHI-2		10.95
VHI-3		10.95
VHI-4		10.95
VHI-5		10.95
VHI-6		10.95
VHI-7		10.95
VHI-8		10.95
VHI-9		10.95
VHI-10		10.95
VHI-11		10.95
VHI-12		10.95
VHI-13		10.95
VHI-14		10.95
VHI-15		10.95
VHI-16		10.95
VHI-17		10.95
VHI-18		10.95
VHI-19		10.95
VHI-20		10.95
VHI-21		10.95
VHI-22		10.95
Filters & Discriminators		
IBM	1166	25.00
IBP		25.00
IHM		25.00
IHP		25.00
ILM		25.00
ILP		25.00
LBM		25.00
LBP		25.00
LHM		25.00
LHP		25.00
LLM		25.00
LLP		25.00
Special Frequencies are $40.00 Net		
MTN .4 to 7.35	1169	35.00
MTN 10.5 to MTW 70		40.00
F5000-5079		11.75
F5100-5157		13.90
F5158-5190		15.80
F5200-5207		13.90
F5208-5274		15.80
F5275-5298		17.80
F5300-5352		21.50
F5400-5454		27.90
F5500-5617		11.75
F5618-5689		13.90
F5670-5695		15.80
F5700-5722		13.90
F5723-5796		15.80
F5800-5846		21.50

© United Technical Publications

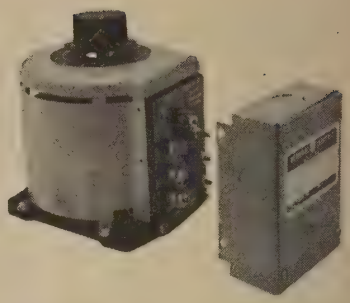
volt-pac® VARIABLE TRANSFORMERS



Manual uncased unit—exposed terminals



Manual cased unit—exposed terminals



Manual cased unit—enclosed terminals

MANUAL — SINGLE-PHASE, 50/60 HERTZ

Line Voltage Connection		No. of Cores &	UNCASED MODELS		CASED MODELS Exposed Terminals (See below For Terminal Enclosure Kit)	
Rated Amp[1]	Max. Amp	Frame Size	Model Number	Suggested Net Price[2]	Model Number	Suggested Net Price[2]
120-VOLT INPUT: OUTPUT—0-120 VOLT (LINE VOLTAGE CONN.) 0-140 VOLT (OVERVOLTAGE CONN.)						
2.5[3]	3.2	1-30	9T92A1	$13.00	.....	.....
4.5	5.8	1-40	9T92A5	19.00	.....	.....
6.5[3][5]	8.0	1-50	9T92A7	22.00	9T92A7G2	$28.00
10.0	11.5	1-60	9T92A9	25.00	9T92A9G2	31.00
12.0[4][6]	14.5	1-60	9T92A10	27.00	9T92A10G2	33.00
15.0[5]	19.0	1-75	9T92Y27	45.00	9T92Y27G2	51.00
18.0[5]	21.7	1-75	9T92Y28	56.00	9T92Y28G2	62.00
30.0[5]	34.0	1-85	9T92Y37	111.00	9T92Y37G2	118.00
37.0[5]	37.0	1-85	9T92Y38	130.00	9T92Y38G2	137.00
50.0[5]	55.0	1-95	9T92Y49	162.00	9T92Y49G2	170.00
60.0	60.0	1-95	9T92Y50	245.00	9T92Y50G2	253.00
74.0[5]	74.0	2-85	9T92Y41	241.20	9T92Y41G2	253.80
100.0	110.0	2-95	9T92Y53	328.50	9T92Y53G2	342.90
120.0	120.0	2-95	9T92Y54	496.80	9T92Y54G2	511.20
150.0	165.0	3-95	9T92Y55	575.10	9T92Y55G2	596.70
180.0	180.0	3-95	9T92Y56	761.40	9T92Y56G2	783.00
240.0	240.0	4-95	9T92Y57	1042.20	9T92Y57G2	1071.00
300.0	300.0	5-95	9T92Y58	1226.70	9T92Y58G2	1262.70
360.0	360.0	6-95	9T92Y59	1536.30	9T92Y59G2	1579.50
240-VOLT INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.) OR 120-VOLT INPUT[7], OUTPUT 0-280 VOLTS						
4.0	5.0	1-60	9T92A13	$30.00	9T92A13G2	$36.00
5.0[4]	6.8	1-60	9T92A14[8]	32.00	9T92A14G2[8]	38.00
7.0[5]	10.1	1-75	9T92Y29	45.00	9T92Y29G2	51.00
8.5[5]	11.0	1-75	9T92Y30	56.00	9T92Y30G2	62.00
12.0[4]	14.5	2-60	9T92A23	72.00	9T92A23G2[8]	82.80
14.0[5]	14.0	1-85	9T92Y39	107.00	9T92Y39G2	114.00
16.0[5]	16.0	1-85	9T92Y40	122.00	9T92Y40G2	129.00
30.0	33.0	1-95	9T92Y51	164.00	9T92Y51G2	172.00
35.0	35.0	1-95	9T92Y52	245.00	9T92Y52G2	253.00
60.0	66.0	2-95	9T92Y60	328.50	9T92Y60G2	342.90
70.0	70.0	2-95	9T92Y61	495.00	9T92Y61G2	509.40
90.0	99.0	3-95	9T92Y62	575.10	9T92Y62G2	596.70
105.0	105.0	3-95	9T92Y63	760.50	9T92Y63G2	782.10
120.0	132.0	4-95	9T92Y5021	830.70	9T92Y5021G2	859.50
140.0	140.0	4-95	9T92Y64	1044.00	9T92Y64G2	1072.80
175.0	175.0	5-95	9T92Y65	1226.70	9T92Y65G2	1262.70
210.0	210.0	6-95	9T92Y66	1536.30	9T92Y66G2	1579.50
480-VOLT INPUT: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.) OR 240-VOLT INPUT[7], OUTPUT 0-560 VOLTS						
4.0[5]	5.0	2-60	9T92A17	$67.50	9T92A17G2	$78.30
5.0[4]	6.8	2-60	9T92A18[9]	71.10	9T92A18G2[9]	81.90
7.0[5]	10.1	2-75	9T92Y31	92.70	9T92Y31G2	103.50
8.5[5]	11.0	2-75	9T92Y32	112.50	9T92Y32G2	123.30
14.0[5]	14.0	2-85	9T92Y42	207.00	9T92Y42G2	219.60
16.0[5]	16.0	2-85	9T92Y43	238.50	9T92Y43G2	251.10
30.0	33.0	2-95	9T92Y67	313.20	9T92Y67G2	327.60
35.0	35.0	2-95	9T92Y68	486.00	9T92Y68G2	500.40
60.0	66.0	4-95	9T92Y69	819.00	9T92Y69G2	847.80
70.0	70.0	4-95	9T92Y70	1030.50	9T92Y70G2	1059.30
90.0	99.0	6-95	9T92Y71	1207.80	9T92Y71G2	1251.00
105.0	105.0	6-95	9T92Y72	1525.50	9T92Y72G2	1568.70

TERMINAL ENCLOSURE KITS

Economical modification kits convert exposed-terminal models to enclosed ones. To order determine frame size and number of cores of selected transformer, determine appropriate Terminal Kit Model Number based on frame size from table at right, and order for each transformer the same quantity of Terminal Kits as there are cores.

For Frame Size	Model No.	Sugg'd Net Price[2]
30	None Available	.....
40	None Available	.....
50	9T92A903	$1.00
60	9T92A903G2	1.00
75	9T92Y903G3	2.00
85	9T92Y903G4	4.00
95	9T92Y903G5	7.00

MANUAL — THREE-PHASE, 50/60 HERTZ

Line Voltage Connection		No. of Cores &	UNCASED MODELS		CASED MODELS Exposed Terminals (See below For Terminal Enclosure Kit)	
Rated Amp[1]	Max. Amp	Frame Size	Model Number	Suggested Net Price[2]	Model Number	Suggested Net Price[2]
240-VOLT LINE TO LINE INPUT: OUTPUT—0-240 VOLT (LINE VOLTAGE CONN.), 0-280 VOLT (OVERVOLTAGE CONN.) (THREE CORE, WYE CONN.)						
2.5[3][5]	3.2	3-30	9T92A3	$53.10	.....	.....
4.5[5]	5.8	3-40	9T92A6	76.50	.....	.....
6.5[3][6]	8.0	3-50	9T92A19	78.30	9T92A19G2	$94.50
10.0[5]	11.5	3-60	9T92A21	84.60	9T92A21G2	100.80
12.0[6]	14.5	3-60	9T92A22	89.10	9T92A22G2	105.30
15.0[5]	19.0	3-75	9T92Y33	144.00	9T92Y33G2	160.20
18.0[5]	21.7	3-75	9T92Y34	175.50	9T92Y34G2	191.70
30.0[5]	34.0	3-85	9T92Y44	324.00	9T92Y44G2	342.90
37.0[5]	37.0	3-85	9T92Y45	405.00	9T92Y45G2	423.90
50.0[5]	55.0	3-95	9T92Y74	549.00	9T92Y74G2	570.60
60.0[5]	60.0	3-95	9T92Y75	738.00	9T92Y75G2	759.60
74.0[5]	74.0	6-85	9T92Y48	882.00	9T92Y48G2	919.80
100.0[5]	110.0	6-95	9T92Y78	1170.00	9T92Y78G2	1213.20
120.0[5]	120.0	6-95	9T92Y79	1514.70	9T92Y79G2	1557.90
480-VOLT LINE TO LINE INPUT: OUTPUT—0-480 VOLT (LINE VOLTAGE CONN.), 0-560 VOLT (OVERVOLTAGE CONN.) (THREE CORE, WYE CONN.) OR 240-VOLT INPUT[7], OUTPUT 0-560 VOLTS						
4.0[5]	5.0	3-60	9T92A25	$90.00	9T92A25G2	$106.20
5.0[4]	6.8	3-60	9T92A26[9]	93.60	9T92A26G2[9]	109.80
7.0[5]	10.1	3-75	9T92Y35	141.30	9T92Y35G2	157.50
8.5[5]	11.0	3-75	9T92Y36	171.00	9T92Y36G2	187.20
14.0[5]	14.0	3-85	9T92Y46	322.20	9T92Y46G2	341.10
16.0[5]	16.0	3-85	9T92Y47	382.50	9T92Y47G2	401.40
30.0[5]	33.0	3-95	9T92Y76	553.50	9T92Y76G2	575.10
35.0[5]	35.0	3-95	9T92Y77	741.60	9T92Y77G2	763.20
60.0[5]	66.0	6-95	9T92Y80	1197.00	9T92Y80G2	1240.20
70.0[5]	70.0	6-95	9T92Y81	1514.70	9T92Y81G2	1557.90
120-VOLT LINE TO LINE INPUT: OUTPUT—0-120 VOLT (LINE VOLTAGE CONN.), 0-140 VOLT (OVERVOLTAGE CONN.) (TWO CORE, OPEN DELTA CONN.)						
2.5[3]	3.2	2-30	9T92A2	$32.40	.....	.....
4.5	5.8	2-40	9T92A4	48.60	.....	.....
6.5[3][5]	8.0	2-50	9T92A11	53.10	9T92A11G2	$63.90
10.0	11.5	2-60	9T92A15	59.40	9T92A15G2	70.20
12.0[4]	14.5	2-60	9T92A23	72.00	9T92A23G2	82.80
240-VOLT LINE TO LINE INPUT: OUTPUT—0-240 VOLT (LINE VOLTAGE CONN.), 0-280 VOLT (OVERVOLTAGE CONN.) (TWO CORE, OPEN DELTA CONN).						
4.0	5.0	2-60	9T92A17	$67.50	9T92A17G2	$78.30
5.0[4]	6.8	2-60	9T92A18	71.10	9T92A18G2	81.90

[1] Also overvoltage connection amp. When overvoltage connection is used, rated current should not be exceeded. Output kva for overvoltage connection is maximum output voltage times rated current.

[2] OEM quantity prices are available on request.

[3] Output at overvoltage connection is 0.264 volts or 0-132 volts.

[4] No overvoltage protection provided.

[5] When using extended tap connections, operation is for 60 hertz only.

[6] 60 hertz only.

[7] When operated with this input voltage, rated current must be reduced when output voltage exceeds 140 percent of input voltage.

[8] For 240-volt input, 0-240-volt output, application only.

[9] For 480-volt input, 0-480-volt output application only.

volt-pac® VARIABLE TRANSFORMERS



Motor uncased unit exposed terminals



Motor cased unit enclosed terminals

MOTOR-OPERATED — SINGLE-PHASE, 50/60 HERTZ

Line Voltage Connection Rated Amp[1]	Line Voltage Connection Max. Amp	No. of Cores & Frame Size	UNCASED MODELS Model Number	UNCASED MODELS Suggested Net Price[2]	CASED MODELS Enclosed Terminals Model Number	CASED MODELS Enclosed Terminals Suggested Net Price[2]
120-VOLT INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN.) 0-140 VOLT (OVERVOLTAGE CONN.)						
2.5[3]	3.2	1-30	9T92A1G51	$115.20	.....	.....
4.5	5.8	1-40	9T92A5G51	120.60	.....	.....
6.5[3][5]	8.0	1-50	9T92A7G51	127.80	9T92A7G54	$135.00
10.0	11.5	1-60	9T92A9G51	130.50	9T92A9G54	137.70
12.0[4][6]	14.5	1-60	9T92A10G51	132.30	9T92A10G54	139.50
15.0[5]	19.0	1-75	9T92Y27G51	184.50	9T92Y27G54	191.70
18.0[5]	21.7	1-75	9T92Y28G51	194.40	9T92Y28G54	201.60
30.0[5]	34.0	1-85	9T92Y37G51	243.90	9T92Y37G54	253.80
37.0[5]	37.0	1-85	9T92Y38G51	261.00	9T92Y38G54	270.90
50.0	55.0	1-95	9T92Y49G51	289.80	9T92Y49G54	302.40
60.0	60.0	1-95	9T92Y50G51	364.50	9T92Y50G54	377.10
74.0[5]	74.0	2-85	9T92Y41G51	385.20	9T92Y41G54	405.00
100.0	110.0	2-95	9T92Y53G51	472.50	9T92Y53G54	497.70
120.0	120.0	2-95	9T92Y54G51	640.80	9T92Y54G54	666.00
150.0	165.0	3-95	9T92Y55G51	719.10	9T92Y55G54	756.90
180.0	180.0	3-95	9T92Y56G51	905.40	9T92Y56G54	934.20
240.0	240.0	4-95	9T92Y57G51	1186.20	9T92Y57G54	1238.40
300.0	300.0	5-95	9T92Y58G51	1370.70	9T92Y58G54	1435.50
360.0	360.0	6-95	9T92Y59G51	1680.30	9T92Y59G54	1757.70
240-VOLT INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.) OR 120-VOLT INPUT[7], OUTPUT 0-280 VOLTS						
4.0	5.0	1-60	9T92A13G51	$135.00	9T92A13G54	$142.20
5.0[4]	6.8	1-60	9T92A14G51[8]	136.80	9T92A14G54[8]	144.00
7.0	10.1	1-75	9T92Y29G51	184.50	9T92Y29G54	191.70
8.5[5]	11.0	1-75	9T92Y30G51	194.40	9T92Y30G54	201.60
12.0[4][6]	14.5	2-60	9T92A23G51[8]	180.00	9T92A23G54[8]	194.40
14.0[5]	14.0	1-85	9T92Y39G51	240.30	9T92Y39G54	250.20
16.0[5]	16.0	1-85	9T92Y40G51	253.80	9T92Y40G54	263.70
30.0	33.0	1-95	9T92Y51G51	291.60	9T92Y51G54	304.20
35.0	35.0	1-95	9T92Y52G51	364.50	9T92Y52G54	377.10
60.0	66.0	2-95	9T92Y60G51	472.50	9T92Y60G54	497.70
70.0	70.0	2-95	9T92Y61G51	639.00	9T92Y61G54	664.20
90.0	99.0	3-95	9T92Y62G51	719.10	9T92Y62G54	756.90
105.0	105.0	3-95	9T92Y63G51	904.50	9T92Y63G54	942.30
120.0	132.0	4-95	9T92Y5021G51	974.70	9T92Y5021G54	1026.90
140.0	140.0	4-95	9T92Y64G51	1188.00	9T92Y64G54	1240.20
175.0	175.0	5-95	9T92Y65G51	1370.70	9T92Y65G54	1435.50
210.0	210.0	6-95	9T92Y66G51	1680.30	9T92Y66G54	1757.70
480-VOLT INPUT: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.) OR 240-VOLT INPUT[7], OUTPUT 0-560 VOLTS						
4.0	5.0	2-60	9T92A17G51	$175.50	9T92A17G54	$189.90
5.0[4]	6.8	2-60	9T92A18G51[9]	179.10	9T92A18G54[9]	193.50
7.0[5]	10.1	2-75	9T92Y31G51	236.70	9T92Y31G54	251.10
8.5[5]	11.0	2-75	9T92Y32G51	256.50	9T92Y32G54	270.90
14.0[5]	14.0	2-85	9T92Y42G51	351.00	9T92Y42G54	370.80
16.0[5]	16.0	2-85	9T92Y43G51	382.50	9T92Y43G54	402.30
30.0	33.0	2-95	9T92Y67G51	457.20	9T92Y67G54	482.40
35.0	35.0	2-95	9T92Y68G51	630.00	9T92Y68G54	655.20
60.0	66.0	4-95	9T92Y69G51	963.00	9T92Y69G54	1015.20
70.0	70.0	4-95	9T92Y70G51	1174.50	9T92Y70G54	1226.70
90.0	99.0	6-95	9T92Y71G51	1351.80	9T92Y71G54	1429.20
105.0	105.0	6-95	9T92Y72G51	1669.50	9T92Y72G54	1746.90
140.0	140.0	8-95	9T92Y73G51	2297.70	9T92Y73G54	2401.20

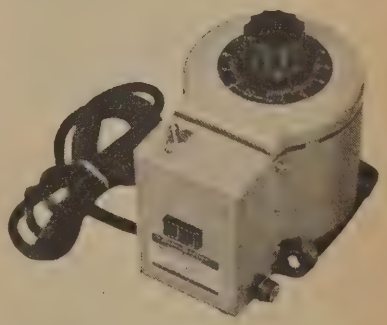
NOTE: See opposite page for footnotes.

MOTOR-OPERATED — THREE-PHASE, 50/60 HERTZ

Line Voltage Connection Rated Amp[1]	Line Voltage Connection Max. Amp	No. of Cores & Frame Size	UNCASED MODELS Model Number	UNCASED MODELS Suggested Net Price[2]	CASED MODELS Enclosed Terminals Model Number	CASED MODELS Enclosed Terminals Suggested Net Price[2]
240-VOLT LINE TO LINE INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.) (THREE CORE, WYE CONN.)						
2.5[3][5]	3.2	3-30	9T92A3G51	$156.60	.....	.....
4.5[5]	5.8	3-40	9T92A6G51	180.00	.....	.....
6.5[3][6]	8.0	3-50	9T92A19G51	186.30	9T92A19G54	$207.90
10.0	11.5	3-60	9T92A21G51	192.60	9T92A21G54	214.20
12.0[4][6]	14.5	3-60	9T92A22G51	197.10	9T92A22G54	218.70
15.0[5]	19.5	3-75	9T92Y33G51	288.00	9T92Y33G54	309.60
18.0[5]	21.7	3-75	9T92Y34G51	319.50	9T92Y34G54	341.10
30.0[5]	34.0	3-85	9T92Y44G51	468.00	9T92Y44G54	497.70
37.0[5]	37.0	3-85	9T92Y45G51	549.00	9T92Y45G54	578.70
50.0[5]	55.0	3-95	9T92Y74G51	693.00	9T92Y74G54	730.80
60.0[5]	60.0	3-95	9T92Y75G51	882.00	9T92Y75G54	919.80
74.0[5]	74.0	6-85	9T92Y48G51	1026.00	9T92Y48G54	1085.40
100.0[5]	110.0	6-95	9T92Y78G51	1314.00	9T92Y78G54	1391.40
120.0[5]	120.0	6-95	9T92Y79G51	1658.70	9T92Y79G54	1736.10
150.0[5]	165.0	9-95	9T92Y82G51	2071.80	9T92Y82G54	2188.80
180.0[5]	180.0	9-95	9T92Y83G51	2519.10	9T92Y83G54	2636.10
480-VOLT LINE TO LINE INPUT: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.) (THREE CORE, WYE CONN.) OR 240-VOLT INPUT[7], OUTPUT 0-560 VOLTS						
4.0[5]	5.0	3-60	9T92A25G51	$198.00	9T92A25G54	$219.60
5.0[4][6]	6.8	3-60	9T92A26G51	201.60	9T92A26G54	223.20
7.0[5]	10.1	3-75	9T92Y35G51	285.30	9T92Y35G54	306.90
8.5[5]	11.0	3-75	9T92Y36G51	315.00	9T92Y36G54	336.60
14.0[5]	14.0	3-85	9T92Y46G51	466.20	9T92Y46G54	495.90
16.0[5]	16.0	3-85	9T92Y47G51	526.50	9T92Y47G54	556.20
30.0[5]	33.0	3-95	9T92Y76G51	697.50	9T92Y76G54	735.30
35.0[5]	35.0	3-95	9T92Y77G51	885.60	9T92Y77G54	923.40
60.0[5]	66.0	6-95	9T92Y80G51	1341.00	9T92Y80G54	1418.40
70.0[5]	70.0	6-95	9T92Y81G51	1658.70	9T92Y81G54	1736.10
90.0[5]	99.0	9-95	9T92Y84G51	2071.80	9T92Y84G54	2188.80
105.0[5]	105.0	9-95	9T92Y85G51	2519.10	9T92Y85G54	2636.10
120-VOLT LINE TO LINE INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN.), 0-140 VOLT (OVERVOLTAGE CONN.) (TWO CORE, OPEN DELTA CONN).						
2.5[3]	3.2	2-30	9T92A2G51	$135.90	.....	.....
4.5	5.8	2-40	9T92A4G51	152.10	.....	.....
6.5[3][5]	8.0	2-50	9T92A11G51	161.10	9T92A11G54	$175.50
10.0	11.5	2-60	9T92A15G51	167.40	9T92A15G54	181.80
12.0[4][6]	14.5	2-60	9T92A23G51	180.00	9T92A23G54	194.40
240-VOLT LINE TO LINE INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.), 0-280 VOLT (OVERVOLTAGE CONN.) (TWO CORE, OPEN DELTA CONN).						
4.0	5.0	2-60	9T92A17G51	$175.50	9T92A17G54	$189.90
5.0[6]	6.8	2-60	9T92A18G51	179.10	9T92A18G54	193.50

PLUG-IN SETS

Bench or wall-mounted single-phase units for laboratory or shop source of adjustable a-c voltage. Provides output voltage of 0-117% of input voltage, but is easily reconnectible for 0-100%.



Rated Amp	Fuse Rating, Amp	Frame Size (All have 1 Core)	Model Number	Sugg'd Net Price[2]	Receptacle Configuration
50/60 HZ, 120-VOLT INPUT, 0-140 VOLT OUTPUT					
2.5[10]	3	30	9T92A90	$25.00	Fig. 1
4.5	5	40	9T92A91	31.00	Fig. 1
6.5[10][11]	6	50	9T92A86	35.00	Fig. 1
10.0	10	60	9T92A87	39.00	Fig. 1
15.0[11]	15	75	9T92Y88	64.00	Fig. 1
18.0[11]	20	75	9T92Y89	78.00	Fig. 2
50/60 HZ, 240-VOLT INPUT[12], 0-280 VOLT OUTPUT					
4.0	4	60	9T92A95	$45.00	Fig. 4
7.0[11]	8	75	9T92A96	64.00	Fig. 4
8.5[11]	10	75	9T92A97	78.00	Fig. 4

[10] Output range 0-132 volts.
[11] 60 Hz only when connected for 0-117% line voltage output.
[12] Reconnectible for 120-volt input, with derating required.



Fig. 1



Fig. 2

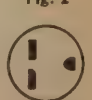


Fig. 3

Prices subject to change without notice.

GENERAL ELECTRIC

© United Technical Publications

MICROTRAN

TRANSFORMERS

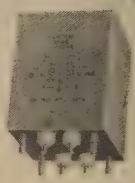


AUDIO and POWER – COMMERCIAL and MIL

MINIATURE
TOROIDAL
PLUG-IN
INDUCTORS

CHOPPER INPUT
HYBRID COUPLING
DC-DC CONVERTER
POWER SUPPLY







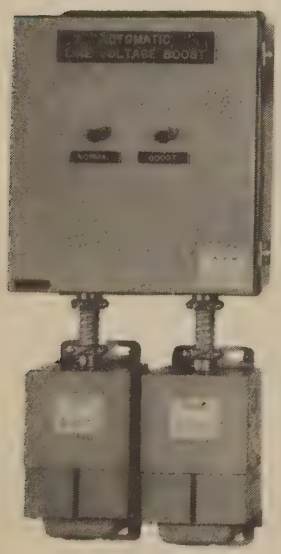
Send for Catalog and Distributor Listing

Immediate Delivery of Catalog Items at Factory Prices from Nationwide Distributor Network

See full listing and prices of off-the-shelf transformer in EEM 71-72 Pgs. 2958 to 2963.

AUTOMATIC LOW LINE VOLTAGE BOOSTERS

NEW AUTO-BOOST®



- **Auto-Boost® automatically and economically protects electrical and electronic equipment in critical applications from malfunction or damage due to low line voltage.**
- **Automatically boosts line voltage 10% whenever the line voltage drops approximately 7% or more below its nominal value. When line voltage returns to nominal range, Auto-Boost® automatically returns to "standby" operation.**
- **Negligible power interruption as switchover time to "boost" position is almost instantaneous.**
- **Designed for use with air conditioners, computers, control equipment, food freezers, pumps, fans, blowers, etc.**
- **Easily installed in the field, by electrical or air-conditioning contractors, between the equipment power line and the equipment to be protected.**

An Auto-Boost® rated for a given motor, can handle peak starting current of that motor.

Operating efficiency is approximately 95%. Standby current drain under 5 watts.

Standard models available for 208, 230 and 460 volts, 1 and 3 phase, 60 cps. Available in capacity ratings of 3-40 HP; 10-60 Amps; 5-45 KVA and 2-40 Ton Air Conditioners.

Send for Brochure F226 for Specifications and Pricing.

PRECISION HI-FI ACCESSORIES

STEREO CENTER CHANNEL
OUTPUT MATCHING TRANSFORMER
FOR MONAURAL EXTENSION SPEAKERS



Designed for the Audiophile who wishes to convert a Stereo system to Monaural or wishes to modify or enlarge his Stereo system. Permits "hole-in-the-middle" fill in with 3rd channel speaker. Matches impedance, polarity and power level. 30 watts. Response 40 to 20,000 cps.

HM-90 — **User net $10.95**

HUM-BUCKING TELEPHONE PICK-UP COIL



Hum free transcription, no connection to phone. Perfect for high impedance tape recorders and dictating machines. Rugged construction of high impact plastic.

HP-70 — **User net $6.95**

TAPE HEAD DEMAGNETIZER Model HD-40M

Removes permanent magnetism, protects tape from erasure, minimizes noise and distortion, reduces hum of tape head. Extended pole piece designed for easy access.



User net $7.49

MAGNETIC TAPE ERASER Model HD-15

A compact bulk tape demagnetizer. Erases recorded signals and noise instantly, when passed over tapes of sound film without rewinding. Removes background noise below level of new tapes or film. Universal unit for any size reel. ¼" and ½". Erases cassettes, cartridges.



User net $12.95

TELEPHONE PICK-UP COIL



For recorder or direct feed into amplifier — Use as probe for locating hum. Equalized pick-up level.

- Universal design with phone plug
- Black finish with 68" cable
- Size: ⅝"D x 2½"L. Wgt: 1½ oz.
- **Model HP-61** — **User net $6.15**

HEAVY DUTY MAGNETIC TAPE ERASER

Epoxy Molded Model HD-11M
Develops a high intensity magnetic field. Erases tapes without rewinding. Noise level reduced below standard demagnetizers. Restores tape up to ½" to like new condition. 117V AC—5 Amps.
Size: 7"L x 3½"W x 3¼"H.
Weight: 9 lbs.



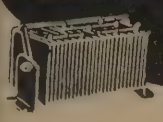
Adapter hub for 10½ reels
Model HD-11-AD — **User net $3.15**
A MUST FOR STEREO RECORDING.
Ideal for cassette erasure.
Model HD-11M — **User net $31.00**

MICROTRAN CO., INC.

Net

© United Technical Publications

DIRECTRON

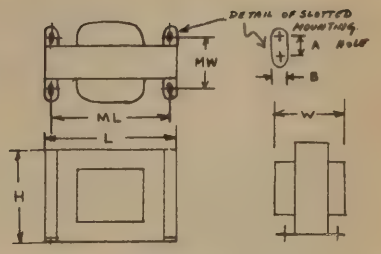


Industrial Transformers, Selenium and Silicon Rectifiers, Chokes and Power Supplies

RECTIFIER TRANSFORMERS

Transformers are with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

Primary taps at 100, 105, 110 and 115 volts available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge.



2-18 CENTER TAP WINDINGS

Connected in Series: Delivers 9v, 18v, 27v, 36v at rated current
IE: 18T1 — 9v @ 1a, 18v @ 1a, 27v @ 1a, 36v @ 1a

Connected in Parallel: Delivers 2 times rated current
IE: 18T1 — 9v @ 2a, 18v @ 2a

Part No.	Amp.	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
18 T 1	1	$ 6.20	2 31/32	3	2 3/4	2 1/2.	2 1/4	1/8	13/64	2.5
18 T 2	2	8.55	3 13/16	3	2 3/8	3 1/8	2	↓	↓	3.4
18 T 4	4	11.70	4 3/16	3	3 3/4	3 7/16	2 3/8	↓	↓	5.5
18 T 8	8	17.85	4 7/16	3 5/8	4	3 3/4	3	↓	↓	9.5
18 T 12	12	23.90	5 5/16	4 1/4	4 1/2	4 3/8	3 3/8	↓	5/32	14.5
18 T 24	24	42.25	6 1/2	4 5/8	5 1/2	5 5/16	3 3/8	5/32	↓	22
18 T 30	30	52.00	6 1/2	5	5 1/2	5 5/16	3 5/8	↓	↓	25
18 T 50	50	61.20	6 1/2	5 3/4	5 1/2	5 5/16	4 3/8	↓	↓	33

2-28 CENTER TAP WINDINGS

Connected in Series: Delivers 14v, 28v, 42v, 56v at rated current
IE: 28T2 — 14v @ 2a, 28v @ 2a, 42v @ 2a, 56v @ 2a

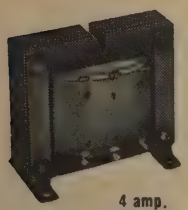
Connected in Parallel: Delivers 2 times rated current
IE: 28T2 — 14v @ 4a, 28v @ 4a

Part No.	Amp.	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
28 T 2	2	$10.15	3 7/8	3 1/4	3 1/8	2 1/2	2 3/8	1/8	13/64	5
28 T 4	4	14.85	4 1/4	3 3/4	3 7/16	3	3	↓	↓	8
28 T 6	6	27.50	5 5/16	4 1/4	4 1/2	4 3/8	3 5/8	3/8	5/32	14
28 T 12	12	36.30	6 1/2	5	5 1/2	5 5/16	3 3/8	↓	↓	21
28 T 24	24	74.00	6 1/2	6 1/2	5 1/2	5 3/8	3 1/2	↓	↓	24.5

STEP UP TRANSFORMERS

PRIMARY WINDINGS — 100-105-110-115 VOLT			SECONDARY WINDINGS — 130-135-140 VOLT		
Part No.	Amps.	Users Net Price	Part No.	Amps.	Users Net Price
SU 10	10	$ 70.00	SU 25	25	$128.00
SU 15	15	85.00	SU 30	30	160.00
SU 20	20	12.50	SU 35	35	185.00

HIGH CURRENT CHOKES



4 amp. Choke CK4

Part No.	Amps.	Hy.	Ohms	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
CK 1	1	.1	1.5	$ 5.90	3 1/32	2 3/4	2 3/4	2 1/2	2	1/8	13/64	2
CK 2	2	.04	.9	7.20	3 7/16	3 3/4	3 1/8	2 13/16	2 1/8	↓	↓	3.1
CK 4	4	.07	.6	9.25	3 13/16	3 1/8	3 3/8	3 1/8	2 1/2	↓	↓	5
CK 8	8	.03	.3	14.60	4 3/16	3 5/8	3 3/4	3 7/16	3	↓	↓	8
CK 12	12	.01	.1	18.00	5 5/16	3 3/4	4 1/2	4 3/8	2 7/8	↓	5/32	11.5
CK 20	20	.004	.05	21.00	5 1/4	5	4 1/2	4 1/2	4	1/2	↓	14
CK 24	24	.004	.025	31.25	5 5/16	4 3/4	4 1/2	4 3/8	3 7/8	↓	↓	17.5
CK 30	30	.003	.01	41.75	6 1/2	4 5/8	5 1/2	5 5/16	3 3/8	↓	↓	22
CK 50	50	.001	.001	53.85	6 1/2	4 7/8	5 1/2	5 5/16	3 3/8	↓	↓	23
CK 100	100	.0005	.005	62.35	6 1/2	6	5 1/2	5 5/16	4 1/8	↓	↓	30

CUSTOM BUILT TRANSFORMERS AND CHOKES — 48 HOUR SERVICE

POWER SUPPLIES TO **YOUR** SPECIFICATIONS, QUOTATIONS ON REQUEST

SEE OUR AD UNDER "RECTIFIERS" IN SECTION 4800 FOR SELENIUM AND SILICON STACKS



Mfd. by SANFORD MILLER CORP.

© United Technical Publishers

OHMITE variable transformers

OHMITRAN v.t.® VARIABLE TRANSFORMER

Unique for the design innovations they incorporate, Ohmite "OHMITRAN" v.t.® variable transformers include exclusive field-proven features. They offer long, low maintenance operation with excellent regulation at any voltage setting within the rated load plus an output free of waveform distortion. Six frame sizes offer a wide range of electrical ratings to meet most industrial applications. These include three new, compact, low-power models (VT1, VT02, VT3,) which permit a fine choice of six ratings from 1 to 3 amperes.

The VT1, rated 1 ampere, is the smallest commercial variable transformer available.

UL LISTING: A number of VT4, VT8 and VT20 transformers used for 120 volt line operation are underwriters' laboratories listed. See tables, page 26 for details.

POSITIVE CURRENT TRANSFER . . . achieved with specially designed brushes connected through high conductivity contact arms or pigtails to a large slip ring which contacts a wide area of the collector ring. The brush contact assembly on the VT1, VT02, and VT3 is instantly replaceable, when necessary, as a result of a slide-on, snap-in design. Brushes of the other models are easily replaced also.

ADJUSTABLE SHAFT: On all Ohmite transformers, except the VT2LN, the shaft may be extended out from either the brush or opposite side as desired. On the VT1, VT02 and VT3, both single and tandem assemblies, this is an **exclusive** Ohmite feature which affords greater versatility of mounting and application. For example, substitution of a longer shaft or extension of the standard shaft allows actuation of other devices, such as switches or potentiometers without special construction. The shaft is freed simply by loosening set screw in the hub assembly. A double flat on the shaft permits two knob positions.

On the VT4, VT8, and VT20 types, the adjustable shaft feature permits **table or panel use.** "Ganged" or tandem VT4, VT8 and VT20 units employ a thru-shaft offering the same flexibility. On VT4 and VT8 units, shafts are fixed in the desired position by means of socket head screws located in the hub of each "brush-radiator" plate. The VT20 employs a unique collet-type shaft lock.

INTERCHANGEABLE WITH OTHER POPULAR TYPES: Basic "v.t." units have mounting provisions which match those of virtually all popular transformers of comparable current rating. Models VT4, VT8 and VT20 mount by means of bolts. Normally 3-hole mounting, single VT4 units can be "4-hole mounted" by means of adapter plate, see page 35. Individual Model VT1, VT02, VT2LN, or VT3 units mount by means of a standard ⅜-32 threaded bushing. All tandem assemblies mount by means of bolts or nuts. Knob, dial and mounting hardware are included with each transformer.

DIRECT READING, TWO SCALE DIAL . . . calibrated on one side for overvoltage connection; on the reverse side for line voltage connection. Dials normally included with transformer read clockwise for increasing voltage; counter-clockwise calibration available—see Ohmite page 35, this section.

WIRING AND CONNECTIONS: Wiring instructions to arrange various modes of operation are enclosed with all OHMITE variable transformers. Terminal panels or adjacent nameplate carry convenient wiring diagram, coded terminals and input and output data. Three way terminals on VT1, VT2LN, VT02, VT3 will accept ¼" push-on connectors, screws and nuts, or conventional soldering.

ROTATION OPTION: On VT4, VT8 and VT20 transformers connected for overvoltage, either clockwise or counter-clockwise increase of voltage can be arranged easily by the user. Increasing voltage in either direction can be arranged on all units connected for no-overvoltage output. Dials for counter-clockwise operation are stocked. See "Accessories."

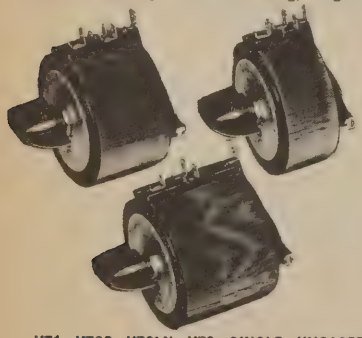
OVERVOLTAGE OPTION: On all transformers with overvoltage feature, no-overvoltage operation can be arranged on the terminal panel.

NO-OVERVOLTAGE TRANSFORMERS ("N" suffix): Provide considerably more current due to heavier gage winding.

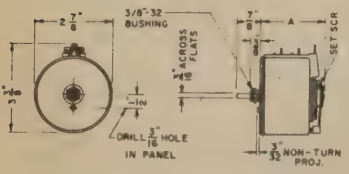
240-VOLT INPUT ("H" suffix): On units which are wound for 240-volt input, a 120 volt input tap is also provided. With the use of this input, the maximum current rating applies up to 120 volts output but beyond this reduces proportionately to approximately 50% at maximum voltage output.

LOW VOLTAGE INPUT ("L" feature): Designed for a maximum input of approximately 40 volts, with high current output.

GROUNDED INPUT & OUTPUT ("C" feature): Units in type F or G cases can be provided with a three-conductor cord and outlet. One conductor is grounded to the case. This feature standard on all cased VT20 units and on all metered units.

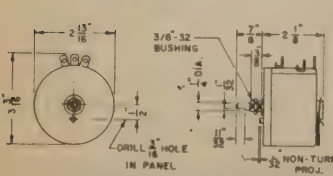


VT1, VT02, VT2LN, VT3, SINGLE, UNCASED
Angle of rotation 320° ±5°

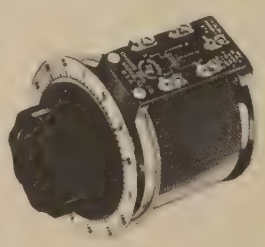


"A" DIMENSION

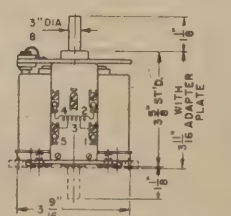
VT1, VT1N	1 13/16"
VT02, VT02N	2 5/16"
VT3, VT3N	2 13/16"

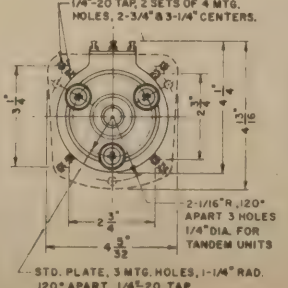


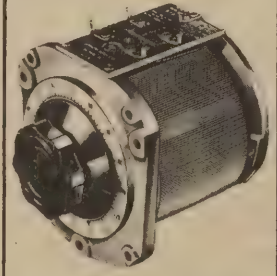
VT2LN
U.S. Patent Nos. 2,790,882 2,985,857



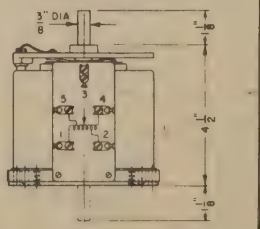
VT4 TYPES, SINGLE, UNCASED
Angle of rotation: 324° ±5°

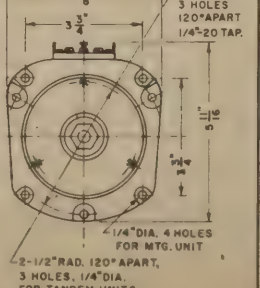


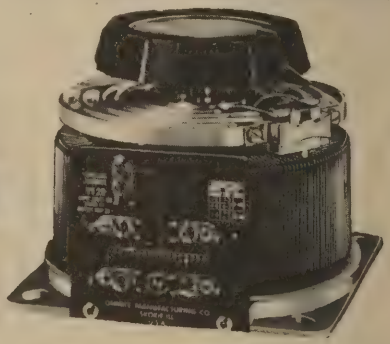




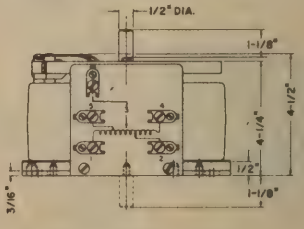
VT8 TYPES, SINGLE, UNCASED
Angle of rotation: 324° ±5°

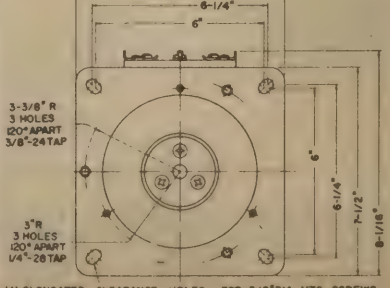






VT20 TYPES, UNCASED
Angle of rotation: 317° ±5°





OHMITE variable transformers

ENCLOSED OR CASED UNITS: In gray hammer tone finish. "Basic protective enclosures" (Type B) expose the transformer's terminal panel and mounting base and are supplied presently on VT20 models only. (See tandems in "B" enclosures below.) "Fixed mounting enclosures" (Type E) are intended for permanent mounting on table, panel or inconduit-line. Standard portable units (Type F) carry a line cord, outlet socket, and fuse except for VT20F which has a circuit breaker. Deluxe portable units (Type G) utilize a circuit breaker, can be switched to overvoltage or no-overvoltage as desired, have a handle which also serves as an easel.

METERED ENCLOSURES: VT8NFC, VT8GC, VT20NFC and VT20GC transformers are available with voltmeter (V), voltmeter and ammeter (A) or voltmeter and wattmeter (W). The metered transformer enclosures are larger than the non-metered types of comparable designation, (see dimensions below). All stock metered units have the three-conductor grounded cord and outlet and all, except the VT8NF group, are equipped with carrying handles.

SINGLE UNIT CASE DIMENSIONS

Series	Case◆	W	D	H
VT1 or VT02	E	3⅜	2½*	4¼
	F	3⅜	2½*	4¼
VT4	E	4½	4½*	6⅜16
	F	4⅞	4½*	6¼
VT8	E	5⅜16	5¼*	7⅜16
	F	5¹⁷⁄₃₂	5¼*	7⅞
	FV, FVA, FVW	7⅜	5¼*	10½
	G	5⅜16†	5¼*	7⅜‡
	GV, GVA, GVW	7	5¼*	10½‡
	3E	5⅜16	15¾*	7⅜16
VT20	B	7⅝	8⅛	4⅞*
	E	7¾	5½*	10¹⁵⁄₁₆
	F	8¼	5½*	11¼
	FV, FVA, FVW	8¼	5½‡	14‡
	G	7¾§	5½*	11¼‡
	GV, GVA, GVW	8¼	5½‡	14‡

* Add 1" for knob thickness for VT8 types; ⅞" for VT1, 02 and VT4 types, 1¼" for VT20 types.

† 5¾" including handle fittings.

‡ Case height only.

§ 9" including handle fittings.

◆ V, A and W = voltmeter, ammeter and wattmeter respectively.



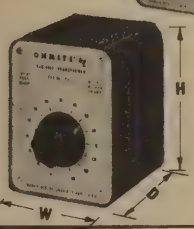
VT20E



VT02E



VT02F



VT4E

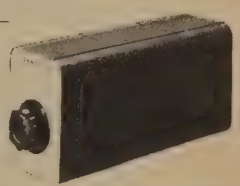


VT4F



VT4FC

VT8GCV (with voltmeter)



VT8-3E



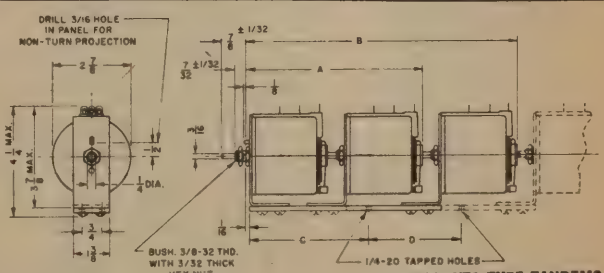


VT8G

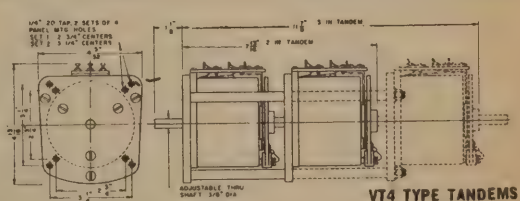
TANDEM OR GANGED UNITS: Two or 3-in-tandem assemblies are standard. Larger tandem assemblies available made to order. All tandem assemblies are normally furnished with inter-connections between the units. A few cased tandems are stocked. Tandems in "B" type enclosures have individual cases on each transformer.

TANDEM VT1, VT02, VT3 DIMENSIONS

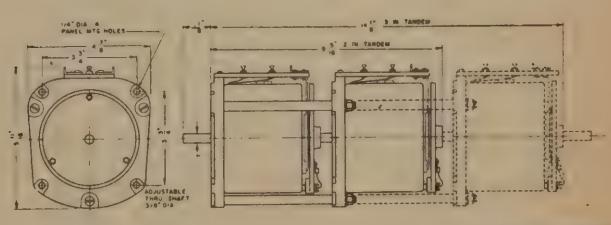
	A	B	C
VT1	4⅞32	6¹⁷⁄₃₂	4¼
VT02	5⅞32	8⅛32	4½
VT3	6¹⁷⁄₃₂	9²³⁄₃₂	4½



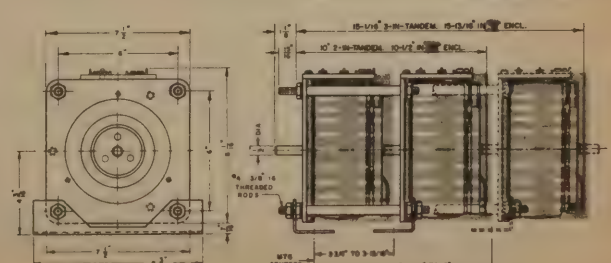
VT1, VT02, VT3 TYPE TANDEMS



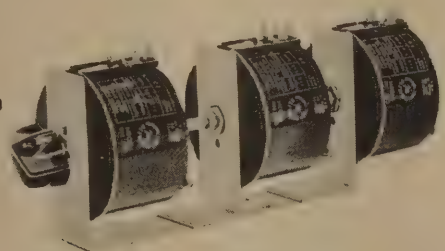
VT4 TYPE TANDEMS



VT8 TYPE TANDEMS



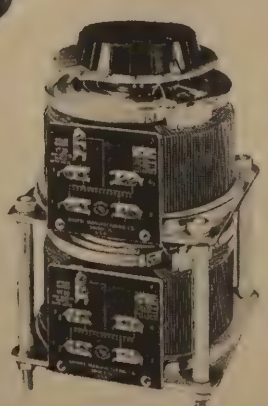
VT20 TYPE TANDEMS



VT02N-3



VT8-3



VT20-2

See page 34 for ratings and ordering information.

OHMITE variable transformers

SINGLE PHASE
SINGLE TRANSFORMERS — PANEL MOUNTING

Input Volts	Freq.[1] Hz from	Feature or Connection	(UL) (SP) footnotes	Maximum Output Volts	Maximum Output Amps	Catalog No.[13]	Wt. Lbs.[7]
40	50	Hi-amps, low volts		0-40	5.0	VT2LN	2.4
40	50	Hi-amps, low volts	14	0-40	12.0	(VT4LN)	5.25
40	50	Hi-amps, low volts	14	0-40	22.0	VT8LN	10.25
120	60[8]	Basic 1.3A Model	14	0-120/132	1.3	VT1	1.5
120	60	No overvoltage	14	0-120	1.5	VT1N	1.5
120	60[8]	Basic 2.0A Model	14	0-120/132	2.0	VT02	2.25
120	60	No overvoltage	14	0-120	2.5	VT02N	2.25
120	60[8]	Basic 3.0A Model	14	0-120/132	3.0	VT3	3.0
120	60	No overvoltage	14	0-120	3.3	VT3N	3.0
120	50	Basic 3.5A Model	11, 14	0-120/140	3.5	VT4	5.25
120	50	No overvoltage	11, 14	0-120	4.75	VT4N	5.25
120	50	Basic 7.5A Model	11, 14	0-120/140	7.5	VT8	10.25
120	50	No overvoltage	11, 14	0-120	10.0	VT8N	10.25
120	50	Basic 20A Model	11	0-120/140	20.0	VT20	22.0
120	50	No overvoltage	11	0-120	25.0	VT20N	22.0
240[2]	50	240V Input[2]	14	0-240/280	3.0	VT8H	10.25
240[2]	50	240V In. No ovrvlt.[2]	14	0-240	4.0	VT8HN	10.25
240[2]	50	240V Input[2]		0-240/280	9.0	(VT20H)	22.0
240[2]	50	240V In. No ovrvlt.[2]		0-240	11.0	(VT20HN)	22.0

SINGLE TRANSFORMERS—CASED

120	60[8]	Fixed Mtg.		0-120/132[4]	.8	(VT1E)	1.9
120	60[8]	Portable		0-132[4]	1.0	VT-1F	2.3
120	60	Fixed Mtg.		0-120	1.0	(VT1NE)	1.9
120	60	Portable		0-120	1.2	(VT1NF)	2.3
120	60[8]	Fixed Mtg.		0-120/132[4]	1.4	(VT02E)	2.8
120	60[8]	Portable		0-132[4]	1.75	VT02F	3.2
120	60	Fixed Mtg.		0-120	1.6	(VT02NE)	2.8
120	60	Portable		0-120	2.0	VT02NF	3.2
120	50	Fixed Mtg.	12, 15	0-120/140[4]	2.8	(VT4E)	7.4
120	50	Portable	12	0-140[3]	3.5	VT4F	7.8
120	50	VT4F w/gnd. in. & out.	12, 15	0-140[3]	3.5	VT4FC	7.8
120	50	Fixed Mtg.	15	0-120	3.8	(VT4NE)	7.4
120	50	Portable		0-120	4.75	(VT4NF)	7.8
120	50	VT4NF w/gnd. in. & out.	15	0-120	4.75	VT4NFC	7.8
120	50	Fixed Mtg.	12, 15	0-120/140[4]	6.0	(VT8E)	13.5
120	50	Portable	12	0-140[3]	7.5	VT8F	13.8
120	50	VT8F w/gnd. in. & out.	12, 15	0-140[3]	7.5	VT8FC	13.8
120	50	Deluxe Portable	12	0-120/140[3]	6.0	VT8G	14.2
120	50	VT8G w/gnd. in. & out.	12, 15	0-120/140[3]	6.0	VT8GC	14.2
120	50	Fixed Mtg.	15	0-120	8.0	VT8NE	13.5
120	50	Portable		0-120	10.0	(VT8NF)	13.8
120	50	VT8NF w/gnd. in. & out.	15	0-120	10.0	VT8NFC	13.8
120	50	Basic Case		0-120/140	20.0	VT20B	22.5
120	50	Basic Case		0-120	25.0	(VT20NB)	22.5
120	50	Fixed Mtg.	12	0-120/140[4]	16.0	(VT20E)	29.0
120	50	Portable		0-140	20.0	(VT20FC)	31.0
120	50	Portable	12	0-120/140[3]	16.0	(VT20GC)	31.0
120	50	Fixed Mtg.	12	0-120	20.0	(VT20NE)	29.0
120	50	Portable		0-120	25.0	(VT20NFC)	31.0
240[2]	50	Basic Case		0-240/280	9.0	(VT20HB)	22.5
240	50	Basic Case		0-240	11.0	(VT20HNB)	22.5
240[2]	50	Fixed Mtg.		0-240/280[4]	7.2	(VT20HE)	28.0
240[2]	50	Fixed Mtg.		0-240	8.8	(VT20HNE)	28.0
240[2]	50	Portable		0-240/280	9.0	(VT20HFC)	30.0
240[2]	50	Portable		0-240	11.0	(VT20HNFC)	30.0

SINGLE TRANSFORMERS—CASED WITH METERS

120	50	w/voltmeter, gnd. conn.	15	0-120/140[3]	6.0	(VT8GCV)	15.2
120	50	w/volt. & ammtr., gnd. conn.	15	0-120/140[3]	6.0	(VT8GCVA)	15.5
120	50	w/volt. & wattmtr., gnd. conn.	15	0-120/140[3]	6.0	(VT8GCVW)	15.5
120	50	w/voltmeter, gnd. conn.	15	0-120	10.0	(VT8NFCV)	14.8

Notes:
[1] Frequency shown is a minimum—units may be used up to 1000 cps.
[2] VT8H, VT8HN, VT20H, VT20HN also have taps for 120V input with 280V output for VT8H and VT20H and 240V output for VT8HN and VT20HN. With use of 120V input the max. current rating applies up to 120V output but reduces to approx. 50% at max. output voltage. In the case of tandem units use of the low voltage inputs would correspondingly derate the current at the higher output voltages.
[3] Connected at factory for overvoltage output—easily reconnected by user for no-overvoltage output. On VT8G and VT20G, switch selects overvoltage or no-overvoltage.
[4] User wires for desired output. Dial normally calibrated for overvoltage.
[5] 2-in-tandem normally wired for series connection: 3-in-tandem for Y connection.
[6] When transformers are series connected, load cannot be grounded.
[7] Includes knob, dial and mounting hardware.
[8] May be used at 50 Hz if connected for no-overvoltage output.

SINGLE PHASE (contd.)
SINGLE TRANSFORMERS—CASED WITH METERS (contd.)

Input Volts	Freq.[1] Hz from	Feature or Connection	(UL) (SP) footnotes	Maximum Output Volts	Maximum Output Amps	Catalog No.[13]	Wt. Lbs.[7]
120	50	w/volt. & ammtr., gnd. conn.	15	0-120	10.0	(VT8NFCVA)	15.2
120	50	w/volt. & wattmtr., gnd. conn.	15	0-120	10.0	(VT8NFCVW)	15.2
120	50	w/voltmeter, gnd. conn.		0-120/140[3]	16.0	(VT20GCV)	32.0
120	50	w/volt. & ammtr., gnd. conn.		0-120/140[3]	16.0	(VT20GCVA)	32.2
120	50	w/volt. & wattmtr., gnd. conn.		0-120/140[3]	16.0	(VT20GCVW)	32.2
120	50	w/voltmeter, gnd. conn.		0-120	25.0	(VT20NFCV)	32.0
120	50	w/volt. & ammtr., gnd. conn.		0-120	25.0	(VT20NFCVA)	32.2
120	50	w/volt. & wattmtr., gnd. conn.		0-120	25.0	(VT20NFCVW)	32.2

TWO IN TANDEM ASSEMBLIES [9] [10] (Dimensions p. 33)

240	60[8]	Series Conn.[6]	14	0-240/264	1.3	(VT1-2)	3.5
240	60	Series Conn.[6]	14	0-240	1.5	(VT1N-2)	3.5
240	60[8]	Series Conn.[6]	14	0-240/264	2.0	(VT02-2)	5.25
240	60	Series Conn.[6]	14	0-240	2.5	(VT02N-2)	5.25
240	60[8]	Series Conn.[6]	14	0-240/264	3.0	VT3-2	6.5
240	60	Series Conn.[6]	14	0-240	3.3	(VT3N-2)	6.5
240	50	Series Conn.[6]	11, 14	0-240/280	3.5	(VT4-2)	11.3
240	50	Series Conn.[6]	11, 14	0-240	4.75	(VT4N-2)	11.3
240	50	Series Conn.[6]	11, 14	0-240/280	7.5	(VT8-2)	20.6
240	50	Series Conn.[6]	11, 14	0-240	10.0	VT8N-2	20.6
240	50	Series Conn.[6]	11, 14	0-240/280	20.0	(VT20-2)	45.0
240	50	Above unit, B case		0-240/280	20.0	(VT20-2B)	46.0
240	50	Series Conn.[6]	11	0-240	25.0	VT20N-2	45.0
240	50	Above unit, B case		0-240	25.0	(VT20N-2B)	46.0
480[2]	50	Series Conn.[6]		0-480/560	3.0	(VT8H-2)	20.6
480[2]	50	Series Conn.[6]		0-480	4.0	(VT8HN-2)	20.6
480[2]	50	Series Conn.[6]		0-480/560	9.0	(VT20H-2)	43
480[2]	50	Series Conn.[6]		0-480	11.0	(VT20HN-2)	43

THREE PHASE

120	60[8]	Open Delta Conn.	14	0-120/132	1.3	(VT1-2)	3.5
120	60	Open Delta Conn.	14	0-120	1.5	(VT1N-2)	3.5
120	60[8]	Open Delta Conn.	14	0-120/132	2.0	(VT02-2)	5.25
120	60	Open Delta Conn.	14	0-120	2.5	(VT02N-2)	5.25
120	60[8]	Open Delta Conn.	14	0-120/132	3.0	(VT3-2)	6.5
120	60	Open Delta Conn.	14	0-120	3.3	(VT3N-2)	6.5
120	50	Open Delta Conn.	11, 14	0-120/140	3.5	(VT4-2)	11.3
120	50	Open Delta Conn.	11, 14	0-120	4.75	(VT4N-2)	11.3
120	50	Open Delta Conn.	11, 14	0-120/140	7.5	(VT8-2)	20.6
120	50	Open Delta Conn.	11, 14	0-120	10.0	VT8N-2	20.6
120	50	Open Delta Conn.	11, 14	0-120/140	20.0	(VT20-2)	45.0
120	50	Above unit, B case		0-120/140	20.0	(VT20-2B)	46.0
120	50	Open Delta Conn.	11, 14	0-120	25.0	VT20N-2	45.0
120	50	Above unit, B case		0-120	25.0	(VT20N-2B)	46.0
240[2]	50	Open Delta Conn.	14	0-240/280	3.0	(VT8H-2)	20.6
240[2]	50	Open Delta Conn.	14	0-240	4.0	(VT8HN-2)	20.6
240[2]	50	Open Delta Conn.		0-240/280	9.0	(VT20H-2)	43
240[2]	50	Open Delta Conn.		0-240	11.0	(VT20HN-2)	43

THREE-IN-TANDEM ASSEMBLIES [5] [10]

240	60	"Y" Conn.	14	0-240°	1.3	(VT1-3)	5.3
240	60	"Y" Conn.	14	0-240°	2.0	VT02-3	8.0
240	60	"Y" Conn.	14	0-240°	3.0	(VT3-3)	9.8
240	60[8]	"Y" Conn.	11, 14	0-240/280	3.5	VT4-3	17.0
240	60[8]	"Y" Conn.	11, 14	0-240/280	7.5	(VT8-3)	31.0
240	60[8]	Above unit, E case	11	0-240/280	6.0	(VT8-3E)	40.0
240	60[8]	"Y" Conn.	11, 14	0-240/280	20.0	VT20-3	68.0
240	60[8]	Above unit, B case		0-240/280	20.0	VT20-3B	69.5
240	60	"Y" Conn.	11, 14	0-240	25.0	(VT20N-3)	68.0
240	60	Above unit, B case		0-240	25.0	(VT20N-3B)	69.5
480[2]	60[8]	"Y" Conn.		0-480/560	3.0	VT8H-3	31.0
480[2]	60[8]	"Y" Conn.		0-480/560	9.0	(VT20H-3)	65.0
480[2]	60	"Y" Conn.		0-480	11.0	(VT20HN-3)	65.0

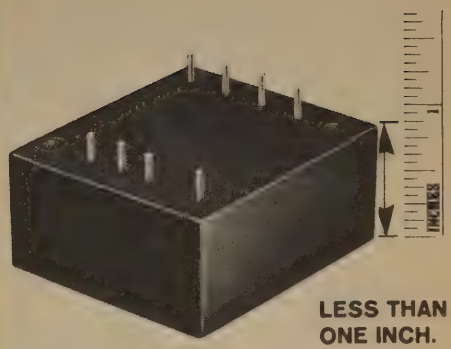
[9] Overvoltage connection must not be used.
[10] 240/280 volt cw dial standard except on VT1, VT02 and VT3 tandems where 240/264 volt dial is standard or on VT8H-2, VT8HN-2, VT8H-3, VT20H-2, VT20HN-2, VT20H-3 and VT20HN-3 where 480/560 volt dial is standard. Request other dials if desired—see "Dials" above.
[11] Underwriters' Laboratories listed under components program (File Number E10946).
[12] Underwriters' Laboratories listed under apparatus program (File Number E10946).
[13] Some items are classified "non-stock standard" due to limited usage and therefore are not stocked. Consult latest issue of catalog 300 series for availability.
[14] CSA Listed for use only in equipment where the suitability of the combination is to be determined by the Testing Laboratories. (File No. 21309).
[15] CSA Listed as apparatus. (File No. 21309).

[1] **Popular items appear in BOLD print and are usually in stock at authorized Ohmite stocking distributors. Items appearing in LIGHT FACE print are available from stocking distributors but are not normally stocked in depth. Parentheses indicate non-stock standard items subject to a $25.00 per line item minimum charge.**

FLAT

EPOXY MOLDED PLUG-IN POWER TRANSFORMERS FOR PRINTED CIRCUIT APPLICATION

ALLOW ONE INCH CARD SPACING.



LESS THAN ONE INCH.

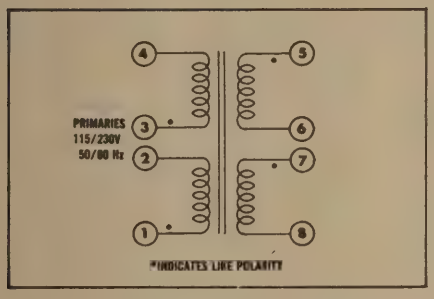
MAXIMUM HEIGHT OF 0.850 INCHES - Allows stacking with 1 inch space between PC cards.

6 VA @ 50/60 HZ - in 0.850 inch height, 7 oz weight - 40° C max. temperature rise.

EPOXY MOLDED - completely sealed - class S construction

HUM-BUCKING CONSTRUCTION - Reduced magnetic field - balanced windings.

DUAL PRIMARIES - 115/230V - 50/60HZ



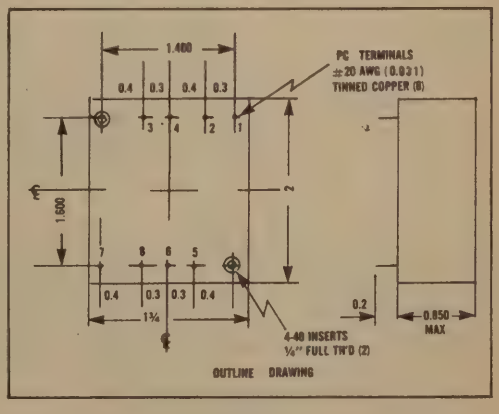
	SECONDARY*	
PART NUMBER	SERIES	PARALLEL
FP-10-600	10V CT @ 600 MA	5V @ 1.2A
FP-12-450	12.6V CT @ 450 MA	6.3V @ 900 MA
FP-16-350	16V CT @ 350 MA	8V @ 700 MA
FP-20-300	20V CT @ 300 MA	10V @ 600 MA
FP-24-250	24V CT @ 250 MA	12V @ 500 MA
FP-34-170	34V CT @ 170 MA	17V @ 340 MA
FP-40-150	40V CT @ 150 MA	20V @ 300 MA
FP-56-100	56V CT @ 100 MA	28V @ 200 MA
FP-88-65	88V CT @ 65 MA	44V @ 130 MA
FP-120-50	120V CT @ 50 MA	60V @ 100 MA
FP-230-25	230V CT @ 25 MA	115V @ 50 MA

*CORRESPONDS TO 30% REGULATION, I.E., NO LOAD SECONDARY VOLTAGE IS 30% HIGHER THAN FULL LOAD.

Signals "FP" series of epoxy molded PC plug-in power transformers offer the main advantage of 0.850 inch height with a 6VA rating at 50/60HZ. This allows its use in PC boards stacked with 1 inch centers.

Internal construction is semi-toroidal (hum bucking) which results in a reduced radiated magnetic field and balanced windings. All materials used are at least class S in rating. The transformer is completely molded and sealed in epoxy. Two 4-40 inserts are provided to assure secure mechanical mounting.

The dual primary and secondary windings offer a large diversity of output combinations with a 115/230V input. The voltages and currents are ideal for power applications in semi-conductor control and instrumentation such as single or dual output DC supplies and isolated control circuit and reference supplies.



- **We can quote on your specials up to 6 VA**
- **New sizes for ratings up to 25 VA are currently under development. Please check with us on your requirements.**

ANY UNIT
QUANTITY 1-9 pieces
$9.50 net.

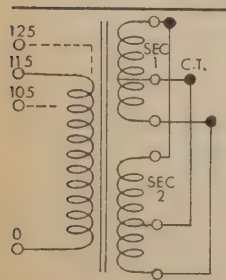
SIGNAL TRANSFORMER CO., INC

SHIPPED FROM STOCK IMMEDIATELY

HIGH & LOW CURRENT TRANSFORMERS

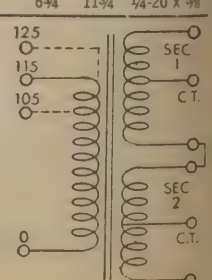
OPEN FRAME • EPOXY ENCAPSULATED (GRADE 5) • HERMETICALLY SEALED (GRADE 4)

SECONDARY VOLTS	Part No.	Primary Volts 50-500CPS	SECONDARY AMPS Series	SECONDARY AMPS Parallel	OPEN FRAME OR EPOXY ENCAPSULATED* Mtg. Style	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.	HERMETICALLY SEALED IN STEEL CASE‡ L	W	H	ML	MW	Mtg. Stud
10 or 5 V C.T. Series 0 - 2.5 - 5 - 7.5 - 10 V. Parallel 0 - 2.5 - 5 V @ 2 x Current	10-0.1	115	0.1	0.2	C	2	1½	1¾	1 23/32	—	#8	0.3	1⅝	1⅝	2⅜	1¾	1⅜	6-32 x ⅜
	10-0.25	115	0.25	0.5	C	2⅜	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2⅜	1⅜	1¼	6-32 x ⅜
	10-0.5	115	0.5	1.0	C	2⅜	1¾	2	2	—	#8	0.8	1 15/16	1 13/16	2⅜	1⅜	1¼	6-32 x ⅜
	10-1	115	1	2	C	2⅞	1¾	2 5/16	2⅜	—	#8	1.0	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
	10-2	115	2	4	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
	10-4	115	4	8	C	3 5/16	2⅜	3 1/16	3 1/16	—	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
	10-6	115	6	12	B	3⅜	2¾	2 13/16	2 13/16	2⅛	#8	3.3	3⅝	3	3¼	2 13/16	2⅛	8-32 x ⅜
	10-8	115	8	16	B	3⅜	3⅛	2 13/16	2 13/16	2½	#8	4.0	3⅝	3⅜	3¼	2 13/16	2⅜	8-32 x ⅜
	10-12	115	12	24	B	3¾	3¼	3⅛	3⅛	2½	#8	5.0	4⅛	3¾	3½	3⅛	2½	10-32 x ½
	10-25	115	25	50	B	4½	3¾	3¾	3¾	2¾	#10	8.7	4¾	5¼	4¼	3¾	4¼	10-32 x ½
	10-50	105, 115, 125	50	100	B	5¼	5½	4⅜	4⅜	3⅝	¼	17.0	5½	7	5½	4⅜	5⅞	¼-20 x ⅝
	10-100	105, 115, 125	100	200	B	6⅜	7¼	5⅝	5⅝	4⅜	¼	34.5	6¾	8¾	6½	5⅝	6¼	¼-20 x ⅝
12.8 or 6.4 C.T. Series 0 - 3.2 - 6.4 - 9.6 - 12.8 V. Parallel 0 - 3.2 - 6.4 V @ 2 x Current	12.8-0.1	115	0.1	0.2	C	2	1½	1¾	1 23/32	—	#8	0.3	1⅝	1⅝	2⅜	1¾	1⅜	6-32 x ⅜
	12.8-0.25	115	0.25	0.5	C	2⅜	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2⅜	1⅜	1¼	6-32 x ⅜
	12.8-0.5	115	0.5	1	C	2⅞	1⅝	2 5/16	2⅜	—	#8	0.8	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
	12.8-1	115	1	2	C	2⅞	2	2 5/16	2⅜	—	#8	1.2	2 5/16	2 1/16	2½	1 11/16	1 7/16	6-32 x ⅜
	12.8-2A	115	2	4	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5	2¾	2⅝	2⅞	2⅛	1¾	6-32 x ⅜
	12.8-2	115	2	4	B	3	2½	2½	2½	2	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
	12.8-4	115	4	8	B	3	2⅞	2½	2½	2⅜	#8	2.8	3¼	3⅛	2⅞	2½	2⅜	8-32 x ⅜
	12.8-6	115	6	12	B	3⅜	3 1/16	2 13/16	2 13/16	2½	#8	4.0	3⅝	3⅜	3¼	2 13/16	2⅜	8-32 x ⅜
	12.8-8	115	8	16	B	3¾	3⅛	3⅛	3⅛	2¼	#8	4.5	4⅛	3½	3½	3⅛	2¼	10-32 x ½
	12.8-12	115	12	24	B	4⅛	3¼	3 7/16	3 7/16	2⅜	#10	6.0	4½	3¾	3⅞	3 7/16	2⅜	10-32 x ½
	12.8-25	115	25	50	B	5¼	4¼	4⅜	4⅜	2⅞	#10	12.5	5½	5¾	5¼	4⅜	5⅝	¼-20 x ⅝
	12.8-50	105, 115, 125	50	100	B	5¼	6	4⅜	4⅜	4⅛	¼	20.7	5½	7½	5½	4⅜	6⅜	¼-20 x ⅝
	12.8-100	105, 115, 125	100	200	B	6⅜	7¼	5⅝	5⅝	4⅜	¼	34.5	6¾	8¾	6½	5⅝	6¼	¼-20 x ⅝
16 or 8 V C.T. Series 0 - 4 - 8 - 12 - 16 V. Parallel 0 - 4 - 8 @ 2 x Current	16-0.1	115	0.1	0.2	C	2	1⅝	1¾	1 23/32	—	#8	0.4	1⅝	1⅝	2⅜	1¾	1⅜	6-32 x ⅜
	16-0.25	115	0.25	0.5	C	2⅜	1¾	2	2	—	#8	0.7	1 15/16	1 13/16	2⅜	1⅜	1¼	6-32 x ⅜
	16-0.5	115	0.5	1	C	2⅞	1⅝	2 5/16	2⅜	—	#8	0.8	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
	16-1	115	1	2	C	2⅞	2	2 5/16	2⅜	—	#8	1.2	2 5/16	2 1/16	2½	1 11/16	1 7/16	6-32 x ⅜
	16-2	115	2	4	C	3⅛	2¼	2¾	2 13/16	—	#8	1.7	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
	16-4	115	4	8	B	3⅜	2¾	2 13/16	2 13/16	2⅛	#8	3.3	3⅝	3	3¼	2 13/16	2⅛	8-32 x ⅜
	16-6	115	6	12	B	3¾	3⅛	3⅛	3⅛	2¼	#10	4.5	4⅛	3½	3½	3⅛	2¼	10-32 x ½
	16-8	115	8	16	B	3¾	3½	3⅛	3⅛	2⅝	#10	5.4	4⅛	3¾	3½	3⅛	2½	10-32 x ½
	16-12	115	12	24	B	4⅛	3⅞	3⅝	3 7/16	3	#10	7.9	4½	4½	3⅞	3 7/16	3	10-32 x ½
	16-25	115	25	50	B	4½	5⅜	4	3¾	4	#10	14.5	4¾	6½	4¼	3¾	5½	10-32 x ½
	16-50	105, 115, 125	50	100	B	6⅜	5¾	5 5/16	5 5/16	3¾	¼	26.5	6¾	6⅝	6	5 5/16	5⅛	¼-20 x ⅝
	16-100	105, 115, 125	100	200	B	7½	7½	6⅜	6¾	4⅝	¼	50.0	8	8½	7	6¾	7¼	¼-20 x ⅝
24 or 12 C.T. Series 0 - 6 - 12 - 18 - 24 V. Parallel 0 - 6 - 12 V @ 2 x Current	24-0.1	115	0.1	0.2	C	2⅜	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1⅜	1¼	6-32 x ⅜
	24-0.25	115	0.25	0.5	C	2⅞	1¾	2 5/16	2⅜	—	#8	1.0	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
	24-0.5	115	0.5	1	C	2⅞	2	2 5/16	2⅜	—	#8	1.2	2 5/16	2 1/16	2½	1 11/16	1 7/16	6-32 x ⅜
	24-1A	115	1	2	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
	24-1	115	1	2	B	3	2½	2½	2½	2	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
	24-2	115	2	4	B	3	2⅞	2½	2½	2⅜	#8	2.9	3¼	3⅛	2⅞	2½	2⅜	8-32 x ⅜
	24-4	115	4	8	B	3¾	3⅛	3⅛	3⅛	2¼	#8	4.5	4⅛	3½	3½	3⅛	2¼	10 32 x ½
	24-6	115	6	12	B	4⅛	3¼	3 7/16	3 7/16	2⅜	#10	5.8	4½	3¾	3⅞	3 7/16	2⅜	10-32 x ½
	24-8	115	8	16	B	4⅛	3⅞	3⅝	3 7/16	3	#10	7.9	4½	4½	3⅞	3 7/16	3	10-32 x ½
	24-12	105, 115, 125	12	24	B	4½	4½	3¾	3¾	3⅜	#10	11.0	4¾	5⅜	4¼	3¾	4⅜	10-32 x ½
	24-20	105, 115, 125	20	40	B	5¼	4¾	4⅜	4⅜	3⅜	¼	15.3	5½	5½	5¼	4⅜	3½	¼-20 x ⅝
	24-25	105, 115, 125	25	50	B	5¼	5⅝	4⅜	4⅜	4⅛	¼	19.5	5½	6½	5¼	4⅜	5⅜	¼-20 x ⅝
	24-50	105, 115, 125	50	100	B	6⅜	6¼	5 5/16	5 5/16	4⅜	¼	31.3	6¾	7½	6	5 5/16	6	¼-20 x ⅝
	24-100	115/230	100	200	B	7½	7	6⅜	6¾	4⅛	¼	43	8	8	7	6¾	6¾	¼-20 x ⅝
36 or 18 V C.T. Series 0 - 9 - 18 - 27 - 36 V. Parallel 0 - 9 - 18 V @ 2 x Current	36-0.1	115	0.1	0.2	C	2⅜	1⅝	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1⅜	1¼	6-32 x ⅜
	36-0.25	115	0.25	0.5	C	2⅞	1⅝	2 5/16	2⅜	—	#8	0.8	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
	36-0.5	115	0.5	1	C	3⅛	2	2¾	2 13/16	—	#8	1.3	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
	36-1A	115	1	2	C	3 1/16	2⅜	3 1/16	3⅛	—	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
	36-1	115	1	2	B	3	2¾	2½	2½	2¼	#8	2.6	3¼	3⅛	2⅞	2½	2⅜	8-32 x ⅜
	36-2	115	2	4	B	3⅜	2 15/16	2 13/16	2 13/16	2⅜	#8	3.8	3⅝	3⅜	3¼	2 13/16	2⅜	8-32 x ⅜
	36-4	115	4	8	B	4⅛	3⅜	3 7/16	3 7/16	2⅝	#10	6.8	4½	3¾	3⅞	3 7/16	2⅜	10-32 x ½
	36-6	115	6	12	B	4½	3¾	3¾	3¾	2¾	#10	8.7	4¾	4¼	4¼	3¾	2⅞	10-32 x ½
	36-8	105, 115, 125	8	16	B	4½	4½	4⅛	3¾	3⅜	#10	11.0	4¾	5	4⅜	3¾	3⅜	10-32 x ½
	36-12	105, 115, 125	12	24	B	5¼	5	4⅜	4⅜	3⅜	¼	15.0	5½	5½	5¼	4⅜	3½	¼-20 x ⅝
	36-20	105, 115, 125	20	40	B	6⅜	5⅜	5 5/16	5 5/16	3⅜	¼	22.8	6¾	5¾	5¾	5 5/16	4¼	¼-20 x ⅝
	36-25	105, 115, 125	25	50	B	6⅜	5¾	5 5/16	5 5/16	3¾	¼	26.5	6¾	6⅝	6	5 5/16	5⅛	¼-20 x ⅝
	36-30	105, 115, 125	30	60	B	6⅜	6	5 5/16	5 5/16	4⅜	¼	31.5	6¾	7½	6	5 5/16	6	¼-20 x ⅝
	36-50	115/230	50	100	B	6⅜	7¼	5 5/16	5 5/16	5⅛	¼	40.0	6¾	8	6	5 5/16	6½	¼-20 x ⅝
	36-100	115/230	100	200	B	7½	9	6¼	6¾	5½	¼	63.5	8	10	7	6¾	8¾	¼-20 x ⅝
56 or 28 V C.T. Series 0 - 14 - 28 - 42 - 56 V. Parallel 0 - 14 - 28 V @ 2 x Current	56-0.1	115	0.1	0.2	C	2⅜	1¾	2	2	—	#8	.8	1 15/16	1 13/16	2 7/16	1⅜	1¼	6-32 x ⅜
	56-0.25	115	0.25	0.5	C	2⅞	2	2 5/16	2⅜	—	#8	1.2	2 5/16	2 1/16	2½	1 11/16	1 7/16	6-32 x ⅜
	56-0.5	115	0.5	1	C	3⅛	2¼	2¾	2 13/16	—	#8	1.7	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
	56-1	115	1	2	B	3⅜	2⅞	2 13/16	2 13/16	2¼	#8	3.5	3⅝	3⅜	3¼	2 13/16	2⅜	8-32 x ⅜
	56-2	115	2	4	B	3¾	3¼	3⅛	3⅛	2½	#8	5.0	4⅛	3¾	3½	3⅛	2½	10-32 x ½
	56-4	115	4	8	B	4⅛	3¾	3 7/16	3 7/16	3	#10	7.7	4½	4½	3⅞	3 7/16	3	10-32 x ½
	56-6	115	6	12	B	5¼	4¼	4⅜	4⅜	2⅞	#10	12.0	5½	4¾	5	4⅜	3	¼-20 x ⅝
	56-8	105, 115, 125	8	16	B	5¼	5	4⅜	4⅜	3⅝	¼	17.0	5½	5½	5¼	4⅜	3½	¼-20 x ⅝
	56-12	105, 115, 125	12	24	B	6⅜	5¼	5 5/16	5 5/16	3⅜	¼	22.0	6¾	5¾	5¾	5 5/16	4¼	¼-20 x ⅝
	56-25	105, 115, 125	25	50	B	6⅜	7⅛	5 5/16	5 5/16	5⅛	¼	38.0	6¾	8	6	5 5/16	6½	¼-20 x ⅝
	56-50	115/230	50	100	B	7½	7½	6¼	6¾	4⅞	¼	56.3	8	8½	7	6¾	7¼	¼-20 x ⅝
	56-100	115/230	100	200	B	7½	11¼	6¼	6¾	8¼	¼	95.0	8	13	7	6¾	11¾	¼-20 x ⅝



PARALLEL CONNECTED SECONDARIES

SERIES CONNECTED SECONDARIES



All transformers are designed conservatively for a max of 45°C rise above ambient, for use on 115V power line from 50-500 cps. Only prime raw materials are used. Units are thoroughly impregnated and baked with Signal's own high gloss black baking varnish. The transformers and chokes are rugged in construction, well-insulated, and have a consistently uniform appearance. All ratings are at full load current continuous operation.

Electrical ratings have been chosen to cover a wide range of applications. All transformers have two center-tapped secondary windings.

Special variations such as dual primaries, 230V primaries, electrostatic shields, etc. are available on special order.

SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

© United Technical Publications

HIGH & LOW CURRENT TRANSFORMERS

OPEN FRAME • EPOXY ENCAPSULATED (GRADE 5) • HERMETICALLY SEALED (GRADE 4)

0.1 to 200 Amps
2.5 to 300 Volts

IDEAL FOR USE IN SINGLE OR DUAL DC POWER SUPPLIES

SECONDARY VOLTS	Part No.	Primary Volts 50-500CPS	SECONDARY AMPS Series	SECONDARY AMPS Parallel	OPEN FRAME OR EPOXY ENCAPSULATED* Mtg. Style	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.	HERMETICALLY SEALED IN STEEL CASE‡ L	W	H	ML	MW	Mtg. Stud
68 or 34 C.T. Series 0 - 17 - 34 - 51 - 68 V Parallel 0 - 17 - 34 V @ 2 x Current	68-0.1	115	0.1	0.2	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	68-0.25	115	0.25	0.5	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	68-0.5A	115	0.5	1	C	3 1/8	2 1/4	2 3/4	2 13/16	—	#8	1.7	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	68-0.5	115	0.5	1	B	3	2 3/4	2 1/2	2 1/2	2 1/4	#8	2.7	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	68-1	115	1	2	B	3 3/8	2 15/16	2 13/16	2 13/16	2 3/8	#8	3.8	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	68-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	68-4	115	4	8	B	4 1/2	4 1/2	4 1/8	3 3/4	3 3/8	#10	11.5	4 3/4	5	4 3/8	3 3/4	3 3/8	10-32 x 1/2
	68-6	105, 115, 125	6	12	B	5 1/4	5	4 3/8	4 3/8	3 3/8	1/4	15.0	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	68-8	105, 115, 125	8	16	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	68-12	105, 115, 125	12	24	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	26.5	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	68-25	115/230	25	50	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	39.7	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	68-50	115/230	50	100	B	7 1/2	9	6 1/4	6 3/4	5 7/16	1/4	58.5	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
80 or 40 C.T. Series 0 - 20 - 40 - 60 - 80 V Parallel 0 - 20 - 40 V @ 2 x Current	80-0.1	115	0.1	0.2	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	80-0.25	115	0.25	0.5	C	3 1/8	2	2 3/4	2 13/16	—	#8	1.3	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	80-0.5A	115	0.5	1	C	3 5/16	2 3/8	3 1/16	3 1/8	—	#8	2.2	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	80-0.5	115	0.5	1	B	3	2 3/4	2 1/2	2 1/2	2 1/4	#8	2.8	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	80-1	115	1	2	B	3 3/8	3 1/16	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	80-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	80-4	115	4	8	B	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	1/4	12.3	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	80-6	105, 115, 125	6	12	B	5 1/4	5 1/2	4 5/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	80-8	105, 115, 125	8	16	B	6 3/8	5 1/4	5 5/16	5 5/16	3 1/4	1/4	20.5	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	80-12	105, 115, 125	12	24	B	6 3/8	6	5 5/16	5 5/16	4 1/8	1/4	29.0	6 3/4	6 5/8	6	6 5/16	5 1/8	1/4-20 x 5/8
	80-25	115/230	25	50	B	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	1/4	40.3	8	7	7	6 3/4	6 3/4	1/4-20 x 5/8
	80-50	115/230	50	100	B	7 1/2	9	6 1/4	6 3/4	6 1/2	1/4	78.0	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
88 or 44 C.T. Series 0 - 22 - 44 - 66 - 88 V Parallel 0 - 22 - 44 V @ 2 x Current	88-0.1	115	0.1	0.2	C	2 7/8	1 3/4	2 5/16	2 3/8	—	#8	1.0	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	88-0.25	115	0.25	0.5	C	3 1/8	2 1/8	2 3/4	2 13/16	—	#8	1.5	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	88-0.5	115	0.5	1	C	3 5/16	2 3/8	3 1/16	3 1/8	—	#8	2.2	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	88-1	115	1	2	B	3 3/4	3	3 1/8	3 1/8	2 1/4	#8	4.5	4 1/8	3 1/2	3 1/2	3 1/8	2 1/4	10-32 x 1/2
	88-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	88-4	115	4	8	B	5 1/4	4 1/2	4 3/8	4 3/8	3 1/8	1/4	13.4	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	88-6	105, 115, 125	6	12	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	88-8	105, 115, 125	8	16	B	6 3/8	5 3/8	5 5/16	5 5/16	3 3/8	1/4	22.8	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	88-12	105, 115, 125	12	24	B	6 3/8	6 1/2	5 5/16	5 5/16	4 5/8	1/4	35.0	6 3/4	7	5 3/4	5 5/16	5 1/2	1/4-20 x 5/8
	88-25	115/230	25	50	B	7 1/2	8	6 1/4	6 3/4	5 5/8	1/4	62.0	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
	88-50	115/230	50	100	B	7 1/2	11	6 1/4	6 3/4	8 5/8	1/4	100.0	8	13	7	6 3/4	11 3/4	1/4-20 x 5/8
120 or 60 C.T. Series 0 - 30 - 60 - 90 - 120 V Parallel 0 - 30 - 60 V @ 2 x Current	120-0.5	115	0.5	1.0	B	3 3/8	2 7/8	2 13/16	2 13/16	2 1/4	#8	3.2	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	120-1	115	1	2	B	3 3/4	3 3/8	3 1/8	3 1/8	2 3/4	#8	5.8	4 1/8	4	3 1/2	3 1/8	2 7/8	10-32 x 1/2
	120-2	115	2	4	B	4 1/2	3 3/4	3 3/4	3 3/4	2 3/4	#10	8.5	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	120-4	115	4	8	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	17.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	120-6	105, 115, 125	6	12	B	6 3/8	6	5 5/16	5 5/16	3 7/8	1/4	27.0	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	120-8	105, 115, 125	8	16	B	6 3/8	6 1/2	5 5/16	5 5/16	4 5/8	1/4	34.0	6 3/4	7	5 3/4	5 5/16	5 1/2	1/4-20 x 5/8
	120-12	105, 115, 125	12	24	B	6 3/8	7 1/4	5 5/16	5 5/16	5 3/8	1/4	42.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	120-20	105, 115, 125	20	40	B	7 1/2	8	6 1/4	6 3/4	5 3/8	1/4	57.0	8	9	7	6 3/4	7 3/4	1/4-20 x 5/8
160 or 80 C.T. Series 0 - 40 - 80 - 120 - 160 V Parallel 0 - 40 - 80 V @ 2 x Current	160-0.5	115	0.5	1	B	3 3/8	3 1/16	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	160-1	115	1	2	B	4 1/8	3 5/8	3 7/16	3 7/16	2 5/8	#10	6.5	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	160-2	115	4	8	B	4 1/2	4 3/8	3 3/4	3 3/4	3 3/8	#10	11.0	4 3/4	5	4 3/8	3 3/4	3 3/8	10-32 x 1/2
	160-4	105, 115, 125	4	8	B	6 3/8	5 1/4	5 5/16	5 5/16	3 1/4	1/4	21.0	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	160-8	105, 115, 125	8	16	B	6 3/8	6 3/4	5 5/16	5 5/16	4 7/8	1/4	36.0	6 3/4	7 1/2	6	5 5/16	6	1/4-20 x 5/8
	160-12	115/230	12	24	B	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	1/4	39.8	8	8	7	6 3/4	6 3/4	1/4-20 x 5/8
180 or 90 C.T. Series 0 - 45 - 90 - 135 - 180 V Parallel 0 - 45 - 90 @ 2 x Current	180-0.5	115	0.5	1	B	3 3/4	3 3/8	3 1/8	3 1/8	2 3/4	#8	5.8	4 1/8	4	3 1/2	3 1/8	2 3/8	10-32 x 1/2
	180-1	115	1	2	B	4 1/8	3 7/8	3 5/8	3 7/16	3	#10	8.2	4 1/2	4 1/2	3 7/8	3 7/16	3	10-32 x 1/2
	180-2	115	2	4	B	5 1/4	5	4 3/8	4 3/8	3 5/8	1/4	15.8	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	180-4	115	4	8	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	27.0	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	180-6	105, 115, 125	6	12	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	37.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	180-8	105, 115, 125	8	16	B	6 3/8	7 3/4	5 5/16	5 5/16	5 5/8	1/4	42.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	180-12	105, 115, 125	12	24	B	7 1/2	8 1/4	6 1/4	6 3/4	5 5/8	1/4	62.0	8	9	7	6 3/4	7 3/4	1/4-20 x 5/8
230 or 115 C.T. Series 0-57 1/2-115-172 1/2-230 V Parallel 57 1/2 - 115 V @ 2 x Current	230-0.5	115	0.5	1	B	3 3/4	3 5/8	3 1/8	3 1/8	3	#8	6.5	4 1/8	4	3 1/2	3 1/8	2 7/8	10-32 x 1/2
	230-1	115	1	2	B	4 1/2	3 3/4	3 3/4	3 3/4	3	#10	9.4	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	230-2	115	2	4	B	5 1/4	4 3/4	4 3/8	4 3/8	3 3/8	1/4	14.5	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	230-4	105, 115, 125	4	8	B	6 3/8	6	5 5/16	5 5/16	4 1/8	1/4	28.4	6 3/4	6 3/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	230-6	105, 115, 125	6	12	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	38.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
300 or 150 C.T. Series 0-75-150-225-300 V Parallel 0 - 75 - 150 V @ 2 x Current	300-0.5	115	0.5	1	B	4 1/2	3 1/2	3 3/4	3 3/4	2 1/2	#10	7.0	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	300-1	115	1	2	B	5 1/4	4 1/8	4 3/8	4 3/8	3	1/4	12.8	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	300-2	115	2	4	B	5 1/4	5 3/4	4 3/8	4 3/8	4 1/2	1/4	21.0	5 1/2	6 1/4	5	4 3/8	5 1/8	1/4-20 x 5/8
	300-4	105, 115, 125	4	8	B	6 3/8	5 3/4	5 5/16	5 5/16	3 7/8	1/4	27.5	6 3/4	6 3/8	6	5 5/16	5 1/8	1/4-20 x 5/8

AVAILABLE IN 3 STYLES

FOR OPEN FRAME USE PART NUMBERS SHOWN

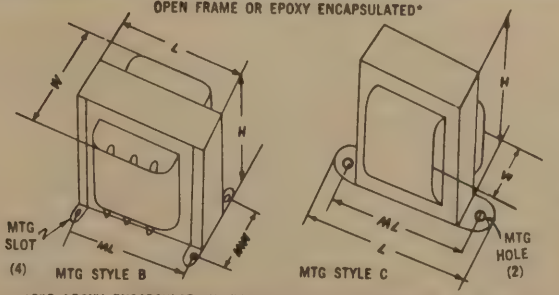
* For epoxy encapsulation add prefix "E-" to Part No., e.g., E-36-1 add 3/16 to L, W, H Dim. Grade 5.
‡ For hermetically sealed units add prefix "H-" to Part No., e.g., H-36-1. Grade 4.

AVAILABLE IN 3 STYLES

METHOD OF DETERMINING SECONDARY CURRENT RATINGS

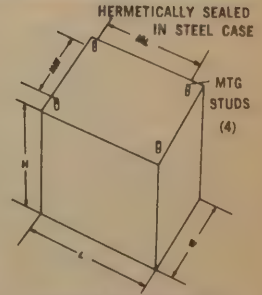
RECTIFIER TYPE	FILTER TYPE	RMS SECONDARY CURRENT
Full Wave Center-Tap	Choke Input	.7 × DC amps
Full Wave Center-Tap	Capacitor Input	1.2 × DC amps
Full Wave Bridge	Choke Input	= to DC amps
Full Wave Bridge	Capacitor Input	1.8 × DC Amps

OPEN FRAME OR EPOXY ENCAPSULATED*



*FOR EPOXY ENCAPSULATION, PART NO'S "E" — ADD 3/16" TO L, W, H

HERMETICALLY SEALED IN STEEL CASE



PART NO'S WITH PREFIX "H"

SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

© United Technical Publications

HIGH & LOW CURRENT CHOKES 0.1 to 1000 AMPS

OPEN FRAME • EPOXY ENCAPSULATED (GRADE 5) • HERMETICALLY SEALED (GRADE 4)

Signal's line of High and Low Current Chokes is the most extensive available. It is designed to complement the selection of High and Low Current Transformers so that a set may be specified for power supplies using inductive filters.

The inductance ratings given are minimum values guaranteed at full DC current. All resistance ratings are maximum values.

Special variations or intermediate values of inductance, current, or resistance can be supplied promptly and accurately.

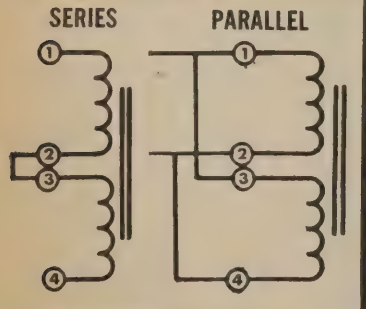
FOR MECHANICAL DIMENSIONS REFER TO TRANSFORMER OUTLINES ON PREVIOUS PAGE

PART No.	IND. (MHY)	CURR. (Amps)	RES. (Ohms)	OPEN FRAME OR EPOXY ENCAPSULATED* MTG. STYLE	L	W	H	ML	MW	MTG. SCREW	APPR. LBS.	HERMETICALLY SEALED IN STEEL CASE‡ L	W	H	ML	MW	MTG. STUD
CH-0.1	1000	0.1	25	C	2	1½	1¾	1 23/32	—	#8	0.3	1⅝	1⅝	2 3/16	1 3/16	1 3/16	6-32 x ⅜
CH-0.2	800	0.2	15	C	2⅜	1⅝	2	2	—	#8	0.7	1 15/16	1 13/16	2 1/16	1⅜	1¼	6-32 x ⅜
CH-0.25	800	0.25	10.0	C	2⅞	1¾	2 5/16	2⅜	—	#8	1.0	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
CH-0.5	400	0.5	4.0	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
CH-1	100	1	1.5	B	3	2½	2½	2½	2	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
CH-2	70	2	0.9	B	3⅜	2¾	2⅞	2 13/16	2⅛	#8	3.2	3⅝	3	3¼	2 13/16	2⅛	8-32 x ⅜
CH-4	70	4	0.6	B	3¾	3⅛	3¼	3⅛	2½	#8	5.3	4⅛	3½	3½	3⅛	2½	8-32 x ⅜
CH-6	40	6	0.4	B	3¾	3⅝	3¼	3⅛	3	#8	6.5	4⅛	4	3½	3⅛	2⅞	8-32 x ⅜
CH-8	30	8	0.3	B	4⅛	3⅝	3½	3 7/16	3	#10	8	4½	4	3⅞	3 7/16	3	10-32 x ½
CH-12	15	12	0.1	B	5¼	4	4 7/16	4⅜	3⅛	#10	13.7	5½	4½	5	4⅜	3⅛	10-32 x ½
CH-16	15	16	.08	B	5¼	4⅝	4 7/16	4⅜	3⅝	#10	17.5	5½	5⅛	5	4⅜	3⅝	10-32 x ½
CH-20	7	20	.05	B	5¼	4	4 7/16	4⅜	3⅛	#10	13.3	5½	4¾	5	4⅜	3⅛	10-32 x ½
CH-25	5	25	.025	B	5¼	4¾	4 7/16	4⅜	3⅞	#10	17.8	5½	5⅜	5	4⅜	3⅞	¼-20 x ⅝
CH-30	4	30	.01	B	6⅜	5	5⅜	5 5/16	3⅜	¼	24.4	6¾	5¼	5⅞	5 5/16	3⅜	¼-20 x ⅝
CH-50	1.4	50	0.01	B	6⅜	5¼	5⅜	5 5/16	3¾	¼	26.7	6¾	5¼	5⅞	5 5/16	3¾	¼-20 x ⅝
CH-100	0.5	100	0.005	B	6⅜	6¼	5⅜	5 5/16	4⅛	¼	31.4	6¾	6⅝	5⅞	5 5/16	4⅛	¼-20 x ⅝
CH-200	0.3	200	0.001	B	7½	7	6⅜	6¾	4⅛	¼	48.0	NOT AVAILABLE					
CH-250	0.3	250	0.00115	B	7½	8	6¼	6¾	5⅛	¼	56.0	NOT AVAILABLE					
CH-500	0.055	500	0.00027	B	7½	6½	6⅜	6¾	4⅛	¼	50.0	NOT AVAILABLE					
CH-1000	0.015	1,000	0.000065	B	7½	6½	6¾	6¾	4⅜	¼	70.0	NOT AVAILABLE					

AVAILABLE IN 3 STYLES — FOR OPEN FRAME USE PART NUMBERS SHOWN ABOVE

* For epoxy encapsulation add prefix "E-" to Part No., e.g., E-CH-1 add 3/16 to L, W, H W, H Dim. Grade 5.
‡ For hermetically sealed units add prefix "H" to Part No., e.g., H-CH-1, Grade 4.

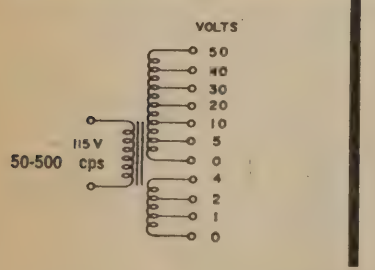
DUAL CHOKES FOR LOWER INDUCTANCE APPLICATIONS



Part No.	Series Connected Ind. (MHY)	Curr. (Amps)	Res. (Ohms)	Parallel Connected Ind. (MHY)	Curr. (Amps)	Res. (Ohms)	Mtg. Style	Dimensions L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
CL-1-2	72	1	1.4	18	2	0.35	C	2⅞	1¾	2 5/16	2⅜	—	#8	0.9
CL-2-4	40	2	0.7	10	4	0.18	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5
CL-4-8	20	4	0.3	5	8	0.075	B	3	2⅞	2½	2½	2¼	#8	3.0
CL-6-12	12	6	0.15	3	12	0.038	B	3⅜	3 1/16	2 13/16	2 13/16	2½	#8	4.0
CL-12-24	4.8	12	0.052	1.2	24	0.013	B	3⅜	3 1/16	2 13/16	2 13/16	3	#8	5.3
CL-25-50	1.2	25	0.012	0.3	50	0.003	B	3¾	3⅜	3⅛	3⅛	2¾	#8	6.0
CL-50-100	0.5	50	0.0043	0.12	100	0.0011	B	4½	3¾	3¾	3¾	2½	#8	8.0

Signal's Dual Chokes are supplied with 2 windings which may be series or parallel connected with rating shown on chart. This line is basically designed for applications requiring lower inductance values at high currents, such as low voltage, DC supplies or SCR filters. Ideal for use to reduce ripple in our ferro-resonant (CDC) line.

MULTI-VOLT 1 to 54 VOLTS in 1 VOLT STEPS



"MV" LINE

MV (multi-voltage) secondaries may be series connected for any output from 1 to 54 volts, in 1 volt steps, at rated current. This is accomplished by using the small buck-boost secondary.

Part No.	Secondary Amps.	DIMENSIONS L	W	H	ML	MW	Appr. Wt.
MV-1	1	3⅜	2¾	2 13/16	2 13/16	2⅛	3.2
MV-2	2	3¾	3⅛	3⅛	3⅛	2⅜	5.0
MV-4	4	4½	3⅝	3¾	3¾	2½	7.5
MV-6	6	5¼	4	4⅜	4⅜	2⅞	12
M-12	12	5¼	6	4⅜	4⅜	4⅝	23

SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

© United Technical Publications

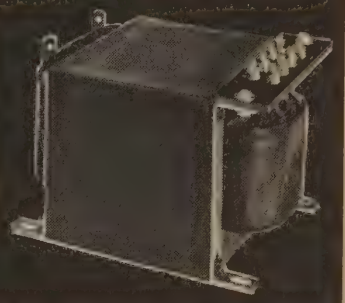
VERY HIGH CURRENT

TRANSFORMERS & CHOKES

250 to 1400 AMPERES

NEVER AVAILABLE BEFORE

STOCKED FOR SAME DAY SHIPMENT

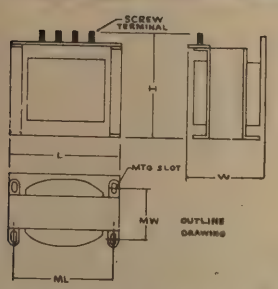


TRANSFORMERS

Part No.	Secondary Volts	Secondary Amps. Nominal (45°C rise)	Secondary Amps. Max. (100°C rise)	Dimensions L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
6-250	6	250	350	7½	5	7¼	6¾	3⅜	¼	32
9-250	9	250	350	7½	5¾	7¼	6¾	4⅜	¼	40
12-250	12	250	350	7½	6¼	7¼	6¾	4 13/16	¼	48
6-500	6	500	700	7½	6	7¼	6¾	4⅜	¼	40
9-500	9	500	700	7½	8½	7¼	6¾	6 1/16	¼	60
12-500	12	500	700	7½	9	7¼	6¾	7 5/16	¼	80
3-1000	3	1000	1400	7½	6	7¼	6¾	4⅜	¼	40
6-1000	6	1000	1400	7½	9	7¼	6¾	7 5/16	¼	80

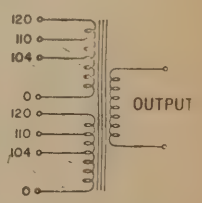
CHOKES

Part No.	Inductance (Milli-hy)	Current (Amperes)	Resis. (Ohms)	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
CH-250	.3	250	.00115	7½	8	6¼	6¾	5⅛	¼	56
CH-500	.055	500	.00027	7½	6½	6¼	6¾	4⅛	¼	50
CH-1000	.015	1000	.000065	7½	7½	6¼	6¾	5⅛	¼	70

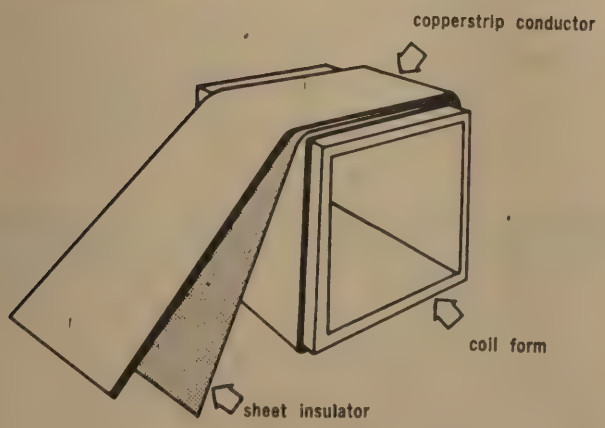


As shown on the schematic diagram dual primaries are provided. This permits parallel connection for 104, 110, or 120 volts or series connection for 208, 214, 220, 230, and 240 volts. Frequency range is 50 to 500 cps.

It is important to note that primary taps may be used to adjust the secondary voltages. Line voltages up to 125V (parallel) or 250V (series) may be used on the lowest primary tap. Nickel plated screw terminals are provided on a heavy phenolic board for easy primary connections.



WINDINGS OF HEAVY COPPER STRIP



STRIP-WOUND SECONDARIES

At the heavy current used in this line it becomes practical and desirable to use wide copper strip (as wide as the coil itself) for windings. Besides the obvious advantages of excellent winding space factor, the heat dissipation of the coil is improved. This improvement is due to the fact that the heat generated in the windings has a pure copper path to the coil ends, where it can be dissipated. In conventional windings of many turns per layer this heat flow is impeded by wire insulation and air spaces between turns. Therefore, the use of copper strip windings yields a dramatic reduction in size and weight.

GRAIN-ORIENTED STEEL CORE

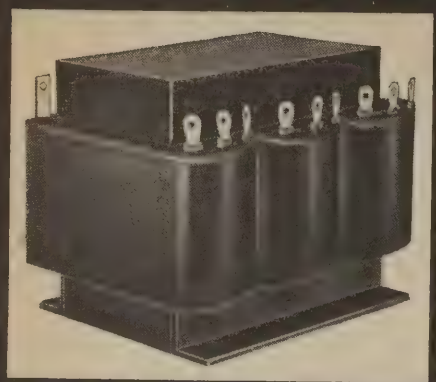
These cores permit the use of higher peak flux densities for the same core loss. This results in a lower number of turns required and therefore, a smaller, more compact transformer.

CLASS F INSULATION USED THROUGHOUT

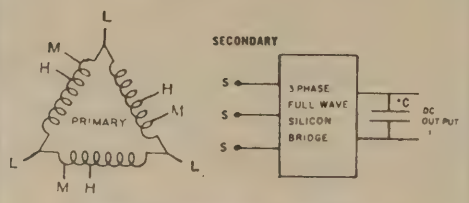
Class F insulation is rated for unlimited life at a total temperature of 155°C (ambient plus temperature rise).

Class A insulation has a maximum temperature rating of 105°C. The "nominal" current ratings given to this series are for a temperature rise of 45°C above 55°C ambient (Class A). Since Class F insulation is used it is permissible to increase these ratings by 40% (700 and 1400 amperes) without reducing the reliability of the transformer. The temperature rise will be 100°C over a 55°C ambient. The only limitation is not the transformer, but the temperature rating of surrounding components which may be affected by the additional heat radiated by the transformer.

3 PHASE HIGH CURRENT RECTIFIER TRANSFORMERS

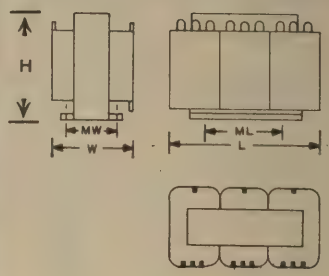


SCHEMATIC DIAGRAM



*C — Optional, no capacitor will give DC output shown at approx. 5% ripple.

MECHANICAL DIMENSIONS



DC OUTPUT VOLTAGE

PART NO.	PRI TAP "L" SUPPLY VOLTAGE 208	PRI TAP "L" SUPPLY VOLTAGE 220	PRI TAP "M" SUPPLY VOLTAGE 208	PRI TAP "M" SUPPLY VOLTAGE 220	PRI TAP "H" SUPPLY VOLTAGE 208	PRI TAP "H" SUPPLY VOLTAGE 220	DC RATED AMPS	APPROX. DIMENSIONS L	W	H	ML	MW	APX. LBS.
3PH 24-50	24	25	26	27.5	28	30	50	7¾	6	5½	4.8	4⅞	35
3PH 24-100	24	25	26	27.5	28	30	100	11½	5	8¼	7.2	4	62
3PH 24-200	24	25	26	27.5	28	30	200	11½	8⅜	8¼	7.2	6¼	90
3PH 48-30	42	44	47	50	52	55	30	7¾	6	5½	4.8	4⅞	35
3PH 48-60	42	44	47	50	52	55	60	11½	5	8¼	7.2	4	62
3PH 48-120	42	44	47	50	52	55	120	11½	8⅝	8¼	7.2	6¼	90

At higher power loads (above 2-3 KVA) it becomes inefficient to use single phase 115 or 230 volt standard lines. With this in mind, our engineering staff has developed a line of 3 phase transformers for use off 208 or 220V 3 phase power lines. These offer the significantly higher conversion efficiency and lighter power line drain of 3 phase systems. Since the principal application of these items is in high power dc power supplies, output ratings are given in dc voltage and current assuming the use of a 3 phase full wave rectifier.

AUTO TRANSFORMERS 50/60 HZ

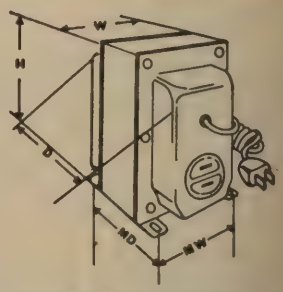
SEE OUR COMPLETE "FLEISHMAN ELECTRIC" LINE IN RADIO-ELECTRONIC MASTERS

STEP-DOWN 230 TO 115 V
"SD" SERIES — LINE CORD & RECEPTACLE

VA Rating	Part No.	W	D	H	MW	MD	Mtg. Screw	Appr. Lbs.
100	SD-100	2⅝	2⅞	3⅛	2	1 13/16	#8	2.3
150	SD-150	2⅝	3½	3⅛	2	2 1/16	#8	3.6
250	SD-250	3⅞	3½	4⅝	3	2⅜	#8	6.2
350	SD-350	3⅞	4¼	4⅝	3	3 1/16	#8	8.3
500	SD-500	3⅞	4¾	4⅝	3	3 9/16	#8	10.5
750	SD-750	4⅝	5⅜	5⅜	3½	3¾	¼	14.5
1000	SD-1000	4⅝	5⅞	5⅜	3½	4¼	¼	18
1500	SD-1500	4⅝	6⅝	5⅜	3½	5	¼	22
2000	SD-2000	4⅝	7⅛	5⅜	3½	5½	¼	26

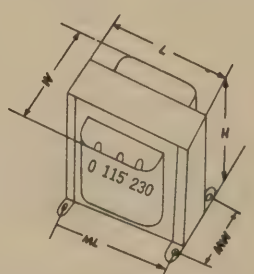
(100-2000 VA)
TYPE SD

Low Regulation • Fully encased — Black Finish • 45°C Temperature Rise • U/L Approved 2 prong line cord and receptacle.



STEP-UP OR DOWN 115/230 OR 230/115 V
"SDO" SERIES — OPEN FRAME • SOLDER LUGS

VA Rating	Part No.	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
100	SDO-100	3	2½	2½	2½	2⅛	#8	2.3
150	SDO-150	3	3¼	2½	2½	2¾	#8	3.6
250	SDO-250	4½	2¾	3¾	3¾	2	#10	6.2
350	SDO-350	4½	3¾	3¾	3¾	2¾	#10	8.3
500	SDO-500	4½	4¼	3¾	3¾	3¼	#10	10.5
750	SDO-750	5¼	4½	4⅜	4⅜	3⅜	¼	14.5
1000	SDO-1000	5¼	5	4⅜	4⅜	3⅞	¼	18
1500	SDO-1500	5¼	5¾	4⅜	4⅜	4⅝	¼	22
2000	SDO-2000	5¼	6¼	4⅜	4⅜	5⅛	¼	26



TYPE SDO

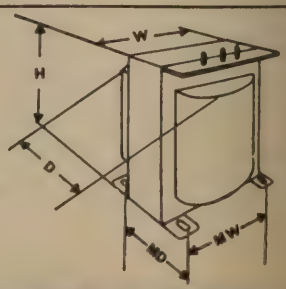
Same Electrically as Type SD. Open Frame • Black Enamel Finish • Solder Lugs • Inexpensive Version for Use in Equipment.

STEP-UP OR DOWN 115/230 OR 230/115
"HSD" SERIES
RUGGED • HEAVY DUTY • PHENOLIC TERMINAL BOARDS

VA Rating	Part No.	W	D	H	MW	MD	Mtg. Screw	Appr. Lbs.
3000	HSD-3000	7½	6	6¾	6¾	4⅛	¼	40
4000	HSD-4000	7½	6½	6¾	6¾	4⅝	¼	46
5000	HSD-5000	7½	7	6¾	6¾	5⅛	¼	52
6000	HSD-6000	7½	8	6¾	6¾	6⅛	¼	65

(3000-6000 VA)
TYPE HSD

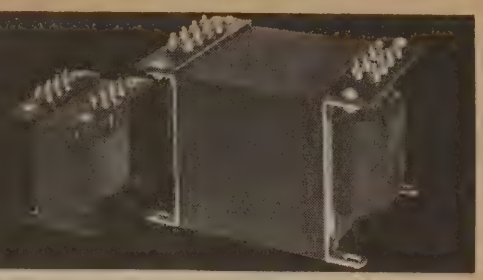
Very low Regulation • 45°C Temperature Rise • Black High Gloss Enamel Fnish • Screw type terminals on phenolic board.



SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

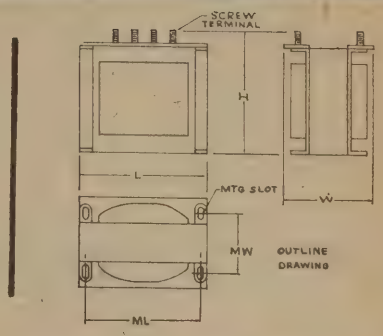
INDUSTRIAL GRADE
STEP-UP OR STEP-DOWN
POWER ISOLATION OR AUTO-TRANSFORMERS
HIGH DEGREE OF VERSATILITY OFFERS MANY POSSIBLE VOLTAGE RATINGS



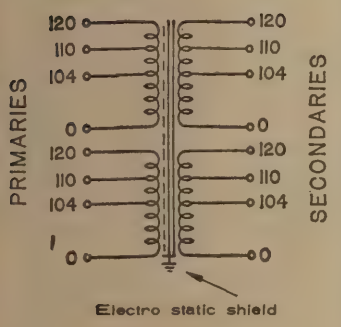
AVAILABLE FROM STOCK FOR IMMEDIATE SHIPMENT

The "DU", "SU", and "UP" lines are designed for a maximum of 55°C rise above ambient for use on standard power lines from 50 to 500 Cps. Only prime raw materials are used. Units are thoroughly impregnated and baked with Signal's own high gloss black baking varnish. The transformers are rugged in construction, well-insulated and have a consistently uniform appearance. All ratings are at full load current, continuous operation.

Heavy ¼ inch phenolic terminal boards are provided with plated brass screws and flat washers (10-32 on ¼ and ½ KVA, ¼-20 on larger sizes). Connections can be easily made with a nut driver. It is also simple to alter the inter-connections to change transformer ratings. **Electro static shields are provided grounded to the core.** The connection is made with a lug to ground and may be opened if an ungrounded shield is desired.



"DU SERIES" 110/220 Dual Primary To 110/220 Dual Sec. (Primary & Secondary may be reversed)

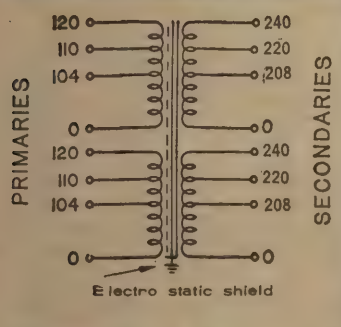


As shown on the schematic diagram the "DU" line is designed with dual primaries and secondaries. All four windings are identically rated at 0/104/110/120 volts. This permits series or parallel connections on either primary or secondary. Therefore, a nominal 110 to 110 volt, 220 to 220 volt, 110 to 220 volt, or 220 to 110 volt transformer can be set up. The winding taps permit intermediate series ratings such as 208, 214, or 230 volts.

It is also possible to make auto-transformer connections by connecting a primary group in series with a secondary group. Such nominal ratings as 440 to 220 volts or 220 to 440 volts can be set-up, in addition to the standard ratings described above. A further advantage to auto-transformer connection is the fact that the KVA rating of a particular type is **doubled.**

Part No.	KVA	Series Secondaries Volts	Max. Amps	Parallel Secondaries Volts	Max. Amps	Mechanical Dimensions L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16	Mtg. & Term. Screw	Appr. Lbs.
DU-¼	¼	0/208/220/240	1.1	0/104/110/120	2.2	5 5/16	4¼	5¼	4⅜	2½	#10	12
DU-½	½	0/208/220/240	2.3	0/104/110/120	4.6	5 5/16	5 5/16	5¼	4⅜	3⅜	#10	18
DU-1	1	0/208/220/240	4.5	0/104/110/120	9	7 9/16	6¼	7¼	6¾	4⅛	¼	33
DU-2	2	0/208/220/240	9	0/104/110/120	18	7 9/16	8¼	7¼	6¾	6	¼	56
DU-3	3	0/208/220/240	14	0/104/110/120	28	7 9/16	9¼	7¼	6¾	7	¼	70
DU-5	5	0/208/220/240	23	0/104/110/120	46	7 9/16	10¾	7¼	6¾	8½	¼	89
DU-7.5	7.5	0/208/220/240	31	0/104/110/120	62	9	9	8	7½	6½	¼	105
DU-10	10	0/208/220/240	41	0/104/110/120	83	9	12	8	7½	9	¼	150

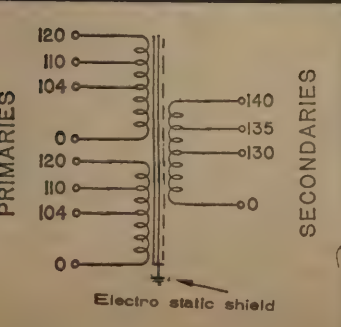
"SU SERIES" 110/220 Dual Primary to 220/440 V. Dual Sec. (Primary & Secondary may be reversed)



"SU" transformers are similar to "DU" types except that a 220/440 V secondary is provided.

Part No.	KVA	Series Secondaries Volts	Max. Amps	Parallel Secondaries Volts	Max. Amps	Mechanical Dimensions L (Max.)	W (Max.)	H (Max.)	ML ±1/32	MW ±1/16	Mtg. & Term. Screw	Appr. Lbs.
SU-¼	¼	0/416/440/480	0.55	0/208/220/240	1.1	5 5/16	4¼	5¼	4⅜	2½	#10	12
SU-½	½	0/416/440/480	1.15	0/208/220/240	2.3	5 5/16	5 5/16	5¼	4⅜	3⅜	#10	18
SU-1	1	0/416/440/480	2.25	0/208/220/240	4.5	7 9/16	6¼	7¼	6¾	4⅛	¼	33
SU-2	2	0/416/440/480	4.5	0/208/220/240	9	7 9/16	8¼	7¼	6¾	6	¼	56
SU-3	3	0/416/440/480	7	0/208/220/240	14	7 9/16	9¼	7¼	6¾	7	¼	70
SU-5	5	0/416/440/480	11.5	0/208/220/240	23	7 9/16	10¾	7¼	6¾	8½	¼	89
SU-7.5	7.5	0/416/440/480	15.5	0/208/220/240	31	9	9	8	7½	6½	¼	105
SU-10	10	0/416/440/480	20.5	0/208/220/240	41	9	12	8	7½	9	¼	150

"UP SERIES" 110/220 Dual Primary To 0/130/135/140 V. Sec. (Primary & Secondary may be reversed)



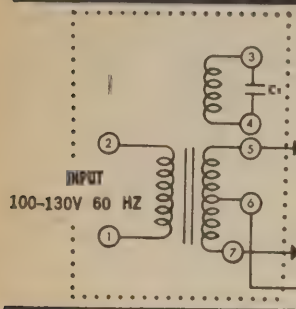
The "UP" line utilizes the same dual primary as the "DU" line. It has, however, a single secondary rated at 0/130/135/140 volts.

This type is quite useful to boost low line voltages or raise line voltages to compensate for drops in series elements. It also finds application in bridge rectifiers for DC voltage outputs of approximately 115 to 130 volts.

Part No.	KVA	Secondary Volts	Max. Secondary Amps	L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16	Mtg. & Term. Screw	Appr. Lbs.
UP-2	¼	0/130/135/140	2	5 5/16	4¼	5¼	4⅜	2½	#10	12
UP-4	½	0/130/135/140	4	5 5/16	5 5/16	5¼	4⅜	3⅜	#10	18
UP-8	1	0/130/135/140	8	7 9/16	6¼	7¼	6¾	4⅛	¼	33
UP-15	2	0/130/135/140	15	7 9/16	8¼	7¼	6¾	6	¼	56
UP-25	3	0/130/135/140	25	7 9/16	9¼	7¼	6¾	7	¼	70
UP-40	5	0/130/135/140	40	7 9/16	10¾	7¼	6¾	8½	¼	89

CONSTANT VOLTAGE TRANSFORMERS

FOR USE IN DC POWER SUPPLIES (TYPE CDC)



Available with dual 115/230 50 Hz primaries. Add prefix "21-" to part no., e.g., 21-CV-24-11.

Signal's CDC Regulating Transformers are specifically manufactured for use in DC Power Supplies. They are designed and rated for use with a full wave center-tapped silicon rectifier. CDC transformers are operated in ferro-resonance and are used in conjunction with an AC **tuning capacitor** (Cr in schematic diagram), which is supplied with the transformer.

In order to construct a regulated power supply the only other parts necessary are two diodes (D_1 and D_2), an electrolytic computer grade capacitor (C_t) and a bleeder resistor (R_b). These are standard shelf items.

The specification chart lists specific outputs available and the recommended auxiliary components. Part numbers are coded in terms of DC outputs, e.g., CDC-15-2 will give an output of 15V DC at 2 amps DC.

Electrical performance is completely specified. The DC voltage is constant to ±1% over the line voltage range of 100 to 130V at 60 HZ. The nominal output is held to ±2%. Closer tolerance on nominal output (±1%) can be obtained on special order at slightly higher cost.

Load regulation is specified as the rise in dc voltage output (increase in E_{dc}) from full load to the no load, ¼ load, and ½ load points. The filter capacitor (C_t) specified should be used and will yield the values of ripple voltage shown.

A significant protection feature is the fact that the DC short circuit current is limited to a maximum of 2 times rated current (3 times in size "C-6" units). This protects the entire circuit against shorts.

OUTPUT D.C. VOLTS	DC Amps I_{dc}	Part Number	Load Regulation (Rise in DCV from FL) NL-FL	¼-FL	½-FL	Ripple Volts (RMS)	Recommended Diodes (D_1 & D_2) P.I.V.	I/Cell	Filter† Cap. (C_t) MFD.	DCWV	Bleeder‡ Resistor (R_b) Ohms	Watts	Style* & Size
5 vdc (OR ±5V)**	1	CDC-5-1	2.0	1.5	0.8	0.3	50	1	4K	10	50	2	C-6
	5	CDC-5-5	1.0	0.7	0.5	0.4	50	6	20K	10	10	5	B-25
	10	CDC-5-10	1.0	0.7	0.5	0.4	50	16	30K	10	5	10	B-50
	18	CDC-5-18	1.0	0.7	0.4	0.4	50	60	80K	10	4	10	B-120
	50	CDC-5-50	0.7	0.4	0.2	0.4	50	100	200K	10	3	20	B-250
6 vdc (OR ±6V)**	0.8	CDC-6-0.8	2.0	1.5	0.8	0.3	50	1	3K	10	50	2	C-6
	4.5	CDC-6-4.5	1.0	0.7	0.5	0.4	50	6	15K	10	10	5	B-25
	9.0	CDC-6-9	1.0	0.7	0.5	0.4	50	16	25K	10	6	10	B-50
	16	CDC-6-16	1.0	0.7	0.4	0.4	50	16	75K	10	5	10	B-120
	40	CDC-6-40	0.7	0.4	0.2	0.4	50	60	150K	10	3	20	B-250
	75	CDC-6-75	0.8	0.6	0.4	0.4	50	100	200K	10	1	40	B-500
12 vdc (OR ±12V)**	0.4	CDC-12-0.4	3.0	2.2	1.1	0.3	100	1	2K	15	150	2	C-6
	2.2	CDC-12-2.2	1.5	1.0	0.6	0.4	100	3	8K	15	25	10	B-25
	4.5	CDC-12-4.5	1.2	0.7	0.5	0.4	100	6	15K	15	25	10	B-50
	9.0	CDC-12-9	1.0	0.7	0.4	0.4	100	16	40K	15	10	20	B-120
	20	CDC-12-20	0.8	0.5	0.3	0.3	100	40	75K	15	5	40	B-250
	38	CDC-12-38	0.9	0.7	0.4	0.4	100	60	120K	15	4	50	B-500
15 vdc (OR ±15V)**	0.35	CDC-15-0.35	3.5	2.3	1.3	0.3	100	1	1.5K	20	200	2	C-6
	2.0	CDC-15-2	1.6	1.0	0.6	0.4	100	2	7K	20	50	5	B-25
	3.5	CDC-15-3.5	1.3	0.8	0.6	0.3	100	6	15K	20	25	10	B-50
	8	CDC-15-8	1.5	0.9	0.6	0.4	100	16	30K	20	15	20	B-120
	16	CDC-15-16	1.0	0.8	0.5	0.3	100	16	75K	20	10	30	B-250
	30	CDC-15-30	1.0	0.6	0.4	0.3	100	40	120K	20	5	50	B-500
18 vdc (OR ±18V)**	0.32	CDC-18-0.32	3.7	2.3	1.3	0.4	100	1	1K	20	300	2	C-6
	1.8	CDC-18-1.8	2.0	1.2	0.7	0.4	100	2	7K	20	100	5	B-25
	3	CDC-18-3	1.7	1.2	0.7	0.3	100	3	12K	20	50	10	B-50
	6	CDC-18-6	1.7	0.9	0.6	0.3	100	6	30K	20	25	20	B-120
	13	CDC-18-13	1.3	1.0	0.7	0.3	100	16	50K	20	15	30	B-250
	26	CDC-18-26	1.5	0.6	0.5	0.3	100	40	120K	20	10	50	B-500
24 vdc (OR ±24V)**	0.25	CDC-24-0.25	4.0	3.4	1.5	0.3	200	1	1K	25	350	2	C-6
	1.2	CDC-24-1.2	2.0	1.2	0.7	0.4	200	2	5K	25	100	10	B-25
	2.1	CDC-24-2.1	1.8	1.5	1.0	0.3	200	3	10K	25	50	20	B-50
	4.5	CDC-24-4.5	2.0	1.0	0.7	0.3	200	6	25K	25	50	20	B-120
	11	CDC-24-11	1.3	1.0	0.5	0.3	200	16	50K	25	25	30	B-250
	20	CDC-24-20	1.5	0.7	0.3	0.3	200	40	75K	25	15	50	B-500
28 vdc (OR ±28V)**	0.22	CDC-28-0.22	5.6	4.0	2.3	0.3	200	1	1K	35	500	2	C-6
	1.0	CDC-28-1	2	1.5	0.6	0.3	200	1	5K	35	100	10	B-25
	2.0	CDC-28-2	2.5	1.5	1.0	0.3	200	2	10K	35	100	10	B-50
	4.0	CDC-28-4	2.0	1.2	0.8	0.3	200	6	25K	35	50	20	B-120
	9.0	CDC-28-9	1.3	1.0	0.5	0.3	200	16	50K	35	25	40	B-250
	16	CDC-28-16	1.7	0.8	0.3	0.3	200	16	75K	35	15	60	B-500
36 vdc (OR ±36V)**	0.18	CDC-36-0.18	7.0	5.5	3.5	0.3	200	1	1K	50	1K	2	C-6
	0.9	CDC-36-0.9	2.0	1.4	0.8	0.3	200	1	5K	50	150	10	B-25
	1.8	CDC-36-1.8	3.0	2.0	1.3	0.3	200	2	8K	50	100	20	B-50
	3.2	CDC-36-3.2	2.5	1.4	0.7	0.3	200	3	20K	50	100	20	B-120
	6	CDC-36-6	2.0	1.5	1.0	0.3	200	16	25K	50	25	60	B-250
	12	CDC-36-12	1.8	1.0	0.7	0.3	200	16	50K	50	25	60	B-500
48 vdc (OR ±48V)**	0.12	CDC-48-0.12	8.0	6.0	4.0	0.2	200	1	1K	50	1.5K	2	C-6
	0.6	CDC-48-0.6	2.5	2.0	1.0	0.3	200	1	3K	50	300	10	B-25
	1.5	CDC-48-1.5	3.0	1.5	1.0	0.3	200	2	6K	50	250	10	B-50
	2.5	CDC-48-2.5	3.0	1.5	1.0	0.2	200	2	15K	50	200	20	B-120
	5.0	CDC-48-5	2.0	1.0	0.6	0.3	200	6	15K	50	50	50	B-250
	10	CDC-48-10	2.0	1.0	0.5	0.4	200	16	25K	50	50	50	B-500
60 vdc (OR ±60V)**	0.1	CDC-60-0.1	8.0	6.0	4.0	0.2	400	1	1K	75	2.5K	2	C-6
	0.5	CDC-60-0.5	3.0	2.0	1.2	0.4	400	1	2K	75	500	10	B-25
	1.2	CDC-60-1.2	4.2	3.0	2.0	0.3	400	2	5K	75	400	10	B-50
	2.0	CDC-60-2	3.5	2.0	1.0	0.3	400	2	10K	75	300	20	B-120
	4	CDC-60-4	1.5	1.2	1.0	0.4	400	6	12K	75	75	50	B-250
	8	CDC-60-8	3.0	2.0	0.6	0.4	400	16	20K	75	75	50	B-500
120 vdc (OR ±120V)**	0.05	CDC-120-0.05	9.0	8.0	5.0	0.2	400	1	0.5K	150	10K	2	C-6
	0.3	CDC-120-0.3	6.0	4.0	2.5	0.3	400	1	2K	150	2K	10	B-25
	0.6	CDC-120-0.6	5.5	3.5	2.5	0.3	400	1	3K	150	1.5K	10	B-50
	1.0	CDC-120-1	5.5	3.2	2.0	0.4	400	1	4K	150	1K	20	B-120
	2	CDC-120-2	4.0	3.0	2.0	0.3	400	2	9K	150	250	60	B-250
	4	CDC-120-4	4.0	2.0	0.8	0.4	400	6	15K	150	150	100	B-500

* See mechanical dimensions on opposite page.

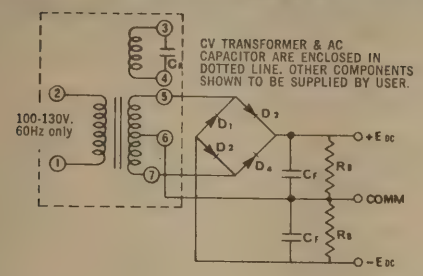
† May be reduced if ripple requirements are less severe.

‡ Bleeder resistor may be eliminated if load current does not fall to zero. DC amp rating may be increased accordingly.

** If used in dual complementary supply — see opposite page.

© United Technical Publications

CONSTANT VOLTAGE TRANSFORMERS
FOR USE IN DC POWER SUPPLIES (TYPE CDC)



CDC Transformers may also be used in complementary power supplies and will provide dual outputs at ± the rated voltage.

Each output voltage will be the same as in the single supply, **except that the DC current rating is ½ that in a single supply.**

It is also necessary to adjust the circuit parameters as follows:

C_F — ½ value in MFD, same DCWV.
R_B — 2 x value in ohms, ½ wattage rating.
DIODES — ½ P.I.V., ½ I/Cell.

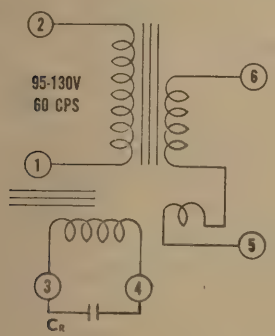
PART NO.	VOLTS AC	AMPS AC	STYLE & SIZE
6 ACV-6.4	6.4	1	C-6
6 ACV-12.8	12.8	0.5	C-6
6 ACV-26	26	0.25	C-6
6 ACV-118	118	0.05	C-6
25 ACV-6.4	6.4	4	B-25
25 ACV-12.8	12.8	2	B-25
25 ACV-26	26	1	B-25
25 ACV-118	118	0.25	B-25
50 ACV-6.4	6.4	8	B-50
50 ACV-12.8	12.8	4	B-50
50 ACV-26	26	2	B-50
50 ACV-118	118	0.43	B-50
120 ACV-6.4	6.4	20	B-120
120 ACV-12.8	12.8	10	B-120
120 ACV-26	26	5	B-120
120 ACV-118	118	1	B-120
250 ACV-12.8	12.8	20	B-250
250 ACV-26	26	10	B-250
250 ACV-118	118	2.2	B-250
500 ACV-118	118	4.5	B-500

CONSTANT VOLTAGE TRANSFORMERS
FOR AC APPLICATIONS (TYPE ACV)

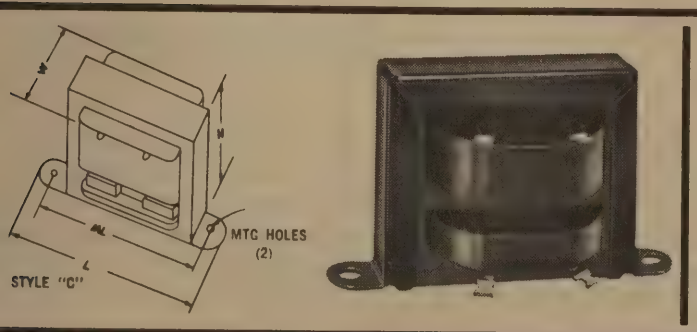
Signal ACV Transformers are manufactured for use with AC loads. They are simple, rugged designs and will regulate to ±1% for input variations from 95-130V at 60Hz **only.** 50Hz versions are available on special order. If regulation to ±½% or better is desired, special units can be made to your order.

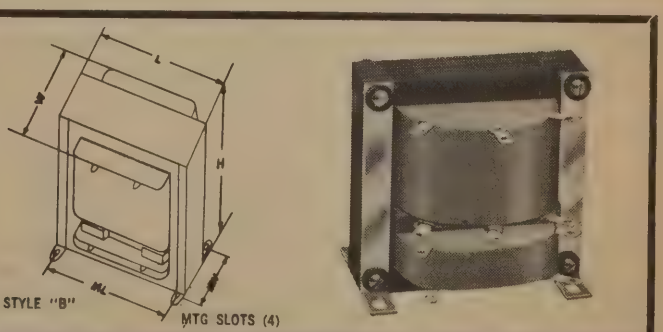
Full regulation is maintained at any load from about 20 to 100%. Short circuit current is limited to a maximum of 200% of rated current (300% in size C-6 units). ACV Transformers are "normal" harmonic type with approximately a square wave output.

The 6.4 and 12.8V ratings are ideal for use with tube or lamp loads since the short circuit rating limits the inrush current to cold filaments. Stabilization of the voltage results in longer filament life.



STYLE & SIZE	L	W	H	ML	MW	MTG. SCREW
C-6	3¼	1⅞	1 15/16	2 13/16	—	#8
B-25	3	2⅝	3⅛	2⅝	1 15/16	#8
B-50	3	3⅝	3⅛	2⅝	2 1/16	#8
B-120	4	3⅞	4 1/16	3½	2⅜	#10
B-250	4	5¾	4 1/16	3½	3 15/16	#10
B-500	5	5¾	5 1/16	4⅜	3 15/16	#10





SIGNAL TRANSFORMER CO., INC
ENGINEERS • DESIGNERS • MANUFACTURERS

MINIATURE PLUG-IN POWER TRANSFORMERS



FOR PRINTED CIRCUIT APPLICATIONS

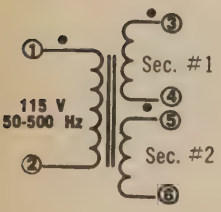
low profile • low regulation • 50-500 Hz

SHIPPED FROM STOCK IMMEDIATELY

FOR INDICATOR TUBE & I.C. APPLICATIONS

"PCN" transformers provide ideal outputs for use in indicator tube and I.C. applications. 175 or 130 V. can be used for DC supplies for "Nixies" and 6.3 or 12.6 V. can supply power for associated I.C. circuitry or supplies.





SECONDARY VOLTS	Part † No.	Secondary ‡ Milliamps Sec. #1 (3-4)	Secondary ‡ Milliamps Sec. #2 (5-6)	Size *	SECONDARY VOLTS	Part † No.	Secondary ‡ Milliamps Sec. #1 (3-4)	Secondary ‡ Milliamps Sec. #2 (5-6)
175 V. & 6.3 V. SEC. #1 (3-4) 175 V. SEC. #2 (5-6) 6.3 V.	PCN-37-1	4	80	37	**130 V. & 6.3 V.** SEC. #1 (3-4) 130 V. SEC. #2 (5-6) 6.3 V.	PCN-37-3	5.5	80
	PCN-50-1	12	350	50		PCN-50-3	16	350
	PCN-62-1	20	1000	62		PCN-62-3	27	1000
175 V. & 12.6 V. SEC. #1 (3-4) 175 V. SEC. #2 (5-6) 12.6 V.	PCN-37-2	4	40	37	**130 V. & 12.6 V.** SEC. #1 (3-4) 130 V. SEC. #2 (5-6) 12.6 V.	PCN-37-4	5.5	40
	PCN-50-2	12	175	50		PCN-50-4	16	175
	PCN-62-2	20	500	62		PCN-62-4	27	500

* Size shown applies to both right and left hand units which are on same horizontal line.

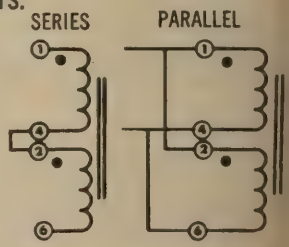
† Use prefix "EN-" for epoxy molded units rather than "PCN-", e.g., PCN-37-1 becomes EN-37-1 when epoxy molded.

‡ Secondary current rating based on 20% regulation. Higher currents may be drawn without over-heating. Check with our Engineering Dept. on specific units.

DUAL INDUCTORS FOR SMOOTHING & SCR SURGE LIMITING

"PCC" dual filter chokes find use in DC supply filters or as inductive elements in switching circuits. Another application is to limit current surge (di/dt) in SCR circuits. These chokes may also be used as AC reactors.

Part** No.	Series Connected Ind. (MHY)	Series Connected Curr. (Amps)	Series Connected Resis. (Ohms)	Parallel Connected Ind. (MHY)	Parallel Connected Curr. (Amps)	Parallel Connected Resis (Ohms)	E-T* (Volt-Millisec)	Size
PCC-1-37	120	0.375	6.0	30	0.75	1.5	25	37
PCC-2-37	80	0.5	3.8	20	1.0	0.95	20	37
PCC-1-50	88	0.75	3.2	22	1.5	0.80	30	50
PCC-2-50	40	1.0	2.0	10	2.0	0.5	25	50
PCC-1-62	32	1.5	1.0	8	3.0	0.25	25	62
PCC-2-62	20	2.0	0.64	5	4.0	0.16	20	62



Note Pins 3 & 5 are Dummy Terminals

* Based on maximum flux density of 5,000 gauss. (approx. value series connection).

** Use prefix "EC"-, for epoxy molded units rather than "PCC-", e.g., PCC-1-37 becomes EC-1-37 when epoxy molded.

SPECIAL "PC" COMPONENTS

Signal maintains a unique department which specializes in the design and production of "PC" type transformers and chokes.

It is equipped with the most modern automated coil winding and lamination stacking machinery. Specialized production test equipment assures uniform, high quality transformers at the most economical price. This facility is being constantly improved and expanded to meet the growing demand for our designs.

The "PC" items shown here are stocked in depth at our factory for immediate delivery. However, they represent only a small fraction of our total shipments. The major portion consists of custom designs or variations for our customer's special requirements.

Please contact us for prompt quotations on any of your special requirements for "PC" or other bobbin wound components.

METHOD OF DETERMINING SECONDARY CURRENT RATINGS

RECTIFIER TYPE	FILTER TYPE	RMS SECONDARY CURRENT
Full Wave Center-Tap	Choke Input	.7 X DC amps
Full Wave Center-Tap	Capacitor Input	1.2 X DC amps
Full Wave Bridge	Choke Input	= to DC amps
Full Wave Bridge	Capacitor Input	1.8 X DC amps

Signal's PC Transformers are constructed of prime raw materials using Class S insulation and nylon bobbins with PC pins molded directly in the bobbin wall. They are black varnish impregnated and 100% tested for all parameters before shipment.

Units are available with either 115V or 230V primaries, 50-500HZ. Dual secondaries provide two outputs, or secondaries may be series or parallel connected. This results in a wide variety of output combinations. Load regulation is limited to a maximum of 20%.

SPECIAL PC TRANSFORMERS OR CHOKES — PROMPT QUOTATIONS

SIGNAL TRANSFORMER CO., INC

© United Technical Publications

MINIATURE PLUG-IN POWER TRANSFORMERS

FOR PRINTED CIRCUIT APPLICATIONS — OPEN FRAME OR EPOXY MOULDED

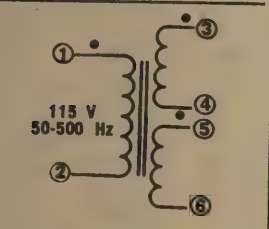
low profile • low regulation • 50-500 Hz



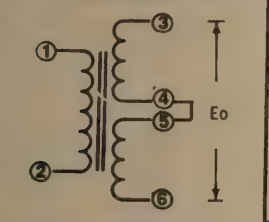
OPEN FRAME



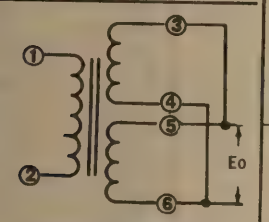
*EPOXY MOULDED



BASIC SCHEMATIC



SERIES CONNECTED



PARALLEL CONNECTED

AVAILABLE WITH EITHER 115V OR 230V — 50/60HZ PRIMARY.
For 230V primary add prefix "2" to part no., e.g., 2-PC-24-180.

SECONDARY VOLTS	Part † No.	Secondary ‡ Milliamps Series	Secondary ‡ Milliamps Parallel	Size*	SECONDARY VOLTS	Part † No.	Secondary‡ Milliamps Series	Secondary‡ Milliamps Parallel
10 V.C.T. or 5 V.	PC-10-120	120	240	37	**40 V.C.T. or 20 V.**	PC-40-30	30	60
SERIES 10 V.C.T.	PC-10-440	440	880	50	SERIES 40 V.C.T.	PC-40-110	110	220
PARALLEL 5 V @ 2 x CURRENT	PC-10-1000	1000	2000	62	PARALLEL 20 V @ 2 x CURRENT	PC-40-250	250	500
12.6 V.C.T. or 6.3 V.	PC-12-100	100	200	37	**56 V.C.T. or 28 V.**	PC-56-20	20	40
SERIES 12.6 V.C.T.	PC-12-350	350	700	50	SERIES 56 V.C.T.	PC-56-80	80	160
PARALLEL 6.3 V @ 2 x CURRENT	PC-12-800	800	1600	62	PARALLEL 28 V @ 2 x CURRENT	PC-56-180	180	360
16 V.C.T. or 8 V.	PC-16-75	75	150	37	**88 V.C.T. or 44 V.**	PC-88-15	15	30
SERIES 16 V.C.T.	PC-16-260	260	520	50	SERIES 88 V.C.T.	PC-88-50	50	100
PARALLEL 8 V @ 2 x CURRENT	PC-16-640	640	1280	62	PARALLEL 44 V @ 2 x CURRENT	PC-88-120	120	240
20 V.C.T. or 10 V.	PC-20-60	60	120	37	**120 V.C.T. or 60 V.**	PC-120-10	10	20
SERIES 20 V.C.T.	PC-20-220	220	440	50	SERIES 120 V.C.T.	PC-120-35	35	70
PARALLEL 10 V @ 2 x CURRENT	PC-20-500	500	1000	62	PARALLEL 60 V @ 2 x CURRENT	PC-120-85	85	170
24 V.C.T. or 12 V.	PC-24-50	50	100	37	**180 V.C.T. or 90 V.**	PC-180-6	6	12
SERIES 24 V.C.T.	PC-24-180	180	360	50	SERIES 180 V.C.T.	PC-180-24	24	48
PARALLEL 12 V @ 2 x CURRENT	PC-24-450	450	900	62	PARALLEL 90 V @ 2 x CURRENT	PC-180-55	55	110
34 V.C.T. or 17 V.	PC-34-35	35	70	37	**230 V.C.T. or 115 V.**	PC-230-5	5	10
SERIES 34 V.C.T.	PC-34-125	125	250	50	SERIES 230 V.C.T.	PC-230-20	20	40
PARALLEL 17 V @ 2 x CURRENT	PC-34-300	300	600	62	PARALLEL 115 V @ 2 x CURRENT	PC-230-40	40	80

econdary current rating based on 20% regulation. Higher currents may be drawn without over-heating. Check with our ngineering Dept. on specific units.

se prefix "EP-" for epoxy molded units rather than "PC-", e.g., PC-10-220 becomes EP-10-220 when epoxy molded.

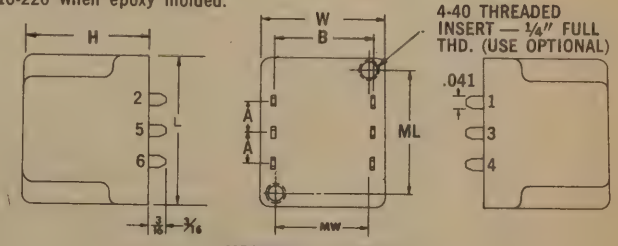
ze shown applies to both right and left hand units which are on same horizontal line.

EPOXY MOLDED (Part Nos. with Prefix EP-, EN-, EC-)

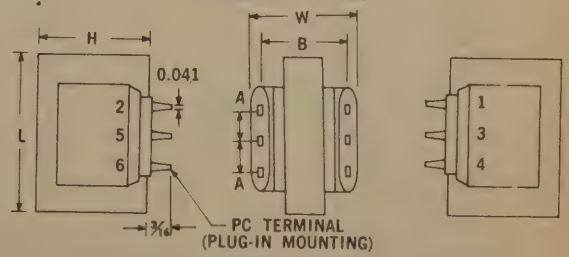
Size	VA	L	W	H	A	B	ML	MW	Wt. Oz.
37	1.2	1.476	1.250	1.222	0.312	1.000	1.250	0.900	4
50	4.4	1.721	1.380	1.417	0.400	1.100	1.500	1.000	6
62	10	1.986	1.550	1.674	0.400	1.300	1.600	1.000	11

OPEN FRAME (Part Nos. with Prefix PC-, PCN-, PCC-)

37	1.2	1⅜	1⅛	1 3/16	0.312	1.000			3
50	4.4	1⅝	1¼	1⅜	0.400	1.100			5
62	10	1⅞	1 7/16	1⅝	0.400	1.300			9



MECHANICAL OUTLINE



SPECIAL PC TRANSFORMERS OR CHOKES — PROMPT QUOTATIONS

IGNAL TRANSFORMER CO., INC

PRICE LIST

Part No.	User Net
High & Low Current Transformers	
10-0.1	4.70
10-0.25	4.95
10-0.5	5.15
10-1	5.70
10-2	7.10
10-4	8.80
10-6	11.30
10-8	12.00
10-12	14.00
10-25	24.40
10-50	35.50
10-100	56.50
12.8-0.1	4.75
12.8-0.25	5.00
12.8-0.5	5.40
12.8-1	6.00
12.8-2A	7.00
12.8-2	8.60
12.8-4	10.30
12.8-6	12.00
12.8-8	12.90
12.8-12	14.80
12.8-25	30.00
12.8-50	40.00
12.8-100	59.00
16-0.1	4.85
16-0.25	5.10
16-0.5	5.45
16-1	6.10
16-2	7.25
16-4	11.00
16-6	12.80
16-8	13.85
16-12	17.00
16-25	32.00
16-50	50.50
16-100	85.00
24-0.1	4.90
24-0.25	5.60
24-0.5	6.15
24-1A	6.60
24-1	8.60
24-2	9.80
24-4	12.30
24-6	14.80
24-8	20.40
24-12	23.80
24-20	30.00
24-25	40.00
24-50	58.80
24-100	93.00
36-0.1	4.95
36-0.25	5.65
36-0.5	6.25
36-1A	7.60
36-1	8.90
36-2	10.50
36-4	14.60
36-6	20.90
36-8	22.40
36-12	26.80
36-20	45.00
36-25	53.00
36-30	59.00
36-50	73.00
36-100	144.00
56-0.1	5.25
56-0.25	6.10
56-0.5	6.80
56-1	10.80
56-2	12.00
56-4	20.00
56-6	28.80
56-8	35.40
56-12	46.50
56-25	76.00
56-50	135.00
56-100	200.00
68-0.1	5.40
68-0.25	6.15
68-0.5A	7.00
68-0.5	9.20
68-1	10.90
68-2	13.50
68-4	24.00
68-6	29.00
68-8	36.00
68-12	51.00
68-25	77.00
68-50	138.00
80-0.1	5.50
80-0.25	6.30
80-0.5A	7.70
80-0.5	9.30
80-1	11.50
80-2	16.90
80-4	28.10
80-6	36.00
80-8	43.50
80-12	55.00
80-25	92.00
80-50	165.00
88-0.1	5.65
88-0.25	6.60
88-0.5	7.80
88-1	12.00
88-2	17.50
88-4	29.50
88-6	37.00
88-8	44.00
88-12	56.00
88-25	95.00
88-50	170.00
120-0.5	11.00
120-1	13.90
120-2	19.70
120-4	37.50
120-6	45.60
120-8	57.00
120-12	70.00
120-20	120.00
160-0.5	11.70
160-1	17.30
160-2	24.00
160-4	41.50
160-8	65.00
160-12	87.00
180-0.5	12.20
180-1	19.00
180-2	26.80
180-4	48.30
180-6	57.00
180-8	69.00
180-12	104.00
230-0.5	14.10
230-1	20.00
230-2	28.80
230-4	56.40
230-6	67.00
300-0.5	14.80
300-1	26.40
300-2	41.50
300-4	65.00
High & Low Current Chokes	
CH-0.1	3.10
CH-0.2	3.60
CH-0.25	4.10
CH-0.5	5.20
CH-1	7.65
CH-2	8.80
CH-4	11.80
CH-6	14.70
CH-8	18.80
CH-12	24.00
CH-16	26.80
CH-20	26.20
CH-25	37.00
CH-30	44.00
CH-50	51.00
CH-100	57.50
CH-200	92.00
CH-250	102.00
CH-500	123.00
CH-1000	136.00
Dual Chokes	
CL-1-2	4.20
CL-2-4	5.30
CL-4-8	8.90
CL-6-12	10.25
CL-12-24	15.20
CL-25-50	17.00
CL-50-100	22.00
Encapsulated High & Low Current Transformers Prefix "E-"	
E-10-0.1	6.40
E-10-0.25	6.85
E-10-0.5	7.35
E-10-1	8.00
E-10-2	10.00
E-10-4	14.00
E-10-6	16.00
E-10-8	17.20
E-10-12	20.00
E-10-25	32.50
E-10-50	50.00
E-10-100	83.00
E-12.8-0.1	6.50
E-12.8-0.25	6.95
E-12.8-0.5	7.60
E-12.8-1	8.00
E-12.8-2A	10.00
E-12.8-2	12.00
E-12.8-4	14.60
E-12.8-6	17.00
E-12.8-8	18.00
E-12.8-12	21.00
E-12.8-25	40.00
E-12.8-50	58.00
E-12.8-100	85.00
E-16-0.1	6.70
E-16-0.25	7.10
E-16-0.5	7.70
E-16-1	8.25
E-16-2	10.60
E-16-4	15.50
E-16-6	18.00
E-16-8	19.50
E-16-12	23.00
E-16-25	45.00
E-16-50	73.00
E-16-100	120.00
E-24-0.1	6.75
E-24-0.25	7.80
E-24-0.5	8.60
E-24-1A	9.40
E-24-1	12.20
E-24-2	13.80
E-24-4	18.00
E-24-6	20.60
E-24-8	28.00
E-24-12	33.00
E-24-20	42.00
E-24-25	57.00
E-24-50	80.00
E-24-100	130.00
E-36-0.1	6.80
E-36-0.25	7.90
E-36-0.5	8.70
E-36-1A	10.70
E-36-1	12.70
E-36-2	15.00
E-36-4	21.00
E-36-6	30.00
E-36-8	32.00
E-36-12	37.50
E-36-20	64.00
E-36-25	74.00
E-36-30	83.00
E-36-50	103.00
E-36-100	200.00
E-56-0.1	7.20
E-56-0.25	8.40
E-56-0.5	9.50
E-56-1	15.00
E-56-2	16.70
E-56-4	27.40
E-56-6	40.00
E-56-8	49.00
E-56-12	65.00
E-56-25	105.00
E-56-50	190.00
E-56-100	280.00
E-68-0.1	7.40
E-68-0.25	8.50
E-68-0.5A	9.70
E-68-0.5	12.60
E-68-1	15.20
E-68-2	18.80
E-68-4	39.00
E-68-6	41.00
E-68-8	50.00
E-68-12	71.00
E-68-25	108.00
E-68-50	196.00
E-80-0.1	7.60
E-80-0.25	8.80
E-80-0.5A	10.50
E-80-0.5	13.00
E-80-1	16.20
E-80-2	23.80
E-80-4	40.00
E-80-6	50.00
E-80-8	60.00
E-80-12	78.00
E-80-25	130.00
E-80-50	230.00
E-88-0.1	7.80
E-88-0.25	9.10
E-88-0.5	13.20
E-88-1	16.60
E-88-2	23.20
E-88-4	41.50
E-88-6	51.50
E-88-8	61.50
E-88-12	79.50
E-88-25	133.00
E-88-50	235.00
E-120-0.5	15.00
E-120-1	19.00
E-120-2	27.00
E-120-4	51.00
E-120-6	63.00
E-120-8	78.00
E-120-12	98.00
E-120-20	140.00
E-160-0.5	15.90
E-160-1	23.40
E-160-2	33.00
E-160-4	56.00
E-160-8	89.00
E-160-12	118.00
E-180-0.5	16.60
E-180-1	25.60
E-180-2	36.00
E-180-4	65.00
E-180-6	77.00
E-180-8	96.00
E-180-12	140.00
E-230-0.5	19.00
E-230-1	27.10
E-230-2	39.00
E-230-4	76.00
E-230-6	90.00
E-300-0.5	20.00
E-300-1	35.00
E-300-2	55.00
E-360-4	88.00
Encapsulated High & Low Current Chokes Prefix "E-"	
E-CH-0.1	4.00
E-CH-0.2	4.25
E-CH-0.25	5.00
E-CH-0.5	6.50
E-CH-1	9.20
E-CH-2	10.50
E-CH-4	14.20
E-CH-6	17.80
E-CH-8	23.00
E-CH-12	29.00
E-CH-16	32.50
E-CH-20	31.80
E-CH-25	46.00
E-CH-30	50.00
E-CH-50	61.00
E-CH-100	70.00
E-CH-200	115.00
E-CH-250	125.00
E-CH-500	150.00
E-CH-1000	170.00
E-CL-1-2	5.50
E-CL-2-4	7.00
E-CL-4-8	10.75
E-CL-6-12	13.30
E-CL-12-24	18.50
E-CL-25-50	21.50
E-CL-50-100	29.00
Hermetically Sealed High & Low Current Transformers Prefix "H-"	
H-10-0.1	11.00
H-10-0.25	11.70
H-10-0.5	12.20
H-10-1	13.40
H-10-2	16.80
H-10-4	21.20
H-10-6	27.70
H-10-8	29.80
H-10-12	34.50
H-10-25	60.70
H-10-50	84.00
H-10-100	145.00
H-12.8-0.1	11.10
H-12.8-0.25	11.80
H-12.8-0.5	12.90
H-12.8-1	14.30
H-12.8-2A	20.60
H-12.8-2	16.60
H-12.8-4	25.00
H-12.8-6	29.00
H-12.8-8	31.50
H-12.8-12	36.50
H-12.8-25	75.00
H-12.8-50	100.00
H-12.8-100	147.00
H-16-0.1	11.40
H-16-0.25	12.00
H-16-0.5	13.10
H-16-1	14.60
H-16-2	17.20
H-16-4	26.00
H-16-6	30.00
H-16-8	33.00
H-16-12	41.00
H-16-25	78.00
H-16-50	120.00
H-16-100	205.00
H-24-0.1	11.80
H-24-0.25	13.10
H-24-0.5	14.50
H-24-1A	15.90
H-24-1	20.50
H-24-2	23.50
H-24-4	29.50
H-24-6	35.00
H-24-8	49.00
H-24-12	56.00
H-24-20	71.00
H-24-25	95.00
H-24-50	144.00
H-24-100	225.00
H-36-0.1	12.25
H-36-0.25	13.50
H-36-0.5	14.80
H-36-1A	18.00
H-36-1	21.00
H-36-2	25.00
H-36-4	34.00
H-36-6	49.00
H-36-8	52.00
H-36-12	63.00
H-36-20	101.00
H-36-25	120.00
H-36-30	135.00
H-36-50	160.00
H-36-100	330.00
H-56-0.1	12.70
H-56-0.25	14.25
H-56-0.5	16.00
H-56-1	25.00
H-56-2	27.50
H-56-4	45.50
H-56-6	66.00
H-56-8	82.00
H-56-12	109.00
H-56-25	165.00
H-56-50	305.00
H-56-100	450.00
H-68-0.1	13.00
H-68-0.25	14.50
H-68-0.5A	16.40
H-68-0.5	21.00
H-68-1	26.00
H-68-2	32.00
H-68-4	58.00
H-68-6	69.00
H-68-8	84.00
H-68-12	119.00
H-68-25	180.00
H-68-50	325.00
H-80-0.1	13.40
H-80-0.25	14.80
H-80-0.5A	18.00
H-80-0.5	22.00
H-80-1	27.60
H-80-2	40.00
H-80-4	65.00
H-80-6	85.00
H-80-8	99.00
H-80-12	125.00
H-80-25	210.00
H-80-50	375.00
H-88-0.1	14.00
H-88-0.25	15.40
H-88-0.5	23.00
H-88-1	28.40
H-88-2	42.00
H-88-4	69.00
H-88-6	88.00
H-88-8	104.00
H-88-12	130.00
H-88-25	220.00
H-88-50	385.00
H-120-0.5	26.00
H-120-1	33.00
H-120-2	45.00
H-120-4	85.00
H-120-6	100.00
H-120-8	128.00
H-120-12	160.00
H-120-20	240.00
H-160-0.5	28.00
H-160-1	41.00
H-160-2	58.00
H-160-4	95.00
H-160-8	140.00
H-160-12	199.00
H-180-0.5	29.00
H-180-1	45.00
H-180-2	62.00
H-180-4	108.00
H-180-6	130.00
H-180-8	152.00
H-180-12	230.00
H-230-0.5	32.00
H-230-1	48.00
H-230-2	65.00
H-230-4	126.00
H-230-6	150.00
H-300-0.5	35.00
H-300-1	60.00
H-300-2	90.00
H-300-4	130.00
Hermetically Sealed High & Low Current Chokes	
H-CH-0.1	7.25
H-CH-0.2	8.50
H-CH-0.25	9.70
H-CH-0.5	12.20
H-CH-1	18.30
H-CH-2	21.00
H-CH-4	27.00
H-CH-6	35.00
H-CH-8	45.00
H-CH-12	55.00
H-CH-16	64.00
H-CH-20	62.00
H-CH-25	85.00
H-CH-30	100.00
H-CH-50	110.00
H-CH-100	130.00
Multi-Volt Transformers	
MV-1	18.00
MV-2	21.40
MV-4	28.00
MV-6	38.80
MV-12	53.50
Very High Current Transformers	
6-250	95.00
9-250	122.00
12-250	134.00
6-500	130.00
9-500	170.00
12-500	210.00
3-1000	139.00
6-1000	225.00

OEM DISCOUNT SCHEDULE

Quantity	Discount	Quantity	Discount
1-4	Net	50-99	42%
5-9	10%	100-249	48%
10-24	25%	250-over	Quote
25-49	35%		

Part No.	User Net
Industrial Grade Step-up or Step-down Power Isolation	
DU-¼	37.30
DU-½	46.30
DU-1	73.50
DU-2	100.00
DU-3	143.00
DU-5	193.00
DU-7.5	240.00
DU-10	298.00
SU-¼	38.50
SU-½	47.50
SU-1	75.00
SU-2	102.00
SU-3	145.00
SU-5	195.00
SU-7.5	242.00
SU-10	300.00
UP-2	37.60
UP-4	43.50
UP-8	71.00
UP-15	102.00
UP-25	133.00
UP-40	185.00
3 Phase High Current Rectifier Transformers	
3PH-24-50	120.00
3PH-24-100	169.00
3PH-24-200	270.00
3PH-48-30	120.00
3PH-48-60	169.00
3PH-48-120	270.00
Auto Transformers	
SD-250	11.00
SD-350	14.30
SD-500	16.60
SD-750	21.20
SD-1000	27.20
SD-1500	33.00
SD-2000	48.00
DDO-100	6.60
DDO-150	7.90
DDO-250	9.80
DDO-350	13.80
DDO-500	16.40
DDO-750	21.80
DDO-1000	25.00
DDO-1500	31.00
DDO-2000	38.00
DSD-3000	61.00
DSD-4000	80.00
DSD-5000	90.00
DSD-6000	100.00
DC Constant Voltage Transformers For DC Power Supplies	
DDC-5-1	18.30
DDC-5-5	26.20
DDC-5-10	31.00
DDC-5-18	38.80
DDC-5-50	59.00
DDC-6-0.8	18.30
DDC-6-4.5	26.20
DDC-6-9	31.00
DDC-6-16	38.80
DDC-6-40	59.00
DDC-6-75	90.00
DDC-12-0.4	18.30
DDC-12-2.2	26.20
DDC-12-4.5	31.00
DDC-12-9	38.80
DDC-12-20	59.00
DDC-12-38	90.00
DDC-15-0.35	18.30
DDC-15-2	26.20
DDC-15-3.5	31.00
DDC-15-8	38.80
DDC-15-16	59.00

Part No.	User Net
CDC-15-30	90.00
CDC-18-0.32	18.30
CDC-18-1.8	26.20
CDC-18-3	31.00
CDC-18-6	38.80
CDC-18-13	59.00
CDC-18-26	90.00
CDC-24-0.25	18.30
CDC-24-1.2	26.20
CDC-24-2.1	31.00
CDC-24-4.5	38.80
CDC-24-11	59.00
CDC-24-20	90.00
CDC-28-0.22	18.30
CDC-28-1	26.20
CDC-28-2	31.00
CDC-28-4	38.80
CDC-28-9	59.00
CDC-28-16	90.00
CDC-36-0.18	18.30
CDC-36-0.9	26.20
CDC-36-1.8	31.00
CDC-36-3.2	38.80
CDC-36-6	59.00
CDC-36-12	90.00
CDC-48-0.12	18.30
CDC-48-0.6	26.20
CDC-48-1.5	31.00
CDC-48-2.5	38.80
CDC-48-5	59.00
CDC-48-10	90.00
CDC-60-0.1	18.30
CDC-60-0.5	26.20
CDC-60-1.2	31.00
CDC-60-2	38.80
CDC-60-4	59.00
CDC-60-8	90.00
CDC-120-0.05	18.30
CDC-120-0.3	26.20
CDC-120-0.6	31.00
CDC-120-1	38.80
CDC-120-2	59.00
CDC-120-4	90.00
ACV Constant Voltage Transformers For AC Applications	
6ACV-6.4	18.80
6ACV-12.8	18.80
6ACV-26	18.80
6ACV-118	18.80
25ACV-6.4	26.50
25ACV-12.8	26.50
25ACV-26	26.50
25ACV-118	26.50
50ACV-6.4	31.30
50ACV-12.8	31.30
50ACV-26	31.30
50ACV-118	31.30
120ACV-6.4	39.00
120ACV-12.8	39.00
120ACV-26	39.00
120ACV-118	39.00
250ACV-12.8	59.50
250ACV-26	59.50
250ACV-118	59.50
500ACV-118	91.00
"21-CDC-" Constant Voltage Transformers 115/230V 50 Hz Operation	
21-CDC-5-1	21.00
21-CDC-5-5	29.00
21-CDC-5-10	35.00
21-CDC-5-18	40.00
21-CDC-5-50	66.00
21-CDC-6-0.8	21.00
21-CDC-6-4.5	29.00
21-CDC-6-9	35.00

Part No.	User Net
21-CDC-6-16	40.00
21-CDC-6-40	66.00
21-CDC-6-75	98.00
21-CDC-12-0.4	21.00
21-CDC-12-2.2	29.00
21-CDC-12-4.5	35.00
21-CDC-12-9	40.00
21-CDC-12-20	66.00
21-CDC-12-38	98.00
21-CDC-15-0.35	21.00
21-CDC-15-2	29.00
21-CDC-15-3.5	35.00
21-CDC-15-8	40.00
21-CDC-15-16	66.00
21-CDC-15-30	98.00
21-CDC-18-0.32	21.00
21-CDC-18-1.8	29.00
21-CDC-18-3	35.00
21-CDC-18-6	40.00
21-CDC-18-13	66.00
21-CDC-18-26	98.00
21-CDC-24-0.25	21.00
21-CDC-24-1.2	29.00
21-CDC-24-2.1	35.00
21-CDC-24-4.5	40.00
21-CDC-24-11	66.00
21-CDC-24-20	98.00
21-CDC-28-0.22	21.00
21-CDC-28-1	29.00
21-CDC-28-2	35.00
21-CDC-28-4	40.00
21-CDC-28-9	66.00
21-CDC-28-16	98.00
21-CDC-36-0.18	21.00
21-CDC-36-0.9	29.00
21-CDC-36-1.8	35.00
21-CDC-36-3.2	40.00
21-CDC-36-6	66.00
21-CDC-36-12	98.00
21-CDC-48-0.12	21.00
21-CDC-48-0.6	29.00
21-CDC-48-1.5	35.00
21-CDC-48-2.5	40.00
21-CDC-48-5	66.00
21-CDC-48-10	98.00
21-CDC-60-0.1	21.00

Part No.	User Net
21-CDC-60-0.5	29.00
21-CDC-60-1.2	35.00
21-CDC-60-2	40.00
21-CDC-60-4	66.00
21-CDC-60-8	98.00
21-CDC-120-0.05	21.00
21-CDC-120-0.3	29.00
21-CDC-120-0.6	35.00
21-CDC-120-1	40.00
21-CDC-120-2	66.00
21-CDC-120-4	98.00
"21-" ACV Constant Voltage Transformers 115/230V 50 Hz Operation	
21-6ACV-6.4	21.50
21-6ACV-12.8	21.50
21-6ACV-26	21.50
21-6ACV-118	21.50
21-25ACV-6.4	30.00
21-25ACV-12.8	30.00
21-25-ACV-26	30.00
21-25ACV-118	30.00
21-50ACV-6.4	35.50
21-50ACV-12.8	35.50
21-50ACV-26	35.50
21-50ACV-118	35.50
21-120ACV-6.4	44.00
21-120ACV-12.8	44.00
21-120ACV-26	44.00
21-120ACV-118	44.00
21-250ACV-12.8	67.00
21-250-ACV-26	67.00
21-250ACV-118	67.00
21-500ACV-118	99.00
Miniature Plug-In Power Transformers	
PC-10-120	4.70
PC-10-440	4.90
PC-10-1000	5.20
PC-12-100	4.75
PC-12-350	4.95
PC-12-800	5.20
PC-16-75	4.80
PC-16-260	5.00
PC-16-640	5.25
PC-20-60	4.80
PC-20-220	5.00
PC-20-500	5.25
PC-24-50	4.90
PC-24-180	5.10
PC-24-450	5.35

Part No.	User Net
PC-34-35	5.00
PC-34-125	5.20
PC-34-300	5.50
PC-40-30	5.10
PC-40-110	5.30
PC-40-250	5.60
PC-56-20	5.15
PC-56-80	5.35
PC-56-180	5.60
PC-88-15	5.20
PC-88-50	5.40
PC-88-120	5.65
PC-120-10	5.25
PC-120-35	5.45
PC-120-85	5.70
PC-180-6	5.35
PC-180-24	5.50
PC-180-25	5.75
PC-230-5	5.40
PC-230-20	5.55
PC-230-40	5.80
230V Pri. Miniature Plug-In Power Transformers Prefix "2PC-"	
2PC-10-120	4.95
2PC-10-440	5.15
2PC-10-1000	5.45
2PC-12-100	5.00
2PC-12-350	5.20
2PC-12-800	5.45
2PC-16-75	5.05
2PC-16-260	5.25
2PC-16-640	5.50
2PC-20-60	5.05
2PC-20-220	5.25
2PC-20-500	5.50
2PC-24-50	5.15
2PC-24-180	5.35
2PC-24-450	5.60
2PC-34-35	5.25
2PC-34-125	5.45
2PC-34-300	5.75
2PC-40-30	5.35
2PC-40-110	5.55
2PC-40-250	5.85
2PC-56-20	5.40
2PC-56-80	5.60
2PC-56-180	5.85
2PC-88-15	5.45
2PC-88-50	5.65
2PC-88-120	5.90
2PC-120-10	5.50
2PC-120-35	5.70
2PC-120-85	5.95
2PC-180-6	5.60
2PC-180-24	5.75
2PC-180-25	6.00
2PC-230-5	5.65
2PC-230-20	5.80
2PC-230-40	6.05
Encapsulated Miniature Plug-In Power Transformers Prefix "EP-"	
EP-10-120	5.90
EP-10-440	6.40
EP-10-1000	7.00
EP-12-100	5.95
EP-12-350	6.45
EP-12-800	7.00
EP-16-75	6.00
EP-16-260	6.50
EP-16-640	7.05
EP-20-60	6.00
EP-20-220	6.50
EP-20-500	7.05

Part No.	User Net
EP-24-50	6.10
EP-24-180	6.60
EP-24-450	7.15
EP-34-35	6.20
EP-34-125	6.70
EP-34-300	7.30
EP-40-30	6.30
EP-40-110	6.80
EP-40-250	7.40
EP-56-20	6.35
EP-56-80	6.85
EP-56-180	7.40
EP-88-15	5.40
EP-88-50	6.90
EP-88-120	7.45
EP-120-10	6.45
EP-120-35	6.95
EP-120-85	7.50
EP-180-6	6.55
EP-180-24	7.00
EP-180-25	7.55
EP-230-5	6.60
EP-230-20	7.05
EP-230-40	7.60
230V Pri. Encapsulated Miniature Power Transformers Prefix "2-EP-"	
2EP-10-120	5.95
2EP-10-440	6.45
2EP-10-1000	7.05
2EP-12-100	6.00
2EP-12-350	6.50
2EP-12-800	7.05
2EP-16-75	6.05
2EP-16-260	6.55
2EP-16-640	7.10
2EP-20-60	6.05
2EP-20-220	6.55
2EP-20-500	7.10
2EP-24-50	6.15
2EP-24-180	6.65
2EP-24-450	7.20
2EP-34-35	6.25
2EP-34-125	6.75
2EP-34-300	7.35
2EP-40-30	6.35
2EP-40-110	6.85
2EP-40-250	7.45
2EP-56-20	6.40
2EP-56-80	6.90
2EP-56-180	7.45
2EP-88-15	5.45
2EP-88-50	6.95
2EP-88-120	7.50
2EP-120-10	6.50
2EP-120-35	7.00
2EP-120-85	7.55
2EP-180-6	6.60
2EP-180-24	7.05
2EP-180-25	7.60
2EP-230-5	6.65
2EP-230-20	7.10
2EP-230-40	7.65
Miniature Plug-Ins For Indicator Tube & I.C. Applications Prefix "PCN-"	
PCN-37-1	5.50
PCN-50-1	5.75
PCN-62-1	6.00
PCN-37-2	5.50
PCN-50-2	5.75
PCN-62-2	6.00
PCN-37-3	5.50
PCN-50-3	5.75

Part No.	User Net
PCN-62-3	6.00
PCN-37-4	5.50
PCN-50-4	5.75
PCN-62-4	6.00
Miniature Plug-In Dual Chokes Prefix "PCC-"	
PCC-1-37	4.80
PCC-2-37	4.80
PCC-1-50	4.90
PCC-2-50	4.90
PCC-1-62	5.20
PCC-2-62	5.20
Encapsulated Plug-Ins For Nixies Prefix "EN-"	
EN-37-1	6.70
EN-50-1	7.25
EN-62-1	7.80
EN-37-2	6.70
EN-50-2	7.25
EN-62-2	7.80
EN-37-3	6.70
EN-50-3	7.25
EN-62-3	7.80
EN-37-4	6.70
EN-50-4	7.25
EN-62-4	7.80
Encapsulated Dual Chokes Prefix "EC-"	
EC-1-37	6.00
EC-2-37	6.00
EC-1-50	6.40
EC-2-50	6.40
EC-1-62	7.00
EC-2-62	7.00
230V Pri. Nixie Types Prefix "2PCN-"	
2PCN-37-1	5.75
2PCN-50-1	6.00
2PCN-62-1	6.20
2PCN-37-2	5.75
2PCN-50-2	6.00
2PCN-62-2	6.20
2PCN-37-3	5.75
2PCN-50-3	6.00
2PCN-62-3	6.20
2PCN-37-4	5.75
2PCN-50-4	6.00
2PCN-62-4	6.20
Encapsulated 230V Pri. Nixie Types Prefix "2EN-"	
2EN-37-1	6.95
2EN-50-1	7.50
2EN-62-1	8.05
2EN-37-2	6.95
2EN-50-2	7.50
2EN-62-2	8.05
2EN-37-3	6.95
2EN-50-3	7.50
2EN-62-3	8.05
2EN-37-4	6.95
2EN-50-4	7.50
2EN-62-4	8.05
Flat Epoxy Molded Plug-In	
FP-10-600	9.50
FP-12-450	9.50
FP-16-350	9.50
FP-20-300	9.50
FP-24-250	9.50
FP-34-170	9.50
FP-40-150	9.50
FP-56-100	9.50
FP-88-65	9.50
FP-120-50	9.50
FP-230-25	9.50

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

CONSTANT VOLTAGE TRANSFORMERS

SOLA® CVS-HARMONIC NEUTRALIZED TYPE

Sola CVS type transformers contain less than 3% total rms harmonic content in the output. Recommended for all AC applications where harmonics can affect operation, CVS types are the only constant voltage transformers with built-in harmonic neutralizing circuits. CVS transformers use no filters and therefore do not need extra capacitors and noisy chokes. CVS transformers are smaller and more rugged than transformers employing filters for wave-shape improvement. Regulation is ±½% for an input range of ±15% of nominal voltage.

60 HERTZ SINGLE PHASE (*)

Voltage Rating				Approx. Shipping Weight (Lbs.)	Adapter Code (2)
Regulated Output	Input Range	VA	Catalog Number		
118	95-130	30	23-13-030-2	8	c
	95-130	60	23-13-060-2	10	c
	190-260x380-520	60	23-23-060-2	10	c
	95-130x190-260	120	23-22-112-2	14	c
	190-260x380-520	120	23-23-112-2	14	c
	95-130x190-260	250	23-22-125	28	a
	190-260x380-520	250	23-23-125	29	a
	95-130x190-260	500	23-22-150	45	b
118x236	190-260x380-520	500	23-26-150	46	b
	95-130x175-235x 190-260	750	23-25-175	54	b
	95-130x175-235x 190-260	1000	23-25-210	72	–
	190-260x380-520	1000	23-26-210	72	–
	95-130x175-235x 190-260	1500	23-25-215	128	–
	95-130x175-235x 190-260	2000	23-25-220	140	–
	190-260x380-520	2000	23-26-220	148	–
	95-130x175-235x 190-260	3000	23-25-230-3	194	–
	190-260x380-520	3000	23-26-230	196	–
	95-130x175-235x 190-260	5000	23-25-250	335	–
	190-260x380-520	5000	23-26-250	342	–

SOLA® CVN-NORMAL HARMONIC TYPE



Sola CVN type transformers provide the same ±½% regulation as the sinusoidal series. CVN transformers contain an average of 20% rms harmonic content and are recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments and where rectification is required.

60 HERTZ SINGLE PHASE (*)

Voltage Rating				Approx. Shipping Weight (Lbs.)	Adapter Code(2)
Regulated Output	Input Range	VA	Catalog Number		
118	95-130	15	20-14-015	3	–
		30	20-14-030	5	–
			20-13-030-2	7	c
		60	20-13-060-2	10	c
			20-14-060	8	–
		120	20-14-112	11	–
			20-13-112-2	12	c
236	190-260	120	20-21-112-2	13	c
118	95-130	150	20-13-115	22	a
	95-130x 190-260	250	20-22-125	25	b
	190-260x 380-520	250	20-23-125	25	b
	95-130x 190-260	500	20-22-150	36	b
118x236	190-260x 380-520	500	20-26-150	37	b
118	95-130x 190-260	1000	20-22-210	48	–
118x236	95-130x 175-235x 190-260	2000	20-25-220	128	–
		3000	20-25-230	170	–
	190-260x	5000	20-27-250	290	–

SOLA® ELECTRONIC POWER TYPES

Sola constant voltage transformers are available in electronic-power component types providing a regulated source of plate and filament voltages. The filament type (CVF) provides 6.0 or 6.3 volts of output regulated within ±1% over line variations of ±15%. The combination plate-and-filament type (CVE) regulates within ±3%.

Both types provide filaments with stabilized voltage supply, thus contributing greatly to reliable operation, long component life, and considerably reduced service cost of the equipment.

CVE PLATE-FILAMENT SERVICE 60 HERTZ (*)

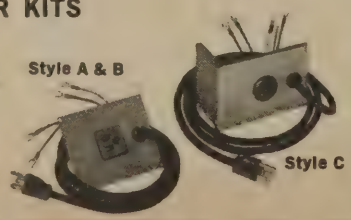
Typical Rectifier Tube	Average D.C. Input Volts to Filter	Filament Windings		Input Voltage Range	Catalog Number	Approx. Ship. Wt. in Lbs.
		6.3 Volts	5.0 Volts			
5Y3	275v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	100-130	7104	6
5Y3	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	100-130	7106	8
5U4	380v D.C. @ 250 M.A.	No. 1:40 amps No. 2:80 amps unregulated	3.0 amps	100-130	7107	19

CVF FILAMENT SERVICE

Voltage Rating		Output Capacity in Amps.	VA	Catalog Number	Approx. Ship Wt. in Lbs.
Regulated ±1% Output	Input Range				
6.0	95-130	2.50	15	20-06-015	3
6.3	95-130	2.38	15	20-04-015	3
	95-130x 190-260	5.0	32	20-04-030	6
		10.0	63	20-04-065	8
		15.0	95	20-04-095	11
		25.0	158	20-04-116	23

CORD/RECEPTACLE ADAPTER KITS

Adapter kits may be used when the convenience of input plug and output receptacle is preferred to the standard arrangement of terminals in the transformer housing. See accompanying chart.



Adapter Kit code designates type of adapter required to convert standard internal wiring hook-up to line cord and plug input and plug receptacle output.

Adapter Code	Adapter Kit Catalog No.	Input Cord	Output Connections
a	999-005	2-wire	2-wire receptacle
	999-019	3-wire	3-wire receptacle
b	999-009	2-wire	2-wire receptacle
	999-020	3-wire	3-wire receptacle
c	999-104	2-wire	2-wire receptacle
	999-105	3-wire	3-wire receptacle

© United Technical Publications

SPRAGUE PULSE TRANSFORMERS

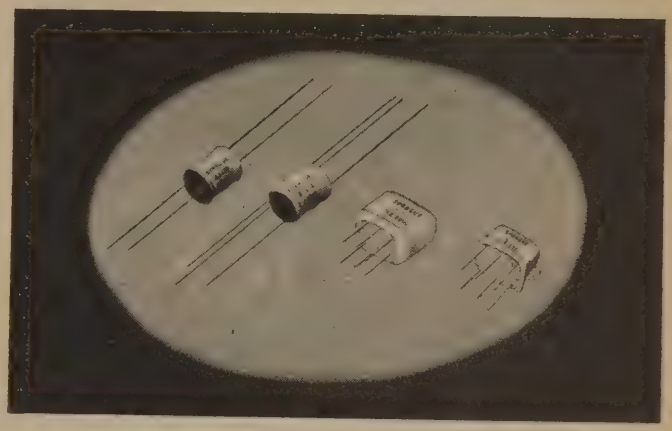
Type 11Z

TRIGATE® PULSE TRANSFORMERS

FLEXIBLE LEAD AND PRINTED WIRING BOARD DESIGNS FOR LOW-COST SCR CIRCUIT APPLICATIONS

- Specifically Designed For Commercial and Industrial SCR Triggering Applications Where Low Cost and Excellent Performance Are Required
- Single-ended Pulse Transformers Are Designed With Leads Especially Intended For Mounting On Printed Wiring Boards; These Units are Self Supporting
- Balanced Pulse Characteristics and Energy Transfer Between Windings
- Minimum Saturation Effect To Allow Operation Where Increased Pulse Widths Are Required
- Fast Pulse Rise Time and Increased Current Capability To Prevent SCR di/dt Failure
- Operating Temperature Range of −10 C to +70 C
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 40003

Call Your Sprague Industrial Distributor For Current Quantity Prices



DIMENSIONS

FLEXIBLE LEAD	HORIZONTAL PLUG-IN
D. x L.	L. x W. x H.
.593 x .828	.968 .775 .800

FLEXIBLE LEAD DESIGN

Turns Ratio	Catalog Number	Min. Lp (μH)	Max. L_L (μH)	Max. C_C (pF)	Max. DCR (Ω)	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy A-C Line Voltage (Volts RMS)
1:1	11Z12	200	3	800	1.5-1.5	1600	240
1:1:1	11Z13	200	3	800	2-2-2	1600	240
2:1	11Z14	1000	10	1300	10-2	1600	240
2:1:1	11Z15	1000	15	1300	10-2-2	1600	240
5:1	11Z16	5000	1500	400	19-3	1600	240

HORIZONTAL PLUG-IN DESIGN

Turns Ratio	Catalog Number	Min. Lp (μH)	Max. L_L (μH)	Max. C_C (pF)	Max. DCR (Ω)	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy A-C Line Voltage (Volts RMS)
:1	11Z2000	200	3.0	800	1.5-1.5	1600	240
:1	11Z2001	1000	12.0	2000	8-8	1600	240
:1	11Z2003	1000	10.0	1300	10-2	1600	240
:1	11Z2004	5000	1500	400	19-3	1600	240
:1:1	11Z2100	200	3.0	800	2-2-2	1600	240
:1:1	11Z2101	1000	12.0	1400	10-10-10	1600	240
:1:1	11Z2103	1000	15.0	1300	10-2-2	1600	240
:1:1	11Z2104	5000	1500	400	20-4-4	1600	240

opyright 1971, Sprague Products Company

All sizes subject to change without notice.

® United Technical Publications

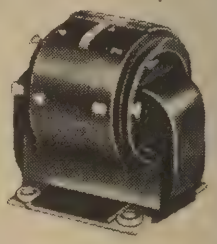
STERLING TRANSFORMER

ENCAPSULATED 400 cps transformers

CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C1	6.3 CT	0.8	1500	115	SM3	**15.18**
19	4C2	6.3 CT	1.2	1500	115	SM2	**15.18**
19	4C3	6.3 CT	6.8	1500	110/115/120	2	**24.37**
20	4C4	6.3 6.3	4.9 2.7	1500	115	3	**21.78**
19	4C5	6.3 CT	7.2	1500	115	35	**25.30**
21	4C6	6.3 6.3 6.3	7 7 1.5	1500 1500 1500	120	35	**24.64**
22	4C7	6.3 CT 6.3 CT	7 7	1500 1500	120	4	**29.32**
21	4C8	6.3 6.3 6.3	13.7 2.9 0.3	1500 1500 1500	115	4	**29.32**
19	4C9	6.3 CT	12.3	1500	115	5	**27.12**
21	4C11	6.3 6.3 6.3	2.4 2.5 2.7	1500	115	3	**27.12**
19	4C26	6.3 CT	2	1500	115	SM1	**19.31**
19	4C27	6.3 CT	3	1500	115	1A	**20.08**
19	4C28	6.3 CT	5	1500	115	2	**20.79**
19	4C29	5 CT	3	2500	115	SM1	**19.31**
19	4C30	5 CT	6	2500	115	2	**20.79**
19	4C31	8.5 CT	12	1500	115	5	**27.09**
19	4C32	8.5 CT	23	1500	115	7	**30.03**
19	4C33	8.5 CT	35	1500	115	8	**32.73**
19	4C34	8.5 CT	45	1500	115	9	**39.49**
18	4C12	14.1	3	1500	115	3	**20.67**
19	4C35	21 CT	4.5	1500	115	5	**27.09**
19	4C13	21 CT	9	1500	115	7	**23.43**
19	4C36	21 CT	18	1500	115	9	**39.49**
19	4C10	20 CT	0.6	1500	115	SM1	**19.31**

FREQUENCY 380-1000 cps.



FOR MINIMUM SIZE & MINIMUM WEIGHT
- CONTOUR MOLDED
- HIPERSIL CORES

MIL-T27C Specifications

MIL Type TF5SX01ZZ

85°C Max. Ambient
130°C Max. Oper. Temp.

HIGH SHOCK
EXTREME ENVIRONMENT CONDITIONS
LIGHT WEIGHT FOR AIRBORNE USE
10,000 HOUR PLUS-LIFE
SERVO APPLICATIONS
ISOLATION
POWER SUPPLIES
AIRBORNE CONTROL CIRCUITS
MISSILE CIRCUITS



FIG. 18

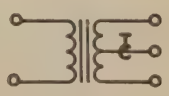


FIG. 19

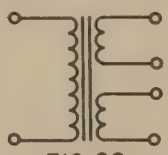


FIG. 20

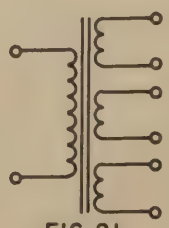


FIG. 21

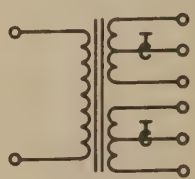


FIG. 22

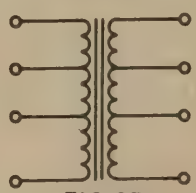


FIG. 23

STERLING TRANSFORMER CORPORATION

Net

© United Technical Publications

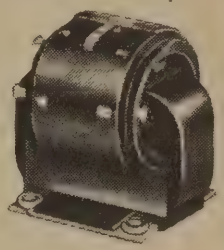
STERLING TRANSFORMER

ENCAPSULATED 400 cps transformers

CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp.	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C37	21 CT	24	1500	115	10	47.41
19	4C38	24 CT	4	1500	115	5	27.09
19	4C39	24 CT	8	1500	115	7	30.03
19	4C40	24 CT	16	1500	115	9	39.49
19	4C41	24 CT	21	1500	115	10	47.41
18	4C14	26	0.5	1500	115	SM1	18.83
19	4C15	26 CT	1.5	1500	115	3	19.47
19	4C23	26 CT	3	1500	115	4	23.43
19	4C24	26 CT	5	1500	115	6	27.34
22	4C16	28 CT 6.3 CT	0.8 7	1500	115	3	29.28
19	4C42	41 CT	2.3	1500	115	5	27.09
19	4C43	41 CT	4.5	1500	115	7	30.03
19	4C44	41 CT	9	1500	115	9	39.49
19	4C45	41 CT	12	1500	115	10	47.41
19	4C46	48 CT	2	1500	115	5	27.09
19	4C47	48 CT	4	1500	115	7	30.03
19	4C48	48 CT	8	1500	115	9	39.49
19	4C49	48 CT	10	1500	115	10	47.41
19	4C25	52 CT	2	1500	115	5	27.09
19	4C17	52 CT	0.2	1500	115	SM1	20.89
19	4C18	90 CT	4.5	1500	115	9	39.49
18	4C19	115	.05	1500	115	SM2	15.51
18	4C21	115	2.8	1500	115	8	32.15
23	4C20	105/115/125	0.4	1500	105/115/125	2	22.33
23	4C50	105/115/125	1	1500	105/115/125	6	28.32
23	4C51	105/115/125	2.4	1500	105/115/125	8	33.22
23	4C52	105/115/125	3.2	1500	105/115/125	9	40.04
23	4C53	105/115/125	4	1500	105/115/125	10	48.07
18	4C22	334	.025	1500	115	SM1	17.73

FREQUENCY
380-1000 cps.



FOR MINIMUM SIZE & MINIMUM WEIGHT
- CONTOUR MOLDED
- HIPERSIL CORES

MIL-T27C Specifications

MIL Type TF5SX01ZZ

85°C Max. Ambient
130°C Max. Oper. Temp.

HIGH SHOCK EXTREME ENVIRONMENT CONDITIONS

LIGHT WEIGHT FOR AIRBORNE USE

10,000 HOUR PLUS-LIFE

SERVO APPLICATIONS

ISOLATION

POWER SUPPLIES

AIRBORNE CONTROL CIRCUITS

MISSILE CIRCUITS

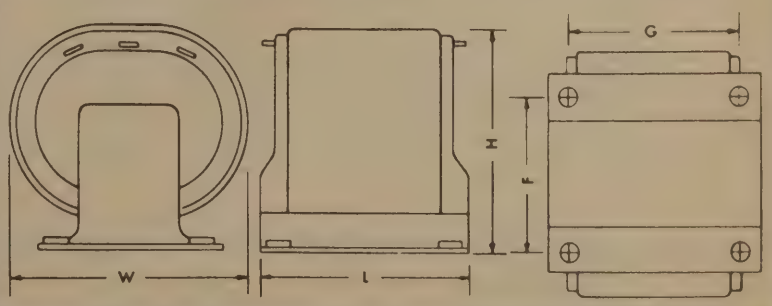
MOLD NO.	OVERALL DIMENSIONS L	W	H	MTG. DIMENSIONS F	G	APP. WT. (LBS.)	MTG. METH.
SM3	1	1-1/4	1-3/16	1	Note 1	0.06	Note 1
SM2	1-1/2	1-1/4	1-11/16	1	Note 1	0.10	Note 1
SM1	1-1/2	1-1/2	1-11/16	1-1/8	Note 1	0.16	Note 1
1	1-13/16	1-7/8	1-13/16	1-1/4	1-7/16	0.25	Note 2
1A	1-11/16	1-17/32	1-13/16	1-5/32	1-1/8	0.25	Note 2
2	2	1-15/16	2-1/8	1-9/32	1-1/4	0.40	Note 2
3	2-5/16	1-13/16	2-1/8	1-9/32	1-7/16	0.45	Note 2
3S	2-1/16	2-3/8	2-3/16	1-17/32	1-11/16	0.70	Note 2
4	2-5/16	2-3/8	2-9/16	1-17/32	1-11/16	0.90	Note 2
5	2-3/4	2-3/8	2-7/8	1-17/32	2-3/16	1.20	Note 2
6	2-3/4	2-5/8	3-1/8	1-17/32	2-3/16	1.50	Note 2
7	3	2-7/8	3-3/8	1-25/32	2-1/2	2.00	Note 2
8	3-3/8	2-7/8	3-3/8	1-25/32	2-1/2	2.50	Note 2
83	3-3/4	3-1/4	3-3/8	2-1/4	3	3.25	Note 3
86	3-3/4	3-3/4	3-3/8	2-3/4	3-1/8	4.25	Note 3
9	4-1/16	3-3/8	3-7/8	2-3/16	3-1/2	5.00	Note 3
10	4-1/2	3-15/16	3-15/16	2-3/4	3-1/8	6.00	Note 3

Note 1—SM series are two hole mounting with holes on center line. #4-40 Pem nuts are fastened to the bracket.

Note 2—#6-32 Pem nuts on bracket are standard.

Note 3—#8-32 Pem nuts on bracket are standard.

- All primaries 380-1000 cps
- Dielectric test voltages:
  PRIMARIES 1500 Volts RMS
  SECONDARIES 1500 Volts RMS
- Epoxy resin used as encapsulant
- Prices subject to change without notice



STERLING TRANSFORMER CORPORATION

transistor transformers

STERLING TRANSFORMER

UNIVERSAL DC POWER MODULE TRANSFORMERS

High reliability transformers having a tapped primary and single or dual secondary windings which may be connected F.W. bridge or F.W. center tap so as to obtain a wide range of DC voltages and current ratings.

INPUT PRIMARY 115 volts 50-500 cps

TYPE	FIG.		F.W. BRIDGE								F.W. CT			MIL STD'D* HERM SEAL TF 45x02		INDUST. OPEN FRAME	
		AC VOLT	40 5	32 25	28.5	24	20.25	16 5	12	8.25	40.5	24	16.5				
		DC VOLT	53.0	41.0	34	25	24	18	12	6	24	12	6.6	Style	Net Pr.	Style	Net Pr.
7K1	1	DC AMP	.025	.035	.040	.042	.055	.042	.070	.085	.042	.055	.068	H	14.19	F	8.69
		INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)				
7K2	1	DC AMP	.085	.12	.13	.14	.18	.14	.23	.23	.14	.17	.21	H	15.62	L	10.12
		INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)				
7K3	1	DC AMP	.48	.60	.60	.64	1.0	.8	1.2	1.52	.8	.883	.92	H	17.44	F	8.97
		INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)				
7K4	1	DC AMP	1.2	1.5	1.5	1.6	2.5	2.0	3.0	3.8	2.0	2.2	2.8	H	23.98	L	14.74
		INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)				
7K5	1	DC AMP	3.0	3.5	3.8	4.0	6.0	4.5	7.5	9.0	4.5	5.5	6.7	H	34.87	L	24.92
		INPUT CAP	(1.0)	(1.0)	(1.0)	(1.0)	(2.0)	(2.0)	(4)	(4)	(2.0)	(2.0)	(2.0)				
7K6	1	DC AMP	7.5	8.5	9.5	10	15	11	19	23	11	13.5	17	H	58.08	L	43.78
		INPUT CAP	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(6.0)	(12)	(12)	(6)	(6)	(12)				
TYPE	FIG.	AC VOLTS	81	64.5	57.0	48	40.5	33	24	16 5	81	48	33				
		DC VOLT	106	82	68	50	48	36	24	12	48	24	13				
7K7	2	DC AMP	0.6	0.75	0.75	0.8	1.25	1.0	1.5	1.9	1.0	1.1	1.4	H	24.68	L	15.46
		INPUT CAP	(.125)	(.125)	(.125)	(.125)	(.25)	(.25)	(.5)	(0.5)	(.25)	(.25)	(.5)				

TYPE	FIG.	PRI TAP	F.W. BRIDGE SEC. AC Volt	SEC. AC Amp	CHOKE INPUT DC Volt	CHOKE INPUT DC Amp	CAP INPUT DC Volt	CAP INPUT DC Amp	CAP INPUT Cap	F.W. CT CHOKE INPUT DC Volt	F.W. CT CHOKE INPUT DC Amp	F.W. CT CAP INPUT DC Volt	F.W. CT CAP INPUT DC Amp	F.W. CT CAP INPUT Cap	MIL STD * HERM SEAL Style	MIL STD * HERM SEAL Net Pr.	INDUST. OPEN FRAME Style	INDUST. OPEN FRAME Net Pr.
7K8	3	—	20CT	0.3	16.5	0.3	26	0.2	(.2)	8	0.43	12	0.3	(.5)	H	12.38	F	6.27
7K9	3	—	20CT	0.6	16.5	0.6	26	0.4	(.4)	9	0.85	13	0.6	(1.0)	H	15.62	F	9.52
			F.W. BRIDGE															
			SEC. in PARALLEL CONN.							SEC. in SERIES CONN.								
7K10	4	L	17	1.5	14	3.0	18.5	2.0	(1.0)	28	1.5	45	1	(.5)	H	22.55	L	14.74
		H	21.5	1.5	17.5	3.0	25	2.0	(1.0)	35	1.5	36	1	(.5)				
7K11	4	L	17	4	14	8.0	18.5	5.0	(2.0)	28	4.0	45	2.5	(1.0)	H	36.30	L	25.96
		H	21.5	4	17.5	8.0	25	5.0	(2.0)	35	4.0	36	2.5	(1.0)				
7K12	4	L	17	9	14	18.0	18.5	12.0	(6.0)	28	9.0	45	6	(4.0)	H	55.55	L	40.81
		H	21.5	9	17.5	18.0	25	12.0	(6.0)	35	9.0	36	6	(4.0)				
7K13	4	L	34	4.5	28	9.0	43	6.0	(4.0)	56	4.5	85	3 0	(1.0)	H	55.55	L	40.81
		H	43	4.5	35	9.0	56	6.0	(4.0)	70	4.5	110	3.0	(1.0)				
7K14	4	L H	10	20	8.2	20	10	13	(12)	—	—	—	—	—	H	32.67	L	25.25

*FOR MILITARY USE REDUCE DC AMP 20%. Note Input Cap = (K) 1000 MFD. in Rectifier Circuit.

HIGH CURRENT TRANSFORMERS AND CHOKES

115V. 50-500 CPS

TRANSFORMERS

TYPE	FIG.	SEC. IN PARALLEL AC Volt	SEC. IN PARALLEL AC Amp	SEC. IN SERIES AC Volt	SEC. IN SERIES AC Amp	Net Price
7K15	5	3.2/6.4	16	3.2/6.4/9.6/12.8	8	9.44
7K16	5	3.2/6.4	24	3.2/6.4/9.6/12.8	12	11.19
7K17	5	3.2/6.4	50	3.2/6.4/9.6/12.8	25	23.63
7K18	5	3.2/6.4	100	3.2/6.4/9.6/12.8	50	32.75
7K19	5	6/12	16	6/12/18/24	8	15.69
7K20	5	6/12	24	6/12/18/24	12	19.63

TYPE	FIG.	SEC. IN PARALLEL AC Volt	SEC. IN PARALLEL AC Amp	SEC. IN SERIES AC Volt	SEC. IN SERIES AC Amp	Net Price
7K21	5	6/12	50	6/12/18/24	25	31.38
7K22	5	6/12	100	6/12/18/24	50	47.06
7K23	5	9/18	16	9/18/27/36	8	20.69
7K24	5	9/18	24	9/18/27/36	12	19.94
7K25	5	9/18	50	9/18/27/36	25	38.88
7K26	5	9/18	100	9/18/27/36	50	56.25

CHOKES

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K27	9	30	8	0.3	14.19
7K28	9	15	12	0.1	18.31

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K29	9	5	25	0.025	28.75
7K30	9	1.4	50	0.01	39.19

STERLING TRANSFORMER CORP.

Net

© United Technical Publications

STERLING TRANSFORMER

transistor transformers

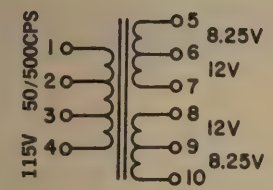


FIG. 1

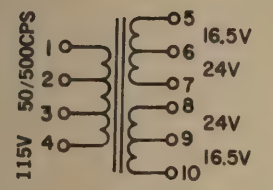


FIG. 2

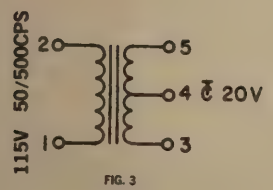


FIG. 3

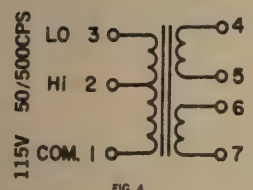


FIG. 4

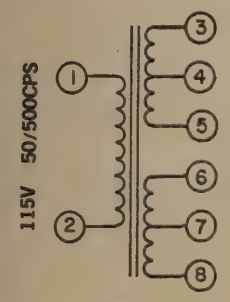


FIG. 5

TYPE	STYLE	FIG.	L	W	H	M1	M2	MTG. HOLES	STUDS
7K1	H	8	1 5/16	1 5/16	1 3/4	1 1/4	—	—	(2) 6-32
	F	6	2 1/8	1 1/4	1 1/4	1 3/4	—	(2) 3/16	—
7K2	H	8	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	—	(4) 6-32
	L	7	1 3/8	1 5/8	2 1/8	1 1/16	1 3/8	(4) 5/32	—
7K3	H	8	2 5/16	2 1/16	3 1/8	1 11/16	1 1/16	—	(4) 6-32
	F	6	3 3/4	2	2 5/16	3 1/8	—	(2) 3/16	—
7K4	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 5/8	3 7/16	2 1/4	2 1/8	(4) 13/64	—
7K5	H	8	3 15/16	3 3/8	5 1/4	3	2 7/16	—	(4) 10-32
	L	7	3 7/8	3 1/2	4 5/8	3	2 1/2	(4) 13/64	—
7K6	H	8	5 1/2	4 1/2	6 3/4	3 3/4	3	—	(4) 1/4-20
	L	7	4 7/16	4 1/2	5 3/8	3 1/2	3 3/8	(4) 9/32	—
7K7	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 5/8	3 7/16	2 1/4	2 1/8	(4) 13/64	—
7K8	H	8	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	—	(4) 6-32
	F	6	2 7/8	1 1/2	1 11/16	2 3/8	—	(2) 3/16	—
7K9	H	8	1 15/16	1 13/16	2 3/4	1 3/8	1 1/4	—	(4) 6-32
	F	6	3 5/16	2 1/4	2	2 13/16	—	(2) 3/16	—
7K10	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 1/2	3 7/16	2 1/4	2	(4) 13/64	—
7K11	H	8	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	—	(4) 10-32
	L	7	3 7/8	3 5/8	4 5/8	3 5/16	2 3/4	(4) 13/64	—
7K12	H	8	5 7/8	4 3/4	6 11/16	4 1/8	3 1/2	—	(4) 1/4-20
	L	7	4 1/2	5 1/4	5 3/8	3 1/2	4 1/8	(4) 9/32	—
7K13	H	8	5 7/8	4 3/4	6 11/16	4 1/8	3 1/2	—	(4) 1/4-20
	L	7	4 1/2	5 1/4	5 3/8	3 1/2	4 1/8	(4) 9/32	—
7K14	H	8	3 15/16	3 3/8	5 1/4	3	2 7/16	—	(4) 10-32
	L	7	3 7/8	3 1/2	4 5/8	3	2 1/2	(4) 13/64	—
7K15	L	9	3 13/16	3	3 3/16	3 1/8	2 1/4	(4) 13/64	—
7K16	L	9	4 3/16	3 1/4	3 1/2	3 7/16	2 3/8	(4) 13/64	—
7K17	L	9	5 3/8	4 1/4	4 5/8	4 3/8	2 7/8	(4) 9/32	—
7K18	L	9	5 3/8	5 3/4	4 5/8	4 3/8	4 1/8	(4) 9/32	—
7K19	L	9	4 3/16	3 7/8	3 1/2	3 7/16	3	(4) 13/64	—
7K20	L	9	4 9/16	4 1/2	3 7/8	3 3/4	3 3/8	(4) 13/64	—
7K21	L	9	5 3/8	5 3/4	4 5/8	4 3/8	4 1/8	(4) 9/32	—
7K22	L	9	6 1/2	6 3/8	5 5/8	5 5/16	4 3/8	(4) 9/32	—
7K23	L	9	4 9/16	4 3/8	3 7/8	3 3/4	3 3/8	(4) 13/64	—
7K24	L	9	5 3/8	4 7/8	4 5/8	4 3/8	3 3/8	(4) 9/32	—
K725	L	9	6 1/2	6	5 5/8	5 5/16	3 3/4	(4) 9/32	—
7K26	L	9	6 1/2	7 3/4	5 5/8	5 5/16	5 1/8	(4) 9/32	—
7K27	L	9	4 3/16	3 5/8	3 1/2	3 7/16	3	(4) 13/64	—
7K28	L	9	5 3/8	4 1/4	4 5/8	4 3/8	3 1/8	(4) 9/32	—
7K29	L	9	5 3/8	4 3/4	4 5/8	4 3/8	3 7/8	(4) 9/32	—
7K30	L	9	6 1/2	5 3/4	5 5/8	5 5/16	4 1/8	(4) 9/32	—

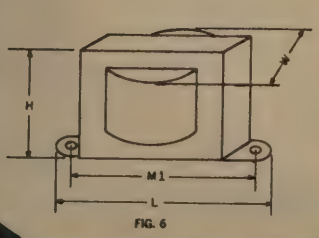


FIG. 6

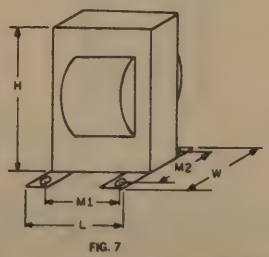


FIG. 7

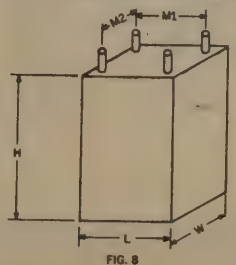


FIG. 8

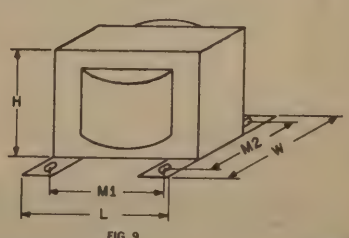


FIG. 9

STERLING TRANSFORMER CORP.

transistor transformers

STERLING TRANSFORMER

MINISPEC TRANSISTOR TRANSFORMERS — 300 SERIES

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
300	Line to Base	600	600	10	23	200–15,000	4.40	9.46
301	Coll. to P.P. Base	100	10 C.T./40 C.T.	100	27	200–20,000	5.12	10.56
302	Coll. to Base or line	50,000	600	3	20	300–15,000	4.73	10.16
303	Collector to speaker	50,000	6	3	20	300–15,000	4.73	10.16
304	Coll. to P.P. Base	100,000	1,200 C.T.	1.4	17	200–15,000	4.95	10.40
305	Coll. to P.P. Base	25,000	1,200 C.T.	3	22	200–15,000	4.95	10.40
306	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 C.T.	3	20	300–15,000	5.12	10.56
307	Line to P.P. Base	600 C.T.	1,200 C.T.	4	23	200–15,000	5.12	10.56
308	Collector to Base	25,000	600	3	22	200–15,000	4.73	10.18
309	P.P. Coll. to P.P. Base	4,000 C.T.	600 C.T.	3	32	200–15,000	5.12	10.56
310	Output Coll. to speaker	2,000	3.4	10	32	200–15,000	4.73	10.18
311	P.P. Coll. to speaker	4,000 C.T.	3.4	3	32	200–15,000	4.96	10.40
312	Coll. to Speaker	400	10	50	25	200–20,000	4.40	9.46
313	P.P. Servo Output	500 C.T.	210	30	27	300–20,000	4.73	10.18
314	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	6	22	200–15,000	5.12	10.56
315	P.P. Coll. to P.P. Base	50,000 C.T.	1200/300 Split	3	20	300–15,000	5.45	10.89
316	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 Split	3	32	200–15,000	5.28	10.73
317	Line to P.P. Base	600/150 Split	1,200 C.T.	4	23	200–15,000	5.28	10.73
318	P.P. Coll. to Servo	250 C.T.	1,000	10	30	200–15,000	4.73	10.18
319	Coll. to P.P. Base	2,500	600 C.T.	10	32	200–15,000	4.73	10.18
320	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	8	32	200–15,000	5.12	10.56
321	Line to P.P. Base	600 C.T.	600 C.T.	20	23	200–15,000	4.96	10.40
322	P.P. Coll. to Servo	1,600 C.T.	450	15	30	200–15,000	4.73	10.18
323	P.P. Coll. to Servo	250 C.T.	500	10	30	200–15,000	4.73	10.18

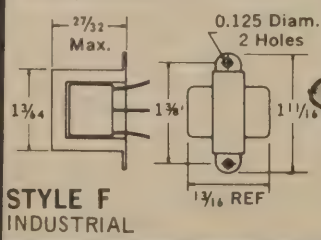
MINISPEC AUDIO TRANSFORMERS — 300 SERIES

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
375	Mike or line to 1 grid	50/250/600 C.T.	50,000	0	5	20–20,000	4.96	10.89
376	Mike or line to 2 grids	50/250/600 C.T.	50,000 C.T.	0	5	20–20,000	5.12	11.44
377	Dynamic mike to 1 grid	7.5/30	50,000	0	5	20–20,000	4.73	10.89
378	Single plate to 1 grid	15,000	60,000	0	6	20–15,000	4.18	9.30
379	Single plate to 1 grid	15,000	60,000	4	14	200–20,000	4.18	9.30
380	Single plate to 2 grids	15,000	95,000 C.T.	0	5	20–15,000	4.40	10.40
381	Single plate to 2 grids	15,000	95,000 C.T.	4	11	200–20,000	4.57	10.73
382	Single plate to line	15,000	50/250/600 C.T.	0	8	20–20,000	4.57	11.66
383	Single plate to line	15,000	50/250/600 C.T.	4	21	150–20,000	4.57	11.66
384	Push pull plates to line	30,000 C.T.	50/250/600 C.T.	0	8	30–50,000	4.73	11.66
385	Crystal mike to line	50,000	50/250/600 C.T.	0	5	20–20,000	4.57	11.28
386	Mixing and matching	50/250 C.T.	50/250/600 C.T.	0	8	20–20,000	4.57	11.28
387	Reactor	300 hy. 0 d.c.	50 hy. @ 3 ma.			DCR 6,000	4.02	8.91
388	50:1 mike to grid	200	½ Megohm	0	9	80–3,000	4.73	10.89
389	10:1 plate to grid	10,000	1 Megohm	0	11	100–2,500	4.40	10.18

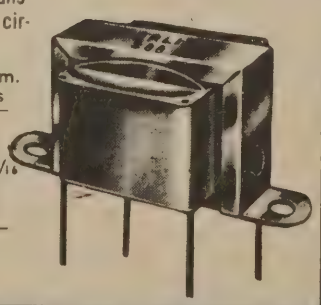
MINISPEC 300 SERIES

Highest efficiency miniature transformer for transistor and audio circuit applications.

MILITARY STYLE ENCAPSULATED VERSIONS ARE AVAILABLE

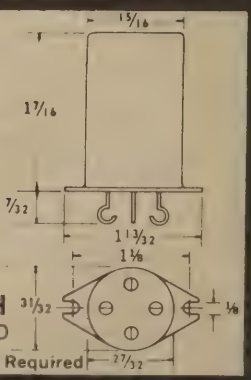


STYLE F
INDUSTRIAL





STYLE H
HERMETICALLY SEALED



STERLING TRANSFORMER CORP.

Net

© United Technical Publications

STERLING TRANSFORMER

transistor transformers

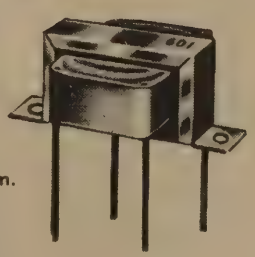
MICROSPEC TRANSISTOR TRANSFORMERS — 600 SERIES

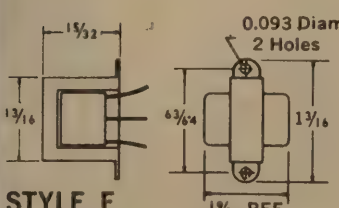
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
601	Line to Base	600	600	8	22	200–15,000	4.73	8.91
602	Coll. to Base or line	50,000	600	0.7	20	200–15,000	4.95	9.08
603	P.P. coll. to P.P. Base	50,000 C.T.	600 C.T.	1.4	20	200–15,000	5.83	10.40
604	Collector to speaker	50,000	6	1	20	200–15,000	5.28	9.63
605	Coll. to P.P. Base	25,000	1,200 C.T.	1	20	200–15,000	5.45	10.18
606	P.P. coll. to P.P. Base	50,000 C.T.	1,200 C.T.	1.4	20	200–15,000	5.67	10.40
607	Line to P.P. Base	600 C.T.	1,200 C.T.	16	22	200–15,000	5.12	9.30
608	Collector to Base	25,000	600	1	20	200–15,000	4.18	8.75
609	P.P. coll. to P.P. Base or line	4,000 C.T.	600 C.T.	5	28	200–15,000	5.28	9.46
610	Coll. to Spkr.	2,000	3.4	5	28	200–15,000	4.73	8.91
611	Output P.P. coll. to spkr.	4,000 C.T.	3.4	5	28	200–15,000	4.95	9.08
612	Coll. to P.P. Base	10,000	1,500 C.T.	1	20	200–15,000	5.45	10.18
613	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200–15,000	5.45	9.85
614	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	2	20	200–15,000	5.67	10.40
615	Coll. to P.P. Base	2,500	2,500 C.T.	2	23	200–15,000	4.95	9.08
616	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 split	5	28	200–15,000	5.67	10.40
617	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	4	22	200–15,000	5.28	9.46
618	Line to Base	600 C.T.	600 C.T.	16	22	200–15,000	5.12	9.30
619	P.P. Coll. to P.P. Base	25,000 C.T.	600 C.T.	2	20	200–15,000	5.45	10.18
620	P.P. Coll. to P.P. Base	10,000 C.T.	1,500 C.T.	2	20	200–15,000	5.67	10.40
621	Driver/Isolation	10,000 C.T.	10,000 C.T.	2	20	200–15,000	5.67	10.40
622	P.P. Coll. to P.P. Base	7,500 C.T.	1,200 C.T.	4	22	200–15,000	5.46	10.18
623	P.P. Coll. to P.P. Base	2,000 C.T.	500 C.T.	10	28	200–15,000	5.28	10.01
624	Line to P.P. Base	600 C.T.	1200/300 split	16	22	200–15,000	5.67	10.40

MICROSPEC AUDIO TRANSFORMERS — 600 SERIES

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
675	Input	200/50	250,000/62,500	0	4	200–10,000	5.45	8.91
676	Interstage 3:1	10,000	90,000	0	4	150–10,000	5.83	9.08
677	Plate to line	10,000	200	3	20	150–10,000	5.12	8.75
678	Output	30,000	50	1	20	150–10,000	4.95	8.58
679	Reactor 50 HY at 1 madc				4700	ohms DCR	4.95	8.36
680	Output	100,000	60	0.5	20	250–10,000	5.12	8.75
681	Output	30,000	1,200	0.5	20	200–10,000	4.02	7.81

MICROSPEC 600 SERIES
Subminiature transformers for high efficiency circuits.

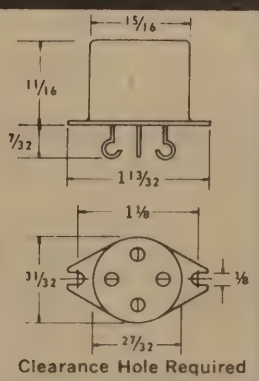




STYLE F
INDUSTRIAL

MILITARY STYLE ENCAPSULATED VERSIONS ARE AVAILABLE





Clearance Hole Required

STYLE H
HERMETICALLY SEALED

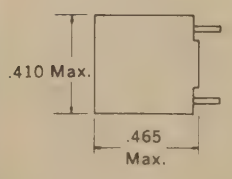
STERLING TRANSFORMER CORP.

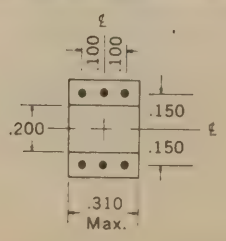
STERLING TRANSFORMER

transistor transformers

NANOSPEC TRANSISTOR TRANSFORMERS — 900 SERIES
Frequency Response ± 2 db 300 Cycles to 90 KC

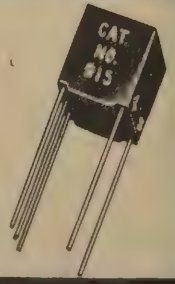
Part No.	Application	Color Application Guide	Primary Impedance	Secondary Impedance	Unbal. Pri. DC Ma.	Power Level MW.	DC Resistance		Net Price
							Primary	Secondary	1-9 Pcs.
903	Interstage	Red	50,000 CT	1,000 CT	0	10	3300	75	9.08
904	Interstage	Red	50,000	1000/250 Split	0	10	3300	75	9.85
905	Interstage	Red	25,000 CT	1,000 CT	0.5	40	1700	115	8.58
906	Interstage	Red	25,000	1000/250 Split	0.25	40	1700	115	9.30
907	Interstage	Red	25,000	1,000	0.25	40	1700	115	7.87
908	Isolation	Green	10,000 CT	10,000 CT	1	50	1200	1300	9.30
909	Driver	Orange	10,000 CT	2,000 CT	1	50	1050	300	8.20
910	Driver	Orange	10,000	2000/500 Split	0.5	50	1050	300	8.91
911	Driver	Orange	10,000 CT	1,200 CT	1	50	1050	280	8.20
912	Driver	Orange	10,000	1200/300 Split	0.5	50	1050	280	8.75
913	Driver	Orange	10,000	1,200	0.5	50	1050	280	7.26
914	Driver	Orange	10,000 CT	500 CT	1	50	1050	80	8.20
915	Isolation	Green	2,500	2,500 CT	1	50	250	325	7.65
916	Output	Yellow	1,500 CT	600	3	50	170	135	7.48
917	Output	Yellow	500	50	3	50	60	8	6.55
918	Output	Yellow	120 CT	3.2	10	50	17	.75	6.93
919	Audio Choke	Blue	6 HY.	DCR 1800 OHMS	2				6.55
920	Audio Choke	Blue	.3 HY.	DCR 45 OHMS	4				5.67
921	Audio Choke	Blue	1.25 H	DCR 180 OHMS	2				5.83
922	Audio Choke	Blue	3.5 H	DCR 1040 OHMS	2				5.83
923	Audio Choke	Blue	.9 H	DCR 110 OHMS	2				5.83
924	Audio Choke	Blue	.1 H	DCR 15 OHMS	5				5.83
925	Interstage	Red	10,000 CT	1,500 CT	1	50	1050	300	8.75
926	Isolation	Green	600 CT	600 CT	3	50	72	92	8.75
927	Output	Yellow	1,000	50	3	50	145	8	7.10
928	Output	Yellow	300 CT	600	7	50	41	98	7.26
929	Output	Yellow	500 CT	600	3	50	67	98	7.26
930	Output	Yellow	900 CT	600	4	50	104	96	7.48
931	Output	Yellow	150 CT	12	10	50	18	3.5	7.10
932	Output	Yellow	300 CT	12	7	50	42	3.4	7.10
933	Output	Yellow	600 CT	12	4.5	50	77	3	7.26
934	Output	Yellow	1,000 CT	12	3.5	50	120	3	7.48
935	Output	Yellow	1,500 CT	12	3	50	179	2.9	7.65
936	Output	Yellow	7,500 CT	12	1	50	796	2.9	8.20
937	Output	Yellow	320 CT	3.2	6	50	44	.77	7.10
938	Output	Yellow	600	3.2	3	50	70	.76	6.77
939	Output	Yellow	600 CT	3.2	4.5	50	70	.85	7.26
940	Output	Yellow	800 CT	3.2	4	50	107	.86	7.48
941	Output	Yellow	1,200	3.2	2	50	131	.76	6.77
942	Output	Yellow	1,200 CT	3.2	3	50	131	.87	7.48
943	Output	Yellow	1,600 CT	3.2	2.5	50	186	.8	7.65
944	Output	Yellow	10,000	3.2	1	50	1160	.81	7.48
945	Output	Yellow	8,000 CT	3.2	1	50	790	.76	8.20





NANOSPEC 900 SERIES

Designed for printed circuit transistor use in high component density applications.
Epoxy resin encapsulated.



STERLING TRANSFORMER CORP

Net
© United Technical Publications

STERLING TRANSFORMER

step-up/step-down ISOLATION – AUTO *transformers*

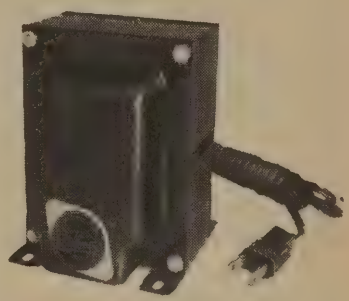
STEP-DOWN ISOLATION TRANSFORMERS

PRIMARY: 240 Volts • 50/60 HZ • Line Cord and Plug*
SECONDARY: 120 Volts • Standard Female Receptacle
• Electrostatic Shield • UL Approved Cord and Plug.

Cat No.	VA Watts	Style	DIMENSIONS L	W	H	Mounting Centers M1	M2	Appr. Wt.	Net Price
S2-50	50	A	2 29/32	3 7/16	3 1/2	2 1/4	1 13/16	3	9.20
S2-100	100	A	3 7/32	3 7/8	3 7/8	2 1/2	2 3/16	5	11.90
S2-150	150	A	3 17/32	4 3/8	4 1/4	2 3/4	2 13/16	7	13.50
S2-220	220	A	3 27/32	4 5/8	4 5/8	3	3 1/16	9.5	15.00
S2-330	330	A	4 17/32	5 1/4	5 7/16	3 1/2	3 1/4	14.5	22.00
S2-500	500	A	4 17/32	6 1/4	5 7/16	3 1/2	4 1/4	21	24.00
S2-700	700	A	5 1/2	5 15/16	6 9/16	4 1/4	3 1/2	25	25.50
S2-1000	1000	A	5 1/2	6 15/16	6 9/16	4 1/4	4 1/2	35	45.00
S2-1500	1500	B	9	7 3/4	6 5/16	8 1/4	4 3/8	42	57.00
S2-2200	2200	B	9	9 3/8	6 5/16	8 1/4	6	65	70.00
S2-3300	3300	B	9	11 5/8	6 5/16	8 1/4	8 1/4	95	110.00

Style A Only; Style B — Knockouts for Conduit Connectors.





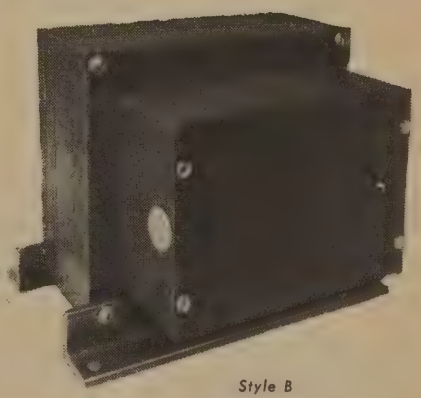
Style A

ISOLATION TRANSFORMERS

PRIMARY: 120 Volts • 50/60 HZ • Line Cord and Plug*
SECONDARY: 120 Volts • Standard Female Receptacle
• Electrostatic Shield • UL Approved Cord and Plug.

Cat No.	VA Watts	Style	DIMENSIONS L	W	H	Mounting Centers M1	M2	Appr. Wt.	Net Price
S1-50	50	A	2 29/32	3 7/16	3 1/2	2 1/4	1 13/16	3	9.20
S1-100	100	A	3 7/32	3 7/8	3 7/8	2 1/2	2 3/16	5	11.90
S1-150	150	A	3 17/32	4 3/8	4 1/4	2 3/4	2 13/16	7	13.50
S1-220	220	A	3 27/32	4 5/8	4 5/8	3	3 1/16	9.5	15.00
S1-330	330	A	4 17/32	5 1/4	5 7/16	3 1/2	3 1/4	14.5	22.00
S1-500	500	A	4 17/32	6 1/4	5 7/16	3 1/2	4 1/4	21	24.00
S1-700	700	A	5 1/2	5 15/16	6 9/16	4 1/4	3 1/2	25	25.50
S1-1000	1000	A	5 1/2	6 15/16	6 9/16	4 1/4	4 1/2	35	45.00
S1-1500	1500	B	9	7 3/4	6 5/16	8 1/4	4 3/8	42	57.00
S1-2200	2200	B	9	9 3/8	6 5/16	8 1/4	6	65	70.00
S1-3300	3300	B	9	11 5/8	6 5/16	8 1/4	8 1/4	95	110.00

Style A Only; Style B — Knockouts for Conduit Connectors.



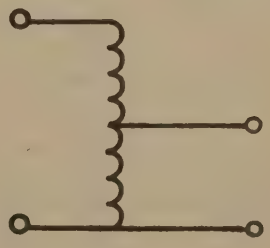
Style B

STEP-DOWN AUTO TRANSFORMERS

PRIMARY: 240 Volts • 50/60 HZ • Line Cord and Plug*
SECONDARY: 120 Volts • Standard Female Receptacle
• UL Approved Cord and Plug.

Cat No.	VA Watts	Style	DIMENSIONS L	W	H	Mounting Centers M1	M2	Appr. Wt.	Net Price
SA-100	100	A	2 29/32	3 7/16	3 1/2	2 1/4	1 13/16	3	8.20
SA-150	150	A	2 29/32	3 3/4	3 1/2	2 1/4	2 1/8	4	9.40
SA-200	200	A	3 7/32	3 7/8	3 7/8	2 1/4	2 3/16	5	12.00
SA-300	300	A	3 17/32	4 3/8	4 1/4	2 3/4	2 13/16	7	15.30
SA-450	450	A	3 27/32	4 5/8	4 5/8	3	3 1/8	9 1/2	17.10
SA-650	650	A	4 17/32	5 1/4	5 7/16	3 1/2	3 1/4	14 1/2	20.20
SA-1000	1000	A	4 17/32	6 1/4	5 7/16	3 1/2	4 1/4	21	23.50
SA-1500	1500	A	5 1/2	5 15/16	6 9/16	4 1/4	3 1/2	25	34.00
SA-2000	2000	A	5 1/2	6 15/16	6 9/16	4 1/4	4 1/2	35	39.40
SA-3000	3000	B	9	7 3/4	6 5/16	8 1/4	4 3/8	42	58.00
SA-4500	4500	B	9	9 3/8	6 5/16	8 1/4	6	65	75.00
SA-6500	6500	B	9	11 5/8	6 5/16	8 1/4	8 1/4	95	105.00
SA-8000**	8000	B	10 5/8	9 5/8	8 1/4	9 5/8	6 1/8	90	120.00
SAB-5300†	5300	A	5 3/4	8 5/16	4	3 3/4	6 1/2	17.5	54.00

*Style A Only **60 HZ Only Style B — Knockouts for Conduit Connector
†Step-up/down Auto Transformer. Connections for 208/230 V or 230/208 V, 23 Amp 50/60 HZ



STERLING TRANSFORMER CORP.

STERLING TRANSFORMER

hi-Q toroidal inductors

MANUFACTURED TO MIL-T-27A. ALL HERMETICALLY SEALED UNITS (STYLE H) ARE MIL TYPE TF4RX20YY

- ALL MOLDED UNITS STYLE M ARE MIL TYPE TF5RX20ZZ
- ALSO TOROIDAL INDUCTORS IN OTHER SIZES AND VALUES AVAILABLE ON SPECIAL ORDER.
- MOLYBDENUM PERMALLOY POWDER CORES USED IN ALL UNITS.

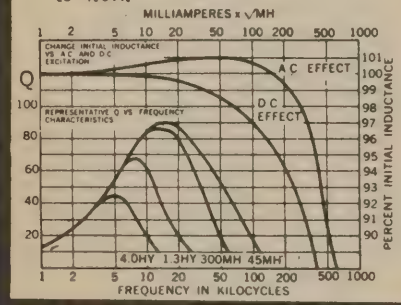


STYLE F
- ALL INDUCTORS SHOWN AVAILABLE IN OPEN STYLE F.

QA SERIES

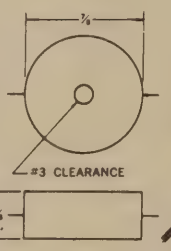
FREQUENCY TO 20KC•ACCURACY ± 2%

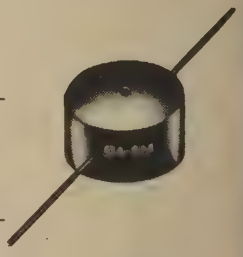
The QA series is designed to optimize small size and high "Q" for miniaturized applications. These units are available on special order with stabilized cores and inductance from 1MH to 4.0H.



AVAILABLE ON SPECIAL ORDER
HERMETICALLY SEALED

Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style M
QA-1	5MH	2.5	30	5.28	6.93
QA-2	10	5	33	5.28	6.93
QA-3	15	8	34	5.45	7.10
QA-4	20	11.2	36	5.61	7.26
QA-5	30	17	37	5.67	7.48
QA-6	50	28	40	5.83	7.65
QA-7	100	50	42	6.00	7.81
QA-8	150	80	44	6.22	8.03
QA-9	200	120	45	6.33	8.14
QA-10	300	150	46	6.44	8.42
QA-11	500	290	48	6.55	8.75
QA-12	1.00H	530	51	7.48	9.63
QA-13	1.50	825	53	7.65	10.56





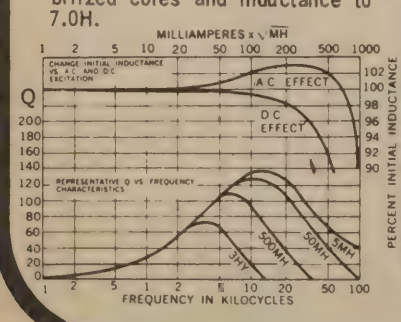
MOLDED STYLE M

Encapsulated in Epoxy Resin. Pigtail leads for printed circuit applications.

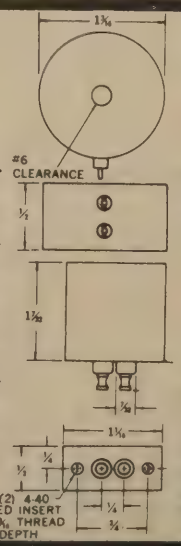
QB SERIES

FREQUENCY TO 20KC•ACCURACY ± 2%

The QB series is designed for airborne applications where stable high "Q" is needed with minimized size and weight. Available on special order with stabilized cores and inductance to 7.0H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QB-1	5MH	1.1	38	4.73	8.20	5.80
QB-2	10	2.1	40	4.73	8.20	6.38
QB-3	15	3.3	42	4.73	8.20	6.55
QB-4	20	3.7	43	4.79	8.31	6.66
QB-5	30	5.8	45	4.84	8.47	6.77
QB-6	50	11	47	4.95	8.42	6.88
QB-7	100	22	49	5.12	9.30	6.93
QB-8	150	34	50	5.28	9.46	7.10
QB-9	200	47	52	5.56	9.90	7.37
QB-10	300	60	53	5.67	10.18	5.83
QB-11	500	95	55	5.83	10.40	7.65
QB-12	1.00H	213	57	6.22	10.89	8.20
QB-13	1.50	335	59	7.10	11.44	8.91





MOLDED STYLE M

Encapsulated in Epoxy Resin. Silver plated turret lugs.



HERMETIC STYLE H

Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

STERLING TRANSFORMER CORP.

Net

© United Technical Publications

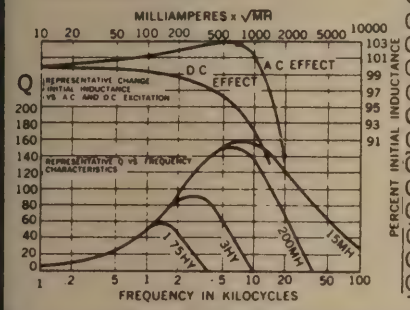
hi-Q toroidal inductors

STERLING TRANSFORMER

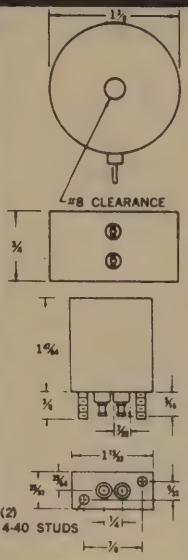
QC SERIES

FREQUENCY TO 10KC
ACCURACY ± 2%

The QC series is designed for high "Q", increased power level & stability. Available on spe- order with stabilized cores and inductance to 20H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QC-1	5MH	0.62	60	5.28	8.58	7.48
QC-2	10	1.1	66	5.45	8.75	7.48
QC-3	15	1.7	68	5.45	8.91	7.48
QC-4	20	1.9	70	5.56	9.08	7.48
QC-5	30	3	72	5.61	9.30	7.48
QC-6	50	6	76	5.67	9.46	7.48
QC-7	100	11	81	5.83	10.18	8.03
QC-8	150	17	83	6.00	10.40	8.03
QC-9	200	24	85	6.05	10.62	8.14
QC-10	300	37	88	6.16	10.78	8.25
QC-11	500	63	91	6.22	11.11	8.36
QC-12	1.00H	110	96	6.38	11.66	8.75
QC-13	1.50	185	98	6.55	11.83	8.91
QC-14	2.00	250	100	7.15	12.32	9.24
QC-15	3.00	380	103	7.76	12.82	9.68
QC-16	5.00	645	106	8.20	13.48	10.18
QC-17	7.50	950	109	8.80	14.30	11.06
QC-18	10.00	1175	112	9.08	15.07	11.66





MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.

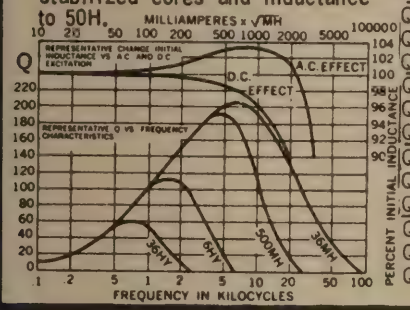


HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

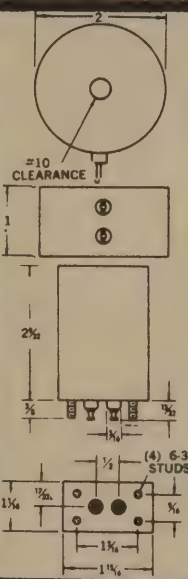
QD SERIES

FREQUENCY TO 10KC•ACCURACY ± 2%

The QD series is designed for very high "Q" in the audio band allowing for application in sharp frequency filters with high power levels and low losses. They are excellent for tuned transformers and oscillators. Available on special order with stabilized cores and inductance to 50H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QD-1	20MH	1.0	97	8.58	12.76	10.46
QD-2	30	1.5	100	8.58	12.76	10.56
QD-3	50	2.5	105	8.58	12.76	10.56
QD-4	100	6	110	8.75	12.93	10.73
QD-5	150	7	113	8.91	13.04	11.39
QD-6	200	10	115	8.91	13.04	11.39
QD-7	300	15	117	9.08	13.26	11.66
QD-8	500	25	121	9.08	13.26	11.66
QD-9	1.00H	60	126	9.46	13.81	11.99
QD-10	1.50	90	130	9.85	14.19	12.38
QD-11	2.00	100	131	10.84	15.29	12.87
QD-12	3.00	155	134	11.22	15.73	13.20
QD-13	5.00	275	138	11.44	16.01	13.48
QD-14	7.50	400	140	12.21	17.11	14.52
QD-15	10.00	600	142	13.48	18.15	15.62
QD-16	15.00	900	146	14.52	19.09	16.72
QD-17	20.00	1100	148	15.57	21.01	18.48
QD-18	25.00	1500	150	15.84	21.29	18.70





MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.

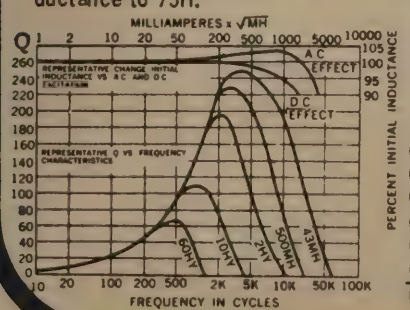


HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

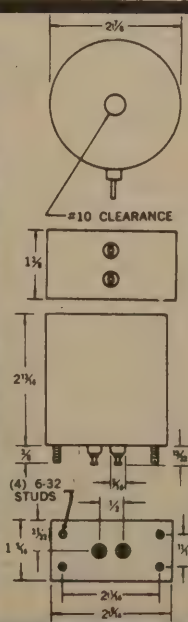
QE SERIES

FREQUENCY TO 15KC
ACCURACY ± 2%

The QE series is most widely used in low audio frequency applications where high "Q" is essential. They are used where inductance stability over a wide voltage range is required. Available on special order with inductance to 75H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QE-1	25MH	0.85	127	13.09	16.34	15.29
QE-2	50	1.6	136	13.26	16.56	15.46
QE-3	100	3	144	16.89	16.89	15.84
QE-4	150	3.9	149	17.27	17.27	16.56
QE-5	200	5.9	153	17.88	17.88	16.78
QE-6	300	8.5	158	17.93	17.93	16.83
QE-7	500	15	164	17.99	17.99	16.89
QE-8	1.00H	30	173	18.37	18.37	16.89
QE-9	1.50	40	177	18.70	18.70	17.27
QE-10	2.00	60	181	19.75	19.75	17.71
QE-11	3.00	85	185	19.86	19.86	17.93
QE-12	5.00	142	192	20.19	20.19	18.15
QE-13	7.50	215	196	20.57	20.57	19.31
QE-14	10.00	300	200	20.90	20.90	19.64
QE-15	15.00	430	205	22.17	22.17	20.90
QE-16	20.00	550	209	23.32	23.32	23.00
QE-17	25.00	800	212	23.60	23.60	22.33
QE-18	30.00	850	214	27.83	27.83	26.57
QE-19	50.00	1500	221	30.53	30.53	29.26





MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.



HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

STERLING TRANSFORMER CORP.

© United Technical Publications

STERLING TRANSFORMER

STANDARD INTERSTAGE AND LINE TRANSISTOR AND TUBE APPLICATIONS *filters*

Hermetically Sealed — Manufactured to MIL-F-18327B Available in Other Frequencies

LOW PASS

INTERSTAGE

LI units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 10,000 ohms. LI units are MIL type FR4RX11YY.

Part No.	Frequency	Case Size	Net Price
LI-60	60 cps	A	39.85
LI-100	100 cps	A	39.85
LI-200	200 cps	B	39.85
LI-400	400 cps	B	39.85
LI-500	500 cps	B	39.85
LI-800	800 cps	B	39.85
LI-1,000	1,000 cps	B	39.85
LI-1,500	1,500 cps	B	39.85
LI-2,000	2,000 cps	B	39.85
LI-2,500	2,500 cps	B	39.85
LI-3,000	3,000 cps	B	39.85
LI-4,000	4,000 cps	B	39.85
LI-5,000	5,000 cps	B	39.85
LI-10,000	10,000 cps	B	39.85

LINE

LL units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 500/600 ohms. LL units are MIL type FR4RX11YY.

Part No.	Frequency	Case Size	Net Price
LL-600	600 cps	A	39.85
LL-1,000	1,000 cps	A	39.85
LL-1,500	1,500 cps	A	39.85
LL-2,000	2,000 cps	A	39.85
LL-2,500	2,500 cps	A	39.85
LL-4,000	4,000 cps	A	39.85
LL-8,000	8,000 cps	A	39.85
LL-10,000	10,000 cps	A	39.85
LL-12,000	12,000 cps	A	39.85

HIGH PASS

INTERSTAGE

HI units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 10,000 ohms. HI units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HI-100	100 cps	A	39.85
HI-200	200 cps	A	39.85
HI-300	300 cps	A	39.85
HI-400	400 cps	A	39.85
HI-500	500 cps	A	39.85
HI-800	800 cps	A	39.85
HI-1,000	1,000 cps	A	39.85
HI-2,000	2,000 cps	A	39.85
HI-3,000	3,000 cps	A	39.85

LINE

HL units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 500/600 ohms. HL units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HL-200	200 cps	A	49.34
HL-300	300 cps	A	49.34
HL-500	500 cps	A	49.34
HL-1,000	1,000 cps	A	49.34

FOR WIDE BAND PASS FILTERS THE LI & HI OR LL & HL MAY BE CONNECTED IN SERIES.

BAND PASS

INTERSTAGE

BI units have 2:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output to grid. BI units are MIL type FR4RX22YY.

Part No.	Frequency	Case Size	Net Price
BI-50	50 cps	A	37.95
BI-60	60 cps	A	37.95
BI-100	100 cps	A	37.95
BI-120	120 cps	B	37.95
BI-200	200 cps	B	37.95
BI-240	240 cps	B	37.95
BI-400	400 cps	B	37.95
BI-500	500 cps	B	37.95
BI-750	750 cps	B	37.95
BI-800	800 cps	B	37.95
BI-1,000	1,000 cps	B	37.95
BI-1,500	1,500 cps	B	37.95
BI-2,000	2,000 cps	B	37.95
BI-3,000	3,000 cps	B	37.95
BI-4,000	4,000 cps	B	37.95
BI-5,000	5,000 cps	B	37.95
BI-10,000	10,000 cps	B	37.95

LINE

BL units have 9:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 500/600 ohms, output to grid. BL units are MIL type FR4RX22YY.

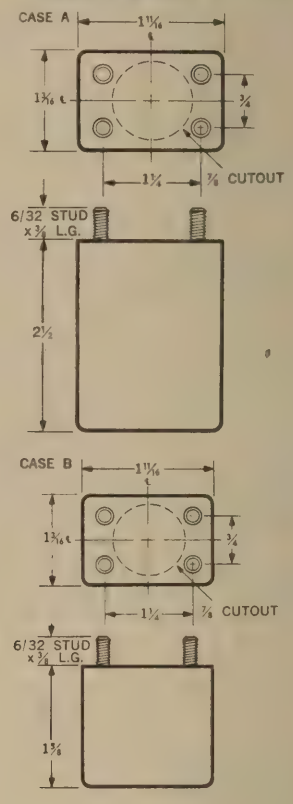
Part No.	Frequency	Case Size	Net Price
BL-400	400 cps	B	37.95
BL-1,000	1,000 cps	B	37.95

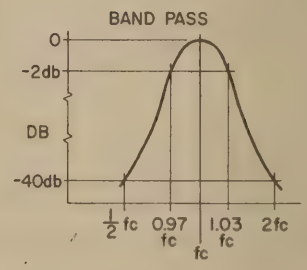
TRANSISTOR INTERSTAGE

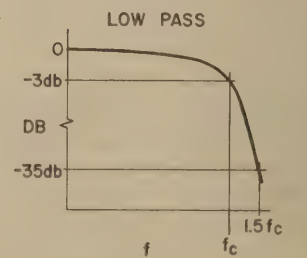
They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output 10,000 ohms. BIT units are MIL type FR4RX22YY.

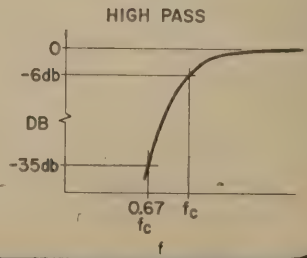
Part No.	Frequency	Case Size	Net Price
BIT-60	60 cps	A	45.54
BIT-100	100 cps	A	45.54
BIT-120	120 cps	B	45.54

CASE DETAIL









STERLING TRANSFORMER CORP.

Net

© United Technical Publications

120 VOLT SINGLE PHASE PANEL MOUNTING

Cased and uncased units designed for mounting on panels 1/4" thick to 5/8" thick. Most panel mounting units can also be bench mounted.

Mfr's Type No.	Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
171	*0-132	1.75	.23	$2^{13}/_{16} \times 2^{1}/_{32}$	3	12.00
201	*0-132	2.0	.26	$2^{13}/_{16} \times 2^{1}/_{16}$	3	12.25
221	*0-132	2.25	.30	$2^{13}/_{16} \times 2^{1}/_{16}$	3.3	12.50
251	*0-132	2.5	.33	$2^{13}/_{16} \times 2^{9}/_{16}$	3.5	13.00
291	*0-132	3.0	.40	$2^{13}/_{16} \times 2^{9}/_{16}$	3.5	13.25
371	*0-120/140	3.75	.53	$3\frac{3}{4} \times 3\frac{3}{4} \times 3\frac{1}{4}$	5	18.00
501	0-120/140	5.0	.70	$3\frac{3}{4} \times 3\frac{3}{4} \times 3^{5}/_{16}$	6	19.00
1010	0-120/140	10.0	1.4	$5^{5}/_{16} \times 5 \times 4^{3}/_{16}$	12	25.00
1010CT	0-120/140	*10.0	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12	33.00
1210	**0-120	12.5	1.4	$5^{5}/_{16} \times 5 \times 4^{3}/_{16}$	12	27.00
1210CT	**0-120	12.5	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12	35.00
1510	0-120/140	15.0	2.1	$6^{1}/_{8} \times 6^{5}/_{8} \times 4^{3}/_{8}$	20	48.00
2510	0-120/140	25.00	3.5	$8^{3}/_{16} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23	65.00
2510CT	0-120/140	25.0	3.5	$9^{5}/_{8} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23	78.00
5010	0-140	50.0	7.0	$12\frac{1}{2} \times 12\frac{1}{2} \times 6\frac{1}{2}$	60	162.00
5010CT	0-140	50.0	7.0	$15^{5}/_{8} \times 14 \times 6\frac{1}{2}$	60	182.00

*60 cycle operation only at overvoltage.
**60 cycle operation only.

120 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch fuse, line cord, plug and matching receptacle.
2 PF models are equipped with 2-wire cords, plugs and receptacles.
3PN models are equipped with 3-wire grounded cords, plugs, and receptacles.

Mfr's Type No.	Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
2PF171	**0-132	1.75	.23	$3^{7}/_{8} \times 3^{7}/_{8} \times 3\frac{1}{2}$	3.5	23.00
3PN171	**0-132	1.75	.23	$3^{7}/_{8} \times 3^{7}/_{8} \times 3\frac{1}{2}$	3.5	25.00
2PF371	*0-120/140	3.75	.53	$6\frac{1}{2} \times 6^{1}/_{8} \times 6\frac{1}{2}$	7.0	26.00
3PN371	*0-120/140	3.75	.53	$6\frac{1}{2} \times 6^{1}/_{8} \times 6\frac{1}{2}$	7.0	28.00
2PF501	0-120/140	5.0	.70	$6\frac{1}{2} \times 6^{1}/_{8} \times 6\frac{1}{2}$	9.0	28.00
3PN501	0-120/140	5.0	.70	$6\frac{1}{2} \times 6^{1}/_{8} \times 6\frac{1}{2}$	9.0	30.00
2PF1010	0-120/140	10.0	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	34.00
3PN1010	0-120/140	10.0	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	40.00
2PF1210	**0-120	12.5	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	40.00
3PN1210	**0-120	12.5	1.4	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	44.00
3PN2210	0-140	22.0	2.4	$10^{3}/_{4} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23.0	94.00

*60 cycle operation only on overvoltage. **60 cycle operation only.

240 VOLT SINGLE PHASE PANEL MOUNTING

Cased and uncased units designed for mounting on panels 1/4" thick to 5/8" thick. Most panel mounting units can also be benched mounted.

Mfr's Type No.	Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
1020	0-240/280	3.5	.98	$5^{5}/_{16} \times 5 \times 4^{3}/_{16}$	12.0	30.00
1020CT	0-240/280	3.5	.98	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	37.00
1220	0-240	5.0	1.2	$5^{5}/_{16} \times 5 \times 4^{3}/_{16}$	12.0	32.00
1220CT	0-240	5.0	1.2	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	40.00
1520	0-240/280	9.5	2.7	$6^{1}/_{8} \times 6^{5}/_{8} \times 4^{13}/_{16}$	20.0	48.00
2520	0-240/280	10.0	2.8	$8^{3}/_{8} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23.0	65.00
2520CT	0-240/280	10.0	2.8	$9^{5}/_{8} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23.0	78.00
5020	0-240/280	28.0	7.8	$12\frac{1}{2} \times 12\frac{1}{2} \times 6\frac{1}{2}$	60.0	162.00
5020CT	0-240/280	28.0	7.8	$15^{5}/_{8} \times 14 \times 6\frac{1}{2}$	60.0	182.00

240 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch, fuse, line cord, plug and matching receptacle.
2 PF models are equipped with 2-wire cords, plugs and receptacles.
3 PN models are equipped with 3-wire grounded cords, plugs, and receptacles.

Mfr's Type No.	Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
2PF1020	0-280	3.5	.98	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	39.00
3PN1020	0-280	3.5	.98	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	46.00
2PF1220	**0-240	5.0	1.2	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	45.00
3PN1220	**0-240	5.0	1.2	$6^{7}/_{8} \times 5 \times 4^{7}/_{16}$	12.0	47.00
3PN2520	0-240	10.0	2.8	$9^{5}/_{8} \times 7^{5}/_{8} \times 4^{1}/_{8}$	23.0	94.00

**60 cycle operation only.

120 VOLT VARIABLE ISOLATION TRANSFORMERS

STACO isolated variable autotransformers provide a means for smooth control of an electrically isolated AC voltage output. Uncased models offer isolated, non-isolated voltage doubler, and series connections with proper external hook-up. Cased models feature circuit breaker, switch pilot light, output voltmeter 3-wire grounded cord, plug, and matching receptacles. Cased models available in isolated connection only. Ratings shown are for isolated connections.

Mfr's Type No.	Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
J401	0-140	4.0	.56	$6^{1}/_{8} \times 6^{5}/_{8} \times 4^{7}/_{8}$	13.0	82.00
J901	0-140	9.0	1.26	$8^{9}/_{32} \times 7\frac{3}{4} \times 5^{1}/_{8}$	25.0	110.00
EJ401V	0-140	4.0	.56	$9\frac{1}{2} \times 12^{15}/_{16} \times 6^{3}/_{8}$	26.0	110.00
EJ901V	0-140	9.0	1.26	$11\frac{1}{4} \times 14^{9}/_{16} \times 6^{5}/_{8}$	36.0	155.00

EJ201V, EJ401V, EJ901V have a 0-140 VAC and 0-120 VDC at full rated current available at isolated banana receptacles.

DELUXE VARIABLE AUTOTRANSFORMERS

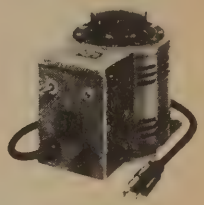
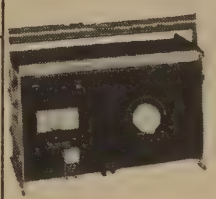
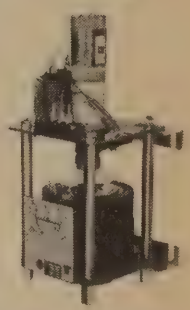
STACO offers a selected group of variable autotransformers with new style, broad applications, and a unique combination of practical features. Suitable for use in any industrial application, classroom or laboratory. All units provide continuous voltage control over a wide range, and all are protected against short circuit. Convenient controls provide error-free operation and distortionless adjustment of AC voltage.

Mfr's Type No.	Input Volts	Output Volts	Output Amps	KVA	Size	Weight (Lbs.)	Price
E171	120	0-132	1.75	.23	$5^{7}/_{8} \times 9^{9}/_{16} \times 3^{5}/_{8}$	8.0	29.00
E371	120	0-140	3.75	.52	$7^{3}/_{8} \times 11^{3}/_{16} \times 4^{7}/_{8}$	11.0	30.00
E501	120	0-140	5.0	.7	$7^{3}/_{8} \times 11^{3}/_{16} \times 4^{7}/_{8}$	12.0	36.00
E501V	120	0-140	5.0	.7	$7^{3}/_{8} \times 15^{7}/_{16} \times 5^{7}/_{8}$	13.0	65.00
E501VA	120	0-140	5.0	.7	$11\frac{1}{4} \times 12^{9}/_{16} \times 5^{7}/_{8}$	17.0	105.00
E501VAW	120	0-140	5.0	.7	$11\frac{1}{4} \times 14^{9}/_{16} \times 5^{7}/_{8}$	18.0	165.00
E1010	120	0-140	10.0	1.4	$7^{3}/_{8} \times 11^{15}/_{16} \times 5^{7}/_{8}$	18.0	65.00
E1010V	120	0-140	10.0	1.4	$7^{3}/_{8} \times 15^{7}/_{16} \times 5^{7}/_{8}$	19.0	85.00
E1010VA	120	0-140	10.0	1.4	$11\frac{1}{4} \times 12^{9}/_{16} \times 5^{7}/_{8}$	23.0	125.00
E1010VAW	120	0-140	10.0	1.4	$11\frac{1}{4} \times 14^{9}/_{16} \times 5^{7}/_{8}$	23.0	200.00
E1210	120	0-120	12.0	1.44	$7^{3}/_{8} \times 11^{15}/_{16} \times 5^{7}/_{8}$	18.0	63.00
E1020	240	0-280	3.5	.98	$7^{3}/_{8} \times 11^{15}/_{16} \times 5^{7}/_{8}$	18.0	63.00
E1710	120	0-140	17.0	2.38	$11\frac{1}{4} \times 14^{9}/_{16} \times 5^{7}/_{8}$	31.0	100.00
E1720	240	0-280	10.0	2.8	$11\frac{1}{4} \times 14^{9}/_{16} \times 5^{7}/_{8}$	30.0	100.00

E501V, E501VA, E501VAW, E1010V, E1010VA, E1010VAW have isolated AC and DC outputs of 10% of the output current rating of the unit. Outputs are available at isolated banana receptacles.
V = Voltmeter A = Ammeter W = Wattmeter

STACO Variable Autotransformers



STACO Variable Autotransformers are precision built to exacting tolerances from the finest materials available.

Staco's new improved design provides long life with negligible maintenance, high efficiency and regulation, greater power to size ratio. Staco designs permit replacement of competitive equipment or previous Staco models without modification.

Models are available in various configurations from 1.75 to 300 amperes output. Choose from panel mounted units, cord and plug types or deluxe fully enclosed portable models, with or without metering. Staco products represent 25 years experience in providing safe and dependable control of power.

Contact your local representative for full details or write the factory for our new Product Guide.

STACO INCORPORATED

© United Technical Publications

POWERSTAT® *Variable Transformers now*

New epoxy-coated POWERKOTE Coils make the POWERSTAT line the most outstanding value in variable transformers today. *Without increase in price, size or weight,* only POWERSTAT Variable Transformers give an average of 20% higher current ratings, 10:1 greater overload capability, longer life, greater resistance to fungus, salt spray and other contaminating atmospheres. POWERKOTE Coil commutator bars are embedded in place preventing steady-state operating temperature and severe overloads from distorting the commutator.

POWERSTAT Variable Transformers are designed to deliver continuously adjustable voltage from a-c power lines. They introduce no waveform distortion and feature rugged construction, precious metal plated commutators, excellent regulation, high efficiency and conservative ratings. All manually operated types listed in the charts except the 10B-12, EN116B-EN216B and EN117B-EN217B Series are available with motor drives if desired. Motor-driven speeds are 5, 15, 30 or 60 seconds for full range travel on all except types having -4, -5, or -6 suffixes which do not offer the 5-second speed. Single types in the 116B-216B, 117B-217B, 126-226 and 136B-236B Series are also offered with 2- or 3-wire cord-plug sets. 1156D-1256D Series types are available in ratings to 244 kva.



ADJUSTABLE SPEED DRIVES

All motor-driven units in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 Series are available with adjustable speed drives which permit the output voltage of the transformer to be controlled over the full range of zero to maximum output voltage at speeds ranging from 5 seconds to 200 seconds. All control circuitry is solid-state and adaptable for present speed systems. The Adjustable Speed Control Potentiometer BHP65455-G1 can be remotely located from the variable transformer.

RATINGS AND SPECIFICATIONS

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA	TYPE	Ship. Wt. Lbs.
10B-12 SERIES								
Single Phase								
120	60	0-132	1	0.13	—	—	2PF10	3½
120	50/60	0-120	2.25*	0.27	3‡	0.36	10B	11½
120	60	0-132	2.25*	0.30	—	—		
240	50/60	0-240	0.7*	0.17	0.9‡	0.22	12	2½
240	50/60	0-264	0.5**	0.13	—	—		
240	50/60	0-240	2.25*	0.54	3‡	0.72	10B-2	6
240	60	0-264	2.25*	0.59	—	—		
480	50/60	0-480	0.7*	0.34	0.9‡	0.43	12-2	6
480	50/60	0-528	0.5**	0.26	—	—		
Three Phase								
120	50/60	0-120	2.25*	0.47	3‡	0.62	10B-2	6
120	60	0-132	2.25*	0.51	—	—		
240	50/60	0-240	0.7*	0.29	0.9‡	0.37	12-2	6
240	50/60	0-264	0.5**	0.23	—	—		
240	60	0-240	2.25*	0.94	3‡	1.2	10B-3	8½
480	50/60	0-480	0.7*	0.58	0.9‡	0.75	12-3	8½
480	60	0-528	0.5**	0.46	—	—		
21-22 SERIES								
Single Phase								
120	50/60	0-120	4.5	0.54	6.5	0.78	21	6
120	50/60	0-140	4.5	0.63	—	—		
240	50/60	0-240	2.25	0.54	3.25	0.78	22	6
240	50/60	0-280	2.25	0.63	—	—		
240	50/60	0-240	4.5	1.1	6.5	1.6	21-2	13½
240	50/60	0-280	4.5	1.3	—	—		
480	50/60	0-480	2.25	1.1	3.25	1.6	22-2	13½
480	50/60	0-560	2.25	1.3	—	—		
Three Phase								
120	50/60	0-120	4.5	0.94	6.5	1.4	21-2	13½
120	50/60	0-140	4.5	1.1	—	—		
240	50/60	0-240	2.25	0.94	3.25	1.4	22-2	13½
240	50/60	0-280	2.25	1.1	—	—		
240	50/60	0-240	4.5	1.9	6.5	2.7	21-3	19
240	60	0-280	4.5	2.2	—	—		
480	50/60	0-480	2.25	1.9	3.25	2.7	22-3	19
480	60	0-560	2.25	2.2	—	—		

*Rating when mounted on metal panel. On bracket or nonmetallic panel, derate 10B Series to 1.75 amp., 12 Series to 0.5 amp.
‡Rating when mounted on metal panel. On bracket or nonmetallic panel, derate 10B Series to 2.5 amp., 12 Series to 0.75 amp.
**0.7 amp. maximum in range from 0 to line voltage when mounted on metal panel.

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA	TYPE	Ship. Wt. Lbs.
116B-216B and 117B-217B SERIES†								
Single Phase								
120	50/60	0-120	10	1.2	13	1.6	116B	12
120	50/60	0-140	10	1.4	—	—		
120	60	0-120	12	1.4	15	1.8	117BT	12
240	50/60	0-240	3.5	0.84	5	1.2	216B	12
240	50/60	0-280	3.5	0.98	—	—		
240	60	0-240	5	1.2	7	1.7	217BT	12
240	50/60	0-240	10	2.4	13	3.1	116BT-2	24
240	50/60	0-280	10	2.8	—	—		
240	60	0-240	12	2.9	15	3.6	117BT-2	24
480	50/60	0-480	3.5	1.7	5	2.4	216BT-2	24
480	50/60	0-560	3.5	2.0	—	—		
480	60	0-480	5	2.4	7	3.4	217BT-2	24
Three Phase								
120	50/60	0-120	10	2.1	13	2.7	116BT-2	24
120	50/60	0-140	10	2.4	—	—		
120	60	0-120	12	2.5	15	3.1	117BT-2	24
240	50/60	0-240	3.5	1.5	5	2.1	216BT-2	24
240	50/60	0-280	3.5	1.7	—	—		
240	60	0-240	5	2.1	7	2.9	217BT-2	24
240	50/60	0-240	10	4.2	13	5.4	116BT-3	36
240	60	0-280	10	4.8	—	—		
240	60	0-240	12	5.0	15	6.2	117BT-3	36
480	50/60	0-480	3.5	2.9	5	4.2	216BT-3	36
480	60	0-560	3.5	3.4	—	—		
480	60	0-480	5	4.2	7	5.8	217BT-3	36
EN116B-EN216B and EN117B-EN217B SERIES								
Single Phase								
120	50/60	0-120	8	0.96	13	1.6	EN116B	15
120	50/60	0-140	8	1.1	—	—		
120	60	0-120	10	1.2	14.5	1.7	EN117B	15
240	50/60	0-240	3	0.72	4.5	1.1	EN216B	15
240	50/60	0-280	3	0.84	—	—		
240	60	0-240	4.4	1.1	5.8	1.4	EN217B	15
240	50/60	0-240	8	1.9	13	3.1	EN116B-2	28
240	50/60	0-280	8	2.2	—	—		
240	60	0-240	10	2.4	14.5	3.5	EN117B-2	28
480	50/60	0-480	3	1.4	4.5	2.2	EN216B-2	28
480	50/60	0-560	3	1.7	—	—		
480	60	0-480	4.4	2.1	5.8	2.8	EN217B-2	28
Three Phase								
120	50/60	0-120	8	1.7	13	2.7	EN116B-2	28
120	50/60	0-140	8	1.9	—	—		
120	60	0-120	10	2.1	14.5	3.0	EN117B-2	28
240	50/60	0-240	3	1.2	4.5	1.9	EN216B-2	28
240	50/60	0-280	3	1.5	—	—		
240	60	0-240	4.4	1.8	5.8	2.4	EN217B-2	28
240	50/60	0-240	8	3.3	13	5.4	EN116B-3	39
240	60	0-280	8	3.9	—	—		
240	60	0-240	10	4.2	14.5	6.0	EN117B-3	39
480	50/60	0-480	3	2.5	4.5	3.7	EN216B-3	39
480	60	0-560	3	2.9	—	—		
480	60	0-480	4.4	3.7	5.8	4.8	EN217B-3	39

†Also available with open construction. Suffix U when ordering.

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES

© United Technical Publications

with POWERKOTE® COILS



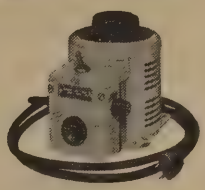
TYPE 10B



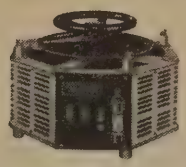
TYPE 21



TYPE 3PN126

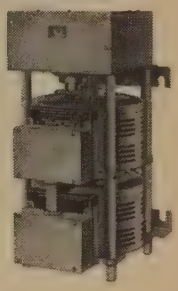


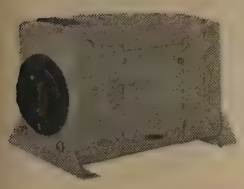
TYPE 116B



TYPE 1156D

TYPE 15MD136BT-2





TYPE EN216B-2



TYPE 136BT



TYPE 146



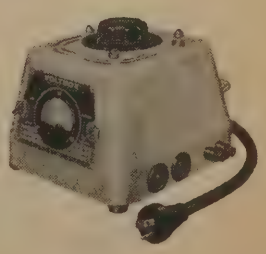
TYPE 5MB1156D

INPUT		OUTPUT					TYPE	Ship. Wt. Lbs.
			Const. Current Lead		Const. Impedance Lead			
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA		
126-226 SERIES†								
Single Phase								
120	50/60	0-120	15	1.8	20	2.4	126	17
120	50/60	0-140	15	2.1	—	—		
240	50/60	0-240	7.5	1.8	10	2.4	226	17
240	50/60	0-280	7.5	2.1	—	—		
240	50/60	0-240	15	3.6	20	4.8	126-2	32
240	50/60	0-280	15	4.2	—	—		
480	50/60	0-480	7.5	3.6	10	4.8	226-2	32
480	50/60	0-560	7.5	4.2	—	—		
Three Phase								
120	50/60	0-120	15	3.1	20	4.2	126-2	32
120	50/60	0-140	15	3.6	—	—		
240	50/60	0-240	7.5	3.1	10	4.2	226-2	32
240	50/60	0-280	7.5	3.6	—	—		
240	50/60	0-240	15	6.2	20	8.3	126-3	49
240	60	0-280	15	7.3	—	—		
480	50/60	0-480	7.5	6.2	10	8.3	226-3	49
480	60	0-560	7.5	7.3	—	—		
136B-236B SERIES†								
Single Phase								
120	50/60	0-120	22	2.6	28	3.4	136B	25
120	50/60	0-140	22	3.1	—	—		
120	50/60	0-120	44	5.3	56	6.7	136B-2‡	52
120	50/60	0-140	44	6.2	—	—		
240	50/60	0-240	10	2.4	13	3.1	236B	25
240	50/60	0-280	10	2.8	—	—		
240	50/60	0-240	22	5.3	28	6.7	136B-2	52
240	50/60	0-280	22	6.2	—	—		
480	50/60	0-480	10	4.8	26	6.2	236B-2	52
480	50/60	0-560	10	5.6	—	—		
Three Phase								
120	50/60	0-120	22	4.6	28	5.8	136B-2	52
120	50/60	0-140	22	5.3	—	—		
240	50/60	0-240	10	4.2	13	5.4	236B-2	52
240	50/60	0-280	10	4.8	—	—		
240	50/60	0-240	22	9.1	28	11.6	136B-3	76
240	60	0-280	22	10.7	—	—		
480	50/60	0-480	10	8.3	13	10.8	236B-3	76
480	60	0-560	10	9.7	—	—		
146-246 SERIES†								
Single Phase								
120	50/60	0-120	30	3.6	35	4.2	146	38
120	50/60	0-140	30	4.2	—	—		
120	50/60	0-120	60	7.2	70	8.4	146-2‡‡	83
120	50/60	0-140	60	8.4	—	—		
240	50/60	0-240	15	3.6	19	4.6	246	38
240	50/60	0-280	15	4.2	—	—		
240	50/60	0-240	30	7.2	35	8.4	146-2	83
240	50/60	0-280	30	8.4	—	—		
480	50/60	0-480	15	7.2	19	9.1	246-2	83
480	50/60	0-560	15	8.4	—	—		

‡Also available with open construction. Suffix U when ordering.
‡‡Requires also one paralleling choke type T5000B.
‡‡Requires also one paralleling choke type T6053.

INPUT		OUTPUT					TYPE	Ship. Wt. Lbs.
			Const. Current Lead		Const. Impedance Lead			
Volts	Cycles	Volts	Max. Amps.	Max. KVA	Max. Amps.	Max. KVA		
146-246 SERIES† (contd.)								
Three Phase								
120	50/60	0-120	30	6.2	35	7.3	146-2	83
120	50/60	0-140	30	7.3	—	—		
240	50/60	0-240	15	6.2	19	7.9	246-2	83
240	50/60	0-280	15	7.3	—	—		
240	50/60	0-240	30	12.5	35	14.5	146-3	125
240	60	0-280	30	14.5	—	—		
480	50/60	0-480	15	12.5	19	15.8	246-3	125
480	60	0-560	15	14.5	—	—		
1156D-1256D SERIES†								
Single Phase								
120	50/60	0-120	50	6.0	55	6.6	1156D	82
120	50/60	0-140	50	7.0	—	—		
120	50/60	0-120	100	12.0	110	13.2	1156D-2P	169
120	50/60	0-140	100	14.0	—	—		
120	50/60	0-120	150	18.0	165	19.8	1156D-3P	272
120	50/60	0-140	150	21.0	—	—		
240	50/60	0-240	28	6.7	28	6.7	1256D	82
240	50/60	0-280	28	7.8	—	—		
240	50/60	0-240	50	12.0	55	13.2	1156D-2S	156
240	50/60	0-280	50	14.0	—	—		
240	50/60	0-240	56	13.4	56	13.4	1256D-2P	169
240	50/60	0-280	56	15.7	—	—		
240	50/60	0-240	84	20.2	84	20.2	1256D-3P	272
240	50/60	0-280	84	23.5	—	—		
240	50/60	0-240	100	24.0	110	26.4	1156D-4PS	361
240	50/60	0-280	100	28.0	—	—		
480	50/60	0-480	28	13.4	28	13.4	1256D-2S	156
480	50/60	0-560	28	15.7	—	—		
480	50/60	0-480	56	26.9	56	26.9	1256D-4PS	361
480	50/60	0-560	56	31.4	—	—		
Three Phase								
120	50/60	0-120	50	10.4	55	11.4	1156D-2D	155
120	50/60	0-140	50	12.1	—	—		
240	50/60	0-240	28	11.6	28	11.6	1256D-2D	155
240	50/60	0-280	28	13.6	—	—		
240	50/60	0-240	50	20.8	55	22.9	1156D-3Y	230
240	60	0-280	50	24.2	—	—		
240	50/60	0-240	100	41.6	110	45.7	1156D-6Y	507
240	50/60	0-280	100	48.5	—	—		
480	50/60	0-480	28	23.3	28	23.3	1256D-3Y	235
480	60	0-560	28	27.2	—	—		
480	50/60	0-480	56	46.6	56	46.6	1256D-6Y	507
480	60	0-560	56	54.3	—	—		

VOLTBOX® A-C POWER SUPPLY



Contains POWERSTAT Variable Transformer, voltmeter, three output receptacles, two 5-WAY Binding Posts, "on-off" switch, line-load meter switch, fuse and six-foot cord-plug. Type UC1MB ratings are 120 volt, single phase 50/60 hertz input and 0-140 volt 10 ampere, 1.4 kva output.

IN SECTIONS 2100, 3500, AND 4000

© United Technical Publications

POWERSTAT® Variable Transformers

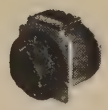
NOW WITH POWERKOTE® COILS

40-VOLT SERIES

Meet high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. Manually-operated and motor-driven single, 2- and 3-gang single phase types available.



TYPE 10B-40



TYPE 21-40

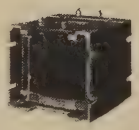
40-VOLT SERIES

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			
Volts	Hertz	Volts	Max. Amps.	Max. KVA	Max Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Single Phase								
40	60	0-40	7	0.28	9	0.36	10B40	3½
			18	0.72	22	0.88	21-40	6
			25	1.0	30	1.2	116BU40	11

LINE CORRECTORS

Used to correct line voltage variations to maintain a constant output voltage or to supply a limited range of output voltage from a stable a-c source. Manually operated and motor-driven types available.





TYPE LC2106D





TYPE 5MBLC2115E

LINE CORRECTOR SERIES

INPUT		OUTPUT				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Used as Line Corectors — SINGLE PHASE						
95-135	50/60	115	52	6.0	LC2106D	80
95-135	50/60	115	130	15.0	LC2115E	200
195-255	50/60	230	32.5	7.5	LC2207D	85
205-250	50/60	230	120	27.5	LC2228E	205
400-520	50/60	460	40	18.4	LC2418E	205
Used as Line Correctors — THREE PHASE						
195-255	50/60	230	50	20.0	LC3220YD	241
195-255	50/60	230	113	45.0	LC3245YE	615
195-255	50/60	230	175	70.0	LC3270DE	795
400-520	50/60	460	33	26.3	LC3425YD	230
400-520	50/60	460	100	79.7	LC3475YE	630
470-500	50/60	460	131	104	LC34100YE	630

When units of the LC series are used as limited range adjustable transformers the input voltage is the output voltage shown in the above chart and the output voltage is the input voltage shown in the above chart

OIL-COOLED AND EXPLOSION-PROOF

Oil-cooled units substantially increase ratings above equivalent air-cooled types and provide a measure of safety. Explosion-proof models are Underwriters' Laboratories listed for Class 1, Group D service. Both are manually operated only.



OIL-COOLED
TYPE 0-116B



EXPLOSION-PROOF
TYPE X-116

OIL-COOLED

INPUT		OUTPUT				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE††	Ship. Wt. Lbs.
120	50/60	0-120	15	1.8	0-116B	32
120	50/60	0-140	15	2.1		
120	50/60	0-140	30	4.2	0-1126	100
240	50/60	0-240	6	1.4	0-216B	32
240	50/60	0-280	6	1.7		
240	50/60	0-280	18	5.0	0-1226	105

†† Other Types available on special order

EXPLOSION-PROOF

120	50/60	0-120	7.5	0.90	X-116	47
120	50/60	0-140	7.5	1.0		
120	50/60	0-140	12	1.7	X-1126	142
240	50/60	0-240	3	0.72	X-216	47
240	50/60	0-280	3	0.84		
240	50/60	0-280	6	1.7	X-1226	142

LW136B SERIES

Have three windings. Connections can be made for operation as a source of adjustable low output voltage, a line voltage corrector or a limited range variable transformer. Manually operated and motor-driven, open and enclosed construction types available. Full connections and ratings on request.



TYPE LW136B-3



TYPE LW136BU

LW136B SERIES

INPUT		OUTPUT††				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Single Phase						
120/240	50/60	15-0-15	35	0.52	LW136B	25
120-240/480	50/60	30-0-30	35	1.0	LW136B-2	52
120/240	50/60	45-0-45	35	1.6	LW136B-3	76
120/240	50/60	0-30	25	0.75	LW136B	25
120/240/480	50/60	0-60	25	1.5	LW136B-2	52
120/240	50/60	0-90	25	2.2	LW136B-3	76
Three Phase						
120/240	50/60	0-30	25	1.3	LW136B-2	52
120/240	50/60	0-30	43.3	2.2	LW136B-3	76
120/240	50/60	0-52	25	2.2	LW136B-3	76
240/480	60	0-35	43.3	2.6	LW136B-3	76
240/480	60	0-60	25	2.6	LW136B-3	76

†† LW136B Series ratings are for use as low voltage isolated output transformer

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES

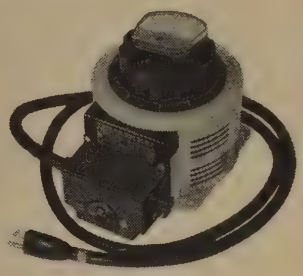
© United Technical Publications

STATIONARY METERED KNOB
POWERSTAT® Variable Transformers

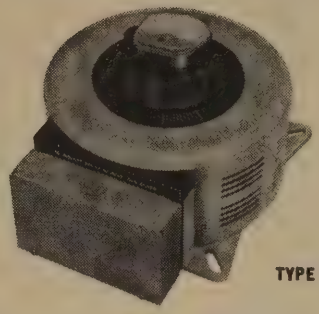
- FOR BACK-OF-PANEL OR GENERAL UTILITY MOUNTING
- ACCURATE VOLTMETER REMAINS STATIONARY INSIDE KNOB RIM. . . DOES NOT TURN WITH THE KNOB
- AVAILABLE IN TYPES TO 4 KVA
- MAXIMUM APPLICATION FLEXIBILITY
- SAVES PANEL SPACE, WIRING AND INSTALLATION COSTS



TYPE VS116B



TYPE VS3PN126



TYPE VS146T



TYPE VS150

GENERAL UTILITY MOUNTING – Single units (those listed in charts without -2 or -3 suffixes) in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 series are also available with knobs incorporating direct-reading voltmeters. Voltmeters remain stationary as the knob rim is turned, have an accuracy of ±3% of full scale and are insensitive to stray magnetic fields. When ordering, add VS prefix to the type number given in the charts.

BACK-OF-PANEL MOUNTING – Standard cataloged POWERSTAT Variable Transformers in the 21-22 through the 146-246 series designed or adaptable for back-of-panel mounting can be combined with Metered Knob Assemblies. Models for 120 volt service require Metered Knob Assembly VS150 having a 0-150 volt scale and units for 240 volt use require Metered Knob Assembly VS300 having a 0-300 volt scale. Existing models can be retrofitted also.

ENCLOSED LABORATORY
POWERSTAT® Variable Transformers

Portable, single phase units having grounded NEMA cord-plug assembly, on-off switch, output receptacle, pilot light and fuse. The handle is integrally designed and the panel controls are recessed. A slot is provided at the rear of each unit to accept wall hanger brackets supplied with the assembly. Types N21, N116B, N116BK, N116BL and N116BLK have POWERKOTE Coils.

METERED KNOB types N116BK and N116BLK have metered knobs to conveniently measure load voltage without the necessity of providing a separate voltmeter. The knob is designed so that the voltmeter remains stationary as the knob is turned to vary the voltage, assuring accurate readings and maximum meter visibility.



TYPE N10B



TYPE N21



TYPE N116B



TYPE N116BK

INPUT		OUTPUT					
			CONSTANT CURRENT LOAD		CONSTANT IMPEDANCE LOAD		
VOLTS	HERTZ	VOLTS	MAX. AMP.	MAX. KVA	MAX. AMP.	MAX. KVA	TYPE
120	60	0-132	17.5	0.23	—	—	N10B
120	50/60	0-140	4.5	0.63	—	—	N21
120	50/60	0-140	10	1.4	—	—	N116B N116BK
120	50/60	0-120	10	1.2	13	1.6	N116BL N116BLK

IN SECTIONS 2100, 3500 AND 4000

© United Technical Publications

TODD ENGINEERED

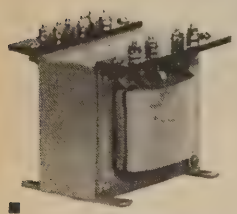
• NAME PLATES • WIRING DIAGRAMS

HIGH CURRENT TRANSFORMERS

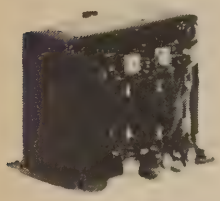
• 45° TEMP. RISE • MINIMUM REGULATION



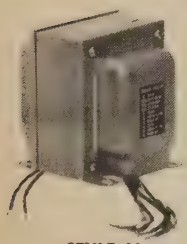
STYLE B



STYLE B (OVER 700 VA)



STYLE BE



STYLE V



STYLE CM

FOUR STYLES STOCKED IN DEPTH

SECONDARY VOLTS TAP VOLTS	PART NO.	PRIMARY VOLTS 50-500 Hz	RATING VA	SECONDARY AMPS (RMS) SERIES HOOKUP	SECONDARY AMPS (RMS) PARALLEL HOOKUP
10 VOLTS Series 2.5 - 5 - 7.5 - 10 Parallel 2.5 - 5	10 02	115	20	2	4
	10 05	115	50	5	10
	10 10	115	100	10	20
	10 20	115	200	20	40
12.6 VOLTS Series 3.1 - 6.3 - 9.4 - 12.6 Parallel 3.1 - 6.3	12 02	115	24	2	4
	12 05	115	60	5	10
	12 10	115	120	10	20
	12 20	115	240	20	40
24 VOLTS Series 6 - 12 - 18 - 24 Parallel 6 - 12	24 01	115	24	1	2
	24 02	115	48	2	4
	24 04	115	96	4	8
	24 06	115	144	6	12
	24 08	115	192	8	16
	24 12	105, 115, 125	288	12	24
	24 20	105, 115, 125	480	20	40
	24 25	105, 115, 125	600	25	50
	24 30	105, 115, 125	720	30	60
	24 50	105, 115, 125	1200	50	100
	24 100	115, 230	2400	100	200
36 VOLTS Series 9 - 18 - 27 - 36 Parallel 9 - 18	36 00	115	18	0.5	1
	36 01	115	36	1	2
	36 02	115	72	2	4
	36 04	115	144	4	8
	36 06	115	216	6	12
	36 08	105, 115, 125	288	8	16
	36 12	105, 115, 125	432	12	24
	36 20	105, 115, 125	720	20	40
	36 25	105, 115, 125	900	25	50
	36 30	105, 115, 125	1080	30	60
	36 50	115, 230	1800	50	100
	36 100	115, 230	3600	100	200
56 VOLTS Series 14 - 28 - 42 - 56 Parallel 14 - 28	56 00	115	28	0.5	1
	56 01	115	56	1	2
	56 02	115	112	2	4
	56 04	115	224	4	8
	56 06	115	336	6	12
	56 08	105, 115, 125	448	8	16
	56 12	105, 115, 125	672	12	24
	56 25	105, 115, 125	1400	25	50
	56 50	115, 230	2800	50	100
	56 100	115, 230	5600	100	200
64 VOLTS Series 16 - 32 - 48 - 64 Parallel 16 - 32	64 00	115	32	0.5	1
	64 01	115	64	1	2
	64 02	115	128	2	4
	64 04	115	256	4	8
	64 06	115	384	6	12
	64 08	105, 115, 125	512	8	16
	64 12	105, 115, 125	768	12	24
	64 25	105, 115, 125	1600	25	50
	64 50	115, 230	3200	50	100
80 VOLTS Series 20 - 40 - 60 - 80 Parallel 20 - 40	80 00	115	40	0.5	1
	80 01	115	80	1	2
	80 02	115	160	2	4
	80 05	115	400	5	10
	80 10	105, 115, 125	800	10	20
	80 25	115, 230	2000	25	50
	80 50	115, 230	4000	50	100
120 VOLTS Series 30 - 60 - 90 - 120 Parallel 30 - 60	120 00	115	60	0.5	1
	120 01	115	120	1	2
	120 02	115	240	2	4
	120 04	115	480	4	8
	120 08	105, 115, 125	960	8	16
	120 12	105, 115, 125	1400	12	24
	120 20	105, 115, 125	2400	20	40
180 VOLTS Series 45 - 90 - 135 - 180 Parallel 45 - 90	180 00	115	90	0.5	1
	180 01	115	180	1	2
	180 02	115	360	2	4
	180 05	115	640	5	10
	180 10	105, 115, 125	1800	10	20
230 VOLTS Series 57.5 - 115 - 172.5 - 230 Parallel 57.5 - 115	230 00	115	115	0.5	1
	230 01	115	230	1	2
	230 02	115	460	2	4
	230 05	105, 115, 125	1150	5	10
	230 08	115, 230	1840	8	16
300 VOLTS Series 75 - 150 - 225 - 300 Parallel 175 - 150	300 00	115	150	0.5	1
	300 01	115	300	1	2
	300 02	115	600	2	4
	300 05	105, 115, 125	1500	5	10

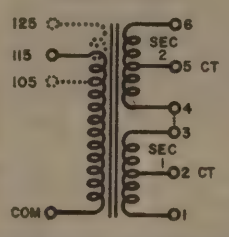
DC TO RMS CONVERSION CHART

SECONDARY RMS CURRENT = DC CURRENT × FACTOR BELOW			
	Choke Input Filter or Inductive Load	Resistive Load	Capacitor Input Filter or Capacitive Load
FULL WAVE BRIDGE	1.0	1.0	1.8
FULL WAVE C.T.	.7	1.0	1.15

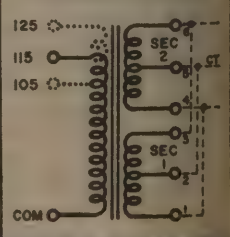
CERTIFIED DATA AVAILABLE

CUSTOM VARIATIONS QUOTED PROMPTLY

SERIES HOOKUP



PARALLEL HOOKUP



TODD SYSTEMS "HIGH CURRENT TRANSFORMERS & CHOKES" are designed for use in high power rectifier circuits, and high current A.C. applications. "TODD ENGINEERED" designs feature a nominal temperature rise of 45°C., at full load, thus providing outstanding overload capacity. All designs utilize extremely low regulation, varying from 10% in the smallest to 1% in the larger units.
Four styles . . . select the type best suited for your lab, test rigs, OEM or production equipment

ALL PRICES AND DATA SUBJECT TO CHANGE WITHOUT NOTICE

QUALITY ENGINEERED • • •

TODD ENGINEERED

HIGH CURRENT TRANSFORMERS

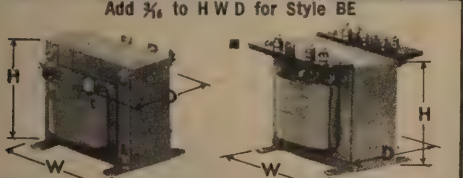
MECHANICAL SPECIFICATIONS • • • • • • • • • • • • • SPECIFY STYLE REQUIRED

• BRACKET MTD. (STYLE B) • ENCAPSULATED (STYLE BE)						STYLE B PRICE	STYLE BE PRICE
H	W	D	MW	MD	WGT.		
2½	3	2⅛	2½	1½	1¼	8.55	23.50
2½	3	2⅝	2½	2⅛	2½	12.15	29.10
3⅛	3¾	3¼	3⅛	2⅜	4¼	21.00	41.10
3¾	4½	3⅞	3¾	2⅝	8¼	26.05	52.10
2½	3	2⅛	2½	1⅝	1½	10.25	24.95
2½	3	3	2½	2⅜	3	13.10	30.50
3¼	3¾	3⅝	3⅛	2⅛	5¼	22.50	44.50
3¾	4½	4⅛	3¾	2¾	9	28.10	57.00
2½	3	2⅛	2½	1¾	1¾	10.20	24.75
2½	3	2½	2½	2	2¼	12.10	28.90
3⅛	3¾	3⅜	3⅛	2⅛	4¼	15.40	34.00
3½	4⅛	3⅜	3 7/16	2 5/16	6¼	21.05	43.50
3½	4⅛	4	3 7/16	3	9	23.20	46.50
3¾	4½	4⅞	3¾	3⅜	12	30.00	60.10
4⅜	5¼	5	4⅜	3½	16½	38.20	70.90
■4⅜	5¼	6	4⅜	4⅜	21¼	61.50	92.50
■5⅜	6⅜	6⅜	5 5/16	5⅜	39	77.80	111.80
■6⅛	7 1/16	8	5⅞	6½	64	111.50	161.25
2 3/16	2⅝	1⅜	2⅜	1½	1	8.35	22.40
2½	3	2⅛	2½	1⅞	1⅞	11.05	25.80
2⅞	3⅜	2¾	2 13/16	2¼	3¼	13.40	31.05
3½	4⅛	3½	3 7/16	2½	6¾	18.50	39.05
3¾	4½	4¼	3¾	2⅝	8¼	26.50	52.85
3¾	4½	5⅛	3¾	3½	12½	30.00	60.10
4 7/16	5¼	5¼	4⅜	3⅝	16¾	36.15	69.05
■5⅜	6⅜	4⅝	5 5/16	3¾	24	61.50	92.50
■5⅜	6⅜	5½	5 5/16	4	30	68.50	99.50
■5 5/16	6⅜	6	5 5/16	4¾	33	73.50	108.20
■6¼	7 1/16	7½	5⅞	6⅛	55	94.10	137.10
■7½	9	9	7½	7	105	157.00	242.00
2 13/16	2⅝	1½	2 13/16	1⅝	1¼	10.50	25.15
2 13/16	3⅜	2⅝	2 13/16	2⅛	3	12.40	29.50
3⅛	3¾	3¼	3⅛	2⅜	4¼	16.05	35.10
3½	4⅛	4	3 7/16	3	9	23.60	46.85
4⅜	5¼	4½	4⅜	2⅞	12	32.30	63.05
4⅜	5¼	5	4⅜	3⅝	16¾	47.70	69.90
■5 5/16	6⅜	4⅝	5 5/16	3 7/16	24	56.05	90.00
■5 5/16	6⅜	6⅜	5 5/16	5 5/16	39	82.10	119.50
■6¼	7 1/16	8½	5⅞	7¼	78	124.00	187.25
■7½	9	11	7½	9	140	194.00	322.00
2½	3	2¼	2½	1⅞	2	11.05	27.40
2½	3	2¾	2½	2⅜	3	13.15	30.60
3⅛	3¾	3¼	3⅛	2⅜	5	17.20	37.20
3¾	4½	4⅜	3¾	3⅛	10	25.70	49.90
3¾	4½	5½	3¾	4⅜	15	34.15	66.10
4⅜	5¼	5⅛	4⅜	3¾	18	40.05	72.20
■5½	6⅜	4⅞	5 5/16	3¾	27	63.50	94.10
■6¼	7 1/16	7¼	5 13/16	5⅜	50	87.50	128.10
■7⅝	9	8¼	7½	6⅜	95	138.50	212.00
2½	3	2⅝	2½	2⅛	2½	11.90	28.10
2 13/16	3⅜	2⅞	2 13/16	2¼	3½	14.05	32.00
3 7/16	4⅛	3¼	3 7/16	2½	6½	19.45	40.20
4⅜	5¼	5	4⅜	3½	17	35.15	67.20
■5½	6⅜	5	5⅜	3⅞	30	64.50	96.50
■6¼	7⅛	5⅞	5 13/16	4½	44	99.25	144.50
■7⅝	9	9¼	7½	7⅜	115	172.00	271.50
2 13/16	3⅜	2⅝	2 13/16	2⅛	3	12.70	30.10
3⅛	3¾	3⅜	3⅛	2⅜	5	16.70	36.05
3¾	4½	4⅝	3¾	3⅜	11	24.90	48.80
4⅜	5¼	4⅞	4⅜	3½	16	38.20	70.90
5⅜	6⅜	6½	5 5/16	4½	35	70.10	102.30
5⅜	6⅜	6⅞	5 5/16	5¾	45	83.50	121.50
6¼	7⅛	8¼	5 13/16	6⅜	64	111.50	161.25
3⅛	3¾	3⅜	3⅛	2⅛	4¼	15.05	33.10
3 7/16	4⅛	3⅜	3 7/16	2½	5¾	20.70	42.20
4⅜	5¼	4¾	4⅜	3¼	15	32.10	60.80
5 5/16	6⅜	5¾	5 5/16	4⅜	34	68.00	100.50
6¼	7 1/16	7½	5⅞	6⅛	54	94.10	137.10
3⅛	3¾	3⅜	3⅛	2½	5	16.50	35.90
3½	4⅛	4	3 7/16	3⅛	9½	23.95	47.10
4⅜	5¼	5¼	4⅜	4	18	38.70	70.20
5⅜	6⅜	6	5 5/16	4¾	36	75.20	110.70
6¼	7 1/16	7½	5⅞	6⅛	54	96.50	139.50
3¾	4½	3½	3¾	2¼	6	18.80	39.40
4⅜	5¼	4	4⅜	3⅛	12½	28.10	54.54
4⅜	5¼	5⅝	4 5/16	4¾	23	44.10	74.80
5 5/16	6⅜	7⅛	5 5/16	6¼	49	85.60	124.50

Add 3/16 to H W D for Style BE

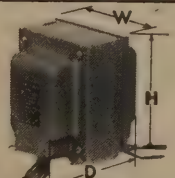
• FULLY MTD. SHELLS (STYLE V)						STYLE V PRICE
H	W	D	MW	MD	WGT.	
3	2½	2¼	2	1¼	1¼	8.25
3	2½	2⅞	2	1⅞	2½	10.90
3⅞	3¼	3⅝	2½	2⅜	4¾	19.10
4½	3¾	4⅛	3	3	8¾	22.80
3⅛	2½	2⅜	2	1¼	1¾	10.20
3⅛	2½	3⅛	2	2	3¼	11.40
3⅞	3¼	3⅝	2½	2½	5¼	20.10
4½	3¾	4¼	3	3⅛	9½	25.20
3⅛	2½	2⅝	2	1½	2¼	10.05
3⅛	2½	2⅞	2	1¾	2½	11.45
3¾	3⅛	3⅜	2½	2⅛	4¼	13.60
4⅛	3½	3⅝	2¾	2½	6¾	18.60
4¼	3½	4⅜	2¾	3⅜	8½	21.10
4½	3¾	5	3	3¾	12½	27.05
5¼	4⅜	5½	3½	3⅞	17	34.90
5¼	4⅜	6	3½	4¾	20	48.25
5¼	4⅜	6⅜	3½	4¾	22	50.90
6½	5½	7⅜	4¼	5 5/16	43	68.90
2¾	2¼	2¼	1¾	1½	1¼	8.10
3⅛	2½	2¾	2	1⅝	2	10.60
3½	2⅞	3¼	2¼	2 5/16	3⅝	11.95
4¼	3½	4	2¾	2⅞	6¾	16.05
4⅝	3⅞	4⅛	3	2⅞	9¼	24.05
4⅝	3⅞	5	3	3⅞	12¼	27.05
5½	4½	5¾	3½	4 1/16	17¼	33.00
6½	5½	5¾	4¼	3¾	25	50.90
6½	5½	6	4¼	4	28	58.00
6½	5½	6¾	4¼	4¾	36	64.50
6½	5½	7¼	4¼	5¼	39	74.50
3	2½	2⅝	2	1¾	2	9.90
3⅛	2⅝	3⅛	2	2⅛	2⅛	11.50
3⅞	3⅛	3⅝	2½	2⅜	4¾	16.30
4⅝	3¾	4½	3	3⅜	11	22.00
4⅝	3¾	4⅞	3	3⅝	16	30.80
5½	4½	5⅞	3½	4¼	19¼	37.10
6½	5½	5¾	4¼	3¾	27	53.20
3⅛	2½	2⅞	2	2	2½	11.30
3½	2⅞	3¼	2¼	2¼	3⅝	12.60
4¼	3½	4	2¾	2⅞	6¾	16.75
5 3/16	4½	5½	3½	3¾	17½	31.70
6½	5½	6	4¼	4	31	53.80
3⅞	3⅛	3½	2½	2¼	4¾	12.95
4¼	3½	3⅞	2¾	2⅞	6½	17.90
5 7/16	4½	5⅜	3½	3⅛	15¾	27.50
6⅜	5 7/16	6⅜	4¼	4⅜	32	58.40
3⅞	3⅛	3⅝	2½	2½	5¼	14.30
4¼	3½	4⅝	2¾	3½	8½	20.80
5 7/16	4½	5⅞	3½	3⅝	18	33.50
6⅜	5 7/16	6⅞	4¼	4⅞	36	68.10
4½	3¾	3¾	3	2⅝	6½	16.20
5½	4½	5	3½	3⅜	13½	24.20
5½	4½	6⅝	3½	5	24	39.90
6½	5½	8	4¼	6	48	79.80

• HERMETIC SEALED MIL-T (STYLE CM)						STYLE CM PRICE	PART NO.
H	W	D	MW	MD	WGT.		
3 13/16	3½	3	2⅝	2⅛	2⅛	40.25	10 02
3 13/16	3½	3	2⅝	2⅛	3½	45.05	10 05
4 7/16	4½	3⅝	3 5/16	2 13/16	6½	52.00	10 10
5 7/16	5	4¼	4 7/16	3 5/16	12	67.10	10 20
3 13/16	3½	3	2⅝	2⅛	2¾	41.80	12 02
3 13/16	3½	3	2⅝	2⅛	4¾	46.30	12 05
4 7/16	4¼	3⅝	3 5/16	2 13/16	7½	58.60	12 10
6¼	5¾	4⅞	4⅜	3½	12½	70.40	12 20
3 13/16	3½	3	2⅝	2⅛	3⅜	41.50	24 01
3 13/16	3½	3	2⅝	2⅛	3¾	44.50	24 02
4 7/16	4¼	3⅝	3 5/16	2 13/16	6¼	48.75	24 04
4⅞	4⅝	3 15/16	3 1/16	3	9½	58.10	24 06
4⅞	4⅝	3 15/16	3 1/16	3	11½	62.00	24 08
5 7/16	5	4¼	4 7/16	3 5/16	16	72.25	24 12
6¼	5¾	4⅞	4⅜	3½	22	80.50	24 20
6¼	5¾	4⅞	4⅜	3½	24½	108.50	24 25
7½	6⅞	5 13/16	5 5/16	4¼	27½	115.00	24 30
7½	6⅞	5 13/16	5 5/16	4¼	52	141.00	24 50
8¾	8	6¾	6¾	5½	74	208.00	24 100
3 13/16	3½	3	2⅝	2⅛	2	39.50	36 00
3 13/16	3½	3	2⅝	2⅛	3	43.20	36 01
4¼	3⅞	3⅝	3	2 7/16	5¼	47.05	36 02
4⅞	4⅝	3 15/16	3 1/16	3	9½	53.95	36 04
5 7/16	5	4¼	4 7/16	3 5/16	13	67.80	36 06
5 7/16	5	4¼	4 7/16	3 5/16	17	72.25	36 08
6¼	5¾	4⅞	4⅜	3½	22	79.20	36 12
7½	6⅞	5 13/16	5 5/16	4¼	31	115.00	36 20
7½	6⅞	5 13/16	5 5/16	4¼	34	124.50	36 25
7½	6⅞	5 13/16	5 5/16	4¼	43	134.50	36 30
8¼	7⅝	6⅝	5 13/16	4¾	61	174.50	36 50
							36 100
3 13/16	3½	3	2⅝	2⅛	2¾	42.10	56 00
4¼	3⅞	3⅝	3	2 7/16	4½	45.50	56 01
4 7/16	4¼	3⅝	3 5/16	2 13/16	7½	50.60	56 02
4⅞	4⅝	3 15/16	3 1/16	3	12½	60.90	56 04
6¼	5¾	4⅞	4⅜	3½	16	74.90	56 06
6¼	5¾	4⅞	4⅜	3½	22½	78.80	56 08
7½	6⅞	5 13/16	5 5/16	4¼	31	112.50	56 12
7½	6⅞	5 13/16	5 5/16	4¼	45	153.60	56 25
8¾	8	6¾	6¾	5½	85	228.00	56 50
							56 100
3 13/16	3½	3	2⅝	2⅛	3¼	43.20	64 00
4 7/16	4¼	3⅝	3 5/16	2 13/16	3¾	46.40	64 01
5 13/16	4⅝	3 15/16	3 1/16	4⅞	7¼	52.60	64 02
5 7/16	5	4¼	4 7/16	3 5/16	15½	63.80	64 04
6¼	5¾	4⅞	4⅜	3½	22	77.20	64 06
6¼	5¾	4⅞	4⅜	3½	25	82.00	64 08
7½	6⅞	5 13/16	5 5/16	4¼	32½	119.00	64 12
7½	6⅞	5 13/16	5 5/16	4¼	57	163.90	64 25
10 3/8	8	6¾	6¾	5½	103	249.00	64 50
3 13/16	3½	3	2⅝	2⅛	3¾	43.90	80 00
4¼	3⅞	3⅝	3 5/16	2 7/16	5¼	47.75	80 01
4⅞	4⅝	3 15/16	3 1/16	3	9	55.00	80 02
4 7/16	4¼	3⅝	3 5/16	2 13/16	21½	77.80	80 05
7½	6⅞	5 13/16	5 5/16	4¼	36½	120.30	80 10
8¼	7 5/16	6⅝	5 13/16	4¾	48½	183.50	80 25
							80 50
4¼	3⅞	3 5/16	3	2 7/16	4¾	46.00	120 00
4 7/16	4¼	3⅝	3 5/16	2 13/16	6¾	51.50	120 01
5 7/16	5	4¼	4 7/16	3 5/16	14	63.50	120 02
6¼	5⅜	4⅞	4⅜	3½	21¼	80.50	120 04
7½	6⅞	5 13/16	5 5/16	4¼	40½	129.00	120 08
7½	6⅞	5 13/16	5 5/16	4¼	51½	154.50	120 12
8¼	7 5/16	6⅝	5 13/16	4¾	70½	208.00	120 20
4 7/16	4¼	3⅝	3 5/16	2 13/16	6⅝	48.80	180 00
4⅞	4⅝	3 15/16	3 1/16	3	8¾	57.00	180 01
6¼	5¾	4⅞	4⅜	3½	19½	73.20	180 02
7½	6⅞	5 13/16	5 5/16	4¼	39¼	125.40	180 05
7½	6⅞	5 13/16	5 5/16	4¼	57½	174.50	180 10
4 7/16	4¼	3⅝	3 5/16	2 13/16	7½	51.60	230 00
4⅞	4⅝	3 15/16	3 1/16	3	11¼	61.80	230 01
6¼	5¾	4⅞	4⅜	3½	21¾	85.20	230 02
7½	6⅞	5 13/16	5 5/16	4¼	41	139.50	230 05
8¼	7 5/16	6½	5 13/16	4¾	59¼	177.00	230 08
4⅞	4⅝	3 15/16	3 1/16	3	9	54.10	300 00
6¼	5¾	4⅞	4⅜	3½	16¾	68.00	300 01
6¼	5¾	4⅞	4⅜	3½	27½	84.75	300 02
7½	6⅞	5 13/16	5 5/16	4¼	52½	158.75	300 05

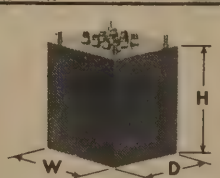


STYLE B: • "Open Frame" Bracket Mounted
• Double Vacuum Varnish Impregnated

STYLE BE: • Conforms to MIL-T-27B
• Epoxy Encapsulation added to Style B



STYLE V: • Fully Enclosed in Metal Shells
• Ease of "Wiring with Leads"
• Attractive Appearance
• Dbl Vacuum Varnish Impregnated



STYLE CM: • Hermetically Sealed to MIL-T-27B
• Environment Proof
• Attractive Gray Finish
• Permanent Name Plate

QUALITY ENGINEERED • • • • • • • • • • • • •

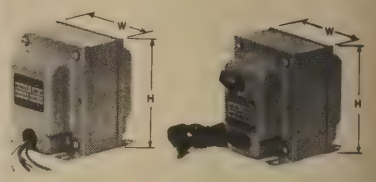
TODD ENGINEERED — LINE ISOLATION ..... HIGH CURRENT CHOKES

LINE ISOLATION — OUTPUT 115 VOLTS — 50/60 HERTZ — *UL* COMPONENTS

STRAIGHT ISOLATION — ELECTROSTATIC SHIELD CONNECTED TO CORE — TWO STYLES

CATALOG NUMBER	WATTS (VA)	INPUT VOLTS	HIPOT TEST VOLTS	DIMENSIONS H	W	D	MW	MD	WGT.	STYLE LO PRICE	STYLE LR PRICE
LI-25	25	115	1500	3 1/8	2 5/8	2 1/2	2	1 1/2	1 5/8	15.85	17.30
LI-50	50	115	1500	3 1/2	2 7/8	3	2 1/4	1 7/8	3	17.20	19.40
LI-100	100	115	1500	3 1/2	2 7/8	3 1/2	2 1/4	2 1/4	4	22.50	24.40
LI-175	175	115	1500	4 5/8	3 7/8	3 7/8	3	2 3/4	7	24.50	28.30
LI-250	250	115	1500	4 5/8	3 7/8	4 3/8	3	3 1/4	10	33.60	36.30
LI-350	350	115	1500	4 5/8	3 7/8	5 1/4	3	4 1/8	14	45.10	47.25
LI-500	500	115	1500	6	4 3/8	5 1/8	3 1/16	3 3/8	17 1/2	56.80	60.40
LI-750	750	115	1500	6	4 3/8	6 3/8	3 7/16	4 1/2	24	89.50	91.80
LI-1000	1000	115	1500	6	4 3/8	7 1/4	3 7/16	5 1/2	30	99.40	102.50
LI-1500	1500	115	1500	6 1/2	5 1/2	7 1/2	4 1/4	5 3/8	42	119.50	121.75
LI-2000	2000	115	1500	6 1/2	5 1/2	9	4 1/4	6 7/8	58	145.00	149.40
LI-100-1	100	230	2000	3 1/2	2 7/8	3 1/2	2 1/4	2 1/4	4	21.30	24.10
LI-250-1	250	230	2000	4 5/8	3 7/8	4 3/8	3	3 1/4	10	32.75	35.50
LI-500-1	500	230	2000	6	4 3/8	5 1/8	3 1/16	3 3/8	17 1/2	57.80	61.50
LI-1000-1	1000	230	2000	6	4 3/8	7 1/4	3 7/16	5 1/2	30	106.00	110.50
LI-1500-1	1500	230	2000	6 1/2	5 1/2	7 1/2	4 1/4	5 3/8	42	122.20	125.75
LI-2000-1	2000	230	2000	6 1/2	5 1/2	9	4 1/4	6 7/8	58	143.75	149.50

STYLE LO — STYLE LR



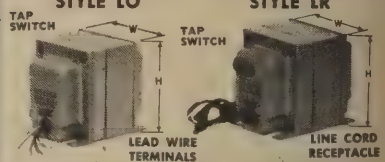
LEAD WIRE TERMINALS — LINE CORD RECEPTACLE

ADJUSTABLE ISOLATION — ELECTROSTATIC SHIELD CONNECTED TO CORE

- PRIMARY TAPPED
- TWO STYLES

CATALOG NUMBER	WATTS (VA)	INPUT VOLTS	HIPOT TEST VOLTS	DIMENSIONS H	W	D	MW	MD	WGT.	STYLE LO PRICE	STYLE LR PRICE
LI-100-2	100	105/115/125	1500	3 1/2	2 7/8	4 3/8	2 1/4	3	4 1/2	29.00	31.50
LI-250-2	250	105/115/125	1500	4 5/8	3 7/8	5 1/8	3	4	11 1/2	38.00	41.00
LI-500-2	500	105/115/125	1500	6	4 3/8	5 7/8	3 7/16	4 1/8	19	69.50	72.75
LI-1000-2	1000	105/115/125	1500	6	4 3/8	8 1/8	3 7/16	6 3/8	34	143.50	147.50
LI-100-3	100	210/230/250	2000	3 1/2	2 7/8	4 3/8	2 1/4	3	4 1/2	33.20	34.60
LI-250-3	250	210/230/250	2000	4 5/8	3 7/8	5 1/8	3	4	11 1/2	36.60	40.25
LI-500-3	500	210/230/250	2000	6	4 3/8	5 7/8	3 7/16	4 1/8	19	68.60	71.25
LI-1000-3	1000	210/230/250	2000	6	4 3/8	8 1/8	3 7/16	6 3/8	34	141.00	144.50

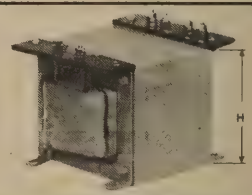
STYLE LO — STYLE LR



LEAD WIRE TERMINALS — LINE CORD RECEPTACLE

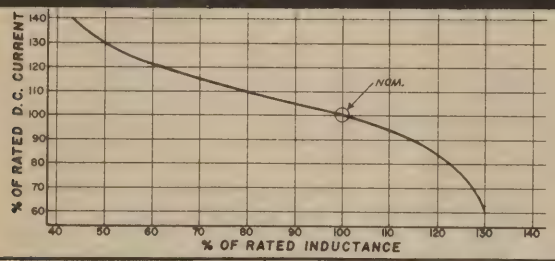
HI-POWER ISOLATION — ELECTROSTATIC SHIELD CONNECTED TO CORE — BRACKET MOUNTED

CATALOG NUMBER	WATTS (VA)	INPUT VOLTS	HIPOT TEST VOLTS	DIMENSIONS H	W	D	MW	MD	WGT.	PRICE
LI-2500-4	2500	115/230	2000	6 1/8	7 1/8	8 3/4	5 7/8	7	60	163.00
LI-3000-4	3000	115/230	2000	7 1/2	9	7 7/8	7 1/2	6 1/2	95	292.00
LI-4000-4	4000	115/230	2000	7 1/2	9	9	7 1/2	7 5/8	113	347.50
LI-5000-4	5000	115/230	2000	7 1/2	9	10 1/4	7 1/2	8 7/8	135	370.00
LI-6000-4	6000	115/230	2000	7 1/2	9	11 3/4	7 1/2	10 1/4	168	378.00
LI-2500-5	2500	230/460	2500	6 1/8	7 1/8	8 3/4	5 7/8	7	60	172.50
LI-3000-5	3000	230/460	2500	7 1/2	9	7 7/8	7 1/2	6 1/2	95	306.00
LI-4000-5	4000	230/460	2500	7 1/2	9	9	7 1/2	7 5/8	113	369.00
LI-5000-5	5000	230/460	2500	7 1/2	9	10 1/4	7 1/2	8 7/8	135	394.00
LI-6000-5	6000	230/460	2500	7 1/2	9	11 3/4	7 1/2	10 1/4	168	418.50



SCREW TERMINALS

HIGH CURRENT CHOKES — 50/500 HERTZ — DIMENSIONS REFER TO HIGH CURRENT XFMR SKETCHES



- **Matching styles complement high current transformers**
- **Wide variety of compatible current ratings**

INDUCTANCE VARIATION

Graph indicates typical variation of inductance (%) when used at D.C. currents (%) other than the rated values.

Chokes operated at D. C. currents higher than rated value must be run on an intermittent basis to avoid overheating.

CATALOG NUMBER	INDUCTANCE (mh)	D.C. CURRENT (AMPS)	RESISTANCE (OHMS)	• BRACKET MTD. (STYLE B) • ENCAPSULATED (STYLE BE) H	W	D	MW	MD	WGT.	STYLE B PRICE	STYLE BE PRICE	• FULLY MTD. SHELLS (STYLE V) H	W	D	MW	MD	WGT.	STYLE V PRICE	• HERMETICALLY SEALED MIL-T (STYLE CM) H	W	D	MW	MD	WGT.	STYLE CM PRICE
CH-00	140	.5	4	2 1/4	2 5/8	2	2	1 3/4	1 1/2	6.75	16.80	2 5/8	2 1/4	2 1/4	1 3/4	1 5/8	1 3/4	6.90	3 1/8	3	2 5/16	2 5/16	1 7/8	2 1/8	25.50
CH-01	100	1	1.50	2 1/2	2	2 1/8	2 1/2	2	2 1/4	7.40	19.85	3 1/8	2 1/2	2 5/8	2	1 3/4	2 1/4	7.70	3 13/16	3 1/2	3	2 5/8	2 1/8	3 1/4	29.80
CH-02	80	2	.95	2 1/2	3	2 1/2	2 1/2	2	2 1/2	8.10	24.50	3 1/8	2 1/2	2 1/2	2	1 3/4	2 1/2	8.55	3 13/16	3 1/2	3	2 5/8	2 1/8	3 1/2	33.50
CH-04	60	4	.65	3 1/8	3 3/4	3 1/4	3 1/8	2 1/2	5 1/4	13.70	29.75	3 7/8	3 3/16	3 3/4	2 1/2	2 1/4	6	14.05	4 7/16	4 1/4	3 5/8	3 5/16	2 11/16	7 1/4	37.20
CH-05	50	5	.40	3 1/8	3 3/4	3 3/8	3 1/8	2 3/4	5 3/4	14.30	32.50	3 7/8	3 3/16	4	2 1/2	3	6 1/2	14.65	4 7/16	4 1/4	3 5/8	3 5/16	2 11/16	8	41.85
CH-06	40	6	.30	3 1/8	3 3/4	3 3/8	3 1/8	2 3/4	6	14.80	33.50	3 7/8	3 3/16	4	2 1/2	3	6 1/2	15.10	4 7/16	4 1/4	3 5/8	3 5/16	2 11/16	8 5/8	43.60
CH-08	30	8	.20	3 1/2	4 1/8	3 7/8	3 3/8	3	8	15.40	35.80	4 1/8	3 1/2	4 3/8	2 3/4	3 3/8	8 1/2	15.95	4 7/8	4 5/8	4	3 11/16	3	11 1/8	47.90
CH-12	20	12	.10	4 7/16	5 1/4	4 1/2	4 3/8	3 3/8	15 1/2	35.25	59.75	5 7/16	4 1/2	5	3 1/2	3 1/2	14	34.10	6 1/4	5 3/4	4 7/8	4 3/8	3 1/2	21	62.25
CH-16	15	16	.08	4 7/16	5 1/4	4 5/8	4 3/8	3 3/8	14 1/4	36.50	65.50	5 7/16	4 1/2	5 1/4	3 1/2	3 3/4	15	35.85	6 1/4	5 3/4	4 7/8	4 3/8	3 1/2	22 1/2	69.50
CH-20	10	20	.055	4 7/16	5 1/4	4 1/2	4 3/8	3 1/2	15 1/2	39.75	72.10	5 7/16	4 1/2	5 3/8	3 1/2	3 7/8	16	38.25	6 1/4	5 3/4	4 7/8	4 3/8	3 1/2	24	77.50
CH-25	7	25	.03	4 7/16	5 1/4	5	4 3/8	4	18 1/2	41.50	77.50	5 7/16	4 1/2	5 7/8	3 1/2	4 3/8	19 1/2	39.95	6 1/4	5 3/4	4 7/8	4 3/8	3 1/2	26 1/2	89.50
CH-30	5	30	.02	5 3/8	6 3/8	4 1/2	5 1/4	3 1/4	21	53.80	102.50	6 1/2	5 7/16	5 1/2	4 1/4	3 1/4	24	54.20	7 1/2	6 7/8	5 13/16	5 5/16	4 1/4	29 1/2	105.70
CH-40	3 1/2	40	.018	5 3/8	6 3/8	4 5/8	5 1/4	3 1/2	23	56.85	104.50	6 1/2	5 7/16	5 3/4	4 1/4	3 1/2	25	57.15	7 1/2	6 7/8	5 13/16	5 5/16	4 1/4	32 1/2	114.25
CH-50	2	50	.010	5 3/8	6 3/8	4 3/4	5 1/4	3 5/8	25	57.75	109.00	6 1/2	5 7/16	5 3/4	4 1/4	3 1/2	26	58.25	7 1/2	6 7/8	5 13/16	5 5/16	4 1/4	34	118.50
CH-100	.7	100	.004	5 3/8	6 3/8	5	5 1/4	3 7/8	29	63.50	117.00	6 1/2	5 7/16	6 1/8	4 1/4	3 7/8	31	64.75	7 1/2	6 7/8	5 13/16	5 5/16	4 1/4	41	126.50
CH-200	.35	200	.002	6 1/8	7 1/8	6 3/4	5 7/8	5 1/2	43	77.50	135.00														

QUALITY ENGINEERED ..... PRECISION BUILT
TODD SYSTEMS INC.

Net

© United Technical Publications

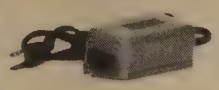
TODD ENGINEERED

STEPDOWN AUTOTRANSFORMERS

50/60 HERTZ—*UL* COMPONENTS • FOR STEP-UP USE MOST UNITS CAN BE REVERSED OR REWIRED

PORTABLE MODEL — 220/240 INPUT 110/120 OUTPUT

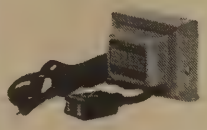
CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-35	20	⅞	1½	2	2⅝	9.95
SD-36	40	1¼	1⅞	2⅛	3½	10.95
SD-37	60	1⅝	1⅞	2⅛	3½	12.60
SD-41	80	1⅞	1⅞	2⅛	3½	13.30



LINE CORD • RECEPTACLE

NORMAL DUTY MODEL — 220/240 INPUT 110/120 OUTPUT

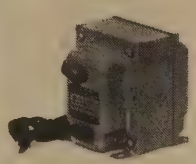
CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-24	50	1⅝	2¼	2¾	2¼	8.20
SD-21	65	1⅝	2¼	2¾	2¼	8.60
SD-25	80	1¾	2¼	2¾	2⅜	9.25
SD-23	100	1¾	2¼	2¾	2⅜	9.75
SD-26	125	2⅜	2⅝	3 1/16	2½	10.85
SD-27	150	2⅜	2⅝	3 1/16	2½	11.40



LINE CORD • PIGTAIL

HEAVY DUTY MODEL — 220/240 INPUT 110/120 OUTPUT

CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-15	75	2	3⅛	2⅝	3⅛	12.00
SD-16	100	2¼	3⅛	2⅝	3¼	12.10
SD-17	150	3½	3⅛	2⅝	3⅞	13.60
SD-38	200	3¾	3⅛	2⅝	4	15.95
SD-12	250	5½	4⅝	3⅞	3⅜	17.80
SD-18	350	6½	4⅝	3⅞	3⅝	20.80
SD-11	500	9¾	4⅝	3⅞	4¼	25.10
SD-19	750	12	4⅝	3⅞	5	29.50
SD-13	1000	13¾	4⅝	3⅞	5¼	41.10
SD-14	1500	19	4⅝	3⅞	6⅝	48.20
SD-20	2000	24½	6	4⅜	6⅜	99.50
SD-39	2500	35½	6½	5½	6⅝	162.50



LINE CORD • RECEPTACLE

INDUSTRIAL MODEL — 208/220/240 INPUT 110/120 OUTPUT

CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-28	3000	47	6⅛	7 1/16	6¼	188.00
SD-29	4000	54	6⅛	7 1/16	7⅛	245.50
SD-22	5000	59	6⅛	7 1/16	7½	271.75
SD-30	6000	70	6⅛	7 1/16	8½	289.00



SCREW TERMINALS

ACCESSORIES — AVAILABLE FOR USE WHERE APPLICABLE



3 WIRE RECEPTACLE



3 WIRE LINE CORD



PLUG ADAPTERS



FOREIGN PLUGS

3 TAP REFRIGERATION — 188/210 210/236 236/260 → 105V-50Hz 115V-60Hz

CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-31LR	350	6½	4⅝	3⅞	4⅜	35.20
SD-32LR	550	9¼	4⅝	3⅞	5	37.50
SD-33LR	750	12	4⅝	3⅞	5¾	44.80
SD-34LR	1000	16¼	4⅝	3⅞	7	56.75
SD-40LR	1500	23	4⅝	3⅞	8½	74.60

STYLE LR

TAP SWITCH



LINE CORD • RECEPTACLE

CATALOG NUMBER	RATING WATTS	WEIGHT LBS.	DIMENSIONS H	W	D	PRICE
SD-31LO	350	6¼	4⅝	3⅞	4½	33.60
SD-32LO	550	9	4⅝	3⅞	5⅛	34.95
SD-33LO	750	12	4⅝	3⅞	5½	41.20
SD-34LO	1000	16	4⅝	3⅞	6½	54.25
SD-40LO	1500	22	4⅝	3⅞	8	69.50

STYLE LO

JUNCTION BOX



LEAD WIRE TERMINALS

MULTI-TAPPED VOLTAGE REGULATOR — METER • SWITCH

TYPE	PRIMARY VOLTS (SELECTOR SWITCH TAPS)								OUTPUT VOLTS
11	84	92	100	108	115	122	130	138	115
12	84	92	100	108	115	122	130	138	208, 230
21	170	185	200	215	230	245	260	275	115
22	170	185	200	215	230	245	260	275	208, 230

CATALOG NUMBER	TYPE	RATING WATTS	WGT. LBS.	DIMENSIONS H	W	D	PRICE
MVR-17	11 or 22	150	4⅝	4⅝	3⅞	5	43.20
MVR-18	11 or 22	350	6½	4⅝	3⅞	5½	49.80
MVR-11	11 or 22	500	8	4⅝	3⅞	5¾	55.75
MVR-19	11 or 22	750	11	4⅝	3⅞	6⅝	64.50
MVR-13	11 or 22	1000	13¼	4⅝	3⅞	7⅛	81.20
MVR-14	11 or 22	1500	17	6	4⅜	7⅜	110.75
MVR-20	11 or 22	2000	22	6	4⅜	8¼	165.50
MVR-17	12 or 21	150	6	4⅝	3⅞	5⅛	48.75
MVR-18	12 or 21	350	9	4⅝	3⅞	5⅞	58.75
MVR-11	12 or 21	500	12½	4⅝	3⅞	6¾	67.50
MVR-19	12 or 21	750	15	4⅝	3⅞	7¼	78.50
MVR-13	12 or 21	1000	18¾	6	4⅜	7½	97.00
MVR-14	12 or 21	1500	24	6	4⅜	8½	134.00
MVR-20	12 or 21	2000	30½	6	4⅜	9¼	188.50



UL LINE CORD & RECEPTACLE

PANEL MOUNTED VOLTAGE REGULATOR — METER • SWITCH JUNCTION BOX

TYPE	PRIMARY VOLTS (SELECTOR SWITCH TAPS)								OUTPUT VOLTS
11	84	92	100	108	115	122	130	138	115
12	84	92	100	108	115	122	130	138	208, 230
21	170	185	200	215	230	245	260	275	115
22	170	185	200	215	230	245	260	275	208, 230

CATALOG NUMBER	TYPE	RATING WATTS	WGT. LBS.	DIMENSIONS H	W	D	PRICE
PVR-20	11 or 22	2000	29	5⅜	6⅜	11¼	375.00
PVR-28	11 or 22	3000	40	5⅜	6⅜	12¼	433.50
PVR-29	11 or 22	4000	49	5⅜	6⅜	13⅜	478.00
PVR-22	11 or 22	5000	57	5⅜	6⅜	14⅜	502.00
PVR-30	11 or 22	6000	63	6⅛	7⅛	13¾	524.50
PVR-20	12 or 21	2000	44	6⅛	7⅛	13	435.00
PVR-28	12 or 21	3000	58	6⅛	7⅛	14	507.50
PVR-29	12 or 21	4000	78	6⅛	7⅛	15½	541.00
PVR-22	12 or 21	5000	91	6⅛	7⅛	16½	574.50
PVR-30	12 or 21	6000	105	6⅛	7⅛	18	604.75



- JUNCTION BOX
- LEAD TERMINALS

QUALITY ENGINEERED • • •

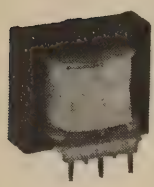
TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

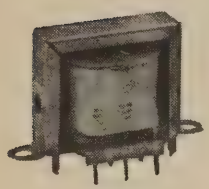




C



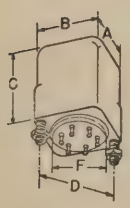
B



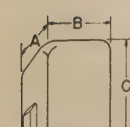
A



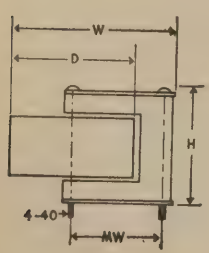
TZ



AF
AJ



AG
AH



TY-S



TY-MOLDED

MINIATURES

AUDIO PRINTED CIRCUIT TRANSFORMERS

Operating level: 100 mw.
Dimensions: 5/8 x 13/16 x 19/32 — 3/16 x .042 pins.

Cat. No.	Fig.	Primary Impedance	Secondary Impedance	Pri. DC Unbalance
TY-141P	C	10,000 CT.	10,000 CT.	4 ma.
TY-142P	C	10,000 CT.	2,000 CT.	4 ma.
TY-143P	C	10,000 CT.	1,500 CT.	4 ma.
TY-144P	C	15,000 CT.	15,000 CT.	4 ma.
TY-145P	C	600 CT.	600 CT.	15 ma.

LOW-VOLTAGE, LOW-CURRENT PRINTED CIRCUIT TRANSFORMERS

115 volts, 50/60 Hz Primary, 1½ watts
Dimensions: 1⅛ x 1 25/64 x 1 5/32 — 3/16 x .041 pins.

Cat. No.	Fig.	SECONDARY Series Conn.	Parallel Conn.
F-131P	B	8V CT. @ .188A	4V @ .376A
F-132P	B	15V CT. @ .100A	7.5V @ .200A
F-133P	B	30V CT. @ .050A	15V @ .100A
F-134P	B	54V CT. @ .028A	27V @ .056A
F-135P	B	76V CT. @ .020A	38V @ .040A

115 volts, 50/60 Hz Primary, 4½ watts
Dimensions: 1 25/64 x 1 45/64 x 1¼ — 3/16 x .041 pins.

F-141XP	A	8V CT. @ .562A	4.0V @ 1.124A
F-142XP	A	15V CT. @ .300A	7.5V @ .600A
F-143XP	A	30V CT. @ .150A	15V @ .300A
F-144XP	A	54V CT. @ .084A	27V @ .168A
F-145XP	A	76V CT. @ .060A	38V @ .120A

115 volts, 50/60 Hz Primary, 7 watts
Dimensions: 1 41/64 x 1 61/64 x 1 15/32 — 3/16 x .041 pins.

F-151XP	A	8V CT. @ .940A	4.0V @ 1.880A
F-152XP	A	15V CT. @ .940A	7.5V @ 1.000A
F-153XP	A	30V CT. @ .250A	15V @ .500A
F-154XP	A	54V CT. @ .140A	27V @ .280A
F-155XP	A	76V CT. @ .100A	38V @ .200A

†† JAF SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	** MTG.
JAF-1‡	600/250/50	50000	0	60-15000	AF
JAF-2‡	600/250/50	250000	0	100-15000	AF
JAF-5‡	30/12/4	50000	0	50-15000	AF
JAF-12	15000	60000 CT.	10	60-15000	AF
JAF-13	15000 (3 Ma.)	95000 CT.	10	350-7000	AF
JAF-15	15000	1 megohm	10	350-5000	AF
JAF-22	15000 (3 Ma.)	600/250/50	10	350-7000	AF
JAF-23	20000 CT.	600/250/50	10	60-15000	AF
JAF-31‡	600/250/50	600/250/50	10	60-15000	AF
JAF-33‡	5000 CT.	5000 CT.	10	60-15000	AF

SUB-MINIATURE AUDIO — Open Frame

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.) Pri.	Sec.
TZ-1	600/250/50	60000	350	4100
TZ-7	30/12/4	1000	5	480
TZ-13	15000 (1 Ma.)	135000 CT.	985	4400
TZ-15	20000 (.5 Ma.)	1200/600/100	2700	350
TZ-103XT	4 Hy. or 1 Hy.	—	400	—
T-41X	1000 (10 Ma.)	200 CT.	430	130
T-42X	9800 (2 Ma.)	16	855	1.7
TY-44X	1000 (10 Ma.)	16/8/4	180	3.8
TY-47X	2000 CT.(10 Ma.)	16/8/4	260	4

TRANSFORMERS FOR TRANSISTOR POWER SUPPLIES

Type No.	D.C. Volts Out of Rect.	D.C Ma Max	Dimensions—Inches H	W	D	MW
TY-68S	250	65	1¾	1¾	1 11/32	1½
TY-69S	300	100	1⅞	2⅜	1⅞	1½
TY-70S	325	150	2	2⅜	2 7/16	1½
TY-71S	375	200	2	2⅜	2 7/16	1½
TY-74S	600	200	2	4⅛	3	3¾

EPOXY MOLDED TOROIDAL TYPE

Type No.	D.C. Source Volts	D.C. Volts Out Of Rectifier	D.C. Ma. Max.	Dimension—Inches Dia.	Ht.	Wt. Lbs.
TY-78	12.6	250/125	100	1¾	1 1/16	.35
TY-79	12.6	300/150	200	1¾	1	.35
TY-80	12.6	325/162.5	150	1¾	1	.35
TY-81	12.6	375/187.5	200	2	1	.50
TY-82	12.6	450/225	150	2	1	.50
TY-83	12.6	500/250	250	2¾	1⅜	.85
TY-84	12.6	600/300	200	2¾	1⅜	1.00
TY-85	12.6	600/300	350	2⅞	1⅞	2.00
TY-86	12.6	425/212.5	350	2¾	1⅜	1.00
TY-87§	12.6	600/300	200	2¾	1⅜	1.00
TY-88	28	250/125	80	1 5/16	5/16	.25
TY-89	28	300/150	100	1¾	1 1/16	.35
TY-90	28	325/162.5	200	1¾	1	.35
TY-91	28	375/187.5	200	2	1	.50
TY-92	28	450/225	200	2	1	.50
TY-93	28	500/250	250	2¾	1⅜	.85
TY-94	28	600/300	200	2¾	1⅜	1.00
TY-99	6.3	300/150	100	1¾	1	.35
TY-100	6.3	325/162.5	150	2	1	.50
TY-101	6.3	375/187.5	200	2¾	1⅜	1.00
TY-102	6.3	450/225	150	2¾	1⅜	1.00

§ Additional winding 125 V. @ 10 ma. for SSB.

†† MINIATURE AUDIO — "Trijets"

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.
T-1X‡	600/250/50	50000	0	60-15000
T-2X‡	600/250/50	250000	0	100-15000
T-3X	600/250/50	60000 CT.	0	60-15000
T-5X‡	30/12/4	50000	0	50-15000
T-11X	15000	50000	10	60-15000
T-12X	15000	60000 CT.	10	60-15000
T-13X	15000 (3 Ma.)	950000 CT.	10	350-7000
T-14X‡	200	500000	10	300-3000
T-15X	15000	1 Megohm	10	150-15000
T-20X	15000	600/250/50	10	60-15000
T-21X	3000	50	10	100-15000
T-22X	15000 (3 Ma.)	600/250/50	10	350-7000
T-23X	20000 CT.	600/250/50	10	60-15000
T-24X	10000 CT.	20000 CT.(2Ma.)	10	50-20000
T-25X	12000 CT.(2 Ma.)	600 CT. 150	10	50-16000
T-26X	50000 CT.(.5 Ma.)	600 CT./150	13	100-15000
T-31X‡	600/250/50	600/250/50	10	50-15000
T-32X	1500 CT. (2 Ma.)	600 CT./150	13	50-20000
T-33X‡	5000 CT.	5000 CT.	10	60-15000
T-34X	500 CT.	500 CT./125	13	50-20000
T-35X	600 CT.	2000 CT./500	10	50-20000
T-101X	50 henries @ .75 Ma.			
T-102X	6 Hy.-3 Ma. or 4 Hy.-6 Ma.			

††Low frequency loss will result from DC in windings other than where specified.

****See Case Chart on Triad Page 15**

MINIATURES

TRANSISTOR TRANSFORMERS

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
TY-23X	50000	.5	500 CT.	100 MW
TY-24X	50000	.5	3000 CT.	200 MW
TY-25X	100000	.5	200 CT.	200 MW
TY-26X	100000	.5	3000 CT.	200 MW
TY-27XT	500 CT.	2	500 CT.	10 MW
TY-28XT	500 CT.	2	200 CT.	10 MW
TY-29X	24 CT.	500	8/4	8W
*TY-20X	100 CT.	500	16/8/4	10W
TY-30X	100 CT.	100	8/4	2W
TY-31X	200 CT.	50	8/4	2W
TY-32X	200 CT.	2	2000 CT.	200 MW
TY-33X	400 CT.	5	16/8/4	200 MW
TY-34X	400 CT.	5	2000 CT.	200 MW
*TY-35X	500 CT.	2	150 CT.	100 MW
TY-36X	2000	2	1500 CT.	200 MW
*TY-37X	2000 CT.	4	8000 CT.	200 MW
*TY-38X	3000 CT.	4	1000 CT.	200 MW
TY-39X	4000 CT.	4	16/8/4	200 MW
TY-40X	5000	1	200 CT.	100 MW
TY-41X	16000	1	4000	100 MW
TY-42X	20000	.5	8/4	100 MW
TY-43X	20000	.5	800 CT.	100 MW
TY-44X	1000	10	16/8/4	200 MW

Continued on TRIAD Page 2

* Available in XT mounting for printed circuit board use as TY-35XT, TY-37XT and TY-38XT.

‡Static Shield •New item

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

MINIATURES (Continued)

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
*TY-45X	500 CT.	5	16/8/4	200 MW
TY-46X	100	100	1000 CT.	250 MW
TY-47X	2000 CT.	10	16/8/4	200 MW
TY-48X	100 CT.	40	16/8/4	.5 W
TY-49X	500 CT.	12	5000 CT.	300 MW
TY-50X	125000	0	2000 CT.	40 MW
*TY-51X	2000 CT.	10	200 CT.	50 MW
TY-52X	20000 CT.	1	2000 CT.	100 MW
TY-53X	200 CT.	10	400 CT.	600 MW
TY-54X	15000	1.5	200 CT.	100 MW
TY-55X	2000 CT.	2	500 CT.	200 MW
TY-56X	10000	1	2000 CT.	50 MW
TY-57X	250 CT.	10	16/8/4	200 MW
TY-58X	125 CT.	15	8/4	200 MW
TY-59X	5000 CT.	1	50000 CT.	200 MW
TY-60X	200000	0	1000	100 MW
TY-61X	100	100	100 CT.	500 MW
TY-62X	10000	2	4	100 MW
TY-63X	48 CT.	275	16/8	5 W
TY-64X	32 CT.	575	16/8/4	10 W
TY-65Z	32 CT.	575	6K/4K/3K	10 W
†TY-20Z	100 CT.	500	16/8/4	10 W
TY-66A	6 CT.	5A	6K/4K/3K	40 W
TY-67A	6 CT.	5A	16/8/4	40 W

* Available in XT mounting for printed circuit board use as TY-45XT and TY-51XT.

†† JO SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	Case
JO-1	600/250/50	50000	0	60-15000	JOA
JO-2	600/250/50	250000	0	100-8000	JOA
JO-3	600/250/50	60000 CT.	0	60-15000	JOA
JO-11	15000	60000	10	50-15000	JOB
JO-12	15000	60000 CT.	10	50-15000	JOB
JO-13	15000-3 Ma.	95000 CT.	10	300-7000	JOB
JO-21	15000	600/250/50	10	50-15000	JOB
JO-22	15000-3 Ma.	600/250/50	10	300-7000	JOB
JO-23	20000 CT.	600/250/50	10	50-15000	JOB
JO-31	600/250/50	600/250/50	10	50-15000	JOB
JO-101	50 h.-2 Ma.				JOB

DC TO AC TRANSISTOR TRANSFORMERS

Type	Primary	Secondary		
TY-75A	12v	115v	60cps	115 watts
TY-76A	12v	115v	60cps	60 watts
TY-468	28v	115v	400cps	60 watts
TY-462	12v	115v	400cps	60 watts

DC TO DC CONVERTER TRANSFORMERS
For use in blocking oscillator type power supplies

No. Type	L.	W.	H.	Mtg. Centers	*Typical Operation Input	Output
TY-200X	1⅝	⅞	13/16	1⅜	3VDC @ 20 Ma.	1050VDC @ 25 μa
TY-201TZ	½	7/16	7/16	—	4VDC @ 15 Ma.	500VDC @ 50 μa
TY202X	1⅝	⅞	13/16	1⅜	4VDC @ 45 Ma.	550VDC @ 80 μa

POWER COMPONENTS
HERMETICALLY SEALED

Combined PLATE and FILAMENT Transformers
Primary 115V — 50/60 cycle

Type No.	Plate Supply AC Volts	DC Ma.	Filaments	F Dim. (Min.) Inches	Case
HSM-200	120	100	6.3 CT.-1.6A.	⅞	FA
HSM-201	500 CT.	20	6.3 CT.-2A.	1⅜	GA
HSM-202	120	20	6.3 CT.-.6A.	⅞	EA
HSM-203	600 CT.	50	6.3 CT.-2.5A. 5 -2A.	1⅜	JB
HSM-205	700 CT.	70	6.3 CT.-3A. 5 -3A.	1⅜	JA
HSM-207	700 CT.	120	6.3 CT.-5A. 5 -3A.	1⅜	KA
HSM-208	626 CT.	200	6.3/5.0-3A. 6.3 CT. 5	1⅜	KA
HSM-241	700 CT.-70V. bias.tap.	150	6.3 CT.-6A. 6.3-V. -2A. 5 -3A.	1⅜	LA
HSM-212	1000/800 CT.	150 (ch. in.) 117 (cd. in.)	6.3/5-4A. 6.3 CT.-4A. 6.3 V-4A.	1⅜	LA
HSM-245	800/700 CT. 70 V. bias tap.	200	6.3 CT.-6A. 6.3-V. -4A. 5 -6A.	1⅜	MA
HSM-216	1000/800 CT.	200 (ch. in.) 157 (cd. in.)	6.3/5-4A. 6.3 CT.-5A. 6.3-5A.	1⅜	MA
HS-247	800/700 CT. 70 V. bias tap.	300	6.3 CT.-8A. 6.3-V. -4A. 5 -6A.	1⅜	GP-15
HSM-218	1000/800 CT.	300 (ch. in.) 235 (cd. in.)	6.3/5-6A. 6.3 CT.-6A. 6.3-6A.	1⅜	GP-15
HSM-219	760 1600 CT. (115/230 pri.)	40/230 (ch.input)		Spcl.	GP-15

All types electrostatically shielded
GP-15 dimens. 4¾" x 57/8" x 65/8" high. Wt. approx. 22 lbs.
Mtg. centers 3¾" x 47/8".

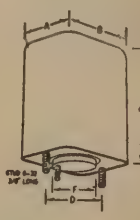


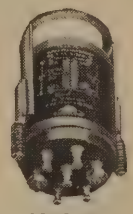
HS Series

Combined PLATE and FILAMENT Transformers
Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Plate Supply AC Volts	DC Ma.	Filaments	Insur. Test Volt.	F Dim. (Min.) Inches	Case
HS-401	500 CT.	40	6.3 CT.-1A. 6.3-1A	1500	⅞	EB
HS-400	125	25	6.3 CT.-8A.	1500	23/32	AH
HS-404	500 CT.	120	6.3 CT.-3A. 6.3/5.0-3A.	1500	⅞	FA
HS-405	600 CT.	70	6.3 CT.-2A. 6.3-2A. *6.3-2A.	1500	1⅜	GA
HS-407	600 CT.	120	6.3 CT.-3.5A. 6.3-3.5A. *6.3/5-3A.	1500	1⅜	JB
HS-409	700 CT.	150	6.3 CT.-4A. *6.3/5-3A.	1500	1⅜	HA
HS-413	450 CT.	200	6.3 CT.-6A. 6.3 -6A. *6.3/5-4A.	1500	1⅜	JA
HS-415	800/600 CT.	200	63. CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1⅜	KB
HS-417	800/600 CT.	300	6.3 CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1⅜	LA

* Tapped for 5 volt rectifier use. All types electrostatically shielded.




JO Series

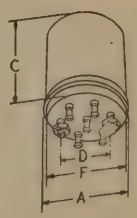
SOLID STATE LOW-VOLTAGE TRANSFORMER
Primary 10/115/125 volts — 50/60 cycles

Type No.	Secondary AC Volts	RMS Amps	Rectifier Circuit CT. Full Wave	Bridge FW	Case
•HSM-248	35 CT.	3	14.5v	29v	KA

AUDIO INTERSTAGE Transformers

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output	Shld'g	Case
HS-25	15000	1:2.72 overall	20-20000	75 MW	P-1	GP-4
HS-35	15000	1:2.72 overall	20-20000	26 MW	P-1	GP-2
HS-27	20000/5000	1:1.72 overall	20-20000	130 MW	P-1	GP-4
HS-29	20000/5000	1:2 overall	20-20000	20 MW	P-5	GP-4
HSM-31	20000/5000	1:1 or 2:1	20-20000	3 W		FA
HS-32	15000 (6 Ma.)	1:2 overall	20-15000	200 MW	P-1	GP-5

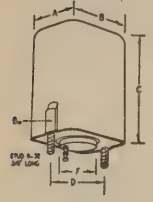
•New item



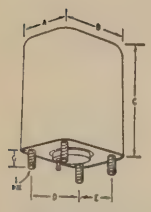
© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

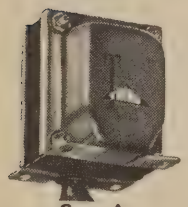
A DIVISION OF LITTON INDUSTRIES



GP 1, 2, 3



MIL-T-27A CASE



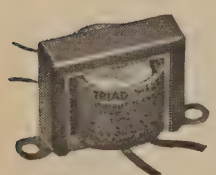
Case A



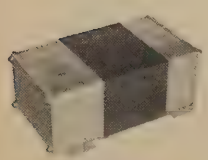
PL-4 PL-5



PL-6



Case X



Case SC

POWER OUTPUT to Line and VC. Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-Watts	Freq. Resp.	** Case
HS-71	10000 (10 Ma.)	600/150	2	150-15000	AH-2
HS-73	5000 (40 Ma.)	500/250/16/8/4	5	70-15000	AJ-2
HS-75	1000 CT. (50 Ma. bal.)	500/250/16/8/4	10	100-25000	EB
HS-77	9000 CT. (120 Ma. bal.)	500/250/16/8/4	25	70-20000	GA

LOW LEVEL AUDIO

AUDIO INPUT TRANSFORMERS Hermetically Sealed

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output MW	Shld'g	** Case
HS-1	600*/250*/150/62.5	1:11.3	20-20000	10	P-5	GP-4
HS-11	Same as above				P-1	GP-2
HS-3	600*/250*/150/62.5	1:14 overall	20-20000	10	P-5	GP-5
HS-4	Same as above				P-3	GP-4
HS-14	Same as above				P-1	GP-3
HS-15	600*/250*/150/62.5 (10 Ma.)	1:8 overall	30-20000	100	P-3	GP-5
HS-5	30	1:65.2	40-12000	1	P-5	GP-4

*Balanced center tap.

OUTPUT, MIXING, MATCHING, BRIDGING

Type No.	Primary Imped.	Secondary Impedance	Freq. Resp.	Power Output MW	Shld'g	** Case
HS-50	15000	600*/250*/150/62.5	20-20000	400	P-3	GP-4
HS-60	15000	600*/250*/150/62.5	20-20000	20	P-1	GP-2
HS-61	15000 (5 Ma.)	600*/250*/150/62.5	40-15000	200	P-1	GP-5
HS-52	20000 CT./5000	600*/250*/150/62.5	20-20000	400	P-1	GP-4
HS-54	20000 CT./5000	600*/250*/150/62.5	20-20000	10	P-5	GP-4
HS-56V	600*/250*/150*62.5	600*/250*/150/62.5	10-30000	100	P-3	GP-4
HS-66	600*/250*/150*62.5	600*/250*/150/62.5	10-30000	100	P-1	GP-3
HS-58	600*/250*/150*62.5	600*/250*/150/62.5	20-20000	50	P-3H	GP-5

* Balanced center tap.

POWER COMPONENTS

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HSM-223	115	6.3	0.6	1500	AJ-2
HSM-225	105-115-125	6.3 CT	2	1500	EA
HSM-226	105-115-125	6.3 CT.	3.6	1500	FA
HSM-224	105-115-125	6.3 CT.	5.5	2500	HB
HSM-234	105-115-125	†6.3 CT. 6.3	10 10	2500	KA
HSM-227	105-115-125	†6.3 CT. 6.3	3 3	2500	GA
HSM-229	105-115-125	6.3 CT.	8	2500	JB
HSM-233	105-115-125	12.6 CT.	.8	1500	EA
HSM-237	105-115-125	12.6 CT.	2	2500	FA
HSM-230	105-115-125	24 CT.	0.8	1500	FA
HSM-239	105-115-125	24 CT.	1.5	2500	GA
HSM-240	115/230	†12.6 CT. †12.6	1.5 1.5	2500	GA
HSM-236	105-115-125	†12.6 CT. 12.6	2 2	2500	JB
HSM-228	105-115-125	†6.3 CT. 6.3	6 6	2500	JA
HSM-231	105-115-125	6.3 CT. 5 CT.	5 3	2500	JB
HSM-235	105-115-125	2.5 CT. 10 CT.	10 10	7500 2500	MA
HSM-238	105-115-125	†26 CT. †26	2 2	2500	JA

† Series or parallel connections.
** See case chart Triad Page 15.

FILAMENT Transformers, 380/1500 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HS-436	115	6.3 CT.	1	1500	AH
HS-425	105-115-125	6.3 CT.	2	1500	AJ-2
HS-427	105-115-125	6.3 CT.	5	2500	EA
HS-445	105-115-125	12.6 CT.	3	2500	FA
HS-438	105-115-125	24 CT.	1.5	1500	EA
HS-433	105-115-125	*6.3 CT. *6.3	5 5	2500	FA
HS-435	105-115-125	*6.3 CT. *6.3 †6.3/5	3.5 3.5 3	2000	FA
HS-441	105-115-125	*5 CT. *5 2.5 CT.	10 10 10	2000 7500	HA
HS-443	105-115-125	*12.6 CT. *12.6	0.8 0.8	1500	AJ-2
HS-442△	57.5-99.7-115-120 Single phase.	*12.6 CT. *12.6	2 2	1500	EA
HS-444△	57.5-99.7-115-120	*26 CT. *26 CT.	2 2	2000	FA

△ Two Units can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected. * Series or parallel connection. † 5 volt tap for filament type rectifiers.

UNIVERSAL RECTIFIER POWER SUPPLY TRANSFORMERS Primaries 115 Volts, 50/60 Cycles

Type No.	DC Range	MIL Case
HSM-249	6V.-.065A. to 53V.-.02A.	AH
HSM-250	6V.-.22A. to 53V.-.07A.	AJ
HMS-251	6V.-1.2A. to 53V.-.4A.	FA
HSM-252	6V.-3A. to 53V.-1A.	HA
HSM-253	6V.-7.5A. to 53V.-2.5A.	KA
HSM-254	6V.-18A. to 53V.-6A.	OA

HIGH FIDELITY OUTPUT

HIGH LEVEL OUTPUT — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Freq. Resp.	Max. Level Watts	F Di. Min. In.	** Case
HSM-79	20000 CT. (20 Ma.) or 5000 (40 Ma.)	16/8/4	40-20000	5	1⅜	FA
HSM-80	20000 CT. (20 Ma.) or 5000 (40 Ma.)	600 CT./250CT./150/62.5	40-20000	5	1⅜	FA
HSM-81	8000 CT. Split primary.	16/8/4	7-50000	15	1⅜	JB
HSM-82	8000 CT. Split primary.	600/250/125	7-50000	15	1⅜	JB
*HSM-182	8000/2000 CT. Split primary.	600/250/125	7-50000	15	1⅜	JB
HSM-84	5000 CT. Split primary.	16/8/4	15-30000	20	1⅜	JB
†HSM-184	8000 CT. Split primary.	16/8/4	10-50000	25	1⅜	KB
†HSM-189	10000 CT. 2500 CT. Split primary.	16/8/4	7-50000	25	1⅜	KB
†HSM-190	10000 CT. 2500 CT. Split primary.	500/250/125	7-50000	25	1⅜	KB
†HSM 187	6600 CT. or 1650 CT. Split primary.	500/250/125	7-50000	25	1⅜	KB

† Tapped for Williamson circuit.

(Continued on next page.)

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

HIGH FIDELITY OUTPUT (cont.)

HSM-94	4500 CT. (Split Wind'g)	16/8/4	7-50000	55	1⅜	LA

HIGH LEVEL OUTPUT

Type No.	Primary Impedance	Secondary Impedance	Output Watts
S-34X	4000 CT.	32/16/8	7.5
S-31A	8000 CT.	16/8/4	15
S-32A	8000 CT.	500/250/125	15
†S-142A	8000 CT.	16/8/4	15
S-35A	5000 CT.	16/8/4	20
S-36A	5000 CT.	500/250/125	20
†S-146A	6600 CT.	16/8/4	25
S-149A	3300 CT.	16/8/4	50
SR-45Z*	4000/2000/1000/500	16/8/4	10
S-46A	2000/1000/500/250	16/8/4	20
†SX-201	3300 ohms CT.	4-8-16 ohms	10-15
†SX-202	4500 ohms CT.	4-8-16 ohms	10-15
SX-203	5000 ohms	4-8-16 ohms	5-7
SX-204	5000 ohms CT.	4-8-16 ohms	10-15
SX-205	6600 ohms CT.	4-8-16 ohms	10-15
†SX-206	6600 ohms CT.	4-8-16 ohms	10-15
†SX-207	8000 ohms CT.	4-8-16 ohms	10-15
SX-208	8000 ohms CT.	4-8-16 ohms	10-15

† Williamson type circuit. Proper taps on primary for screen operation, leads out both end bells.
* Replaces S-45Z.

LINE POWER

ISOLATION Transformers, 50/60 cycles

(See Triad page 6 for 380/1500 cycle isolation transformers)

Type No.	V. A. Output	Input Volts	Output Volts
N-48X	15	115	115
N-49X	35	115	57.5/115§
N-51X	35	115	115
N-68X	50	230/115	115
N-53M	85	115	115
N-54M	150	115	115
N-73A	150	115	115/230
N-74A	150	115	57.5/115
N-67A	150	230/115	115
*N-55M	250	115	115
N-66A	250	230/115	115
*N-57M	500	115	115
*N-59M	1000	115	115
†N-52M	350	95 to 130 (in 5V steps)	115
†N-56M	150	95 to 130 (in 5V. steps)	115

†With switch and meter for primary voltage control. Detachable cord. § Split Winding.
*Available with 3-wire cord, plug and socket as N-55MG, N-57MG and N-59MG.

N-469A	50	440/220	115
N-470A	150	440/220	115
N-471A	300	440/220	115

CONSTANT VOLTAGE TRANSFORMERS

Type No.	Rating V. A.	Input Volts	Output Volts
K-48U	24 24	95-130 95-130	24 CT. 24 CT.
K-100	30	95-130	118
K-101	60	95-130	118
K-102	120	95-130	118
K-103	250	95-130	118
K-104	500	95-130	118
K-105	750	95-130	118
K-106	1000	95-130	118

PULSE TRANSFORMERS BLOCKING OSCILLATOR TYPE

Type No.	Pulse Voltage per Winding	Pulse Duration—us	Load Impedance —Ohms
PL-4	100-100	.54 to .66	500*
*PL-5	100-100-100	.36 to .54	2000*
PL-6	100-100-100	.36 to .54	2000*

* As blocking oscillator in Triad circuit. Can be used with lower impedances and higher peak power at lower duty cycle.

Note: Last letter of Type No. denotes case style.

FILTER REACTORS

Type No.	Current DC Ma.	Inductance *Henries	Resistance Ohms	Insulation Test Voltage
HSM-301	20	30	1000	1500
HSM-302	20	14	560	1500
HS-331	40	4	375	1500
HS-303	50	12	385	1500
HS-333	70	3	225	1500
HSM-305	70	15	300	2500
HS-335	120	3	150	1500
HSM-307	120	15	185	2500
HSM-309	150	9	115	2500
HS-339	200	3	105	2000
HSM-315	200	10	100	2500
HS-341	300	2	48	2000
HSM-319	300	10	85	2500

Minimum Inductance—20%

STEPDOWN Autoformers, 50/60 cycles

Type No.	V. A. Output	Input Volts	Output Volts
N-1X	50	230	115
N-3M	85	230	115
N-4M	150	230	115
N-5M	250	230	115
*N-7M	600	230	115
*N-9M	1250	230	115
*N-11M	2000	230	115
N-34X	150	95/105/115/125/135	115
†N-35M	250	95 to 130 (in 5V. steps)	115
†N-50M	500	95 to 130 (in 5V. steps) With switch and meter.	115

† M case with switch for primary voltage control and detachable cord.
* Available with 3-wire cord, plug and socket as N-7MG, N-9MG and N-11MG.

TRIGGER—PHOTOFLASH transformers

Type No.	Application	Turns Ratio	Primary Inductance	Leakage Inductance	Output Volts or Volt—μSec Rating
PL-10	Photoflash	1:30	15 μH	1.5 μH	6-8 KV
PL-11	Photoflash	1:30	2 μH	1 μH	10-12 Kv
PL-20	SCR Trigger	1:1	200 μH	8 μH	2000 VμSec
PL-21	SCR Trigger	1:1:1	200 μH	8 μH	2000 VμSec
PL-30	SCR Trigger	1:1:1	7.5 μH	90 μH	130 VμSec
PL-31	SCR Trigger	1:1	7.5 μH	90 μH	130 VμSec
PL-32	SCR Trigger	2:1	7.5 μH	100 μH	130 VμSec
PL-33	SCR Trigger	2:1:1	7.5 μH	100 μH	130 VμSec
PL-34	SCR Trigger	5:2	7.5 μH	115 μH	130 VμSec
VR-30Z	For photoflash applications from 115V-60 cycle line or 4 volt-180 cy. vibrator to 350V RMS @ 14 ma.				

HIGH SPEED FERRITE TOROIDAL CORE LOW POWER

Type No.	Turns Ratio	Pulse Width μ Sec.	Rise Time μ Sec.	Repetition Rate	Suggested Load Ohms	Volts
PL-80E	1-1	.07	.03	1-2 Mc	200	15
PL-81E	2-1	.07	.03	1-2 Mc	200	20
PL-82H	3-1	.08	.03	1-2 Mc	100	15
PL-83H PL-83P	4-1	.08	.03	1-2 Mc	100	15
PL-84E PL-84H	5-1	.08	.03	1-2 Mc	100	15

The letter "H" indicates Hermetically Sealed, the letter "P" indicates Miniature Plug-in and the letter "E" indicates Epoxy Molded.

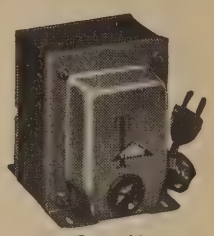
LOW SPEED SILICON CORE LOW POWER

Type No.	Pulse Voltage per Winding	Pulse Duration—μ Sec.	Load Impedance —Ohms
PL-124H	300-300-300	.6 to 5	150
PL-140H PL-140M	100-400-100	.6 to 5	175
PL-139E PL-139H PL-139M	100-100	.3 to 1.5	250
PL-146E PL-146H PL-146M	300-300	.6 to 5	250

Letter "M" indicates MIL type case. For pulse types only.



Case B



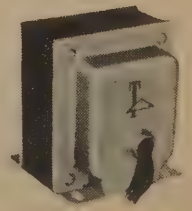
Case M



Case M with Meter



Case C



Case AC

© United Technical Publications

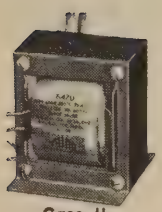
TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

Instrument POWER SUPPLY Transformers

For PREAMPLIFIERS, VTVM, etc.
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filament Windings Volts and Amperes
R-68A	800 CT.	30	5V.-2A, 6.3V-1.2A, 6.3V-1.2A.
R-2C	135	15	6.3V-.9A.
R-23B	250 CT.	22	6.3-.8A. 15.5/12.6V-.6A.
R-3A	500 CT.	20	6.3V CT.-2A.
•R-53Z	500 CT.	25	6.3V-1A.
R-29A	230 CT.	40	6.3V.CT.-1.5A.
R-30X	135	50	6.3V.-1.5A.
R-54X	115	15	6.3V.-.6A.
R-56A	130	20	0/15/22.5/30V-.6A.
R-73B	135	200	6.3V CT.-5.5A.

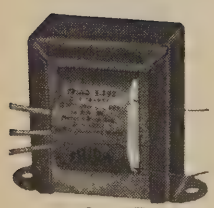


Case U

For CATHODE RAY Tubes
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filament Windings Volts and Amperes	
R-41C	440-0-440-1250.	125/5	*6.3V.-.6A. †2.5V.-1.75A.	†2.5V.-1.75A. 5V.-3A.
R-45C	400-0-400-800.	30/5	*6.3V.-.6A. 6.3 CT.-3A. †5V.-2A	6.3V.-1A. 5V.-2A.
R-43C	1600	3	*6.3/5/2.5V.-1A. †6.3/5/2.5V.-3A.	

* Static shielded and insulated for full plate voltage.
† Insulated for full plate voltage.



Case Z

UNIVERSAL RECTIFIER Transformers
Primary 60 cycles
These transformers are for use with solid-state rectifiers. Rectifiers NOT included.

Type No.	Primary Volts	Secondary AC Volts	Secondary Amperes RMS	Half Wave Volts DC	Full Wave Volts DC
F-47U	115	17-18	3	6-7	13-14
F-48U	115	17-18	6	6-7	13-14
F-49U	115	36 36	3 3	13	26
F-60U	115	6.5-13-19.5-26	3	9	18
F-61U	115	24-27-30 33-36	3	13	26
F-67U	110-120	24-27-30-33-36	8	13	26
F-63U	115	8-9 8-9	2 2		6-7
F-64U	115	7-8-9	7		6-7
F-62U	105-115-125	9-9-9-9	10 ea. wdg.		6-7 ea. wdg.
F-68U	115	9 CT. 9 9 9	3.5 3.5 3.5 3.5		6-7 ea. wdg.
F-65U	110-120	140-150-160	.75	60	115
F-66U	110-120	140-150-160	2.5	60	115
•F-74U	115	14-28 14-28		2 series conn. 4 parallel conn.	
•F-75U	115	14-28 14-28		4 series conn. 8 parallel conn.	
F-79U	115	24-26-28-30	15	11.4	22.8
F-80U	115 tapped for mult. sec.	12 to 18 or 24 to 36CT	40 20	—	13
F-84AC	230-115	24CT or 12CT	10 20	—	8.5
F85U		5 or 7.5CT 5 or 7.5CT	20 20		1500 1500
F-90X	115 tapped	40CT-20CT-10	100ma	15	30
F-91X	115 tapped	40CT-20CT-10	300ma	15	30
F-92A	115 tapped	40CT-20CT-10	1 amp	15	30
R-93A	115	6.3CT (voltage doubler circuit) 150-160-170	6 (500ma)	65	120
F-93X	115 tapped	40CT-20CT-10	750ma	15	30
F-94X	115 tapped	40CT-20CT-10	35ma	15	30

• New item.



Case AL



Case X

For REGULATED POWER SUPPLIES
Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma. Choke Input	Filament Windings Volts and Amperes	
R-70A	880 CT.	75	6.3V.-.6A. 6.3V.-.3A.	6.3V.-.9A. 6.3V.-3A.
R-26A	880-720 CT.	200	6.3 CT.-8A. 6.3V.-1A.	6.3V.-3A. 5V.-3A.
R-28A	1250 CT.	300	6.3 CT.-8A. 6.3V.-3A.	6.3V.-3A. 5V.-6A.
R-46A	1250 CT. 130 (Bias winding)	350	5V.-4A.	6.3V.-4A. 6.3V.-1A. 6.3V.-1A.

R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenuim rectifier. Sufficient filament windings to regulate screen voltages.

R-27A	1500 CT.	400	5V.-6A.	6.3V.-3A. 6.3V.-8A.

UNIVERSAL
Isolation, Autoformer, Voltage Control 50/60CPS

Type No.	V.A. (Isolation)	V.A. (Autoformer)
N-64AC	500	1000
N-62AC	1000	2000
N-60SC	2000	4000

SOLID STATE RECTIFIER POWER TRANSFORMERS
Primary 117 volts — 50/60 cycles

Type No.	Secondary No. 1 Volts	Secondary No. 1 MADC	Secondary No. 2 Volts @ A		Secondary No. 3 Volts @ A		Mounting Centers
R-82B	35-0-35	3.5 Amp.	—	—	—	—	3 x3¾
R200A	200-0-200	400	6.3	3	6.3	3	2¾x3⅛
R201A	150-0-150	600	6.3	2.5	6.3	2.5	2¾x3⅛
R202A	100-0-100	800	6.3	2	6.3	2	2¾x2⅜
R-203A	50-0-50	1600	6.3	1.5	6.3	1.5	2¾x2¹¹⁄₁₆
R-204A	40-0-40	2000	6.3	1.5	6.3	1.5	2¾x2⅜
R-205A	30-0-30	2500	6.3	1.5	6.3	1.5	2¾x2¹¹⁄₁₆
R-206B	27-0-27	1.9 Amp.	—	—	—	—	2½x3⅛
R-208A	40-0-40	1.2 Amp.	—	—	—	—	2¼x2½
•F-58A	25-0-25	5 Amp.	—	—	—	—	3 x3⅛

FILAMENT Transformers, Single Secondary
Primary 115 volts — 50/60 cycles

Type No.	Secondary Volts	Secondary Amperes	Test Volts
F-1X	2.5 CT.	3	1500
*F-72Z	2.5 CT.	5	7500
F-6X	2.5 CT.	6	2500
*F-3X	2.5 CT.	10	3000
F-5U	2.5 CT.	10	7500
*F-71U	2.5 CT.	10	10000
F-7X	5 CT.	3	1500
F-8X	5 CT.	6	1500
F-12X	5 CT.	8	2500
*F-10U	5 CT.	14	10000
F-9U	5.2 CT.	13	1500
*F-15U	5 CT.	15	3000
F-11U	5.2 CT.	24	1500
F-13X	6.3	.6	1500
*F-14X	6.3 CT.	1.2	2500
F-52X	6.3	1.2	5000
*F-51X	6.3/5	2	5000
F-53X	6.3	4	5000
F-16X	6.3 CT.	3	2500
*F-43X	6.3	4	1500
F-18X	6.3 CT.	6	1500
F-18A	6.3 CT.	6	1500
F-19X†	6.3/6 CT.	6	2000
F-21A	6.3 CT.	10	1500
F20U†	6.3/6 CT.	11	3000
*F-17U	6.3 CT.	15	Pri. 1500 Sec. 10000
F-22A	6.3 CT.	20	2000
F-24U†	7.5/6.3 CT.	8	3000
F-28U†	7.5/6.3 CT.	25	3000
F-23U	10 CT.	7	1500
F-29U†	12/11/10 CT.	11	3000
F-25X	12.6 CT.	1.5	1500

* 60 cycles. † Tapped primary to produce lower voltages.

(Continued on next page.)

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

*F-44X	12.6 CT.	2	1500
*F-26X	12.6 CT.	2.5	1500
*F-45X	24 CT.	1	1500
F-46X	24	1	1500
•F-57X	25.2	1	1500
*F-41X	25.2 CT.	2	1500
•F-56X	25.2	2.8	1500
*F-40X	26.8 CT.	1	1500
F-55X	26.8	1.7	1500
*F-50X	Filament line transformer Pri. 6.3V/5V Sec. 6.3/5V 2A		5000
F-54X	35 CT.	1.5	1500
†F-58A	50 CT.	5.0	1500
†F-59A	60 CT.	.4	1500

* 60 cycles.

CHOKES

SWINGING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-31A	25/5	20/200	150	2500
C-33A	25/5	30/300	105	3000
C-32AL	20/4	35/350	105	5000
C-35A	20/4	40/400	65	3000
C-39A	25/5	50/500	65	3000

SMOOTHING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-30X	50	15	3500	1500
C-2X	2	15	70	1500
C-1X	15	20	1000	1000
C-3X	10	50	500	1500
C-4X	4	50	360	1500
C-6X	5	65	330	1500
C-5X	12	75	390	1000
C-8X	7	75	240	1500
C-7X	10	90	270	1000
C-9X	4	90	100	1500
C-11X	6	110	160	1500
C-10X	9	125	250	1000
C-12X	6	160	165	1500
C-12A	6	160	165	1500
C-13X	3	160	75	1500
C-14X	6	200	150	1500
C-14A	6	200	150	1500
C-16A	10	200	150	2500
C-21X	1.5	225	65	1500
C-15X	4	250	100	1500
C-15A	4	250	100	1500
C-23X	1.2	260	45	1500
C-24X	1	240	50	1500
C-27X	.7	290	25	1500
C-36X	.5	300	30	1500
C-17X	1.5	300	40	1500
C-18A	8	300	90	2500
C-19A	10	300	105	3000
C-25A	2.6	310	44	1500
C-42AL	8	350	105	5000
C-34X	.6	350	35	1500
C-28X	1	350	35	1500
C-29X	1.5	375	50	1500
C-50X	2	400	40	2500
C-20A	6	400	60	3000
C-22A	10	500	65	3000
C-45AL	10	500	65	5000
C-40X	.32	600	10	1500
C-47U	.3-.075	1A-2A	3-.75	1500
C-48U	.08-.02	2.5A-5A	.57-.143	1500
C-49U	.032-.008	5A-10A	.19-.05	1500
C-80U	.024-.006	20A-40A	.1/.025	1500
C-56U	.035	2.0A	.75	1500
C-57U	.025	4.0A	.55	1500
C-58U	.01	8.0A	.15	1500
C-59U	.01	12.5A	.10	1500
C-60U	.005	22.5A	.06	1500

ISOLATION Transformers

Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Secondary Volts	Amp.	V. A.	F Dim. (Min.) Inches	Case
HS-470	115	.35	40	⅞	EA
HS-471	115	.7	80	⅞	FA
HS-472	115	1.4	160	⅞	GA
HS-474	115	2.6	300	⅞	JA
HS-475	115	4.4	500	⅞	KA

† New item

60 cycle — hermetically sealed. Primary 115/230 volts

Type No.	secondary volts	amp.	V.A.	F dim. (Min.) Inches	Case
HSM-270	105-115-125	.4	50	1	JB
HSM-271	105-115-125	1	125	1	KA
HSM-272	105-115-125	2	250	1 1/16	NB

All isolation transformers electrostatically shielded.

FILAMENT Transformers, Multiple Secondary

Primary 115 volts — 60 cycles

Type No.	Secondary Volts and Amperes		Test Volts RMS
F-27U	10 CT.-10A.	2.5 CT.-10A.	1500 7500
F-32A	6.3 CT.-3A.	6.3 CT.-3A.	1500
F-34A	6.3 CT.-1.75A. 6.3V.-1.75A.	6.3V.-1.75A. 6.3V.-1.75A.	1500
F-36A	6.3 CT.-3.5A. 6.3V.-3.5A.	6.3V.-3.5A. 6.3V.-3.5A.	1500
F-38A	6.3 CT.-5A. 6.3V.-1A. 5V.-4A.	6.3V.-5A. 5 CT.-2A.	1500
F-42A	12.6 CT.-2.5A.	12.6-2.5A.	1500
F-83A	12.6 CT. 12.6 CT.	5 5	1500

AUDIO TRANSFORMERS

Low Level High Fidelity

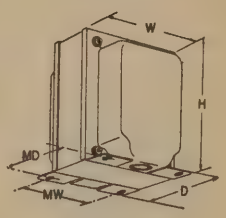
Type No.	Application	Frequency Response	Primary Impedance	Turns Ratio
A-9J	line or mike to grid	30-15000	600/250/50	12
A-10J	line to grid	30-15000	600/150 split wdgs.	10.5
A-11J	line or mike to grid 60-80DB shielding	30-15000	600/250/50	10
A-12J	same as A-11J	30-15000	600 CT./150 split windings	10
A-13J	line to transistor or line to line (70 db Shldg)	30-15000	600/300/ 200 CT./110/50 split windings	1
A-40J	par. fed 6J5 or 6SN7 plate to P.P. grids	30-15000	15000	2.76
A-52J	line or transistor to line or transistor	30-15000	500 CT./125 20 MA. D.C. Split Winding	2
A-55J	par. fed 6J5 or 6SN7 to line	30-15000	15000	5
A-56J	line or transistor to Voice Coil	30-15000	500 CT./125 15 MA. D.C. Split Winding	5.6
A-61J	line to 2 lines or transistors	60-15000	600/150 split wdgs.	1.41:1:1
A-65J	par. fed 6J5 or 6SN7 to line	30-15000	15000 CT.	5
A-66J	same as A-65J— 4 ma DC in primary	40-15000	15000	5
A-67J	line to line	30-15000	600 CT./150 split windings	1
A-68J	pp plate to line 4 ma DC in primary	40-15000	150000 CT.	5
A-69J	pp plates or bridging to line 3 MA. D.C. in Primary	50-20000	25000 CT./ 6250 Split Winding	7.1
A-70J	line or transistor to line or transistor	30-15000	500 CT./125 Split Winding	2.24
A-77J	Audio choke — dual winding	250 henries - 5 ma DC 62.5 henries - 10 ma DC		
A-57J	line or transistor to line	30-15000	600/250/50	1:1
A-79J	Transistor inter-stage 10ma in primary	20-15000	1000	2.2

Line or Microphone to Grid

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-1X	Line or single button mike to grid.	100-15000	100	31.4
A-3X	Line or D.B. mike to grid.	200-10000	400 CT.	22.1
A-4X	Line to grid.	100-20000	500 CT./ 333/200 CT./125/ 67.5/50	12
A-5X	Single button mike to p.p. grids—Hi-gain.	100-15000	100	84
A-6X	Speaker V.C. to grid	150-20000	8/3.2	79.6
A-7J	Voice coil to grid	150-10000	3.2	124



Case A



Case A

Triad J Series offers flexibility enabling your amplifiers to exceed broadcast standards. Although economy in construction has cut costs, these transformers approach and closely approximate performance characteristics found in more costly hermetically sealed parts. Single hole mounting provides for rotation for maximum reduction of hum . . . alloy shielding gives you 40-60 db hum reduction (60-80 db in Types A-11J & A-12J) . . . you can obtain wide frequency ranges . . . flexible leads facilitate ease in mounting . . . input units are electrostatically and magnetically shielded . . . light weight and encased in Triad's satin smooth baked gray enamel cases, 1⅜" diameter, 1¾" above chassis . . . legible circuit diagrams are permanently affixed to every case.

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

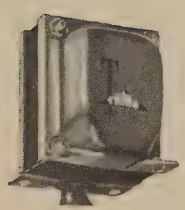
AUDIO OUTPUT TRANSFORMERS
Line to Voice Coil

Type No.	Primary Impedance	Output Imped.	Output Watts	Freq. Resp.
S-23X	50 (autoformer).	3.2	1	100-8000
S-26X	500/50 (autoformer).	3.2	4	100-8000
S-65X	500	8/4	5	300-7000
S-66X	500 (autoformer).	16/8/4	3	100-10000
S-76Z	250/125/62.5/31	16/8/4	10	40-15000
S-77U	500 CT./125 split wdgs.	32/16/8/4/2	30	40-15000

POWER

Combined PLATE and FILAMENT Transformers
Primary 115 volts — 60 cycles

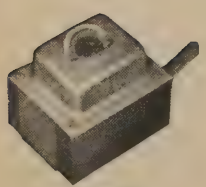
Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Rect. Fil. Volts	Rect. Fil. Amp.	Other Fil. Volts	Other Fil. Amp.
R-22A	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-22B	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-4A	500 CT.	40			6.3 CT.	2
R-4B	500 CT.	40			6.3 CT.	2
R-5A	600 CT.	65			6.3 CT.	2.7
R-5B	600 CT.	65			6.3 CT.	2.7
R-6A	480 CT.	50	5	2	6.3 CT.	2
R-6B	480 CT.	50	5	2	6.3 CT.	2
R-7A	600 CT.	50	5	2	6.3 CT.	2
R-7B	600 CT.	50	5	2	6.3 CT.	2
R-8A	500 CT.	75	5	2	6.3 CT.	2.5
R-8B	500 CT.	75	5	2	6.3 CT.	2.5
R-9A	600 CT.	75	5	2	6.3 CT.	3
R-9B	600 CT.	75	5	2	6.3 CT.	3
R-10A	525 CT.	90	5	2	6.3 CT.	5
R-10B	525 CT.	90	5	2	6.3 CT.	5
R-11A	700 CT.	90	5	2	6.3 CT.	3.5
R-11B	700 CT.	90	5	2	6.3 CT.	3.5
R-98B	650 CT. 40 Tap.	100	5	3	6.3 CT.	3
R-12A	550 CT.	110	5	2	6.3 CT.	5
R-12B	550 CT.	110	5	2	6.3 CT.	5
R-14A	700 CT.	125	5	3	6.3 CT.	4.5
R-14B	700 CT.	125	5	3	6.3 CT.	4.5
R-16A	700 CT.	160	5	3	6.3 CT.	5
R-16B	700 CT.	160	5	3	6.3 CT.	5
R-17A	750 CT. 80 Tap	160	5	3	6.3 CT. 2.5 CT.	5 5
R-18A	750 CT.	175	5	3	6.3 CT.	8
R-18B	750 CT.	175	5	3	6.3 CT.	8
R-99B	600 CT. 40 Tap.	200			6.3 CT.	4
R-19A	750 CT. 80 Tap	200	5	3	6.3 CT. 2.5 CT.	6 10
R-20A	700 CT.	200	5	3	6.3 CT.	8
R-20B	700 CT.	200	5	3	6.3 CT.	8
R-72A	800 CT.	140	5	3	6.3 CT.	4
R-21A	800 CT.	200	5	3	6.3 CT.	6
R-21B	800 CT.	200	5	3	6.3 CT.	6
R-24A	800 CT.	300	5	6	6.3 CT.	6
R-24B	800 CT.	300	5	6	6.3 CT.	6
R-25A	800 CT.	500	5	6	6.3 6.3 CT.	3 7
R-58A	875 CT.	185	5	3	6.3 6.3	4 3
R-59A	1200 CT.	200	5	3	6.3 6.3	3 3
R-71A	900 CT.	250	5 CT.	4	6.3 CT. 6.3	2 4



Case A



Case B



Case BS

Combined PLATE and FILAMENT Transformers "100" Series

Never have the outstanding features of Triad Combined Plate and Filament Power Transformers been available at such realistic costs. No quality or performance requirement has been overlooked ... specify Triad and be certain. Shielding, impregnation, chatter freedom ... to Triad's demanding quality control standards.

PRIMARY 115 VOLTS 60 CYCLES

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Rect. Filaments Volts	Rect. Filaments Amp.	Other Filaments Volts	Other Filaments Amp.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.
R-104A	500 C.T.	40			6.3 V.C.T.	2	2¾	2⅜	2¼	1¾	1½	1.55
R-104B	500 C.T.	40			6.3 V.C.T.	2	1⅝	2⅝	2⅜	2⅜	1¾	1.55
R-105A	600 C.T.	65			6.3 V.C.T.	2.7	3⅛	2⅝	2½	2	1⅜	2
R-105B	600 C.T.	65			6.3 V.C.T.	2.7	1⅝	3⅛	2½	2½	2	2
R-106A	480 C.T.	50	5	2	6.3 V.C.T.	2	3⅛	2⅝	2⅜	2	1⅞	2.05
R-106B	480 C.T.	50	5	2	6.3 V.C.T	2	1½	3⅛	2½	2½	2	2.05
R-107A	600 C.T.	50	5	2	6.3 V.C.T.	2	3⅛	2⅝	2½	2	1⅜	2.35
R-107B	600 C.T.	50	5	2	6.3 V.C.T	2	1⅝	3⅛	2½	2½	2	2.35
R-108A	500 C.T.	75	5	2	6.3 V.C.T.	2.5	3⅛	2⅝	2⅝	2	1 11/16	2.4
R-108B	500 C.T.	75	5	2	6.3 V.C.T.	2.5	1¾	3⅛	2½	2½	2	2.4
R-109A	600 C.T.	75	5	2	6.3 V.C.T.	3	3½	3	2⅞	2¼	1¾	2.9
R-109B	600 C.T.	75	5	2	6.3 V.C.T.	3	1⅝	3⅛	2⅞	2 13/16	2¼	2.9
R-110A	525 C.T.	90	5	2	6.3 V.C.T.	5	3½	3	3⅛	2¼	2	3.25
R-110B	525 C.T.	90	5	2	6.3 V.C.T.	5	1⅞	3⅛	2⅞	2 13/16	2¼	3.25
R-111A	700 C.T.	90	5	3	6.3 V.C.T.	3.5	3½	3	3⅛	2¼	2	3.25
R-111B	700 C.T.	90	5	3	6.3 V.C.T.	3.5	1⅞	3⅛	2⅞	2 13/16	2¼	3.25
R-112A	550 C.T.	110	5	2	6.3 V.C.T.	5	3½	3	3¼	2¼	2⅛	3.7
R-112B	550 C.T.	110	5	2	6.3 V.C.T	5	2	3⅛	2⅞	2 13/16	2¼	3.7
R-113A	650 C.T.	40	5	2	6.3 V.C.T.	2	3⅛	2⅝	2⅝	2	1¾	2.3
R-113B	650 C.T.	40	5	2	6.3 V.C.T.	2	1¾	3	2½	2½	2	2.3
R-114A	700 C.T.	125	5	3	6.3 V.C.T.	4.5	3⅞	3¼	3¼	2½	2⅜	4.7
R-114B	700 C.T.	125	5	3	6.3 V.C.T.	4.5	2⅜	3¾	3½	3⅛	2½	4.7
R-115A	680 C.T.	70	5	2	6.3 V.C.T.	2.5	3⅜	3	3	2	1 13/16	3.5
R-115B	680 C.T.	70	5	2	6.3 V.C.T.	2.5	2	3	2½	2½	2	3.5
R-116A	700 C.T.	160	5	3	6.3 V.C.T.	5	3⅞	3¼	3¾	2½	2⅝	5.65
R-116B	700 C.T.	160	5	3	6.3 V.C.T.	5	2⅝	3¾	3⅛	3⅛	2½	5.65
R-118A	750 C.T.	175	5	3	6.3 V.C.T.	8	4¼	3⅝	4	2¾	2⅞	7.45
R-118B	750 C.T.	175	5	3	6.3 V.C.T.	8	2¾	4⅛	3½	3 1/16	2¾	7.45
R-120A	700 C.T.	200	5	3	6.3 V.C.T.	8	4¼	3⅝	4⅛	2¾	3	8.25
R-120B	700 C.T.	200	5	3	6.3 V.C.T.	8	2⅞	4⅛	3½	3 1/16	2¾	8.25
R-121A	800 C.T.	200	5	3	6.3 V.C.T.	6	4¼	3⅝	4⅜	2¾	3¼	8.25

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

PLATE POWER Transformers
Primary 115 volts — 50/60 cycles

Type No.	Secondary Volts AC	Secondary Volts DC	Sec. D.C. Ma. CCS	Sec. D.C. Ma. ICAS	Rect. Fil.
P-1A	440/220 CT.	180/90	160	190	5V-3A
P-3A	600/300 CT.	250/125	300	360	5V-4A
P-5A°	1100 CT.	400	250	300	5V-4A
P-7A°	1235 CT.	500	250	300	5V-4A
P-9A	1235 CT.	500	500	600	5V-6A
■P-30A	600 CT. 105 Bias	800**	500 80		6.3V-4A 6.3V-4A
P-11A°	1455 CT.	600	250	300	
P-213AL*†	1780 CT.	750	250	300	
§P-14A	1780 CT.	750/600	250	300	
P-215AL*†	2340 CT.	1000	250	300	
P-216AL*†	2430 CT.	1000	500	600	
P-217AL*†	2880 CT.	1250	250	300	
P218AL*†	2880 CT.	1250	500	600	
P-220AL*†	3300 CT.	1500	350	420	
PR-21AL	3300 CT.	1500	500	600	

** FW bridge, cap. input filter.
† Plate leads out side of case for 866 rectifiers.
§ Tapped Pri. to produce the lower D.C. voltage.
*Pri. is 230/115V.
°60 cycle only.
■ New item.

POWER TRANSFORMERS
Combined Plate and Filament
Electrostatically shielded. Primary 115 volts 60 cycles.

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments — Volts and Amperes
R-37BC	735 V.C.T.	275	5V.—6A. 6.3V.—8.5A. 6.3V./5V.—2A.*
R-38A	750 V.C.T.	225	5V.—3A. 6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-40BC	780/440 V.C.T.	300	5V.—3A. 6.3V.—8.5A. 5V.—3A. 6.3V.—3.5A. 5V.—2A.
R-49BS	650 V.C.T.	240	5V.—3A. 6.3V.—9A. 6.3V.—0.9A. 6.3V.—1.2A.*
R-49BC			
R-50A	790/650 V.C.T.	310	5V.—3A. 6.3V.—5A. 5V.—3A. 6.3V.—5A. 5V.—2A. 6.3V.—2.6A.
R-50BC			
R-51BC	505 V.C.T.	320	5V.—6A. 6.3V.—5A. 6.3V.—5A. 6.3V.—1.2A.*
R-61BC	560 V.C.T.	300	5V.—6A. 6.3V.—6A. 6.3V.—6A. 6.3V.—1.2A.*
R-62BC	680 V.C.T.	290	5V.—6A. 6.3V.—10A. 6.3V.—2.5A. 6.3V.—1.2A.*
R-64BC	520 V.C.T.	270	5V.—3A. 6.3V.—10A.
R-65BC	550 V.C.T.	270	5V. —3A. 6.3V. —10A.
R-67BC	600 V.C.T.	250	5V. —3A. 6.3V. —9A.
R-69BC	550 V.C.T.	270	5V. —3A. 6.3V. —10A.
R-74BC	680 V.C.T.	190	6.3V.—7.8A. 5V.—3A. 6.3V.—1.2A. (damper wdg)

* Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.
Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.

Note: Last letter of Type No. denotes case style.

UNIVERSAL RECTIFIER POWERS

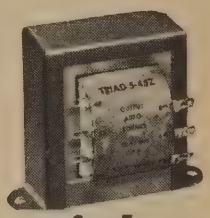
Type No.	Secondary No. 1 AC Volts	Secondary DC Amps Full Wave CT	Secondary DC Amps Bridge	Secondary No. 2 AC Volts DC Amps
F-200A	13 or 18 @ .9 ADC	—	—	13 or 18 @ .9 ADC
F-202U	11.0 to 29.5	2.0	1.25	—
F-203U	12.0 to 30.0	4.0	2.0	—
F-204U	11.5 to 29.0	8.0	4.0	—
F-205U	12.0 to 29.5	12.0	6.0	—
F-206U	12.1 to 29.2	15.0	8.0	—
F-207U	12.2 to 29.0	22.5	12.0	—

AUDIO

Triad Replacement Output Transformers furnish a wide range of size and mounting characteristics . . . specifically engineered for mounting in precise location in chassis. Climatite treated . . . manufactured to exacting quality standards of more costly types . . . progressively designed for advanced circuitry and audio tubes . . . total complete coverage over impedance and wattage ranges . . . Triad units provide finest response in minimum space . . . and outlive all others.

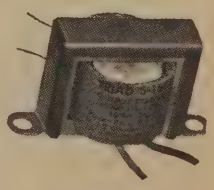
REPLACEMENT OUTPUT TRANSFORMERS
Single Tube To Standard Voice Coil 3-4 Ohms

Type No.	Primary Impedance	D.C. Ma	Audio Watt
S-20X	2000	50	2-3
S-20Z	2000	50	2-3
S-2X	2000	55	3-5
S-12X	2500	50	2-3
S-12Z	2500	50	2-3
S-1X	2500	60	3-5
S-50X	2500	60	4-6
S-16X	3000 5% Tap	50	2-3
S-30X	3000	60	3-5
S-67X	3200	60	4-6
S-4X	3000	70	5-8
S-14Z	4000	50	2-3
S-41X	4000	50	3-5
S-6X	5000	35	2-3
S-6Z	5000	35	2-3
S-3X	5000	40	3-5
S-5X	5000	50	5-8
S-5Z	5000	50	5-8
S-48X	6500	35	2-3
S-48Z	6500	35	2-3
S-7X	7500	30	3-5
S-9X	7500	50	5-8
S-9Z	7500	50	5-8
S-8X	8000	30	2-3
S-8Z	8000	30	2-3
S18X	8000	45	4-6
S-18Z	8000	45	4-6
S-11X	10000	30	2-3
S-11Z	10000	30	2-3
S-17X	10000	30	3-5
S-10X	10000	45	4-6
S-40X	14000	5.5	¼
S-38X	16000	15	2-3
S-38Z	16000	15	2-3
S-37X	25000	4.0	¼
S-13X	25000	10	2-3
S-13Z	25000	10	2-3



Case Z


Case A


Case X

REPLACEMENT PUSH-PULL OUTPUT TRANSFORMERS
Push-Pull Tubes To Voice Coil 3-4 Ohms

Type No.	Impedance	D.C. MA. Each Side	Audio Watts
S-39X	12000 CT.	30	3-4
S-64X	6000 CT.	40	4-6
S-15X	10000 CT.	35	7-10
S-19Z	10000 CT.	50	10-14
S-68Z	3000/3800 CT.	90	15-18
S-69Z	5000 CT.	60	15-18
S-21A	8000 CT.	55	15-18
S-21Z	8000 CT.	55	15-18

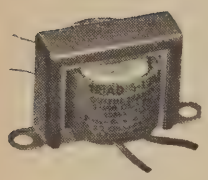
© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

LOW VOLTAGE, LOW CURRENT Transformers
All 117 v., 50/60 cycle pri

Type No.	Secondary Volts	Secondary Amps.	Test Volts
F-112X	14 v. CT.	250 ma.	1500
F-113X	12 volts	150 ma.	1500
F-114X	12 volts	700 ma.	1500
F-115X	24 v. CT.	85 ma.	1500
F-116X	24 v. CT.	200 ma.	1500
F-117X	24 v. CT.	400 ma.	1500
F-118X	24 v. CT.	700 ma.	1500
F-119X	26.8 v. CT.	150 ma.	1500
F-120X	26.8 v. CT.	500 ma.	1500



Case X

AUDIO

LOW LEVEL OUTPUT Transformers

Type No.	Application	Freq. Resp.	Pri. Imped.	Second. Imped.
A-51X	Tube to line.	300-3000	7000	50
A-53X	Single or p.p. tubes to line.	70-7000	18000 CT.	600/250/50
S-58X	Line to line. —Split windings—	100-10000	600/150	600/150
•S-81X	Line to line.	100-10000	600	600

• New item.

SPLATTER Chokes

Type No.	Inductance Henries	Current Ma.	Res. Ohms	Wt. Lbs.
C-26X	Tapped .2 to 1.5	100	95	1¼
C-43X	Tapped .05 to 1	300	40	2



Case J

UNIVERSAL OUTPUT Transformers
Single Or Push-Pull Tubes To Voice Coil

Type No.	Application	Impedance	DC MA	Audio Watts
S-62X	Single or P.p. plates	2000-10000	30	2
S-52X	Single or p.p. plates	4000-24000	25	4
S-51X	Single or p.p. plates	4000-14000	35	5
S-63X	Single or p.p. plates	1500- 7000	50	6
S-54X	Single	1500- 5000	70	8
S-53X	Single or p.p. plates	4000-14000	40	8
S-55X	P.p. plates	4000-14000	40	10
S-55Z	P.p. plates	4000-14000	40	10
S-56Z	Single	1500- 6000	85	12
S-59Z	P.p. plates	1500- 4000	65	15
S-57Z	P.p. plates	4000-14000	55	15
S-61Z	P.p. plates	4000-10000	60	20



Case P

PLUG-IN INPUT Transformers

Type No.	Application	Pri. Imped.	Second Imped.	Freq. Resp.	Shld'g
A-202P	Line or mike to grid	200/50 CT. △	36,000	20-20000	90 db.
HS-273P	Same as above	200/50 CT. △	80,000	30-30000	70 db.
A-210P	Stereo Isolation	1:1 ratio	30,000	20-20000	45 db.

△ Split Winding

INTERSTAGE Transformers
Plate to Grid

Type No.	Application	Freq. Resp.	Pri. Imped.	Second Imped.	Ratio
A-31X	Plate to single or p.p. grids	300-3000	10000	90000CT	1 : 3
A-33X	Plate to single or p.p. grids	70-7000	10000	90000CT	1 : 3
A-42Z	Multi-ratio single or p.p. plates to single or p.p. grids.	70-7000	15000 CT.	135000C.T. or 33750	1 : 1.5 1 : 3 1 : 6
A-35A	Plate to single or p.p. grids	50-10000	10000	90000CT	1 : 3
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid 45 db. shielding.	30-15000	15000	115000CT	1 : 2.76

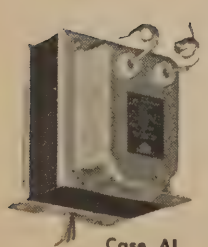
MODULATION Transformers
Tube to RF Load

Type No.	Primary	Freq. Resp.	Secondary Impedance	Secondary Ma.	Aud. Wtts.
TY-65Z	32 CT. (575 Ma.) (Transistor use)	70-15000	3000-4000-6000	100	10
M-4Z	5000 (Auto-former).	300-3000	6750 4	100 (total)	10
M-1X	10000 CT. for 19, 1J6, 6N7, 6A6, etc.	300-3000	5000-8000-10000	50	5
M-3X	10000 CT. for 6N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20
TY-66A	6 CT. (5A) (Transistor use)	300-3000	3000-4000-6000	200	40
†M-7AL	4250 CT. for 807's	300-3000	3000-5000-8000	200	60
†M-12AL	Multi-match	300-3000	4000 to 20000	300	125

DRIVER Transformers

Type No.	Driver Tubes	Output Tubes	Frequency Response	Ratio Primary ½ Sec.	Primary D.C. Ma.
A-81X	30, 1H4, etc.	19, 30's, 1J6, etc.	200-20,000	2.66:1	15
A-83X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40
A-85X	6F6, 42, 45, etc.	6L6, 6F5, 6V6, 807, etc.	50-10000	2.66:1	40
A-89A	P.p. plates to class B or AB grids— Universal 15 watt.	Any class B or AB tubes. 100-500 watts output	50-10000	3.1 or 1.8:1	100 per side
TY-61X	Transistor use		70-10000	1:0.5	100
TY-158X	Transistor use, dual secondaries		20-20,000	1.5:1:1	50
TY-159X	Transistor use, dual secondaries		20-20,000	3:1:1	50
TY-160X	Transistor use, dual secondaries		20-20,000	6:1:1	50

†Plate leads out side



Case AL

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

OUTPUT Transformers
Tube to Voice Coil and Line

Type No.	Tubes	Pri. Imped.	Sec. Imped.	DC Pri.	Audio Watts
S-27A	2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	500/16/8/4	80	8
S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5.	7500	500/16/8/4	40	5
S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6.	5000	500/16/8/4	45	5
S-22A	P.p. 2A3, 6B4, 6A5, 6L6, etc.	5000 CT.	500/16/8/4	100 (bal.)	15
S-24A	P.p. 6V6, 7C5, 6K6, 6F6, etc.	8000 CT.	500/16/8/4	80 (bal.)	15
S-60A	P.p. 6L6, 5881, 807, etc.	6600 CT.	500/250/16/8/4	150	35

70.7 volt Line to Voice Coil

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-70Z	Autoformer 16000/8000/4000/2000/1000.	8/4	5	40-15000
S-71Z	Autoformer 4000/2000/1000/500.	16/8/4	10	40-20000
S-25Z	Autoformer 4000/2000/1000/500.	8/4	10	30-20000
SR-45Z	Autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
SR-74K	Weatherproof autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
S-72Z	Autoformer 2000/1000/500/250.	16/8/4	20	40-20000
•S-43Z	Isolation	16/8/4	30-20 10-5	40-20000
•S-44Z	Isolation	16/8/4	50-40 25-15	40-20000

• New item.

70.7 volt Line to Voice Coil (Cont.)

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-46A	Autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-75K	Weatherproof autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-78Z	Isolation 4000/2000/1000/500.	16/8/4	10	40-20000
S-79Z	Isolation 2000/1000/500/250.	16/8/4	20	40-20000
S-47Z	10K/5K/2.5K/1250/625	16/8/4	8	20-20000
S-73X	Isolation 16K/8K/4K/2K/1K	16/8/4	5	40-15000

25 VOLT LINE TRANSFORMERS

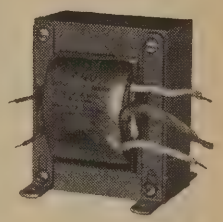
Type No.	Primary Matching Impedance	Secondary Load Impedance	Output Watts
S-131X	1250/625/312	8/4	2
S-132X	1000/500/250/125	16/8/4	5
S-133Z	500/250/125/62.5	16/8/4	10

MATCHING TRANSFORMERS FOR 25 OR 70.7 VOLT LINE

S-129Z	70.7V line to 25V line or, 25V line to 70.7V line	30	20-15000
S-130Z	70.7V line to 25V line or, 25V line to 70.7V line	10	20-15000

Special TRANSCEIVER Transformers
(Voice Frequencies)

Type No.	Application	Primary Impedance	Secondary Impedance
A-21X	S.B. mike or plate to grid (2 primaries)	100 10000	100000
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000



Case U

INSTRUMENTATION GEOFORMERS

LOW FREQUENCY TRANSISTOR TRANSFORMERS

Type No.	Impedance Ohms Pri.	Impedance Ohms Sec.	Turns Ratio	Min. pri. Ind. @ 100MV—60 cy. With No Unbalanced D.C. Current	D.C. Resistance (Ohms) Pri.	D.C. Resistance (Ohms) Sec	Frequency Response in Cycles Primary Signal of 1 Volt Unbalanced D.C. Secondary Current of 1 Ma. −3DB	1 Ma. −1DB	2 Ma. −3DB	2 Ma. −1DB	3 Ma. −3DB	3 Ma. −1DB	5 Ma. −3DB	5 Ma. −1DB	Shielding	Case Mtg.	Wt.
G-18	1000 or 250	125 or 31	2:83:1	60.	500	44	5 to 20000	8 to 7000	5 to 20000	8 to 7000	6 to 20000	9 to 7000	7 to 20000	10 to 7000	P1-H	GP-1F	3.2 oz.
G-19	1000 or 250	1000 or 250	1:1	65.	540	230	12 to 7000	15 to 3800	12 to 7000	15 to 3800	12 to 7000	15 to 3800	20 to 7000	40 to 3800	P1-H	GP-2L	5¼ oz.
G-30	1000 CT.	2500 CT.	1:1.58	20.	350	1800	20 to 8000	40 to 4200	22 to 8000	45 to 4200	40 to 8000	75 to 4200	70 to 8000	160 to 4200	P1	GP-1F	3.2 oz.

CHOPPER INPUT TRANSFORMERS

Triad Chopper Input Transformers provide exceedingly close balance between the two halves of the primary winding . . . minimum noise in microvolt ranges of input signals is assured with Triad's special core treatment techniques. For demanding transistor and tube applications, Triad's special design capabilities have an outstanding record. For special applications, consult Triad.

Type No.	Turns Ratio	Minimum Primary Inductance @ 1V—60 Hz.	Maximum Primary Volts @ 60 Hz.	Primary Matching Impedance In Ohms	Secondary Matching Impedance In Ohms	D.C. Resistance Primary In Ohms	D.C. Resistance Secondary In Ohms	Stray Fields Shield	Case and Mounting	Weight
G-20‡	1:8	120 h.	25	10,000 CT or 2500	640,000 CT	370	21,000	P5-H	GP-4T	11½ oz.
G-21‡	4:1	1200 h.	84	200,000 CT	12,500 CT	4000	1300	P1-H	GP-2L	5¼ oz.
G-21TS‡								P5-H	GP-4T	11½ oz.
G-22‡	1:4	1000 h.	90	50,000 CT	800,000 CT	2200	19,000	P5-H	GP-5W	1 lb.
G-23‡	6.32:1	1000 h.	75	40,000 CT	1000 CT	4400	160	P1-H	GP-2L	5¼ oz.
G-24‡	1:1	400 h. Low capacity coupling less than .02 μμF between windings.	19.5	40,000 CT	40,000 CT	1625	1625	P5	GP-5S	1 lb.
G-25‡	2:1	800 h.	70	40,000 CT or 10,000 CT	10,000 CT	3200	2200	P1-H	GP-2L	5¼ oz.
G-25TS‡								P5-H	GP-4T	11½ oz.

‡Static Shield

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

TOROIDS

Triad toroids may be ordered with standard leads in strong plastic coating, or epoxy molded encapsulated per Specification MIL-T-27A; TF5RX20ZZ. To specify molded toroids with gold-plated fixed terminals, an "A" should be added to the full type number; for example, EM-001A.



A

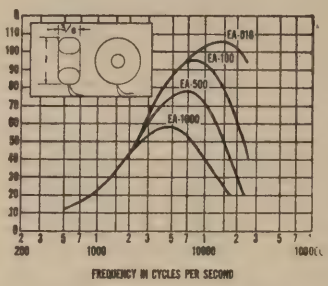
TOROIDS





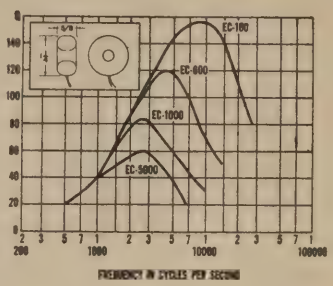


EA SERIES



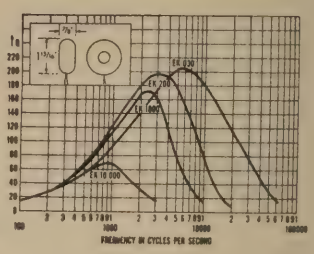
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EA-001	1 mh	.40	270
EA-002	2 mh	.58	192
EA-003	3 mh	.73	157
EA-004	4 mh	.85	135
EA-005	5 mh	1.10	121
EA-007	7 mh	1.35	102
EA-010	10 mh	2.10	86
EA-015	15 mh	3.10	70
EA-020	20 mh	4.25	60
EA-025	25 mh	4.80	54
EA-030	30 mh	6.70	50
EA-040	40 mh	9.50	43
EA-050	50 mh	11.00	38
EA-070	70 mh	16.00	32
EA-100	100 mh	23.00	27
EA-150	150 mh	37.00	22
EA-200	200 mh	42.00	19
EA-250	250 mh	60.00	17
EA-300	300 mh	70.00	16
EA-400	400 mh	95.00	14
EA-500	500 mh	115.00	12
EA-600	600 mh	150.00	11
EA-700	700 mh	160.00	10
EA-1000	1000 mh	260.00	8.6

EC SERIES



Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EC-001	1 mh	.40	520
EC-002	2 mh	.56	368
EC-003	3 mh	.70	300
EC-004	4 mh	.82	260
EC-005	5 mh	.92	233
EC-007	7 mh	1.05	195
EC-010	10 mh	1.30	165
EC-015	15 mh	1.60	134
EC-020	20 mh	1.85	116
EC-030	30 mh	2.85	95
EC-040	40 mh	4.20	82
EC-050	50 mh	5.50	62
EC-070	70 mh	8.30	74
EC-100	100 mh	13.00	52
EC-200	200 mh	23.00	37
EC-250	250 mh	33.00	33
EC-300	300 mh	35.00	30
EC-400	400 mh	42.00	26
EC-500	500 mh	72.50	23
EC-600	600 mh	80.00	21
EC-700	700 mh	68.00	19.5
EC-1000	1000 mh	134.00	16.5
EC-1500	1500 mh	200.00	13.5
EC-2000	2000 mh	220.00	11.6
EC-3000	3000 mh	370.00	9.5
EC-4000	4000 mh	550.00	8.2
EC-5000	5000 mh	780.00	7.4
EC-7000	7000 mh	700.00	6.2
EC-10000	10000 mh	1100.00	5.2

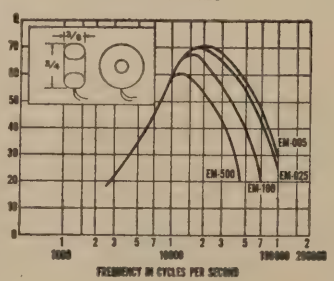
EK SERIES



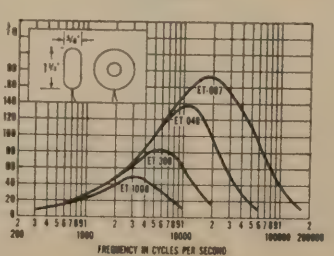
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EK-010	10 mh	.82	262
EK-020	20 mh	1.10	184
EK-030	30 mh	1.40	150
EK-040	40 mh	1.90	130
EK-060	60 mh	2.60	106
EK-080	80 mh	3.10	92
EK-100	100 mh	4.40	82
EK-120	120 mh	4.80	75
EK-150	150 mh	6.20	67
EK-200	200 mh	7.50	58
EK-250	250 mh	9.00	52
EK-300	300 mh	12.00	47
EK-400	400 mh	14.00	41
EK-500	500 mh	19.00	37
EK-700	700 mh	27.00	31
EK-1000	1000 mh	45.00	26
EK-1500	1500 mh	67.00	21
EK-2000	2000 mh	100.00	18.4
EK-2500	2500 mh	108	16.5
EK-3000	3000 mh	116	15
EK-4000	4000 mh	150	13
EK-5000	5000 mh	200	11.6
EK-7000	7000 mh	300	9.8
EK-10000	10000 mh	350	8.2
EK-20000	20000 mh	800	5.8
EK-30000	30000 mh	1250	4.7
EK-40000	40000 mh	2000	4.1

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EM-001	1 mh	1.25	150
EM-002	2 mh	1.70	108
EM-003	3 mh	2.25	87
EM-004	4 mh	2.60	76
EM-005	5 mh	3.10	68
EM-007	7 mh	4.5	57
EM-010	10 mh	6.5	48
EM-015	15 mh	10.00	39
EM-020	20 mh	11.5	34
EM-025	25 mh	16.5	30
EM-030	30 mh	18	27.6
EM-040	40 mh	27	24
EM-050	50 mh	30	22
EM-060	60 mh	40	19.5
EM-070	70 mh	43	18
EM-100	100 mh	66	15
EM-150	150 mh	100	12.5
EM-200	200 mh	115	11
EM-250	250 mh	155	9.6
EM-300	300 mh	180	8.8
EM-400	400 mh	265	7.6
EM-500	500 mh	295	7
EM-700	700 mh	400	5.8
EM-1000	1000 mh	650	4.8

EM SERIES



ET SERIES



Type No.	Ind.	Res Ohms Approx.	D.C.-Ma. for 5% Ind. drop
ET-001	1 mh	.30	680
ET-002	2 mh	.50	480
ET-003	3 mh	.68	396
ET-004	4 mh	.81	342
ET-005	5 mh	1.10	306
ET-007	7 mh	1.50	260
ET-010	10 mh	2	217
ET-015	15 mh	2.85	177
ET-020	20 mh	4.0	153
ET-025	25 mh	4.8	137
ET-030	30 mh	6.5	125
ET-040	40 mh	9.2	108
ET-050	50 mh	10.3	97
ET-060	60 mh	14.5	88
ET-070	70 mh	15.0	82
ET-100	100 mh	24.0	68
ET-150	150 mh	35.0	56
ET-200	200 mh	44.5	48
ET-250	250 mh	64	43
ET-300	300 mh	70	40
ET-400	400 mh	94	34
ET-500	500 mh	108	31
ET-700	700 mh	173	26
ET-1000	1000 mh	230	22

© United Technical Publications

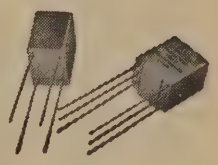
TRIAD DISTRIBUTOR DIVISION

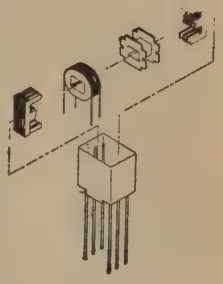
A DIVISION OF LITTON INDUSTRIES

RED SPEC TRANSISTOR TRANSFORMERS

Type No.	Application Type	MIL-T-27B Designation	Primary Impedance	D.C. Res. Pri. Ohms	Max. Unbal. Pri. D.C. Ma.	Secondary Impedance	Max. Power MW
SP-4	Input	TF5SX16ZZ	200000 c.t.	5300	0	1000 c.t.	10
SP-5	Input	TF5SX16ZZ	50000 c.t.	3800	0	1000 c.t.	25
SP-7	Input	TF5SX16ZZ	200000	5300	0	1000	10
SP-11	Interstage	TF5SX13ZZ	25000/20,000	1700	.5	1000/800	40
SP-13	Interstage	TF5SX13ZZ	25000 c.t./20,000 c.t.	1700	.5	1000 c.t./800 c.t.	40
SP-15	Interstage	TF5SX13ZZ	10000 c.t.	1050	1	1500 c.t.	50
SP-20	Driver	TF5SX13ZZ	10000 c.t.	1050	1	1200 c.t.	50
SP-21	Driver	TF5SX13ZZ	10000 c.t.	1050	1	2000 c.t.	50
SP-22	Driver	TF5SX13ZZ	10000	1050	1	2000 c.t./500†	50
SP-29	Driver	TF5SX13ZZ	10000 c.t.	1050	1	500 c.t.	50
SP-32	Output	TF5SX17ZZ	500	60	3	50	50
SP-33	Output	TF5SX17ZZ	1000	145	3	50	50
SP-34	Output	TF5SX17ZZ	600	70	3	3.2	50
SP-35	Output	TF5SX13ZZ	1200	131	2	3.2	50
SP-36	Output	TF5SX13ZZ	10000	1160	1	3.2	50
SP-42	Output	TF5SX17ZZ	150 c.t.	18	10	12	50
SP-47	Output	TF5SX13ZZ	1500 c.t.	179	3	12	50
SP-48	Output	TF5SX13ZZ	7500 c.t.	796	1	12	50
SP-49	Output	TF5SX17ZZ	300 c.t.	41	7	600	50
SP-50	Output	TF5SX17ZZ	500 c.t.	67	3	600	50
SP-51	Output	TF5SX17ZZ	900 c.t.	104	4	600	50
SP-52	Output	TF5SX13ZZ	1500 c.t.	168	3	600	50
SP-63	Output	TF5SX13ZZ	1200 c.t.	125	3	3.2	50
SP-64	Output	TF5SX13ZZ	1600 c.t.	186	2.5	3.2	50
SP-65	Output	TF5SX13ZZ	8000 c.t.	790	1	3.2	50
SP-66	Output Isolation	TF5SX13ZZ	10000 c.t.	1000	1	10000 c.t.	50
SP-67	Output Isolation	TF5SX17ZZ	600 c.t.	73	3	600 CT.	50
SP-68	Output Isolation	TF5SX13ZZ	10000	1000	1	10000 c.t./2500†	50
SP-69	Output Isolation	TF5SX17ZZ	600	72	3	600 c.t./150†	50
SP-70	Output Isolation	TF5SX17ZZ	600	72	3	600	50
SP-106	Choke	TF5SX20ZZ	6 hy.	1700	2		
SP-107	Choke	TF5SX20ZZ	1.25 hy.	180	2		
SP-108	Choke	TF5SX20ZZ	3.5 hy.	1100	2		
SP-117	Choke	TF5SX20ZZ	.9HY	110	2	—	—
SP-118	Choke	TF5SX20ZZ	.3 hy.	42	4		
SP-128	Choke	TF5SX20ZZ	.1HY	15	5	—	—
SP-310	Magnetic shielding case						

CT For Center Tap. †Split secondary.





Sub-miniature Encapsulated TOROIDAL INDUCTORS

Triad sub-miniature toroidal inductors, designed for quick, easy printed-circuit board mounting, are now stocked for immediate delivery in a range of standard ratings from 50 micro-henries to 400 milli-henries. Many uses, especially in airborne telemetering applications incorporating Triad's sub-miniature filters FL-384 through FL-388. Case size of units is 7/16 inch diameter by ¼ inch high. Providing an optimum combination of high Q and extremely small-size, this series is ideal for printed board, transistor or vacuum tube application.

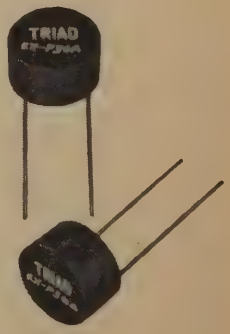
Triad sub-miniature inductors are toroidally wound on permalloy powdered cores. Encapsulated in high temperature epoxy resin. Weldable or solderable leads of gold plated nickel alloy. Highly resistant to severe acceleration, shock or vibration. Manufactured to MIL-T-27B, Grade 5 Class S (MIL type TF5SX20ZZ).

NOTE: Ma. DC maximum is for approximately 5% drop in inductance. Those figures marked * will give less than 5% inductance drop but should not be exceeded under operating conditions.

Inductance tolerance of EX-P05A through EX-P60A is ±5%; EX-001A through EX-400A is ±2%.

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representatives or call the factory.

Cat. No.	Inductance (ODC)	DCR (ohms) ±25%	Maximum Ma DC
EX-P05A	50 μh	0.9	75*
EX-P10A	100 μh	1.2	75*
EX-P20A	200 μh	1.7	75*
EX-P30A	300 μh	2.0	75*
EX-P50A	500 μh	2.7	75*
•EX-P60A	600 μh	3.0	75*
EX-001A	1.0 mh	3.8	75*
•EX-001.5A	1.5 mh	4.9	60*
EX-002A	2.0 mh	7.0	60*
•EX-002.5A	2.5 mh	5.3	60*
EX-003A	3.0 mh	6.2	60
EX-005A	5.0 mh	10.0	47
•EX-006A	6.0 mh	11.5	43
•EX-008A	8.0 mh	13.0	37
EX-010A	10.0 mh	15.0	33
•EX-012.5A	12.5 mh	17.0	30
•EX-015A	15.0 mh	23.0	27
EX-020A	20.0 mh	32.0	23
•EX-025A	25.0 mh	37.0	21
EX-030A	30.0 mh	52.0	19
•EX-040A	40.0 mh	54.0	15
EX-050A	50.0 mh	62.0	13
•EX-060A	60.0 mh	82.0	12
EX-100A	100 mh	135.0	10
•EX-120A	120 mh	142.0	8
EX-200A	200 mh	145.0	6
EX-300A	300 mh	210.0	5
EX-400A	400 mh	315.0	4



• New item.

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
A-1X	3.40	A-210P	10.86	D-63	6.40	D-169	8.40	D-270	6.75	EA-010	3.38	EK-010A	8.90	EM-250A	6.57
A-3X	3.46	A-300X	6.04	D-64	7.50	D-170	7.83	D-271	7.35	EA-010A	5.80	EK-020	5.73	EM-300	4.93
A-4X	4.42	A-301X	5.65	D-66	9.60	D-171	7.33	D-272	8.60	EA-015	3.40	EK-020A	8.92	EM-300A	6.67
A-5X	4.54	A-302X	5.75	D-67	9.98	D-172	8.49	D-273	8.16	EA-015A	5.90	EK-030	5.77	EM-400	4.98
A-6X	3.43	A-304X	6.83	D-68	10.15	D-173	10.27	D-300	12.92	EA-020	3.42	EK-030A	8.95	EM-400A	6.72
A-7J	9.24	A-305X	6.97	D-69	7.28	D-174	8.75	D-301	20.78	EA-020A	5.92	EK-040	5.82	EM-500	5.03
A-9J	11.75	C-1X	2.41	D-70	8.40	D-175	10.75	D-302	18.67	EA-025	3.47	EK-040A	9.00	EM-500A	6.73
A-10J	11.79	C-2X	2.14	D-71	7.20	D-176	2.85	D-303	15.50	EA-025A	6.08	EK-050A	9.00	EM-700	5.10
A-11J	11.27	C-3X	2.84	D-72	8.27	D-178	8.43	D-304	15.60	EA-030	3.47	EK-060	5.93	EM-700A	6.83
A-12J	12.94	C-4X	2.42	D-73R	8.57	D-179	6.88	D-305	15.97	EA-030A	6.08	EK-060A	9.09	EM-1000	5.15
A-13J	16.22	C-5X	3.47	D-74	7.14	D-180	7.88	D-306	14.38	EA-040	3.50	EK-080	5.98	EM-1000A	6.92
A-21X	3.94	C-6X	2.74	D-75	8.40	D-181	7.80	D-307	15.49	EA-040A	6.12	EK-080A	9.24	ET-001	4.47
A-23X	3.90	C-7X	3.76	D-76R	9.02	D-182	7.48	D-308	14.21	EA-050	3.50	EK-100	5.92	ET-001A	6.83
A-31X	4.27	C-8X	3.36	D-77R	9.47	D-183	8.92	D-309	14.38	EA-050A	6.12	EK-100A	9.45	ET-002	4.50
A-33X	4.17	C-9X	3.32	D-78	7.48	D-184	8.22	D-310	15.31	EA-070	3.57	EK-120	6.13	ET-002A	6.92
A-35A	8.72	C-10X	4.54	D-79	7.57	D-186	7.80	D-311	11.72	EA-070A	6.18	EK-120A	9.40	ET-003	4.52
A-39A	8.68	C-11X	4.59	D-80	7.95	D-188R	7.88	D-312	15.60	EA-100	3.62	EK-150	6.20	ET-003A	6.93
A-40J	11.69	C-12A	6.67	D-81	7.27	D-189	9.05	D-313	14.46	EA-100A	6.23	EK-150A	9.55	ET-004	4.53
A-41J	12.40	C-12X	4.70	D-82	9.32	D-190 Kit	7.95	D-314	17.70	EA-150	3.75	EK-200	6.27	ET-004A	6.97
A-42Z	5.35	C-13X	4.42	D-83R	5.95	D-191	9.16	D-315	15.57	EA-150A	6.50	EK-200A	9.55	ET-005	4.57
A-51X	2.98	C-14A	7.45	D-84	9.35	D-192	6.98	D-316	9.42	EA-200	3.80	EK-250	6.40	ET-005A	7.00
A-52J	7.40	C-14X	5.37	D-85	9.44	D-193	9.32	D-317	18.75	EA-200A	6.55	EK-250A	9.74	ET-007	4.60
A-53X	4.32	C-15A	7.19	D-86	9.77	D-194	7.20	D-318	13.35	EA-250	3.83	EK-300	6.57	ET-007A	7.03
A-54X	2.73	C-15X	5.22	D-87	8.18	D-195	6.50	D-319	20.00	EA-250A	6.58	EK-300A	9.85	ET-010	4.62
A-55J	11.25	C-16A	9.77	D-88	7.40	D-196	6.57	D-320	15.60	EA-300	3.88	EK-400	6.70	ET-010A	7.08
A-56J	7.34	C-17X	3.97	D-89R	9.55	D-197	7.81	D-321	13.35	EA-300A	6.63	EK-400A	10.00	ET-015	4.63
A-57J	11.00	C-18A	11.75	D-90	8.45	D-198	11.89	D-322	15.60	EA-400	3.97	EK-500	6.77	ET-015A	7.10
A-58J	8.55	C-19A	15.04	D-91	6.99	D-199	7.35	D-323	16.65	EA-400A	6.72	EK-500A	10.07	ET-020	4.65
A-61J	14.27	C-20A	17.40	D-92	9.82	D-200	6.68	D-324	12.20	EA-500	4.08	EK-700	6.85	ET-020A	7.17
A-64J	7.27	C-21X	3.22	D-93R	11.38	D-201	7.73	D-325	16.00	EA-500A	6.83	EK-700A	10.17	ET-025	4.70
A-65J	11.60	C-22A	29.67	D-94R	7.95	D-202	10.04	D-326	15.45	EA-600	4.17	EK-1000	7.15	ET-025A	7.20
A-66J	11.14	C-23X	3.89	D-95	7.20	D-203	9.80	D-327	16.59	EA-600A	6.92	EK-1000A	10.24	ET-030	4.73
A-67J	11.45	C-24X	2.71	D-96	9.57	D-204	8.86	D-328	16.59	EA-700	4.25	EK-1500	7.05	ET-030A	7.25
A-68J	12.40	C-25A	8.32	D-97R	17.45	D-205	9.24	D-329	16.92	EA-700A	7.00	EK-1500A	10.37	ET-040	4.80
A-69J	9.14	C-26X	3.55	D-98R	10.57	D-207	7.92	D-330	20.70	EA-1000	4.35	EK-2000	7.08	ET-040A	7.37
A-70J	7.50	C-27X	2.46	D-99	7.97	D-208	6.88	D-331	18.60	EA-1000A	7.10	EK-2000A	10.44	ET-050	4.85
A-75J	6.50	C-28X	3.47	D-100	9.29	D-209	9.32	D-332	23.10	EC-001	3.60	EK-2500	7.15	ET-050A	7.43
A-77J	11.47	C-29X	4.07	D-101	8.92	D-210	6.67	D-333	12.50	EC-001A	5.72	EK-2500A	10.54	ET-060	4.90
A-78J	11.69	C-30X	3.09	D-102	7.65	D-211	7.77	D-334	12.50	EC-002	3.63	EK-3000	7.25	ET-060A	7.50
A-79J	11.50	C-31A	9.64	D-103	11.33	D-212	7.85	D-335	16.03	EC-002A	5.68	EK-3000A	10.57	ET-070	4.92
A-81X	3.46	C-32AL	13.00	D-104	6.30	D-213	7.86	D-336	17.67	EC-003	3.67	EK-4000	7.35	ET-070A	7.52
A-83X	4.17	C-33A	14.79	D-105	9.49	D-214	7.57	D-337	15.38	EC-004	3.70	EK-4000A	10.67	ET-100	4.93
A-85X	4.36	C-34X	2.51	D-106	7.33	D-215	8.34	D-338	20.92	EC-005	3.73	EK-5000	7.47	ET-100A	7.55
A-89A	9.72	C-35A	17.88	D-107	8.44	D-216	8.94	D-601	7.80	EC-005A	5.73	EK-5000A	10.87	ET-150	4.97
A-91A	10.75	C-36X	2.41	D-108	10.20	D-218	8.94	D-602	7.52	EC-007	3.78	EK-7000	7.58	ET-150A	7.58
A-95X	3.31	C-39A	29.75	D-109	6.90	D-219	9.76	D-603	7.65	EC-007A	6.12	EK-7000A	10.97	ET-200	5.00
A-96X	4.34	C-40X	3.37	D-110	8.28	D-220	9.24	D-604	9.79	EC-010	3.83	EK-10000	7.74	ET-200A	7.60
A-97K	6.32	C-42AL	15.35	D-111	8.10	D-221	10.77	D-605	11.07	EC-010A	6.20	EK-10000A	11.10	ET-250	5.02
A-97X	3.41	C-43X	4.77	D-113	8.57	D-222	10.88	D-606	6.98	EC-015	3.88	EK-20000	7.87	ET-250A	7.62
A-97Y	9.99	C-45AL	31.32	D-114	9.35	D-223	11.10	D-607	8.28	EC-015A	6.23	EK-20000A	11.24	ET-300	5.05
A-98K	5.74	C-47U	9.35	D-115R	7.17	D-225	9.40	D-608	7.50	EC-020	3.93	EK-25000	8.00	ET-300A	7.62
A-98X	2.81	C-48U	12.00	D-116	10.94	D-226	9.00	D-609	6.82	EC-020A	6.27	EK-25000A	11.37	ET-400	5.07
A-99X	5.07	C-49U	18.04	D-118R	8.40	D-227	8.40	D-610	7.80	EC-030	3.98	EK-30000	8.28	ET-400A	7.67
A-101U	6.11	C-50X	6.26	D-119	8.18	D-228	8.32	D-611	7.93	EC-030A	5.92	EK-30000A	11.60	ET-500	5.10
A-102X	4.27	C-56U	5.79	D-120	12.10	D-229	7.73	D-612	7.80	EC-040	4.03	EK-40000	8.44	ET-500A	7.70
A-103X	4.32	C-57U	7.27	D-122	7.30	D-230	8.33	D-613	7.77	EC-040A	6.33	EK-40000A	11.74	ET-700	5.10
A-104X	5.15	C-58U	11.09	D-123	7.88	D-231	6.00	D-614	8.34	EC-050	4.08	EM-001	3.92	ET-700A	7.70
A-105X	5.12	C-59U	13.04	D-124	6.67	D-232	7.00	D-615	6.68	EC-050A	6.38	EM-001A	5.60	ET-1000	5.13
A-107X	6.30	C-60U	21.67	D-125	7.62	D-233	6.72	D-616	7.82	EC-070	4.13	EM-002	3.93	ET-1000A	7.75
A-108X	4.88	C-80U	49.68	D-126	16.15	D-234	7.30	D-617	8.40	EC-070A	6.63	EM-002A	5.33	EX-P05A	7.65
A-109X	5.32	CE-1	11.40	D-127	7.44	D-235	10.12	D-619	8.00	EC-100	4.18	EM-003	3.95	EX-P10A	7.65
A-110X	4.64	CE-4	11.88	D-128	2.53	D-236	10.55	D-620	6.50	EC-100A	6.92	EM-003A	5.63	EX-P20A	7.65
A-111X	4.21	CE-5	10.67	D-129	6.82	D-237	9.11	D-621	7.80	EC-200	4.27	EM-004	3.98	EX-P30A	7.65
A-112X	4.82	CL-1	.60	D-130R	7.63	D-238	9.44	D-622	8.70	EC-200A	6.72	EM-004A	5.67	EX-P50A	7.65
A-113X	4.70	D-2	6.90	D-131	9.58	D-239	8.21	D-623	8.40	EC-250	4.33	EM-005	4.03	†EX-P60A	7.65
A-113Z	4.75	D-11	10.22	D-132	7.77	D-240	8.11	D-624	10.55	EC-250A	6.80	EM-005A	5.73	EX-001A	8.00
A-114X	5.45	D-14R	7.80	D-133	9.12	D-241	8.21	D-625	6.82	EC-300	4.40	EM-007	4.08	†EX-001.5A	8.00
A-115X	4.79	D-19	9.01	D-134	7.58	D-242	8.06	D-626	7.20	EC-300A	6.95	EM-007A	5.75	EX-002A	8.00
A-115Z	4.84	DA-20	4.75	D-135	2.02	D-243	8.14	D-627	7.90	EC-400	4.50	EM-010	4.15	†EX-002.5A	7.25
A-116X	5.32	D-22	7.80	D-136	5.23	D-244	8.14	D-628	7.68	EC-400A	6.93	EM-010A	5.80	EX-003A	7.25
A-117X	4.21	D-27	7.82	D-138	7.68	D-245	8.42	D-629	3.57	EC-500	4.60	EM-015	4.23	EX-005A	7.25
A-118X	4.66	D-28	6.57	D-139	9.91	D-246	8.09	D-630	7.68	EC-500A	6.93	EM-015A	5.88	†EX-006A	7.25
A-119X	5.25	DA-36	3.77	D-141	7.50	D-247	8.01	D-631	7.86	EC-600	4.67	EM-020	4.30	†EX-008A	7.25
A-120Z	3.26	D-40	9.95	D-142	12.89	D-248	8.14	D-632	11.32	EC-600A	7.00	EM-020A	5.95	EX-010A	7.25
A-122X	2.79	D-41	6.28	D-143	8.60	D-249	8.47	D-638	7.72	EC-700	4.75	EM-025	4.38	†EX-012.5A	7.65
A-122Z	2.86	D-42	12.61	D-151R	10.14	D-250	8.06	D-639	7.00	EC-700A	7.08	EM-025A	6.00	†EX-015A	7.65
A-131X	4.14	D-43	7.82	D-152	12.71	D-252	6.75	D-640	12.48	EC-1000	4.85	EM-030	4.45	EX-020A	7.65
A-132X	4.59	D-44	6.65	D-153 Kit	9.92	D-253	9.82	D-641	12.72	EC-1000A	7.25	EM-030A	6.17	†EX-025A	7.65
A-133X	4.75	D-45R	6.40	D-154	7.87	D-254	9.99	D-642	9.74	EC-1500	4.90	EM-040	4.50	EX-030A	7.65
A-134X	5.30	D-46	9.32	D-155	7.00	D-255	12.26	D-643	11.95	EC-1500A	7.57	EM-040A	6.20	EX-040A	8.35
A-135X	5.35	D-47R	7.50	D-156R	9.35	D-256	12.17	D-644	11.82	EC-2000	5.00	EM-050	4.53	EX-050A	8.35
A-136X	4.21	D-48	7.12	D-157	10.35	D-257	9.24	EA-001	3.28	EC-2000A	7.65	EM-050A	6.22	†EX-060A	9.20
A-137X	4.70	D-49	9.32	D-158	4.88	D-258	7.60	EA-001A	5.70	EC-3000	5.10	EM-060	4.55	EX-100A	12.50
A-138X	4.23	D-50	8.63	D-159	10.60	D-259	6.00	EA-002	3.32	EC-3000A	7.97	EM-060A	6.25	†EX-120A	9.20
A-139X	5.65	D-52	4.98	D-160	10.57	D-260	11.70	EA-002A	5.73	EC-4000	5.18	EM-070	4.60	EX-200A	10.35
A-140X	5.37	D-53	8.67	D-161	7.50	D-261	9.90	EA-003	3.33	EC-4000A	8.00	EM-070A	6.27	EX-300A	11.05
A-141X	4.32	D-54	5.10	D-162	7.80	D-262	9.20	EA-003A	5.75	EC-5000	5.25	EM-100	4.65	EX-400A	11.05
A-142X	4.97	D-55R	9.55	D-163	6.62	D-263	9.96	EA-004	3.35	EC-5000A	8.32	EM-100A	6.33	F-1X	3.46
A-143X	4.79	D-56	8.07	D-164	7.28	D-264	9.90	EA-004A	5.77	EC-7000	5.35	EM-150	4.73	F-3X	5.65
A-144X	5.15	D-57	9.15	D-165	7.41	D-265	9.90	EA-C05	3.37	EC-7000A	8.18	EM-150A	6.40	F-5U	7.12
A-146X	5.02	D-59	7.35	D-166	6.45	D-266	9.90	EA-005A	5.78	EC-10000	5.42	EM-200	4.83	F-6X	4.99
A-200P	15.00	D-60R	6.43	D-167	9.92	D-267	9.90	EA-007	3.37	EC-10000A	9.60	EM-200A	6.47	F-7X	4.07
A-202P	20.85	D-61	5.55	D-168	5.35	D-268	10.90	EA-007A	5.78	EK-010	5.70	EM-250	4.88	F-8X	5.93

†New item

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

Net

© United Technical Publications

TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
F-9U	10.99	†F-141XP	4.05	G-202	26.21	HSM-229	24.25	JO-5	12.84	NW-19	.60	R-25A	33.14	R-120B	12.75
F-10U	11.52	†F-142XP	4.15	G-235	24.17	HSM-230	17.35	JO-11	12.84	NW-21	.67	R-26A	27.54	R-121A	18.22
F-11U	13.07	†F-143XP	4.30	G-250	22.19	HSM-231	25.39	JO-12	12.84	NW-22	.82	R-27A	44.03	R-122A	20.53
F-12X	6.58	†F-144XP	4.40	G-255	23.10	HSM-232	33.14	JO-13	12.84	NW-23	.72	R-28A	31.94	R-123HA	18.78
F-13X	3.09	†F-145XP	4.50	G-266	26.61	HSM-233	18.97	JO-21	12.84	NW-24	.72	R-29A	6.76	R-124BC	17.77
F-14X	3.36	†F-151XP	4.25	G-274	26.17	HSM-234	37.61	JO-22	12.84	NW-25	.67	R-30X	6.40	R-125BC	21.67
F-14Z	3.37	†F-152XP	4.40	G-284	24.57	HSM-235	50.43	JO-23	12.84	P-1A	10.73	R-35A	20.85	R-126A	15.44
F-15U	12.52	†F-153XP	4.50	G-285	20.00	HSM-236	23.15	JO-31	12.84	P-3A	13.50	R-37BC	27.22	R-127A	23.33
F-16X	4.43	†F-154XP	4.50	G-286	25.15	HSM-237	16.49	JO-101	12.84	P-5A	18.30	R-38A	24.75	R-128BC	17.34
F-17U	15.56	†F-155XP	4.60	G-301	20.82	HSM-238	30.19	JZ-1	10.83	P-7A	19.25	R-38BC	20.45	R-129BC	19.00
F-18A	7.79	F-200A	7.52	G-306	21.40	HSM-239	18.67	JZ-5	10.83	P-9A	36.63	R-39BC	23.60	R-131A	24.25
F-18X	6.58	F-202U	7.67	G-309	63.89	HSM-240	21.77	JZ-7	10.83	P-11A	17.84	R-40BC	27.77	R-132BC	15.55
F-19X	6.68	F-203U	9.64	G-310	49.87	HSM-241	44.83	JZ-13	10.83	P-14A	28.13	R-41C	19.49	R-133A	21.04
F-20U	11.44	F-204U	14.54	G-313	21.77	HSM-245	53.51	JZ-15	10.83	P-15AL	27.30	R-42BC	17.97	R-134A	16.10
F-21A	10.70	F-205U	21.77	G-315	21.57	HS-247	70.53	JZ-25	10.83	P-17AL	28.41	R-43C	14.44	R-135BC	18.14
F-22A	14.67	F-206U	30.97	G-335	20.00	HSM-248	29.18	JZ-26	10.83	P-18AL	66.97	R-45C	17.63	R-136BC	15.84
F-23U	9.58	F-207U	45.89	G-336	19.74	HSM-249	15.25	K-20 Kit	6.98	P-20AL	65.33	R-46A	28.51	R-200A	18.50
F-24U	9.47	FL-381	43.90	G-388	16.34	HSM-250	17.60	K-48U	21.45	P-30A	42.88	R-49BC	22.90	R-201A	18.30
F-25X	4.12	FL-384	62.25	G-391	18.91	HSM-251	24.27	K-100	26.45	PR-21AL	62.19	R-49BS	25.97	R-202A	17.40
F-26X	4.64	FL-385	61.42	G-394	14.02	HSM-252	31.16	K-101	32.45	P-213AL	26.43	R-50A	26.06	R-203A	15.97
F-27U	16.65	FL-386	61.42	G-401	19.60	HSM-253	47.06	K-102	43.35	P-215AL	31.42	R-50BC	24.60	R-204A	16.94
F-28U	22.19	FL-387	61.42	G-435	23.89	HSM-254	67.46	K-103	63.70	P-216AL	56.47	R-51BC	22.19	R-205A	16.22
F-29U	15.14	FL-388	63.62	G-435TS	25.85	HSM-270	26.04	K-104	99.75	P-217AL	35.31	R-52BC	17.15	R-206B	12.33
F-32A	7.80	FL-389	41.39	G-437	23.52	HSM-271	33.87	K-105	114.50	P-218AL	63.00	R-53Z	5.87	R-208A	9.19
F-34A	9.40	FL-404	39.00	G-455	23.07	HSM-272	48.19	K-106	105.90	P-220AL	55.19	R-54X	4.04	R-300A	22.34
F-36A	13.84	FL-405	39.00	G-500	34.44	HS-273P	19.65	KA-1	2.50	PL-4	10.05	R-56A	7.48	†R-301A	27.60
F-38A	13.87	FL-406	39.00	G-501	32.84	HSM-301	21.10	KA-2	2.50	PL-5	12.13	R-58A	18.39	†R-302A	28.80
F-40X	4.12	FL-407	39.00	G-502	35.84	HSM-302	12.44	KA-3	3.25	PL-6	12.13	R-59A	18.90	†R-303A	25.80
F-41X	5.55	FL-408	39.00	GF-600	36.84	HS-303	14.49	M-1X	3.48	PL-10	1.81	R-61BC	22.29	R-675A	23.93
F-42A	8.57	FL-409	39.00	GF-601	47.87	HSM-305	16.95	M-3X	5.77	PL-11	1.95	R-62BC	28.42	S-1X	2.48
F-43X	4.60	FL-410	39.00	GF-602	33.25	HSM-307	22.65	M-4Z	4.17	PL-20	3.33	R-63BC	16.15	S-2X	2.46
F-44X	4.04	FL-411	39.00	HC-115	29.25	HSM-309	21.82	M-6X	4.77	PL-21	3.43	R-65BC	17.24	S-3X	2.56
F-45X	4.17	FL-412	39.00	HC-300	38.10	HSM-315	23.59	M-7AL	11.22	PL-30	5.38	R-67BC	16.15	S-4X	3.20
F-46X	3.87	FL-413	39.00	HS-1	25.27	HSM-319	33.87	M-8AL	14.77	PL-31	5.27	R-68A	11.48	S-5X	3.32
F-47U	8.45	FL-414	39.00	HS-3	31.92	HS-331	9.37	M-12AL	22.15	PL-32	5.27	R-69BC	20.86	S-5Z	3.37
F-48U	12.14	FL-415	42.00	HS-4	28.40	HS-333	10.67	M-15A	9.05	PL-33	5.38	R-70A	16.05	S-6X	2.41
F-49U	20.12	FL-416	42.00	HS-5	22.00	HS-335	14.20	M-16AL	11.34	PL-34	5.27	R-71A	21.12	S-6Z	2.46
F-50X	5.59	FL-417	42.00	HS-11	19.05	HS-339	16.50	MB-20	.72	PL-80E	10.94	R-72A	14.49	S-7X	2.56
F-51X	5.63	FL-418	42.00	HS-14	25.59	HS-341	17.75	MB-31	.45	PL-80H	12.14	R-73B	10.01	S-8X	2.41
F-52X	4.42	FL-419	42.00	HS-15	31.92	HS-400	15.34	MK-1	3.25	PL-81E	11.47	R-74BC	17.99	S-8Z	2.47
F-53X	5.55	FL-420	42.00	HS-23	22.87	HS-401	23.17	MK-2	3.25	PL-82H	12.69	R-75BA	23.98	S-9X	3.32
F-54X	5.65	FL-421	42.00	HS-25	26.22	HS-402	15.96	MK-3	4.10	PL-83H	12.92	R-76BC	27.87	S-9Z	3.36
†F-55X	5.25	G-2	33.61	HS-27	24.72	HS-404	26.47	MK-4	4.10	PL-83P	12.27	R-77BC	20.27	S-10X	2.87
†F-56X	7.67	G-4	33.44	HS-29	25.92	HS-405	28.56	N-1X	4.23	PL-84E	11.82	R-77BS	31.72	S-11X	2.51
†F-57X	4.40	G-5	31.77	HSM-31	27.33	HS-407	34.32	N-3M	10.09	PL-84H	13.07	R-78BC	18.65	S-11Z	2.51
†F-58A	19.50	G-5TS	28.90	HS-32	26.84	HS-409	30.87	N-4M	11.75	PL-124H	12.77	R-79BA	13.19	S-12X	2.23
F-60O	8.32	G-7	31.69	HS-35	19.51	HS-413	34.82	N-5M	15.13	PL-139E	9.80	R-80BA	30.91	S-12Z	2.27
F-61U	12.65	G-8	39.22	HS-50	25.29	HS-415	47.21	N-7M	27.57	PL-139H	10.88	R-81BC	24.32	S-13X	2.61
F-62U	34.75	G-10	39.99	HS-52	26.27	HS-417	49.44	N-7MG	28.77	PL-139M	11.75	R-81BS	32.09	S-13Z	2.64
F-63U	8.00	G-12	27.84	HS-54	25.71	HS-425	16.34	N-9M	61.33	PL-140H	12.77	R-82B	17.22	S-14Z	2.33
F-64U	9.50	G-14TS	32.74	HS-56V	30.19	HS-427	21.19	N-9MG	57.38	PL-140M	13.85	R-83A	18.71	S-15X	3.04
F-65U	12.37	G-17	30.84	HS-58	36.64	HS-433	23.34	N-11M	69.68	PL-146E	11.39	R-84K	10.39	S-16X	2.33
F-66U	32.06	G-18	23.49	HS-60	19.32	HS-435	25.54	N-11MG	67.26	PL-146H	12.72	R-85A	15.99	S-17X	2.58
F-67U	22.15	G-18TS	24.40	HS-61	20.64	HS-436	11.75	N-34X	6.37	PL-146M	13.84	R-86BA	12.48	S-18X	2.89
F-68U	12.80	G-19	25.11	HS-66	25.71	HS-438	20.59	N-35M	24.13	R-2C	6.63	R-87BC	20.61	S-18Z	2.89
F-71U	8.57	G-20	37.51	HS-71	14.10	HS-441	39.47	N-48X	4.15	R-3A	7.68	R-88A	20.68	S-19Z	4.25
F-72Z	5.88	G-21	31.69	HS-73	16.75	HS-442	22.34	†N-49X	5.78	R-4A	7.67	R-90BC	21.79	S-20X	2.26
F-74U	11.35	G-21TS	38.67	HS-75	24.39	HS-443	18.69	N-50M	53.62	R-4B	7.62	R-91HA	20.99	S-20Z	2.27
F-75U	18.97	G-22	38.12	HS-77	21.20	HS-444	31.32	N-51X	5.18	R-5A	9.12	R-92A	22.46	S-21Z	5.37
F-79U	36.42	G-22H	25.85	HSM-79	22.89	HS-445	21.89	N-52M	68.41	R-5B	9.07	R-94H	26.11	S-22A	8.05
F-80U	61.52	G-23	31.22	HSM-80	24.45	HS-470	17.97	N-53M	12.64	R-6A	9.37	R-98B	13.70	S-23X	2.53
F-83A	14.75	G-24	33.34	HSM-81	33.92	HS-471	20.75	N-54M	15.39	R-6B	9.29	R-99B	12.80	S-24A	7.58
F-84AC	28.43	G-25	31.11	HSM-82	35.64	HS-472	22.09	N-55M	27.06	R-7A	9.12	R-104A	6.76	S-25Z	5.13
F-85U	23.90	G-25TS	38.22	HSM-84	34.02	HS-474	31.77	N-55MG	28.95	R-7B	9.07	R-104B	6.88	S-26X	2.70
F-90X	4.08	G-30	18.00	HSM-85R	36.52	HS-475	35.92	N-56M	41.29	R-8A	10.04	R-105A	8.05	S-27A	7.12
F-91X	5.05	G-31	25.69	HSM-94	49.87	JAF-1	16.25	N-57M	63.23	R-8B	9.99	R-105B	8.11	S-28X	4.99
F-92A	8.50	G-32	32.74	HSM-95	43.65	JAF-2	15.33	N-57MG	59.25	R-9A	11.52	R-106A	8.54	S-29X	5.20
F-93X	6.55	G-33	30.79	HSM-181	23.60	JAF-3	16.25	N-59M	70.51	R-10A	11.89	R-106B	8.63	S-30X	2.48
F-94X	4.05	G-36	19.79	HSM-182	37.21	JAF-5	16.25	N-59MG	68.26	R-10B	11.70	R-107A	7.60	S-31A	11.22
F-102X	5.05	G-40	29.86	HSM-184	30.02	JAF-11	16.25	N-60SC	131.68	R-11A	12.50	R-107B	7.60	S-32A	8.82
F-104U	9.80	G-40TS	37.27	HSM-187	44.43	JAF-12	16.25	N-62AC	71.83	R-11B	12.32	R-108A	8.92	S-35A	13.13
F-105Z	4.38	G-48	18.40	HSM-189	43.14	JAF-13	16.25	N-64AC	35.56	R-12A	12.42	R-108B	8.99	S-36A	9.32
F-106Z	5.18	G-48TS	26.69	HSM-190	45.19	JAF-14	16.25	N-66A	17.82	R-12B	12.40	R-109A	8.87	S-37X	4.43
F-107Z	6.57	G-51	22.02	HSM-200	18.20	JAF-15	14.57	N-67A	13.37	R-14A	14.24	R-109B	8.83	S-38X	2.64
F-108U	11.93	G-51A	22.62	HSM-201	23.09	JAF-21	16.25	N-68X	5.70	R-14B	14.79	R-110A	10.42	S-38Z	2.64
F-109U	21.94	G-53	29.02	HSM-202	17.79	JAF-22	16.25	N-73A	13.35	R-16A	16.10	R-110B	10.34	S-39X	2.69
F-112X	3.15	G-53A	20.80	HSM-203	26.34	JAF-23	16.25	N-74A	13.29	R-16B	16.05	R-111A	10.88	S-40X	3.47
F-113X	3.00	G-54	28.79	HSM-205	33.87	JAF-24	16.25	N-469A	7.55	R-17A	18.53	R-111B	10.81	S-41X	2.48
F-114X	4.38	G-57	19.62	HSM-207	36.24	JAF-25	16.25	N-470A	12.22	R-18A	16.13	R-112A	10.90	S-42A	21.00
F-115X	3.90	G-59	31.39	HSM-208	44.49	JAF-26	16.25	N-471A	20.49	R-18B	15.92	R-112B	10.82	S-43Z	5.42
F-116X	4.10	G-64	17.40	HSM-212	47.43	JAF-31	16.25	NW-1	.60	R-19A	16.45	R-113A	7.57	S-44Z	4.88
F-117X	4.50	G-65	17.40	HSM-216	54.64	JAF-32	16.25	NW-2	.72	R-20A	15.02	R-113B	9.16	SR-45Z	7.45
F-118X	3.87	G-72	21.20	HSM-218	78.78	JAF-33	16.49	NW-3	.78	R-20B	14.87	R-114A	12.05	S-46A	10.24
F-119X	4.10	G-80	31.32	HSM-219	72.53	JAF-34	16.25	NW-4	.78	R-21A	21.15	R-114B	12.05	S-47Z	4.72
F-120X	3.83	G-84	21.20	HSM-223	11.62	JAF-35	16.25	NW-5	.78	R-21B	20.97	R-115A	8.50	S-48Z	2.00
†F-131P	4.25	G-101	26.22	HSM-224	19.94	JAF-101	16.25	NW-6	.72	R-22A	9.49	R-115B	8.50	S-50X	2.71
†F-132P	4.40	G-101TS	32.67	HSM-225	22.47	JAF-102	16.25	NW-7	.60	R-22B	9.61	R-116A	13.84	S-51X	4.25
†F-133P	4.55	G-135	24.02	HSM-226	19.00	JO-1	12.84	NW-10	.60	R-23B	7.68	R-116B	13.88	S-52X	4.97
†F-134P	4.80	G-150	19.60	HSM-227	22.42	JO-2	12.84	NW-14	.78	R-24A	24.80	R-118A	15.64	S-53X	4.60
†F-135P	5.10	G-183	29.41	HSM-228	26.66	JO-3	12.84	NW-18	.60	R-24B	24.80	R-120A	17.40	S-54X	4.88

†New Item

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

© United Technical Publications

A DIVISION OF LITTON INDUSTRIES

TRIAD DISTRIBUTOR DIVISION

PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
S-55X	6.37	SP-29	8.49	T-14X	4.00	TY-38XT	4.64	TY-81	14.98	TZ-103XT	3.53	Y-21-1	8.90	Y-82-1	11.38
S-55Z	6.43	SP-32	6.87	T-15X	4.12	TY-39X	6.25	TY-82	15.28	V-21B	5.93	Y-21-3	7.05	Y-83-1	10.44
S-56Z	5.27	SP-33	7.10	T-20X	4.52	TY-40X	4.12	TY-83	22.12	V-21K	9.19	Y-22	9.80	YC-1	.82
S-57Z	6.43	SP-34	6.55	T-21X	4.13	TY-41X	5.13	TY-84	23.27	V-21Z	5.38	Y-22-1	9.09	YC-110	.84
S-58X	3.74	SP-35	6.65	T-22X	4.10	TY-42X	4.58	TY-85	24.60	V-23	5.50	Y-22-3	9.07	YC-111	.84
S-59Z	5.72	SP-36	7.05	T-23X	4.85	TY-43X	4.94	TY-86	23.51	V-23K	8.34	Y-24	9.74	YC-112	1.13
S-60A	13.36	SP-42	7.28	T-24X	3.88	TY-44X	4.25	TY-88	13.86	V-23Z	5.67	Y-24-3	7.00	YC-300-1	23.42
S-61Z	7.15	SP-47	7.70	T-25X	4.03	TY-45X	4.59	TY-89	13.86	VR-30Z	5.74	Y-25	5.83	YC-305	24.67
S-62X	4.63	SP-48	7.78	T-26X	4.00	TY-45XT	4.40	TY-90	16.25	V-31	4.47	Y-25-1	6.45	YC-310-2	18.33
S-63X	4.04	SP-49	7.48	T-31X	4.38	TY-46X	2.98	TY-91	16.25	WC-13	1.32	Y-25-3	6.33	YC-311-2	19.51
S-64X	2.80	SP-50	7.62	T-32X	3.33	TY-47X	4.84	TY-92	16.51	WLC-3	1.33	Y-26-2	8.67	YC-312-2	15.82
S-65X	3.03	SP-51	7.67	T-33X	5.47	TY-48X	4.21	TY-93	24.77	WLC-4	1.32	Y-28	7.97	YC-313-2	16.80
S-66X	3.38	SP-52	7.98	T-34X	3.18	TY-49X	4.21	TY-94	22.97	WLC-5	1.33	Y-28-3	8.37	YC-314-2	16.60
S-67X	2.74	SP-63	7.23	T-35X	3.95	TY-50X	7.21	TY-99	14.49	WLC-6	1.32	Y-30G	8.94	YC-315-2	16.60
S-68Z	3.78	SP-64	7.27	T-41X	4.47	TY-51X	4.37	TY-100	23.95	WLC-7	1.35	Y-31G	9.24	YT-101	9.76
S-69Z	5.35	SP-65	7.50	T-42X	4.28	TY-51XT	4.49	TY-101	19.39	WLC-8	1.80	Y-40	9.71	YT-102-2	10.24
S-70Z	4.57	SP-66	8.48	T-101X	3.82	TY-52X	6.32	TY-102	19.75	WLC-8A	1.80	Y-40-3	10.32	YT-103-1	9.16
S-71Z	5.95	SP-67	7.55	T-102X	2.48	TY-53X	4.17	†TY-141P	4.70	WLC-9	1.88	Y-41	9.54	YT-106-2	9.87
S-72Z	5.95	SP-68	8.90	TY-1XT	3.82	TY-54X	5.65	†TY-142P	4.25	WLC-10	1.59	Y-41-2	10.82	YT-107-2	9.06
S-73X	4.70	SP-69	8.50	TY-2Z	3.89	TY-55X	4.84	†TY-143P	4.15	WLC-11	2.05	Y-41-3	10.76	YT-110-2	12.58
SR-74K	6.45	SP-70	6.95	TY-3XT	3.37	TY-56X	5.68	†TY-144P	4.70	WLC-12	1.38	Y-42-2	8.73	YT-111	12.34
S-76Z	6.03	SP-106	7.07	TY-16XT	2.05	TY-57X	4.09	†TY-145P	3.55	WLC-17	1.41	Y-44	10.37	YT-112	11.67
S-77U	12.88	SP-107	5.98	TY-17XT	2.05	TY-58X	3.74	TY-158X	5.03	WLC-21	1.33	Y-44-1	11.35	YT-113	14.02
S-78Z	5.65	SP-108	6.22	†TY-20Z	4.80	TY-59X	7.38	TY-159X	5.17	WLC-23	1.33	Y-45	10.44	YT-114	14.02
S-79Z	6.00	SP-117	6.28	TY-23X	5.74	TY-60X	6.10	TY-160X	5.65	WLC-25	1.52	Y-45-2	11.57	13125	7.35
†S-81X	3.34	SP-118	6.02	TY-24X	7.31	TY-61X	3.37	TY-200X	8.38	WLC-26	1.62	Y-46	5.95	13500-1	7.10
S-129Z	6.08	SP-128	5.93	TY-25X	6.76	TY-62X	3.77	TY-201TZ	5.63	WLC-29	1.85	Y-46-3	7.57	13500-2	7.60
S-130Z	4.01	SP-310	.84	TY-26X	10.34	TY-63X	5.20	TY-202X	6.10	WLC-30	1.68	Y-47	5.98	13510-1	7.10
S-131X	3.45	SX-201	7.44	TY-27XT	4.37	TY-64X	5.32	TY-462	17.44	WLC-31	1.88	Y-48	9.06	13510-2	7.60
S-132X	4.15	SX-202	7.41	TY-28XT	4.25	TY-65Z	4.59	TY-468	12.70	Y-12-1	7.68	Y-48-3	7.48	13511	12.65
S-133Z	5.85	SX-203	7.26	TY-29X	5.22	TY-66A	10.22	TZ-1	6.12	Y-12-3	7.23	Y-60R	10.25	13540	7.60
S-142A	12.38	SX-204	7.44	TY-30X	3.82	TY-67A	11.60	TZ-2XT	6.38	Y-17	9.04	Y-60-1	11.80	13541	7.60
S-144A	18.34	SX-205	7.50	TY-31X	3.31	TY-68S	6.60	TZ-5	8.07	Y-17-1	9.65	Y-60-2	13.33	†13542	7.60
S-149A	18.35	SX-206	7.59	TY-32X	3.76	TY-69S	8.33	TZ-7	4.38	Y-17-2	10.15	Y-62	10.42	†13543	7.60
SP-4	10.50	SX-207	7.62	TY-33X	3.76	TY-70S	8.53	TZ-13	6.37	Y-17-3	9.32	Y-62-1	10.75	†13544	17.65
SP-5	9.95	SX-208	10.47	TY-34X	3.76	TY-71S	8.53	TZ-15	4.62	Y-19	8.03	Y-64	10.06	†13545	7.60
SP-7	9.52	T-1X	5.43	TY-35X	3.02	TY-74S	12.93	TZ-17XT	5.07	Y-19-1	6.82	Y-64-1	10.47	†13546	7.60
SP-11	8.27	T-2X	5.30	TY-35XT	2.99	TY-75A	18.76	TZ-24XT	5.80	Y-19-3	8.22	Y-66-1	10.85	13600-1	10.65
SP-13	9.07	T-3X	5.42	TY-36X	3.82	TY-76A	11.70	TZ-25	5.25	Y-20	7.78	Y-70	8.94	13600-2	12.35
SP-15	8.99	T-5X	4.93	TY-37X	4.82	TY-78	14.59	TZ-26	4.65	Y-20-2	8.90	Y-70-1	10.72	13605	6.90
SP-20	8.72	T-11X	4.57	TY-37XT	4.82	TY-79	15.50	TZ-28	3.68	Y-20-3	8.20	Y-72-1	11.57	13610	7.39
SP-21	8.77	T-12X	5.27	TY-38X	4.64	TY-80	15.02	TZ-32XT	4.87	Y-21	8.50	Y-81-3	11.66	13750	3.92
SP-22	9.10	T-13X	4.08											13751	3.92

† New item. ▪Discontinued item. Available until supply is exhausted

TRIAD CASES

	GB	HA	HB	JA	JB	KA	KB
A	2 3/8	2 5/8	2 5/8	3 1/16	3 1/16	3 3/8	3 3/8
B	2 3/4	3 1/16	3 1/16	3 5/16	3 5/16	3 15/16	3 15/16
C	2 13/16	4 1/4	3 3/16	4 7/8	3 7/8	5 1/4	4 5/16
D	2 1/8	2 13/64	2 13/64	2 5/8	2 5/8	3	3
E	1 3/8	1 55/64	1 55/64	2 1/8	2 1/8	2 7/16	2 7/16
G	3/8	3/8	3/8	3/8	3/8	1/2	1/2
I	6-32	8-32	8-32	8-32	8-32	10-32	10-32
Wt. (avg.) lbs.	1 3/4	2 1/2	2 1/4	4 1/2	4	7 3/4	7

	LA	LB	MA	MB	NA	NB
A	3 11/16	3 11/16	4	4	4 5/16	4 5/16
B	4 5/16	4 5/16	4 11/16	4 11/16	5 1/16	5 1/16
C	5 5/16	4 1/2	6	4 15/16	6 13/16	5 1/2
D	3 5/16	3 5/16	3 11/16	3 11/16	4 1/16	4 1/16
E	2 11/16	2 11/16	3	3	3 5/16	3 5/16
G	1/2	1/2	5/8	5/8	5/8	5/8
I	10-32	10-32	1/4-20	1/4-20	1/4-20	1/4-20
Wt. (avg.) lbs.	9 1/4	8 1/2	13 1/2	12 1/2	18	16

	AH	AJ	EA	EB	FA	FB	GA
A	1 5/16	1 5/8	1 13/16	1 13/16	2 1/16	2 1/16	2 3/8
B	1 5/16	1 5/8	1 13/16	1 15/16	2 5/16	2 5/16	2 3/4
C	1 3/4	2 3/8	2 3/4	2 7/16	3 1/8	2 1/2	3 13/16
D	1 1/4	1 5/16	1 3/8	1 3/8	1 11/16	1 11/16	2 1/8
E		1 5/16	1 1/4	1 1/4	1 7/16	1 7/16	1 3/4
G	3/8	3/8	3/8	3/8	3/8	3/8	3/8
I	6-32	6-32	6-32	6-32	6-32	6-32	6-32
Wt. (avg.) lbs.	4 oz.	9 oz.	1	15 oz.	1 3/4	1 1/2	2

	AF	AG	AH-2	AJ-2	JZ*†
A	5/64	1	1 5/16	1 5/8	7/16 dia.
B	5/64	1	1 5/16	1 5/8	Round
*Bw	1 1/64	1 3/32	1 11/32		
C	1 5/32	1 3/8	1 3/4	2 3/8	2 3/32
D	*27/32	*1 1/32	*1 11/32	*1 5/8	
F	5/8	3/4	7/8	7/8	
I	4/40	6/32	6/32	6/32	
Unit	1 1/4	2 1/2	5 1/4	11	.5
Wt.	oz.	oz.	oz.	oz.	oz.

* Not in conformance with MIL-T-27A.

	GP-1	GP-2	GP-3	GP-4	GP-5
A	7/8	1 1/16	1 1/4	1 7/16	1 5/8
B	1 1/16	1 1/4	1 5/8	1 3/4	2
Bw	1 1/16	1 11/32	1 21/32		
C	1 11/16	2 1/4	2 3/8	2 1/2	2 3/4
D	1 3/32	1 3/16	1 11/32	1 1/2	1 1/2
F	3/4	3/4	15/16	15/16	15/16
Wt.	3 oz.	5 1/2 oz.	8 oz.	12 oz.	17 oz.

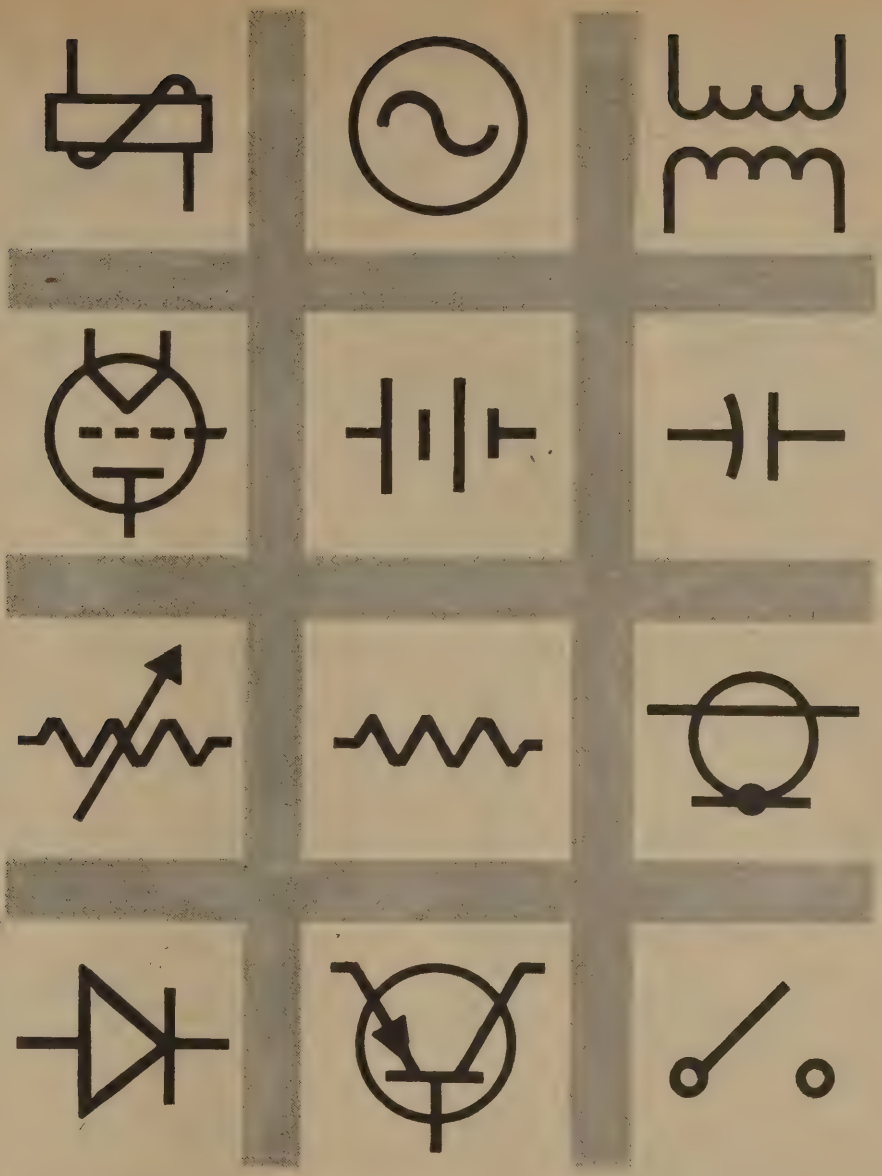
	JOA	JOB
A	15/16 dia.	15/16 dia.
B	Round	Round
C	1 13/32	1 25/32
D	5/16	5/16
F	7/8	7/8
Unit Wt.	2 oz.	2 1/2 oz.

SHIELDING

P-1—One nickel alloy high permeability shield — 45db. reduction in pickup.
P-3—Two nickel alloy shields interleaved with one heavy copper shading ring — 70db. reduction in pickup.
P-5—Three nickel alloy shields interleaved with two heavy copper shading rings— 95 db. reduction in pickup.

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

© United Technical Publications



Select the electronic products you need from

'72 THE RADIO-ELECTRONIC MASTER
A United Technical Publication
36th EDITION

world's largest catalog of electronic parts and equipment sold through distributors

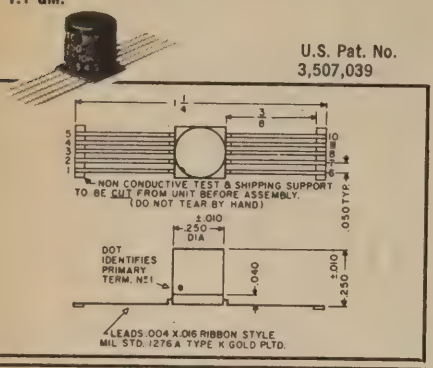
Then...

call your local distributor for fast, reliable service!

NEW ULTRAMINIATURE TRANSFORMERS & HIGH Q COILS

BIT-250* A COMPLETELY NEW DEVELOPMENT IN TRANSFORMER TECHNOLOGY

WEIGHT 1.1 GM.



NOTES

- Frequency response: ±2 db, 300 Hz — 250,000 Hz @ 1 MW Ref. level
- Dielectric strength tested @ 200V RMS
- Designed and tested to full MIL-T-27C environmental requirements
- MIL Grade 4, metal-encased, ruggedized
- Lead Material: Gold-plated ribbon-style Kovar, solderable and weldable — MIL-STD 1276A Type K

PACKAGING

Size reduction without loss of performance is achieved by major reduction of air gaps in the magnetic circuit. Core permeability closely approaches the theoretical maximum for material and structure.

Materials, dimensions and surface finish are identical with IC Flat Pack standards. Removable support protects terminal alignment prior to final assembly. This insulated support allows testing in conventional jigs.

RELIABILITY

Cylindrical bobbin-winding techniques eliminate corner stress normally found in fine-wire windings of conventional rectangular structures.

Lead arrangements and terminations have been designed to maximum reliability under thermal shock and temperature cycling.

FLEXIBILITY

These units are designed to afford maximum flexibility of application.

Transformers are 7-terminal types, with center-tapped primaries and split secondaries. When connected in parallel, split-winding secondaries provide ¼ the impedance and twice the DC current capability as series connections.

Inductors in the stock line include both single-winding and split-winding types.

Leader may be bent for plug-in PC application.

AUDIO TYPE TRANSFORMERS

TRANSFORMERS

BIT-250 Type No.	MIL Type No.	Pri Imp	Sec Imp (Split Wdg) Series/Par	Power Level MW for 5% Max Dist @ 1 KHz	Pri DCR Ω	(Series Conn.) Sec DCRΩ	Turns Ratio Pri/Sec/Sec	Turns Ratio Pri/ Overall Sec	Typical Application
BIT-250-14	TF4RX17YY	150 CT	12/3	80	13	1.5	7.1:1:1	3.54:1	Output
BIT-250-18	TF4RX17YY	300 CT	600/150	80	30	65	1.4:1:1	1:1.4	Ouput or Matching
BIT-250-20	TF4RX17YY	400 CT	400/100	80	50	50	2:1:1	1:1	Matching or Interstage
BIT-250-26	TF4RX17YY	500 CT	50/12.5	80	58	5.5	7.3:1:1	3.65:1	Output
BIT-250-30	TF4RX17YY	600 CT	600/150	80	65	65	2:1:1	1:1	Isolation or Matching
BIT-250-36	TF4RX17YY	1000 CT	1000/250	80	110	100	2:1:1	1:1	Output or Matching
BIT-250-48	TF4RX12YY	1500 CT	600/150	75	150	65	3.16:1:1	1.58:1	Output
BIT-250-48	TF4RX12YY	2000 CT	8000/2000	75	140	600	1:1:1	1:2	Isolation or Interstage
BIT-250-56	TF4RX12YY	10K CT	500/125	75	900	60	8.92:1:1	4.46:1	Output or Driver
BIT-250-60	TF4RX12YY	10K CT	1200/300	75	900	100	5.78:1:1	2.89:1	Driver
BIT-250-64	TF4RX12YY	10K CT	2000/500	75	900	160	4.48:1:1	2.24:1	Interstage
BIT-250-70	TF4RX12YY	10K CT	10K/2500	75	900	900	2:1:1	1:1	Isolation or Interstage
BIT-250-90	TF4RX12YY	25K CT	1000/250	40	2400	80	10:1:1	5:1	Interstage

INDUCTORS

BIT-250 Type No.	MIL Type No.	Connections	Inductance Hys Min. @ 1 KHz 5V @	DC ma	DC Res Ω	Ratio of Wdgs
BIT-250-03 (2 wdgs)	TF4RX20YY	Series	8.6 2.5	0 2	2260	1:1
		Parallel	2.4 .63	0 4	565	
BIT-250-05 (1 wdg)	TF4RX20YY		5.5 1.5	0 2	1000	
BIT-250-06 (1 wdg)	TF4RX20YY		.80 .25	1 6	250	
BIT-250-09 (2 wdgs)	TF4RX20YY	Series	.60 .15	0 5	146	1:1
		Parallel	.15 .038	0 10	37	

BIT-P PULSE TRANSFORMERS

TO COMPLETE MIL-T-21038B SPECIFICATIONS PULSE WIDTH .05 μSEC-100 μSEC RATIO 4:4.1 MIL TYPE TP6RX4410CZ

	APPROX. DCR, OHMS			BLOCKING OSCILLATOR PULSE					COUPLING CIRCUIT CHARACTERISTICS						
Type No.	1 & 5	6 & 7	9 & 10	P Width μ Sec.	Rise Time	% Over Shoot	% Droop	% Back Swing	P Width μ Sec.	Volt Out	Rise Time	% Over Shoot	% Droop	% Back Swing	Imp.* in/out
BIT-P21	.32	.29	.28	.05	.01	0	0	35	.05	0.2	.01	0	0	20	50
BIT-P22	.33	.32	.29	.1	.012	0	0	25	.1	.5	.015	0	0	20	50
BIT-P23	.38	.37	.3	.2	.02	0	0	15	.2	1.2	.02	0	0	20	100
BIT-P24	.5	.48	.32	.5	.023	0	5	15	.5	1.5	.022	0	5	25	100
BIT-P25	.62	.57	.35	1	.03	0	10	14	1	1.5	.025	0	20	28	100
BIT-P26	.7	.64	.4	2	.035	0	12	15	2	1.5	.028	0	15	23	100
BIT-P27	.85	.76	.48	3	.04	0	13	15	3	1.5	.032	0	18	28	100
BIT-P28	.96	.86	.52	5	.045	0	15	14	5	2	.035	0	20	20	200
BIT-P29	1.4	1.1	.57	10	.065	0	15	10	10	2	.05	0	25	25	200
BIT-P30	2.1	1.7	.8	15	.07	0	15	13	15	2	.06	0	27	18	200
BIT-P31	2.7	2.1	.97	25	.08	0	15	13	25	3	.1	0	30	30	500
BIT-P32	20	15	6	50	.2	0	10	5	50	3	.3	0	22	20	500
BIT-P33	42	32	12	100	.35	0	11	13	100	6	.4	0	15	18	500

* Input winding terminals 1 & 5; output winding terminals 6 & 7; terminals 9 & 10 open.

UNITED® TRANSFORMER CO. TRW®

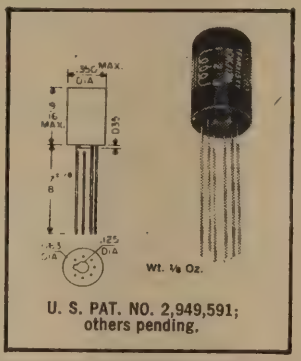
* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

AUDIO & POWER TRANSFORMERS AND MAG AMPS

DO-T200* SERIES, ULTRAMINIATURE PLUG-IN TRANSISTORS TRANSFORMERS

Manufactured and successfully tested to complete environmental requirements of MIL-T-27C. Most Ruggedized MIL Structure, Grade 4, Metal Encased. MIL types TF4RX13YY, TF4RX16YY. Immediate Delivery From Stock. Full Conformance to MIL Mounting Requirements. Solderable and Weldable Leads. Hermetically Sealed. Straight Pin Terminals. Excellent Response. High Efficiency. Low Distortion. Leads are ⅞" long, .016 Dumet wire, gold plated, and may be either welded or soldered. They are uninsulated and are spaced on a .1" radius circle. In pulse coupling impedance matching applications (when measured with a 30 microsecond input pulse voltage wave), typical values for these transformers are: 5% or less droop, zero overshoot, and less than 10% backswing. Also see **UTC page 9 for other DO-T family constructions.**



U. S. PAT. NO. 2,949,591; others pending.

Type No.	Pri. Imp.	D.C. ma‡ in Pri.	Sec. Imp.	Application
DO-T255	1000 CT 1200 CT	3 3	50 60	Output or matching
DO-T275	10,000 CT 12,000 CT	1 1	1500 CT 1800 CT	Interstage
DO-T277	10,000 CT 12,000 CT	1 1	2000 split 2400 split	Interstage
DO-T278	10,000 12,500	1 1	2000 CT 2500 CT	Driver
DO-T283	10,000 CT 12,000 CT	1 1	10,000 CT 12,000 CT	Isolation or Interstage (Ratio 1:1) also pulse appl.
DO-T288	20,000 CT 30,000 CT	.5 .5	800 CT 1200 CT	Interstage
DO-T297	200,000 CT	0	1000 CT	Input and Chopper
DO-T200SH	Drawn Hipermalloy shield provides 15 to 20 db shielding through side of case			

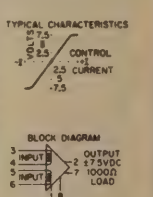
‡DCma shown is for single ended usage. For push pull, DCma can be any balanced value taken by .5W transistors. Where windings are listed as split, ¼ of the listed impedance is available by paralleling the winding.

NEW LINE OF SOLID STATE "MAS"* PUSH-PULL MAGNETIC AMPLIFIERS

For other Magamps see UTC page T-7.



The "MAS" magamps operate on an input of 115 V 400 Hz with an output of ±7.5 V DC, 1000 ohm load and have 2 isolated control inputs. These magnetic amplifiers afford a **power gain of approximately 30,000.** The power input and output are also completely and individually isolated. The "MAS" magamps are manufactured to MIL-T-27C standards. Units are housed in a hermetically sealed steel case with plug-in octal compressed glass terminals. The "MAS" magamps are 3 inches high with a 1½ inch diameter and weighs approximately ½ pound.

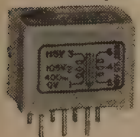


The "MAS" magamps have many advantages over other active circuit elements such as tubes, transistors: • Long life and years of maintenance free operation due to magnetic characteristics and solid state elements. • Ruggedness can withstand high shock, vibration, radiation, and moisture. • Reliability — can withstand 10 times overloads and operate into short without damage.

Possible applications include: • Control Amplifier • Photocell • SCR Controls • Strain Gauge Amplifier • Meter Preamps • Thermocouple • Differential Amplifier • Signal mixing, summing, integration • Hydraulic Servo Valve Driver • Servo Motor • Linear Amplifications of Transducer Signals.

Type Number	Winding Number	Input Resistance Ohms	Trans-resistance Ohms	Nominal DC μamps 5V DC Output 1000 Ω Load
MAS-400	1	45	2.5×10^4	200
	2	45	2.5×10^4	200
MAS-410	1	500	8.0×10^4	60
	2	500	8.0×10^4	60
MAS-420	1	1000	12.5×10^4	40
	2	100	4.0×10^4	125

MOLDED ISOLATION & SUPPLY TRANSFORMERS



Designed, manufactured and successfully tested to complete MIL-T-27C specifications. These units are vacuum molded to MIL Grade 5. Units are ELECTROSTATICALLY SHIELDED. See page 5 for Metal Cased lines of transistor supply transformers.

Type No.	H-149	H-148
Application	—	Isolation
Primary	28V 380-1000Hz	105/115V 400Hz
Secondary	1) 6.3V-.08A 2) 6.3V-.08A	115VCT-.02A
Series Con.	12.6V-.08A	
Parallel Con.	6.3V-.16A	
MIL Type	TF5SX03ZZ	TF5SX03ZZ
Base	¾ x ⅞"	¾ x 1"
Height	5/16"	23/32"
Weight	.04 lbs.	.05 lbs.

EXPERIMENTER/HOBBYIST TRANSFORMER

HCA-308 OUTPUT TRANSFORMER



Primary: 125 ohms centertapped
Secondary: 3.2 ohms
Frequency Response: ±1 db, 100 Hz to 10 kHz
Power Level: up to 1 watt
Size: 2⅛ x 1¼; 1¾ mounting.
Weight: .2 lbs.

NEW "PIL"* AUDIO TRANSFORMERS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.



Type No.	Connection	Ind.Hys. Min @ IV, 1KC	DC ma	DCR Ohms
PIL-5	Series	.12	0	43
	Parallel	.03	0	10.7
	Series	.10	10	
	Parallel	.025	10	
PIL-8	Series	.32	0	115
	Parallel	.08	0	28
	Series	.16	10	
	Parallel	.06	10	
PIL-12	Series	.8	0	300
	Parallel	.2	0	75
	Series	.4	5	
	Parallel	.15	5	

All units are subjected to a 500 volt dielectric strength test, instead of the usual 100 volts, for higher safety margins and reliability.

The units are terminated in weldable and solderable, insulated Gold plated Dumet leads. Dim: 5/16" dia. x ¾" h., 1/20 oz.

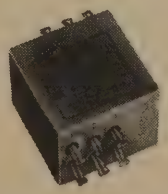
All units are metal encased to Grade 4. Units made to Class S are available on special order. U. S. Patent No. 2,949,591.

Type No.	MIL Type	Pri Imp	Unbal D.C. ma In Pri	Sec Imp	Pri DCR	Max Mw Level	±3 db Fre Range @ 1 Mw
PIL-50	TF4RX17YY	500 CT	3	500 CT	40	100	800 cps-250KC
PIL-70	TF4RX13YY	10K CT	1	500 CT	530	100	800 cps-250KC
PIL-75	TF4RX13YY	10K CT	1	2K CT	530	100	800 cps-250KC

BALANCED MODULATOR TRANSFORMER WITH ELECTROTATIC SHIELD

Type No.	MIL Type	Pri. Imp Ω	Sec. Imp Ω	Pri. DCR Ω ±25%	Sec. DCR Ω ±25%	Frequency Range
PIL-850	TF4RX16YY	150	600 CT	3	7	300 kHz-450 kHz

UNIVERSAL INVERTER AND CONVERTER TRANSFORMERS



NEW NV* SERIES

• Hermetically sealed • Made to complete MIL-T-27C specs; Grade 4, Class V.

DIMENSIONS

NV-520, NV-720, NV-920: 1⅜ sq x 1⅜" high max.; NV-530, NV-730: 1⅜ sq x 1⅜" high max.; Approximate weights: 1.5 oz and 2.5 oz.

	FULL WAVE BRIDGE								FULL WAVE CT		
0 to Peak Volts →	81	64.5	57	48	40.5	33	24	16.5	81 CT	48 CT	33 CT
Type No.	Freq. (kHz)	Current in amperes RMS, at above voltages									
NV-520	10	.4	.45	.5	.55	.8	.6	1.05	1.2	.55	.65	.85
NV-530	10	.8	.9	1	1.1	1.6	1.2	2.1	2.4	1.1	1.3	1.7
NV-720	20	.55	.6	.65	.70	1.1	.8	1.3	1.6	.70	.85	1.05
NV-730	20	1.1	1.2	1.3	1.4	2.2	1.60	2.6	3.2	1.4	1.7	2.1
NV-920	50	1.0	1.1	1.2	1.3	2	1.5	2.5	3.0	1.3	1.55	2.0

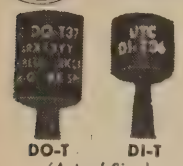
UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

TRANSISTOR TRANSFORMERS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.

DO-T* AND DI-T* TRANSISTOR TRANSFORMERS



DO-T DI-T
(Actual Size)

Revolutionary transistor transformers hermetically sealed to MIL-T-27C specs. Plastic insulated solderable leads, firmly anchored to withstand 10 pound pull. Ideal for printed circuits. DO-T: 5/8" dia. x 1 3/16" long, wt., 1/10 oz. DI-T: 5/16" dia. x 1 1/4" long, wt., 1/15 oz. these compact units provide frequency response, high efficiency and low distortion. U.S. Pat. No. 2,949,591

DO-T Type	DI-T Type	Applica-tion	Pri. Imped., Ohms	Sec. Imped. Ohms
DO-T1	DI-T1	a	20K/30K, 0.5 ma	800/1200
DO-T2	DI-T2	b	500/600, 3 ma	50/60
DO-T3	DI-T3	b	1K/1.2K, 3 ma	50/60
DO-T4	.....	b	600, 3 ma	3.2
DO-T5	DI-T5	b	1.2K, 2 ma	3.2
DO-T6	.....	b	10K, 1 ma	3.2
DO-T7	.....	c	200K	1K
DO-T8	DI-T8	d*	3.5 hys. @ 2 ma	2.5 hys.‡‡
DO-T9	DI-T9	e	10K/12K, 1 ma	500/600 CT
DO-T10	DI-T10	f	10K/12.5K, 1 ma	1.2K-1.5K CT
DO-T11	DI-T11	f	10K/12.5K, 1 ma	2K/2.5K CT
DO-T12	.....	b	150/200 CT, 10 ma	12/16
DO-T13	.....	b	300/400 CT, 7 ma	12/16
DO-T14	.....	b	600/800 CT, 5 ma	12/16
DO-T15	.....	b	800/1070 CT, 4 ma	12/16
DO-T16	.....	b	1K/1330 CT, 3.5 ma	12/16
DO-T17	.....	b	1.5K/2K CT, 3 ma	12/16
DO-T18	.....	b	7.5K/10K CT, 1 ma	12/16
DO-T19	DI-T19	b	300 CT, 7 ma	600
DO-T20	DI-T20	b	500 CT, 5.5 ma	600
DO-T21	DI-T21	b	900 CT, 4 ma	600
DO-T22	DI-T22	b	1500 CT, 3 ma	600
DO-T23	DI-T23	a	20K/30K CT, .5 ma	0.8K/1.2K CT
DO-T24	.....	c	200K CT	1K CT
DO-T25	DI-T25	a	10K/12K CT, 1 ma	1.5K/1.8K CT
DO-T26	DI-T26	d†	6 hys. @ 2 ma	4.5 hys.‡‡
DO-T27	DI-T27	d‡	1.25 hys. @ 2 ma	0.9 hy.‡‡
DO-T28	DI-T28	d§	0.3 hy. @ 4 ma	0.1 hy.‡‡
DO-T29	.....	b	120/150 CT, 10 ma	3.2/4
DO-T30	.....	b	320/400 CT, 7 ma	3.2/4
DO-T31	.....	b	640/800 CT, 5 ma	3.2/4
DO-T32	.....	b	800/1K CT, 4 ma	3.2/4
DO-T33	.....	b	1060/1330 CT, 3.5 ma	3.2/4
DO-T34	.....	b	1.6K/2K CT, 3 ma	3.2/4
DO-T35	.....	b	8K/10K CT, 1 ma	3.2/4
DO-T36	DI-T36	a	10K/12K CT, 1 ma	10K/12K CT
DO-T37	DI-T37	a	2K/2.5K CT, 3 ma	8K/10K Split
DO-T38	DI-T38	a	10K/12K CT, 1 ma	2K/2.4 Split
DO-T39	.....	a	20K/30K CT, .5 ma	1K/1.5K Split
DO-T40	.....	a	40K/50K CT, .25 ma	400/500 Split
DO-T41	DI-T41	a	400/500 CT, 8/6 ma	400/500 Split
DO-T42	.....	a	400/500 CT, 8/6 ma	120/150 Split
DO-T43	DI-T43	a	400/500 CT, 8/6 ma	40/50 Split
DO-T44	DI-T44	a	80/100 CT, 12/10 ma	32/40 Split
DO-T45	.....	a	1K/1.25K CT, 3.5 ma	16K/20K Split
DO-T46	.....	c	100K CT	500 CT
DO-T47	.....	a	9K/10K, 1 ma	9K/10K CT
DO-T48	.....	a	8K/10K, 1 ma	1.2K/1.5K CT
DO-T49	.....	d§§	Series—20 hys @ 1 ma, 5100Ω Parallel—5 hys @ 2 ma, 1275Ω	
DO-T50	.....	d§§	Series—.075 hys @ 10 ma, 10.5Ω Parallel—.018 hys @ 20 ma, 2.6Ω	
DO-T51	DI-T51	a	2K/2.5K CT, 3 ma	2K/2.5 K split
DO-T52	DI-T52	a	4K/5K CT, 2 ma	8K/10K CT
DO-T53	DI-T53		400/500 CT, 8 ma	4K/5K CT
DO-T54	.....		40K/50K CT, .25 ma	4K/5K CT
DO-T400	.....	h	28V, 380-1 kHz	6.3 V, 60 ma
DO-T410	.....	h	28V, 380-1 kHz	Two 6.3 V, 30 ma
DO-T420	.....	h	28V, 380-1 kHz	28 V, 10 ma
DO-TSH	DI-TSH		High mu shield and cover; 25 db	

*630 ohms. †2100 ohms. ‡100 ohms. §25 ohms.
‡‡DI-T primary impedance. §§2 Wdgs.
a—Interstage; b—Output; c—Input; d—Inductor; e—Driver or Output; f—Driver; g—matching; h—Power Unit.

NEW
DI-T200* SERIES TRANSISTOR TRANSFORMERS

(ALSO SEE UTC PAGE 8 FOR DO-T200)



These revolutionary transistor transformers embody the same rugged reliable construction afforded by the unique winding techniques and physical construction found in the DO-T & DI-T transformers. DI-T200 series differ by having straight pin, 1" long, .017 d. Dumet wire, gold plated leads.
To MIL-T-27C, size 5/16 x 3/8", wt. 1/15 oz. U.S. Pat. No. 2,949,591

Type No.	Application	Pri. Imped., Ohms	Sec. Imped., Ohms
DI-T225	Interstage	80 CT 100 CT	32 Split 40 Split
DI-T230	Output or Matching	300 CT	600 Split
DI-T235	Interstage	400 CT 500 CT	40 Split 50 Split
DI-T240	Interstage or Output (Ratio 2:1:1)	400 CT 500 CT	400 Split 500 Split
DI-T245	Output or Matching	500 CT 600 CT	50 CT 60 CT
DI-T250	Output or Mixing	500 CT	600 CT
DI-T255	Output or Matching	1,000 CT 1,200 CT	50 CT 60 CT
DI-T260	Output	1,500 CT	600 CT
DI-T265	Isolation or Interstage	2,000 CT 2,500 CT	8,000 Split 10,000 Split
DI-T270	Output or Driver	10,000 CT 12,000 CT	500 CT 600 CT
DI-T273	Output or Driver	10,000 CT 12,500 CT	1,200 CT 1,500 CT
DI-T276	Interstage or Driver	10,000 CT 12,000 CT	2,000 CT 2,400 CT
DI-T278	Interstage or Driver	10,000 CT 12,500 CT	2,000 Split 2,500 Split
DI-T283	Isolation or Interstage	10,000 CT 12,000 CT	10,000 CT 12,000 CT
DI-T288	Interstage or Driver	20,000 CT 30,000 CT	800 CT 1,200 CT
DI-T204	Split Inductor (2 wdgs)	Series: .1 hy @ 4 ma DC, 25Ω Parallel: .025 hy @ 8 ma DC, 6Ω	
DI-T208	Split Inductor (2 wdgs)	Series: .9 hy @ 2 ma DC, 105Ω Parallel: .2 hy @ 4 ma DC, 26Ω	
DI-T212	Split Inductor (2 wdgs)	Series: 2.5 hy @ 2 ma DC, 630Ω Parallel: .6 hy @ 4 ma DC, 157Ω	
DI-T216	Split Inductor (2 wdgs)	Series: 4.5 hy @ 2 ma DC, 2300Ω Parallel: 1.1 hy @ 4 ma DC, 575Ω	

DI-T200SH Drawn Hipermalloy shield provides 15 to 20 db shielding through side of case

PRECISION SCOTT-T REFERENCE TRANSFORMER NEW SRC-10*

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications



Used in the precise conversion of three wire synchro information to equivalent resolver information. Two outputs 90° apart are obtained, which can be utilized in analog and digital computer application or coordinate transformation applications. Mil type TF4SX09AJ.

Special custom built units with other electrical values are available to your requirements

Input 90V 60/400 Hz 3 Phase high impedance suitable for synchro output.
Output 1) 3V @ .25 MA } 2 Phase Output.
2) 3V @ .25 MA }

a) Magnitudes of output voltage matched within 0.25%.
b) Phase angle of output voltages is 90° ± .225°.

AJ case see page 18

PIP* SERIES TRANSISTOR PULSE TRANSFORMERS

UTC's PIP series of subminiature transistor type pulse transformers is designed to give a maximum of component density in equipments, their configuration being especially compatible with transistors. The design is based on the UTC DO-T and DI-T series to impart exceptional reliability. PIP-1 through PIP-9 have a ratio of 4:4:1, PIP-10 through PIP-12 have a ratio of 5:3:1. All units are checked and adjusted in a transistor test circuit to give the required pulse width.

Hermetically sealed, manufactured and guaranteed to MIL-T-20138B by full environmental testing . . . all units, completely METAL CASED, MIL type TP6RX4410CZ. See UTC pages T-1, T-7 for other miniature pulse transformers.

All Units Individually Adjusted to Parameters Shown in Table

U.S. Pat. No. 2,949,591

5/16" Dia. x 3/16" high
Weight 1/20 oz.

Type No.	APPROX. DCR, OHMS 1-Brn 2-Rd	3-Org 4-Yel	5-Grn 6-Blu	BLOCKING OSCILLATOR PULSE Width μSec.	Rise Time	% Over Shoot	Droop %	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μSec.	Volt Out	Rise Time	% Over Shoot	Droop %	Back Swing	Imp. in, out,
PIP-1	.18	.20	.07	.05	.02	0	0	37	.05	9	.018	0	0	12	50
PIP-2	.47	.56	.17	.1	.025	0	0	25	.1	8	.02	0	0	5	50
PIP-3	1.01	1.25	.37	.2	.030	2	0	15	.2	7	.035	0	0	5	100
PIP-4	1.5	1.85	.54	.5	.05	0	0	15	.5	7	.06	0	0	0	100
PIP-5	2.45	3.1	.9	1	.08	0	0	14	1	6.8	.15	0	0	5	100
PIP-6	3.0	3.7	1.1	2	.10	0	0	15	2	6.6	.18	0	2	10	100
PIP-7	4.9	6.05	1.8	3	.20	0	0	14	3	6.8	.20	0	2	10	100
PIP-8	8.0	9.7	2.9	5	.30	0	0	3	5	7.9	.22	0	13	25	200
PIP-9	13.1	15.9	4.7	10	.35	0	5	12	10	6.5	.4	0	15	20	200
PIP-10	.55	.41	.15	.1	.01	0	0	20	.1	8	.01	0	0	5	140/50
PIP-11	2.9	2.2	.82	1	.02	4	4	6	1	6.6	.05	0	6	12	280/100
PIP-12	9.4	7.1	2.6	5	.05	0	12	12	5	8	.09	2	12	25	560/200

PIP-100 Transistor pulse transformer kit, consisting of PIP-1 thru PIP-9 in plastic case.

PIP-SH Drawn Hipermalloy shield and cover for PIP's provides 20 to 30 db shielding.



UNITED® TRANSFORMER CO. TRW

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

UTC PAGE 9

© United Technical Publications

TRANSISTOR TRANSFORMERS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.

TRANSISTOR SUPPLY TRANSFORMERS



Primary 115V. 50/60 Hz (tapped on H-143 thru H-146 for dual secondary voltages). DC ratings are approximate, based on silicon bridge rectifier (except H-141, H-142 also shown F.W.CT.). Choke input DCV is based on 10% voltage drop in choke. Condenser value, C, is in 1000 mfd. H-141, H-142, H-147 listing under "Secs in parallel" is single winding. All units MIL type TF4RX02.

Type No.	Sec. V Rms	Sec. A Rms	Sec. in Parallel: Choke DCV	Input DCA	Cond. DVC	Input DCA	C	Sec. in Series: Choke DCV	Input DCA	Cond. DVC	Input DCA	C	MIL Case (Pg. 18)
H-141	20 CT	.3	16.5	.3	26	.2	.2						EB
			8	.43	12	.3	.5						
H-142	20 CT	.6	16.5	.6	26	.4	.4						EA
			9	.85	13	.6	1						
H-143	17/21.5	1.5	14/17.5	3	18.5/25	2	1	28/35	1.5	43/56	1	.5	HA
	17/21.5	1.5											
H-144	17/21.5	4	14/17.5	8	18.5/25	5	2	28/35	4	43/56	2.5	1	LA
	17/21.5	4											
H-145	17/21.5	9	14/17.5	18	18.5/25	12	6	28/35	9	43/56	6	4	RC-175
	17/21.5	9											
H-146	34/43	4.5	28/35	9	43/56	6	4	56/70	4.5	85/110	3	1	UTC Pg. 12
	34/43	4.5											
H-147	10	20	8.2	20	10	13	12						KA

UNIVERSAL TRANSISTOR SUPPLY TRANSFORMERS

Low Voltage DC Supply
Telephone Supply
Bias Supply
Battery Chargers
Plating Rectifiers

UTC universal transistor supply transformers are high reliability units in drawn MIL cases. Primary taps can modify nom. AC voltages by −6%, +6%, and +12%. The capacitor following the rectifier affects the DC voltage.

PRIMARY 115 VOLTS, 50/60 Hz
NOMINAL SEC. VOLTS, 8.25 to 40.5

Type No.	MIL DC Range	Indust. DC Range	MIL Case (Pg. 18)
H-915	6V-.065A to 53V-.02A	6V-.085A to 53V-.025A	AH
H-925	6V-.22A to 53V-.07A	6V-.28A to 53V-.085A	AJ
H-935	6V-1.2A to 53V-4A	6V-1.52A to 53V-.48A	FA
H-94	6V-3A to 53V-1A	6V-3.8A to 53V-1.2A	HA
H-95	6V-7.5A to 53V-2.5A	6V-9A to 53V-3A	KA
H-96	6V-18A to 53V-6A	6V-23A to 53V-7.5A	OA

PRIMARY 115 VOLTS, 50/60 Hz
NOMINAL SEC. VOLTS, 16.5 TO 81

H-965	12V-1.5A to 106V-.5A	12V-1.9A to 106V-.6A	HA

NEW 400 Hz MET* TYPES

PRIMARY 115 VOLTS, 400 Hz • NOMINAL SEC., 8.25-40.5 VOLTS

MET 455	6V-1.2A to 53V-.4A	6V-1.52A to 53V-.48A	AJ
MET 465	6V-3A to 53V-.4A	6V-3.8A to 53V-1.2A	FA
MET 475	6V-7.5A to 53V-2.5A	6V-9A to 53V-3A	HA
MET 495	12V-.6A to 106V-.2A	12V-.76A to 106V-.24A	
MET 445	6V-.6A to 53V-.2A	6V-.75A to 53V-.24A	



Primary 105/115
Volts 380-1000 Hz. Sec: 6.3
VCT 2500V RMS Test

MOLDED
400 Hz TYPE
TF55X01ZZ

Type No.	Sec. Amp.	L In.	W In.	H In.	Wt. Lbs.
H-101	3.5	1 25/32	1 13/32	2	.3
H-102	5.5	1 3/4	2	2 1/4	.44
H-103	10	2 3/16	2 1/8	2 1/2	.8
H-104	25	2 7/8	2 1/2	3 1/32	1.5
H-118	.3	Subouncers mold see pg. 16			

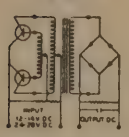
TRANSISTOR INVERTER TRANSFORMERS

High reliability (layer insulated) types providing high efficiency in small size. Units are in drawn MIL cases. Circuit details supplied with transformer. With 6 V. input instead of 12 V., output voltage is halved, current rating remains the same.

FOR 12/14 OR 24/48 VOLT BATTERY



Type No.	DC output, when used in circut shown	MIL Case (Pg. 18)
H-97	250V.-60 ma	AH
H-98	375V.-100 ma	AJ
H-99	425V.-175 ma	FA
H-100	550V.-200 ma	GB



IMMEDIATE DELIVERY
ON ALL ITEMS
FROM STOCK

NEW MET* 400-Hz SERIES

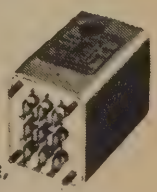
Type No.	MIL Type	Sec. Volt	Amps. (MIL)	Amps. (Indust.)	Sec. Test V. RMS	MIL Case (Pg. T-12)
MET-400††	TF4SX03AH 380-1000 Hz‡	115CT	.06	.072	1000	AH
		115CT	.06	.072		
		230▲	.06	.072		
		115•	.12	.144		
MET-405††	TF4SX01EA 380-1000 Hz‡	115CT	0.2	.24	1000	EA
		115CT	0.2	.24		
		230▲	0.2	.24		
		115•	0.4	.48		
MET-410#	TF4SX01YY 400 cy. pri.	6.3	.6	.75	500	RC-25 (Pg. 12)
MET-420	TF4SX01AH 3800-1000 cy.‡	6.3CT	2	2.5	1500	AH
MET-430†	TF4SX01FA 400 cycles§	12.6CT	2	2.5	1500	FA
		12.6	2	2.5		
MET-435	TF4SX01FA 380-1000 cy.‡	6.3CT	10	12	2500	FA
MET-440	TR4SX01GB 380-1000 cy.‡	6.3CT	6	7	2500	GB
		6.3CT	6	7		

†Two MET-430's, Scott-connected, provide 26v., 2-phase from 115 v., 3-phase 400 Hz input. Replaces former No. H-139.
‡105/115/125 v. primary.
§57.5/99.7/115 v. primary.
▲ Series connected. • Parallel connected.
†† ELECTROSTATICALLY SHIELDED.

HERMETIC SEALED TRANSISTOR/FILAMENT SUPPLY TRANSFORMER

Primary: 105/115/210/220 volts, 50/60 Hz, except H-130, H-137, H-138, H-104 (115v.) and H-131 (115/220v.) Suited to 400/100 Hz. H-128: 6½ x 5½" x 7¾" h. (wt. 34 lbs.) H-129: 6½" x 5½" x 7¾" h. (wt. 28 lbs.)

METAL CASED TF4 TYPE



MIL-T-27C RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

Type No.	MIL Type	Sec. Volts	Amps. (MIL)	Amps. (Indust.)	Sec. Test V. RMS	MIL Case Pg T-12
H-119	TF4RX01AH	6.3CT	.3	.38	1500	AH
H-120	TF4RX01GB	2.5	10	12	4000	GB
H-121	TF4RX01JB	2.5	10	12	10000	JB
H-122	TF4RX01KB	2.5	20	26	10000	KB
H-123	TF4RX01NB	2.5	5	7.5	10000	NB
		2.5	5	7.5		
		2.5	10	15		
H-124	TF4RX01FB	5	3	3	2000	FB
H-125	TF4RX01KB	5	10	12	10000	KB
H-126	TF4RX01LA	5	20	25	10000	LA
H-127	TF4RX01NA Term. Opp. Mtg.	5	20	30	21000	NA
H-128	TF4RX01YY Term. Opp. Mtg.	5	60	75	21000	
H-129	TF4RX01YY	5	10	12	21000	
	Term. Opp. Mtg.	5	10	12		
		5	20	24		
H-130	TF4RX01AJ	6.3CT	.6	.75	1500	AJ
H-131	TF4RX01FB	6.3CT	2	2.5	2500	FB
H-132	TF4RX01JA	6.3CT	6	7	2500	JA
		6.3CT	6	7		
H-133	TF4RX01HB	6.3CT	7	8	2500	HB
H-134	TF4RX01HA	6.3CT	10	12	2500	HA
H-135	TF4RX01JB	10 CT	10	13	2500	JB
H-136	TF4RX01LA	14, 12, 11 CT	10	14	2500	LA
H-137	TF4RX01EB	6.3	.6	.75	1500	EB
		6.3	.6	.75		
H-138	TF4RX01GA	12.6	2	2.5	1500	GA
		12.6	2	2.5		

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

TRANSISTOR TRANSFORMERS
(Commercial Types)
& M-S Transformers & Inductors

TRANSISTOR TRANSFORMERS *(Commercial Type)*.

NEW CAT* TRANSISTOR IMPEDANCE TYPES

All units in RC-50 case. (see page 15) Frequency range ±2 db, 50 15,000 Hz. Power level 1 watt except CAT-15, 5 watts.

UTC Type	Application	Imped. Ohms	Primary Unbal. ma DC	Secondary Imped., Ohms
CAT-15	Output	48/12 spl.	750•	16 spl./8/4
CAT-20	Istg./outp.	500/125 spl.	20	16/4 split
CAT-25	Isol./outp.	500/125 spl.	20	500/125 spl.
CAT-30	Input/istg.	500/125 spl.	20	2K/500 split
CAT-40	Istg./outp.	10K/2.5K spl.	8	2K/500 split

• Balance. * Trade mark.

CHANNEL FRAME FILAMENT/TRANSISTOR TRANSFORMERS
Pri. 115 V. 50/60 Hz—Test Volts RMS: 1500

See Fig. E page 17.

Type No.	Secondary	W	D	H	M	Lbs.
FT-1	2.5 VCT-3A	2⅞	1⅝	1 11/16	2⅜	¾
FT-2	6.3 VCT-1.2A	2⅞	1⅝	1 11/16	2⅜	¾
FT-3	2.5 VCT-6A	3 5/16	1⅞	2	2 13/16	1
FT-4	6.3 VCT-3A	3 5/16	1⅞	2	2 13/16	1
FT-5	2.5 VCT-10A	3¾	2⅛	2 5/16	3⅛	1½
FT-6	5 VCT-3A	3¾	2⅛	2 5/16	3⅛	1½
FT-7	7.5 VCT-3A	3¾	2⅛	2 5/16	3⅛	1½
FT-8	6.3 VCT-8A	4	2½	2⅝	3 5/16	2½
FT-10	24 VCT-2A or 12V-4A	4	2⅝	2 11/16	3 5/16	2½
FT-11	24 VCT-1A or 12 V-2A	3¾	2⅛	2 5/16	3⅛	1½
FT-12	36 VCT-1.3A or 18 V-2.6A	4	2⅝	2⅝	3 5/16	2½

Taps on pri. of FT-13, FT-14 & FT-15 to modify sec. nominal V, −6% +6%, +12%

FT-13	26 VCT-.04A	2⅛	1⅜	1¼	1¾	¼
FT-14	26 VCT-.25A	2⅞	1⅝	1 11/16	2⅜	¾
FT-15	48VCT-1A	4	2½	2 5/8	3 5/16	2½
FT-16*	11 VCT-2.5A or 5.5 V.-5A	3¾	2⅛	2 5/16	3⅛	1½

* For 120 V input, use 6% tap

TRANSISTOR/FILAMENT TRANSFORMERS
Pri. 115 x 50/60 Hz; Bridge Rectifier
S-77, S-78 & S-79 Tapped For Dual Secondary Voltages

UTC Type	DCV	DCA	Case No. See Page 17
S-75	5.2/14	1.2/.4	G-1
S-76	10/26	4/1.4	G-4
S-77	14/56	3/1	G-5
S-78	28/110	9/3	G-10
S-79	32/120	3/1	G-7

CIRCUIT DEVELOPMENT TRANSFORMERS FOR TRANSISTORS

The UTC LABoratory circuit development transformers aid the designer in selecting optimum impedances for best power and distortion results from his transistor circuit.

LAB* UNIT



LAB-5
20 Hz to 20 kHz
Up to 50mw Continuous

Pri Imp. Ω	Sec. Imp. Ω
125	125
200 split	200 split
500 split	500 split
2000 split	2000 split

LAB-5 & LAB-10
units in LS-1 case
3⅛x2⅝x3¼"; 3 lbs.

LAB-20
units in LS-3 case
5 13/16x5x4 11/16"; 15 lbs.

Terminal board as shown above

LAB-10
20 Hz to 20 kHz
Up to 1W Continuous

Pri. Imp. Ω Range	Pri. to Sec. Ratio	Sec. Imp. Ω Range
1900 Ω to 14,400 Ω	20:1 or 10:1	19 Ω to 36 Ω
925 Ω to 7600 Ω	10:1 or 5:1	37 Ω to 76 Ω

LAB-20
20 Hz to 20 kHz
Up to 50W Continuous

Pri. Imp. Ω	Sec. Imp.
6, 12, 24, 40, 54, 70,	4, 8, 16, 64

TRANSISTOR/FILAMENT SUPPLY TRANSFORMERS
Primary 115 volts 50/60 Hz

Type No.	Sec. V RMS	Sec. A RMS	In Parallel Choke in DCV	In Parallel Choke in DCA	In Parallel C in DCV	In Parallel C in DCA	In Series Choke in DCV	In Series Choke in DCA	In Series C in DCV	In Series C in DCA	Case No. See Pg. 15
CG-30	17/21.5	1.5	14/17.5	3	18.5/25	2	28/35	1.5	43/56	1	RC-112
	17/21.5	1.5									
CG-31	34/43	4.5	28/35	9	43/56	6	56/70	4.5	85/110	3	RC-175
	34/43	4.5									
CG-32	6.3VCT	1.2									RC-62

FILAMENT/TRANSISTOR SUPPLY TRANSFORMERS

Primary 105, 115, 210, 220, 230 volts, 50/60 Hz, except CG-34 . . . 105, 115, 220, 230. These transformers may be used on 25 to 43 Hz if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

RC CASE
See page 15



Type No.	Sec. Volts C.T.	Sec. Amp.	Working Voltage	Sec. Test Volts RMS	Case No. See Page 15
CG-33	6.3	4	500	2000	RC-75
CG-34	2.5	10	2500	6000	RC-112
CG-35	6.3	6	500	2000	RC-87
CG-36	6.3/6.3	5/5	500	2000	RC-100
CG-120	2.5	10	5000	11000	RC-125
CG-121	5	25	5000	11000	RC-150
CG-122	7.5/6.3	10	1500	4000	RC-125
CG-124	10	10	1500	4000	RC-150
CG-125	14/12/11	10	1500	4000	RC-150
CG-126	14/11/10 14/11/10	10	1500	4000	RC-152

MILITARY STANDARD TRANSFORMERS AND INDUCTORS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications

FILAMENT, POWER, PLATE TRANSFORMERS

Primary 105/115/125 v., 54/66 Hz. Current ratings are for high voltage secondary DC, choke input filter. For condenser input, reduce by 70%. All units are MIL grade 4, ruggedized; equally usable where grade 1 is specified. Electrostatically shielded.

UTC Type	MS No.	MIL Type TF4RX-	Secondary Rating	MIL Case Pg. 18
N-583A	90016-2	01EB002	2.5 v.-3 a.; 1000 WV	EB
N-584A	90017-2	01GB003	2.5 v.-10 a.; 1000 WV	GB
N-585A	90018-2	01FB004	5 v.-3 a.; 1000 WV	FB
N-586A	90019-2	01HB005	5 v.-10 a.; 1000 WV	HB
N-587A	90020-2	01FB006	6.3 v.-2 a.; 1000 WV	FB
N-588A	90021-2	01GB007	6.3 v.-5 a.; 1000 WV	GB
N-589A	90022-2	01JB008	6.3 v.-10 a.; 1000 WV	JB
N-590A	90023-2	01KB009	6.3 v.-20 a.; 1000 WV	KB
N-591A	90024-2	01JB012	2.5 v.-10 a.; 6300 WV	JB
N-592A	90025-2	01KB013	5 v.-10 a.; 6300 WV	KB
N-593A	90026-2	03HA001	200-100-0-100-200, 70 ma; 6.3/5 v.-2 a.; 6.3 v.-3 a.	HA
N-594A	90027-2	03JB002	325-0-325, 70 ma; 6.3/5 v.-2 a.; 6.3 v.-4 a.	JB
N-595A	90028-2	03KB006	325-0-325, 150 ma; 5 v.-3 a.; 6.3 v.-5 a.	KB
N-596A	90029-2	03LB003	400-0-400, 175 ma; 5 v.-3 a.; 6.3 v.-8 a.	LB
N-597A	90030-2	03MB004	450-0-450, 250 ma; 5 v.-3 a.; 6.3 v.-8 a.	MB
N-598A	90031-2	02KB001	350-0-350, 250 ma	KB
N-599A	90032-2	02LB002	550-0-550, 250 ma	LB
N-600A	90036-2	02NB003	800-0-800, 250 ma	NB

AUDIO TRANSFORMERS

Frequency response 300-10,000 Hz ± 2 db. Split 600-ohm units provides for 600 ohms CT and 1000 ohms. Electrostatic shielding provided on W-784, W-785 and W-786. No. W-783 has center-tapped secondary for 90K CT or 22.5K CT. All units in AJ case (Pg. 18) Wt., 0.6 lb.

UTC Type	MS No.	MIL Type TF4RX-	#	Pri. Ohms	Pri. DC ma., Unbal.	Sec. Ohms
W-783	90000-A	15AJ001	a	10K CT	10	90K spl.
W-784	90001-A	16AJ002	b	600 spl.	.....	4/8/16
W-785	90002-A	10AJ001	c	600 spl.	.....	135K CT
W-786	90003-A	16AJ001	d	600 spl.	.....	600 spl.
W-787	90004-A	13AJ001	e	7.6K/4.8K	40	600 spl.
W-788	90005-A	13AJ002	f	7.6K/4.8K	40	4/8/16
W-789	90006-A	13AJ003	g‡	15K CT	10	600 spl.
W-790	90007-A	13AJ004	g+	24K CT	20†	600 spl.
W-791	90008-A	13AJ005	g**	60K CT	20+	600 spl.

Use: a—PP plates to pp grids, 15 dbm level. b—Line to VC, 2 watts. c—Line to pp grids, 15 dbm. d—Line to line, 15 dbm. e—Plate to line, 2 watts. f—Plate to VC, 2 watts. g—PP plates to line. †Balanced. ‡2 watts. +1 watt. **0.5 watt.

INDUCTORS

Two windings for series or parallel connection. Inductance shown for series connection. All but Z-847 are standard MIL case types. Rated 3500 WVDC, unless otherwise noted.

UTC Type	MS No.	MIL Type	Induct. ma Hy.	DC	DCR Ohms	MIL CASE (Pg. 18)
Z-848*	90009-2	04FA001■	16	80	645	FA
Z-849*	90010-2	04GA002■	25	80	670	GA
Z-850*	90011-2	04HA003■	40	80	1020	HA
Z-851†	90013-2	04HA005■	16	125	330	HA
Z-852†	90014-2	04JB006■	25	125	460	JB
Z-853	90037-2	04KA007■	40	125	535	KA
Z-854	75000-2	04LA009•	16	200	180	LA
Z-855	75001-2	04MA010•	25	200	210	MA
Z-856	75002-2	04NA012•	16	315	105	NA
Z-857	75003-2	04YY013•	25	315	150	YY

UNITED® TRANSFORMER CO. TRW

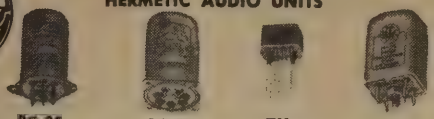
* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

HERMETIC COMPONENTS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.

HERMETIC AUDIO UNITS



RC-25 RC-50 FH SM

These extremely compact units are proved to specifications of MIL-T-27B. Response & level ratings: RC-25: Similar to Ouncers for case (1 13/32" x 6 1/64" x 1 1/16" h. 1.5 oz.). RC-50: Similar to ultra compact units for case (1 5/8" x 1 5/8" x 2 3/4" h. 8 oz.). SM: Similar to SSO units for case (1 1/4" x 1 1/2" x 2 3/32" h. 0.8 oz.). FH: 2 7/32" x 2 3/32" x 3/4", h. .8 oz.

UTC Type	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	#
H-1	Line to grid	50, 200 CT, 500 CT	50K	a
H-2	Mike to grid	82, 50 ma	135K	a
H-3	Pl. to grid	15K	60K	a
H-4	Pl. to grid	15K, 4 ma	60K	a
H-5	Pl. to p-p	15K	95K CT	a
H-6	Pl. to p-p	15K, 4 ma	95K split	a
H-7	Pl. to line	20K CT, 4 ma	150/600	a
H-8	Mixing	150/600	600 CT	a
H-9	Input	150/600	1 meg.	a
H-10	Pl. to grid	10K	1 meg.	a
H-11	Reactor: 300 hys, 50 hys @ 3 ma, 600 ohms			a
H-13	Line to p-p	50, 200 CT, 500 CT	50K CT	a
H-13	Interstage	10K/2.5K split	2K/.5K split	a
H-14	Interstage	10K/2.5K split	4K/1K split	a
H-15	Tr. to line	1.5K CT	500/125 split	a
H-16	Tr. to V.C.	2K/4K CT	8/16	a
H-17	Tr. input	600/150 split	2K/500 split	a
H-18	Tr. interstage	10K CT	500/125 split	a
H-19A	Input*	250 CT/500 CT	50K/100 CT	b
H-20	Interstage	15K split	80K split	b
H-21	Pl. to p-p	15K, 8 ma	80K split	b
H-219	Tr. interstage	50K CT	500/125 split	a
H-23	Pl. to line	15K, 8 ma	50/200, 125/500	b
H-220	Tr. interstage	500/125 split	500/125 split	a
H-221	Tr. interstage	500/125 split	150/37.5 split	a
H-222	Split inductor:	Series: 60 Mhy-80 ma, 4 ohms Parallel: 15 Mhy-160 ma, 1 ohm		a
H-224	Split inductor:	Series: 1 Hy-20 ma, 60 ohms Parallel: .25 Hy-40 ma, 15 ohms		a
H-225	Tr. interstage	100/25 split	40/10 split	a
H-23	P-p to line	30K split	50/200, 125/500	b
H-24	Inductor: 250 hys.	@ 5 ma†, 65 hys. @ 10 ma‡		b
H-25	Mixing	500 CT	125/500	b
H-26	Interstage	10K/2.5K split	2K/500 split	b
H-27	Tr. to V.C.	500 CT	16/4 split	b
H-280	Interstage	200 CT	400 split	b
H-281	Tr. to V.C.§	48 CT	16, 8, 4	b
H-282	Tr. to V.C.††	20 CT	16, 8, 4	c
H-283	Mixing/ Matching	50, 125/150 200/250, 333 500/600	50, 125/150, 200/250, 333 500/600	b
H-284	Split Inductor:	Series: 4 Hys-50 ma, 100 ohms Parallel: 1 Hy-100 ma, 25 ohms		b
H-286	Split Inductor:	Series: 40 Hys-15 ma, 1000 ohms Parallel: 10 Hys-30 ma, 250 ohms		b
H-290	Shld. chopper	2500 e. s.	180K	b
H-291	Max. shld. chmbr	2000/500 e. s.	312K	c
H-295	Shld. chopper	10K/2.5K e. s.	52K	f
H-30	Input	50	62,500	d
H-31	Pl. to grid	10K	96K	d
H-32	Pl. to line	10K, 3 ma	200	d
H-33	Output	30K, 1 ma	80	d
H-35	Inductor: 100 hys.	50 hys. @ 1 ma, 4400 ohms		d
H-36	Interstage	25K, 0.5 ma	1K	d
H-37A	Tr. output	500 CT	50	d
H-38	Interstage	10K CT, 2 ma	1.2K CT	d
H-39	Interstage	10K CT, 2 ma	2K CT	d
H-40A	Tr. output	500 CT	600 CT	d
H-41A	Tr. output	1500 CT	600 CT	d
H-42A	Isol./Tr. inter.	10K CT	10K CT	d
FHA-5	Tr. input	5VO/125 split, 12 ma	5K/1250 split	FH
FHA-10	Tr. input or isol.	5K/1250 split, 4 ma	5K/1250 split	FH
FHA-15	Tr. interstage	10K CT/2.5K split	200 CT/50 split	e
FHA-25	Tr. interstage	20K CT/5K split	800 CT/200 split	e
FHI-3	Split Inductor:	Series: 60 Mhys-32 ma, 6 ohms Parallel: 15 Mhys-64 ma, 1.5 ohms		e
FHI-7	Split Inductor:	Series: 1 Hy-8 ma, 100 ohms Parallel: .25 Hy-16 ma, 25 ohms		e
FHI-11	Split Inductor:	Series: 2.4 Hys-2 ma, 160 ohms Parallel: .6 Hys-4 ma, 40 ohms		e

*Has 75 db shielding. †6000 ohms. ‡1500 ohms. §5 watts. ††10 watts.

#Case: a—RC-25. b—RC-50. c—RC-62. d—SM. e—FH. f—RC-37. (See above and pg. T-9)

HERMETIC SEALED FILTER INDUCTORS TUBE and TRANSISTOR TYPE



METAL CASED TF4 TYPE H-70 thru H-79, H-164 thru H-173



MOLDED MIL TYPE TF5SX04ZZ H-105 thru H-109 & H-300

The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Transistor supply units are swinging type to enhance regulation. H-79 terminals opposite mounting.

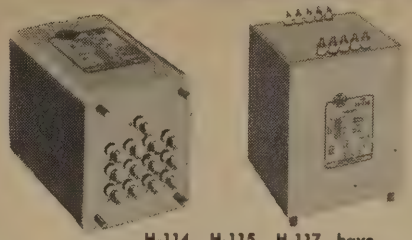
*Relates to ripple voltage, in input filter circuits only.

Type No.	Ind. @ Hys.	ma DC	Res. Ohms	Max. DCV* Ch. Input	Test V. RMS	MIL Case Pg. T8
H-70	20	20	925	350	1000	AH
H-71	20	40	390	500	2500	FB
H-72	13	70	215	500	2500	GB
H-73	11	100	160	700	2500	HB
H-74	11	150	135	700	2500	JB
H-75	11	200	90	700	2500	KB
H-76	11	200	85	1300	4500	LB
H-77	10	300	60	2000	5500	MB
H-78	7	400	48	2500	7000	QA
H-79	7	800	20	3000	9000	7x7x8
H-164 †	45‡	35	1.2		500	AG
(2 wdgs.) ★	11.25‡	70	.295			
H-164 †	125‡	80	1.2		500	AH
(2 wdgs.) ★	31‡	100	.3			
H-168 †	68‡	100	.8		750	AJ
(2 wdgs.) ★	17‡	200	.3			
H-170 †	.18	125	.6		1000	GB
(2 wdgs.) ★	.045	250	.15			
H-171 †	9‡	250	.03		1000	JA
(2 wdgs.) ★	2.25‡	1.5A	.0075			
H-172 †	70‡	.25A	.22		1000	HA
(2 wdgs.) ★	17.5‡	.5A	.035			
H-173 †	90‡	.5A	.15		1000	KA
(2 wdgs.) ★	22.5‡	1A	.038			
H-174†	.90‡	.65A	.08		1000	MB
(2 wdgs.)*	12.5‡	1.3A	.02			

Type No.	Inductance Henries @ DC MA	DCR Ohms	Test Volts	L	W	H	Wgt. Lbs.
H-183	2.5 @ 25 ma	225	1000	1¼	15/16	15/16	.1
H-186	2.25 @ 60 ma	110	1000	1⅝	1⅝	1⅜	.28
H-187	2 @ 120 ma	55	2500	2¼	1¾	1 15/16	.9
H-188	2 @ 220 ma	33	2500	2⅝	2⅛	2 1/32	1.7
H-189†	.2 @ 150 ma	.6	750	2⅝	2⅛	2 1/32	1.7
(2 wdgs.)*	.06 @ 250 ma	.15					
H-300 †	1 @ 5 ma	40	500	1	¾	5/16	0.5
(2 wdgs.)*	.25 @ 10 ma	10					

†Split winding in series *Split winding in parallel
‡Rated in millihenries

HERMETIC SEALED POWER and PLATE TRANSFORMERS



H-114, H-115, H-117 have terminals opposite mounting.

Power transformers: primary 115V, 60 Hz suited to 50*-1000 Hz service. Plate transformers: primary 105/115/210/220 volts, 50/60 cycles. "L" ratings are choke input . . . "C" ratings are condenser input. H-80 thru H-197 MIL type TF4RX03, H-110 thru H-117 MIL type TF4RX02. The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The power transformer listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications.

"W" suffix units designed for full wave center tap and full wave bridge application. Center tap of secondary may be disconnected from ground.

MIL-T-27C Ratings in Regular Type, Industrial Ratings in Bold Type

Type No.	HV Sec. C. T.	Approx. DC Volts		DC ma	Fil. Wdg.	Approx. DC Volts		DC ma	Fil. Wdg.	MIL Case Pg. T-12
H-80	450	C	240	30	6.3VCT-2A	C	215	38	6.3VCT-2.5A	FA
H-81	500	L	170	95		L	160	110		HA
		C	270	55	6.3VCT-3A	C	245	75	6.3VCT-3A	
	550	L	200	85	5V-2A	L	180	105	5V-2A	
		C	310	50		C	280	65		
H-82	550	L	180	145		L	160	190		JB
		C	290	90	6.3VCT-4A	C	270	115	6.3VCT-4.5A	
	600	L	215	135	5V-2A	L	190	180	5V-2A	
		C	330	85		C	315	100		
H-83	600	L	215	165		L	200	210		JA
		C	315	100	6.3V-5A	C	320	120	6.3V-6A	
	670	L	250	150	5V-2A	L	230	200	5V-2A	
		C	400	90		C	380	110		
H-84	700	L	245	225		L	240	255		KA
		C	390	135	6.3V-5A	C	375	160	6.3V-6A	
	750	L	275	205	6.3V-1A	L	270	230	6.3V-1.5A	
		C	430	125	5V-3A	C	410	150	5V-4A	
H-85	700	L	245	300		L	230	370		LA
		C	390	190	6.3V-6A	C	355	230	6.3V-6A	
	750	L	270	280	6.3V-1.5A	L	250	350	6.3V-2A	
		C	425	170	5V-3A	C	395	210	5V-4A	
H-86	720	L	270	310		L	250	360		MB
		C	425	180	6.3V-6A	C	395	225	6.3V-7.5A	
	790	L	295	300	6.3V-2A	L	280	350	6.3V-2A	
		C	475	160	5V-3A	C	440	210	5V-4A	
H-87	730	L	245	420		L	230	515		NB
		C	390	275	6.3V-6A	C	390	300	6.3V-6A	
	800	L	275	400	6.3V-2A	L	275	480	6.3V-2A	
		C	440	250	5V-4A	C	430	290	5V-6A	
H-89	850	L	305	430		L	275	550		OA
		C	460	280	6.3V-8A	C	445	340	6.3V-10A	
	1050	L	400	400	6.3V-4A	L	370	500	6.3V-5A	
		C	600	260	5V-6A	C	575	320	5V-6A	
H-91	900	L	340	200	6.3V-5A	L	330	220	6.3V-6A	KA
	1000	L	390	190	6.3V-1A 5V-3A	L	385	195	6.3V-1.5A 5V-4A	
H-92	900	L	340	265	6.3V-6A	L	330	310	6.3V-8A	MB
	1050	L	400	240	6.3V-2A 5V-4A	L	395	290	6.3V-2A 5V-4A	
H-93	1000	L	370	300	6.3V-8A	L	340	390	6.3V-10A	OA
	1200	L	465	265	6.3V-4A 5V-6A	L	455	350	6.3V-5A 5V-6A	
H-194**	200	L	170	140	6.3V-3.5A	L	160	155	6.3V-4A	HA
		C	275	85		C	260	95		
	235	L	200	125		L	190	135		
		C	325	75		C	310	85		
H-195**	215	L	185	285	6.3V-5A	L	175	300		JA
		C	300	180		C	285	195	6.3V-6A	
	265	L	230	240		L	220	255		
		C	375	150		C	360	165		
H-196**	230	L	200	445	6.3V-5A	L	190	480		KA
		C	320	280	6.3V-1.5A	C	300	300	6.3V-6A	
	285	L	250	380		L	240	420	6.3V-2A	
		C	400	235		C	380	260		
H-197**	260	L	230	500	6.3V-6A	L	220	550		MB
		C	360	320	6.3V-2A	C	340	350	6.3V-7A	
	320	L	280	420		L	270	470	6.3V-2A	
		C	450	260		C	430	290		
H-198 Highly shielded Scope transformer	No CT 800 1600 2400		1000 2000 3000	5 5 5	1.25 V—.2A connected to one end of HV winding. 6.3 V—.6A 5.2 KV RMS test voltage					HA
H-110W #		L	730	210		L	280			MB
		L	860	190		L	265			
H-111W #		L	830	350		L	420			NA
		L	960	310		L	380			
H-112W #		L	1230	220		L	270			NA
		L	1580	190		L	230			
H-113	2500	L	1050	310		L	375			†
	3000	L	1275	275		L	330			
H-114	2500	L	1050	475		L	525			‡
	3000	L	1265	425		L	475			
H-115	3500	L	1500	275		L	375			‡
	4400	L	1900	235		L	320			
H-117	5000	L	2125	950		L	1150			††
	6000	L	2550	850		L	1050			

*For 50 Hz, secondary current ratings reduced by 10%.
**DC ratings for bridge rectifier circuits.
†6x5⅛x6¾, ‡6¾x6½x8, ††11x11x14¾
New full wave bridge rectifier types

IMMEDIATE DELIVERY ON ALL UTC STOCK ITEMS

UNITED® TRANSFORMER CO.

TRW®

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

HERMETIC COMPONENTS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27C Specifications.

MAT* MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS

For NEW Magamps See UTC Page 8

VACUUM TUBE TYPE



The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase, 115V., 400 Hz servo motors. They are compact . . . hermetically sealed . . . magnetically shielded . . . and meet MIL-T-27C and MIL-E-5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as 12AU7 operating with a plate voltage of 115 volts, 400 Hz, or higher. The signal to the triode grids can be polarity reversible DC or phase reversible 400 Hz with or without suppressed carrier modulation. These units eliminate DC power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative . . . power gain of the *Magnetic Structure* is approximately 40 . . . response time approximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect 90° phase shift with motor load . . . for 3 phase, 30° phase shift.

Type No.	MAT-1	MAT-2	MAT-3	MAT-4
230 Volt Supply				
Power output	4 W.	8 W.	11 W.	18 W.
RL, ohms	3300	1600	1200	720
CL, mfd., approx.	.2	.3	¼	.7
115 Volt Supply				
Power output	2 W.	4 W.	6 W.	9 W.
RL, ohms	6500	3300	2200	1450
CL, mfd.	.13	.2	.3	.45
Reson. Freq.	40 Hz	35 Hz	35 Hz	20 Hz
Log-Decr.	.18	.23	.03	.65
Cont. Wdg. Res.	6200 ohms	8450 ohms	4750 ohms	5650 ohms
Case, Length, in.	1¼	1½	1¾	2⅛
Width, In.	1⅜	2⅛	2½	3⅛
Height, In.	2⅜	2¾	2⅜	3⅜
Mtg. Dim., In.	⅜ x 1½	1 x 1⅜	1⅛ x 1⅞	1½ x 2½
Studs, stainless	4-40	6-32	8-32	8-32
Cutout, in.	1	1	1	1
Unit Weight, lbs.	.67	1.1	1.7	2.75

MAT-5 115V.-400 Hz to 460 VCT; provides 230V. 48 ma DC or 460V. 24 ma DC. RC-37 case (UTC pg. T-9). MIL-type TF4SY02YY.

MAT-6 Input . . . 10,000 ohms pri. . . . 1:15 C.T. ratio . . . phase shift under 1° . . . RC-25 case (UTC pg. T-6). MIL-type TF4R10YY.

TRANSISTOR TYPE

UTC transistor MAT units are identical to their vacuum tube counterparts, but designed for low impedance control. The input transformer may be chosen by impedance ratio rather than precise rated impedance.

Type No.	MAT-7	MAT-8	MAT-9	MAT-10	MAT-60
Power output	4 W.	8 W.	11 W.	18 W.	50 W.
RL, ohms	3300	1600	1200	720	260
CL, mfd approx.	.2	.3	.5	.7Ω	.7
Cont. Wind. Res.	38Ω	52Ω	30Ω	36Ω	50Ω
Case Length, In.	2⅜	2½	2¾	2 3/32	MIL MB
Width, In.	1 13/16	2¼	2½	2 3/32	
Height, In.	1 17/32	1 13/16	2	2¼	
Mtg. Dim., In	1⅜ x 1⅞	1 13/16 x 2	1 13/16 x 2⅜	2⅜ x 2⅜	60 cycle type
Studs, stainless	4-40	6-32	8-32	8-32	
Cutout, In.	1	1	1	1	
Weights, lbs.	.65	1.1	1.7	2.75	

MAT-11 115V.-400 Hz to two 28 Volt 2A windings for 56 VCT-.2A or 28V.-.4A RC-37 (UTC pg. T-9) case. MIL type TF4SY02YY

MAT-65 115V.-60 Hz to 8.5 VCT @ 500 ma & 63 VCT @ 300 ma. FA case (pg. T-12). MIL type TF4SX02FA.

ULTRASHIELDED POWER-LINE ISOLATION TRANSFORMERS

Simulates battery operation for critical circuits requiring extreme isolation from power line.



HIT*

Designed to give the ultimate in isolation, for line-powered equipment, which formerly could only be obtained from battery power. The effective capacity coupling between primary and secondary windings is less than 0.1 MMFD. For this purpose shields are individually terminated to allow maximum flexibility. Input and output terminals are brought out on opposite sides of a special housing in order to maintain the excellent isolation between line and load.

MIL-T-27C Ratings in Regular Type
Industrial Ratings in Bold Type
Primary 115 V 50/60 Hz

Type No.	Power Watts	Power Watts	Case Size
HIT-1	50	**60**	4 1/32 x 4 1/32 x 3 1/32"
HIT-15	120	**150**	5 1/32 x 5 x 3 1/2"
HIT-2	160	**200**	5 17/32 x 5 17/32 x 4 17/32"
HIT-3	400	**480**	8 x 6 17/32 x 5 17/32"
HIT-4	1000	**1200**	9 x 7 1/2 x 7 1/2"
HIT-450†	80	**100**	4 1/32 x 4 1/32 x 3 1/32"

† Primary 115v. 400 Hz. Secondary 115 volts.

PRECISION MINIATURE WIDE APPLICATION PULSE TRANSFORMERS MANUFACTURED & GUARANTEED TO COMPLETE MIL-T-21038B

UTC miniature, wound core, pulse transformers are individually precision adjusted in standard test circuits to close tolerances. They are high reliability units, hermetically sealed by vacuum molding and suited for service from −70° C. to +130° C. Wound core structure provides excellent temperature stability (unlike ferrite). Designs are high inductance type to provide minimum of droop and assure true pulse width. H-45 thru H-57 ratio 1:1:1. H-60 thru H-69 ratio 4:4:1. Others ratio 5:3:1.

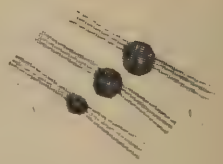
Also see pulse units on UTC pages 7 & 9.

ALL UNITS INDIVIDUALLY ADJUSTED TO PARAMETERS SHOWN IN TABLES

TRANSISTOR PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS 1-2	3-4	5-6	BLOCKING OSCILLATOR PULSE Width μ Sec.	Rise Time	% Over Shoot	% Droop	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μ Sec.	Volts Out	Rise Time	% Over Shoot	% Droop	% Back Swing	Imp. in, out, ohms
H-60	.124	.14	.05	.05	.016	0	0	30	.05	9.3	.012	0	0	20	50
H-61	.41	.48	.19	.1	.016	0	0	30	.1	8.2	.021	0	0	15	50
H-62	.78	.94	.33	.2	.022	0	0	18	.2	7.4	.034	0	5	12	100
H-63	1.86	2.26	.70	.5	.027	2	10	20	.5	7.5	.045	0	20	25	100
H-64	3.73	4.4	1.33	1	.033	0	12	25	1	7	.078	0	15	23	100
H-65	6.2	7.3	2.22	2	.066	0	15	25	2	6.6	.14	0	10	20	100
H-66	10.2	12	3.6	3	.087	0	18	30	3	6.8	.17	0	10	20	100
H-67	14.5	17.5	5.14	5	.097	0	23	28	5	7.9	.2	0	18	28	200
H-68	42.3	52.1	14.8	10	.14	0	15	28	10	6.5	.4	0	15	30	200
H-611	.426	.32	.132	.1	.018	8	0	12	.1	8.2	.02	0	0	30	140/50
H-641	5	3.6	1.4	1	.04	0	10	10	1	7	.07	0	20	30	280/100
H-671	21	16	6	5	.08	0	14	12	5	8	.2	0	25	30	560/200

H-69 Transistor pulse tranformer kit, consists of H-60 thru H-68 in plastic case.



Size & weight of these units same as H-45.

VACUUM TUBE PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS 1-2	3-4	5-6	BLOCKING OSCILLATOR PULSE Width μ Sec.	Rise Time	% Over Shoot	% Droop	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μ Sec.	Volts Out	Rise Time	% Over Shoot	% Droop	% Back Swing	DIMENSIONS Imp.in, out, ohms	L In.	W In.	Wt. Grams
H-45	3	3.5	4	.05	.022	0	20	10	.05	17	.01	20	0	35	250	⅜	⅜	1
H-46	5.5	6.5	7	.10	.024	0	25	10	.10	19	.01	30	10	50	250	⅜	⅜	1
H-47	3.7	4.0	4	.20	.026	0	25	8	.20	18	.01	30	15	65	500	9/16	9/16	4
H-48	5.5	5.8	6	.50	.03	0	20	5	.50	20	.01	30	20	65	500	9/16	9/16	4
H-49	8	8.5	9	1	.04	0	20	10	1	24	.02	15	15	65	500	9/16	9/16	4
H-50	20	21	22	2	.05	0	20	10	2	27	.05	10	15	35	500	9/16	9/16	4
H-51	28	31	33	3	.10	1	20	8	3	26	.07	10	10	35	500	9/16	9/16	4
H-52	36	41	44	5	.13	1	25	8	5	23	.15	10	10	45	1000	9/16	9/16	4
H-53	37	44	49	7	.28	0	25	8	7	24	.20	10	10	50	1000	5/8	5/8	6
H-54	50	58	67	10	.30	0	20	8	10	24	.25	10	10	50	1000	5/8	5/8	6
H-55	78	96	112	16	.75	0	20	10	16	23	.40	5	15	20	1000	5/8	5/8	6
H-56	93	116	138	20	1.25	0	25	10	20	23	.6	5	10	10	1000	5/8	5/8	6
H-57	104	135	165	25	2.0	0	30	10	25	24	1.5	5	10	10	1000	5/8	5/8	6
H-461	9.6	6.4	2.5	.1	.025	0	0	8	.1	19	.02	3	5	20	700/250	⅜	⅜	1
H-501	30	20	7	2	.08	0	12	5	2	27	.06	12	15	35	1400/500	¾	9/16	4
H-531	66	47	17	7	.32	0	12	3	7	24	.23	12	10	40	2800/1000	5/8	⅜	6
H-561	180	142	53	20	1.75	0	13	5	20	23	.7	5	10	10	2800/1000	5/8	5/8	6

H-58 Pulse transformer kit. Consisting of H-45 thru H-57 in a partitioned plastic case.

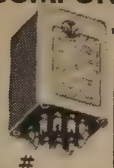
UNITED® TRANSFORMER CO. TRW

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

HI-FI & BROADCASTING COMPONENTS

ULTRACOMPACT* HI-FI AUDIOS



Small light weight, wide range units. Level +15 dbm except where otherwise noted. Top and bottom mounting. Die cast case, 1½" x 1½" x 2" h. Weight, ½ lb.

UTC Type	Application	Primary Impedance, Ohms	Sec. Imped., Ohms	#
A-10	Input	50, 125/150, 200/250, 333, 500/600	50K split	a
A-11	Shield. Input	50, 200, 500	50K CT	a
A-12	Input	Same as A-10	80K split	a
A-15	Interstage*	10K/2.5K split**	2K/500 sp.	c
A-16	Pl. to grid	15K	60K	a
A-18	Pl. to p-p	15K split	80K split	a
A-19	Pl. to p-p	15K, 8 ma	80K split	c
A-20	Mixing	Same as A-10	Same as pri.	d
A-21	Shield Mixing	50, 200/250, 500/600	Same as pri.	e
A-22	Tr. to line*	500 CT	500/125 spl.	c
A-23	Tr. to V.C.*	500 CT	16/4 split	c
A-24	Pl. to line	15K split	See A-10 pri.	f
A-25	Pl. to line	15K, 8 ma	See A-10 pri.	c
A-26	P-p to line	30K CT	See A-10 pri.	f
A-27	Input	100K split	See A-10 pri.	b
A-28	Tr. to V.C.	48 CT, 5 w.	16 (split), 8, 4	c
A-34		25K/6250 split	500/125 split	b
A-35	Transistor	10K/2.5K split	500/125 split	b
A-36	Interstage	500/125 split	150/37.5 split	c
A-37		500/125 split	50/12.5 split	c
A-38		100/25 split	40/10 split	c
A-39	line to transist.	600/150 split	2K/500 split	a
A-30	Inductor: 250 hys. @ 5 ma‡; 65 hys @ 10 ma‡			
A-32 (2-wdgs.)	Split Filter Inductor	Series: 60 Hys @ 15 ma, 2000 ohms Parallel: 15 Hys @ 30 ma, 500 ohms		
A-33	Hipermalloy shield fits A units 20 db			
A-40	Power transformer: 115v 60 cycles to two 6.3 CT—.2A Secs.			
A-41 (2-wdgs.)	Split Filter Inductor	Series: 240 Mhy @ .2A, 6 ohms Parallel: 60 Mhy @ .4A, 1.50 ohms		
A-42 (2-wdgs.)	Split Filter Inductor	Series: 4 hys-50 ma, 100 ohms Parallel: 1 hy-100 ma, 25 ohms		
A-43	Matching to 2 simult. lines or Tr.	600/150 split	(2) 600/150 split	g
A-44	I'stge/output	4K/1K split, 12 ma	600/150 spl.	b
A-45	Spkr. match	4, 8, 16	4 w. max lvl.	c
A-46	Chopper	10K/2.5K	50K	.....
A-47	3-wdg. hybrd.	500/600CT	2 x 500/600CT	e
A-48	Hybrid	500/600	500/600 2 500/600 wdg	f

*+30 dbm. †6K ohms. ‡1.5K ohms. §2K ohms. ††500 ohms. **8 ma. #Frequency response (±2 db), cps: a—20-20,000. b—30-20,000. c—40-20,000. d—10-50,000. e—30-30,000. f—20-40,000. g—20-30,000.

HIPERMALLOY* TRANSFORMERS

Hipermalloy audio and power transformers are specifically designed for portable and compact service. High fidelity though light in weight and dependable. The frequency characteristic of the Hipermalloy audio units is uniform from 30 to 20,000 Hz. They incorporate a Hipermalloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Primary shown is maximum unbalanced.



TYPE H-2 CASE		TYPE H-1 CASE	
Length	3¾"	Length	2⅜"
Width	2⅛"	Width	1⅝"
Height	3½"	Height	3⅛"
Mounting	2 x 2¾"	Mount	1⅜ x 1⅜"
Screws	6-32	Screws	6-32
Cutout	2⅛" dia.	Cutout	1¾" dia.
Unit Wt.	.5 lbs.	Unit Wt.	.2 lbs.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS
Units Housed in Type H-1 Case

UTC Type	Application	Primary Imped. Ohms	Sec. Imped. Ohms	Level dbm
HA-100	Line to grid	50, 125/150, 200, 250, 333, 500/600	60K split	+18
HA-100X	As above but multiple alloy shields for low hum pick up			+16
HA-101	Line to grids	Same as HA-100	120K split	+18
HA-101X	As above but muliple alloy shields for low hum pickup		80K split	+16
HA-103A	Mike/mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60	60K split 60K split	+18
HA-108*	Mixing	Same as HA-100	Same as Pri	+20
HA-108X*	As above but multiple alloy shields for low hum pick up			+18
HA-130X	Line to grids.	30, 50, 200, 250	60K Split	+18

*High electrostatic shielding.

INTERSTAGE AUDIO TRANSFORMERS
Units Housed in Type H-1 Case, except HA-107: in H-2 Case

UTC Type	Application	Primary Imped. Ohms	Sec. Imped. Ohms	Level Mw.
HA-104	Pl. to grids	15K split	95K	100
HA-105	Pl. to grid	15K	60K	100
HA-106	Pl. to grids	15K split	135K	100
HA-107	Pl's. to grids	30K	80K	600
HA-137	Pl's. to grids	30K	68K	100

Continued on next column

LINEAR STANDARD* TRANSFORMERS



Guaranteed frequency response of ±1 db 20-20,000 Hz, ±1 db 7-50,000 Hz on high level units, make these ideal transformers for uniform frequency response and low distortion. High efficiency and dependability through shielding. Top and bottom mounting.

LOW LEVEL TRANSFORMERS

Type LS-1 case, 2⅝" x 3⅛" x 3¼" h. Suffix X indicates multiple alloy shield. Weight, 3 lbs.

UTC Type	Application	Pri. Imp., Ohms	Sec. mp., Ohms	Level, dbm
LS-10	Input	50, 125/150, 200, 250, 333, 500/600	60K split	+19
LS-10X	Input	As above	50K	+17
LS-12	Input	As above	120K split	+19
LS-12X	Input	As above	80K split	+17
LS-30	Mixing	As above	Same as pri.	+23
LS-30X	Mixing	As above	Same as pri.	+20
LS-19	Pl. to grids	15K	95K	+20
LS-21	Pl. to p-p	15K	135K split	+20
LS-40	Pl. to p-p	15K, 8 ma	135K split	+20
LS-25	P-P to p-p	30K split	50K split	+23
LS-27	Pl. to line	15K, 8 ma	See LS-10 pri.	+23
LS-50	Pl. to line	15K	See LS-10 pri.	+23
LS-51	P-p to line	30K split	See LS-10 pri.	+24
LS-14X	Lo-Z to grids	2.5, 5.5, 10, 15, 22, 30, 38, 60	50K	+17
LS-26	Line to grids	5K	60K	+23
LS-31	Line to line	30, 50, 200,250	See LS-10 pri.	+23
LS-32	Lo-Z to line	Same as LS-14X	See LS-10 pri.	+23
LS-68	Matching to 2 Simult. lines or Tr..	600/150 split	(2) 600/150 split	+15
LS-150	Line to line	4K	See LS-10 pri.	+23
LS-151	Line to line	16K	See LS-10 pri.	+26
LS-140	70 db hybrid	500/600 split	Same as pri.	+18
LS-141	Hybrid †	500/600 split	Same as pri.	+18

† Has 3 sets of coils.

HIGH LEVEL TRANSFORMERS

UTC Type	Application	Pri. Imped., Ohms	#	Level Watts
LS-33	Matching	50, 125/150, 200, 250, 333, 500/600	a	20
LS-34	Matching	As above	a	40
LS-47	Driver	5K	i	20
LS-48	Driver	12K	j	40
LS-6L1	P-p output	9K	b	30
LS-6L4	P-p output	4,500/3,800	b	55
LS-58	P-p output	2.5K/1.5K	b	40
LS-52	P-p output	8000	b	20
LS-55	P-p output	5K/3K split	b	20
LS-61	P-p output	10K/6K split	b	20
LS-54	P-p output	8000	c	20
LS-57	P-p output	5K/3K split	c	20
LS-63	P-p output	10K/6K split	c	20
LS-56	P-p output	5K/3K split	d	20
LS-35	EL-34's †	5K CT 43% taps	e	35
LS-65	6550's †	3.3K CT 40% taps	e	60
LS-666	P-p transistor	8 split	f	50
LS-667	P-p transistor	8 split	e	50
LS-691	Modulation	10,400	g	1,000
LS-692	Modulation	4,750	h	2,500

† With feedback. # Secondary Impedance: a—1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125/150, 200/250, 333, 500/600 ohms. b—500, 333, 250/200, 125, 50, 30, 20, 10, 7.5, 5, 2.5, 1.2 ohms. c—30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. d—6K, 5K, 4K, 1.8K, 1.5K, 1K, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. e—4, 8, 16 ohms. f—500 ohms split. g—4.5K, 4K, 3.5K, 2.75K, 2K. h—2.5K, 2K, 1.75K, 1.5K, 1.25K. i—Pri./½ Sec. 3.2:1. j—Pri./½ Sec. 5.1:1.

Sizes: LS-33, -47, -52, -54, -55, -56, -57, -61, -63, 3¼" x 4⅜" x 4⅜" h. (Wt., 7½ lbs.). LS-6L1, -6L4, -34, -35, -48, -58, -65, -666, -667, 5" x 5⅛" x 4⅛" h. (Wt., 15 lbs.). LS-691, 13" x 15¾" x 24" h. (Wt., 370 lbs.). LS-692, 13" x 15¾" x 28" h. (Wt., 520 lbs.).

Continued from bottom of previous column

PLATE TO LINE TRANSFORMERS
Units Housed in Type H-1 Case

UTC Type	Application	Prim. Imped. Ohms	Sec. Imped. Ohms	Level mw
HA-113	to multiple line	15K split	50, 125/150, 200, 250, 333, 500/600	125
HA-114	Lo-Z to multi-line	30K		200
HA-133	to multi-line	15K split		160

OUTPUT TRANSFORMERS
Units Housed in Type H-2 Case

UTC Type	Application	Prim. Imped. Ohms	Sec. Imped. Ohms	Level Watts
HA-134	P-p to line	5K/9.4K	50, 125/150, 200, 250, 330, 500/600	15
HA-135	P-p to V.C.	3K/5K	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	18
HA-136	5881's screen-taps	6.6K	4, 8, 16	20

POWER TRANSFORMERS
Units Housed: HP-122 in Type H-1 Case; HP-123 in Type H-2 Case

UTC Type	Application	Psi. Volt 50/60g	Hi-Volt	Fil. Wind
HP-122	Pre-amp	115	220-0-220 15 Ma	6.3 V.C.T.—.6A 6.3 V.C.T.—1.2A
HP-123	Pre-amp or Tuner	115	275-0-275 35 Ma	6.3 V.C.T.—.6A 6.3 V.C.T.—2A

UNITED® TRANSFORMER CO. TRW

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

COMMERCIAL GRADE COMPONENTS

DIMENSIONS, COMMERCIAL GRADE "RC" CASE



Performance insured during constant usage due to the ruggedness of this vacuum impregnated component with special sealing compound. Case, finished in light gray enamel, is ready for mounting on chassis. (All audio components linear).

Case No.	Base Dim.(Sq.)	Mounting Dim. (Sq.)	Ht., +1/8, −1/16	Cutout Dia.	Unit Wt. (Lbs.)
RC-37	1 3/8	1 1/8	1 5/8	1 1/4	.35
RC-50	1 5/8	1 5/8	2 1/4	1 1/2	1/2
RC-62	1 13/16	1 1/2	2 1/2	1 1/2	1
RC-75	2 1/16	1 13/16	2 7/8	1 7/8	1 1/2
RC-87	2 5/16	2 3/32	3 1/4	2	2 1/2
RC-100	3	2 3/8	3 3/4	2 5/8	3 1/2
RC-112	3 1/16	2 11/16	4 1/8	2 7/8	5
RC-125	3 3/4	3	4 1/2	3	6 1/2
RC-150	4 1/2	3 5/8	5 1/2	3 3/4	11
RC-152	5 1/8	4 1/8	5 1/2	4	15 1/2
RC-175	5 3/4	4 7/8	7	4	22

SWINGING INPUT AND FILTER INDUCTORS

UTC Type	Induct. Henries	DC ma	DC Res. Ohms	Test Volts	Case No.
CG-40	10	200	110	1750	RC-112
CG-44	30	100	400	1750	RC-100
CG-45	250	15	5000	1750	RC-87
CG-48C	75	50	2200	1750	RC-87
CG-100	12	150	110	2500	RC-125
CG-102	12	250	100	3000	RC-150
CG-104	10	350	90	5000	RC-152
CG-108	10	500	52	7000	RC-175
CG-15	10	1000	40	9000	11 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.
CG-101	25/5	150	110	2500	RC-125
CG-103	25/5	250	100	3000	RC-150
CG-105	25/5	350	90	5000	RC-152
CG-109	25/5	500	52	7000	RC-175
CG-111§	100/10mh	2.5a.	.6	1500	RC-87
(2 wdgs)‡	25/2.5mh	.5a.	.15		
CG-112§	40/10mh	6 a.	.24	1500	RC-112
(2 wdgs)‡	10/2.5mh	12 a.	.06		
CG-113§	7/1.75mh	17.5a.	.036	1500	RC-125
(2 wdgs)‡	1.8/.45mh	35 a.	.009		
CG-1C	25/5	1000	40	9000	11 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.

§Split winding in series. †Wt., 40 lbs. ‡Split winding in parallel.

PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts; 50/60 Hz. For reduced power, secondary can be cut in half, using 220 v. primary on 110 volts; may be used on 25 to 43 Hz in this case. "W" suffix units designed for full wave center tap and full wave bridge application. Center tap may be disconnected from ground.

UTC Type	High Voltage	DC Volts	Case No.
CG-300W	625-515-0-515-625	1000/800	RC-150
CG-301W	580-530-300-0-300-530-580	950/850/500	RC-152
CG-302W	950-750-0-750-950	1520/1220	RC-175
CG-303W	1500-1235-400-0-400-1235-1500	2500/2000 600	RC-175

POWER AND BIAS TRANSFORMERS

Primary 115 volts, 50/60 Hz. DCma is for choke input; reduce 70% for condenser input. Filament 1 is 5 volts, 3 amps., and Filament 2 is 5 volts, 2 amps., except as otherwise noted.

UTC Type	High Voltage	DC ma	Filament 3	Filament 4	Case No.
CG-422	435-365-0-365-435	125	6.3 VCT-3A	2.5 VCT-5A	RC-150
	125-0-125	25			
CG-428	500-0-500	250	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152
	80-0-80	100			
CG-429*	600-525-0-525-600	250	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152
CG-431†	500-400-0-400-500	500	6.3 VCT-5A	6.3 VCT-3A	RC-175
	80-0-80	100			
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6%—250 MA				RC-125
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6%—250 MA				RC-152

*Filament 2 is 6.3 VCT-3A. †Filament 1 is 5V-6A.

AUDIO UNITS

UTC Type	Use †	Pri. Imped., Ohms	Level	Case RC-
CG-131	a	15K	+28 dbm	50
CG-132	b	15K	+30 dbm	62
CG-133	c	30K CT	+32 dbm	75
CG-134	d	50, 200, 500	+30 dbm	50
CG-135	e	50, 200, 500	+30 dbm	50
CG-235	f	50, 200, 500	+28 dbm	75
CG-136	g	15K, 50, 200	+30 dbm	62
CG-137	h	50, 200, 500	+28 dbm	50
CG-140	i	15K	+30 dbm	50
CG-141	j	30K CT	+32 dbm	50
CG-233	k	30K CT	+35 dbm	87
CG-333	k	30K CT	+35 dbm	87
CG-433	k	5K CT	10 w.	100
CG-15	l	8K CT	20 w.	100
CG-16	l	3K/5K CT	20 w.	100
CG-19	l	6K/10K CT	20 w.	100
CG-710	l	14K/20K CT	20 w.	100
CG-2L6	l	9K CT	30 w.	125
CG-20	m	5K CT, 43% screen taps	25 w.	125
CG-21	m	3.3K CT, 40% screen taps	50 w.	150
CVP-1	n	3K/5K/6K/8K/10K/14K CT	12 w.	100
CVP-2	n	"	30 w.	125
CVP-3	n	"	60 w.	150
CVP-4	n	"	125 w.	152
CVP-5	n	"	300 w.	175
CVL-1	p	500	15 w.	87
CVL-2	p	500	40 w.	125
CVL-3	p	500	75 w.	150
CVM-0	q	Any Class B	12 w.	100
CVM-1	q	"	30 w.	125
CVM-2	q	"	60 w.	150
CVM-3	q	"	125 w.	152
CVM-4	q	"	300 w.	175
CVM-5	q	"	600 w.	†
CG-51AX	r	15K	5 w.	87
CG-53AX	r	3K/10K/ CT	20 w.	112
CG-59AX	r	50, 200, 500	20 w.	112

† 7" x 12" x 9"; Wt., 60 lbs. †a—Pl. to grid. b—Pl. to 2 grids. c—2 pl. to 2 grids. d—Input, humbucking. e—P-p input, humbucking. f—Input, mag. shielded. g—Dual input, humbucking. h—Mixing. i—Pl. to line. j—P-p to line. k—Driver. l—Output. m—Feedback output. n—Universal output. p—Universal matching. q—Universal modulator. r—Universal driver.

END CASTING UNITS

See note on "W" suffix units under plate transformers.

UCT Type	High Volt	DC Volt	L	W	H	Wt. Lbs.
CG-304W†	1500-1235-0-1235-1500	2.5K	2K	14 5/8	8 1/2	10 3/8 100
CG-305W†	2400-1750-0-1750-2400	4K	3K	10 1/2	4 3/4	6 7/8 50
CG-306W†	as above	4K	3K	13 7/8	8 1/2	10 3/8 100
CG-307	3500-3000-2400-0-2400-3000-3500	3K 2K	2.5K	13 5/8	8 1/2	10 3/8 90
CG-308	as CG-307	3K 2K	2.5K	15 1/8	8 1/2	10 3/8 125
CG-309	as CG-307	3K 2K	2.5K	21	10	13 1/4 253
CG-310	4600-4050-3500-0-3500-4050-4600	4K	3.5K 3K	17 1/4	10	13 1/4 150
CG-311W	1500-1235-0-1235-1500	2.5K	2K	10 1/2	4 3/4	6 7/8 50
CG-312	1800-1500-0-1500-1800	1.5K	1.25K	10 1/2	4 3/4	6 7/8 38

† Full Wave Bridge Rectifier types.

VARIPOWER* AUTOFORMERS

Simultaneous control of filament, plate and line voltage. Filament voltage control within 2 1/2%. Output voltage from 0 to 130 volts. 50/60 Hz. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125, and 130 volts.

UTC Type	Watts Output	Case No.
CVA-1	150	RC-112
CVA-2	250	RC-125
CVA-3	500	RC-150
CVA-4	1000	RC-152
CVA-5	2000	RC-175

UNITED® TRANSFORMER CO. TRW®

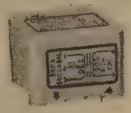
* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

MINIATURE, OUNCER, SUBOUNCER & SUB-SUBOUNCER UNITS

SUBOUNCER*& SUB-SUBOUNCER*AUDIO TRANSFORMERS

TRANSISTOR & TUBE TYPES HERMETICALLY SEALED







Designed, Manufactured and Successfully Tested to complete MIL-T-27C Specifications.

UTC SSO-#P and SO-#P units are ideal miniaturized components having high efficiency and wide frequency response. Special nickel iron core materials and winding methods provide exceptional performance and reliability.

SO-#P UNIT Dim. ¾x1x²³⁄₃₂" Pin Length ¼" Wt. .....05 lb.

SSO-#P UNIT Dim. ¾x⅞x⅜" Pin Length ¼" Wt. .....04 lb.

SML-70 ¾x³¹⁄₆₄x⅜" Wt. .2 oz.

These units are vacuum molded to MIL Grade 5. They employ 50 mil deeply anchored pin terminals ideally suited for printed circuit and transistor application. Terminals are strong enough to support these light weight units.

The UTC SML-70 is an ultra miniature transformer providing high shielding, extremely low insertion loss with wide band response, 200 Hz to 20 kHz. These units are provided with pin terminals (.025 dia.) strong enough to support the unit and are ideal for printed circuits.

PRINTED CIRCUIT AUDIO UNIT — HIPERMALLOY SHIELD CASE

Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms
SML-70	Input or Chopper Service	200K	1K

MIL TYPE: TF5RX16ZZ.

PRINTED CIRCUIT MOLDED TYPES TO MIL GRADE 5

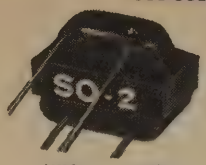
Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms
SO-2P	Interstage/3:1	10K	90K
SO-3P*	Plate to Line	10K	200
		25K	500
SO-5P	Inductor: 40 hy at 1 ma, 2675 ohms, series; 4 hy at 4 ma, 670 ohms, parallel;		
SO-7P*	Transistor	20K	800
	Interstage	30K	1200
SO-8P	Transistor to PP Sec.	10K	2000 CT
SO-9P	PP Transistor to V.C.	500 CT	3.2
SO-14P	Transistor	80 CT	32 Split
	Interstage	100 CT	40 Split
SO-15P	Tr. output	600 CT	600 Split
SO-17P	Inductor: 16 hy at 2 ma, 1.1K ohms, series; 4 hy at 4 ma, 275 ohms, parallel;		
SO-18P	Tr. output	50K CT	600 Split

MIL TYPES: TF5RX13ZZ: SO-3P, SO-7P, SO-8P, SO-18P; TF5RX15ZZ: SO-2P; TF5RX17ZZ: SO-9P, SO-14P, SO-15P, SO-17P; TF5RX20ZZ: SO-5P.

SSO-3P	Plate to line	10K	200
		25K	
SSO-5P	Inductor: 100 hy at 0 ma, 4.4K ohms, series; 25 hy at 0 ma, 1.1K ohms, parallel		
SSO-8P	Transistor to pp sec.	10K	2000 CT
SSO-14P	Transistor	10K CT	200 CT
	Interstage	25K CT	500 CT
SSO-15P	Transistor	20K CT	800 CT
	Interstage	30K CT	1200 CT
SSO-19P	Output matching	500 CT	600 CT
SSO-20P	Output	1.5K CT	600 CT
SSO-21P	Crystal/Chopper	200K CT	1000 CT
SSO-22P	Interstage	10K CT	1500 CT
		12K CT	1800 CT
SSO-23P	Inductor: 8 hy at 2 ma, 600 ohms, series; 2 hy at 4 ma, 150 ohms, parallel		
SSO-24P	Inductor: 3.5 hy at 2 ma, 160 ohms, series; 0.9 hy at 4 ma, 40 ohms, parallel		
SSO-25P	Transistor	10K CT	10K/
	Interstage		2.5K spl.
SSO-27P	Tr. Output	4K CT 2.5 ma	600 spl.

MIL TYPES: TF5RX13ZZ: SSO-3P, SSO-8P, SSO-14P, SSO-15P, SSO-20P, SSO-22P, SSO-25P, SSO-27P; TF5RX16ZZ: SSO-21P; TF5RX17ZZ: SSO-19P; TF5RX20ZZ: SSO-5P, SSO-23P, SSO-24P.

SUB-SUBOUNCERS*AND SUBOUNCERS*



Lead mounted (channel available as separate item) miniature nickel iron core units for transistor or vacuum tube circuits. Plastic mounted leads. SSO Sub-Subouncers: Approx. 2 db, 140-10,000 Hz; +20 VU except inputs +7 VU. (⅞" x ¾" x ⁴³⁄₆₄"; wt., .02 lb.) SO Subouncers: Approx. 2 db., 100-10,000 Hz; +24 VU except inputs +10 VU. (¹⁹⁄₃₂" x ⁴³⁄₆₄" x ⅞"; wt., .03 lbs.)

UTC SSO-	Application	Pri. Imp., Ohms	Sec. Imp., Ohms	UTC SO-
1	Input	50/200	62.5K/250K	1
2	Interstage	10K, .25 ma	90K	2
3	Pl. to line	10K/25K, 1.5 ma	200/500	3
4	Output	30K, 1 ma	50	4
5	Inductor:	50 hys. @ 1 ma	4400 ohms#	5‡
6	Output	100K, .5 ma	60	6
7	Tr. intrstg.	20K/30K†	80/1200	7
8	Tr. intrstg.	10K, 1 ma	2K CT	8
9	Tr. to V.C.	10K, 2 ma	16	.....
.....	Tr. to V.C.	500 CT	3.2	9
10	Tr. to V.C.	10K, 2 ma	3.2	.....
.....	Tr. to V.C.	2K/4K CT	8/16	10
11	Tr. Output	500/600§	50/60	.....
.....	Transist. Int.	400/500 CT	400/500 Split	11
12	Tr. Output	1K/1.2K††	50/60	.....
.....	Transist. Int.	400/500 CT	120/150 Split	12
13	Input	200K	1K	.....
.....	Transist. Int.	400/500 CT	40/50 Split	13
14	Tr. intrstg.	10K/25K CT	200/500 CT	.....
.....	Transist. Int.	80/100 CT	32/40 Split	14
15	Tr. intrstg.	20K/30K CT	.8K/1.2K CT	.....
.....	Tr. output	600 CT, 5 ma	600 Split	15
16	Tr. output	1.2K/1.5K††	3.2/4	.....
.....	Tr. intrstg.	2.5K CT, 4 ma	2500 Split	16
17	Output	10K/12.5K**	500/600 CT	.....
.....	Inductor: 16 hy at 2ma, 1.1K ohms, series; 4 hy at 4 ma, 275 ohms, parallel			17
18	Output	10K/12.5K CT	3.2/4	.....
.....	Tr. Output	50K CT	600 Split	18
19	Matching	500 CT	600 CT	.....
20	Output	1.5K CT	600 CT	.....
21	Chopper	200K CT	1K CT	.....
22	Tr. intrstg.	10K/12K CT	1.5 K/1.8K CT	.....
23	Inductor: 4 hys @ 5 ma, 650 ohms			
24	Inductor: 1.5 hys. @ 5 ma, 160 ohms			
25	Transist. Int.	10K/12K CT	10K/12 CT	.....
26	Transist. Int.	40K/50K CT	400/500 Split	.....
27	Tr. output	4K CT, 2.5 ma	600 Split	.....
CH	Mounting channel for any of above			CH

†0.5 ma. ‡Resis., 2675 ohms. §3.5 ma. **2 ma. ††3 ma. #DC resis.





OUNCER*AUDIO UNITS

Standard and Plug-in Types

UTC ouncer components provide wide range ±1 db, 30 to 20,000 Hz (except Nos. 0-14 and 0-15). O unit case: ⅞" Dia x 1⅜" H, Wt: 1 oz. (except 0-16; heavy shielding case 1⅛" Dia x 1½" H, Wt: 3 oz.) P unit case: 1³⁄₃₂" Dia x 1³⁵⁄₃₂" H, Wt: 2 oz. (except P-16: heavy shielding case 1⅜" Dia x 2¾" H, Wt: 4 oz.)

UTC No.	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	UTC No.
O-1	Input	50, 200, 500	50K	P-1
O-2	P-p input	50, 200, 500	50K CT	P-2
O-3	Input	7.5/30	50K	.....
O-4	Pl. to grid	15K	60K	.....
O-5	Pl. to grid	15K, 2 ma	60K	.....
O-6	Pl. to p-p	15K	95K CT	P-6
O-7	Pl. to p-p	15K, 2 ma	95K CT	P-7
O-8	Pl. to line	15K	50, 200, 500	P-8
O-9	Pl. to line	15K, 2 ma	50, 200, 500	P-9
O-10	P-p to line	30K CT	50, 200, 500	P-10
O-11	Cryst. out.	50K	50, 200, 500	P-11
O-12	Mixing	50, 200,	50, 200, 500	P-12
O-13	Inductor	300 Hys-0 ma; 6000 ohms		.....
O-14	50:1 input	200	500K	.....
O-15	10:1 P/G	15K	1 meg.	P-15
O-16	Shld. input	250 CT	50K	P-16
O-17	Hipermalloy shield, 25 db, for Ouncers			.....
O-18	Tr. intrstg.	10K split	2K split	.....
O-19	Tr. intrstg.	10K split	4K split	.....
O-20	Tr. to line	1.5K CT	500 split	.....
O-21	Tr. to V.C.	2K/4K CT	8/16	.....
O-22	Tr. to V.C.	500/400 CT	4/3.2	.....
O-23	Inductor 7 Hys-3 ma; 230 ohms			.....
O-24	Inductor 1.6 Hys-3 ma; 25 ohms			.....
O-25	Transist. Input	600/150 split	2K/500 split	.....
O-26	Transist. Int.	10K CT 4 ma.	10K CT	.....
O-27	Transist. Int.	10K CT 4 ma.	500/125 split	.....
O-28	Transist. Int.	50K CT. 2 ma.	500/125 split	.....
O-29	Transist. Int. or chopper	100K CT 1 ma.	500/125 split	.....
O-30	Transist. Int.	500/125 split	500/125 split	.....
O-31	Transist. Int.	500/125 split	150/37.5 split	.....
O-32	Transist. Int.	500/125 split	50/12.5 split	.....
O-33	Transist. Int.	100/25 split	40/10 split	.....
O-34	Split Inductor	Series: 60 Mhy-80 ma; 4 ohms Parallel: 15 Mhy-160 ma; 1 ohm		.....
O-36	Split Inductor	Series: 1 Hy-20 ma; 60 ohms Parallel: .25 Hy-40 ma; 15 ohms		.....
O-37	Tr. to line	4K/1K spl., 4 ma	650/150 split	
O-38	Spkr. match	0, 4, 8, 16 ODC		....
O-8R	Mounting U-bracket for ouncers			

UNITED® TRANSFORMER CO. TRW

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

AMATEUR & PUBLIC ADDRESS TRANSFORMERS "S"* SERIES

DIMENSIONS, SPECIAL SERIES TRANSFORMERS



G-1 thru G-4 G-5 thru G-12

UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. These units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided, permitting above chassis or breadboard wiring in addition to standard chassis type.

G-CASE SIZES

Case	Height, In.	Width, In.	Depth, In.	Wt., Lbs.
G-1	1⅞	2 13/16	1¾	1
G-2	2 5/16	3⅜	1 15/16	1½
G-3	2½	3¾	2 5/32	2
G-4	2 13/16	4⅛	2⅜	3
G-5	3¾	3⅛	4½	4½
G-7	4⅝	4⅝	5½	8
G-8	4⅝	5⅜	5⅜	12
G-9	5⅞	5⅜	6¾	21
G-10	5⅞	6⅛	6⅝	24
G-11	5⅞	6½	7⅜	31
G-12	10¼	7⅜	9¼	52

INPUT AND DRIVER TRANSFORMERS

Type UTC	Application	Ratio Pri. to Sec.	Level	Case
S-2	Plate to p-p grids	1:4†	+30 dbm	G-2
S-3	Pl. to 1 or 2 grids	1:4†	+25 dbm	G-1
S-5	Line to grid, humbkg.	1:16	+30 dbm	G-2
S-6	Line to grid, compact	1:16	+25 dbm	G-1
S-8	Driver pl. to p-p	2.66:1, 5:1†	5 w.	G-3
S-9	Driver p-p to p-p	2.66:1, 3.6:1 5:1†	20 w.	G-4
S-10	Driver p-p to p-p	2.25:1†	5 w.	G-3

†Center tapped.

MATCHING, OUTPUT AND MODULATION UNITS

UTC Type	Application	Pri. Imped., Ohms	†	Level, Watts	Case
S-11	Pl. to line	15K	a	.25	G-2
S-12	Line to V.C.	.5K/2K/4K	b	15	G-2
S-13	Line to V.C.	.5K/2K/4K	b	30	G-4
S-14	Output	2.5K/4K/7K/10K	c	10	G-2
S-15	PP output	4K/5K/10K CT	c	12	G-2
S-16	PP output	3K/6K/9/10K CT	c	30	G-4
S-17	PP output	3.8K/4.5/5K CT	c	55	G-5
S-18	Univ. modul.	Any Class B	d	12	G-3
S-19	Univ. modul.	Any Class B	d	30	G-4
S-20	Univ. modul.	Any Class B	d	55	G-5
S-21	Univ. modul.	Any Class B	d	110	G-7
S-22	Univ. modul.	Any Class B	d	250	G-9

†Secondary Impedance: a—200/500 ohms. b—2, 4, 8, 15 ohms. c—2, 8, 15, 500 ohms. d—Any Class C.

FILTER, SWINGING AND AUDIO INDUCTORS

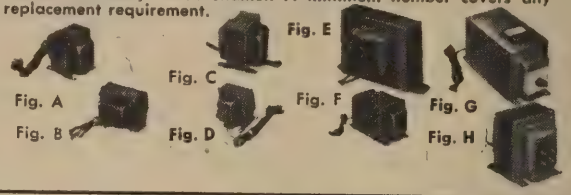
Type	Henries	ma DC	Ohms	Insul.	Case
S-23§	300	5	5000	1500 v.	G-2
S-24‡	500	3	6000	1500 v.	G-2
S-25	30	30	800	1500 v.	G-2
S-26	12	60	250	1500 v.	G-2
S-27	25	75	350	1500 v.	G-4
S-28	20	100	350	1500 v.	G-4
S-29	6	175	90	1500 v.	G-4
S-30†	4/20	175	90	1500 v.	G-4
S-31	6	225	100	2700 v.	G-5
S-32†	4/20	225	100	2700 v.	G-5
S-33	8	300	100	4000 v.	G-7
S-34†	4/20	300	100	4000 v.	G-7
S-35	8	400	60	5000 v.	G-8
S-36†	4/20	400	60	5000 v.	G-8
S-37	8	550	60	6000 v.	G-8
S-38†	4/20	550	60	6000 v.	G-8
S-80	50/10 Mhy	1.75A	.5	500 v.	G-1
S-81	100/8 Mhy	2.5A	.6	1500 v.	G-3
(2Wdgs)	25/2 Mhy	5A	.15		

§Audio. ‡P.P. Audio C. T. †Swinging.

Information on components in this box listed on UTC page 18.

REPLACEMENT TYPE COMPONENTS

The shells and brackets of these vacuum sealed components are finished in shiny black enamel. A minimum number covers any replacement requirement.



FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts, 50-60 Hz.

UTC Type	Secondary Volts	Secondary Current	Insulation	Case No.
S-53	2.5 VCT	10 Amp	1500 V	G-3
S-54	5 VCT	4 Amp	2500 V	G-3
S-55	6.3 VCT	3 Amp	1500 V	G-3
S-57	2.5 VCT	10 Amp	10000 V	G-5
S-58	2.5 VCT	20 Amp	10000 V	G-5
S-59	5 to 5.25 VCT	13 Amp	5000 V	G-5
S-60	5 to 5.25 VCT	22 Amp	10000 V	G-7
S-61	7.5 VCT tapped 6.3 VCT	10 Amp	3000 V	G-5
S-62	10 VCT	10 Amp	3000 V	G-5
S-63	14 VCT tapped 12 VCT & 11 VCT	10 Amp	5000 V	G-7

Type	Filament 1	Filament 2	Filament 3	Case
‡S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	G-5
‡S-67	5 VCT-6A	6.3 VCT-5A		G-5
‡S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	G-5
‡S-70	6.3 VCT-5A	6.3 VCT-5A	.....	G-5
§S-71	2.5 VCT 6A	2.5 VCT-6A	2.5 VCT-12A	G-7
†S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	G-5

§Insulation 10,000 v. †Insulation 5000 v. ‡Insulation 3000 v.

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 V., 50-60 Hz

UTC Type	Voltage	DC V.	Rect. Fil.	Filament No. 1	Filament No. 2	Case No.
S-39	490-400-0-400-490 175 ma	400/310	5V-3A	2.5 VCT-6A	6.3 VCT-4A	G-7
S-40	525-425-0-425-525 250 ma	400/310	5V-3A	6.3 VCT-3A	6.3 VCT-3A	G-7
S-41	600-0-600 200 ma	475	5 V-3A	7.5 V tapped 6.3 V-3A	6.3 VCT-2A	G-7
S-42	600-525-0-525-600 300 ma	480/400	5 V-6A	7.5 V tapped 6.3 V-3A	6.3 VCT-3A	G-7

PLATE AND BIAS TRANSFORMERS

Primary 115 V. 50/60 Hz.

UTC Type	2.5 VCT-12A High Voltage	DC Voltages †	DC Ma	Case
S-44	575-525-0-525-575	470/430	500	G-9
S-45	900-750-0-750-900	750/620	200	G-8
S-46	1000-750-0-750-1000	825/600	300	G-9
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300	G-10
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500	G-11
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300	G-11
S-50	3000-2500-0-2500-3000	2625/2175	300	G-12
S-51	Any bias voltage from 15 to 100 ± 6%		200	G-5
S-52	Any bias voltage from 75 to 400 ± 6%		200	G-7

†Based on two section filter for 200 ma. and 300 ma. units. Single section filter for 500 ma. units, both choke input.

CONTACT YOUR LOCAL DISTRIBUTOR FOR CURRENT PRICES

UNITED® TRANSFORMER CO. **TRW®**

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

TRANSFORMERS FOR INDUSTRY WIDE APPLICATIONS

DOUBLE SHELL POWER TRANSFORMERS (FIG. B SEE PG. 17)

Rectifier filaments 5 volts, 3 amps except R-101, 2 amps.

UTC Type	High V.	DC ma	Amplifier Filament	Overall Height	Wt., Lbs.
R-101	275-0-275	50	6.3 v. CT-2.7A	3"	2½
R-102	350-0-350	70	6.3 v. CT-3A	3⅝"	3½
R-103	350-0-350	90	6.3 v. CT-3.5A	3¹³⁄₁₆"	4½
R-104	350-0-350	120	6.3 v. CT-5A	3⅞"	5½
R-105	385-0-385	160	6.3 v. CT-5A	4⅝"	7

VERTICAL SHELL POWER TRANSFORMERS (FIG. C SEE PG. 17)

Rectifier filaments 5 volts, 3 amps., except R-110, 2 amps.

R-110	300-0-300	50	6.3 v. CT-2.7A	3¼"	2½
R-111	350-0-350	70	6.3 v. CT-3A	3¼"	3½
R-112	350-0-350	120	6.3 v. CT-5A	4"	5½
R-113	400-0-400	200	6.3 v. CT-6A	4⅝"	8

CHANNEL FRAME FILTER INDUCTORS (FIG. E SEE PG. 17)

Inductance Shown is at Rated D.C. ma.—Test Volts RMS: 1500

Type No.	Induct. Hys.	Current	Resist. Ohms	Dimensions, in. W	D	H	M	Wt. Lbs.
R-55	6	40 ma	300	2⅜	1⅜	1⅜	2	½
R-14	8	40 ma	250	2⅞	1½	1¹¹⁄₁₆	2⅜	¾
R-15	12	30 ma	450	2⅞	1½	1¹¹⁄₁₆	2⅜	¾
R-16	15	30 ma	630	2⅞	1½	1¹¹⁄₁₆	2⅜	¾
R-17	20	40 ma	850	3⅜	1⅝	2	2¹³⁄₁₆	1
R-18	8	80 ma	250	3⅜	1⅝	2	2¹³⁄₁₆	1
R-19	14	100 ma	450	3¾	1⅞	2⅜	3⅛	1½
R-20	5	200 ma	90	4⅛	2¼	2⅝	3⅜	2½
R-21	15/3	200 ma	90	4⅛	2¼	2⅝	3⅜	2½
R-220	100/8 Mhy.	2.5A	.6	3¾	2	2⅜	3⅛	1½
	25/2 Mhy.	5A	.16					

PHOTOFLASH TRANSFORMERS

STANDARD 982

Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash tubes. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 Hz. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3 (UTC page T-11) case 2⅛ x 2¾ (3¾ including flanges) x 2½ inches high. Wt. 2 lbs.

PF-3 Trigger Transformer 15 KV peak. ⅞ O.D.x3 long. Weight 2 oz.



PF-6

TRANSISTOR TYPE

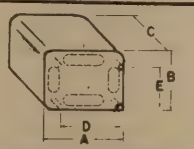
These are miniaturized light weight units for transistor type photoflash supply.

PF-5 Primary for 115 volts, 50/60 Hz or for 4½ V. battery switched by PF-6 inverter transformer. Output delivers 400 V. DC when used in voltage doubler circuit to charge photoflash capacitor (typically 40 watt-Sec.). G-1 case (UTC page T-11)

PF-6 Inverter transformer transforms 4½ V. DC from battery to input for PF-5 stepup transformer. Ouncer case (UTC page T-11)

PF-7 Trigger transtormer. Shorting .25 mfd. capacitor (charged to approx. 225 V. DC) across terminals 1-2 produces 6 KV pulse at terminal 3 for triggering flash tube. ⅞" Dia. x ¹⁵⁄₁₆"; Wt. ½ oz.

MIL-T-27C CASE SIZES



MIL Case	Size, Inches: Dimension A	B	C	D	E	Mtg. Studs
AF	¾	¾	1⅛	Diag.	⅝	4-40 x ⅜
AG	1	1	1⅜	Diag.	¾	4-40 x ⅜
AH	1⅝	1⅝	1¾	Diag.	1¼	6-32 x ⅜
AJ	1⅜	1⅜	2⅜	1¾	1⅜	6-32 x ⅜
EA	1¹⁵⁄₁₆	1¹³⁄₁₆	2¾	1⅜	1¼	6-32 x ⅜
EB	1¹³⁄₁₆	1¹³⁄₁₆	2⅞	1⅜	1¼	6-32 x ⅜
FA	2⅝	2¼	3⅛	1¹¹⁄₁₆	1⅞	6-32 x ⅜
FB	2⅝	2¼	2½	1¹¹⁄₁₆	1⅞	6-32 x ⅜
GA	2¾	2⅜	3¹³⁄₁₆	2⅛	1¾	6-32 x ⅜
GB	2¾	2⅜	2¹³⁄₁₆	2⅛	1¾	6-32 x ⅜
HA	3¼	2⅝	4¼	2¹³⁄₁₆	1⁵⁄₁₆	8-32 x ⅜
HB	3¼	2⅝	3⅝	2¹³⁄₁₆	1⁵⁄₁₆	8-32 x ⅜
JA	3⅝	3¼	4⅞	2⅝	2⅛	8-32 x ⅜
JB	3⅝	3¼	3⅞	2⅝	2⅛	8-32 x ⅜
KA	3¹⁵⁄₁₆	3⅜	5¼	3	2⅜	10-32 x ½
KB	3¹⁵⁄₁₆	3⅜	4⅝	3	2⅜	10-32 x ½
LA	4⅝	3¹³⁄₁₆	5⅜	3⅜	2¹³⁄₁₆	10-32 x ½
LB	4⅝	3¹³⁄₁₆	4½	3⅜	2¹³⁄₁₆	10-32 x ½
MA	4¹³⁄₁₆	4	6	3¹³⁄₁₆	3	¼-20 x ⅝
MB	4¹³⁄₁₆	4	4¹³⁄₁₆	3¹³⁄₁₆	3	¼-20 x ⅝
NA	5⅛	4⅜	6¹³⁄₁₆	4⅛	3⅝	¼-20 x ⅝
NB	5⅛	4⅜	5½	4⅛	3⅝	¼-20 x ⅝
OA	5½	4½	6¾	3¾	3	¼-20 x ⅝

STEP-DOWN AUTO-TRANSFORMERS (FIG. A SEE PG. 17)

With 6-ft. cord and female receptacle, except R-64; 220/240 to 110/120 v., 50/60 Hz.

UTC Type	Rating	Size, Inches L.	W.	H.	Wt., Lbs.
R-41	85 watt capacity	3¾	2⅜	3⅛	4
R-42	125 watt capacity	3½	3	3½	5
R-43	175 watt capacity	3¾	3¼	3⅞	5½
R-44	250 watt capacity	4⅜	3¼	3⅞	6½
R-45	500 watt capacity	4⅝	3⅞	4⅝	12
R-46	1200 watt capacity	6⅞	3⅞	4⅝	18
R-64	2500 watts, no cord	10½	4¾	6¾	30

ISOLATION TRANSFORMERS (FIG. F SEE PG. 17)

Ideal for isolating line noise. AC-DC sets, etc. Excellent electrostatic shielding 1500 volt breakdown test. Six foot cord and female receptacle, except R-77.

Primary 110-120 volts 50/60 Hz—Secondary 110-120 volts
Except R-97 220 volt Primary—120 volt Sec.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-72	40	3⅛	2⅝	3⅛	2x1⅞	4
R-73	100	3¾	3¼	3⅞	2½x2⅜	6
R-74	250	4⅞	3⅞	4⅝	3x3½	12
R-75	600	7⅜	3⅞	4⅝	3x5⅞	20
R-76	1200	8½	4½	6⅛	3⅝x6⅝	30
R-77	2500	12	7	9	6x11	70
R-97	250	4⅞	3⅞	4⅝	3x3½	12

LINE VOLTAGE ADJUSTERS WITH METERS (FIG. H SEE PG. 17)

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage. These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly. The nine-tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output model. All units are designed for 50/60 Hz service and come complete with 6 foot input cord and plug and outlet receptacle.

Type No.	Primary Voltages	Sec. Volts	Watts Ratings	L	W	H	Wgt. Lbs.
R-78	†	115	150	7	4	4¾	6
R-79	†	115	300	7	4	4¾	9
R-80	†	115	600	10¼	4	4¾	13
R-81	†	115	1200	10¼	4	4¾	21
R-86	‡	230	1200	10¼	4	4¾	21

† 60, 70, 80, 90, 100, 110, 120, 130, 140
‡ 160, 170, 180, 190, 200, 210, 220, 230, 240

EXPORT VOLTAGE ADAPTER (FIG. D SEE PG. 17)

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 Hz. Output voltage 115.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-47	85	4¾	3	3½	2¼x2⅝	4½
R-48	150	4¾	3¼	4	2½x2¾	5½

TV VOLTAGE REGULATOR (FIG. D SEE PG.17)

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 Hz TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-49	350	4¹³⁄₁₆	3¼	4	2½x2¹³⁄₁₆	5

SIGNALLING & CONTROL TRANSORMERS (FIG. HSEE PG.17)

Primary 110-220 volts, 50/60 Hz — Secondary
4/8/12/16/20/24 volts

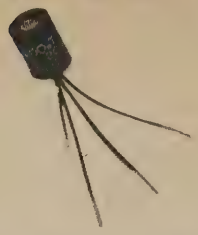
High power transformers suitable for operating relays, sirens horns, gongs, etc. from 115 V. 50/60 Hz line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
SC-3	50	3	3⅛	3⁹⁄₁₆	1¾x2¼	3
SC-4	100	3¼	3⅛	4	2⅛x2½	5
SC-5	250	4	4⅝	4¾	3⅝x3	10

IMMEDIATE DELIVERY ON ALL ITEMS

* UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

I-DO-T™ & I-DI-T™ TRANSFORMERS & INDUCTORS



PACKAGING

UTC's plastic casing is designed for protection to 85°C. The bobbin is completely rigid and the wire turns are circular to reduce turn corner stress and assure uniform wire lay. External leads are rigidly anchored internally to withstand a 10 lb. pull. No tapes are used. Insulated leads are .016" diameter tinned copper. Units mount vertically or on side and can be wave soldered.

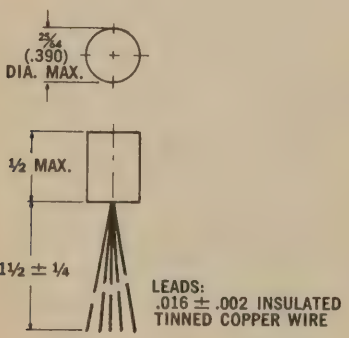
PERFORMANCE

In power handling capability and reliability coupled with small size, I-DO-T and I-DI-T transformers are unprecedented for industrial use. Electrical parameters and areas of application exceed conventional transformer capabilities.

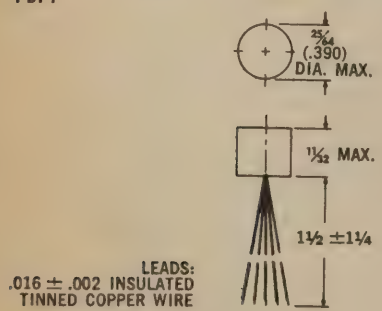
The curves on this page show the performance of these units in comparison to those of similar size units offered by other manufacturers.

I-DO-T and I-DI-T transformers are industrial quality counterparts of UTC's DO-T and DI-T line of Mil-spec transformers. Environmental specifications, such as hermetic sealing, have been relaxed to reduce the cost. Electrical performance is identical.

I-DO-T



I-DI-T



I-DO-T LINE PERFORMANCE CHARACTERISTICS
TRANSFORMERS FREQUENCY RESPONSE: 300Hz TO 20KHz +3db @ 1MW REF. LEVEL 1KHz

Type No.	Voltage Pri.-Pulse Time-Product Millivolt Sec.	Pri. Imp. Electrostatic Shield A	Unbal. DC Ma In Pri.	Sec. Imp. (Split*)	P. Max. In MW @ 1KC 5% Dist.	DCR ± 25% Pri.	DCR ± 25% Ser. Sec. Conn.	Turns Ratio ± 3% Pri.	Turns Ratio ± 3% Ser. Sec. Conn.	Max. Wkg. Volts	Schem. Diag. Fig.
101	27.0	20K/30K	.5	800/1200	50	830	115	5	1	49	1
102	4.3	500/600	3	50/60	100	60	8	3.16	1	49	1
103	6.0	1K/1.2K	3	50/60	100	115	8	4.46	1	49	1
104	4.7	600	3	3.2	100	60	.58	13.7	1	49	1
105	6.7	1200	2	3.2	100	105	.58	19.35	1	49	1
106	19.0	10K	1	3.2	100	790	.68	55.7	1	49	1
107	43.0	200K	0	1K	25	8500	100	14.14	1	49	2
108	See Inductors										
109	19.0	10K/12K	1	500/600 CT	100	780	50	4.48	1	49	3
110	19.0	10K/12.5K	1	1200/1500 CT	100	780	115	2.89	1	49	3
111	19.0	10K/12.5K	1	2000/2500 CT	100	780	190	2.24	1	49	3
112	2.3	150/200 CT	10	12/16	500	11	1.5	3.54	1	49	4
113	3.3	300/400 CT	7	12/16	500	20	1.63	5	1	49	4
114	5.1	600/800 CT	5	12/16	500	43	1.5	7.07	1	49	4
115	5.4	800/1070 CT	4	12/16	500	51	1.5	8.15	1	49	4
116	6.0	1K/1.33K	3.5	12/16	500	71	1.5	9.15	1	49	4
117	7.5	1.5K/2K CT	3	12/16	500	108	1.5	11.2	1	49	4
118	16.0	7.5K/10K CT	1	12/16	100	505	1.6	25	1	49	4
119	3.3	300 CT	7	600	500	19	89	1	1.41	49	4
120	4.3	500 CT	5.5	600	500	31	90	1	1.1	49	4
121	5.8	900 CT	4	600	500	53	89	1.22	1	49	4
122	7.5	1.5K CT	3	600	500	85	89	1.58	1	49	4
123	27.0	20K/30K CT	.5	800/1200 CT	50	830	115	5	1	49	5
124	43.0	200K CT	0	1K CT	25	8500	100	14.14	1	49	6
125	7.5	10K/12K CT	1	1500/1800 CT	100	780	126	2.58	1	49	5
126											
127	See Inductors										
128											
129	2.0	120/150 CT	10	3.2/4	500	10	.46	6.12	1	49	4
130	3.4	320/400 CT	7	3.2/4	500	20	.46	10	1	49	4
131	5.2	640/800 CT	5	3.2/4	500	43	.46	14.1	1	49	4
132	5.4	800/1000 CT	4	3.2/4	500	51	.46	15.8	1	49	4
133	6.0	1060/1330 CT	3.5	3.2/4	500	71	.46	18.2	1	49	4
134	7.5	1.6K/2K	.3	3.2/4	500	109	.46	22.4	1	49	4
135	17.0	8K/10K CT	1	3.2/4	100	505	.46	50	1	49	4
136	19.0	10K/12K CT	1	10K/12K CT	100	975	1175	1	1	49	5
137	8.6	2K/2.5K CT	3	8K/10K*	100	195	455	1	2	49	7
138	19.0	10K/12K CT	1	2K/2.4K*	100	560	230	2.24	1	49	7
139	27.0	20K/30K CT	.5	1K/1.5K*	50	800	113	4.47	1	49	7
140	38.7	40K/50K CT	.25	400/500*	50	1700	60	10	1	49	7
141	3.8	400/500 CT	8/6	400/500*	500	46	74	1	1	49	7
142	3.8	400/500 CT	8/6	120/150*	500	46	26	1.82	1	49	7
143	3.8	400/500 CT	8/6	40/50*	500	46	8	3.16	1	49	7
144	1.7	80/100 CT	12/10	32/40*	500	9.8	6	1.58	1	49	7
145	6.0	1K/1.25K CT	3.5	16K/20K*	100	120	940	1	4	49	7
146	30.6	100K CT A	0	500 CT	25	7900	85	14.14	1	49	8
147	18.0	9K/10K CT A	1	9K/10K CT	100	850	1080	1	1	49	9
148	17.0	8K/10K CT A	1	1.25K/1.5 CT	100	640	110	2.58	1	49	9
149	See Inductors										
150											
151	8.6	2K/2.5K CT	3	2K/2.5K*	100	195	125	1	1	49	7
152	12.0	4K/5K CT A	2	8K/10K CT	100	316	590	1	1.41	49	9
153	3.8	400/500 CT	8/6	4K/5K CT	500	46	550	1	3.33	49	5
154	38.7	40K/50K CT	.25	4K/5K CT	50	1860	450	3.33	1	49	5
155	6.0	600 CT	4	600 CT	500	47	47	1	1	49	6

I-DI-T LINE PERFORMANCE CHARACTERISTICS
TRANSFORMERS FREQUENCY RESPONSE: +3db 400Hz TO 100KHz @ 1MW REF LEVEL 1KHz

301	15.0	20K/30K	.5	800/1200	50	815	140	5	1	49	1
302	2.4	500/600	3	50/60	100	65	9	3.16	1	49	1
303	3.4	1000/1200	3	50/60	100	110	9	4.46	1	49	1
305	3.8	1200	2	3.2	100	110	.53	19.35	1	49	1
308	See Inductors										
309	10.8	10K/12K	1	50/600	100	870	50	4.48	1	49	3
310	10.8	10K/12.5K	1	1.2K/1.5K CT	100	870	130	2.89	1	49	3
311	4.9	10K/12.5K	1	2K/2.5K CT	100	870	180	2.24	1	49	3
319	1.9	300 CT	7	600	500	20	89	1	1.41	49	4
320	2.4	500 CT	5.5	600	500	32	89	1	1.1	49	4
321	3.3	900 CT	4	600	500	53	90	1.22	1	49	4
322	4.3	1500 CT	3	600	500	87	90	1.58	1	49	4
323	15.0	20K/30K CT	.5	800/1.2K CT	50	815	140	5	1	49	5
325	10.8	10K/12K CT	1	1.5K/1.8K CT	100	870	105	2.58	1	49	5
326											
327	See Inductors										
328											
336	10.8	10K/12K CT	1	10K/12K CT	100	970	1270	1	1	49	5
337	4.8	2K/2.5K CT	3	8K/10K*	100	180	440	1	2	49	7
338	10.8	10K/12K CT	1	2K/2.4*	100	620	220	2.24	1	49	7
341	2.1	400/500 CT	8/6	400/500*	500	50	89	1	1	49	7
343	2.1	400/500 CT	8/6	40/50*	500	50	6.5	3.12	1	49	7
344	.96	80/100 CT	12/10	32/40*	500	11.5	4	1.58	1	49	7
351	4.8	2K/2.5K CT	3	2K/2.5K*	100	180	110	1	1	49	7
352	6.8	4K/5K CT A	2	8K/10K CT	100	300	530	1	1.4	49	9

INDUCTORS

I-DO-T Type No.	Connections	Inductance Hys., Min. @ 1KHz 5V	@ DC MA	DCR +25% Ohms	Ratio of Wdgs.	Max. Wkg. Volts	Schem. Diag. Fig. No.	I-DI-T Type No.	Inductance Hys., Min. @ 1KHz 5V	@ DC MA	DCR +25% Ohms	Max. Wkg. Volts Peak	Schem. Diag. Fig. No.
150	Series	.075H	10	10.5	1:1	49	12	308	2.5	2	630	49	14
(2 Wdgs.)	Parallel	.018	20	2.6					.9	4			
128		.3	4	25		49	10	326	4.5	2	2300	49	14
127		1.25	2	100		49	14		1.2	4			
108		3.5	2	560		49	15	327	.9	2	105	49	14
126		6.	2	2100		49	13		.5	6			
149	Series	20.0	1	5100	1:1	49	11	328	.1	4	25	49	14
(2 Wdgs.)	Parallel	5.0	2	1275					.08	10			

UNITED® TRANSFORMER CO. **TRW**

® UTC Trade Mark. All Product Lines or Type Designations are UTC Trade Marks. Specify by Trade Mark to assure UTC high quality and reliability. © 1970 United Transformer Co., Div. of TRW INC.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

POWER TUBES—TETRODES & PENTODES

TYPE NO.	FILAMENT Volts	FILAMENT Amps	MU GRID #1 TO GRID #2	MAX. DISS. WATTS	TYPICAL OPERATION PLATE Volts DC	PLATE Amps DC	PLATE Output Watts	GRID Volts DC	GRID mA DC	SCREEN Volts DC	MAX. FREQ. MHz Full Input	INTERELECTRODE CAPACITANCE—pF G.P.	G.F.	P.F.	DESCRIPTION
SD605	2	3.45		CCS=2x7.5 ICAS=2x10 PTTS=2x25	PTTS 580	PTTS 200 mA	PTTS 66	PTTS −88	PTTS 3.8	PTTS 176	175	0.15	Input 8.8 Output 4.1		Radiation cooled, beam power tetrode which provides full output power in less than ½ second. It is designed for use as an RF power amplifier, oscillator, and frequency multiplier in mobile transmitting equipment up to 175 MHz.
SD646	6.3	120	7.5	6k	5.5k	1.7	grounded grid 6.3	−115	25	600	250	Input 48 Output 15.8		0.16	Air cooled coaxial power tetrode designed for use as a linear RF power amplifier in VHF television service.
SD647	8	120	8.5	12k	7.5k	2.5	grounded grid 13k	−125	90	650	250	Input 53.5 Output 17.7		0.1	Air cooled coaxial power tetrode designed for use as a linear RF power amplifier in VHF television service.
SD648	4.2	53	16	1.5k	3k	700	930	−23	60	500	250	Input 30 Output 10		0.1	Air cooled coaxial power tetrode designed for use as a linear RF power amplifier in VHF television service.
SD652	6.3	120	9	6k	6k	1.5	5.7k	−75	70	500	110	0.3	Input 70 Output 16		Air cooled coaxial power tetrode of all metal-ceramic construction. It is designed for use in VHF transmitter final amplifiers with transistorized drivers. It incorporates a unique new design called inverted construction which utilizes the center contact as the control grid contact. This innovation precludes the need for crossover wiring when the tube is to be used as a grounded cathode amplifier in a cavity type circuit.
SD653	8	120	8	6k	7.5k	2.4	11.7k	−90	175	175	110	0.3	Input 85 Output 17		
RS1032C	4.1	130	6	10k	5k	3	11k		120		790	0.22	53	0.09	Forced-air cooled power tetrode designed especially for UHF television transmitters.
RS1052C	3.2	80	4.2	3.5k	3.3k	1.3	2.5k		30		790	0.17	28	0.05	Forced-air cooled tetrode designed especially for UHF television transmitters.
RS1082CL RS1082CW RS1082CV	10 10 10	200 200 200		25k 30k 45k	8k 8k 8k	5.9 5.9 5.9	30k 30k 30k	−170 −170 −170		1200 1200 1200	30 30 30	1.3 1.3 1.3	110 110 110	0.2 0.2 0.2	Power Tetrodes primarily designed for SSB communications transmitters operating at frequencies up to 250 MHz. The RS1082CL is forced air cooled, the RS1082CW is water cooled and the RS1082CV is vapor phase cooled.
RS2002W RS2002V	22 22	350 350	4 4	120k 150k	9k 9k	21 21	120k 120k	−450 −450		1500 1500	30 30	8.5 8.5	280 280	1.7 1.7	Power tetrodes designed for use in SSB transmitters. The RS2002W is water cooled and the RS2002V is vapor phase cooled.
4-65A	6	3.5	5	65	3,000	0.115	280	−100	5	400	150	0.08	8	2.1	Convection and radiation cooled tetrode having a fast heating thoriated tungsten filament. Excellent for mobile use.
(CERAMIC) 4X250B[1] 4X250F (CERAMIC)	6.0 26.5	2.6 0.56	5.2	250	2,000	0.250	390	−90	26	250	500	0.06	15.7	4.5	Forced-air cooled external anode tetrodes with brazed radiator. For airborne and mobile applications extending into the UHF region. Also excellent for single sideband and pulse applications. Directly interchangeable with the 7203 and 7204.
4X500A	5.0	13.5	6.2	500	4,000	0.315	930	−150	16	500	120	0.05	12.8	5.6	Forced-air cooled external anode tetrode. Useful as power amplifier in FM, TV and VHF communication transmitters.
4-125A/4D21 (SEE 6155)	5.0	6.5	5.9	125	2,500	0.200	375	−150	12	350	120	0.05	10.8	3.1	Radiation and forced-air cooled tetrode. Designed for use as power amplifier, modulator, or oscillator.
4-250A/5D22 (SEE 6156)	5.0	14.5	5.1	250	4,000	0.312	1,000	−225	90	500	110	0.12	12.7	4.5	Radiation and forced-air cooled tetrode. Designed for use as RF power amplifier, modulator, or oscillator.
4-400A/8438	5.0	14.5	5.1	400	4,000	0.350	1,100	−220	18	500	75	0.12	12.5	4.7	Radiation and forced-air cooled tetrode. Designed for use as power amplifier, modulator or oscillator at frequencies up to 110 MHz.
807	6.3	0.9	8	25	600	0.100	40	−45	4	250	60	0.2	11.0	7.0	Radiation-cooled tetrode. Popular replacement as well as for initial equipment.
813	10	5	8.5	125	2,000	0.18	275	−120	10	040	120	0.25	16.3	14	Beam power pentode designed for use as an RF amplifier and oscillator.
5894 5894A	12.6 6.3	0.9 1.8	8.2	CCS=40 ICAS=45	CCS=600 ICAS=750	0.200	CCS=85 ICAS=105	−80	5	250	250	0.08	Input 6.7 Output 2.1 (Push-Pull)		Radiation and/or forced-air cooled twin-tetrode of original Amperex design as HF version of conventional 829-B makes ideal multiplier, as well as straight amplifier and modulator.
5894B (SEE 8737)															
5895	6.3 3.15	10.68 1.36	7.5	CCS=12 ICAS=16	600	0.8	33.6	−80	2.6	200	186	0.05	Input 5.7 Output 1.7 (Push-Pull)		Radiation cooled twin, four electrode tube. Designed for use as a radio frequency power amplifier, oscillator, modulator and frequency multiplier. This tube features a directly heated cathode, making it suitable for instant heating applications.
6075	6.3 6.3	33.5 33.5	7.5 7.5	3,000 3,000	4,000 5,000	1.10 1.10	3,300 4,100	−250 −250	70 70	800 800	220 75	—	24.0 24.0	8.5 8.5	Water-cooled low drive, HF tetrode designed for FM and television transmitter power amplifier.
6079	10.0	9.7	9.5	500	5,000	0.452	1,760	−200	30	700	75	0.24	Input 25 Output 7.2		Radiation and/or forced-air cooled low drive HF tetrode for FM and AM transmitters. Also ideal in screen modulator stages.
6083	12.6	1.35	6.7	45	1,000	0.017	132	−120	5	250	60	0.1	22.5	11.0	Radiation-cooled pentode with low voltage—high current characteristics. Powdered glass dish type base with short internal lead connections. Up to 150 watts, Class C Telephony, ICAS.
6146B/8298A, 6159B, 6883B/8032A/ 8552	6.3 26.5 12.6	1.125 0.3 0.562	4.5 4.5 4.5	27 27 27	600 600 600	150 150 150	63 63 63	−70 −70 −70	2.8 2.8 2.8	200 200 200	60 60 60	<0.22 <0.22 <0.22	13.0 13.0 13.0	8.5 8.5 8.5	Compact radiation cooled beam power tetrodes designed for use as RF power amplifiers, oscillators, AF power amplifiers and modulators in mobile and base station equipment operating at frequencies up to 175MHz.
6155	5.0	6.5	6.2	125	2,500	0.200	375	−150	10	350	120	0.05	10.8	3.5	Convection and forced-air cooled tetrode. "Magnisorb" anode and low drive make it excellent RF amplifier tube in FM broadcasting. Improved version of 4-125A/4D21.
6156	5.0	14.1	5.1	250	3,000	0.345	800	−180	10	500	75	0.12	12.7	4.5	Convection and forced-air cooled tetrode. "Magnisorb" anode and low drive characteristics with "sintered" glass base. Improved version of 4-250A/5D22.
6159	26.5	0.3	4.5	CCS=20 ICAS=25	600 750	0.112 0.12	52 70	−58 −62	2.8 3.1	150 160	60	0.22	13.5	8.5	Beam power tetrode for use as RF power amplifier, oscillator frequency multiplier, AF power amplifier or modulator for fixed and mobile equipment.
6252 6252 USN	12.6 6.3	0.65 1.3	8.5	CCS=20 ICAS=25	600 750	0.100 0.150	42 79	−60 −60	1.4 2	250 250	300	—	Input 4.0 Output 1.3		Radiation and/or forced-air cooled twin tetrode of Amperex design. HF version of conventional 832A. Makes ideal multiplier as well as straight amplifier and modulator. Useful up to 700 MHz at reduced ratings. Delivers 15 watts at 600 MHz under CCS conditions.
6293	6.3	1.25	4.5	10	3k	0.015						0.22	13.5	8.5	Compact radiation cooled beam power amplifier designed for pulse modulator service.
6360 6360 A	12.6 6.3	0.410 0.820	7.5	CCS=10 ICAS=14	300	0.100	ICAS=18.5	−45	3	200	200	<0.1	Input 6.2 Output 2.6		High-gain twin tetrode for use as Class C amplifier, oscillator, frequency multiplier and modulator, ICAS plate input=30 watts up to 200 MHz. Capable of delivering 18.5 watts output at 200 MHz.
6907	12.6 6.3	0.65 1.3	8.5	CCS=20 ICAS=25	600 750	0.100 0.150	42 79	−60 −60	1.4 2	250 250	300	—	Input 4.0 Output 1.3		Twin tetrode, radiation-cooled. Special Amperex design for mobile service. HF version of conventional 832A. Ideal multiplier & straight amplifier & modulator. Useful up to 1000 MHz. Delivers 15 watts at 600 MHz, CCS.
6939, 8577, 8595	12.6 6.3	0.3 0.6	31	CCS=6 ICAS=7.5	180 200	2x0.027 2x0.030	5.8 7.2	−20 −20	0.75 0.75	180 200	500	2x0.15	2x6.4	2x1.6	High-gain twin tetrode for use as Class C amplifier, oscillator, frequency multiplier & modulator. ICAS plate input=14 watts up to 500 MHz. Capable of delivering 7.5 watts output at 500 MHz.
6979	6.0	2.6	5	250	2,000	0.250	410	−90	12	250	250	0.03	15.7	4.5	Forced-air cooled external tetrode. Brazed radiator. Replaced with 7034/4X150A.
7034/4X150A 7035/4X150D	6.0 26.5	2.6 0.58	5	250	1,250	0.200	140	−115	11	280	500	0.03	16	4.4	Forced-air cooled external anode tetrode. Suited for high power mobile applications. Makes an excellent wide-band amplifier for video application.
7203/4CX250B 7204/4CX250F	6.0 26.5	2.6 0.56	5.2	250	2,000	0.250	390	−90	26	250	500	0.06	15.7	4.5	Forced-air cooled external anode tetrodes with brazed radiator. For airborne and mobile applications extending into the UHF region. Also excellent for single sideband and pulse application.
7377	12.6 6.3	0.3 0.6	28	8	250	0.035	7	−15	0.75	160	960	0.145	4.5	1.35	Radiation cooled twin tetrode designed for push-pull Class C operation at frequencies up to 1000 MHz.

A glass seal version of 4X250B (ceramic) is available. See tube Type 6979.

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

POWER TUBES—TETRODES & PENTODES (Continued)

TYPE NO.	FILAMENT Volts	FILAMENT Amps	MU GRID #1 TO GRID #2	MAX. DISS. WATTS	TYPICAL OPERATION PLATE Volts DC	PLATE Amps DC	PLATE Output Watts	GRID Volts DC	GRID mA DC	SCREEN Volts DC	MAX. FREQ. MHz Full Input	INTERELECTRODE CAPACITANCE—pF G.P.	G.F.	P.F.	DESCRIPTION
7378	6.3	3.9	5.7	100	750	0.385	200	−90	7	250	30	0.9	30 Input	12.7 Output	Radiation and convection cooled all-glass beam-power tetrode designed for use as an AF and RF amplifier, oscillator and multiplier for frequencies to 30 MHz.
7527 7527A	5	14.1	5.1	400	4,000	0.270	800	−170	9.5	500	110	0.12	12.7	4.9	All glass tetrode. Designed for amplifier, oscillator, or modulator service extending in the VHF region at frequencies up to 110 MHz.
7580 7580 W	6.0	2.6	4	250	2,000	0.250	360	−250	50	400	500	0.03	17	4.5	Forced-air cooled beam power tetrode of ceramic and metal construction. Designed especially for SSB and other linear RF amplifier applications at altitudes to 20,000 ft.
7609	26.5	0.57	5	250	1,250	0.200	140	−115	10	280	500	0.03	Input 15.5 Output 4.5		A tetrode designed for use as an RF power amplifier and oscillator. The plate is forced air cooled; the cathode is oxide coated, indirectly heated. Similar to 4X150D except that it is designed for aircraft use and other applications in which resistance to vibration is important.
7645	6.3 12.6	0.6 0.3	31	CCS=5.5 ICAS=7	180	0.04	4.2	−20	0.6	180	400	0.15	6.4	1.6	Miniature twin tetrode featuring frame grid construction. It is a reduced height version of the 6939 for compact equipment.
7650	6.3.	7.85	13	700	2,250	0.450	650	−45	10	400	1215	0.11	—	—	Ceramic and coaxial forced-air cooled power tetrode with integral radiator. Designed for use as a UHF amplifier or oscillator at frequencies to 1215 MHz.
7854	12.6 6.3	0.9 1.8	8.2	60	1,000	0.200	134	−85	5.4	250	175	0.09	Input 11.6 Output 3.7		Twin tetrode. Designed for use as an RF power amplifier, oscillator, modulator and frequency multiplier. Heat sink or forced-air cooling is necessary at or near maximum ratings. Built-in cross neutralizing capacitors insure neutralization over entire band. Useful to 500 MHz.
7983	3.15	1.65	7.5	7	300	0.55	11	−40	1.5	155	200	0.08	6.8	3.2	Quick heating twin tetrode having a filament designed for hybrid mobile transceivers for power output, driver or frequency multiplier circuits. Internally neutralized up to 200 MHz.
7984	13.5	0.58		35	450	180 mA	46	−60	12	125	175	0.17	Input 15 Output 5.5		Compact radiation cooled beam pentode designed for use as an oscillator or power amplifier at frequencies up to 175 MHz.
8042	1.6	3.2	4.5	25	650	0.160	65	−71	2.8	180	—	0.24	13	8.5	"Harp Cathode" instant heating beam power tetrode for use as power output, oscillator or frequency multiplier in mobile or base equipment. Full output power is available in less than one half second after filament power is applied.
8116 8116A	26.5 13.25	0.433 0.866	7	2x30	1,000	2x0.110 2x0.131	141 PEP	−34	0	250	175	0.09	11.8 Input	3 7 Output	Twin tetrode designed and rated for SSB applications where 26.5 V is available for heater. Particularly adapted to heat sink cooling because of calibrated glass envelope.
8117 8117A	12.6 6.3	0.9 1.8	7	2x30	1,000	2x0.131	141 PEP	−34	0	250	175	0.09	11.8 Input	3.7 Output	Twin tetrode designed and rated for SSB applications where 12.6 V is available for the heater.
8118	1.6	4.25	9	2x10	400	2x0.05	28	−50	2x1.5	250	500	—	4.5 Input	1.8 Output	Instant heating twin tetrode for use as an output amplifier, driver or multiplier at frequencies up to 500 MHz. The 8118 is especially intended for transistorized mobile equipment.
8177	4	60	9	1,200	3,110	0.8	1,280	−300	10	610	900	0.15	46	6	Ceramic coaxial power tetrode useful as a UHF amplifier or oscillator up to 1000 MHz.
8179	7.5	22.6	5.1	800	5,500	0.6	1,300	−500	0	800	30	0.1	47	9.5	Radiation and/or air-cooled tetrode for use as an AM or SSB amplifier. Features low distortion.
8300	2.0	3.4	7	CCS=2x30 ICAS=2x34	1,000	200	140	−100	6	250	75	0.09	10.5 Input	3.2 Output	Instant heating radiation cooled, beam power, twin tetrode for RF power amplifier, oscillator and multiplier service in transistorized mobile and base station equipment.
8321/4CX350A	6.0	3.2	13	350	2,200	0.290	385	−27	2	400	500	—	21.5	5.5	Ceramic and metal constructed radial beam tetrodes. Designed to be used in class-AB audio or RF amplifier service up to 500 MHz internally ruggedized Forced-Air cooled.
8322/4CX350F	26.5	0.73													
8348	1.6	2.5	7.5	CCS=10 ICAS=14	300	0.100	ICAS=17.0	−45	3	200	200	0.1	8.5 Input	3.2 Output	"Harp Cathode" instant heating tetrode intended for use as intermittent or continuous filament service in transistorized mobile equipment for output stages. The tube is internally neutralized for frequencies up to 200 MHz.
8408	1.1	3.0	26	8.0	275	0.080	15	−25	2x1.25	200	500	0.19	4.1 Input	1.0 Output	Instant heating twin tetrode for use as an RF amplifier, frequency multiplier and modulator. The tube is designed for intermittent or continuous filament operation in transistorized mobile or fixed transmitters.
8438A (SEE 4-400A)															
8457	6.75 13.5	0.76 0.38	7.5	CCS=10 ICAS=14	300	0.100	ICAS=18.5	−45	3	200	200	—	6.2 Input	2.6 Output	Twin tetrode for use as a Class C amplifier and oscillator, frequency multiplier and modulator for frequencies up to 200 MHz. The heater is designed to withstand battery voltage fluctuations encountered in mobile service.
8458	6.75 13.5	0.76 0.38	7.5	CCS=15 ICAS=20	450	0.110	ICAS=30.0	−50	3.1	200	200	0.1	6.8 Input	3.2 Output	Twin tetrode employing an indirectly heated cathode in an all glass novar base construction. It is designed for mobile service as a Class C amplifier, oscillator or frequency multiplier up to 200 MHz.
8463	1.1	1.05	8.0	5.0	300	0.040	8.0	−35	0.85	150	200	—	6.5 Input	3.8 Output	Instant heating RF power pentode for use as a power amplifier or frequency doubler in mobile equipment up to 200 MHz.
8505/8505A	6.75 13.5	1.32 0.66	8.0	CCS=25 PTTS=25	550 600	.136 .175	51 73	−50 −50	5 5	210 241	250	0.2	11.5 Input	5.0 Output	Compact, single-ended, beam power tetrode designed for use as an RF Power amplifier Oscillator and Multiplier at frequencies to 250 MHz. Features special modified magnoval base with anode pin displaced from normal pin circle. Under PTTS ratings it supplies 73 watts output with 1.1 watts drive power.
8509	2.0	3.25	8.2	2x20	750	2x.08	85	−80	2x1.5	250	250	0.06	9.4 Input	11.6 Output	Instant heating twin tetrode for RF power amplifier, oscillator, modulator and frequency multiplier for operation at frequencies to 500 MHz. Similar in electrical characteristics to the popular 5894.
8516	6.3	32.5	8.5	3k	4k	0.9	2.7	−375	120	800	110	0.2	30	7.0	Four electrode forced-air cooled tetrode designed for use as an RF power amplifier and frequency multiplier.
8560 8560A	6.0	2.6	5.2	150	2,000	0.2	270	−90	16	200	200	0.03	15.7 Input	4.5 Output	A compact conduction cooled power tetrode designed for power amplifier service to 175 MHz. Uses external anode, metal and ceramic envelope with an indirectly heated oxide coated cathode.
8577	13.5	0.28	31	CCS=6 ICAS=7.5	180 200	2x.027 2x.030	5.8 7.2	−20 −20	0.75 0.75	180 200	500	2x0.15	2x6.4	2x1.6	13.5 Volt Version of the 6939—twin—tetrode for use as class C amplifier, oscillator, freq. multiplier & modulator.
8579	6.3 12.6	2.6 1.3	4.7	75	600	.325	100	−50	0.5	250	60	0.2	22 Input	4.5 Output	Beam power tetrode designed primarily for use as an RF amplifier in SSB transmitters for frequencies up to 60 MHz. Features low intermodulation distortion as well as low cost power supply requirements.
8580	1.1	3.8	22	2x8	260	2x.07	14.5	−22.5	2x3.25	260	500	—	4.7 Input	1.2 Output	An instant heating twin tetrode for use as an RF amplifier and frequency multiplier up to 500 MHz. designed for intermittent or continuous filament operation in transistorized mobile and fixed transmitters.
8595	6.3 12.6	0.6 0.3	31	CCS=4 ICAS=5	180	2x.02	4.2	−20	2x.3	180	500	0.16	6.6 Input	1.7 Output	Miniature twin tetrode for applications where high levels of vibration are encountered. It is similar in electrical characteristics to the 6939.
8621/ 4CX250FG 8621 JAN	25.6	0.56	5.2	Class AB, Linear Amplifier—Single Sideband 250	2,000	0.166	269 PEP Two Tone	72	0	350	500	0.06	15.7 Input	4.5 Output	External anode, oxide coated cathode power tetrode. Made completely of ceramic and metal. Designed for use in class AB1 Linear RF amplifier and single side band service similar to the 7204. Forced air cooled. 1 AVG. DC Two Tone
8624	2.0	3.4	7	CCS 2x20 PTTS 2x26	850 950	200 mA 230 mA	112 141	−100	5.0	250	175	0.09	10.5 Input	3.2 Output	Instant Heating version of the 7854. Radiation cooled beam power twin tetrode designed for use as an RF power amplifier oscillator and frequency multiplier in transistorized mobile and base station equipment operating at frequencies up to 175 MHz. Uses a glass envelope and the Amperex "Harp Cathode." Full output power after less than ½ second.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

POWER TUBES—TETRODES & PENTODES (Continued)

TYPE NO.	FILAMENT Volts	FILAMENT Amps	MU GRID #1 TO GRID #2	MAX. DISS. WATTS	TYPICAL OPERATION PLATE Volts DC	PLATE Amps DC	PLATE Output Watts	GRID Volts DC	GRID mA DC	SCREEN Volts DC	MAX. FREQ. MHz Full Input	INTERELECTRODE CAPACITANCE—pF G.P.	G.F.	P.F.	DESCRIPTION
8637	13.5	0.80	30	PTTS 2x22.5	600	210 mA	72	−75	3.0	200	175	0.12	10.0 Input	3.8 Output	Radiation cooled beam power tetrode having high thermal inertia anodes. Designed for use as an RF power amplifier oscillator and frequency multiplier in mobile and base station equipment up to 175 MHz. Has a glass envelope and an indirectly heated cathode.
8639 8639 JAN	6.3 12.6	1.8 0.9	80	40	4,000	220 mA	—	−175	10.0	450	—	0.3	20.0 Input	6.5 Output	Radiation cooled beam power tetrode having an indirectly heated cathode. Designed for use as a pass tube in regulated high voltage power supplies. Will replace the 3D21WB or 7403 in most pass tube applications with only a change in top cap connector.
8643	7.25	2.0	7	CCS 2x30 PTTS 2x38	750	210 mA 264 mA	135—PTTS	−90	5.6 8.1	230	175	0.09	Input 11.6 Output 3.7		Radiation cooled beam power twin tetrode incorporating the new wide range cathode. Designed for use as an RF power amplifier, oscillator and frequency multiplier up to 175MHz with maximum power input. However may be operated at frequencies up to 500 MHz at reduced ratings.
8647	1.1	3.9	7	CCS—25 PTTS—35	400 550	150 mA 165 mA	33 49	−60	4 6.5	245 225	175	0.2	11.5 Input	5.0 Output	Instant heating radiation cooled beam power tetrode. Designed for use as an RF power amplifier, oscillator, and frequency multiplier in transistorized mobile and base station equipment up to 250 MHz. Has glass envelope and the Amperex "Harp" cathode. Full output power after less than ½ second warm-up.
8654	6.3	19.5	—	Class AB, Linear Operation—Single Sideband 1500	2,500	600	1,000 PEP 2 tone	−50	0	500	Class C 220 MHz Class AB 60MHz	0.2	40.0	0.02	Forced-air cooled beam power tetrode designed for use as a high efficiency linear amplifier in single side band systems which require especially low intermodulation distortion. Has ceramic envelope with oxide coated matrix type cathode. 1. AVG. Two Tone
8737/5894B	13.5 6.75	1.0 2.0	8.2	CCS—2x20	CCS—450 ICAS 600	CCS— 75 ICAS 83	71W	CCS— 105 ICAS— 130	CCS— 2x3.8 ICAS 2x1.7	250	250		Push-Pull Input 6.7 Output 2.1		Radiation cooled beam power twin tetrode incorporating the new Wide Range Cathode. It is especially designed for use as an RF power amplifier, oscillator and frequency multiplier up to 250 MHz. It may be operated at frequencies up to 500 MHz at reduced ratings.
8753 (SEE SD605)															

POWER TUBES—TRIODES

TYPE NO.	FILAMENT Volts	FILAMENT Amps	MU	MAX. DISS. WATTS	TYPICAL OPERATION PLATE Volts DC	PLATE Amps DC	PLATE Output Watts	GRID Volts DC	GRID mA DC	MAX. FREQ. MHz Full Input	INTERELECTRODE CAPACITANCE—pF G.P.	G.F.	P.F.	DESCRIPTION
833A	10.0	10.0	35	400	4,000	0.450	1,440	−200	75	30	6.3	12.3	8.5	Radiation and forced-air cooled triode used widely in AM transmitters and also some RF heating applications. (Refer to 5868/AX9902 data.)
5866 7986	6.3	5.8	25	150	2,700	0.215	440	−220	55	150	5.0	4.9	0.1	Radiation and/or forced-air cooled HF triode of the original Amperex design. Suited for use as an RF power amplifier, modulator, oscillator and particularly useful for high frequency dielectric heating. 7986 is improved version of the 5866.
5867 5867A	5.0	14.1	25	250	3,000	0.363	840	−250	69	100	5.0	6.3	0.16	Radiation and/or forced-air cooled HF low drive triode of original Amperex design.
5868	10.0	10.0	27	450	4,000	0.475	1,673	−350	100	100	8.0	11.0	0.35	Radiation and/or forced-air cooled HF triode with rugged 100 watt filament. Of original Amperex design, for all heavy duty RF applications.
5923	12.6	33.0	32	6,000	6,000	1.5	6,900	−400	310	75	11.0	16.0	0.3	Water-cooled low drive HF triode. Rugged for HF heating application.
5924	12.6	33.0	32	5,000	6,000	1.5	6,900	−400	310	75	11.0	16.0	0.3	Forced-air cooled version of type 5923.
5924A	12.6	33.0	32	6,000	CLASS B, TV SERVICE, SYNC. LEVEL 5,000	1.90	6,250	−140	350	75 Full Input 220 Derated	11.0	16.0	0.3	Forced-air cooled triode for FM & TV transmitters. Brazed radiator shell & external surfaces silverplated throughout.
5971	17.5	196	27	45,000	12,000	12	108,000	−1000	2.25 Amps	15	86	116	3.4	Forced-air cooled power amplifier, oscillator and modulator having a plate dissipation of 45 kW. Operates at reduced ratings up to 30 MHz. Ideal for pulse applications.
6617	8.0	98	34	20,000	12,000	3.2	29,000	−1500	500	30	30	37	0.4	Water-cooled triode for use in industrial HF generators.
6618	8.0	98	34	15,000	12,000	4.5	39,000	−1000	800	30	30	37	0.5	Forced-air cooled triode for use as a high power RF amplifier and oscillator.
6756	7.5	100	13.5	20,000	12,000	3.5	30,640	−1220	210	30	47.6	25.1	1.5	Water-cooled triode with special characteristics as a low impedance, RF industrial oscillator. Particularly suited to induction and dielectric heating applications.
6759	12.6	33	9	6,000	7,000	1.72	6,000	−820	82	30	15	12	2	Forced-air cooled triode designed for use as a low impedance RF industrial oscillator. The anode can dissipate up to 6 kW.
6960	12.6	33	32	6,000	6,500	2.0	10,000	−450	600	55	11.0	16.0	0.3	Industrial water-cooled triode with large overload capacity on grid and plate currents. Suitable for 7.5 kW induction and dielectric heaters and 10 kW plastic sealers.
6961	12.6	33	32	6,000	6,500	2.0	10,000	−450	600	55	11.0	16.0	0.3	Forced-air cooled version of 6960. Suitable for 7.5 kW induction and dielectric heaters and 10 kW plastic sealers.
7092	6.3	32.5	22	800 1,300[1]	6,000 6,000	0.600 0.950	2,840 4,400	−450 −475	150 190	50	6.2	10.5	0.25	Radiation-cooled triode for industrial oscillator and amplifier applications. Rugged construction. Graphite anode with unusual overload capability. Thoriated tungsten filament.
7237	12.6	33	32	6,000	6,500	2.0	10,000	−450	600	55	11.0	16.0	0.3	Identical with Amperex Type 6961 except with radiator design intended for interchangeability with competitive types 6366 and 6367.
7459	12.6	30	32	4,000	6,000	1.5	6,900	−400	310	110	11.0	16.0	0.3	Forced-air cooled triode designed for use in broadcast FM & TV communication transmitters. It will replace the 5762/7C24 in most applications.
7753	6.3	65	5	2,100	6,000	1.33	4,750	Grid Bias Res. 1450Ω	380	50	7.2	13	<0.5	Forced-air cooled, high vacuum power triode of the external plate type. Designed for use as an oscillator in industrial equipment.
7800	8	130	33	15,000	13,000	4.8	40,000	−1500	1 Amp	30	27	45	0.6	Forced-air cooled triode. Designed for communication and industrial service. Also useful as pulse amplifier and hard tube modulator to 200 kW peak.
7804	6.3	130	17.5	CCS—10,000	6,000	3.3	14,300	—	[redacted]	30	40	40	1.0	Forced-air cooled external anode triode. Designed for use as an oscillator in industrial equipment. Large grid and plate overload capabilities.
7805	6.3	130	17.5	15,000	6,000	3.3	14,300	—	800	30	40	40	1.0	Water-cooled version of 7804.
7806	8	130	21	15,000	12,000	4.5	39,300	—	900	30	23.5	42.5	0.9	Same as for 7804.
7807	8	130	21	15,000	12,000	4.5	39,300	—	900	30	23.5	42.5	0.9	Water-cooled version of 7806.
7[redacted]	[redacted]	130	33	8,500	15,000	70	200,000	−500	15 Amps	—	27	45	0.6	Designed for pulse application as a hard tube modulator. Forced-air cooled.
7900	12.6	32	32	4,000	4,500	1.75 (sync.)	5,600 (sync.)	−130	350 (sync.)	220	18.0	17.0	0.3	Forced-air cooled triode. Designed for TV transmitter operation to 220 MHz. Features brazed and silver plated radiator for high efficiency.
7986 5866	6.3	5.8	25	150	2,700	0.215	440	−220	55	150	5.0	4.9	0.1	Radiation and/or Forced-air cooled MFH triode of the original Amperex design. Suited for use as an RF power amplifier, modulator, oscillator and particularly useful for high frequency dielectric heating. 7986 is improved version of the 5866.
8078	5	32.5	21	500	6,000	0.70	3,200	−1250	170	50	5.1	9.2	0.2	Radiation cooled triode designed especially for industrial oscillator and amplifier applications.
8119	3.4	19	33	400	Grounded Grid Operation 2,000	400	510+85	−140	120	900	6.5	11.5 input	<0.12 output	Forced-air cooled, coaxial transmitting triode with a ceramic envelope designed for use in HF amplifier, oscillator, or frequency multiplier operation at frequencies up to 900 MHz.
8120	3.4	19.0	70	500	2,500	0.38	620+50	−70	160	400	3.8	11	0.05	Forced-air cooled transmitting triode with ceramic envelope and coaxial terminal arrangement. Can be used as "plug-in" in coaxial circuits. Designed for use as an RF amplifier, oscillator or frequency multiplier at frequencies up to 1000 MHz.

[1]50% duty cycle.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

POWER TUBES—TRIODES (Continued)

TYPE NO.	FILAMENT Volts	FILAMENT Amps	MU	MAX. DISS. WATTS	TYPICAL OPERATION PLATE Volts DC	PLATE Amps DC	PLATE Output Watts	GRID Volts DC	GRID mA DC	MAX. FREQ. MHz Full Input	INTERELECTRODE CAPACITANCE—pF G.P.	G.F.	P.F.	DESCRIPTION
8163	5.0	14.1	200	400	2,500	0.265	666+34	0	70	110	4.1	7.4	0.04	High-mu transmitting power triode for use as a zero bias class AB_1 linear amplifier in SSB service.
8268	12.6	33	24	6,000	7,200	1.5	7,500	−1250	360	50	7.9	14.2	1	Water cooled triode intended for use in industrial RF heating generators.
8269	12.6	33	24	6,000	7,200	1.5	7,500	−1250	360	50	7.9	14.2	1	Forced-air cooled triode designed for use in industrial RF heating generators.
8591	6.3	130	17.5	1,500	7,000	3.5 0.7	17,700	−1600	950 1350	30	33.5	44.5	1.2	Water-cooled triode designed for use in industrial RF generators. Water-cooler is an integral part of the anode and consists of a helically-wound copper tube soldered to the anode wall.
8592	12.6	33	32	6,000	5,000	2.0	7,100	−300	500	50	11	16	0.3	Water-cooled triode intended for use in industrial HF generators and AF amplifiers. Water-cooler is an integral part of the anode and consists of a helically-wound copper tube soldered to the anode wall.
8593	12.6	33	24	6,000	7,200	1.5 0.36	7,500	−1250	360 470	50	7.9	14.2	10	Helical cooled version of the 8268. This water cooled triode is intended for use in industrial high frequency generators.
8594	8.0	130	21	20,000	12,000	4.5 0.65	39,000	−2000	900 1220	30	23.5	45	0.9	Helical cooled version of the 7807. Constant power tube intended for use in industrial HF generators.
8666 8667 8668	5.8	130	22	10,000	6,000	3.4	16,000	—	600	120	—	—	—	Triodes designed for use as industrial oscillators for frequencies up to 120 MHz. The 8666 is forced-air cooled. The 8667 is water cooled with separate water jacket. The 8668 is water cooled with an integral cooler. Electrically identical.
8680	12.6	380	33	120,000	14,000	23.5	81.5		6.0 Amps	30	60	185	3.0	Integral jacket water cooled triode designed especially for industrial induction and dielectric heating applications.
8731 8732 8733	6.3	66	20	5,000	6,000	1.6	8,000		480	150	19	16	0.5	Triodes designed for use as industrial oscillators for frequencies up to 150 MHz. The 8731 is forced-air cooled. The 8732 is water cooled with separate water jacket. The 8733 is water-cooled with an integral cooler. Electrically identical.
8734	5.4	65	45	10,000	10,000	1.75	13,500		0.45A	50	17	42	0.4	Forced-air cooled triode designed especially for industrial induction and dielectric heating applications.
8735	7.0	175	34	20,000	7,500	5.4	33,000		1.45A	90	32	61	1.0	Water-cooled triode designed especially for industrial induction and dielectric heating applications.
8736	8.4	235	35	40,000	8,000	10	65,000		2.25A	30	45	100	1.3	Water-cooled triode designed especially for industrial induction and dielectric heating applications.
8752	12.2	250	30	80,000	10,000	16	124,000		3.5A	30	55	170	2.7	Water-cooled triode designed especially for industrial induction and dielectric heating applications.
8801	7.0	175	34	15,000	7,500	5.4	33,000		1.45A	90	32	61	1.0	Forced-air cooled triode designed especially for industrial induction and dielectric heating applications.
8802/ 3-500Z	5.0	14.1	350	400	2,500	69.5		0		110	5.0	8.0	0.03	Radiation and/or forced-air cooled zero bias triode. Suited for use as an RF and AF amplifier at frequencies up to 110 MHz.
8867	5.0	6.1	25	2,000	5,000	800	3,175		5	5	10.1	9.1	0.55	Neotron® featuring integral water jacket cooling. Suited for use as a Class C amplifier or oscillator for frequencies up to 5 MHz.

THYRATRONS-HYDROGEN

TYPE NO.	PEAK FORWARD ANODE VOLTAGE MAX.	PEAK ANODE CURRENT MAX. (AMPS)	AVG. ANODE CURRENT MAX. (mA)	PULSE WIDTH MAX.	DESCRIPTION
6268/4C35	8,000	90	100	2 μsec.	These tubes are used as drivers for pulsing magnetrons and other oscillators and as high speed switches. Hydrogen-filled, they have extremely low deionization time. They are zero bias tubes, triggered by a positive grid pulse. Maximum pulse repetition frequency (prf in pulses per second) will depend on the peak forward anode voltage (epy in volts) according to formula: $(epy)^2 \times (prf) = 2.6 \times 10^{11}$ max.
6279/5C22	16,000	325	200	2 μsec.	Completely interchangeable with 4C35 in every respect except that it has self-contained source of hydrogen providing life expectancy of minimum 1000 hours.
					Completely interchangeable with 5C22 in every respect except that it has self-contained source of hydrogen providing life expectancy of minimum 1000 hours.

THYRATRONS-MERCURY VAPOR & INERT GAS-TRIODES & TETRODES

TYPE NO.	HEATER OR FILAMENT Volts	HEATER OR FILAMENT Amps	FIL. HEATING TIME (SEC.)	TUBE DROP (VOLTS)	PEAK VOLTAGE Forward Volts	PEAK VOLTAGE Inverse Volts	ANODE CURRENT Peak Amps	ANODE CURRENT Average Amps	MAX. GRID VOLTS	ION-IZATION TIME (μSEC.)	DEION-IZATION TIME (μSEC.)	CONDENSED MERCURY TEMP. RANGE (°C)	DESCRIPTION
AX105	5.0	10.0	300	16	10000	10000	8.0	4.0	−500	10	1000	+40° to +80°	Radiation-cooled mercury-vapor thyratron-tetrode.
AX255	5.0	16.0	300	12	1500	2500	80.0	12.5	−300	10	1000	+35° to +75°	Heavy-duty, mercury vapor thyratron for motor control and A.C. welder control.
AX260	5.0	25.0	600	10	1500	2500	160.0	25.0	−300	10	1000	+35° to +75°	Heavy-duty, mercury vapor thyratron for motor control and A.C. welder control.
2D21	6.3	0.6	10	8	650	1300	0.5	0.1	−100	0.5	—	—	High control ratio, temperature independent Thyratron with high circuit sensitivity. Inert gas filled. Negative control characteristics.
2050	6.3	0.6	10	8	650	1300	1.0	—	−250	0.5	50	—	Gas tetrode for relay service.
5544	2.5	12.0	60	16	1500	1500	40.0	3.2	−250	—	400	—	Xenon filled thyratron with reliable operation over wide temperature range. For electronic control of D.C. motor speed, regulation of current and voltage, counting and sorting devices and electronic switching machines.
5545	2.5	21.0	60	16	1500	1500	80.0	6.4	−250	—	500	—	Same as for type 5544 above.
5557/1701	2.5	5.0	5	16	2500	5000	1.0	0.5	−500	10	1000	+30° to +80°	Radiation-cooled mercury-vapor low voltage thyratron. Similar in structure to 866 A.
5559	5.0	4.5	300	16	1000	1500	15.0	2.5	−500	10	1000	+40° to +75°	Indirectly heated, mercury-vapor triode with negative control characteristics.
5560/FG95	5.0	4.5	300	16	1000	1000	15.0	2.5	−1000	10	1000	+40° to +80°	Four electrode, mercury vapor thyratron with negative control characteristics. Designed for applications where the available grid power is very small and where it is desired to actuate the grid from a high impedance source.
5632/C3J	2.5	8.5	60	10	900	1250	30.0	2.5	−300	10	1000	—	Xenon filled, three-electrode thyratron with negative-control characteristics for reliable operation over wide temperature range. Especially suitable for control relay service, motor control, and ignitor firing service.
5684/C3JA	2.5	8.5	60	10	1000	1250	30.0	2.5	−300	10	1000	—	Xenon filled, three-electrode thyratron with negative-control characteristics for reliable operation over wide temperature range. Especially suitable for control relay service, motor control, and ignitor firing service.
5685/C6JA	2.5	21	60	9	1000	1250	77	6.4	−100	—	1000	—	A gas filled triode for applications requiring precise control.
5727	6.3	0.6	10	8	650	1300	0.5	0.1	−100	0.5	35 min.	—	Ruggedized version of 2D21. Particularly suitable for mobile and aircraft operation where mechanical strength and reliability are important. Designed for relay, servo control applications, etc.
5869/AGR9950	5.0	3.5	120	15	13000	13000	4.0	1.0	−100	10	250	+25° to +55°	Radiation-cooled mercury-vapor thyratron. Oxide coated filament. Used for stepless control of voltage output and D-C motor control.
5870/AGR9951	5.0	14.0	120	12	27000	27000	10.0	2.5	−100	10	250	+30° to +45°	Same as above for type 5689/AGR9950.
6786	5.0	15-20	600	12	15000	15000	45.0	10-15	—	—	—	+25° to +55°	High voltage, grid controlled mercury vapor thyratron. For industrial RF generators and transmitting equipment.
8270	5	13	90	12	21000	21000	10	2.5	−300	10	500	-25° to +45°	Grid controlled mercury vapor thyratron.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

SUBMINIATURE TUBES (SCREEN GRID TYPES)

TYPE NO.	FILAMENT D-C Volts	FILAMENT Current mA	CAPACITANCES pF G-P	CAPACITANCES pF Input	CAPACITANCES pF Output	PLATE Volts	PLATE Diss. Milliwatts	GRID NO. 1 VOLTS	GRID NO. 2 VOLTS	PLATE Micro-Amps	PLATE Resis-tance Megohms	Trans-conductance Micromhos	Output Milliwatts	DESCRIPTION
6007/5913	1.25	13.3	0.2	2.5	2.2	45	25	−0.2	45	475	0.4	420	6	Radiation-cooled pentode output amplifier for hearing aids and other purposes, where small size, light weight and low battery drain are important. An ideal tube for receivers.
6008/5911	0.625	13.3	0.2	—	1.5		1.5	−0.2	45	50	0.4	100	2.25	Same as above except this tube is a voltage amplifier.

ENTERTAINMENT & AUDIO TUBES

TYPE NO.	FILAMENT Volts	FILAMENT Amps	APPLIED VOLTAGES Plate	APPLIED VOLTAGES Screen	APPLIED VOLTAGES Grid	TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS Plate Current (mA)	Screen Current (mA)	Amplification Factor	Plate Resistance (k ohms)	Transconductance (micromhos)	Max. Power Output-2 Tubes, Push-Pull Class B	Lead Resistance (k ohms)	Cut-Off Bias (volts)	DESCRIPTION
1BG2	1.4	0.575	Peak negative plate to cathode—18 kV			Plate current average 350μA		Peak Plate current 40 mA			—	—	—	Half-wave rectifier for use for high voltage supplies in portable TV receivers.
1BQ2	1.4	0.6	20kV	—	—	200	—	—	—	—	—	—	—	High-vacuum single anode rectifier for high voltage in television receivers (HV supply from the line time base). It has a chemically treated envelope which avoids flash-over under conditions of high humidity and low atmospheric pressure.

TUNING INDICATOR TUBES

TYPE NO.	FILAMENT Volts	FILAMENT Amps	SUPPLY AND SCREEN VOLTS	SCREEN CURRENT AT START OF CONTROL (mA)	ANODE SERIES RESISTANCE (MEGOHMS)	GRID BIAS FOR END OF CONTROL RANGE (VOLTS)	DESCRIPTION
1M3/DM70	1.4	0.025	85	0.17	—	−10	Tuning indicator especially designed for battery operated sets featuring low filament consumption (25mA), subminiature size and "on-off" indication. Ideal for transistorized computers.
1N3/DM71	1.4	0.025	85	0.17	—	−10	Tuning indicator especially designed for battery operated sets featuring low filament consumption (25mA), subminiature size and "on-off" indication. Ideal for transistorized computers.
6CD7/EM34	6.3	0.2	250	2.0	1.0	Section 1=−5 Section 2=−16	Tuning indicator featuring double sensitivity, clear indication even with weak signals.
6FG6/EM84	6.3	0.27	250	1.1	0.47	−22	9 pin miniature tuning indicator for use in broadcast receivers and tape recorders. The deflection electrode is connected separately to a pin at the base. Converging dual fluorescent bar pattern.
6HU6/EM87	6.3	0.3	250	2	0.1	−10	Designed especially as an audio level indicator for tape recorders.

PREMIUM QUALITY TUBES

TYPE NO.	PROTO-TYPE	HEATER Volts	HEATER Amps	AMPLIFICATION FACTOR	TRANSCONDUCTANCE (MICROMHOS)	TYPICAL OPERATION PLATE Volts DC	PLATE Current mA-DC	PLATE Resistance k Ohms	Grid Volts DC	SCREEN Volts DC	SCREEN Current mA-DC	POWER OUTPUT WATTS	LOAD RESISTANCE k OHMS	CUT-OFF BIAS VOLTS	CAPACITANCES pF G-P	CAPACITANCES pF Input	CAPACITANCES pF Output	DESCRIPTION
5654	6AK5	6.3	0.175	—	5000	120	7.5	340	R_L=200	120	2.5	—	—	−12	0.02	4.0	2.9	Sharp cut-off pentode particularly suited for use as a wide band, high frequency amplifier. Ruggedized construction makes it suitable for critical applications in which operational dependability is of primary importance.
5847	404A	6.3	0.3	—	12500	160	13	—	+8.5	160	4.50	—	—	—	0.05	7.0	2.5	High-gain, miniature pentode for use in broad band amplification where its high figure of merit is required for replacement purposes only. For new equipment design Amperex 6688 is recommended.
6201	12AT7	6.3 12.6	0.30 0.15	60	5500	250	10	10.9	R_L=200	—	—	—	—	−20	1.6	2.5	0.45	Premium quality twin triode designed for use as RF amplifier in grounded grid circuits; as a frequency changer below 300 MHz, in mobile and industrial equipment with intermittent operation; and in on-off control applications where operation under cut-off conditions is required.
6218/E80T		6.3	0.15	—	—	100	1.35	—	0	70	—	—	—	—	—	2.2	2.0 max.	Ruggedized beam deflecting tube designed for use as a phase discriminator in impulse governed-oscillators.
7316		6.3	0.3	19.5	3100	100	11.8	6250	−8.5	—	—	—	—	—	1.6	1.8	0.5	Medium mu long life, reliable twin triode with separate cathodes designed for application in computer circuits not critical as to hum, microphony and noise.
7643	Triode Section	6.3	0.33	18	5000	Supply 100	14	—	R_L=120 Ohms	—	—	—	—	—	1.5	2.5	1.5	Long-life, ruggedized triode-pentode. Pentode section designed for use as a mixer, RF or AF amplifier. Triode section designed for use as an oscillator up to 300 MHz, multivibrator or blocking oscillator.
	Pentode Section	6.3	0.33	40[1]	6200	Supply 170	10	0.4 meg	R_L=155 Ohms	Supply 170	2.8	—	—	—	0.025	5.6	3.4	
7693/E90F		6.3	0.15	50	4600	250	7.4	1.3 meg	—	150	2.9	—	—	6.5[2]	0.0035	5.0	4.2	Sharp cut-off, shock and vibration resistant HF pentode for mobile applications. Premium type replacement for 6BH6/6661.
7694/E99F		6.3	0.15	27[1]	3600	250	9.2	1 meg	−20[3]	100	3.3	—	—	—	0.0035	4.5	5.2	Variable slope HF pentode for mobile and industrial applications. Shock and vibration resistant premium type replacement for 6BJ6/6662.
8233		6.3	0.6	30	45000	140	50	20	−1.5	140	5.5	—	—	−6	110	18	4	Double frame grid power pentode for video, pulse or deflection amplifier service in microwave, radar, TV or measuring instruments. It has a plate dissipation of 10 watts.
8608		6.3	0.600	30	45000	125	50	20	−3	125	5.5	—	—	—	0.110	18	3.2	Premium quality power pentode. Constructed in a magnoval envelope with double frame grids. Designed for use as a wideband video amplifier in applications requiring low output capacitance.

[1]Grid 2 to Grid 1 [2]Plate Current = 10μA approx. [3]For transconductance of 1500 micromhos.

PREMIUM QUALITY 10,000 HOUR TUBES[1]

TYPE	HEATER Voltage volts	HEATER Current amps	CAPACITANCES—pF Cold Values	CAPACITANCES—pF Input	CAPACITANCES—pF Output	MAXIMUM RATINGS Max. Anode Dissipation watts	Anode Voltage volts	Suppressor Grid Voltage volts	Screen Grid Voltage volts	Cathode Current mA	Screen Grid Voltage volts	TYPICAL CHARACTERISTICS Anode Current mA	Cathode Resistor ohms	Anode Current mA	Screen Grid Current mA	Transconductance micromhos	Amplification Factor	Plate Resistance megohms	Maximum Length inches	Maximum Diameter inches
E92CC Twin Triode	6.3	0.4	one section	3.1	0.3	2.0[2] (absolute value)	300	—	—	15	—	150	—	8.5	—	6,000	45	0.0083	2⅜	¾
5842[4] Triode	6.3	0.3	—	9.0	1.8	4.5	400	—	—	38	—	130	360	27	—	27,000	43	0.0016	1¾	⅞
5920/E90CC Twin Triode	6.3	0.4	one section	3.4	0.35	2.0[2] (absolute value)	300	—	—	15	—	100	—	8.5	—	6,000	27	0.0045	2⅜	¾
6084/E80F[3] Sharp cut-off amplifier pentode	6.3	0.3	—	5.0	7.3	1.3 (absolute value)	300	0	200	9	100	250	550	3	0.65	1,850	25	1.5	2⅜	⅞

[1]These tubes are designed for a life of 10,000 hours or more. [2]Ratings and operating conditions apply to one section. [3]Rugged construction. [4]Available to military specifications.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

PREMIUM QUALITY 10,000 HOUR TUBES[1]

TYPE	HEATER		CAPACITANCES—pF			MAXIMUM RATINGS					TYPICAL CHARACTERISTICS								
	Voltage volts	Current amps	Cold Values	Input	Output	Max. Anode Dissipation watts	Anode Voltage volts	Suppressor Grid Voltage volts	Screen Grid Voltage volts	Cathode Current mA	Screen Grid Voltage volts	Anode Current mA	Cathode Resistor ohms	Anode Current mA	Screen Grid Current mA	Transconductance micromhos	Amplification Factor	Plate Resistance megohms	Maximum Length inches	Maximum Diameter inches
6085/E80CC[3] Twin Triode	Series 12.6 Par. 6.3	0.3 0.6	one section	2.6	3.5	2.02[2] (absolute value)	300	—	—	12	—	250	920	6	—	2,700	27	0.01	3 1/16	7/8
6211 Twin Triode	6.3 12.6	0.3 0.15	one section	2.9	0.35	1.5[2] (absolute value)	200	—	—	14	—	100	470	4.6	—	3,600	27	0.0075	2 5/8	7/8
6211A	6.3 12.6	0.300 0.150	sec. 1 sec. 2	2.9 2.9	0.45 0.35	1.5 (absolute value)	600	—	—	14	—	100	470	4.6	—	3,600	27	.0075	2 5/8	7/8
6227/EB0L[3] Power Pentode	6.3	0.75	—	11.0	7.0	8.0 (absolute value)	300	0	300	50	250	250	270	24	3.3	9,000	21.5	0.09	3 1/16	7/8
6463 medium mu twin triode	6.3 12.6	0.6 0.3	one section	3.4	0.5	4.4	330	—	—	31	—	250	620	14.5	—	5,200	20	—	2 5/8	7/8
6686/E81L Power Pentode	6.3	0.375	—	11.5	6.5	4.5 (design center value)	210	0	210	30	210	210	120	20	5.3	11,000	36	0.3	2 5/8	7/8
6687/E91H dual control heptode	6.3	0.27	—	5.4	7.6	1.0	250	—100 0	100	20	Dual control heptode for use as a gated amplifier in computer and "on-off" control circuits. With either control at —10 volts and plate voltage at 150 volts, the plate current will be less than 0. 2mA. With both control grids at 0 volts, the plate current is nominally 5.75 mA. Direct replacement for 5915A.								2 1/8	3/4
6688[3,4] Broad-band amplifier pentode 6688A	6.3	0.3	—	7.5	3.0	3.0 (absolute value)	210	0	175	25	160	190	630	13	3.3	16,500	50	0.09	1 3/4	7/8
6689/E83F wide-band amplifier pentode	6.3	0.3	—	8.0	3.6	2.1 (design center value)	210	0	210	16	120	210	165	10	2.1	9,000	34	0.5	2 5/8	7/8
6922/E88CC[3] Twin Triode	6.3	0.3	one section	3.1	0.5	1.5[2] (design center value)	220	—	—	20	—	100	680	15	—	12,500	33	0.00264	2 3/16	7/8
7062 Twin Triode	6.3 12.6	0.400 0.200	one section	3.5	0.5	2.0[2] (absolute value)	600	—	—	20	—	150	—	8.5	—	6,400	46	0.0072	2 5/8	7/8
7119/E182CC Twin Triode	Series 12.6 Par. 6.3	0.4 0.8	one section	5.3	6.7	4.5 (absolute value)	300	—	—	60	—	120	—	36	—	15,500	24.5	0.0016	2 5/8	7/8
7308/E188CC[4] Twin Triode	6.3	0.335	one section	3.1	1.75	2.0	250	—	—	22	—	100 (supply)	680	15	—	12,500	33	—	2 3/16	7/8
7534 Pentode	6.3	1.7	—	35	17	27.5	900	—	250	300	150	250	—	100	4	25,000	6.5	—	5	1 5/16
7737[4] Pentode	6.3	0.32	—	7.6	3.3	3	210	—	175	25	—	—	630	13	3.3	16,500	53	0.1	1 1/2	7/8
7788 Pentode	6.3	0.34	—	16.5	3.3	5	250	—	200	50	—	—	360	35	5	50,000	60	—	2 13/16	7/8

[1]*These tubes are designed for a life of 10,000 hours or more.* [2]*Ratings and operating conditions apply to one section.* [3]*Rugged construction.* [4]*Available to military specifications.*

UHF SPECIAL PURPOSE TUBES

TYPE NO.	FILAMENT		PLATE DISSIPATION WATTS	MU	TRANSCONDUCTANCE (MICROMHOS)	PLATE		POWER OUTPUT CHARACTERISTICS	MAX. FREQ. MHz	CAPACITANCES pF			DESCRIPTION
	Volts	Amps				Volts	mA			G-P	Input	Output	
6923/EA52	6.3	0.3	—	—	—	1000 V at <100 MHz fo[1] 1000 x f at >100 MHz	0.3	—	1000	—	0.5	—	Disc-seal, vacuum diode for UHF voltmeters and monitoring devices. Anode pin connection adaptable for use as probe contact.
EA53	6.3	0.3	—	—	—	Inverse 1000 V at <1000 MHz fo[1] 1000 x f at >100 MHz	0.3	—	1000	—	0.5	—	Disc seal, vacuum diode for UHF voltmeters and monitoring devices. Anode pin connection suitable for use as probe contact. Coaxial filament connection suited for use in coaxial probes.
EFP60	6.3	0.37	2	—	25,000	300	20	—	—	0.004	9.2	6	Secondary emission pentode for wide band amplifier application where stability and high ratio of transconductance to capacities is important. Used in high speed computer service and high quality TV applications.
6Q4/EC80	6.3	0.45	4	30	12,000	550	15	15 dB gain at 300 MHz (Bandwidth 4.5 MHz)	500	0.06	5.4	3.4	Radiation-cooled triode, button type base, indirectly heated cathode. For use as amplifier and mixer up to 500 MHz. Ideally suited for UHF television, balloon sondes, measuring equipment, etc.
6R4/EC81	6.3	0.24	5	16	5,500	300	27.7	Power output 1.1 W at 750 MHz	1200	1.5	1.7	0.5	Radiation-cooled triode, standard button base, indirectly heated cathode. Used as oscillator up to 1200 MHz. High efficiency at high frequencies.
7699	6.3	0.6	6	—	10,500	275	90	—	500	0.15	6.4	1.6	Wide band push-pull amplifier tube for use in test instruments, distributed amplifiers and computers. Push-pull construction offers high gain band width product coupled with low output capacitance.
8254	6.3	0.185	1.5	—	14,500	110	22	—	Z in= 450 Ω at 250 MHz	1.9	3.5	0.3	Special quality triode for use as an amplifier in probes.

[1]*fo = 100 MHz*

RECTIFIERS-DIODES

TYPE NO.	FILAMENT		FIL. HEATING TIME (SEC.)	TUBE DROP (VOLTS)	PEAK INVERSE ANODE VOLTS	ANODE CURRENT		SURGE CURRENT	TEMPERATURE	RANGE (°C)	DESCRIPTION
	Volts	Amps				Peak Amps	Average Amps	Amps	Ambient	Mercury	
3B28	2.5	5.0	5	10.0	10,000	1.0	0.250	—	—	—	Xenon gas filled half-wave rectifier with wider temperature ranges than mercury-vapor tubes. Used largely by armed services to replace 866-A's.
4B32	5.0	7.5	30	10.0	10,000	5.0	1.25	50.0	—	—	Xenon gas filled half-wave rectifier with wider temperature ranges than mercury-vapor tubes. Used largely by armed services to replace 872-A's.
249-B	2.5	7.5	15	15.0	7,500	2.5	0.640	—	—	+25 to +70°	Convection-cooled mercury-vapor half-wave rectifier. Used in most Western Electric r-f equipment.
575-A (SEE 7136)											
673	5.0	10.0	30	10.0	15,000	6.0	1.5	60.0	—	+20 to +50°	Convection-cooled mercury-vapor half-wave rectifier. Refer to 6693 for improved version.
857-B	5.0	30.0	60	10.0	22,000	40.0	10.0	400.0	—	+30 to +40°	Mercury-vapor half-wave rectifier with low voltage drop. Extremely popular in most high power broadcasting stations. Convection cooled.
866-A	2.5	5.0	20	10.0	10,000	1.0	0.250	—	—	+25 to +70°	Mercury-vapor half-wave rectifier of Amperex own design. More rugged trouble-free operation at only slight additional cost. Convection cooled.
869-B	5.0	18.0	60	10.0	20,000	10.0	2.50	—	—	+30 to +40°	Mercury-vapor half-wave rectifier. Refer to type 6508, economy version.
869-BL	5.0	18.0	60	10.0	20,000	10.0	2.50	—	—	+30 to +40°	Electrically same as 869-B. Base has flexible filament leads with spade lugs for better, low-resistance contact with socket.
872-A	5.0	7.5	30	10.0	10,000	5.0	1.25	50.0	—	+20 to +60°	Mercury-vapor half-wave rectifier. Universally used by almost every user and designer of H-V equipment. Convection cooled.
6339	6.3	1.5	30	—	WITH LIQUID COOLING: 16,000 10,000	0.250 0.400	0.065 0.100	—	−65 to 165°	—	High vacuum clipper diode and rectifier. Miniature version of 3B29 for liquid immersion cooling or air operation.
					WITHOUT COOLING — AIR OPERATION: 12,000	0.200	0.050	—	−55 to +85°	—	
6508	5.0	12.5	90	12.0	21,000	10.0	2.5	100.0	—	+25 to +45°	Mercury vapor rectifier for relatively high voltage and current. A high quality, long-life tube priced lower than any tube in its class on the market.

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

RECTIFIERS-DIODES (Continued)

TYPE NO.	FILAMENT Volts	FILAMENT Amps	FIL. HEATING TIME (SEC.)	TUBE DROP (VOLTS)	PEAK INVERSE ANODE VOLTS	ANODE CURRENT Peak Amps	ANODE CURRENT Average Amps	SURGE CURRENT Amps	TEMPERATURE Ambient	RANGE (°C) Mercury	DESCRIPTION
6693	5.0	11.5	60	12.0	2,500 15,000	10.0 12.0	5.0 3.0	200.0 120.0	+15 to +55° +15 to +35°	+25 to +75° +25 to +55°	Single-anode, mercury vapor rectifier with ratings, intermediate between standard types 575A and 869B. Delivers 9 amps up to 12 kV in a full wave, 3 phase power supply. Three tubes in a three phase half-wave power supply deliver 6 kV at 9 amps using only one filament transformer. Has large contact area, industrial base preventing base contact oxidation. Priced low for replacement market and original equipment.
7136	5.0	11.5	60	12.0	15,000	12.0	2.5	120.0	+15 to +35°	+25 to +55°	Single anode, mercury vapor, high voltage rectifier. Plate current ratings intermediate between types 575-A and 6693. Cathode and anode design similar to 6693 but with 575-A base. Recommended replacement for 575-A in older equipment. For new equipment design, the 6693 is recommended.
8008-AX	5.0	7.5	30	10.0	10,000	5.0	1.25	50.0	—	+20 to +60°	Mercury-vapor half-wave rectifier similar to 872-A characteristics; with heavy long pin industrial base. Used by armed services and in commercial applications. Convection cooled.
8020-AX	5.0	6.0	5	200V at 100 mA	40,000	0.750	0.100	—	—	—	Half-wave, high vacuum rectifier with high inverse voltage and low average current. Used in radar and precipitator power supplies.

COUNTING SELECTING and INDICATING TUBES

TYPE NO.	FILAMENT Volts	FILAMENT Amps	Maintaining Voltage (V)	Maximum Current (A)	Counting Rate per Sec. (Max)	Bias (V)	Minimum A-K Ignition Voltage (V)	K_c Reset Voltage (V)	DESCRIPTION
E37D/E1T	6.3	0.3	—	—	100K	—	—	—	Special beam deflecting decade counter with numerals 0 to 9 for scalers, computers, etc.
6977[1]	1.0	0.3	Anode: 50 DC	—	Zero light output at 3.5 grid volts. Maximum light output at 0 grid volts.			—	Subminiature vacuum triode with fluorescent anode particularly suited for transistorized circuits. 20,000 hour life.
Z303C	—	—	186 to 196	300	4K	+35 Guide −20 Cath.	—	−120	Cold cathode bi-directional visual indicating decade counter tube.
Z502S	—	—	186 to 196	300	4K	+35 Guide −20 Cath.	—	−120	Cold cathode bi-directional visual indicating decade selector tube.
Z503M	—	—	108	60	—	—	129	Ext'ing 150 V	Cold cathode decade indicator tube.
Z550M	—	—	82	3 mA	—	Fires on 5 V above starter common voltage.		—	Cold cathode decade numerical indicator tube especially designed for transistorized circuits.

[1]Available to Military Specifications.

COLD CATHODE GAS FILLED NUMERICAL INDICATOR TUBES

TYPE NO.	DISPLAY Characters	DISPLAY Character Size	DISPLAY Color	DISPLAY Arrangement	SUPPLY VOLTAGE (VOLTS)	EXTINGUISHING VOLTAGE VOLTS (MAX)	ANODE CURRENT (mA)	OPERATION
ZM1000 ZM1002	Digits 0 to 9 and decimal point	0.6" high	Bright Red	Vertical Numerals 14 pin T 5½ Envelope (Side Viewing)	170	118	2.5	Cold cathode numerical indicator. Can be driven by integrated circuit or discrete circuitry. ZM1002 is a red coated bulb.
ZM1001	Characters +, −, ~, x, y, z	0.6" high	Bright Red	Vertical Characters 14 pin T 5½ (Side Viewing)	170	118	2.5	Special character indicator for use with ZM1000 and ZM1002.
ZM1020 ZM1022	Digits 0 to 9	0.61" high	Bright Red	Vertical Characters End View	170	118	2	Numerical indicator in a round end-view envelope with a red lacquer coating to reduce glare. The ZM1022 has a clear bulb.
ZM1021 ZM1023	Special Characters A, V, Ω, %, ~, +, −	0.6" high	Bright Red	Vertical Characters End View	170	118	2	Special character indicator in a round end view envelope with a red lacquer coating to reduce glare. The ZM1023 has a clear bulb.
ZM1024 ZM1025	Special Characters c/s, kc/s, Mc/s, µs, ms, ns, s	0.61" high	Bright Red	Vertical Characters End View	170	118	2	Special character indicator in a round end view envelope with a red lacquer coating to reduce glare. The ZM1025 has a clear bulb.
ZM1030 ZM1032	Digits 0 to 9	0.6" x 0.4"	Bright Red	Vertical Numerals in 9-pin T 6½ Envelope (Side Viewing)	200	100	4	Two separate anodes and five interconnected cathode pairs provide for simplified drive circuitry. Expected tube life is 20,000 hours. The bulb of the ZM1030 is coated with red lacquer to reduce glare. Tube type ZM1032 has a clear bulb. These tubes are designed to be used with biquinary logic.
ZM1031 ZM1033	Signs + −	0.5" x 0.5"	Bright Red	− Sign, Rear + Sign, Front (side viewing)	170	110	5	Two anodes and two cathodes separated by a shield provide the circuitry. The bulb of the ZM1031 is covered by a red contrast Filter. Tube type ZM1033 has a clear bulb.

COLD CATHODE INDICATOR DIODES

TYPE NO.	BREAKDOWN VOLTAGE V_{IGN} Max. (V)	BREAKDOWN VOLTAGE V_{IGN} Min. (V)	MAINTAINING VOLTAGE V_M Max. (V)	MAINTAINING VOLTAGE V_M Min. (V)	CATHODE CURRENT I_K mA	DESCRIPTION
ZA1001	135	120	95	9	1.5	Shock and Vibration resistant cold cathode, gas filled subminiature diode, designed for switching and stable saw-tooth generator circuits. Operable thru audio frequency range. It may be used in frequency divider chains as in electronic organs.
ZA1002	175	165	109	103	2.0	Switching and light diode intended for logic functions both in sensing and programming circuits.
ZA1004	90	88	*	*	1.0	Shock and vibration resistant close tolerance cold cathode, gas filled subminiature diode with visible glow-discharge for read-out purposes. The tube contains two electrodes, a rod shaped molybdenum cathode and a concentric gauze anode. May be used with signal voltages as low as 3.0 volts depending upon readout circuit mode of operation.
ZA1005	138	108	86	70	5.0**	Cold cathode, gas filled subminiature diode with pure molybdenum cathode designed for firing of silicon controlled rectifiers. It is shock and vibration resistant, has high peak current capability and a minimum life of 4000 operating hours

* *Extinction Voltage $V_{EXT}(MIN) = 83.5$ Volts* ** *Peak Cathode Current = 250 mA*

COLD CATHODE TRIGGER TUBES

TYPE NO.	Anode Voltage Range (V)	Starter-To-Cathode Breakdown Voltage (V)	Anode-To-Cathode Maintaining Voltage (V_M)	Anode-To-Cathode Breakdown Voltage (V)	Recommended Priming Resistor (Megohms)	Cathode Current Range (mA)	Peak Cathode Current (mA)	Typical DC Starter Current (µA)	Maximum Negative Starter Current (µA)	Maximum Ambient Temperature (°C)	DESCRIPTION
Z70U/7710	200-310	137-153	111-121	>325	18	2-4	16	20	150	70	Subminiature tube with priming cathode and positive starter voltage, for DC circuits. It may be used as an electronic switching element in counter circuits and in logic units. Other applications are in welding timers, touch controls.
Z70W/7709	200-310	137-153	111-121	>325	18	2-4	16	30	150	70	Subminiature tube with priming cathode and positive starter voltage for DC circuit.
Z71U/7711	125-165	73-90	54-68	>175	—	3-7[2]	12	40	100	70	Subminiature tube with two starters for counting and switching in DC circuit.
Z803U/6779	170-290	128-137	105	>290	10	25 (max.)	100	50	—	70	Stable trigger striking characteristic for position triggering.
Z805U/7714	250-450 dc 180-275 ac	137-155 dc 98-110 ac	118-128	>500	—	5-25	150	50	—	70	Miniature relay tube for ac circuits, short ignition delay and excellent high voltage properties.
Z900T/5823	140-200 dc 117 ac	73-105	62	>200	—	(25 max.)	100	100	—	70	Three electrode, gas filled relay tubes for "on-off" control of low-voltage apparatus.
ZC1040	250-350[1] 180-250[2]	120-240[1] 85-100[2]	112	350[1] 250[2]	10	15-25[1] 10-40[2]	25 40	>200	200	+70°C +2°C/mA	Gas filled cold cathode trigger tube with molybdenum cathode and electrical priming. It has been designed to be ignited with positive voltages on starter and anode only and can be fed from a.c. or d.c. anode voltages.
ZC1050	300	180	136	265	—	1-10	10	7.5-30	—	—	Ruggedized cold cathode trigger tube with pure molybdenum electrodes. A very high light output makes this tube especially suitable for use in moving text display shift registers for switching and indicator functions.
ZC1060	100-800	—	—	—	—	20 mA to 5000A	5000A	—	—	125	Subminiature cold cathode trigger tube for switching very high peak currents, e.g. in capacitor discharge circuits. The tube contains an internal cathode, an internal anode and external (capacitive) starter.

† *Typical value* * *At zero starter voltage (minimum value)* 1—D.C. 2—A.C. (rms)

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUC

VOLTAGE REFERENCE & REGULATOR TUBES

TYPE NO.	OPERATING VOLTAGE (APPROX. VOLTS)	OPERATING VOLTAGE LIMITS[1] (VOLTS)	RECOMMENDED QUIESCENT CURRENT (mA)	IGNITION VOLTAGE[2] (VOLTS)	INTERNAL RESISTANCE (MAX. OHMS)	CURRENT RANGE (mA)	REGULATION[3] (MAX. VOLTS)
OA2	150	144-164	17.5	185 max.	240	5-30	6
OB2	108	106-111	17.5	133 max.	140	5-30	3.5
OE3/85A1[5 6]	85	83-87	4	120 max.	—	1-8	3.15
OG3/85A2[4]	85	83-87	6	125 max.	450	1-10	Notes 5 & 6
90C1	90	86-94	20	125 max.	350	1-40	14
5651[6]	87	82-92	2.5	115 max.	—	1.5-3.5	3
6354/150B2	150	146-154[4]	10	180 max.	500	5-15	5
7980/83A1[4]	83	82.6-84.1	4.5	130 max.	350	3.5-6.0	Notes 7 & 8
8228/ZZ1000	82	81-84	2	115 max.	500	0.5-3.5	1

[1] *Spread in operating voltage from tube to tube at recommended quiescent current.*
[2] *Over tube life.*
[3] *Over full current range.*
[4] *Voltage Reference Tubes.*
[5] *Drift in operating voltage during the first 300 hours of life: max. 0.3%. Short term drift in operating voltage (100 hours max.) after the first 300 hours of operation: max. 0.1%.*
Temperature coefficient of operating voltage = 2.7 mV/°C.
[6] *Drift in operating voltage during 1000 hours: max. 1%.*
[7] *Variation in anode voltage during the first 300 hours of life: Max. + 0.35 mV.*
Between 300-2500 hours: Max. + 0.2.
Between 300-10000 hours: Max. + 0.35 mV (T_{bulb} = 25°C).
[8] *Temperature coefficient of anode voltage over temperature range of 25°C to 120°C. −0.003%.*

CADMIUM-SULFIDE CELLS

TYPE NO.	DESCRIPTION	CELL VOLTAGE (Volts)	POWER DISSIPATION (Watts)	CELL RESISTANCE (Ohms @ 50 Lux)	SIZE (mm)
ORP 52	Top & Side Sensitive	200	400 mW	1200	15.9 dia x 44
ORP 61	Side Sensitive	350	70 mW	60k	6 dia. x 16.5
ORP 62	Side Sensitive	350	100 mW	45k	6 dia. x 16.5
ORP 66	Top Sensitive	350	70 mW	≤ 55k	6 dia. x 16.5
ORP 90	Side Sensitive	350	1.0	1000	19 dia. x 60.3*
RPY 18	Side Sensitive	100	0.5 (2**)	25	27 x 16.3 x 6
RPY 19	Side Sensitive	400	0.5 (2**)	3000	27 x 16.3 x 6
RPY 20	Side Sensitive	400	1.0 (3**)	1500	43 x 16.3 x 6
RPY 27	Top Sensitive	400	1.0	650	31.5 dia. x 7.25
RPY 43	Side Sensitive	400	0.75	1500	30.5 x 13.5 x 2
RPY 54	Side Sensitive	200	0.5	1500	27 x 16.3 x 6
RPY 55	Top Sensitive	200	1.0	420	32 dia. x 7.6
RPY 58	Side Sensitive	50	200 mW	600	6 x 6 x 2

* *7 pin miniature base.*
** *With heat sink.*

PHOTO TUBES

TYPE NO.	DESCRIPTION	SENSITIVITY (μA/L)	SUPPLY VOLTAGE (Volts)	AVERAGE CURRENT (nA)	SIZE (mm)	SPECTRAL RESPONSE
150AV	For Precision Photometry	60	6-90 D.C.	50	52 x 85	F
150CV	For Precision Photometry	20	6-90 D.C.	35	52 x 85	G
150UV	For Precision Photometry	35	6-90 D.C.	50	53 x 110	H
155UG	For Flame Failure Detection	—	220 R.M.S.	<0.3mA	28.5 dia. x 25*	J

* *Noval base.*

PULSE MAGNETRONS

TYPE NO.	DESCRIPTION	FREQUENCY RANGE (MHz)	HEATER		TYPICAL OPERATION			MAX. PULSE DURATION (μsec)	MAX. DUTY CYCLE	TYPE[1] OUTPUT
			(Volts)	(Amps)	P_o (kW)	E_A (kV)	I_A (Amps)			
DX343	Fixed Frequency	725-775	23.5	2.2	100	16	12	1.0	0.004	WG
DX342	Fixed Frequency	820-880	23.5	2.2	450	23	50	5.0	0.002	WG
5J26 JAN	Tunable	1220-1350	23.5	2.2	450	28	46	6.0	0.0025	CO
YJ1150	Tunable	1220-1350	23.5	2.2	750	29	79	6.0	0.0025	CO
5586	Tunable	2700-2900	16.0	3.1	800	30	70	2.5	0.001	CO
8798	Fixed Frequency	2700-2900	16.0	2.8	800	28	70	2.0	0.0007	WG
5657	Tunable	2900-3100	16.0	3.0	800	27.5	70	1	0.0005	CO
55100-04	Fixed Frequency	2940-2980	5.0	2.6	400	30	35	2.5	0.0012	CO
55100-03	Fixed Frequency	2980-3005	5.0	2.6	400	30	35	2.5	0.0012	CO
55100-02	Fixed Frequency	3005-3030	5.0	2.6	400	30	35	2.5	0.0012	CO
55100-01	Fixed Frequency	3030-3060	5.0	2.6	400	30	35	2.5	0.0012	CO
6589	Tunable	3350-3500	16.0	3.0	500	26-30	50	1	0.0005	WG
YJ1030	Tunable	5400-5900	5.0	0.5	0.16	1.2	0.8	3.0	0.002	CO
4J59	Fixed Frequency	6275-6375	12.6	3.5	210	16-19	30	1	0.001	WG
4J58	Fixed Frequency	6375-6475	12.6	3.5	210	16-19	30	1	0.001	WG
4J57	Fixed Frequency	6475-6575	12.6	3.5	210	16-19	30	1	0.001	WG
DX368	Fixed Frequency	8140-8160	12.6	2.1	50	15	15	1.0	0.0016	WG

[1] *CO = Coaxial WG = Waveguide*

© United Technical Publications

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS®

PULSE MAGNETRONS (Continued)

TYPE NO.	DESCRIPTION	FREQUENCY RANGE (MHz)	HEATER (Volts)	HEATER (Amps)	TYPICAL OPERATION P_o (kW)	TYPICAL OPERATION E_A (kV)	TYPICAL OPERATION I_A (Amps)	MAX. PULSE DURATION (μsec)	MAX. DUTY CYCLE	TYPE[1] OUTPUT
YJ1101	Tunable	8500-9000	5.0	0.5	0.18	1.18	0.9	2.0	0.004	CO
YJ1170	Tunable (spin tuned)	8500-9300	12.6	1.0	90	15.5	15	2.0	0.0016	WG
2J51(A)	Tunable	8500-9600	6.3	1.0	60	14	14	3.6	0.0012	WG
YJ1010/7008	Tunable	8500-9600	13.75	3.1	225	21.5	27.5	2.75	0.0011	WG
YJ1011	Tunable	8500-9600	13.75	3.1	225	21.5	27.5	2.6	0.0011	WG
DX285/YJ1180	Tunable (spin tuned)	8700-9500	13.75	3.15	205	22.5	27.5	1.5	0.0011	WG
JP8-02B	Fixed Frequency	8770-8830	6.3	1.2	0.025	0.8	0.15	5.0	0.5	WG
YJ1100	Tunable	9000-9500	5.0	0.5	0.18	1.18	0.9	2.0	0.004	CO
55032-01	Fixed Frequency	9003-9085	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
4J78	Fixed Frequency	9003-9167	13.8	3.35	225	22	28	2.5	0.001	WG
55032-02	Fixed Frequency	9003-9168	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
55031-01	Fixed Frequency	9168-9260	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
YJ1000	Fixed Frequency	9190-9320	6.3	0.5	3.0	3.4	3.0	1.0	0.001	WG
JP9-7A	Fixed Frequency	9210-9270	6.3	0.6	7.5	5.5	4.5	2.5	0.0025	WG
2J56	Fixed Frequency	9215-9275	6.3	1.0	40	16	16	2.5	0.001	WG
55031-02	Fixed Frequency	9260-9345	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
JPT9-01C	Tunable	9300-9500	6.3	1.2	0.015	1	0.1	50	0.25	WG
7028	Fixed Frequency	9345-9475	6.3	0.5	3	3.4	3.0	1.0	0.001	WG
2J42	Fixed Frequency	9345-9405	6.3	0.6	7.5	5.5	4.5	2.5	0.0025	WG
JP9-7D	Fixed Frequency	9345-9405	6.3	0.6	10.5	5.9	7.0	1.0	0.002	WG
YJ-1040	Fixed Frequency	9345-9405	6.3	0.55	14	6.7	5.25	2.5	0.0015	WG
YJ1110	Fixed Frequency	9345-9405	6.3	0.6	20	7.8	7.5	1.5	0.0015	WG
JP9-15(D)	Fixed Frequency	9345-9405	6.3	0.55	22	7.7	8.0	2.5	0.0015	WG
YJ1060	Fixed Frequency	9345-9405	6.3	0.55	20	7.2	7.5	2.5	0.002	WG
2J55	Fixed Frequency	9345-9405	6.3	1.0	50	12	12	2.5	0.01	WG
725A	Fixed Frequency	9345-9405	6.3	1.0	50	12	12	2.5	0.012	WG
6972/JP9-75	Fixed Frequency	9345-9405	10.0	2.85	80	15	15	5.5	0.002	WG
4J52A	Fixed Frequency	9350-9400	12.6	2.2	80	15	15	5.0	0.003	WG
4J50(A)	Fixed Frequency	9345-9405	13.75	3.4	225	21.5	27.5	6.0	0.002	WG
55030	Fixed Frequency	9345-9405	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
YJ1071	Fixed Frequency	9380-9440	6.3	0.55	10	5.8	6	1.0	0.001	WG
YJ1120	Fixed Frequency	9380-9440	6.3	0.55	25	8.3	9	1.5	0.0015	WG
55029	Fixed Frequency	9405-9505	13.75	3.4	250	21.5	27.5	1.0	0.001	WG
JP9-2.5D	Fixed Frequency	9415-9475	6.3	0.5	3	3.5	3.0	1.0	0.001	WG
JP9-2.5E	Fixed Frequency	9415-9475	6.3	0.5	3	3.5	3.0	1.0	0.001	WG
JP9-15B	Fixed Frequency	9415-9475	6.3	0.55	22	7.7	8.0	2.5	0.0015	WG
YJ1140	Fixed Frequency	16,350-16,650	12.6	3.0	50	12.5	18.0	1.0	0.001	WG
YJ1020	Fixed Frequency	32,700-33,400	4.0	3.4	25	12.5	10.5	0.05	0.0003	WG
YJ1021	Fixed Frequency	32,700-33,400	4.0	3.4	30	12.5	12.5	0.5	0.0003	WG
7093	Fixed Frequency	34,512-35,208	5.0	3.9	40	12.5	12.5	0.4	0.0003	WG
8153/55008	Fixed Frequency	34,512-35,208	5.0	3.9	80	17	20	0.5	0.0005	WG
DX164	Fixed Frequency	74,000-76,000	4.8	4.12	10	13	10	1	0.0002	WG
DX287	Fixed Frequency	94,000-97,000	3.25	7.25	10	9	12	0.2	0.0002	WG

[1] *CO = Coaxial* *WG = Waveguide*

CONTINUOUS WAVE MAGNETRONS

TYPE NO.	DESCRIPTION	FREQUENCY (MHz)	HEATER (Volts)	HEATER (Amps)	MINIMUM CATHODE PREHEAT TIME (Sec)	COOLING	TYPICAL OPERATION E_A (kV)	TYPICAL OPERATION I_A (Amps)	TYPICAL OPERATION P_o (kW)
7090	Fixed Frequency	2425 to 2475	5.3	3.5	180	Conduction	1.65	0.2	0.2
DX206/DX260	Fixed Frequency	2425 to 2475	4.0	30	5	Forced air	5.6	0.38	1.2
DX312	Fixed Frequency	2425 to 2475	4.0	18	—	Forced air	3.5	0.75	1.2
YJ1160	Fixed Frequency	2425 to 2475	5.0	35	180	Water	4.8	0.8	2.5
YJ1162	Fixed Frequency	2425 to 2475	5.0	35	180	Forced air	4.8	0.8	2.5
YJ1191	Fixed Frequency	2400 to 2475	5.5	46	30	Forced air	5.5	1.25	5.5
JPT9-01	Tunable	9150 to 9600	6.3	1.2	120	Forced air	0.92	0.05	0.010

DISC-SEAL TRIODES

TYPE NO.	DESCRIPTION	MAXIMUM FREQUENCY (MHz)	HEATER (Volts)	HEATER (Amps)	PLATE DISSIPATION (Watts)	AMPLIFICATION FACTOR	TRANSCONDUCTANCE (Micromhos)	PLATE (Volts)	PLATE (Amps)	POWER OUTPUT CHARACTERISTICS Power (Watts)	POWER OUTPUT CHARACTERISTICS Gain (dB)	POWER OUTPUT CHARACTERISTICS Frequency (MHz)
5861/EC55	For amplifier and oscillator applications	3,000	6.3	0.4	1.0	30	6,000	250	0.002	0.5	OSC	3,000
8108/EC157	For amplifier, oscillator doubler or tripler applications	4,200	6.3	0.73	12.5	43	21,000	180	0.060	1.8	13	4,200
8436/EC158	For amplifier, oscillator doubler or tripler applications	4,200	6.3	0.9	30	30	28,000	180	0.140	5.3	11.5	4,200

TRAVELING-WAVE TUBES (Listed in Order of Frequency Range)

TYPE NO.	DESCRIPTION	FREQUENCY RANGE (MHz)	HEATER (Volts)	HEATER (Amps)	COOLING	SATURATION POWER OUTPUT (Watts)	TYPICAL OPERATION GAIN (dB)	TYPICAL OPERATION HELIX VOLTAGE (Volts)	TYPICAL OPERATION COLLECTOR VOLTAGE (Volts)	TYPICAL OPERATION BEAM CURRENT (mA)	TYPICAL OPERATION NOISE FACTOR (dB)
LB3-250B	Amplifier-Pulsed	2700-3300	6.3	1.0	Water	250	33	Note 1	Note 1	800	—
YH1090	Amplifier-C.W.	3400-4200	6.3	1.05	Natural	23	40	2200	1300	60	25
55340	Amplifier-C.W.	3800-4200	6.3	0.8	Natural	10	39	1100	1150	50	27
7537	Amplifier-C.W.	4400-5000	6.3	0.8	Natural	8	36	1100	1150	50	27
YH1170	Amplifier-C.W.	5800-8500	6.3	1.0	Natural	22	42	2800	1300	55	25
LB6-20	Amplifier-C.W.	5900-6500	6.3	0.95	Natural	20	37	3300	1800	45	27
YH1030	Amplifier-C.W.	5900-7200	6.3	0.80	Natural	10	36	2250	1500	65	30
LB6-10	Amplifier-C.W.	5925-6425	6.3	0.95	Natural	10	35	2650	1700	40	25
LB6-15	Amplifier-C.W.	5925-6425	6.3	0.95	Natural	15	37	2.65	1.7	40	30
LB7-5	Amplifier-C.W.	7000-7450	6.3	0.9	Natural	8	33	2.6	1.7	40	30
LA9-3B	Amplifier-C.W.	7000-11500	6.3	0.5	Natural	0.01	30	1300	1400	0.55	20
YH1080	Amplifier-C.W.	7400-8500	6.3	0.9	Natural	15	37	3300	1800	40	27
LB8-20	Amplifier-C.W.	7700-8500	6.3	0.95	Natural	16	33	2.6	1.7	42	30
LB11-20	Amplifier-C.W.	10700-11700	6.3	1.0	Natural	10	37	3500	2500	50	30

[1] *Peak pulse cathode voltage = −5.0 kV, other electrodes grounded.*

© United Technical Publications



Cathode Ray Tubes

For Oscillographic, electrostatic and magnetic focus deflection (Laboratory, Industrial and Military Scopes). Radar and photographic recording and complete range of phosphors.



Industrial Electronic Tubes

These rugged, premium tube types are preferred wherever assured long term performance and reliability is needed. Offered in a complete range — from miniature versions to older glass construction.

DUTREX INDUSTRIES INC.

the replacement tube specialists.

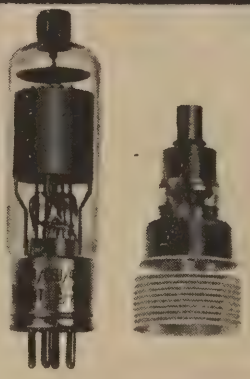
DU MONT

Dumont special purpose, industrial and receiving tubes . . . unusual types, older numbers and hard-to-get units . . . Dutrex delivers from the largest inventory in the country! And we've been doing this for nearly 14 years with just about any tube required in the maintenance, operation and replacement areas, conforming to E.I.A. specifications. As for price, we always give you a competitive edge. Service? We usually ship within 24 hours of receiving the order. We even have a Golden Label Service for super-rush delivery — at no extra charge! See the Dutrex sales specialists in your area. Find out why distributors and wholesalers have made us their prime source.



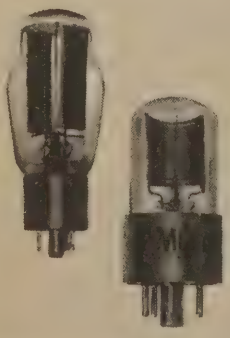
Photomultiplier

For use with low levels of radiation in the UV, Visible and near IR. Applications include Photometry, geophysics, scintillation counting, industrial control, medical instrumentation.



Power Tubes

Beam power — air cooled, twin beam power; triodes, naturally cooled and forced air types.



Rectifiers and Thyratrons

High power-half wave and gas types. Mercury vapor-half-wave, low and intermediate power rectifier and detector diodes. Gas type thyratrons — mercury vapor, high and low intermediate power, including cold cathode, triode and tetrode types.



Communications Tubes

A complete group of performance rated types for two-way communications, 6 and 12 volt storage battery, and aircraft communication use.

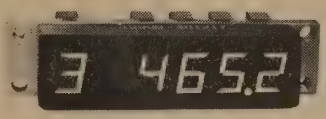
DU MONT DUTREX INDUSTRIES INC.

© United Technical Publications

ELECTRONS Industrial Components

ELECTRONS HI-CONTRAST DIGITAL READOUT

Electrons Digital Readouts features an easy to read, bright display with low voltage operation from inexpensive integrated circuit modules. Illuminated Segments emit an even distribution (no breaks in light pattern) at the viewing surface. High contrast and brilliance is extended to 150° in any plane, thus eliminating parallax problems. Readouts can be made with any number and combination of digits, spaces and special characters.



Multi-Digit Unit



Single Digit Unit

THYRATRONS

Type	Other Designations	Description	
EL C1B	3C31	A4-10 Base. Anode Cap.	Xenon
EL C1B/A	5664	A4-10 Base. Anode Cap.	Xenon
EL C1K	6014	A4-10 Base. Single End.	Xenon
EL C1K/B	7319	A4-10 Base. Single End.	Xenon
EL C3J	5632	A4-10 Base. Anode Cap.	Xenon
EL C3J/A	5684	A4-10 Base. Anode Cap.	Xenon
EL C3J/L	7216	Lug Type Base. Anode Cap.	Xenon
EL C3J/AL	7566	Lug Type Base. Anode Cap.	Xenon
EL C4H-1		A4-81 Base. Anode Cap.	Xenon
EL C4H-2		Panel Mounted. Anode Cap.	Xenon
EL C4H-3		Lug Type Base. Anode Cap.	Xenon
EL C4H-4		Panel Mounted. Flexible Leads.	Xenon
EL C4H-5		Lug Type Base. Flexible Lead.	Xenon
EL C6C	6987	#4310 Base. Anode Cap.	Xenon
EL C6H-1		A4-81 Base. Anode Cap.	Xenon
EL C6H-2		Panel Mounted. Anode Cap.	Xenon
EL C6H-3		Lug Type Base. Anode Cap.	Xenon
EL C6H-4		Panel Mounted. Flexible Leads.	Xenon
EL C6H-5		Lug Type Base. Flexible Lead.	Xenon
EL C6J	5C21	A4-81 Base. Anode Cap.	Xenon
EL C6J/A	5685	A4-81 Base. Anode Cap.	Xenon
EL C6J/F	6860	Panel Mounted. Anode Cap.	Xenon
EL C6J/L	6988	Lug Type Base. Anode Cap.	Xenon
EL C6J/K	6864	A4-81 Base. Anode Cap.	Xenon
EL C6J/KF	6871	Panel Mounted. Flexible Leads.	Xenon
EL C6J/KL	6989	Lug Type Base. Anode Cap.	Xenon
EL C16J	5665	Panel Mounted. Flexible Leads.	Xenon
EL C16H		Panel Mounted. Flexible Leads.	Xenon
EL 6011/710	7307A	A4-10 Base. Anode Cap.	Mercury Gas
EL 7518/710L	7509A	Lug Type Base. Anode Cap.	Mercury Gas



RECTIFIERS Xenon-Filled

Type	Other Designations	Description
EL 1C	3B22	Full Wave. A4-10 Base. Single End.
EL 3B	6013	Half Wave A4-10 Base. Anode Cap.
EL 3C	4B24	Full Wave. A4-81 Base. Single End.
EL 3C/L	6982	Full Wave. Lug Type Base. Single End.
EL 6B	5892	Half Wave. A4-81 Base. Anode Cap.
EL 6B/L	6983	Half Wave. Lug Type Base. Anode Cap.
EL 6C		Full Wave. A4-81 Base. Single End.
EL 6F	6015	Half Wave. Panel Mounted. Flexible Leads.
EL 16F		Half Wave. Panel Mounted. Flexible Leads.

CERAMIC AND GLASS SURGE ARRESTERS

The ELECTRONS EL-2140, EL-2400R and EL-2600SL families of gas surge arresters are representative of the wide range of standard devices available to protect sensitive equipment against transient or lightning induced surges in signal circuits, power lines, radar equipment and antenna feeders.

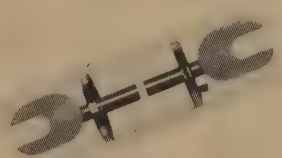
These gas filled, single- and multiple-gap, fast acting surge arresters provide inexpensive protection unaffected by dust, humidity, or air pressure changes; and as compared with air-gap arresters, maintain a constant firing potential. Virtually open circuit before operation, these protectors do not exhibit the noise generating leakage path inherent in pellet type arresters.

ELECTRONS self healing, gas surge arresters are available with breakdown voltage up to 15,000 VDC.

Send us your requirements; if one of our standard units will not meet them, we can tailor a unit to fulfill them.

EL-2600SL





EL-2400R



EL-2140

ELECTRONS

A UNIT OF GENERAL SIGNAL CORPORATION

© United Technical Publications

ENTERTAINMENT RECEIVING TUBES

Type	Suggested List Price‡
0Z4/0Z4A	$3.85
1A7GT	5.40
1AD2A	3.95
1AY2A	4.05
1B3GT — (Use 1G3GTA/1B3GT)	
1BC2A	3.75
1BG2	2.80
1BH2A	3.90
1BY2A/1AD2A	3.95
1DG3	4.10
1D-K1	3.20
1D-K27	4.05
1D-K29	2.80
1DN5	4.40
1G3GTA/1B3GT	3.95
1H2	3.95
1K3A/1J3	3.95
1L4	3.25
1L6	12.55
1N2A	4.40
1R5	5.20
1R-K23 — (Use 1S2A/DY87)	
1S2A/DY87	2.55
1S5	3.40
1T4	3.85
1U4	3.85
1U5	3.40
1V2	2.40
1X2C/1BX2	4.10
2AF4	4.10
2AF4B — (Use 2DZ4/2AF4B)	
2AH2 — (Use 2BU2/2AS2/2AH2)	
2AS2A (Use 2BU2/2AS2A/2AH2)	
2AV2	3.10
2BN4A	3.55
2BU2/2AS2A/2AH2	3.90
2CN3B	4.10
2CW4	4.90
2CY5	4.85
2DS4	4.90
2DV4	6.45
2DZ4/2AF4B	4.10
2EN5	3.20
2ER5	3.70
2FH5	3.70
2FQ5A — (Use 2GK5/2FQ5A)	
2FS5	4.85
2GK5/2FQ5A	3.85
2GU5	4.50
2HA5	3.85
2HK5	3.85
2HQ5	3.85
3A2	5.50
3A3C/3AW3/3B2	4.05
3AF4B — (Use 3DZ4/3AF4B)	
3AL5	2.70
3AT2B	3.90
3AU6	2.95
3AV6	2.95
3AW2A	4.05
3AW3 — (Use 3A3C/3AW3/3B2)	
3B2 — (Use 3A3C/3AW3/3B2)	
3BC5 (Use 3CE5/3BC5)	
3BE6	2.70
3BL2A	4.45
3BM2A	4.45
3BN2A	4.00
3BN4	3.40
3BN6	4.75
3BS2A (Use 3BW2/3BS2A/3BT2)	
3BT2 (Use 3BW2/3BS2A/3BT2)	
3BU8/3GS8	4.90
3BW2/3BS2A/3BT2	4.20
3BY6	3.00
3BZ6	3.70
3CA3	3.70
3CB6/3CF6	2.30
3CE5/3BC5	2.95
3CF6 (Use 3CB6/3CF6)	
3CN3B	4.10
3CS6	3.70
3CU3A	4.90
3CX3 (Use 3DA3/3CX3)	
3CY3 (Use 3DB3/3CY3)	
3CY5	3.75
3CZ3A	4.35
3DA3/3CX3	4.20
3DB3/3CY3	4.45
3DC3	4.60
3DF3	4.20
3DG4	5.90
3DH3	4.25
3DJ3	4.25
3DK6	3.55
3DR3	6.10
3DS3	6.10
3DT6	3.25
3DZ4/3AF4B	4.10
3EH7/XF183	2.55
3EJ7/XF184	2.55
3ER5	4.45
3FS5	4.30
3GK5	3.85
3GS8 (Use 3BU8/3GS8)	
3HA5 — (Use 3HM5/3HA5)	
3HM5/3HA5	3.85
3HQ5	5.65
3HS8	4.30
3JC6A	5.05
3KT6	3.80
3Q4	3.35
3S4	3.40
3V4	4.45
4AU6	3.85
4AV6	2.95
4BC8	4.00
4BL8/XCF80	2.40
4BN6	4.05
4BQ7A — (Use 4BZ7/4BQ7A)	
4BS8	4.25
4BU8/4GS8	4.45
4BZ6	3.70
4BZ7/4BQ7A	4.45
4CB6	2.70
4CS6	3.85
4DK6	3.40
4DT6	3.85
4EH7	3.55
4EJ7	3.55
4ES8	5.50
4EW6	3.55
4GJ7	3.10
4GK5	3.85
4GM6	2.15
4GS8 (Use 4BU8/4GS8)	
4GX7	4.60
4HA5/PC900	2.30
4HA7/4HC7	4.25
4HM6	3.10
4HQ5	4.60
4HS8	3.70
4JC6A	5.05
4JD6	4.60
4JH6	3.40
4KE8	6.05
4KN8/4R-HH8	7.40
4LJ8	4.40
4LU6	3.40
4R-HH2 (Use 4BC8)	
4R-HH8 — (Use 4KN8/4R-HH8)	
5AM8	4.90
5AN8	5.20
5AQ5	3.70
5AR4/GZ34	4.25
5AS4A — (Use 5U4GB/5AS4A)	
5AS8	4.40
5AT8	4.45
5AU4 (Use 5V3/5AU4)	
5AV8	4.05
5B8	5.50
5BC3A	3.40
5BK7A	4.05
5BQ7A — (Use 5BZ7/5BQ7A)	
5BR8 (Use 5FV8/5BR8)	
5BT8	3.10
5BW8	4.30
5BZ7/5BQ7	4.30
5CG8	4.00
5CL8A	4.90
5CQ8	4.10
5CZ5	4.45
5DH8	5.50
5DJ4	3.55
5EA8	5.65
5ES8	5.50
5EU8	4.00
5EW6	4.00
5FG7	4.60
5FV8/5BR8	4.90
5GH8A	4.90
5GJ7	2.95
5GM6	3.25
5GS7	3.45
5GX7	4.60
5HA7	4.25
5HB7	3.40
5HG8/LCF86	3.70
5HZ6	3.25
5J6	3.60
5JK6	4.20
5JL6	4.20
5KD8 (Use 6U8A/6AX8/6KD8/5KD8)	
5KE8	6.05
5KZ8	4.25
5LJ8	4.40
5MB8	3.65
5M-HH3 (Use 5J6)	
5T8	4.20
5U4GB/5AS4	3.05
5U8	4.70
5U9/LCF201	2.95
5V3/5AU4	3.80
5V4GA	4.30
5V6GT	3.70
5X8	4.15
5Y3GT	2.95
5Z3	4.45
6AB4	3.60
6AC7	5.75
6AC10	4.25
6AD10	8.15
6AF3	4.05
6AF4	4.90
6AF4A (Use 6DZ4/6AF4A)	
6AF9	3.50
6AF11	5.20
6AG5	4.30
6AG7	7.70
6AG9	6.25
6AG11	6.00
6AH4GT	3.25
6AH6	5.80
6AH9	4.75
6AK5/EF95	4.50
6AK6	2.55
6AK10	5.05
6AL3/EY88	2.60
6AL5	2.95
6AL7GT	8.85
6AL11	5.70
6AM4	7.20
6AM8A	4.60
6AN4	6.15
6AN8A	5.20
6AQ5A/6HG5	3.40
6AQ6	3.25
6AQ7GT	4.70
6AQ8/ECC85	3.00
6AR5	2.45
6AR8	5.90
6AR11	5.35
6AS5	4.00
6AS8	5.35
6AS11	6.05
6AT6	2.05
6AT8A	5.20
6AU4GTA	4.85
6AU5GT	5.20
6AU6A	2.95
6AU8A	5.65
6AV5GA	5.20
6AV6	2.70
6AV11	4.40
6AW8A	4.45
6AX3	3.40
6AX4GTB	3.70
6AX5GT	3.85
6AX8 (Use 6U8A/6AX8/6KD8/5KD8)	
6AY3B/6BS3A	3.70
6AY11	5.90
6AZ8	5.55
6B10	4.45
6BA6/EF93	3.25
6BA7	5.90
6BA8A	5.20
6BA11	4.90
6BC4	5.50
6BC5 (Use 6CE5/6BC5)	
6BC7	3.60
6BC8/6BZ8	4.90
6BD6	2.30
6BD11	6.15
6BE3	4.45
6BE6	3.40
6BF5	3.35
6BF6	2.80
6BF11	5.05
6BG6GA	7.15
6BH6	4.00
6BH8	4.60
6BH11	4.70
6BJ3	3.25
6BJ6	4.05
6BJ7	2.95
6BJ8	4.45
6BK4C/EL4A	7.70
6BK5	3.45
6BK7B	4.90
6BL7GTA	6.05
6BL8/ECF80	2.70
6BM8/ECL82	2.90
6BN4A	3.95
6BN6 — (Use 6KS6/6BN6)	
6BN8	4.30
6BN11	5.35
6BQ5/6EL84	3.90
6BQ6GA/6CU6	5.40
6BQ6GTB/6CU6	5.40
6BQ7A — (Use 6BZ7/6BQ7A)	
6BR3/6R-K19	4.55
6BR8A — (Use 6FV8A/6BR8A)	
6BS3A — (Use 6AY3B/6BS3A)	
6BS8	5.00
6BU8	5.05
6BV8	3.30
6BV11	4.95
6BW3	3.45
6BW4	2.75
6BW8	4.70
6BW11	5.35
6BX7GT	5.90
6BY5GA	4.80
6BY6	3.40
6BY8	2.70
6BZ3	4.45
6BZ6	3.10
6BZ7/6BQ7A	5.00
6BZ8 (Use 6BC8/6BZ8)	
6C4	3.70
6C5	5.35
6C9	5.50
6C10	3.70
6CA4	3.75
6CA5	3.00
6CA7/EL34	5.90
6CB5A	9.85
6CB6A/6CF6	3.25
6CD3 (Use 6CG3/6CE3/6CD3)	
6CD6GA	6.65
6CE3 (Use 6CG3/6CE3/6CD3)	
6CE5/6BC5	3.25
6CF6 — (Use 6CB6A/6CF6)	
6CG3/6CE3/6CD3	4.30
6CG7 (Use 6FQ7/6CG7)	
6CG8A	4.30
6CH8	5.65
6CJ3/6DW4B	3.70
6CK3	3.70
6CK4	3.55
6CL3	3.70
6CL6	4.75
6CL8A	4.60
6CM3	4.90
6CM6	3.85
6CM7	4.15
6CM8	4.05
6CN7	4.45
6CQ4 — (Use 6DE4/6CQ4)	
6CQ8	4.60
6CR6	2.95
6CS6	4.10
6CS7	3.75
6CU5	4.00
6CU6 — (Use 6BQ6GA/6CU6)	
6CU8	4.60
6CW4	5.65
6CW5/EL86	2.75
6CX8	5.20
6CY5	4.85
6CY7	3.05
6CZ5	4.75
6D10	4.65
6DA4A/6DM4A	3.70
6DA5/EM81	2.80
6DB5	5.00
6DC6	3.85
6DE4/6CQ4	4.15
6DE6	3.25
6DE7	4.45
6DG6GT — (Use 6W6GT/6DG6GT)	
6DK6	3.55
6DL5/EL95	2.95
6DM4A — (Use 6DA4A/6DM4A)	
6DN3	3.50
6DN6	7.00
6DN7	4.60
6DQ5	8.15
6DQ6B/6GW6	5.35
6DR7	5.05
6DS4	5.65
6DS5	3.65
6DT5	3.55
6DT6A	3.25
6DT8	3.75
6DV4	6.45
6DW4B — (Use 6CJ3/6DW4B)	
6DX8/ECL84	2.95
6DZ4/6AF4A	4.90
6DZ7	10.35
6E5	5.65
6EA4 (Use 6EH4A)	
6EA7 (Use 6EM7/6EA7)	
6EA8	3.90
6EB8 (Use 6GN8/6EB8)	
6EF4 (Use 6EJ4A)	
6EH4A	8.20
6EH5	3.55
6EH7/EF183	3.85
6EH8	3.50
6EJ4A	9.35
6EJ7/EF184	3.55
6EL4 — (Use 6BK4C/6EL4A)	
6EM5	4.45
6EM7/6EA7	5.70
6EQ7	2.95
6ER5	4.20
6ES5	2.85
6ES8/ECC189	5.45
6EU7	3.95
6EU8	3.70
6EV5	4.25
6EV7	3.25
6EW6	3.55
6EW7	6.50
6EX6	7.50
6EY6	5.00
6EZ5	5.05
6EZ8	3.55
6F5	5.85
6F6	6.15
6F6GT (Use 6F6)	
6FD6	3.55
6FD7	5.70
6FG5	5.35
6FG6/EM84	3.30
6FG7	4.60
6FH5	5.00
6FH8	4.40
6FJ7	4.15
6FM7	4.60
6FM8	3.95
6FQ5A — (Use 6GK5/6FQ5A)	
6FQ7/6CG7	2.95
6FS5	4.10
6FV6	4.45
6FV8A/6BR8A	5.20
6FW5	4.90
6FY5	2.75
6FY7	3.50
6G11	6.00
6GB3A (Use 6BQ6GTB)	
6GB5/EL500	3.80
6GB6 — (Use 6DQ6B/6GW6)	
6GC5	5.65
6GE5	5.70
6GF5	3.80
6GF7A	5.35
6GH8A	3.20
6GJ5A	6.15
6GJ7/ECF801	3.10
6GK5/6FQ5A	4.60
6GK6	3.70
6GK17 (Use 6AU4GTA)	
6GL7	5.75
6GM5	3.05
6GM6	3.85
6GM8/ECC86	4.35
6GN8/6EB8	5.65
6GQ7	3.75
6GS7	3.55
6GT5A	6.35
6GU5	4.10
6GU7	4.15
6GV5	4.10
6GW6 — (Use 6DQ6B/6GW6)	
6GW8/ECL86	3.05
6GX6 (Use 6GY6/6GX6)	
6GX7	4.60
6GY5	4.60
6GY6/6GX6	3.45
6GY8	5.10
6GZ5	2.70
6H6	5.75
6HA5 — (Use 6HM5/6HA5)	
6HA6 — (Use 6HB6/6HA6)	
6HB5	4.60
6HB6/6HA6	4.45
6HB7	4.30
6HD7	3.30
6HE5 (Use 6JB5/6HE5)	
6HF5	8.70
6HF8	5.90
6HG5 — (Use 6AQ5A/6HG5)	
6HG8/ECF86	3.70
6HJ8	3.10
6HK5	3.90
6HL8	3.05
6HM5/6HA5	3.85
6HM6	2.95
6HQ5	5.05
6HR5	4.10
6HS5	7.75
6HS6	3.70
6HS8	4.75
6HV5A	9.80
6HZ6	3.20
6J5	4.60
6J6A	4.45
6J7	6.35
6J10 (Use 6Z10/6J10)	
6J11	5.75
6JB5/6HE5	4.75
6JB6A	6.35
6JC6A	4.45
6JC8	3.30
6JD5	7.75
6JD6	4.60
6JE6C/6LQ6	8.65
6JE8	3.70
6JF6	7.25
6JG5	3.20
6JG6A	6.50
6JH5	7.90
6JH6	3.60
6JH8	5.50
6JK5	9.80
6JK6	4.20
6JK8	4.05
6JM6	5.70
6JN6	5.35
6JN8	3.56
6JQ6	3.85
6JS6C	7.50
6JT6A	5.85
6JT8	4.45
6JU8A	4.40
6JV8	4.40
6JW8/ECF802	3.10
6JZ6	4.60
6JZ8	3.55
6K6GT	4.00
6K7	5.50
6K11/6Q11	3.80
6KA8	4.90
6KD6	8.85
6KD8 (Use 6U8A/6AX8/6KD8/5KD8)	
6KE8	6.05
6KG6A	9.75
6KL8	2.95
6KM6	8.85
6KM8	3.45
6KN6	7.20
6KN8/6R-HH8	7.40
6KR8	4.25
6KS6/6BN6	4.50
6KT6	4.90
6KT8	5.40
6KU8	4.80
6KV6A	7.30
6KV8	5.85
6KY8A	7.70
6KZ8	4.05
6L6	10.20
6L6GC	5.90
6LB6	8.85
6LB8	4.70
6LC6 (Use 6LH6A)	
6LC8	4.75
6LE8	5.55
6LF6	8.45
6LF8	5.10
6LH6A — (Use 6LJ6A/6LH6A)	
6LJ6A/6LH6A	8.30

‡ Manufacturer's suggested list price: subject to change without notice.

GENERAL ELECTRIC

Trade Discount Applies To List Prices Only

© United Technical Publications

ENTERTAINMENT RECEIVING TUBES

Type	Suggested List Price‡
6LJ8	4.40
6LM8	4.90
6LN8	2.40
6LQ8	5.55
6LR6	8.15
6LR8	4.75
6LT8	4.00
6LU8	4.75
6LX6	9.50
6LX8/LCF802	2.60
6LY8	3.90
6M11	5.75
6MA6	9.20
6MB8	3.65
6MD8	5.35
6ME8	5.65
6MF8	4.75
6MG8	2.45
6MJ8	4.60
6M-HH3	(Use 6J6A)
6MK8A	4.30
6MN8	4.75
6MQ8	3.80
6MU8	5.20
6MV8	5.40
6N7	5.05
6Q11	(Use 6K11/6Q11)
6R-HH2 —	(Use 6BC8/6BZ8)
6R-HH8 —	(Use 6KN8/6R-HH8)
6R-P22	9.95
6R-K19 —	(Use 6BR3/6R-K19)
6S4A	3.70
6SA7	5.50
6SC7	5.35
6SF5	5.00
6SG7	5.60
6SH7	6.15
6SJ7	5.35
6SK7	5.00
6SL7GT	4.90
6SN7GTB	4.00
6SQ7	4.95
6T8A	4.70
6T9	4.40
6T10	5.55
6U8A/6AX8/6KD8/5KD8	3.90
6U9	2.90
6U10	4.05
6V3A	4.55
6V4/EZ80	1.50
6V6	6.80
6V6GTA	4.45
6W4GTA	3.30
6W6GT/6DG6GT	4.60
6X4	3.40
6X5GT	3.55
6X8A	4.45
6X9/ECF200	2.95
6Y6GT	3.55
6Y9	3.10
6Z10/6J10	6.20
7A7	7.15
7AU7	3.10
7B5	8.35
7C5	3.30
7C7	3.40
7EY6	3.70
7F7	7.50
7F8	8.25
7GS7	4.40
7GV7	3.90
7HG8/PCF86	2.75
7KY6	4.30
7N7	7.10
8A8 —	(Use 9A8/8A8/PCF80)
8AC10	5.05
8AL9	8.15
8AR11	5.35
8AU8	3.85
8AW8A	5.35
8B10	4.40
8BA11	5.50
8BM11	4.70
8BN11	4.35
8BQ5	3.75
8BQ11	4.30
8BU11	5.00
8CB11	5.60
8CG7	(Use 8FQ7/8CG7)
8CM7	2.70
8CN7	3.05
8CS7	3.95
8CW5	2.55
8CX8	4.40
8EB8 —	(Use 8GN8/8EB8)
8EM5	4.10
8ET7	4.15
8FQ7/8CG7	2.95
8GJ7/PCF801	2.90
8GN8/8EB8	4.15
8JU8A	3.35
8JV8	4.30
8KA8	4.65
8KR8	6.20
8LC8	4.75
8LT8	4.00
9A8/8A8/PCF80	2.65
9AH9	5.05
9AK10	5.05
9AQ8	7.15
9AU7	2.95
9BJ11	5.85
9BR7	3.15
9CL8	2.95
9GH8A	4.10
9GV8	3.40
9JW8	3.25
9KC6	4.35
9KZ8	2.95
9MN8	4.45
9R-AL1	(Use 10DE7)
9R-HR2	4.90
10AL11	4.55
10BQ5	2.75
10C8	6.05
10CW5/LL86	2.55
10DE7	4.90
10DX8/LCL84	2.75
10EG7	4.40
10EM7	4.90
10EW7	5.25
10GF7A	5.45
10GK6	4.45
10GN8	4.90
10GV8	3.55
10HF8	5.35
10JA5	5.05
10JA8 —	(Use 10LZ8/10JA8)
10JT8	4.70
10JY8	3.65
10KR8	4.25
10KU8	4.85
10LB8	4.70
10LE8	5.90
10LW8	5.30
10LY8	3.90
10LZ8/10JA8	4.15
10T10	5.35
10Z10	6.15
11AF9	3.10
11AR11	5.35
11BM8	5.45
11BQ11	5.35
11BT11	6.50
11CA11	7.50
11CF11	7.80
11CY7	4.80
11DS5	4.60
11FY7	3.70
11HM7	5.85
11JE8	3.85
11KV8	6.50
11LQ8	5.90
11LT8	4.00
11R3	4.90
11Y9/LFL200	3.70
12AB5	3.85
12AC6	2.10
12AC10A	5.05
12AD6	3.50
12AE6A	3.10
12AE10	5.75
12AF3	4.25
12AF6	3.15
12AL5	2.75
12AL8	6.20
12AL11	5.65
12AQ5	3.45
12AT6	2.75
12AT7/ECC81	3.55
12AU6	3.55
12AU7A/ECC82	3.10
12AV5GA	5.45
12AV6	2.30
12AV7	4.60
12AX3	3.00
12AX4GTB	3.30
12AX7/ECC83	2.80
12AX7A/7025	2.80
12AY3A/12BS3A	2.90
12AZ7A	4.00
12B4A	4.00
12BA6	2.80
12BA7	5.90
12BD6	2.30
12BE3	3.45
12BE6	3.05
12BF6	2.30
12BF11	5.75
12BH7A	3.85
12BK5	3.75
12BL6	3.70
12BN6	4.60
12BQ6GA/12CU6	4.20
12BQ6GTB/12CU6	4.20
12BR3/12R-K19	3.60
12BR7	3.05
12BS3A —	(Use 12AY3A/12BS3A)
12BT3	3.45
12BV7	(Use 12BY7A/12BV7/12DQ7)
12BV11	4.80
12BW4	3.30
12BY7A/12BV7/12DQ7	3.55
12BZ7	4.15
12C5 —	(Use 12CU5/12C5)
12CA5	3.95
12CL3	3.50
12CN5	3.25
12CR6	2.95
12CT8	6.40
12CU5/12C5	4.30
12CU6 —	(Use 12BQ6GA/12CU6)
12CX6	2.75
12D4	3.05
12DB5	2.60
12DE8	3.10
12DQ6B/12GW6	5.35
12DQ7	(Use 12BY7A/12BV7/12DQ7)
12DS7	5.40
12DT5	3.10
12DT8	3.55
12DW4A	5.45
12DY8	7.95
12DZ6	(Use 12EK6/12DZ6/12EA6)
12EA6	(Use 12EK6/12DZ6/12EA6)
12ED5	2.70
12EG6	3.45
12EK6/12DZ7/12EA6	3.60
12EQ7	2.75
12EZ6	3.55
12F8	3.25
12FK6	2.55
12FM6	2.60
12FQ7	3.70
12FQ8	5.20
12FX5	3.25
12FX8A	3.85
12GA6	2.70
12G-B3	9.35
12G-B7 —	(Use 12DQ6B/12GW6)
12GC6	4.35
12GE5	5.20
12GN7A/12HG7 —	(Use 12HG7/12GN7)
12GT5A	5.35
12GW6 —	(Use 12DQ6B/12GW6)
12H6	4.45
12HE7	6.80
12HG7/12GN7	5.65
12HL7	4.90
12J5	4.10
12J8	4.35
12JF5	5.50
12JN6	3.90
12JN8	3.70
12JQ6	4.45
12JT6A	4.95
12K5	3.45
12L6GT	3.55
12MD8	4.85
12R5	3.30
12R-K19 —	(Use 12BR3/12R-K19)
12SA7	5.50
12SF5	3.95
12SG7	4.70
12SJ7	4.30
12SK7	5.25
12SL7GT	4.95
12SN7GTA	4.30
12SQ7	4.95
12T10	4.65
12V6GT	4.45
12W6GT	4.90
12X4	2.25
13CW4	5.05
13DE7	4.75
13DR7	5.70
13EM7/15EA7	6.40
13FD7	5.25
13FM7 —	(Use 15FM7/13FM7)
13GB5/XL500	4.35
13GF7A	5.20
13J10 —	(Use 13Z10/13J10)
13JZ8	5.05
13V10	5.90
13Z10/13J10	6.20
14BL11	7.30
14BR11	5.80
14GT8	3.50
14JG8	4.00
15AF11	4.75
15BD11A	5.50
15CW5/PL84	2.45
15DQ8	3.55
15EA7 —	(Use 13EM7/15EA7)
15FM7/13FM7	4.00
15FY7	3.90
15KY8A	6.35
15LE8	7.65
15MF8	5.10
16A8/PCL82	3.45
16AK9	6.80
16AQ3/XY88	2.70
16BQ11	5.35
16BX11	6.20
16GK6	3.05
16GY5	4.85
16KA6	6.25
16LU8A	7.25
17A8	5.90
17AB9	6.05
17AB10/17X10	5.50
17AX3	2.60
17AX4GTA	3.55
17AY3A/17BS3A	3.70
17BB14	9.80
17BE3	3.70
17BF11	5.90
17BR3/17R-K19	3.35
17BS3A —	(Use17AY3A/17BS3A)
17BW3	3.20
17BZ3	3.70
17C5 —	(Use 17CU5/17C5)
17C9	7.15
17CK3	3.55
17CT3	2.95
17CU5/17C5	3.10
17D4/17DM4A	4.05
17DE4	3.65
17DM4A —	(Use 17D4/17DM4A)
17DQ6B/17GW6	5.55
17DW4A	3.70
17EW8/HCC85	2.75
17GE5	4.35
17GJ5	6.05
17GT5A	5.55
17GV5	4.20
17GW6 —	(Use 17DQ6B/17GW6)
17HB25	7.65
17H3	3.70
17JB6A	5.85
17JM6	5.90
17JN6	5.35
17JT6A	5.60
17JZ8	3.55
17KV6A	8.60
17R-K19 —	(Use 17BR3/17R-K19)
17X10 —	(Use 17AB10/17X10)
17Z3	4.40
18A5	5.20
18AJ10	5.90
18FW6	2.45
18FX6	2.95
18FY6	2.95
18GB5	5.15
18GV8/PCL85	4.65
19AU4GTA	4.35
19BG6GA	6.65
19CG3	3.60
19CL8A —	(Use 19JN8/19CL8A)
19DE3	4.50
19EA8	4.45
19EZ8	5.40
19GQ7	3.80
19HV8	4.70
19JN8/19CL8A	3.20
19KG8	3.10
19MR9	(Use 18FW6)
19T8	4.90
20AQ3/LY88	3.30
20EZ7	3.45
21GY5	4.60
21HB5A	4.75
21JS6A/23JS6A	12.45
21JV6	4.60
21JZ6	4.85
21KA6	4.45
21KQ6	12.75
21LF6	8.50
21LG6A	8.95
21LR8	4.75
21LU8	4.75
22BH3A	3.10
22BW3	4.15
22DE4	4.20
22JF6	7.25
22JG6A	6.75
22JR6	6.80
22JU6	6.80
22KM6	8.20
22KV6A	7.30
23JS6A —	(Use 21JS6A/23JS6A)
23Z9	4.75
24BF11	5.20
24JE6A —	(Use 24LQ6/24JE6C)
24JZ8	4.50
24LQ6/24JE6C	8.65
25AV5GA	5.65
25AX4GT	3.05
25BK5	3.40
25BQ6GA/25CU6	4.35
25BQ6GTB/25CU6	4.35
25C5	3.70
25CA5	3.60
25CD6GB	6.40
25CG3	3.40
25CU6	(Use 25BQ6GA/25CU6)
25DK4	2.20
25DN6	6.60
25E5	6.65
25EC6	6.95
25EH5	3.70
25F5A	3.85
25JZ8	4.50
25L6GT/25W6GT	3.70
25W4GT	3.70
25W6GT —	(Use 25L6GT/25W6GT)
25Z6GT	3.85
26HU5	10.00
26LX6	9.50
27	5.10
27GB5/PL500	3.70
29KQ6	11.75
25LE6	5.90
30AE3	3.25
30AG11	6.45
30JZ6	6.15
30KD6	8.05
31AL10	6.35
31JS6C	7.30
32ET5A	2.40
32HQ7	7.70
33GT7	6.95
33GY7A	6.40
33JV6	4.60
34CE3/34CD3	3.90
34GD5	2.95
34R3	3.45
35B5	3.20
35C5	3.20
35DZ8	4.00
35EH5	3.40
35L6GT	3.85
35W4	1.95
35Y4	4.50
35Z5GT	3.40
36AM3B	2.55
36KD6/40KD6	8.85
38HE7	7.25
38HK7	7.10
40KD6 —	(Use 36KD6/40KD6)
40KG6A	10.05
42KN6	7.20
45B5/UL84	2.80
50B5	2.95
50C5	3.05
50DC4	2.40
50EH5	3.55
50FE5	4.45
50HC6	4.15
50HK6	2.15
50HN5	2.75
50JY6	7.00
50L6GT	4.45
53HK7	8.35
60FX5	2.95
80	4.80
117Z3	4.50
5879	5.35
6267	2.80
6931	3.40
6973	5.05
7025 —	(Use 12AX7A/7025)
7027A	7.40
7189A	4.40
7199	5.65
7247	4.05
7355	3.65
7408	3.20
7543	3.25
7581A/KT66	6.15
7591A	2.80
7695	4.40
7868	5.65
8417	5.65
8425A/6AU6A	3.25
8426A/12AU6	3.75
DY87	(Use 1S2A/DY87)
ECC81 —	(Use 12AT7/ECC81)
ECC82 —	(Use 12AU7A/ECC82)
ECC83 —	(Use 12AX7/ECC83)
ECC85 —	(Use 6AQ8/ECC85)
ECC86 —	(Use 6GM8/ECC86)
ECC189 —	(Use 6ES8/ECC189)
ECF80 —	(Use 6BL8/ECF80)
ECF86 —	(Use 6HG8/ECF86)
ECF200 —	(Use 6X9/ECF200)
ECF801 —	(Use 6GJ7/ECF801)
ECF802 —	(Use 6JW8/ECF802)
ECL82 —	(Use 6BM8/ECL82)
ECL84 —	(Use 6DX8/ECL84)
ECL86 —	(Use 6GW8/ECL86)
EF93	(Use 6BA6/EF93)
EF95	(Use 6AK5/EF95)
EF183 —	(Use 6EH7/EF183)
EF184 —	(Use 6EJ7/EF184)
EL34	(Use 6CA7/EL34)
EL84	(Use 6BQ5/EL84)
EL86	(Use 6CW5/EL86)
EL95	(Use 6DL5/EL95)
EL500 —	(Use 6GB5/EL500)
EM84 —	(Use 6FG6/EM84)
EY88	(Use 6AL3/EY88)
EZ80	(Use 6V4/EZ80)
GZ34	(Use 5AR4/GZ34)
HCC85 —	(Use 17EW8/HCC85)
KT66 —	(Use 7581A/KT66)
LCF86 —	(Use 5HG8/LCF86)
LCF201 —	(Use 5U9/LCF201)
LCL84 —	(Use 10DX8/LCL84)
LFL200 —	(Use11Y9/LFL200)
LL86 —	(Use 10CW5/LL86)
LY88 —	(Use 20AQ3/LY88)
PC900 —	(Use 4HA5/PC900)
PCF80	(Use 9A8/8A8/PCF80)
PCF86 —	(Use 7HG8/PCF86)
PCF801 —	(Use 8GJ7/PCF801)
PCL82 —	(Use 16A8/PCL82)
PL84 —	(Use 15CW5/PL84)
PL500 —	(Use 27GB5/PL500)
UL84	(Use 45B5/UL84)
XCF80 —	(Use 4BL8/XCF80)
XF183 —	(Use 3EH7/XF183)
XF184 —	(Use 3EJ7/XF184)
XL500 —	(Use 13GB5/XL500)
XY88 —	(Use 16AQ3/XY88)

‡ Manufacturer's suggested list price: subject to change without notice.

© United Technical Publications

Trade Discount Applies To List Prices Only

TV PICTURE TUBES

ULTRACOLOR

Tube Type	Suggested Price (or Replacement)
11SP22θ	$66.00
11WP22θ	79.85
15ACP22θ	79.35
15AEP22θ	82.00
15LP22θ	80.65
15MP22θ	82.00
15NP22θ	75.35
15YP22θ	79.35
17EXP22θ	92.65
17EZP22θ	79.65
19EXP22θ	75.20
19EYP22θ	80.80
19FMP22	19EYP22
19FXP22	19EYP22
19GLP22	19EYP22
19GVP22	19EXP22
19GWP22	19EYP22
19GXP22	19EXP22
19GYP22	19EXP22
19GZP22	19EYP22
19HCP22θ	90.40
19HNP22θ	90.40
19HXP22θ	79.55
21AXP22Aφ	60.00
21CYP22Aφ	60.00
21FBP22φ	58.85
21FBP22Aθ	70.15
21FJP22φ	65.00
21FJP22Aθ	75.65
21FKP22A	21FJP22A
21GFP22θ	113.35
21GUP22	21FBP22A
21GVP22	21FJP22A
21GWP22θ	113.35
22ABP22	22JP22
22JP22θ	93.35
22KP22θ	92.00
22LP22	93.35
22QP22	22JP22
22RP22	22KP22
22SP22	22JP22
22UP22θ	93.05
22YP22	22JP22
25AJP22θ	75.65
25AP22	25AP22A
25BCP22θ	101.75
25AP22Aθ	75.65
25BP22	25BP22A
25BP22Aθ	75.65
25CP22θ	75.65
A25CP22	25CP22
25FP22,A	25BP22A
25GP22,A	25AP22A
25RP22	25BP22A
25SP22	25AP22A
25UP22θ	126.35
25VP22	25AP22A
25WP22	25AP22A
25XP22	25AP22A
25YP22	25BP22A
25ZP22	25AP22A
A63-16X	25UP22
370AB22	15NP22
370CB22	15NP22
490AB22	19EXP22
490ACB22	19EXP22
490ADB22	19EXP22
490AEB22	19EYP22
490AFB22	19EYP22
490AGB22	19EYP22
490AHB22	19EXP22
490AHB22A	19EXP22
490AJB22	19EYP22
490AJB22A	19EYP22
490AKB22	19EXP22
490ALB22	19EXP22
490AMB22	19EXP22
490ANB22	19EXP22
490ARB22	19EYP22
490ASB22	19EYP22
490BAB22	19EXP22
490BCB22	19EYP22
490BDB22	19EYP22
490BGB22	19EXP22
490BHB22	19EYP22
490BRB22	19EYP22
490CB22	19EXP22
490DB22	19EXP22
490EB22	19EXP22
490EB22A	19EXP22
490FB22	19EXP22
490GB22	19EXP22
490HB22	19EXP22
490JB22	19EXP22
490JB22A	19EXP22
490KB22	19EXP22
490KB22A	19EXP22
490LB22	19EXP22
490MB22	19EXP22
490NB22	19EYP22
490RB22	19EYP22
490SB22	19EYP22
490TB22	19EYP22
490UB22	19EXP22
490VB22	19EYP22
490WB22	19EXP22
490XB22	19EYP22
490YB22	19EYP22
490ZB22	19EYP22

COLOR TEST TUBES

Tube Type	Suggested Price (or Replacement)
CT19B	$62.65

MONOCHROME

Tube Type	Suggested Price (or Replacement)
8XP4	$31.00
8YP4	46.00
9AGP4	25.00
9VP4	26.35
10ARP4	22.60
11AP4	11HP4
11BP4	11HP4
11GP4	29.30
11HP4	24.75
11HP4A	11HP4
11RP4	11UP4
11UP4	21.30
12BEP4	25.95
12BGP4	25.95
12BKP4	25.20
12BLP4	12BKP4
12BMP4	12CDP4
12BZP4	26.50
12CDP4	26.50
12CWP4	26.50
12DGP4	22.40
13AP4	31.95
14HP4	14QP4B
14QP4,A	14QP4B
14QP4B	28.35
16ATP4	29.00
16AUP4	31.95
16AVP4	16BCP4
16AYP4	31.95
16AZP4	19.95
16BCP4	37.30
16BDP4	16AUP4
16BMP4	16AYP4
16BSP4	16ATP4
16BUP4	22.60
16BVP4	16ATP4
16BXP4	35.30
16BYP4	26.20
16CEP4	16ATP4
16CFP4	16CQP4
16CHP4,A	16ATP4
16CJP4	16ATP4
16CMP4,A	16ATP4
16CNP4	29.30
16CQP4	29.30
16CUP4	16ATP4
16CWP4	30.60
16KP4A	16RP4B
16RP4B	18.40
16XP4	16RP4B
17AP4	17BP4B
17ATP4,A	17BJP4
17AVP4,A	17BJP4
17BJP4	23.90
17BP4,A,C	17BP4B
17BP4B	22.55
17BRP4	17DSP4
17BUP4	17BJP4
17BVP4	17BWP4
17BWP4	22.55
17BZP4	17DSP4
17CAP4	17DSP4
17CBP4	17BJP4
17CDP4	22.55
17CFP4	23.30
17CKP4	17DSP4
17CLP4	17BJP4
17CRP4	23.90
17CSP4	17BWP4
17CWP4	17DSP4
17CXP4	17CRP4
17CZP4	17BJP4
17DAP4	26.55
17DHP4	17DXP4
17DKP4	$26.55
17DLP4	17DSP4
17DQP4	26.55
17DRP4	26.55
17DSP4	26.55
17DTP4	17DKP4
17DXP4	26.55
17DZP4	17DXP4
17EAP4	17HP4C
17EBP4	17DXP4
17EFP4	17DXP4
17FP4,A	17HP4C
17HP4,A,B	17HP4C
17HP4C	22.55
17KP4,A	17HP4C
17LP4,A	17LP4B
17LP4B	23.30
17QP4,A	17QP4B
17QP4B	23.30
17RP4,C	17HP4C
17SP4	17LP4B
17UP4	17QP4B
17VP4,B	17LP4B
17YP4	17QP4B
470ACB4	19AYP4
19ABP4	31.40
19ACP4	19CHP4
19AFP4	32.55
19AGP4	19AVP4
19AHP4	27.75
19AJP4	27.75
19ARP4	19AFP4
19AUP4	19AFP4
19AVP4	27.75
19AXP4	19AYP4
19AYP4	27.75
19BDP4	27.75
19BLP4	19AVP4
19BMP4	19AFP4
19BRP4	19DKP4
19BTP4	27.75
19BVP4	19AVP4
19BWP4	19AYP4
19CDP4	27.70
19CFP4	19CHP4
19CHP4	27.70
19CJP4	19AVP4
19CKP4	19CHP4
19CLP4	19CRP4
19CQP4	19CDP4
19CRP4	27.95
19CUP4	27.70
19CVP4	33.30
19CXP4	27.70
19CYP4	19BTP4
19CZP4	33.30
19DAP4	33.30
19DBP4	33.30
19DCP4	19EDP4
19DEP4	19AVP4
19DHP4	19EFP4
19DKP4	33.30
19DLP4	19CHP4
19DNP4	19DKP4
19DQP4	19DWP4
19DRP4	19EDP4
19DSP4	19EFP4
19DUP4	33.30
19DVP4	33.30
19DWP4	33.30
19DYP4	19CVP4
19DZP4	19DVP4
19EAP4	19ENP4
19ECP4	33.30
19EDP4	33.30
19EFP4	33.30
19EGP4	35.10
19EHP4,A	19EDP4
19EJP4	19DUP4
19EKP4	35.10
19ELP4	19AVP4
19ENP4	33.30
19ENP4A	19ENP4
19ERP4	19EDP4
19ESP4	19EFP4
19EUP4	19EDP4
19EZP4	34.60
19FBP4	19EGP4
19FCP4	19DWP4
19FEP4,A,B	19DUP4
19FJP4	33.30
19FLP4	19DWP4
19FSP4	19ENP4
19FTP4	19DWP4
19GAP4	35.10
19GBP4	19CZP4
19GJP4	33.30
19GTP4	19DUP4
19GUP4	19DUP4
19XP4	19AVP4
19YP4	19BTP4
19ZP4	19AVP4
20AHP4	39.95
21ACP4,A	21AMP4B
21AFP4	21YP4A
21ALP4,A,B	21CBP4A
21AMP4,A	21AMP4B
21AMP4B	22.55
21ANP4,A	21CBP4A
21AQP4,A	21AMP4B
21ATP4,A,B	21CBP4A
21AUP4,A,B	21AUP4C
21AUP4C	26.35
21AVP4,A,B,C	21AUP4C
21AWP4	21AWP4A
21AWP4A	25.00
21BAP4	21CBP4A
21BDP4	21AUP4C
21BNP4	21CBP4A
21BSP4	21AMP4B
21BTP4	21CBP4A
21CBP4	21CBP4A
21CBP4A	20.40
21CBP4B	21CBP4A
21CEP4,A	21EMP4
21CMP4	21CBP4A
21CQP4	26.60
21CUP4	21AMP4B
21CVP4	21CBP4A
21CWP4	21CBP4A
21CXP4	21DSP4
21CZP4	21DMP4
21DAP4	21DMP4
21DEP4,A	21DMP4
21DFP4	21EMP4
21DHP4	26.60
21DLP4	26.55
21DMP4	27.50
21DNP4	21CBP4A
21DQP4	21DLP4
21DSP4	26.55
21EAP4	21FDP4
21EMP4	27.90
21EP4,A,B	21EP4C
21EP4C	28.80
21EQP4	27.90
21ESP4	21FAP4
21EVP4	21FDP4
21FAP4	27.50
21FDP4	38.80
21FLP4	21CBP4A
21FMP4	38.80
21FP4,A,C	21FP4D
21FP4D	28.80
21FUP4	43.90
21FXP4	43.90
21GBP4	43.90
21WP4,A	21WP4B
21WP4B	29.55
21YP4,A	21YP4B
21YP4B	22.60
21ZP4,A,B	21ZP4C
21ZP4C	22.60
23ACP4	23BTP4
23AFP4	23BTP4
23AHP4	33.95
23ALP4	33.95
23ANP4	23BKP4
23ARP4	40.15
23ASP4	33.95
23ATP4	23BKP4
23AUP4	23AHP4
23AVP4	23CP4A
23AWP4	23BJP4
23BDP4	23BTP4
23BGP4	38.90
23BHP4	23BGP4
23BJP4	33.95
23BKP4	39.15
23BLP4	23BKP4
23BMP4	23BTP4
23BNP4	23CP4A
23BQP4	38.90
23BTP4	39.15
23BVP4	23BTP4
23BWP4	23BTP4
23BXP4	23EDP4
23CBP4	23BQP4
23CP4	23CP4A
23CP4A	38.90
23CQP4A	23ALP4
23CZP4	23AHP4
23DBP4	40.15
23DKP4	39.95
23DLP4	23DLP4A
23DLP4A	39.95
23DNP4	39.15
23DSP4A	46.60
23DTP4	23DKP4
23DWP4	46.60
23DYP4	23FVP4A
23DZP4	23EWP4A
23ECP4	39.15
23EDP4	39.15
23ENP4	23DLP4A
23EQP4	23EWP4A
23EP4	38.90
23ESP4	41.30
23ETP4	23GTP4
23EWP4	23EWP4A
23EWP4A	41.30
23EYP4	43.80
23FBP4	23DLP4A
23FCP4	23GWP4
23FDP4	23GWP4
23FEP4	41.30
23FHP4	23GWP4
23FMP4	23FVP4A
23FNP4	43.80
23FP4	23FP4A
23FP4A	33.95
23FRP4	42.60
23FSP4	42.60
23FVP4A	41.30
23GBP4	41.30
23GCP4	23FRP4
23GEP4	23DLP4A
23GFP4	42.60
23GJP4	23GWP4
23GP4	23CP4A
23GTP4	41.30
23GVP4	23GWP4
23GWP4	41.30
23HFP4	23FVP4A
23HP4	23CP4A
23HQP4	42.60
23HWP4	42.60
23HXP4	23ESP4
23JP4	38.90
23KP4,A	23FP4A
23MP4,A	23FP4A
23NP4	33.95
23TP4	23BTP4
23UP4	23BQP4
23WP4	23FP4A
23XP4	23BTP4
23YP4	23BTP4
24ADP4	24CP4B
24AEP4	29.00
24AHP4	39.80
24AJP4	33.00
24ALP4	24AHP4
24ANP4	24AEP4
24ATP4	24AJP4
24AUP4	37.00
24AVP4	24BEP4
24BEP4	39.80
24CP4,A	24CP4B
24CP4B	30.50
24DP4,A	24AEP4
24QP4	24CP4B
24TP4	24CP4B
24VP4,A	24CP4B
24XP4	24CP4B
24YP4	24AEP4
24ZP4	24AEP4
27ABP4	27ADP4
27ADP4	93.00
27AGP4	27ADP4
27EP4	27RP4
27GP4	27RP4
27NP4	27RP4
27RP4	79.35
27VP4	27XP4
27XP4	79.35
27ZP4	84.35
140TB4	22.35
230DB4	26.35
230ZB4	25.00
240CB4A	26.35

θ Rare earth phosphor. φ Sulfide phosphor.

ULTRACOLOR — These tubes are manufactured to all of the essential original equipment specification; will utilize rare earth or sulfide phosphors, new electron guns, and may or may not utilize used glass and other materials.

MONOCHROME — All materials and parts used in the manufacture of General Electric monochrome picture tubes are new except for the envelope which, prior to re-use, has been inspected and tested to meet our high-quality standards.

GENERAL ELECTRIC

Trade Discount Applies To List Prices Only

© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC



5654

FIVE STAR TUBES
In industrial and communication equipment — critical sockets where there can be no compromise with electronic tube performance — you can depend on the proven reliability of GE Five-Star tubes. Their high reliability is a result of special design features, special manufacturing processes, special tests, and stabilizing periods.



5670



6146A

INDUSTRIAL RECEIVING TUBES
For industrial and military applications involving electronic instrumentation and control, there is a G-E industrial receiving tube specifically designed to meet your particular requirement.



6661



6688A

ENTERTAINMENT TUBES
G. E. offers a full line of entertainment tubes encompassing the fields of radio, TV, and hi-fi. Featured as a a portion of this line are 26 types specifically designed for high-fidelity monaural and stereo applications.



5963



5965A

COMPUTER TUBES
Two complete tube lines, Computer and Five-STAR Computer, are designed to meet the specialized needs of the computer industry. Outstanding features include: high perveance, low heater power requirements, controlled cutoff characteristics, and long life.



6005

TYPE	DESCRIPTION	GENERAL: Base Connections	Dimensions In Inches: Length	Dimensions In Inches: Diameter	Cathode: Volts	Cathode: Current Amps.	Cathode: Type	MAXIMUM RATINGS: Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	TYPICAL OPERATING CONDITIONS: Class and Type of Service	Plate Input Watts	Voltages: Plate	Voltages: Screen Grid No. 2	Voltages: Control Grid No. 1	Currents: Plate, ma	Currents: Screen Grid No. 2, ma	Currents: Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
0A2σ	Glow-Discharge Diode Voltage Regulator	5BO	2.625	0.750	—	—	—	Regulation (5 to 30 ma)=2 volts Min. anode supply=185 volts DC						DC operating current= 5 ma min. DC operating current=30 ma max.							Ionizing voltage=155 volts DC* Operating voltage=150 volts DC*				
0A3	Glow-Discharge Diode Voltage Regulator	4AJ	4.125	1.562	—	—	—	Regulation (5 to 40 ma)=5 volts Min. anode supply=105 volts DC						DC operating current= 5 ma min. DC operating current=40 ma max.							Ionizing voltage=100 volts DC* Operating voltage=75 volts DC*				
0A4G	Gas Triode	4V	4.125	1.562	—	—	—							Peak cathode current=100 ma max. DC cathode current=25 ma max.							Starter anode drop=55 volts DC* Anode drop=70 volts DC*				
0B2σ	Glow-Discharge Diode Voltage Regulator	5BO	2.625	0.750	—	—	—	Regulation (5 to 30 ma)=1 volt Min. anode supply=133 volts DC						DC operating current= 5 ma min. DC operating current=30 ma max.							Ionizing voltage=115 volts DC* Operating voltage=105 volts DC*				
0B3	Glow-Discharge Diode Voltage Regulator	4AJ	4.125	1.562	—	—	—	Regulation (5 to 40 ma)=8 volts Min. anode supply=125 volts DC						DC operating current= 5 ma min. DC operating current=40 ma max.							Ionizing voltage=110 volts DC* Operating voltage=90 volts DC*				
0C3	Glow-Discharge Diode Voltage Regulator	4AJ	4.125	1.562	—	—	—	Regulation (5 to 40 ma)=2 volts Min. anode supply=133 volts DC						DC operating current= 5 ma min. DC operating current=40 ma max.							Ionizing voltage=115 volts DC* Operating voltage=105 volts DC*				
0D3	Glow-Discharge Diode Voltage Regulator	4AJ	4.125	1.562	—	—	—	Regulation (5 to 40 ma)=4 volts Min. anode supply=185 volts DC						DC operating current= 5 ma min. DC operating current=40 ma max.							Ionizing voltage=160 volts DC* Operating voltage=150 volts DC*				
1AD4α	Sharp-Cutoff RF/AF Pentode	1AD4	1.50	0.385	1.25	0.1	CF	—	45¶	—	45¶	—	Class A Amplifier	—	45	45	Rg1= 2 Meg.	3.0	0.8	—	2000				
2D21σ	Thyratron	7BN	2.125	0.750	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	Max. DC cathode current=100 ma■ Max. peak cathode current=500 ma■ Max. peak inverse voltage=1300 volts■											
2D21W#(R)σ See 5727#(R)σ																									
2DF4σ	Pentode	9JL	2.187	0.875	2.5 1.25	0.345 0.60	CF	—	250■	30■	125■	1.5■	Class A Amplifier	4.4	120	120	−3.6	37	3.5	—	6850				
2E26	Beam Power Amplifier	7CK	2.656	1.312	6.3	0.8	CU	125	300■	10■	200■	2.5■	A1(1) CCS	8.8	250	160	−14	35† −42‡	7† −10‡	—	3500	—	0	5500	4
									500■	10■	200■	1.7■	C-T CCS	30	400	190	−30	75	11	3	—	—	0.15	—	20*
													C-T CCS	30	500	185	−40	60	11	3	—	—	0.15	—	20*
									600■	13.5■	200■	2.3■	C-T ICAS	39.6	600	185	−45	66	10	3	—	—	0.17	—	27*
2X2-A	Half-Wave, High-Voltage Rectifier	4AB	4.531	1.562	2.5	1.75	CU	Max. DC output current=7.5 ma; max. peak inverse voltage=12,500 volts; rms supply voltage=5500 volts; max. peak current=60 ma																	
5R4-GYA	Full-Wave, High-Vacuum Rectifier	5T	4.937	1.562	5.0	2.0	CF	Tube voltage drop per section= 67 volts at 250 ma DC						Max. DC output current=250 ma; max. peak inverse voltage=2800 volts; rms supply voltage per plate 750 volts; max. peak current per plate=650 ma											
5Y3WGTB#(R) See 6087(R)																									
6AC7WA#(R) See 6134(R)																									
6AK5W#(R)σ See 5654#(R)σ																									
6AK5WB See 5654#(R)σ (Same as 5654 except for capacitance)																									
6AK6	Power Amplifier Pentode	7BK	2.125	0.750	6.3	0.15	CU	—	300¶	2.75¶	250¶	0.75¶	Class A Amplifier	2.70	180	180	−9.0	15†	2.5†	—	2300	—	—	10,000	1.1
6AL5W(R) See 5726#(R)σ																									
6AN5σ	Beam Power Amplifier	7BD	2.125	0.750	6.3	0.45	CU	—	120¶	4.2¶	120¶	1.4	Class A Amplifier	4.2	120	120	Rk= 120	35†	12†	—	8000	—	—	2500	1.3
6AS6σ	Dual-Control RF Pentode	7CM	1.750	0.750	6.3	0.175	CU	—	180¶	1.7¶	140¶	0.75	Class A Amplifier	— —	120 120	120 120	−2.0 −2.0	5.2 3.6	3.5 4.8	— —	3200 1850	Eg3=0 volt Eg3=−3 volt	— —	—	—
6AS6W(R) See 5725#(R)σ																									
6AS7GA	Low-Mu Twin Triode	8BD	4.250	1.562	6.3	2.5	CU	—	250¶	13§	—	—	DC Amplifier	—	135	—	Rk= 250	125	—	—	7000	2.0			
6AU6WC See 6136#(R)σ																									
6BA6W(R) See 5749#(R)σ																									
6BE6W(R) See 5750#(R)σ																									
6C4WA#(R)σ See 6135#(R) (Same except heater current of 0.15 amp)																									
6D4	Gas Triode	5AY	2.125	0.750	6.3	0.25	CU						Relay Control	Tube voltage drop*=16 volts at 25 ma DC; max. DC cathode current=25 ma; max. voltage between elements=450 volts; max. peak cathode current=100 ma											

© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS												
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Current Amps.	Type									Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
6DJ8	Twin Triode	9DE	2.062	0.875	6.3	0.365	—	—	130	1.8	—	—	Class A Amplifier	—	90	—	−1.3	15	—	—	12,500	33	—	—	—
6J4σ	High-Frequency Triode	7BQ	2.125	0.750	6.3	0.4	CU	—	150¶	2.25¶	—	—	Class A Amplifier	2.25	150	—	Rk= 100	15†	—	—	12,000	55	—	—	—
6J4WA	High-Frequency Triode	7BQ	2.125	0.750	6.3	0.4	CU	—	150■	2.5■	—	—	Class A Amplifier	—	150	—	Rk= 100	13.5	—	—	11,000	52.5	—	—	—
6L6WGB	Beam Power Amplifier	7AC	3.500	1.438	6.3	0.9	CU	—	400■	26.0■	300■	3.5■	Class A Amplifier	—	250	250	−14	72	5.0	—	6000	—	—	—	6.5
6X4W(R) See 6202θ(R)σ																									
6X4WA See 6202θ(R)σ																									
6SK7WAθ(R) See 6137(R)																									
6X4WAθ(R)σ See 6202(R)																									
12AT7WC See 6201θ(R)σ																									
12AX7WAθσ	High-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU	—	330■	1.1§	—	—	Class A Amplifier	—	250	—	−2.0	1.2	—	—	1650	100	—	—	—
12AY7σ	Twin Triode	9A	2.187	0.875	6.3 12.6	0.3 0.15	CU	—	300¶	1.5§¶	—	—	Class A Amplifier	0.75	250 (per section)	—	−4.0	3.0	—	—	1750	44	—	—	—
83	Full-Wave Mercury-Vapor Rectifier	4C	5.625	2.062	5.0	3.0	CF	Tube voltage drop*=15 volts					Max. DC output current=225 ma; max. peak inverse voltage=1550 volts; max. rms supply voltage per plate=450 volts; max. peak current per plate=1000 ma												
407Aσ	Medium-Mu Twin Triode	407A	1.750	0.875	40 2.0	0.05 0.1	CU	—	330■	1.35§■	—	—	Class A Amplifier	—	150	—	Rk= 240	8.2	—	—	5500	35	—	—	—
408Aσ	Sharp-Cutoff Pentode	7BD	1.750	0.750	2.0	0.05	CU	—	180■	1.7■	180 ♦■	0.5■	Class A Amplifier	—	120	120	Rk= 200	7.0	2.2	—	5000	—	—	—	—
807	Beam Power Amplifier	5AW	5.750	2.062	6.3	0.9	CU	60	400■	25■	400 ■τ	—	$AB_1\tau$ CCS	24	400	400τ	−45	60† −140¤	—	0	6000	8	0	3000	15
									400■	30■	400 ■τ	—	$AB_1\tau$ ICAS	24	400	400τ	−45	60† −140¤	—	0	6000	8	0	3000	15
													$AB_1(2)$ CCS	57.2¤	400	300	−30	56† −143¤	2† −16¤	0	—	—	0	6800ρ	36
									600■	25■	300■	3.5■	$AB_1(2)$ CCS	70.5¤	500	300	−32	44† −141¤	1† −15¤	0	—	—	0	8200ρ	46
													$AB_1(2)$ CCS	83.3¤	600	300	−34	36† −139¤	0.6† −15¤	0	—	—	0	10,000ρ	56
									750■	30■	300■	3.5■	$AB_1(2)$ ICAS	105¤	750	300	−35	30† −139¤	0.5† −16¤	0	—	—	0	12,000ρ	72
													C-T CCS	40	400	250	−45	100	8	4	—	—	0.3	—	25*
									600■	25■	300■	3.5■	C-T CCS	50	500	250	−45	100	8	4	—	—	0.3	—	32*
													C-T CCS	60	600	250	−45	100	8	4	—	—	0.3	—	40*
									750■	30■	300■	3.5■	C-T ICAS	75	750	250	−45	100	8	4	—	—	0.3	—	54*
GL-811-A	High-Perveance High-Mu Zero — Bias Triode	3G	6.469	2.437	6.3	4.0	TF		1500	65	—	—	B(2) ICAS	448¤	1250	—	0	54† −350¤	—	—	—	160	6	9200ρ	310
													B(2) ICAS	470¤	1500	—	−4.5	32† −313¤	—	—	—	160	4.4	12,400ρ	340
									1250	45	—	—	C-T CCS	175	1250	—	−50	140	—	45*	—	160	5.7*	—	135*
									1500	65	—	—	C-T ICAS	260	1500	—	−70	173	—	40*	—	160	7.1*	—	200*
									1750■‡	45■	—	—	C-Tω CCS	204	1750‡	—	−70	130	—	46*	—	160	12*	—	175*
									1125■	45■	—	—	C-Tβ CCS	175	1125	—	−35	125	—	25*	—	160	3*	—	135*
GL-812-A	High-Perveance Medium-Mu Triode	3G	6.469	2.437	6.3	4.0	TF		1250■	45■	—	—	B(2) CCS	325¤	1250	—	−40	22† −260¤	—	—	—	29	3.5	12,200ρ	235
									1500■	65■	—	—	B(2) ICAS	465¤	1500	—	−48	28† −310¤	—	—	—	29	5	13,200ρ	340
									1250■	45■	—	—	C-T CCS	175	1250	—	−90	140	—	30*	—	29	5.4*	—	130*
									1500■	65■	—	—	C-T ICAS	260	1500	—	−120	173	—	30*	—	29	6.5*	—	190*
									1750■‡	45■	—	—	C-Tω CCS	236	1740†	—	−100	150	—	29*	—	29	12*	—	200*
GL-816	Half-Wave, Mercury-Vapor Rectifier	4P	4.687	1.062	2.5	2.0	CF	—	—	—	—	—	Tube voltage drop=15 volts; max. peak inverse voltage■=7500 volts; max. peak plate current■=0.5 ampere; max. average plate current■=0.125 ampere													
GL-866-A	Half-Wave, Mercury-Vapor Rectifier	4P	6.562	2.437	2.5	5.0	CF	—	—	—	—	—	Tube voltage drop=15 volts	For 10,000 peak inverse volts, max. peak current■=1.0 amp; max. average current■=0.25 amp. For 5000 peak inverse volts, max. peak current■=1.0 amp.; max. average current■=0.25 amp. For 2500 peak inverse volts, max. peak current■=2.0 amp.; max. average current■=0.5 amp.												
GL-872A/ 872	Half-Wave, Mercury-Vapor Rectifier	4AT	8.500	2.312	5.0	7.5	CF	—	—	—	—	—	Tube voltage drop=15 volts	For 10,000 peak inverse volts, max. peak current■=5.0 amp.; max. average current■=1.25 amp. For 5000 peak inverse volts, max. peak current■=5.0 amp.; max. average current■=1.25 amp.												

Net

© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS													
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
2050	Thyratron	6BS	4.125	1.281	6.3	0.6	CU	Anode voltage drop=8					Controlled Rectifier	Max. DC cathode current■=100 ma; max. peak inverse voltage■=1300 volts; max. peak cathode current■=1.0 ampere											
2050A	Thyratron	6BS	3.062	1.281	6.3	0.6	CU	Anode voltage drop=8					(Same as 2050)												
5642α	Half-Wave, High-Voltage Rectifier	5642	2.380	0.400	1.25	0.2	CF	—	—	—	—	—	TV Flyback Rectifier	Voltage drop=30 volts at 4.0 ma DC; max. DC output current=0.25 ma; max. peak inverse voltage=10,000 volts; max. peak current=5.0 ma												
5651σ	Glow-Discharge Diode Voltage Reference	5BO	2.625	0.750	—	—	—	—	—	—	—	—	Max. anode supply voltage■=150 volts; max. DC operating current■=3.5 ma; max. ionization voltage=115 volts. Min. DC operating current=1.5 ma; max. operating voltage=92 volts. Regulation (1.5 to 3.5 ma)=3.0 volts, max.												
5654θ(R)σ	Sharp-Cutoff RF Pentode	7BD	1.750	0.750	6.3	0.175	CU	—	200■	1.65■	155■	0.55■	Class A Amplifier	.9	120	120	Rk=200	7.5	2.5	—	5000	—	—	—	—
5663σ	Thyratron	6CE	1.500	0.750	6.3	0.15	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop=11 volts; max. DC cathode current■=20 ma; max. peak inverse voltage■=500 volts; max. peak cathode current■=60 ma												
5670θ(R)σ	High-Frequency Twin Triode	8CJ	1.750	0.875	6.3	0.35	CU	—	330■	1.35■	—	—	Class A Amplifier	1.2	150	—	Rk=240	2.8	—	—	5500	35	—	—	—
													AB1(1)	3.8	300	—	Rk=800ε	9.8† −12.6‡	—	—	—	—	—	27,000	1.0
5686θ(R)σ	Beam Power Amplifier	9G	2.187	0.875	6.3	0.35	CU	—	—	—	—	—	Class A Amplifier	6.7	250	250	−12.5	27†	3†	—	3100	—	—	9000	2.7
								160	275■	7.5■	275■	3.0■	C-T CCS		250	180	−30	30	6.5	2.0*	—	—	0.1*	—	5*
								160	—	—	—	—	C-T CCS	10.0	250	250	−50	40	10.5	2.0*	—	—	0.15*	—	6.5*
5687θσ	Medium-Mu Twin Triode	9H	2.187	0.875	12.6	0.45	CU	—	300¶	4.2¶§	—	—	Class A Amplifier (per section)	4.1	180	—	−7.0	23.0	—	—	8500	17	—	—	—
					6.3	0.9		—	—	7.5¶ω	—	—		3.0	250	—	−12.5	12.0	—	—	5400	16	—	—	—
5687WA See 5687WBθ(R)σ																									
5687WAθ(R)σ See 5687θ																									
5687WBθσ	Low-Mu Twin Triode	9H	2.187	0.875	12.6	0.45	CU	—	330■	3.75§■	—	—	Class A Amplifier	—	120	—	−2.0	36	—	—	11,500	18.5	—	—	—
					6.3	0.9																			
5691	High-Mu Twin Triode	8BD	2.875	1.281	6.3	0.6	CU	—	275■	1.0■§	—	—	Class A Amplifier (per section)	.58	250	—	−2.0	2.3	—	—	1600	70	—	—	—
5692	Medium-Mu Twin Triode	8BD	2.875	1.281	6.3	0.6	CU	—	275■	1.75■§	—	—	Class A Amplifier (per section)	1.6	250	—	−9.0	6.5	—	—	2200	20	—	—	—
5693	Sharp-Cutoff Pentode	8N	2.625	1.312	6.3	0.3	CU	—	300■	2.0■	125■	0.3■	Class A Amplifier	.75	250	100	−3.0	3.0	0.85	—	1650	—	—	—	—
5725(R)σ	Dual-Control RF Pentode	7CM	1.750	0.750	6.3	0.175	CU	—	200■	1.65■	155■	0.55■	Class A Amplifier	.62	120	120	−2.0	5.2	3.5	—	3200	Eg=0 volts			
5726(R)σ	Twin Diode	6BT	1.750	0.750	6.3	0.30	CU	—	—	—	—	—	Half Wave Rectifier	Tube voltage drop per section=10 volts at 60 ma DC; max. DC output current or plate■=10 ma; max. peak inverse voltage■=360 volts; rms supply voltage per plate=117 volts; max. peak current per plate■=60 ma											
5727(R)σ	Thyratron	7BN	2.125	0.750	6.3	0.6	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop=8 volts; max. DC cathode current■=100 ma; max. peak inverse voltage■=1300 volts; max. peak cathode current■=500 ma												
5749(R)σ	Remote-Cutoff RF Pentode	7BK	2.125	0.750	6.3	0.3	CU	—	330■	3.1■	300■↓	1.1■	Class A Amplifier	2.75	250	100	Rk=68	11.0	4.2	—	4400	—	—	—	—
														1.08	100	100	Rk=68	10.8	4.4	—	4300	—	—	—	—
5750(R)σ	Pentagrod Converter	7CH	2.125	0.750	6.3	0.3	CU	—	330■	1.1■	110■	1.0■	Converter	.65	250	100	−1.5	2.6	7.5		Ig_1=0.5 ma; Rg_1=20,000 ohms				
5751θ(R)σ	High-Mu Twin Triode	9A	2.187	0.875	12.6	0.175	CU	—	330■	0.8■	—	—	Class A Amplifier (per section)	.25	250	—	−3.0	1.0	—	—	1200	70	—	—	—
					6.3	0.35								.08	100	—	−1.0	0.8	—	—	1200	70	—	—	—
5763σ	Beam Power Amplifier Pentode	9K	2.625	0.875	6.0	0.75	CU	30-Amp.	250■	8.0■	250■	1.5■	C-P CCS	10	250	250	−39	40	5.6	1*	7000	—	0.05*	—	6.4*
								30-Amp.	300■	12.0■	250■	1.5■	C-P ICAS	15	300	250	−42.5	50	6	2.4*	7000	—	0.15*	—	10*
								30-Amp.	300■	12.0■	250■	2.0■	C-T CCS	15	300	250	−28.5	50	6.6	1.6*	—	—	0.1*	—	10.3*
								30-Amp.	350■	13.5■	250■	2.0■	C-T ICAS	17	350	250	−28.5	48.5	6.2	1.6*	—	—	0.1*	—	12*
								50-Amp.	300■	12.0■	250■	2.0■	C-T CCS	15	300	250	−60	50	5	3*	—	—	0.35*	—	7*
5814-A9(R)σ	Medium-Mu Twin Triode	9A	2.187	0.875	12.6	0.175	CU	—	330■	3.0§	—	—	Class A Amplifier (per section)	2.7	250	—	−8.5	10.5	—	—	2200	17	—	—	—
					6.3	0.35								1.2	100	—	0.0	11.8	—	—	3100	19.5	—	—	—
5823	Gas Triode	4CK	1.875	0.750	—	—	—	—	—	—	—	—	Peak cathode current■=100 ma max; d-c cathode current■=25 ma max. starter voltage drop■=61 volts; anode drop■=62 volts													
5824	Beam Power Amplifier	7AC	4.625	1.812	25.0	0.3	CU	—	200¶	12.5¶	135¶	2.0¶	Class A Amplifier	9.4	135	135	−22.0	61† −69‡	2.5† −14.5‡	—	5000	—	—	1700	4.3
5844σ	Medium-Mu Twin Triode	7BF	2.125	0.750	6.3	0.3	CU	—	200■	1.0■§	—	—	Class A Amplifier (per section)	.75	100	—	Rk=470	4.8	—	—	3700	28	—	—	—
5879σ	Sharp-Cutoff AF Pentode	9AD	2.187	0.875	6.3	0.15	CU	—	300¶	1.25¶	250¶	0.25¶	Class A Amplifier (Pentode con.)	.45	250	100	−3.0	1.8	0.4	—	1000	—	—	—	—
								—	250¶	1.5¶	—	—	Class A Amplifier (Triode con.)	1.4	250	—	−8.0	5.5	—	—	1530	21	—	—	—

© United Technical Publications

Net

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS											
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
5881	Beam Power Amplifier	7AC	3.468	1.437	6.3	0.3	CU	—	360¶	23¶	270¶	3.0¶	Class A Amplifier (single tube)	13.3	350	250	−18	53† −65ᵡ	2.5† −8.5ᵡ		5200	—	—	4200	11.3
														18.8	250	250	−14	75† −80ᵡ	4.3† −7.6ᵡ	—	6100	—	—	2500	6.7
								—	360¶	23¶	270¶	3.0¶	Class AB_1 (2 tubes, push-pull)	32	360	270	−22.5	88† −132ᵡ	5.0† −15ᵡ	—	—	—	—	6600ρ	26.5
								—	360¶	23¶	270¶	3.0¶		32	360	270	−22.5	88† −140	5.0† −11ᵡ	—	—	—	—	3800ρ	18.0
5886θ(R)σ	Electrometer Pentode	5886	1.500	0.400	1.25	0.01	—	—	45	—	45	—	Elec-trometer	—	12	4.5	−2.0	6.0	3.6	—	14	—	—	—	—
5963σ	Medium-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU	—	250■	2.5■§	—	—	Class A Amplifier (per section)	.58	67.5	—	0	8.5	—	—	3200	21	—	—	—
													Freq. Halfer (per section)	—	150♦	—	−15	0	Rg_1=47,000		—	—	—	20,000	—
														.75	150♦	—	0	5.1	Rg_1=47,000		—	—	—	20,000	—
5964σ	High-Mu Twin Triode	7BF	2.125	0.750	6.3	0.45	CU	—	250■	1.5■§	—	—	Class A Amplifier (per section)	.95	100	—	R𝑘= 50	9.5	—	—	6000	39	—	—	—
													Freq. Halfer (per section)	—	150♦	—	−10	0	Rg_1=47,000		—	—	—	20,000	—
														.75	150♦	—	0	5.0	Rg_1=47,000		—	—	—	20,000	—
5965Aθσ	Twin Triode	9A	2.187	0.875	12.6 6.3	0.225 0.45	CU	—	330	2.4■§	—	—	Class A Amplifier (per section)	1.28	150	—	R𝑘= 220	8.5	—	—	6700	47	—	—	—
								—		4.4■ω	—	—													
													Freq. Halfer (per section)	1.25	150♦	—	—	10.5*	Ic=140 ma		—	—	—	7200	—
														—	150♦	—	−5.5	0.15*	—	—	—	—	—	7200	—
5998A	Low-Mu Twin Triode	8BD	4.250	1.562	6.3	2.4	CU	—	275■	15§■	—	—	Class A Amplifier	11	110♦	—	R𝑘= 105	100	—	—	5500	5.4	—	—	—
6005θ(R)σ	Beam Power Amplifier	7BZ	2.625	0.750	6.3	0.45	CU	—	275	11	275	2.2	Class A Amplifier (single tube)	11	250	250	−12.5	45† −47ᵡ	4.5† −7.0ᵡ	—	4100	—	—	5000	4.5
														5.4	180	180	−8.5	29† −30ᵡ	3.0† −4.5ᵡ	—	3700	—	—	5500	2.0
													AB_1(2) CCS	—	250	250	−15	70† −79ᵡ	5† −13ᵡ	—	—	—	—	10,000ρ	10.0
6012	Thyratron	6CO	3.875	1.625	6.3	2.6	CU	—	—	—	—	—	Controlled Rectifier	Tube voltage drop■=10 volts; max. peak inverse voltage■=1300 volts; max. peak current■=5 amp.; max. average current■=0.5 amp.; max. peak forward voltage■=650 volts											
6046	Beam Power Amplifier	7AC	3.312	1.562	25.0	0.3	CU	—	200¶	10¶	125¶	1.5¶	Class A Amplifier	9.2	200	125	R𝑘= 180	46†	2.2†	—	8000	—	—	4000	3.8
														5.5	110	110	−7.5	49†	5.0†	—	8000	—	—	2000	2.1
													Relay Energizer	—	115♦	115♦	0	105	12.8	—	Rg_1=2 megohms			500	—
														—	115♦	115♦	−25	0.1*	—	—	Rg_2=1000 ohms			500	—
6072Aθ(R)σ	Twin Triode	9A	2.187	0.875	12.6 6.3	0.175 0.35	CU	—	330■	1.6■§	—	—	Class A (per section)	.75	250	—	−4.0	3.0	—	—	1750	44	—	—	—
6080θ	Low-Mu Twin Triode Power Amplifier	8BD	4.062	1.718	6.3	2.5	CU	—	250■	13■§	—	—	DC Amplifier (per section)	17	135	—	R𝑘= 250	125	—	—	7000	2	—	—	—
6087θ(R) See 6087/5Y3WGTBθ(R)																									
6087θ(R) 5Y3WGTB	Full-Wave, High-Vacuum Rectifier	5L	3.312	1.281	5.0	2.0	CU	—	—	—	—	—	Full-Wave Rectifier	Tube voltage drop per section=50 volts at 125 ma DC; max. DC output current=125 ma; max. peak inverse voltage=1400 volts; rms supply voltage per plate=350 volts; max. peak current per plate=375 ma											
6134	Sharp-Cutoff RF Pentode	8N	2.625	1.312	6.3	0.45	CU	—	330	3.3	330	0.45	Class A Amplifier	3.0	300	150	R𝑘= 160	10	2.5	—	9000	—	—	—	—
6135θ(R)σ	Medium-Mu Triode	6BG	2.125	0.750	6.3	0.175	CU	—	330	3.8■	—	—	Class A Amplifier	2.6	250	—	−8.5	10.5	—	—	2200	17	—	—	—
														1.2	100	—	0	11.8	—	—	3100	19.5	—	—	—
6136θ(R)σ	Sharp-Cutoff RF Pentode	7BK	2.125	0.750	6.3	0.3	CU	—	330■	3.3■	165■	0.7■	Class A Amplifier	2.6	250	150	R𝑘= 68	10.6	4.3	—	5200	—	—	—	—
														.5	100	100	R𝑘= 150	5.0	2.1	—	3900	—	—	—	—
6137θ(R)	Remote-Cutoff RF Pentode	8N	2.625	1.312	6.3	0.3	CU	—	330■	3.3■	140■	0.44■	Class A Amplifier	2.3	250	100	−3	9.2	2.6	—	2000	—	—	—	—
														1.3	100	100	−1	13.0	4.0	—	2350	—	—	—	—
6146A	Beam Power Amplifier	7CK	3.312	1.718	6.3	1.25	CU		400■	20■	400 ■τ	—	AB_1(2) CCS	31.3ᵡ	250	250τ	−50	120† −125ᵡ	—	0	7000	4.5	0	5000ρ	10
													AB_1(2) CCS	40ᵡ	400	400τ	−100	40† −100ᵡ	—	0	—	—	0	8000ρ	22
									400■	25■	400 ■τ	—	AB_1(2) ICAS	40ᵡ	400	400τ	−100	40† −100ᵡ	—	0	—	—	0	8000ρ	22
													AB_1(2) CCS	91ᵡ	400	190	−40	63† −228ᵡ	2.5† −25ᵡ	0	—	—	0	4000ρ	55

Net

© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS											
		Base Connections	Length	Diameter	Cathode Volts	Cathode Current Amps.	Cathode Type	Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages: Plate	Voltages: Screen Grid No. 2	Voltages: Control Grid No. 1	Currents: Plate, ma	Currents: Screen Grid No. 2, ma	Currents: Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
6146A	Beam Power Amplifier	7CK	3.312	1.718	6.3	1.25	CU		600■	20■	250■	3.0■		108*	500	185	−40	57† −215*	2† −25*	0	—	—	0	5500ρ	70
														120*	600	180	−45	26† −200*	1† −23*	0	—	—	0	7200ρ	82
													AB$_1$(2) ICAS	137*	600	200	−50	28† −229*	1† −27*	0	—	—	0	6000ρ	95
									750■	25■	250■	3.0■												
														165*	750	195	−50	23† −220*	1† −26*	0	—	—	0	8000ρ	120
									600■	20■	250■	3.0■	C-T CCS	67.2	500	170	−66	135	9	2.5*	—	—	0.2*	—	48*
														67.2	600	150	−58	112	9	2.8*	—	—	0.2*	—	52*
									750■	25■	250■	3.0■	C-T ICAS	90	600	180	−71	150	10	2.8*	—	—	0.3*	—	66*
														90	750	160	−62	120	11	3.1*	—	—	0.2*	—	70*
6146B	Beam Power Amplifier	7CK	3.312	1.718	6.3	1.125	CU	175	600■	27■	250	3.0■	C-T CCS	44.8	320	180	−51	140	10	2*	—	—	3*	—	25*
									750	35■	250	3.0■	C-T ICAS	60	400	190	−54	150	10.4	2.2*	—	—	3*	—	35*
6189θσ	Medium-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU	—	300	2.75§	—	—	Class A Amplifier§	—	250	—	−8.5	10.5	—	—	2200	17	—	—	—
														—	100	—	0	11.8	—	—	3100	20	—	—	—
6197σ	Sharp-Cutoff Power Amplifier Pentode	9BV	2.625	0.875	6.3	0.65	CU	—	300■	7.5■	250■	2.5■	Class A Amplifier	7.5	250	150	−3.0	30	7.0	—	11,000	—	—	—	—
6201θ(R)σ	High-Frequency Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU	—	330	2.5§	—	—	Class A Amplifier (per section)	2.5	250	—	Rk= 200	10	—	—	5500	60	—	—	—
														.33	100	—	Rk= 270	3.3	—	—	4000	57	—	—	—
6202θ(R)σ	Full-Wave, High-Vacuum Rectifier	5BS	2.625	0.750	6.3	0.6	CU	—	—	—	—	—	Tube voltage drop per section=22 volts at 50 ma DC; max. DC output current■=55 ma; max. peak inverse voltage■=1375 volts; rms supply voltage per plate=325 volts; max. peak current per plate■=220 ma												
6203θ(R)σ	Full-Wave, High-Vacuum Rectifier	9CD	2.625	0.875	6.3	0.9	CU	—	—	—	—	—	Tube voltage drop per section=22 volts at 70 ma DC; max. DC output current■=77 ma; max. peak inverse voltage■=1375 volts; rms supply voltage per plate=325 volts; max. peak current per plate■=300 ma												
6206θ(R)σ	Semi-Remote-Cutoff RF Pentode	8DC	1.375	0.400	6.3	0.15	CU	—	165■	0.75■	155■	.35■	Class A Amplifier	.72	100	100	Rk= 120	7.2	2.2	—	4500	—	—	—	—
6211Aθσ	Medium-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU	—	200■	1.5■§	—	—	Class A (per section)	.46	100	—	Rk= 470	4.6	—	—	3600	27	—	—	—
													Freq. Halfer (per section)	—	150▲	—	0	4.8min.	—		Rg_1=47,000	—	20,000	—
														—	150▲	—	−10 max.	0.1	—		Rg_1=47,000	—	20,000	—
6216θ(R)σ	Beam Power Amplifier	9CE	2.625	0.875	6.3	1.2	—	—	300	10	200	2.0	Class AA Amplifier	—	200	100	−6.0	47*	2.0*	—	8800	—	3.8	—	—
6265θ(R)σ	Sharp-Cutoff RF Pentode	7CM	2.125	0.750	6.3	0.175	CU	—	300¶	2.0¶	300 ¶▲	0.5¶	Class A Amplifier	1.85	250	150	Rk= 100	7.4	2.9	—	4600	—	—	—	—
6336A	Low-Mu Twin Triode	8BD	4.750	2.070	6.3	5.0	CU	—	400■	30■§	—	—	DC Amplifier (per section)	35	190	—	Rk= 200	185	—	—	13,500	2.7	—	—	—
6350σ	Medium-Mu Twin Triode	9CZ	2.625	0.875	12.6 6.3	0.3 0.6	CU	—	330■	4.0■§	—	—	Class A Amplifier (per section)	1.65	150	—	−5.0	11	—	—	4600	18	—	—	—
6360σ	Twin Tetrode Power Amplifier	9PW	3.062	0.875	12.6 6.3	0.41 0.82	CU						AB$_1$(2) CCS (Both sec. in push-pull)	13.2*	200	200	−21.5	30† −66*	2.4† −14*	0	—	—	0	6500ρ	7
									300■	7■§	200■	2■ε		17.3*	250	200	−21.5	30† −69*	1.4† −12.4*	0	—	—	0	8000ρ	9.3
														21.6*	300	200	−21.5	30† −72*	1.2† −12.6*	0	—	—	0	10,000ρ	12
													C-T CCS (Both sec. in push-pull)	14	200	200▲	Rg_1= 15,000	70	2.2	2.7*	Rg_2=22,000	0.14*	—	8.4*
								200	300■	5■§	200■	2■ε		16.8	250	250▲	Rg_1= 18,000	67	1.8	2.2*	Rg_2=47,000	0.12*	—	11*
														22.5	300	175	−40	75	2.3	1.8*	—	—	0.1*	—	14.5*
													C-T ICAS (Both sec. in push-pull)	16.8	200	200▲	Rg_1= 15,000	84	3.1	3*	Rg_2=8200	0.18*	—	10*
								200	300■	7■§	200■	2■ε		20	250	250▲	Rg_1= 18,000	80	2.4	2.5*	Rg_2=27,000	0.15*	—	13*
														30	300	200	−45	100	3.0	3*	—	—	0.2*	—	18.5*

© United Technical Publications

Net

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL							MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS												
			Dimensions In Inches		Cathode											Voltages			Currents							
		Base Connections	Length	Diameter	Volts	Current Amps.	Type		Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
6386θ(R)σ	Medium-Mu Remote-Cutoff Twin Triode	8CJ	1.750	0.875	6.3	0.35	CU		—	300¶	1.5¶§	—	—	Class A Amplifier (per section)	.96	100	—	Rk= 200	9.6	—	—	4000	17	—	—	—
6414θ(R)σ	Twin Triode	9A	2.625	0.875	12.6 6.3	0.225 0.45	CU		—	200■	2.2■§ 4.0■ε	—	—	Class A Amplifier (per section)	1.44 — 1.7	180 150 100	—	—2.0 —4.8 —	8.0 0.15 17.0	— — Ic=0.2 ma	— — —	5550 — —	42.5 — —	— — —	— — —	— — —
6414Wσ See 6414θ(R)σ (Same as 6414 except for long life controls)																										
6463σ	Medium-Mu Twin Triode	9CZ	2.625	0.875	12.6 6.3	0.3 0.6	CU		—	300¶	4.0■§ 7.0■ε	— — —	— — —	Class A (per section) Freq. Halfer (per section)	3.7 2.9 .2	250 100 200	— — —	Rk= 620 — —11	14.5 29 1.0	— Ic=0.2 ma —	— — —	5200 — —	20 — —	— — —	— — —	— — —
6485σ	Sharp-Cutoff RF Pentode	7BK	2.125	0.750	6.3	0.45	CU		—	300¶	3.2¶	150¶	0.6¶	Class A Amplifier	3.0	300	150	Rk= 160	10	2.5	—	9000	—	—	—	—
6550	Beam Power Amplifier	7AC	4.750	2.062	6.3	1.8	—		—	660	42	440	6.0	Class A Amplifier	—	400	225	—16.5	87	4.0	—	—	—	2.0	—	—
6660σ	Remote-Cutoff RF Pentode	7BK	2.125	0.750	6.3	0.3	CU		—	330	3.3	330♦	0.65	Class A Amplifier	2.75 1.08	250 100	100 100	Rk= 68 Rk= 68	11 10.8	4.2 4.4	— —	4400 4300	Ec3=0 volt Ec3=0 volt			
6661σ	Sharp-Cutoff RF Pentode	7CM	2.125	0.750	6.3	0.15	CU		—	330	3.3	330♦	0.65	Class A Amplifier	1.85	250	150	Rk= 100	7.4	2.6	—	4600	Ec3=0 volt			
6662σ	Remote-Cutoff RF Pentode	7CM	2.125	0.750	6.3	0.15	CU		—	330	3.3	330♦	0.55	Class A Amplifier	2.3 .9	250 100	100 100	Rk= 80 Rk= 80	9.2 9.0	3.3 3.5	— —	3600 3650	Ec3=0 volt Ec3=0 volt			
6663σ	Twin Diode	6BT	1.750	0.750	6.3	0.3	CU		—	—	—	—	—	Rectifier Service	Tube voltage drop per section=10 volts at 60 ma DC; max. peak inverse voltage=250 volts; max. DC output current per plate=9.0 ma; max. peak current per plate=54 ma											
6664σ	High-Frequency Triode	5CE	2.125	0.750	6.3	0.15	CU		—	330■	2.8■	—	—	Class A Amplifier	2.5 .37	250 100	— —	Rk= 200 Rk= 270	10 3.7	— —	— —	5500 4000	60 60	— —	— —	— —
6669σ	Beam Power Amplifier	7BZ	2.625	0.750	6.3	0.45	CU		—	250	12	250	2.0	Class A Amplifier (single tube) AB1(2 tubes, push-pull)	11.3 17.5	250 250	250 250	—12.5 —15	45† —47ˢ 70† —79ˢ	4.5† —7.0ˢ 5.0† —13ˢ	— —	4100 —	— —	— —	5000 10,000ρ	4.5 10
6676σ	Sharp-Cutoff RF Pentode	7CM	2.125	0.750	6.3	0.3	CU		—	330■	2.3■	330 ■♦	0.55■	Class A Amplifier	1.63 .35	125 125	125 125	Rk= 56 —3.0	13 2.8	3.7 —	— —	8000	—	—	—	—
6677σ	Power Amplifier Pentode	9BV	2.625	0.875	6.3	0.65	CU		—	330	8.5	330♦	2.0■	Class A Amplifier	7.5	250	150	—3.0	30† —31ˢ	7.0† —7.2ˢ	—	11,000	g_3 tied to k		7500	2.8
6678σ	Triode-Pentode	9AE	2.187	0.875	6.3	0.45	CU		— —	330 330■	3.0 3.0■	330♦ —	0.55■ —	Class A Amplifier (Pentode section) Class A Amplifier (Triode sec.)	2.5 2.7	250 150	110 —	Rk= 68 Rk= 56	10 18	3.5 —	— —	5200 8500	— 40	— —	— —	— —
6679σ	High-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU		—	330	2.8§	—	—	Class A Amplifier (per section)	2.5	250	—	Rk= 200	10	—	—	5500	60	—	—	—
6680σ	Medium-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU		—	330■	3.0■	—	—	Class A Amplifier§	2.63 1.18	250 100	— —	—8.5 0	10.5 11.8	— —	— —	2200 3100	17 20	— —	— —	— —
6681σ	High-Mu Twin Triode	9A	2.187	0.875	12.6 6.3	0.15 0.3	CU		—	330	1.1§	—	—	Class A Amplifier (per section)	.3 .05	250 100	— —	—2.0 —1.0	1.2 0.5	— —	— —	1600 1250	100 100	— —	— —	— —
6688θ(R)σ	RF Pentode	9EQ	1.750	0.875	6.3	0.3	CU		—	210■	3.0■	175■	0.9■	Class A Amplifier	2.5	190	160	Rk= 630 Ecc1= +9v.	13	3.3	—	16,500	—	—	—	—
6829θ(R)σ	Twin Triode	9A	2.625	0.875	12.6 6.3	0.225 0.45	CU		—	275	2.2§ 4.0ε	— —	— —	Class A Amplifier (per section)	1.28 .0225 1.7	150 150 100	— — —	Rk= 220 —4.8 Ic= 0.2 ma	8.5 0.15 17	— — —	— — —	6700 — —	47 — —	— — —	— — —	— — —
6883	Beam Power Amplifier	7CK	3.312	1.656	12.6	0.625	CU		Ratings otherwise same as for Type 6146B Beam Power Amp.																	
6919σ	Twin Diode	6BT	1.750	0.750	6.3	0.2	CU		—	—	—	—	—	Gating and Clamping Service	Tube voltage drop per section=1.2 volts at 6 ma DC; max. peak inverse voltage=360 volts; max. DC output current per plate=10 ma; max. peak current per plate=30 ma											
6922	Twin Triode	9AJ	2.625	0.875	6.3	0.3	—		—	220	1.5	—	—	Class A Amplifier	—	90	—	Rk= 120	12	—	—	11,500	33	—	—	—
7036σ	Heptode	7CH	2.625	0.750	6.3	0.3	CU		—	—	—	—	—	Gated	—	150♦	75	—10	0	0	—	Ec3=0 v.; Rg1=Rg3=47,000			20,000	—

© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS											
		Base Connections	Dimensions In Inches: Length	Dimensions In Inches: Diameter	Cathode: Volts	Cathode: Current Amps.	Cathode: Type	Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages: Plate	Voltages: Screen Grid No. 2	Voltages: Control Grid No. 1	Currents: Plate, ma	Currents: Screen Grid No. 2, ma	Currents: Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
7036σ	Heptode	7CH	2.625	0.750	6.3	0.3	CU	—	250	0.9	250♦	1.35	Amplifier	—	150♦	69*	0	0	.4	—	E_{c_3}=10 v.; $Rg_1=Rg_3$=47,000			20,000	—
													(Computer Service)	.8	150♦	71*	0	5.8	9	—	E_{c_3}=0 v.; $Rg_1=Rg_3$=47,000			20,000	—
7044	Medium-Mu Twin Triode	9H	2.625	0.875	6.3	0.9	—	—	300	4.5	—	—	Class A Amplifier	—	120	—	2.0	36	—	—	12,000	—	—	—	—
7054σ	RF Pentode	9GT	2.625	0.875	13.5	0.275	CU	—	330■	5.0■	180■	1.0■	Class A Amplifier	4.8	250	250	Rk= 120	19	3.5	—	11,500	—	—	—	—
7056σ	Sharp-Cutoff Pentode	7CM	2.125	0.750	13.5	0.15	CU	—	330■	2.0■	330 ■♦	0.5■	Class A Amplifier	1.9	200	150	Rk= 180	9.5	2.8	—	6200	—	—	—	—
7058σ	High-Mu Twin Triode	9AJ	2.187	0.875	13.5	0.155	CU	—	330■	1.0■§	—	—	Class A (per section)	.31	250	—	−2.0	1.25	—	—	1650	100	—	—	—
7059σ	Triode-Pentode	9AE	2.187	0.875	13.5	0.195	CU	—	300■	2.8■	300 ■♦	0.5■	Class A (Pentode section)	2.5	250	110	Rk= 68	10	3.5	—	5200	—	—	—	—
								—	330■	2.5■	—	—	Class A (Triode sec.)	2.7	150	—	Rk= 56	18	—	—	8500	40	—	—	—
7060σ	Triode-Pentode	9DA	2.187	0.875	13.5	0.28	CU	—	300■	3.0■	300■	1.0■	Class A Amp. (Pentode section)	—	200	125	Rk= 82	15	3.4	—	7000	—	—	—	—
									300■	2.5■	—	—	Class A Amp. (Triode sec.)	—	150	—	Rk= 150	9.0	—	—	4900	40	—	—	—
7061σ	Beam Power Amplifier	9EU	2.625	0.875	13.5	0.21	CU	—	345■	9.0■	310■	2.0■	Class A Amplifier	7.1†	200	200	−10.0	35.5†	9.0†	—	4200	—	—	5000	3.0
7167	Tetrode	7EW	2.125	0.750	13.5	0.09	—	—	180	2.0	180	0.5	Class A Amplifier	—	125	80	−1.0	10	1.4	—	8000	—	—	—	—
7233	Low-Mu Triode	9FR	3.062	0.875	6.3	1.0	CU	—	330	8.0	—	—	Series Regulator	6	50	—	Rk= 22	120	—	—	17,500	4	—	—	—
													Service	—	125	—	−60	—	—	—	—	—	—	—	—
7239θσ	Beam Pentode	9KH	2.406	0.875	6.3	0.3	CU	—	2000■	4.0	—	—	High-Voltage Pulse Amplifier	—	1500	100	−12.0	0.2*	—	—	E_{c_3}=0 (Applied for short [2 sec. max.] intervals only)				
														4.3	100	100	E_{c_3}= 0	43	13.5	.4					
														4.05	300	100	−5.0	10.5	2.6	—	4200	—	E_{c_3}=	—	—
7370σ	Medium-Mu Twin Triode	9H	2.187	0.875	20	0.26	CU	—	330	4.75§	—	—	Class A Amplifier§	—	250	—	−12.5	12	—	—	5400	16	—	—	—
										8.5	—	—		—	180	—	−7.0	23	—	—	8500	17	—	—	—
														—	120	—	−2.0	36	—	—	11,500	18	—	—	—
7701σ	Beam Power Pentode	9MS	2.625	0.875	13.6	0.16	—		350	9	300	3.5	Class C Amplifier	7.0	250	250	−12.5	28	3.1	—	3600	—	—	—	—
7716σ	High-Mu Triode and Sharp-Cutoff Pentode	9DX	2.625	0.875	13.6	0.35	CU	—	330	1.0	—	—	Avg. Ch. Triode	0.19	125	—	−1	1.5	—	—	2900	102	—	—	—
								—	330	5.0	330♦	1.1	Avg. Ch. Pentode	4.8	200	125	Rk= 68	24	5.2	—	10,000	—	—	—	—
7717σ	Sharp-Cutoff VHF Tetrode	7EW	2.125	0.750	6.3	0.2	CU	—	180	2.0	180♦	0.5	Class A Amplifier	1.25	125	80	−1.0	10	1.4	—	8000	—	—	—	—
7724σ	Duplex-Diode, High-Mu Triode (with separate cathodes)	9KR	2.187	0.875	14.0	0.15	—	—	330	1.1	—	—	Class A Amplifier FM Detector	.175	250	—	−3.0	0.7	—	—	1000	72	—	—	—
														Average diode current at 5.0 volts DC=18 ma; diode current for continuous operation (each diode)=5 ma										
7861θσ	Medium-Mu Twin Triode	8CJ	1.750	0.875	12.6	0.175	CU	—	330	1.35§	—	—	Class A Amplifier	1.25§	150	—	Rk= 240	8.2	—	—	5500	35	—	—	—
7984	Beam Power Amplifier	12EU	2.875	1.562	13.5	0.58	CU	175	750■	35■	250■	3.0■	Class A Amplifier	25	200	125	−20	125	4.5	—	7300	—	—	—	—
													Class C Amplifier	81	450	200	−60	180	12	4.0	—	—	2.0	—	—
8068	Beam Pentode	8LC	4.625	1.562	6.3	0.9	CU	—	3500■	35■	250■	1.0■	Series Regulator	—	600	125	−7.5	36	1.0	—	5200	—	—	—	—
														Max. DC cathode current=100 ma■										
8102σ	Triode-Pentode	9PJ	2.187	0.875	13.5	0.23	CU	—	330■	2.5■	330 ♦■	0.55■	Class A Amplifier	—	125	125	−1.0	12	4.0	—	7500	—	—	—	—
							CU	—	330	2.5	—	—	Class A Amplifier	—	125	—	−1.0	13.5	—	—	8500	46	—	—	—
8106σ	Beam Pentode	9PL	2.187	0.875	13.5	0.25	CU	—	330■	6.0■	300■	1.25■	Class A Amplifier	—	300	150	−3.5	16	3.2	—	9000	—	—	—	—
8136	Sharp-Cutoff Pentode	7CM	2.125	0.750	6.3	0.3	CU	—	330■	2.2■	165■	0.65■	Class A Amplifier	—	125	125	Rk= 56	10.8	2.9	—	9800	—	—	—	—
8156	Beam Pentode	12EU	2.312	1.187	13.5	0.3	CU	175	600■	15■	250■	2.5■	Class A Amplifier	7.0	200	125	−9.0	75	3.5	—	7600	—	—	—	—
													Class C Amplifier	36	400	170	−60	90	10	—	3.0	—	1.0	—	—

A_1(1) Single Tube Class A Audio Power Amplifier.
A_1(2) Push-Pull Class A Audio Power Amplifier.
AB_1(1) Single Tube Class AB_1 Audio Power Amplifier.
AB_1(2) Push-Pull Class AB_1 Audio Power Amplifier.
■ Absolute Maximum rating.
‡ AC (rms) Plate Voltage.
ç Applied for short interval (2 seconds, maximum) so as not to damage the tube.
* Approximate rating.
AB_2(2) Push-Pull Class AB_2 Audio Power Amplifier.
B(2) Push-Pull Class B Audio Power Amplifier.
B-P Single Tube Class RF Telephony Service.
CCS Continuous Commercial Service.
CF Coated filament (directly heated).
C-P Single Tube Class C Plate-Modulated Telephony Service.
C-T Single Tube Class C Telegraphy or FM Service.
CU Coated, Indirectly Heated Cathode (unipotential).
ICAS Intermittent Commercial and Amateur Service.
(R) Special ruggedized type for sever mechanical environment.

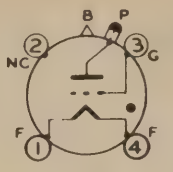
▲ Design-maximum Ratings
TF Thoriated-Tungsten Filament (directly heated).
Metal types are in boldface type.
σ Miniature types.
ρ Plate-to-Plate.
β Class C Amplifier with separate, rectified, unfiltered single phase, full-wave plate supply.
¶ Design-Center Value.
θ Five-Star type.
ε For Both Sections.
= Maximum Signal Value with Sine Wave Signal.
ϕ Peak Value during 15-microsecond pulse with Duty Factor of 0.0012.
§ Per Section.
ω Self-Rectifying Amplifier — Class C.
α Subminiature type.
♦ Supply Voltage.
τ Triode Connected; Grid No. 2 Tied to Plate.
† Zero Signal rating.

Industrial Receiving and Communication Tubes

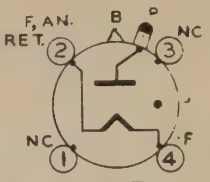
GENERAL ELECTRIC



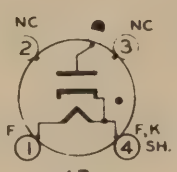
1AD4



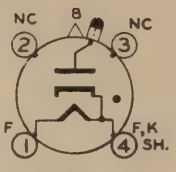
3G



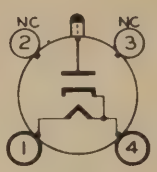
4AT



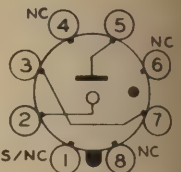
4P



4PI



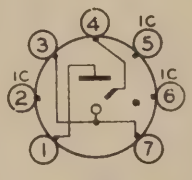
4AB



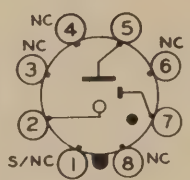
4AJ



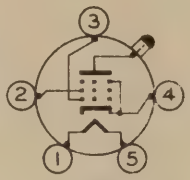
4C



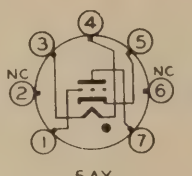
4CK



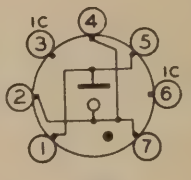
4V



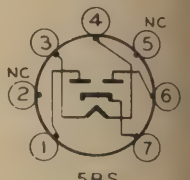
5AW



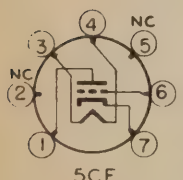
5AY



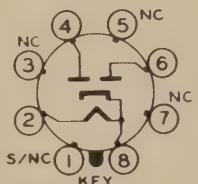
5BO



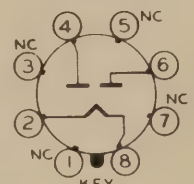
5BS



5CE



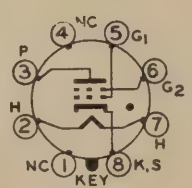
5L



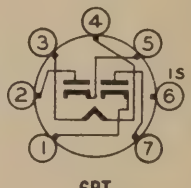
5T



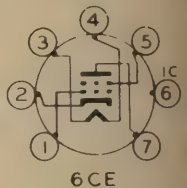
6BG



6BS



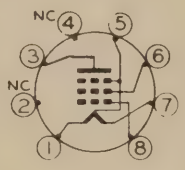
6BT



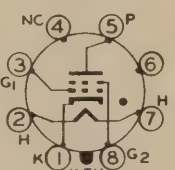
6CE



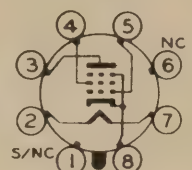
6CG



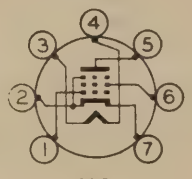
6CL



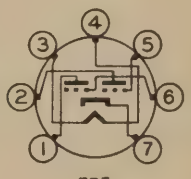
6CO



7AC



7BD



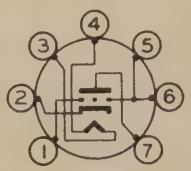
7BF



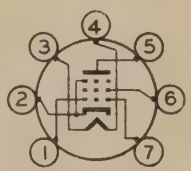
7BK



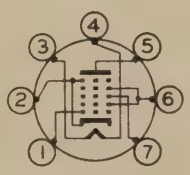
7BN



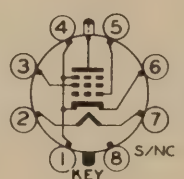
7BQ



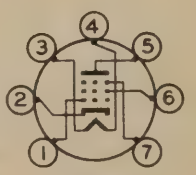
7BZ



7CH



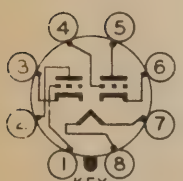
7CK



7CM



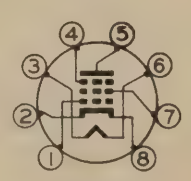
7EW



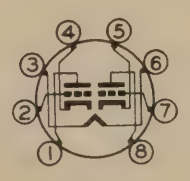
8BD



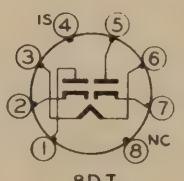
8CJ



8DC



8DG



8DJ

8DK

8DL

8LC

8N

9A

9AE

9AD

9AJ

9BV

9CD

9CE

9CZ

9DA

9DE

9DX

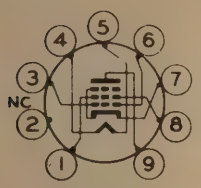
9EQ

Net

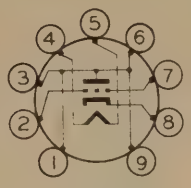
© United Technical Publications

Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

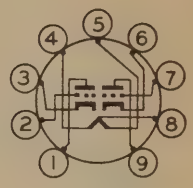


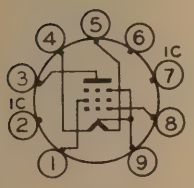
9EU


9FR


9G


9GT

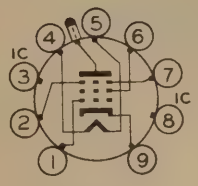

9H



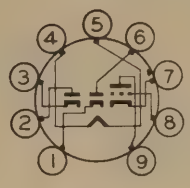
9JL

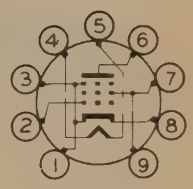


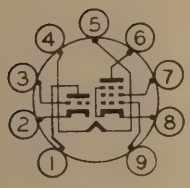
9K

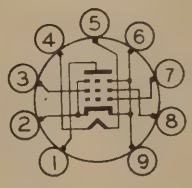


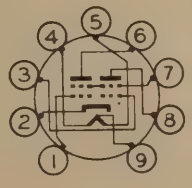
9KH


9KR

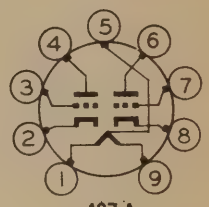

9MS


9PJ


9PL


9PW


12EU


407-A



5642


5886

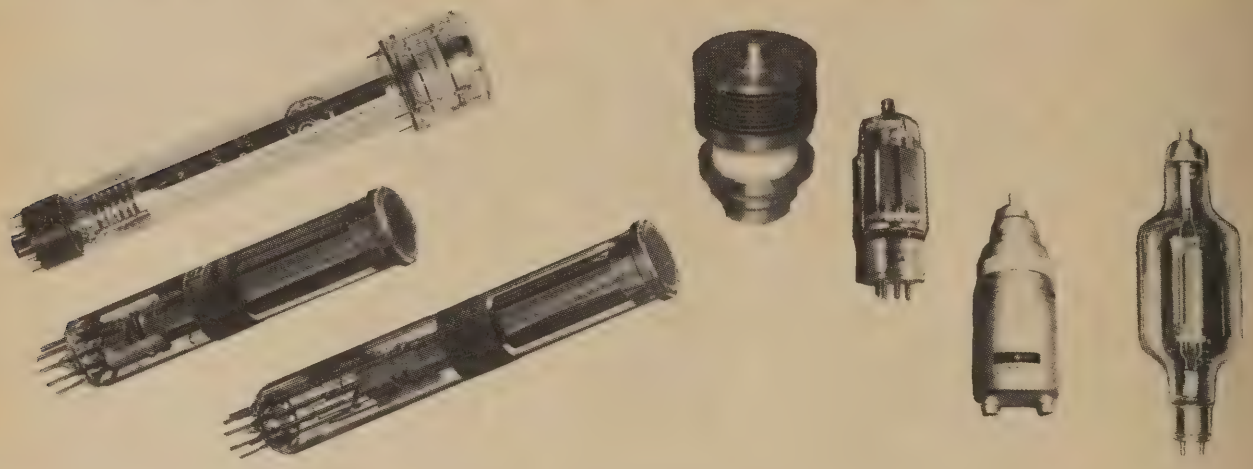
16 VALUE-ANALYZED benefits of G E 5-Star Tubes...

- Controlled inside diameter on bulbs reduces vibrational output and microphonics.
- Highly efficient getter performs throughout tube life and guides flash to avoid inter-element leakage.
- Two double mica spacers, with additional anti-leakage slots, brace internal parts, provide superior inter-element insulation and improve vibration characteristics. 12 or 16 contact points give firmer fit between bulb and mount.
- Short, sturdy cages increase rigidity of tube structure.
- Plate ears are embossed for added strength and improved mica fit.
- Smooth grid legs prevent a "sawing" action on the mica, reducing grid vibration and microphonic noise.
- Critical grids are plated with gold or silver to minimize grid emission.
- Passive cathode alloys assure reliability and long life in low-duty cycle circuits where interface tends to develop.
- Outside diameter and density of cathode coating are statistically controlled.
- Low thermo-conductivity cathode tab reduces heat loss.
- Cataphoretic coating of all heater bends after forming insures complete heater-cathode insulation.
- Folded heater design proved most reliable under shock, vibration and heater cycling conditions. Heater is temperature-controlled to further improve reliability and lengthen life.
- Rhenium-tungsten heater material increases tensile strength, reduces brittleness, and allows larger-diameter heater wire.
- Lead-glass stems help ward off glass electrolysis.
- Pins are annealed to prevent glass strain at socket insertion.
- Stem design minimizes welds — fewer points of possible failure — less change of short-causing particles from weld splash.

© United Technical Publications

Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC



LONG LIFE IMAGE ORTHICONS

Type	Target	Field Mesh	Signal:Noise (4.5 mc)	Amplitude Response @ 400 TV Lines	Typical Lens Aperture vs. Scene Illumination		Application	
					Color	Monochrome	Primary	Other
Z7899	Electronic Glass	No	65:1	65%	—	f:16 @ 80 - 100 ft-c	Studio, VTR	Color remote
Z7888		Yes	65:1	65%	f:8 @ 200 ft-c	f:16 @ 80 - 100 ft-c	Color remote	Monochrome VTR
Z7866	Semiconductor	Yes	50:1	70%	f:5.6 @ 50 ft-c	f:22 @ 50 - 100 ft-c	Color studio	Monochrome X-ray
7629A	MgO	No	50:1	65%	—	f:16 @ 25 - 50 ft-c	Monochrome Remote	X-ray

STANDARD IMAGE ORTHICONS

4401	Glass	No	50:1	60%	—	f:16 @ 50 ft-c	Studio, remote	X-ray
5820A 5820A/R	Glass (Ruggedized)	No	50:1	60%	—	f:16 @ 100 ft-c	Studio, VTR	Remote
7293A 7293A/R	Glass (Ruggedized)	Yes	50:1	60%	—	f:16 @ 100 ft-c	Monochrome studio	Color studio
8093A 8093A/R	Glass (Ruggedized)	Yes	60:1	60%	—	f:16 @ 120 ft-c	Studio color, VTR	Monochrome

SPECIAL PURPOSE IMAGE ORTHICONS

Type	Target	Field Mesh	Photo Cathode	Resolution Sensitivity*	Applications
Z5395 Z7805	MgO Ruggedized Z5395	No	S-1	500 @ 7.6 x 10^{-5} 200 @ 1.0 x 10^{-5}	**Near IR sensitive,** infrared detection aerial mapping, star tracking, missile tracking
7538 7409	MgO Ruggedized 7538	No	S-10	500 @ 1.5 x 10^{-5} 100 @ 4 x 10^{-7}	**Low light level** surveillance, electro optical telescope systems, airborne and tank fire control
7967 Z7806	MgO Ruggedized 7967	No	S-20	500 @ 5 x 10^{-6} 100 @ 1.5 x 10^{-7}	**Extremely low light level** surveillance, underwater TV systems, astronomical systems
7969 Z7807	MgO Ruggedized 7969	No	UV	500 @ 1.5 x 10^{-5} 100 @ 4 x 10^{-7}	**Near UV sensitive** medical biological studies, missile detection
Z7809	MgO	No	S-10		**Similar to 7538** except fiber optic faceplate. Fibre optic systems. Can be coupled to image intensifier
Z7810 Z7822	MgO Ruggedized Z7810	No	S-20		**Similar to 7967** except fiber optic faceplate. Fiber optic systems, radiation scintillator studies. Can be coupled to image intensifier
Z7814	MgO	Yes	S-20	500 @ 5 x 10^{-6} 100 @ 2.7 x 10^{-7}	**Improved Corner resolution,** electro-optical telescope systems
7198A	Glass	No	S-10		**General Purpose** surveillance, fire control

* Resolution sensitivity is defined as television lines per target inch @ specified photocathode illumination in foot-candles.

BROADCAST AND INDUSTRIAL VIDICONS

Type	Application	Maximum Dimensions		Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength		Sensitivity	OPERATING PARAMETERS			
		Dia. Inches	Length Inches		@ 40 Gauss	@ 60 Gauss		Faceplate Illumination ft-c	Target Volts	Dark Current Micro-amperes	Signal Output Micro-amperes
7038 7038V	Film Color Film	1.135	6.50	.6	30%	40%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
8134V	Color Film	1.135	6.35	.09	30%	35%	Average Max.	1.0 .1	30 - 50 40 - 60	.03 .1	.27 .1
7735A	Live	1.135	6.50	.6	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7735B	Live	1.135	6.50	.6	35%	45%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2

Net

© United Technical Publications

Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

BROADCAST AND INDUSTRIAL VIDICONS (Continued)

Type	Application	Maximum Dimensions Dia. Inches	Maximum Dimensions Length Inches	Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 40 Gauss	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 60 Gauss	Sensitivity	OPERATING PARAMETERS Faceplate Illumination ft-c	OPERATING PARAMETERS Target Volts	OPERATING PARAMETERS Dark Current Micro-amperes	OPERATING PARAMETERS Signal Output Micro-amperes
7226	Live	1.135	5.25	.15	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
8484	Live	1.135	5.50	.6	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
7262A	Live	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7263A	Ruggedized 7262A	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8507 8507A	Live	1.135	6.50	.6	50%	70%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8541	Live	1.135	6.50	.09	50%	70%	Average Max.	1.0 .0	20 - 40 35 - 70	.02 .2	.2 .2
8572 8572V	Film Color Film	1.135	6.50	.6	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
8604	Film	1.135	6.50	.09	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
7735BX	X-Ray	1.135	6.50	.6	30%	45%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8541X	X-Ray	1.135	6.50	.09	50%	70%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8573X	X-Ray	1.135	5.00	.09	50%	70%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
B484H	Low Light Level, Live	1.135	6.50	.6	30%	45%	Average Max	1.0 .1	20 - 35 35 - 70	.02 .2	.25 .22
Z7912	Live Ruggedized	1.135	5.25	.3	50%	70%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
Z7933	Live Ruggedized	1.135	5.25	.09	50%	70%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
Z7929 R G B	Live - Color	1.135	6.35	.09	Low Voltage 35%	High Voltage 55%	Average	1.0	20 - 40	.02	.2
Z7919	Low Cost (8541) Live - CCTV	1.135	6.50	.09	50%	70%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
Z7911	Low Cost Live - CCTV	1.135	6.50	.6	30%	40%	Average Max	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2

TRANSMITTING TUBES

TYPE	DESCRIPTION	DIMENSIONS IN INCHES Length	DIMENSIONS IN INCHES Diameter	CATHODE Volts	CATHODE Amps.	CATHODE Type	MAXIMUM RATINGS Max. Freq. for Full Input, mc.	MAXIMUM RATINGS Plate Dissipation Watts	MAXIMUM RATINGS Plate Volts	MAXIMUM RATINGS Plate Input Watts	MAXIMUM RATINGS Screen Grid No. 2 Volts	CLASS AND TYPE OF SERVICE	TYPICAL OPERATING CONDITIONS Plate Volts	Plate Current, ma	Screen Grid No. 2 Volts	Screen Grid No. 2 Current, ma	Grid No. 1 Volts	μ Factor	GM μmhos	Approx. Drive Power, Watts	Approx. Output Power, Watts
2H21θ	Phasitron type. For use as phase modulator. Max. frequency 500 KC.	4.562	1.625	6.3	0.3	CU						DC Plate Volts=300; Deflector volts=100; RF output volts=4.									
4-400A	Forced-air cooled power tetrode.	6.375	3.562	5.0	14.5	TF	110	400 270 400	4,000 3,200 4,000	— — —	600 600 600	AB_2(2) C-P C-T	3,000 2,500 3,000	700 275 350	500 500 500	40 28 46	−80 −220 −220	— 5.1 —	— 4,000 —	4.5 3.5 6.1	1,375 510 800
4-1000A	Forced-air cooled beam power tetrode.	9.625	5.250	7.5	21	TF	110	1,000	6,000	—	1,000	C-T C-P	6,000 5,000	700 600	500 500	140 130	−200 −200	7.2 —	10,000 —	15 11	3,440 2,440
4D21/ 4-125A	Air-cooled beam power tetrode.	5.687	2.875	5.0	6.5	TF	120 120	85 125	2,500 3,000	— —	400 400	C-P C-T	2,500 3,000	152 167	350 350	30 30	−210 −150	6.2 —	2,450 —	3.3 2.5	300 375
4X150A	Air-cooled beam power tetrode.	2.469	1.635	6.0	2.6	CU	— 500 500	150 100 150	1,250 1,000 1,250	— — —	400 300 300	AB_2(2) C-P C-T	1,250 1,000 1,250	475 200 200	300 250 280	65 20 20	−44 −150 −115	— 5.0 —	— 12,000 —	0.15 2 30	425 140 140
7C29θ	Forced-air cooled triode.	5.375	2.500	10.5	28	TF	110	500	3,000	1,200	—	C-T	2,800	330	—	—	−250	29	—	—	600
7D21θ	Thoriated-tungsten filiment. Forced-air cooled tetrode.	7.500	3.015	6.3	30	TF	110	1,200	4,000	3,000	750	C-T	3,750	670	600	100	−102	8.0	—	60	1,575
810	High-perveance triode; jumbo 4-pin base. Medium grid and plate caps.	8.750	2.250	10	4.5	TF	— 30 30	175 125 175	2,750 2,000 2,500	510 500 750	— — —	B(2)■ C-P■ C-T	2,250 2,000 2,500	450 250 300	— — —	— — —	−60 −350 −180	— 36 —	— — —	13 35 19	725 380 575
813	Beam power amplifier; giant 7-pin bayonet base; medium cap.	7.500	2.562	10	5.0	TF	— 30 30	125 100 125	2,500 2,000 2,250	450 400 500	— — —	AB_1(2)■ C-P■ C-T■	2,500 2,000 2,250	290 200 220	750 350 400	— — —	−95 −175 −155	— — —	— — —	0 4.3 4.0	490 300 375
829-B	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	4.312	2.375	6.3 12.6	2.25 1.125	CU	— 200 200	30 28 40	750 600 750	100 90 120	— — —	AB_1(2)■ C-P■ C-T■	600 600 750	110 150 160	200 200 200	— — —	−18 −60 −50	— 9.0 —	— 8,500 —	0 0.5 0.4	44 70 99
832-A	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	3.312	2.375	6.3 12.6	1.6 0.8	CU	200 200	15 20	600 750	36 50	— —	C-P■ C-T■	600 750	60 65	200 200	— —	−70 −50	6.5 —	3,500 —	0.21 0.24	26 35

© United Technical Publications

Net

Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

TRANSMITTING TUBES (Continued)

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE			MAXIMUM RATINGS					CLASS AND TYPE OF SERVICE	TYPICAL OPERATING CONDITIONS								
		Length	Diameter	Volts	Amps.	Type	Max. Freq. for Full Input, mc.	Plate Dissipation Watts	Plate Volts	Plate Input Watts	Screen Grid No. 2 Volts		Plate Volts	Plate Current, ma	Screen Grid No. 2 Volts	Screen Grid No. 2 Current, ma	Grid No. 1 Volts	μ Factor	GM μmhos	Approx. Drive Power, Watts	Approx. Output Power, Watts
833-A	High perveance triode; forced-air cooled; special post terminals.	8.812	4.594	10	10	TF	— 20 20	450 350 450	4,000 4,000 4,000	1,800 1,800 2,000	— — —	B(2)■ C-P■ C-T■	4,000 4,000 4,000	900 450 500	— — —	— — —	−100 −325 −225	— 35 —	— — —	38 42 35	2,700 1,500 1,600
838	Air-cooled triode; jumbo 4-pin base.	7.875	2.312	10	3.25	TF	30	100	1,250	220	—	C-T	1,250	150	—	—	−90	—	—	6.0	130
862-Aθ	Water-cooled triode. Dissipation 50 to 100 KW.	60	3.125	33	207	TF	1.6	100,000	20,000	100,000	—	C-P	12,000	5,000	—	—	−800	45	—	2,000	45,000
880θ	Water-cooled triode; for broadcast and RF heating; special terminals.	11.500	7.000	12.6	320	PT	— 25 25	15,000 12,000 20,000	10,500 10,500 10,500	40,000 36,000 60,000	— — —	B(2) C-P C-T	10,000 10,000 10,000	7,000 3,600 6,000	— — —	— — —	−450 −1200 −1000	— 20 —	— — —	540 1,100 1,500	46,000 27,000 40,000
889-Aθ	Water-cooled triode; for broadcast and RF heating; special terminals.	10.687	3.625	11.0	125	PT	— 50 50	5,000 3,000 5,000	8,500 6,000 8,500	12,000 6,000 16,000	— — —	B(2) C-P C-T	7,500 6,000 7,500	3,200 1,000 2,000	— — —	— — —	−300 −900 −800	— 21 —	— — —	150 140 400	15,000 4,000 10,000
892	Water-cooled triode; two-section filament; special connections.	20.875	6.937	11.0 per sec.	60	PT	— 1.6 1.6	7,500 6,000 10,000	15,000 10,000 15,000	20,000 10,000 30,000	— — —	B(2) C-P C-T	12,500 10,000 12,000	2,800 780 1,550	— — —	— — —	−170 −1,600 −1,600	— 50 —	— — —	160 460 565	22,000 6,000 14,000
5513θ	Forced-air cooled triode; thoriated-tungsten filament.	7.500	3.015	6.3	32.0	TF	220	1,200	3,000	3,300	—	Class B,TV	2,000	680	—	—	−20	—	—	223	1,125
5518θ	Forced-air cooled triode tungsten filament.	12.375	5.530	6.3	235	PT	110	4,000	7,000	12,000	—	C-T	6,600	1,300	—	—	−520	21	—	180	6,500
5549	Forced-air cooled triode. Dissipation 4.0 KW.	11	5.500	12.6	57	TF	50	4,000	8,500	10,000	—	C-T	8,000	1,250	—	—	−800	23	—	230	7,500
5556	Air-cooled triode; small 4-pin bayonet base.	4.500	1.625	4.5	1.1	TF	6	10	350	14		C-T	350	35	—	—	−80	—	—	0.25	6
5593θ	Phasitron type for use as phase modulator.	4.562	1.625	6.3	0.3	CU	Max. frequency for full rating=250 MC.; Anode volts=300; Deflector volts=100; RF output volts=4.														
5675	Medium-mμ "pencil type" triode; for service up to 3,000 MC.	2.252	0.816	6.3	0.135	CU	—	9	300	9	—	C-T oscillator at	120	25 1,700 MC.	—	—	−8	20	—	—	0.475
5736	Forced-air cooled triode. Special connections.	7.375	3.625	6.0	60	TF	— 60 60	2,500 2,500 1,650	3,000 5,000 3,500	4,200 5,000 4,000	—	B C-T C-P	3,000 5,000 3,500	2,800 1,000 1,140	— — —	— — —	−160 −850 −600	— 22 —	— — —	140 250 270	4,350 4,100 3,200
5762/ 7C24	Forced-air cooled triode; special terminal connections.	7.125	4.687	12.6	29	TF	— 30 30	3,000 2,000 3,000	6,200 5,000 6,200	8,700 5,000 8,700	— —	B C-P C-T-F	4,700 4,700 6,000	2,800 960 1,250	— — —	— — —	−200 −400 −550	— 29 —	— — —	195 720 1,225	8,800 4,200 7,000
5894	Air-cooled twin tetrode. Max. ratings up to 250 MC.	4.312	1.937	6.3 12.6	1.8 0.9	CU	250	40	750	120	300	B C-T C-P	600 600 600	200 200 150	300 250 250	26 16 20	−25 −80 −80	— 8.2 —	— — —	0.2 3.0 0.8	86 90 71
6039θ	Water-cooled triode; Replaces GL-9C24 with filament change.	8.531	3.9	5.0	78	TF	220	7,000	6,000	13,500	—	Class B, TV	5,000	2,100	—	—	−300	21	—	1,060	4,900
6161θ	Forced-air cooled triode; special terminal connections.	3.406	1.76	6.3	3.4	CU	900 900 Doubler to 900 Mc.	250 250	1,600 1,600	560 400	—	B-T C-T-F C-M	1,600[b] 1,650[b] 1,675[b]	350 250 250	— — —	— — —	−100[a] −150[a] −175[a]	— 2 —	— — —	75[c] 80[c] 100[c]	230[d] 180[d] 140[d]
6251θ	Water-cooled metal and ceramic tetrode.	13.250	5.156	5.5	19.0	TF	220	25,000	7,000	50,000	700	Class B, TV	6,800	7,500	600	50	−20	20	—	2,300	25,000
6907	Twin tetrode for use up to 600 MC. Standard 7-pin base.	3.375	1.800	12.6	0.65	CU	— 400 600	20 14 20	600 500 600	— 60 36	250 300 250	B C-P C-T	500 400 400	70 80 100	250 300 250	16 6 5	−26 −50 −50	8	2,500	— — —	23.5 13 20
6942θ	Forced-air cooled metal and ceramic tetrode.	8.750	3.500	5.7	24	CV	1,000 1,000	1,500 1,500	4,000 4,000	2,500 2,500	— —	Class B, TV C-T	3,500 4,000	520 420	500 500	35 11	−40 −110			100 65	1,000 1,000
7007θ	Forced-air cooled metal and ceramic tetrode. Special connections.	11.63	6.400	5.0	180	CU	220 220	8,000 12,000	5,000 7,500	10,000 20,000	2,000 2,000	C-P C-T	4,800 7,000	1,800 2,600	800 1,000	160 200	−300 −300	10	—	100 80	6,000 12,000
7034/4X150A	See 4X150A																				
7289	High transconductance triode, forced-air cooled with integral radiator.	2.750	1.266	6.3	1.0	Otherwise same as 2C39-B															
8005	Maximum ratings up to 150 MC.	5.000	1.937	16.0	38	PT	150	750	2,500	1,250	—	C-P	—	—	—	—		20	—	—	—
8020	High-perveance triode; jumbo 4-pin base; medium cap.	6.687	2.437	10	3.25	TF	— 60 60	85 75 85	1,500 1,250 1,500	250 240 300	—	B C-P C-T	1,500 1,250 1,500	330 190 200	—	—	−67.5 −195 −130	20	—	5.5 9 7.5	330 170 220

FOOTNOTES FOR TRANSMITTING TUBE LISTINGS

A Cathode to grid volts.
A_1(1) Single tube class A audio power amplifier.
AB_1(2) Push-pull class AB_1 audio power amplifier.
AB_2(2) Push-pull class AB_2 audio power amplifier.
B Referred to grid terminal.
B(2) push-pull class B audio power amplifier.
B-P Single tube class B RF telephone service.
C Driver power output.
C-P Single tube class C plate-modulated telephony service.
C-T Single tube class C telegraphy or FM service.
C-T (Pulsed) Single tube class C RF pulsed oscillator.
CF Coated filament (directly heated).
CV Thoriated tungsten cathode (indirectly heated)
CU Coated indirectly heated cathode (unipotential).
D Useful power output.
C-G-T Single tube class C grid-modulated video service.
PT Pure tungsten filament (directly heated).
TF Thoriated-tungsten filament (directly heated).
Broadcast tube type.
■ Intermittent Commercial and Amateur Service rating.
[a] Cathode to grid volts.
[b] Referred to grid terminal.
[c] Driver power output.
[d] Useful power output.

Net

© United Technical Publications

Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—HIGH VACUUM RECTIFIERS

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE		MAXIMUM ANODE RATINGS			TYPICAL OPERATION*			
		Length	Diameter	Volts	Amps.	Peak Inverse Volts	Peak Amperes	Average Current Amperes	Peak Inverse Volts	A.C. Anode Volts	D.C. Output Volts	D.C. Output Current Amperes
2B22	UHF lighthouse type diode, 8-pin octal base.	1.312	1.312	6.3	0.75	300	0.7	0.02	150	100	50	0.005
2B23	Magnetically-controlled diode. Six-pin octal base.	3.312	1.187	6.3	0.3			0.03		—	150	0.030
3B24-W	Small size, high peak—Inverse voltage diode, shock and vibration resistant.	4.875	1.500	2.5 5.0	3.0 3.0	20,000 20,000	0.15 0.3	0.03 0.06	20,000 20,000	—	—	0.03 0.06
8020	Tungsten-filament type. Small 4-pin bayonet base.	8.000	2.312	5.0	6.0	40,000	0.75	0.1	40,000	28,000	—	0.1

BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—GAS-FILLED RECTIFIERS

TYPE	DESCRIPTION	Tube Voltage Drop	MAX. ANODE RATING — FOR 60 CPS SUPPLY				DIMENSIONS IN INCHES		CATHODE		OPERATING CONDITIONS#			
			Temp. Range Condensed Mercury, C.	Peak Inverse Volts	Peak Amperes	Average Amperes	Fault Amperes	Length	Diameter	Volts	Amps.	Peak Inverse Volts	Max. A.C. Plate-to-Plate Supply Volts	Approx. D.C. Output Volts to Filter	D.C. Output Amperes
3B28	Small 4-pin, bayonet base. Medium cap—ceramic-insulated, Xenon-filled.	10	−75 to +90	5,000 10,000	2 1	0.5 0.25	20 20	6	2 1/16	2.5	10.0	5,000 10,000	3,400 7,000	1,550 3,200	1.0 0.5
FG-32	See GL-5558/FG-32														
FG-104	See GL-5561/FG-104														
FG-280	All-metal tube for use in low-voltage applications. Flexible leads.	15	40 to 80	1,000	40	6.4	200	10 3/4	2 1/4	5.0	10.0	2,000	1,400	645	12.8
575-A	Jumbo 4-pin, bayonet base. Medium cap.	10	20 to 50	15,000	10	2.5	100	11 1/8	3 1/8	5.0	10.0	15,000	10,600	4,800	5
673	Same as GL-575-A except for super-jumbo 4-pin, bayonet base.	Same as GL-575-A						11 7/16	3 1/8						
857-B	Special terminal connections. Skirted large cap.	15	30 to 40 25 to 60	22,000 10,000	40 40	10 10	400 400	19 7/8[a]	7 1/8	5.0	30.0	22,000 10,000	15,400 7,000	7,000 3,200	20 20
866-A	Small 4-pin, bayonet base. Medium cap—ceramic-insulated.	15	20 to 60	10,000	1	0.25	20	6 3/16	2 7/16	2.5	5.0	10,000	7,000	3,200	0.5
869-B	4-pin base. Skirted large cap.	15	30 to 40	20,000	10	2.5	100	14 7/16	5 1/8	5.0	19.0	20,000	14,000	6,400	5
870-A	Heavy-duty heater-cathode type. Flexible leads.	16	35 to 40 35 to 50	16,000 7,500	450 450	75 75	4,500 4,500	26[a]	5 1/2	5.0	65.0	16,000 7,500	9,060 4,260	4,150 1,950	150
872-A	Jumpo 4-pin base. Medium cap—ceramic-insulated.	10	20 to 60 20 to 70	10,000 5,000	5 5	1.25 1.25	50 50	8 1/2	2 7/16	5.0	7.5	10,000 5,000	7,000 3,400	3,200 1,550	2.5 2.5
5558/ FG-32	Small 4-pin, bayonet base. Medium cap.	15 —	30 to 60 30 to 80	5,000 2,000	15 15	2.5 2.5	200 200	7 —	3 —	5.0 —	4.5 —	5,000 2,000	3,400 1,400	1,550 645	5 5
5561/ FG-104	Super-jumbo 4-pin, bayonet base. Maximum averaging time 15 sec. for welder-control service.	15 15	40 to 80 25 to 50	3,000 10,000	40 16	6.4 4.0	400 160	11 1/4	3 13/16	5.0	10.0	3,000	2,000	910	12.8
								Welder-control Service				—	—	—	—
8008	Same as GL-872-A except for super-jumbo 4-pin, bayonet base.	Same at GL-872-A						8 3/4	2 7/16						

THYRATRON TUBES

TYPE	DESCRIPTION	Dimensions Inches (Max.)		Cathode		Approx. Tube Drop Volts	MAXIMUM RATINGS					Critical Grid Volts at Anode Volts
		Length	Diam.	Volts	Amps.		Temperature Range of Condensed Mercury, °C.	Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
2D21	Negative-control, heater-cathode type. Miniature 7-pin base.	2.125	0.750	6.3	0.6	8	−75 to +90*	650	1,300	0.5	0.1	10	4.2 @ 450
3C23	Gas and mercury-filled. Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6.125	2.062	2.5	7	15	−40 to +80 −40 to +100	1,250 200	1,250 200	6 6	1.5 1.5	120 120	−5.5 @ 1,000 −2.5 @ 100
6D4	Relay tube or relaxation oscillator. Miniature 7-pin base.	2.125	0.750	6.3	.25	16	−55 to +90*	350	350	0.11	.025	—	—
FG-81-A	Mercury vapor type for relay control Medium 4-pin bayonet base, medium cap.	6.625	2.437	2.5	5	16	−55 to +85	500	500	2.0	0.5	40	−7.5 @ 500
FG-97	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6.750	2.437	2.5	5	16	+40 to +80	1,000	1,000	2.0	0.5	40	−13 @ 1,000
FG-98A	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6.750	2.437	2.5	5	16	−55 to +85	500	500	2.0	0.5	40	−16 @ 500
FG-105	Negative-control, heater-cathode type. Super-jumbo 4-pin bayonet base, large cap top and side.	11.250	2.500R	5.0	10	16	−40 to +80	2,500	2,500	40	6.4	400	−9 @ 1,000
FG-172	Negative-control, heater-cathode type. Metal envelope with flexible leads and threaded terminal. †Welder Control Ratings.	10.750	2.625R	5.0 5.5†	10 11†	16 16	+40 to +80 +30 to +95	2,000 750	2,000 750	40 77	6.4 2.5	400 400	−9 @ 1,000

© United Technical Publications

Net

Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

THYRATRON TUBES (Continued)

TYPE	DESCRIPTION	Dimensions Inches (Max.) Length	Diam.	Cathode Volts	Amps.	Approx. Tube Drop Volts	MAXIMUM RATINGS Temperature Range of Condensed Mercury, °C.	Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	Critical Grid Volts at Anode Volts
393-A	Negative-control, filament type, mercury vapor and gas-filled. Octal base, small cap.	6.625	2.062	2.5	7	15	−40 to +80	1,250	1,250	6.0	1.5	—	−5.5 @ 1,000
414	Negative-control, mercury vapor, heater-cathode type. Bracket mounted, flexible leads.	15.187	3.125	5	19	20	+40 to +80	3,000	3,000	100	5.0	1,500	−10 @ 1,000
672-A	Negative-control, heater-cathode type. Ignitor firing applications. Super-jumbo 4-pin bayonet base, medium cap.	8.125	2.312	5	5	12	+40 to +80	2,500	2,500	40	3.2	150	−10 @ 1,000
678	Negative-control, filament type. Relay control application. Jumbo 4-pin bayonet base, medium cap.	10.750	2.562	5	7.5	15	+25 to +50	10,000	15,000	6.0	1.6	50	−15 @ 1,000
2050-A	Negative-control, heater-cathode type. Octal 8-pin base.	4.125	1.562	6.3	0.6	8	−75 to +90*	650	1,300	1.0	0.1	10	−3 @ 650
5544	Negative-control, inert gas, filament type. Quick-heating cathode. Super-jumbo 4-pin base, medium cap.	7.500	2.625	2.5	12	16	−55 to +70*	1,500	1,500	40	3.2	560	−8 @ 1,000
5557	Negative-control, mercury vapor, filament type. Medium 4-pin bayonet base, medium cap.	6.125	2.062	2.5	5	16	+40 to +80	2,500	5,000	2	0.5	40	−7 @ 1,000
5559	Negative-control, heater-cathode type. Small 4-pin bayonet base, medium cap.	7.125	3.000	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	−6.5 @ 1,000
5560	Negative-control, heater-cathode type. Ignitor firing applications. Small 4-pin bayonet base, two medium caps.	7.312	2.125	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	−9 @ 1,000
5563-A	Negative-control, filament type. Jumbo 4-pin bayonet base, medium cap.	10.531	2.625	5.0 10 15 FOR QUADRATURE OPERATION			+25 to +50 +25 to +55 +25 to +50 +25 to +55	20,000 15,000 20,000 15,000	20,000 15,000 20,000 15,000	6.4 [illegible] 11.5 11.5	1.6 1.8 2.5 2.5	70 70 70 70	−2.5 @ 500
5632/C3J	Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6.000	1.562	2.5	9	10	−55 to +75*	900	1,250	30	2.5	300	−4.5 @ 750
5663	Negative-control, inert-gas-filled. For relay and grid-control rectifier applications. Seven-pin miniature.	1.500	0.750	6.3	0.15	11	−55 to +90*	500	500	0.06	0.02	1.0	−2.5 @ 500
5665/C16J	Negative-control, xenon, filament type. Base bracket and flexible leads.	10.500	2.687	2.5	31	11	−55 to +75*	1,000	1,250	160	16	1,000	−2.2 @ 500 −4.0 @ 1,000
5696A	Negative-control, inert-gas-filled cathode type. seven-pin miniature.	1.750	0.750	6.3	0.15	10	−55 to +90	500	500	0.125	0.028	2.0	—
5720	Positive-control, heater-cathode type. Medium 4-pin bayonet base, medium cap.	7.500	3.000	5.0	4.5	—	+35 to +80	1,000	1,000	15	2.5	200	+9.5 @ 1,000
5727	Negative-control, inert-gas-filled cathode type. Seven-pin miniature.	1.875	0.750	6.3	0.6	8	−75 to +90*	650	1,300	0.5	0.1	10	−3.5 @ 450
5830	Negative-control, heater-cathode type for high voltage and current applications.	17.750	5.052	5.0	20	16	+40 to +65	10,000	10,000	75	12.5	1,500	−6 @ 10,000
5855	Negative-control, filament type. High commutation factor for motor control. Lugs for connections.	11.015	3.625	2.5	34	16	−55 to +70*	1,500	1,500	160	18	2,000	−3 @ 1,000
6011/710	Negative-control, mercury vapor and gas-filled type. Medium 4-pin bayonet base, large cap.	6.125	1.625	2.5	9	15	−40 to +80	1,000	1,250	30	2.5	250	−5 @ 1,000
6012	Negative-control, heater-cathode type. Octal, 6-pin base.	4.250	1.031	6.3	2.5	10	−75 to +90*	650	1,300	5	0.5	20	−10 @ 650
6014 C1K	Negative-control, filament, xenon type. Small 4-pin bayonet base.	4.250	1.562	2.5	6.3	8	−55 to +75*	1,000	1,250	8	1	77	−2 @ 500
6807	Negative-control, gas type. Super-jumbo bayonet base.	9.000	2.625	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6808	Same as GL-6807 with flexible leads and bracket mount.	9.000	2.625	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6809	Same as GL-6807 with spade lugs for panel mounting.	9.000	2.625	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6858/760	Negative-control, filament type. Four-pin bayonet base. Medium cap.	9.500	2.562	2.5	21	12	−40 to +80	1,500	1,500	77	6.4	770	−4 @ 500 −5.5 @ 1,250
6859/760-P	Negative-control, filament type. Bracket-type base for panel mounting. Medium cap.	9.500	2.562	2.5	21	12	−40 to +80	1,500	1,500	77	6.4	770	−4 @ 500 −5.5 @ 1,250
7518/710-L	Negative-control, gas and mercury type. Spade lugs for panel mounting. Medium cap.	6.250	1.625	2.5	9	15	−40 to +80	1,000	1,250	30	2.5	250	−5 @ 1,000
7725	Negative-control, gas and mercury type. Quick-heating filament. Four-pin bayonet base. Medium cap.	6.250	1.625	2.5	9	15	−40 to +80	3,500	3,500	30	2.5	250	−5 @ 1,000 −9 @ 3,500
7726	Same as GL-7725 except spade lugs for panel mounting.	6.250	1.625	2.5	9	15	−40 to +80	3,400	3,500	30	2.5	250	−5 @ 1,000 −9 @ 3,500

Miniature types are in bold face.

* Temperature rating expressed in ambient temperature range over which the tube will operate.

Net

© United Technical Publications

Ignitrons

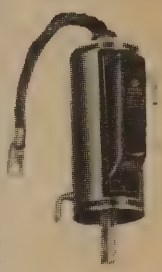
GENERAL ELECTRIC



Ignitrons are gas-discharge tubes employing a mercury pool as the cathode. The mercury pool cathode provides extremely high emission capability. Initiation of conduction in the ignitron is accomplished by means of a starting electrode called the ignitor. The ignitor is a small rod of highly refractory material which dips into the mercury pool. The passage of ignition current through the ignitor causes a cathode spot to form at the junction of the ignitor and mercury pool. Ionization from the cathode spot spreads throughout the volume of the ignitron and when the anode is positive electrons flow to it. By control of the point in the A-C cycle at which the ignitor is fired the duration of current flow through the ignitron is controlled. The ignitron, therefore, is ideally suited for high current rectification and control service. The following charts present summarized rating information for General Electric ignitrons. All ratings are based on 25-60 CPS operation. For convenience to the user the ignitron types are grouped by typical application service. Many types are rated for more than one service and therefore appear in two or more rating charts. More detailed ratings are available upon request for all of the G E ignitrons listed.

The ignitron has long been recognized as a long life, highly reliable device. As the industry's leading ignitron manufacturer General Electric is pleased to present the information contained in this booklet and invites your inquiry for additional application assistance if required.





IGNITRONS — RESISTANCE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				
		Maximum Dimensions - Inches							
		Rigid Length	Diameter	Mounting	Supply Volts RMS	Maximum Demand KVA	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Demand KVA
GL-5550	A	9 1/16	2 7/64	Clamp	250-600	300	12.1	22.4	100
GL-5551A/GL-5551A-PC	B	13	2 3/4	Conventional	250-600	600	30.2	56	200
GL-5552A/GL-5552A-PC	C	14	4 1/4	Conventional	250-600	1200	75.6	140	400
GL-5553B/GL-5553B-PC	D	19 1/2	5 5/8	Conventional	250-600	2400	192	355	800
GL-5554 (2)	—	17	4 1/8	Conventional	2400	1200	75	113	600
GL-5555 (2)	—	17 15/16	5 3/4	Conventional	2400	2400	135	207	1105
GL-5564 (2)	—	27 11/16	9 1/8	Special	2400	4800	270	414	2210
GL-6512 (2)	Integral Thermostat Version of GL-5554. Same Ratings Apply.								
GL-6513 (2)	Integral Thermostat Version of GL-5555. Same Ratings Apply.								
GL-6515 (2)	Integral Thermostat Version of GL-5564. Same Ratings Apply.								
GL-7151	E	23 1/4	9 1/8	Special	250-600	4800 (1)	486	900	1600
GL-7669/GL-7669-PC	B	9 7/8	2 3/4	Coaxial	250-600	600	30.2	56	200
GL-7671/GL-7671-PC	C	11 7/8	4 1/4	Coaxial	250-600	1200	75.6	140	400
GL-7673/GL-7673-PC	D	19 1/2	5 5/8	Coaxial	250-600	2400	192	355	800
GL-7681/GL-7681-PC	Jumbo C	17 1/2	4 1/4	Conventional	250-600	1800	135	220	600
GL-7998/GL-7998-PC	Jumbo C	14 1/4	4	Coaxial	250-600	1800	135	220	600
GL-8205	E	23	9 1/8	Coaxial	250-600	4800 (1)	486	900	1600
GL-37250/GL-37250-PC	B-2000	13	2 3/4	Conventional	250-600	1000	43.2	75	200
GL-37251/GL-37251-PC	B-2000	13	2 3/4	Coaxial	250-600	1000	43.2	75	200
GL-37252/GL-37252-PC	C-4000	14 1/4	4 1/4	Conventional	250-600	2000	108	150	380
GL-37253/GL-37253-PC	C-4000	14 1/4	4 5/8	Coaxial	250-600	2000	108	150	380
GL-37254/GL-37254-PC	D-6000	19 1/2	5 5/8	Conventional	250-600	3000	224	400	1000
GL-37255/GL-37255-PC	D-6000	19 1/2	5 5/8	Coaxial	250-600	3000	224	400	1000

Warranty for all types listed above is H-12 except for those marked (2), see footnote below.
PC Indicates plastic coated version.
* All ratings based on use of liquid cooling.

(1) Maximum demand current below 500 volts should not exceed 9600 amperes RMS.
(2) Have H-24 warranty.

IGNITRONS — FREQUENCY-CHANGER WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				
		Maximum Dimensions - Inches							
		Rigid Length	Diameter	Mounting	Peak Inverse Voltage Volts	Maximum Peak Anode Current Amperes	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Peak Anode Current Amperes
GL-5551A GL-5551A-PC	B	13	2 3/4	Conventional	1200 1500	600 480	5 4	22.5 18	135 108
GL-5553B GL-5553B-PC	D	19 1/2	5 5/8	Conventional	1200 1500	3000 2400	40 32	140 112	840 672
GL-5822A GL-5822A-PC	C	14 1/4	4 1/4	Conventional	1200 1500	1500 1200	20 16	70 56	420 336
GL-7669 GL-7669-PC	B	9 7/8	3 1/4	Coaxial	1200 1500	600 480	5 4	22.5 18	135 108
GL-7672 GL-7672-PC	C	11 7/8	4 5/8	Coaxial	1200 1500	1500 1200	20 16	70 56	420 336
GL-7673 GL-7673-PC	D	19 1/2	5 5/8	Coaxial	1200 1500	3000 2400	40 32	140 112	840 672
GL-7681 GL-7681-PC	Jumbo C	17 1/2	4 1/4	Conventional	1200 1500	2250 1800	30 24	105 84	630 502
GL-7998 GL-7998-PC	Jumbo C	16	4	Coaxial	1200 1500	2250 1800	30 24	105 84	630 502

Warranty for all types listed above is H-12. PC Indicates plastic coated version. * All ratings based on use of liquid cooling.

© United Technical Publications

Ignitrons

GENERAL ELECTRIC

IGNITRONS — PULSE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*						
		Maximum Dimensions - Inches			Peak Inverse Voltage Volts	Initial Peak Inverse Voltage Volts	Peak Anode Current Amperes	Average Anode Current Amperes	Averaging Time Seconds	Anode Current Repetition Rate - Pulses Per Second	Anode Current Pulse Width Microseconds
		Rigid Length	Diameter	Mounting							
GL-7670	B	9⅞	2¾	Coaxial	2500	1250	2000	10	2	60	1000
GL-7673	C	19½	5⅝	Coaxial	2500	1250	4000	20	2	60	1200
GL-8360	B	9⅞	2¾	Coaxial	2500	1250	2000	10	2	60	1000

Warranty for all types listed above is H-12.

* All ratings based on use of liquid cooling.

IGNITRONS — POWER RECTIFIER SERVICE

TYPE	DESCRIPTION	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				Warranty
		Max. Dimensions Inches		Mounting	Peak Anode Voltage Volts		Anode Current Amperes		
		Rigid Length	Diameter		Forward	Inverse	Peak	Average	
GL-5554	For continuous-duty power rectifier service at 100 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17	4⅛	Conventional	900 2,100	900 2,100	900 600	100 75	H-24, G-12
GL-5555	For continuous-duty power rectifier service at 200 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17 15/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-5564	For continuous-duty power rectifier service at 400 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	27 11/16	9⅛	Special	750	750	3,600	400	H-24, G-12
GL-5630	For high voltage power-rectifier and inverter service. Also used as capacitor discharge or DC short-circuiting switch.	22 3/16	5¾	Conventional	20,000	20,000	200	50	G-12
GL-5779	Small glass air-cooled type for demonstrating the operating principles of ignitors and ignitrons.	8¼	2½	Conventional	350	350	30	10	G-12
GL-5788	Similar to GL-5555. Features reliable operation at higher water temperatures and phase-retard operation; has larger diameter ignitor terminals.	19¼	5¾	Conventional	2,100	2,100	1,200	150	H-24, G-12
GL-6228	For high voltage power-rectifier and inverter service. Also used in capacitor discharge and DC short-circuiting switch service.	42	9	Special	20,000	20,000	900	150	H-36, G-12
GL-6504	Double-grid type with three ignitors for locomotive rectifier service. Twelve tubes will supply DC power for 4000 HP locomotive.	30¼	9	Coaxial	4,000	4,000	2,000	350	G-12
GL-6509	Similar to GL-5555. For auxiliary power in rectifier locomotives. Has three ignitors.	7 15/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	G-12
GL-6512	Integral thermostat version of GL-5554. Same ratings apply.								H-24, G-12
GL-6513	Integral thermostat version of GL-5555. Same ratings apply.								H-24, G-12
GL-6514	Integral thermostat version of GL-5788. Same ratings apply.								H-24, G-12
GL-6515	Integral thermostat version of GL-5564. Same ratings apply.								H-24, G-12
GL-6878	Double-grid type for locomotive rectifier service. Features coaxial cathode connection to reduce magnetic field effects.	30¼	13⅛	Coaxial	100	4,000	2,500	675	G-12
GL-6958	Double-grid type for industrial power rectifier and inverter service. Especially suited for phase retard operation. Features coaxial cathode connection to reduce magnetic field effects.	29⅞	9	Special	4,000	4,000	2,000	275	G-12
GL-7042	Integral thermostat version of GL-6958. Same ratings apply.								G-12
GL-7736	Similar to GL-5564. Features reliable operation at high voltage and with phase-retard operation.	27 7/16	9⅛	Special	900 2,100	900 2,100	3,600 2,400	400 300	G-12
GL-8420	Forced-air-cooled type for locomotive electronic contactor service. Features coaxial cathode connection to reduce magnetic field effects; integral thermostat control.	22 13/16	10 1/16	Coaxial	1,000	1,000	2,500	200	G-12
GL-8465	For motor control service. Has auxiliary anode and two ignitors.	17 15/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-8466	Integral thermostat version of GL-8465. Same ratings apply.								H-24, G-12
GL-35438	Double-grid motor control ignitron. Features cathode connection to reduce magnetic field effects.	30¼	13⅛	Special	4,000	4,000	2,500	675	G-12

* All ratings are based on use of liquid cooling except GL-5779 and GL-8420 whose ratings are based on use of forced air cooling.

Net

© United Technical Publications

Ignitrons

GENERAL ELECTRIC

IGNITRONS — CAPACITOR DISCHARGE SERVICE

TYPE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS					Cooling
	Maximum Dimensions - Inches		Mounting	Peak Anode Voltage Volts		Peak Anode Current Amperes	Typical Discharge Rate Pulses Per Minute	Ionization Time-Micro-seconds	
	Rigid Length	Diameter		Forward	Inverse				
GL-5630	22 3/16	5 3/4	Conventional	35,000	35,000	20,000	2	0.8	Liquid
GL-6228	42	9	Special	50,000	50,000	30,000	2	0.8	Liquid
GL-7171	8 3/4	2 5/32	Clamp	15,000	15,000	35,000	2	0.5	Air
GL-7703	7 5/8	2 1/4	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37207	20	5 3/4	Conventional	25,000	25,000	300,000	500	0.5	Liquid
GL-37228	7 5/8	2 1/4	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37248	7 5/8	2 1/4	Clamp	50,000	50,000	25,000	2	0.7	Liquid or Air
GL-37267A	10 1/4	6 1/2	Coaxial	20,000	20,000	300,000	500	0.7	Liquid

For above types, warranty is normally K-1000, however warranty information for specific applications will be supplied upon request.

IGNITRON ACCESSORIES

THERMOSTAT KITS

Kit includes thermostat and spring-loaded fastener in a captive assembly for connection to mounting pad located on ignitron water jacket.

Single-pole contacts perform control functions as shown in chart below.

Kit No.	Function	Contacts	Temperature Open (°F)	Temperature Close (°F)	Termination
N15272AA	Water control	NO	86	96	36-inch leads with spade terminals
N15273AA	Over-temperature protection	NC	125	105	36-inch leads with spade terminals
N15286AA	Water control	NO	86	96	Terminal block
N15287AA	Over-temperature protection	NC	125	105	Terminal block

COOLING CLAMP

Suitable for use with GL-5550, GL-7171 and GL-7703 to accomplish cathode connection and liquid cooling: Cat. No. L 6922259-G5

IGNITOR TERMINAL CONNECTING LEADS

Insulated leads for connection to 0.250-inch diameter ignitor terminals

Cat. No. N 22006LC — 7¾ inches long
Cat. No. N 22007LC — 13½ inches long

QUICK-CHANGE WATER CONNECTORS

Ignitron installation time is reduced through the use of slotted anode and cathode terminals . . . provided as a regular feature on all standard GE welding ignitrons . . . and the use of the quick-change brass water hose connectors shown in table.

Fitting No.	Description	Use with G-E Ignitron Type
B1HK	Socket	GL-5551-A, GL-5552-A, GL-5822-A, GL-7669, GL-7670, GL-7671, GL-7672, GL-7681, GL-7998, GL-8360, GL-37250, GL-37251, GL-37252, GL-37253
B1K11	Plug	
B2HK	Socket	GL-5553-B, GL-5554, GL-5555, GL-6512, GL-6513, GL-7673, GL-37254, GL-37255
B2K16	Plug	

CONDENSED WARRANTY INFORMATION

G-12—
(Rectifier service only.) Warranted for full replacement within one year of service. Expires 18 months from date of sale to ultimate user or two years from date of shipment by GE.

H-12—
Warranted for one year with prorated adjustment after 15 days of service. Expires 18 months from date of sale to ultimate user, 12 months from date of initial installation, or 2 years from date of shipment by GE.

H-24—
Warranted for two years with prorated adjustment after 15 days of service. Expires 36 months from date of sale to ultimate user, 24 months from date of initial installation, or 3½ years from date of shipment by GE.

K-1000—
Warranted for 1000 operations or six months of service with prorated adjustment for the difference between elapsed number of operations and 1000. Expires nine months from date of sale to ultimate user, six months from date of initial installation, or twelve months from date of shipment by GE.

© United Technical Publications

PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE

GENERAL ELECTRIC








Type No.	I_f (mA)	W_f (Watts)	Type Const.	Max. Plate (Watts)	Max. Freq. (MHz)	Cath. Area (CM^2)	Typ. Output (Watts)	@ Freq. (MHz)	@ Duty Factor	Salient Features	Outline Drawing (See next page)
2B22	750	4.7	Diode	—	1500	.17	—	—	—	Power Detector or Monitor	1
2C39A	1030	6.4	Triode	100	2500	0.5	—	—	—	General Purpose Application	2
2C39B	1030	6.4	Triode	100	2500	0.5	17	2500	CW	CW Power Amplifier/Oscillator	3
2C39WA	1030	6.4	Triode	100	2500	0.5	—	—	—	Military Specified 2C39 Oscillator	2
2C40A	750	4.7	Triode	6.5	3370	.17	300	3000	.001	Glass Lighthouse Plate Pulsed Oscillator	4
2C42	900	5.7	Triode	12	3370	.32	—	—	—	Glass Lighthouse Oscillator/APX25	5
2C43	900	5.7	Triode	12	3370	.32	1750	3370	.001	Glass Lighthouse Plate Pulsed Oscillator	5
2C46	900	5.7	Triode	12	3370	.32	—	—	—	Glass Lighthouse Oscillator/APX25	5
3CX100A5	1600	6.3	Triode	100	3000	0.5	1600	3000	.0025	Same as 7289	2
3CPN10A5	—	—	Triode	—	—	—	—	—	—	Same as 7815	6
GL6251	1.40A	1050	Tetrode (Coax.)	25KW	220	—	25KW	216	TV	Water Cooled Broadband TV Amplifier	7
GL6283	3.8A	24	Tetrode (Coax.)	500	1250	3.5	480	900	CW	Long Life in Military Comm. Systems	8
6299	300	1.9	Triode	2.0	3000	.17	—	—	CW	Low Noise Small Signal Amplifier	9
6442	900	5.7	Triode	8.0	5000	0.32	2000	3500	.001	High Plate Pulsed Power Output	10
6771	575	3.6	Triode	6.25	5000	0.17	0.3	4000	CW	CW Power Oscillator and Multiplier	10
GL6848	13.5A	90	Tetrode (Coax.)	2000	800	5.0	1250	800	CW	Air Cooled Power Amplifier	11
6897	1030	6.4	Triode	17	2500	0.5	1000	2500	CW	CW Power Amplifier/Oscillator	3
GL6942	24A	137	Tetrode (Coax.)	1000	1000	2.0	—	1000	CW	Air Cooled UHF TV Amplifier	12
7077	240	1.5	Triode	1.1	7500	.05	—	—	CW	Small Size Low Noise Amplifier	13
7266	215	1.3	Diode	1.0	7500	.05	—	—	CW	Small Signal Diode Detector	14
7289	1000	6.3	Triode	100	3000	0.5	3000	1600	.0025	Plate Pulse Power Oscillator	2
7296	900	2.5	Triode	5.5	500	.34	2.0	400	CW	Lug Construction with "T" Bolt Mount	15
7391	380	2.4	Triode	2.25	6000	.07	.065	5400	CW	Small Power/Local Oscillator to C Band	9
GL7399	5.6A	35	Tetrode (Coax.)	500	1500	5.6	11KW	1100	.01	General Purpose Long Life Air Cooled Tetrode	8
7462	240	1.5	Triode	1.1	500	.05	—	—	—	Low Noise Amplifier — Lug Construction	16
7486	240	1.5	Triode	1.0	7500	.05	0.3	1200	CW	Small Size Power Amplifier/Oscillator	13
7588	400	2.5	Triode	5.5	500	.34	—	—	—	Broadband Amplifier — Lug "T" Construction	15
7644	300	1.9	Triode	2.0	3000	.17	—	—	CW	(Stabilized) 6299	9
7720	240	1.5	Triode	1.0	500	.05	0.1	450	CW	Small Size Power Amp./Osc. — Lug "T" Const.	16
7768	400	2.5	Triode	5.5	3000	.34	—	—	—	Low Noise Broadband Amplifier	17
7784	300	1.9	Triode	2.0	3000	.17	—	—	—	Isolated Heater Version of the 6299	18
7815	1000	6.3	Triode	10	3000	.50	1500	1100	.001	Knurled Knob Anode Power Oscillator	6
7815R	1000	6.3	Triode	100	3000	.50	2000	2500	.003	7815 with Air Cooled Radiator	19
7841	215	1.3	Diode	1.0	7500	.05	—	—	CW	Lower Diode Drop Version of 7266	14
7910	275	1.7	Triode	1.5	7500	.07	100	5900	.001	Small Plate Pulsed Power Oscillator	20
7911	550	3.5	Triode	6.5	6000	.34	2200	4100	.001	Small Plate Pulsed Power Oscillator	21
7913	400	2.5	Triode	5.5	3000	.34	4.0	400	CW	Lower MU Version of 7768	17
GL7985	13.5A	90	Tetrode (Coax.)	3.5KW	800	5.0	1250	800	CW	Water Cooled Version of GL6848	22
8082	240	1.5	Triode	1.1	500	.05	0.1	450	CW	"T" Bolt Version of the 7720	23
8083	240	1.5	Triode	1.1	500	.05	—	—	—	"T" Bolt Version of the 7462	23
GL8500	3.8A	24	Tetrode (Coax.)	500	1500	3.5	480	900	CW	Reduced Size Air-Cooled Version of the GL6285	24
GL8513	13.5	90	Tetrode (Coax.)	4KW	800	5.0	1250	800	CW	Higher Power Air-Cooled Version of GL6848	11
8751	1050	6.5	Triode	30	3000	0.60	2500	1100	.004	Registered Y-1536 Dev. Type	25
GL8866	3.8A	24	Tetrode (Coax.)	150	1500	3.5	1000	1100	.02	Reduced Size Heat Sink Version of GL6283	26
GE12661	240	1.5	Triode	4.0	3000	.07	6	450	CW	Low Input to Grid-Plate Capacitance Ratio	27
GE13971	550	3.5	Triode	6.5	6000	.34	1000	1100	.004	Grounded Grid Version of the 7911	28
GE14501	240	1.5	Triode	1.0	7500	0.5	0.3	1200	CW	Coaxial Circuit Version	29
GE14811	380	2.4	Triode	6.5	6000	.20	190	4300	.001	Smaller Area Version of 7911 for Radar Altimeters	30
GE15371	500	3.2	Triode	10	6000	.34	700	1100	.01	IFF and DME Power Amplifier	31
GE16231	400	2.5	Triode	6.5	3000	.34	10	1100	.004	High Gain Broadband Pulsed Amplifier	17
GE16411	150	1.0	Triode	1.0	7500	.05	.45	450	CW	Bonded Heater Version of the 7486	13
GE16841	275	1.7	Triode	1.5	7500	.07	—	—	CW	Local Oscillator Rated 7910 @ 4300 MHz	20
GE17241	970	6.1	Triode	10	3000	.50	675	1100	.0035	Stable Threaded Anode 7815 for ATC Transponders	32
GE17701	1250	7.9	Triode	30	3000	.80	2500	1100	.004	Power Output Amplifier for TACAN/DME	25
GE18651	550	3.5	Triode	6.5	6000	.34	1000	1100	.004	Extended Anode Version of the GE13971	33
GL51025	3.8A	24	Triode (Coax.)	110	1300	3.5	25KW	1300	.001	Triode Equiv. to GL6283 with Internal Feed-Back	34
GL51038	5.6A	35	Tetrode (Coax.)	600	1500	5.5	60KW	425	.001	Version of GL7399 with Axial Air-Flow Radiator	35
GL51038R	5.6A	35	Tetrode (Coax.)	600	1500	5.5	60KW	425	.001	Rodium-Plated GL51038 for Liquid Immersion	35
GL51064	24A	137	Tetrode (Coax.)	2750	1250	2.0	4000	400	CW	Axial Air-Flow Radiator Version of the GL6942	36
GL51065	3.8A	24	Tetrode (Coax.)	600	1500	3.5	10KW	425	.005	Pulse Rated Version of the GL6283 with Axial Air-Flow Radiator	37
GL51070	3.8A	27	Tetrode (Coax.)	600	900	3.5	260	900	CW	CW Version of the GL51065	37
GL51074	3.8A	27	Triode (Coax.)	110	1300	3.5	40KW	425	.002	High Voltage Version of the GL51025	34

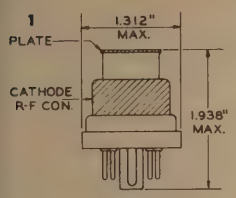
Net

© United Technical Publications

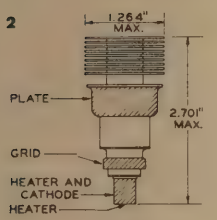
PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE

GENERAL ELECTRIC

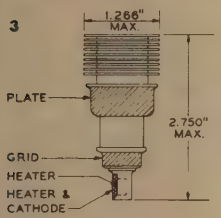
1



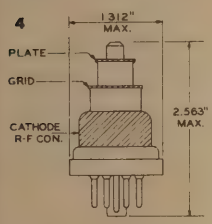
2



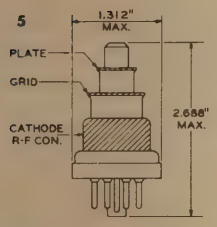
3



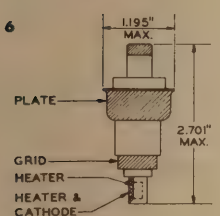
4



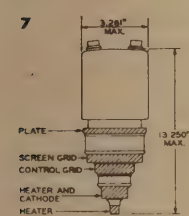
5



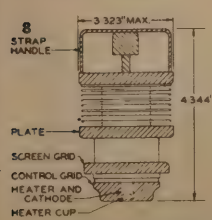
6



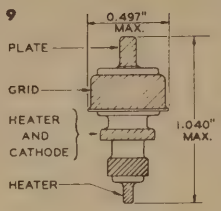
7



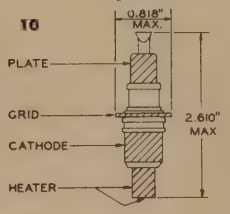
8



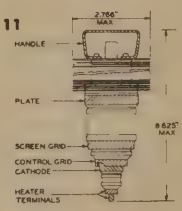
9



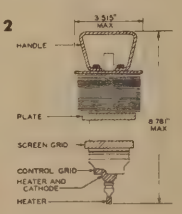
10



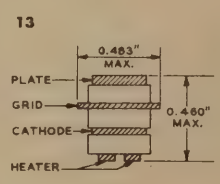
11



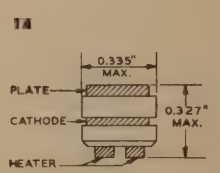
12



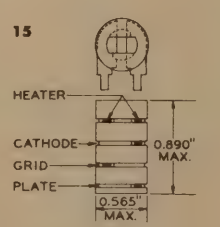
13



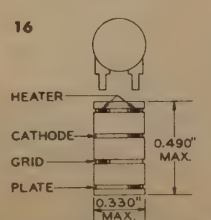
14



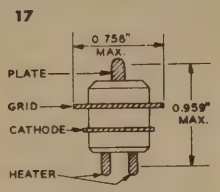
15



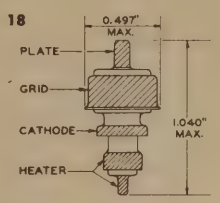
16



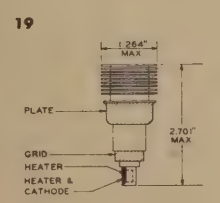
17



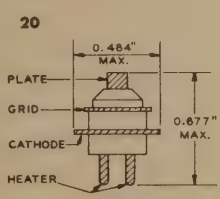
18



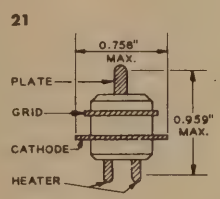
19



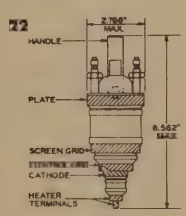
20



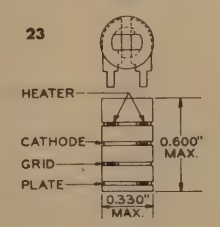
21



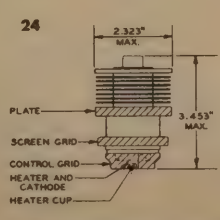
22



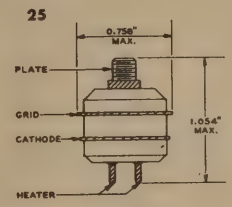
23



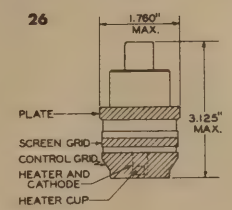
24



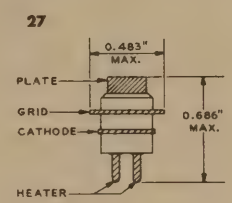
25



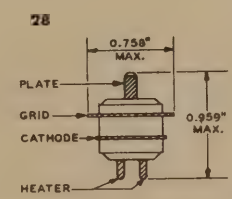
26



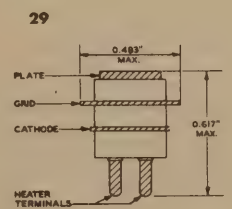
27



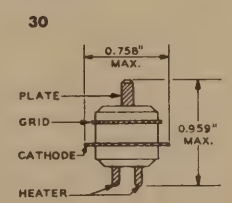
28



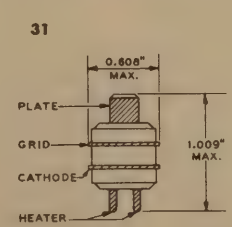
29



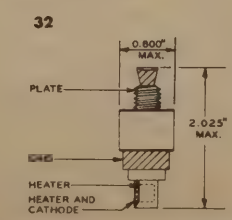
30



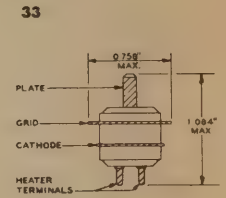
31



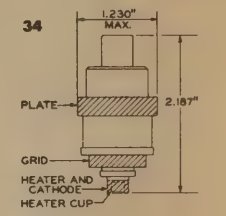
32



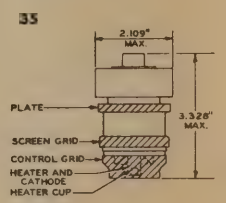
33



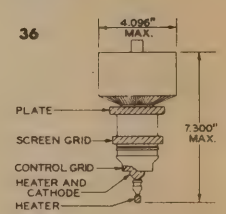
34



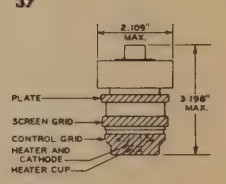
35



36



37



© United Technical Publications

Net

Special Devices — Reed Switches

GENERAL ELECTRIC

In a relatively short period of years, the dry reed switch has begun to play an important role in performing the switching function for a wide variety of electronic/electro-mechanical equipment. Major application, now in general use, range from telephone switchgear, appliances, and data processing units to logic circuitry for industrial controls.

The General Electric reed switch capsule consists of a pair of low reluctance, magnetically actuated, flat metal reeds, hermetically sealed in an atmosphere of dry inert gas. The reeds are of equal length and are supported as cantilevers, overlapping at the center of the glass cylinder where they are separated by a small air gap, thus forming a normally opn Single Pole, Single Throw (SPST) switch.

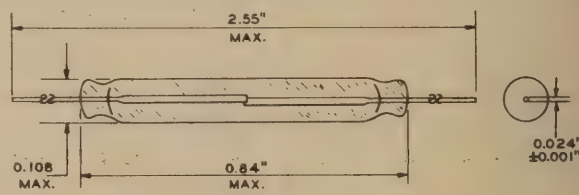
Type*	Former Designation	MAXIMUM CONTACH RATING			SENSITIVITY		Maximum Initial Contact Resistance In Milliohms	Breakdown Voltage Minimum, 60 cps rms	Life Expectancy In Millions of Cycles 2	MAXIMUM DIMENSIONS IN INCHES			Contacts And Leads	Contact Arrangement
		Resistive Load	Maximum Current	Maximum Voltage	Pull-In Ampere-Turns	Drop-Out Ampere-Turns				Glass Dia.	Glass Length	Overall Length		
MINIATURE — INERT-GAS FILLED														
DR100	1DR04	4VA	0.25A	250	43 ± 11, **5**	18 ± 8, **5**	150	300	20, **6**	0.108	0.84	2.03	**7**	**3**
DR121	Y-1292	10VA	0.50A	250	43 ± 11, **5**	18 ± 8, **5**	150	300	20, **6**	0.108	0.84	2.55	**8**	**3**
DR123	Y-1513	10VA	0.50A	250	35 ± 11, **5**	15 ± 10, **5**	150	300	20, **6**	0.108	0.84	2.55	**8**	**3**
DR125	Y-1454	4VA	0.25A	250	45 Max., **5**	8 Min., **5**	150	300	20, **6**	0.108	0.84	2.03	**7**	**3**
DR145	Y-1714	10VA	0.50A	250	28 ± 10, **5**	6 Min., **5**	150	300	20, **6**	0.108	0.84	2.55	**8**	**3**
SUB-MINIATURE — INERT-GAS FILLED														
DR157	Y-2050	10VA	0.50A	100	10-60, **19**	40-80% of PI	150	200VDC	—	0.090	0.750	2.020	**8**	**3**
DR159	Y-2066	5VA	0.25A	50	15-60, **19**	50-85% of PI	250	100VDC	—	0.090	0.560	1.27	**8**	**3**
2" — INERT-GAS FILLED														
DR101	2DR15	15VA	1.0A	250	90 ± 15, **9**	34 ± 8, **9**	50	500	20, **10**	0.215	2.10	3.21	**11**	**3**
DR103	2DR15-2	15VA	1.0A	250	120 ± 20, **9**	37 ± 10, **9**	50	500	20, **10**	0.215	2.10	3.21	**11**	**3**
DR104	2DR15-3	15VA	1.0A	125	40 ± 10, **9**	23 ± 7, **9**	50	350	20, **10**	0.215	2.10	3.21	**11**	**3**
DR113	2DR50	50VA	3.0A	250	90 ± 15, **9**	45 ± 10, **9**	50	500	20, **12**	0.215	2.10	3.21	**13**	**3**
DR158	Y-1638	5VA	0.25A	250	90 ± 20, **9**	30 ± 15, **9**	100	250	20, **14**	0.215	1.60	2.95	**15**	**4**
2" — VACUUM														
DRV120	2VR15	—	3.0A, **16**	5000, **16**	125 ± 25, **17**	60 ± 15, **17**	50	7000	—		See Drawing		**18**	**3**

*Types shown here represent only the basic families of General Electric reed switches presently available. Special variations in both electrical and physical characteristics are available.

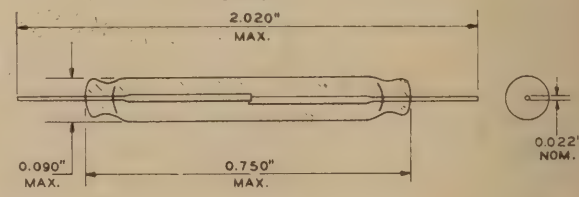
1 With the exception of Type DRV120, which is a vacuum switch, all switches are filled with inert gas at an internal pressure of approximately ½ atmosphere.
2 Some degradation or improvement in performance may be expected at operating conditions other than those specified.
3 Form A, single-pole, single-throw, normally open switch.
4 Form C, single-pole, double-throw switch in which the reed is maintained against the normally-closed contact by mechanical bias.
5 Sensitivity measured using a 6300-turn coil of #41 wire wound on a 0.8" long bobbin approximately 0.17" in diameter.
6 At 4VA, 25 volts d-c, 60 operations per second.
7 Diffused gold contacts with gold-plated leads.
8 Rhodium-over-gold contacts with gold-plated leads.
9 Sensitivity measured using a 10000-turn coil of #39 wire wound on a 2.0" long bobbin approximately 0.25" in diameter.
10 Full load, 50 volts d-c, 60 operations per second.
11 Diffused gold contacts with both leads tinned.
12 Full load, 125 volts d-c, 60 operations per second.
13 Rhodium-plated contacts with both leads tinned.
14 Full load, 50 volts d-c, 20 operations per second.
15 Immersion gold leads with normally-closed contacts of copper and diffused gold; normally-open contacts of diffused gold.
16 The voltage rating is a "hold-off" value, and the current rating is a measure of the current the contacts will carry but not switch. Maximum permissible switching currents are to be determined.
17 Sensitivity measured using a 5700-turn coil of #36 wire wound on a 2.0" long bobbin having an oval cross-section of approximately 0.5" by 0.28"
18 Tungsten-plated contacts with both leads tinned.
19 Sensitivity measured using a 10000-turn coil of #48 wire wound on a 0.75" bobbin approximately 0.17" in diameter. Miniature coil "A" as per Mil-S-55433A Specification.

OUTLINE DRAWINGS

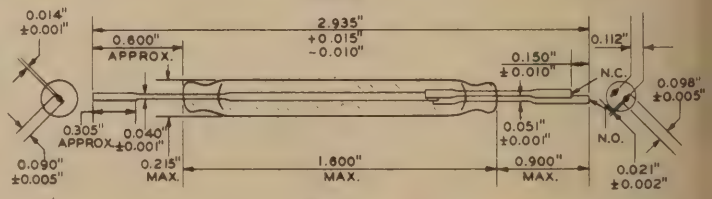
DR121-DR123-DR145



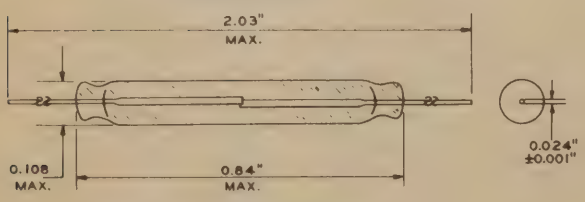
DR157



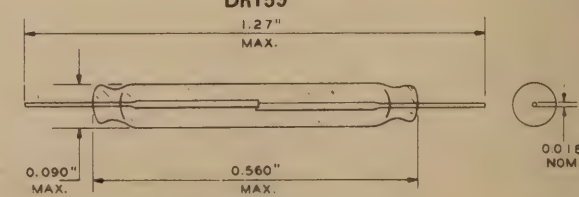
DR158



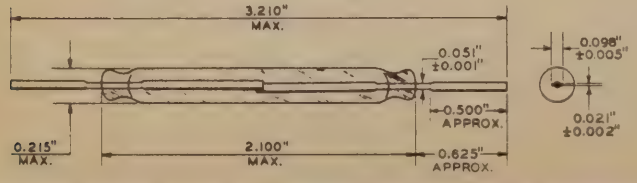
DR100-DR125



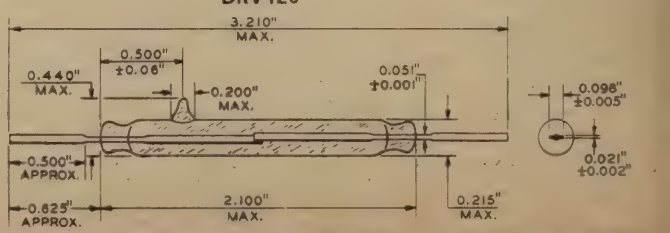
DR159



DR101-DR103-DR104-DR113



DRV120



© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Tube Classification

BR - Ballast Resistor
DUPL - Duplexer Tube
IGNI - Ignitron
IO - Image Orthicon
IR - Industrial Receiving
MAG - Magnetron
PHOTO - Phototube
PT - Planar Triode
PD - Planar Diode
QD - Quartz Duplexer Tube
RECT - Rectifier
THYR - Thyratron
TK - Thermostat Kits for Ignitrons
TRANS - Transmitting
TSG - Triggered Spark Gap
TVG - Triggered Vacuum Gap
VC - Vacuum Capacitor
VID - Vidicon
VR - Voltage Regulator or Reference
VS - Vacuum Switch

Type To Be Replaced	Tube Class	GE Replacement Type
AG	RECT	83
CCa	IR	6922/E88CC
SBS	IGNI	GL-5551A
SCS	IGNI	GL-5552A
SDR	IGNI	GL-5555
SDS	IGNI	GL-5553B
SR3	VR	OB3
TGRA	RECT	575A
TGRB	RECT	872A/872
TGRG	THYR	5563A
TVTA	TRANS	892
TVTB	TRANS	833A
TVTC	TRANS	889A
OAZ	VR	OA2
WL-OAZ	VR	OA2
OA2	VR	OA2
WL-OA2	VR	OA2
OA3	VR	OA3
GL-OA3	VR	OA3
HY-OA3	VR	OA3
WL-OA3	VR	OA3
OA3/VR175	VR	OA3
RK-OA3/VR175	VR	OA3
OA4G	VR	OA4G
GL-OA4G	VR	OA4G
NU-OA4G	VR	OA4G
RK-OA4G	VR	OA4G
OB2	VR	OB2
GL-OB2	VR	OB2
NU-OB2	VR	OB2
RK-OB2	VR	OB2
WL-OB2	VR	OB2
TS-OB2	VR	OB2
OB3	VR	OB3
WL-OB3	VR	OB3
OC3	VR	OC3
GL-OC3	VR	OC3
HY-OC3	VR	OC3
NU-OC3	VR	OC3
WL-OC3	VR	OC3
OC3/VR105	VR	OC3
OD3	VR	OD3
OD3/VR150	VR	OD3
WL-OD3	VR	OD3
OG3	VR	5651
CT1-2500	THYR	5559
C1J	THYR	6014/C1K
EL-C1J	THYR	6014/C1K
GL-C1J	THYR	6014/C1K
EL-C1JA	THYR	6014/C1K
C1J/K	THYR	6014/C1K
C1K	THYR	6014/C1K
C1K/6014	THYR	6014/C1K
EL-C1K	THYR	6014/C1K
GXU1	RECT	3B28
QEL1/150	TRANS	4X150A
QV1/150	TRANS	4X150A
QV1/150A	TRANS	4X150A
TD1-100	TRANS	2C39A
TQ1/2	THYR	3C23
XG1-2500	THYR	5559
XR1-3200	THYR	5544
XR1-6400	THYR	6807§
XR1-6400A	THYR	6807§
1AD4	IR	1AD4
1D21	THYR	1D21/SN4
1D21/SN4	THYR	1D21/SN4
1G50	THYR	2050A
1P32	PHOTO	927
1P40	PHOTO	1P40
GL-1P40	PHOTO	1P40
WL-1P40	PHOTO	1P40
1R21	IGNI	GL-5550
2-100A/100R	RECT	8020
B2A	THYR	2050A
BTL2-1	TRANS	5762/7C21
D2M9	IR	6663
DQ2	RECT	866A
DX2	RECT	3B28
H2-10	RECT	2X2A
P2-12	TRANS	832A
P2-40	TRANS	829B
P2-40B	TRANS	829B
QB2/250	TRANS	813
QEL2/275	TRANS	4CX250B
QQE02/5	TRANS	6939
QQV02/6	TRANS	6939
QV1-150A	TRANS	4X150A/7034
QY2-100	TRANS	813
QY2/250	TRANS	813
TQ2	THYR	5557
TX-2/3	THYR	5544
TX-2/6	THYR	6807§
V2M70	IR	6202*
XGQ2-6400	THYR	FG-105
2B21	RECT	2X2A
2B22	PD	2B22
2B23	RECT	GL-2B23
GL-2B23	RECT	GL-2B23
2B29	TRANS	829B
2B32	TRANS	832A
2B46	TRANS	6146A
2B94	TRANS	5894
2B/250A	TRANS	807
2C4	THYR	5696A
2C38	TRANS	2C39A
2C39	TRANS	2C39A
GL-2C39	TRANS	2C39A
ML-2C39	TRANS	2C39A
WL-2C39	TRANS	2C39A
2C39A	TRANS	2C39A
GL-2C39A	TRANS	2C39A
ML-2C39A	TRANS	2C39A
SV-2C39A	TRANS	2C39A
WL-2C39A	TRANS	2C39A
2C39B	TRANS	2C39B
GL-2C39B	TRANS	2C39B
ML-2C39B	TRANS	2C39B
WL-2C39B	TRANS	2C39B
2C39WA	TRANS	2C39WA
2C39WB	TRANS	2C39WA
2C40	TRANS	2C40
GL-2C40	TRANS	2C40
2C40A	TRANS	2C40A
GL-2C40A	TRANS	2C40A
2C42	TRANS	2C42
GL-2C42	TRANS	2C42
2C43	TRANS	2C43
GL-2C43	TRANS	2C43
2C44	TRANS	2C43
GL-2C44	TRANS	2C43
2C46	TRANS	2C46
GL-2C46	TRANS	2C46
2C51	IR	5670¶*
2C51W	IR	5670¶*
2D	PHOTO	1P40
2D21	THYR	2D21
CH-2D21	THYR	2D21
GL-2D21	THYR	2D21
NU-2D21	THYR	2D21
PL-2D21	THYR	2D21
WL-2D21	THYR	2D21
2D21W	THYR	5727*
2DF4	IR	2DF4
2E26	TRANS	2E26
GL-2E26	TRANS	2E26
HY-2E26	TRANS	2E26
RK-2E26	TRANS	2E26
WL-2E26	TRANS	2E26
2G57	THYR	5557
2H21	TRANS	GL-2H21
GL-2H21	TRANS	GL-2H21
2H28	RECT	3B28
2H66	RECT	866A
2J42	MAG	2J42
2V/400A	RECT	866A
2XM600A	RECT	866A
2X2	RECT	2X2A
2X2/879	RECT	2X2A
2X2A	RECT	2X2A
GL-2X2A	RECT	2X2A
NU-2X2A	RECT	2X2A
RK-2X2A	RECT	2X2A
TS-2X2A	RECT	2X2A
WL-2X2A	RECT	2X2A
2Y2	RECT	2X2A
C3J	THYR	5632/C3J
C3J/5632	THYR	5632/C3J
EL-C3J	THYR	5632/C3J
QB3/300	TRANS	4D21/4-125A
QB3/300GA	TRANS	4D21/4-125A
QE03/10	IR	5763
QQE03/12	IR	6360
QQV03/10	IR	6360
QQV03/12	IR	5763
QV03/12	IR	5763
QV3-125	TRANS	4D21/4-125A
RG3-250A	RECT	866A
RR3-250	RECT	3B28
TD3-12	TRANS	2C42
3B24W	RECT	3B24W
3B25	RECT	3B28
3B27	RECT	3B28
3B28	RECT	3B28
3B28/CR275	RECT	3B28
3B28/6277	RECT	3B28
AX-3B28	RECT	3B28
CH-3B28	RECT	3B28
UE-3B28	RECT	3B28
3C23	THYR	3C23
AX-3C23	THYR	3C23
CE-3C23	THYR	3C23
GL-3C23	THYR	3C23
NL-3C23	THYR	3C23
WL-3C23	THYR	3C23
UE-3C23	THYR	3C23
3CPN10A5	PT	7815/3CPN10A5
3CX100A5	TRANS	7289/3CX100A5
3CX1000A7/8283	TRANS	3CX1000A7/8283
3CX2500A3/8161	TRANS	3CX2500A3/8161
3CX2500A3/8161	TRANS	3CX2500F3/8251
3CX3000A1	TRANS	3CX3000A1
3E21	TRANS	829B
3E29	TRANS	829B
3G501A	THYR	6807§
3H150J	TRANS	2C39B
3H151J	TRANS	2C39B
3SU103	RECT	3B28
3V390A	THYR	5559
BPM04	IR	6669
CE4D	PHOTO	1P40
4-125A	TRANS	4D21/4-125A
4-125A/4D21	TRANS	4D21/4-125A
AX-4-125A	TRANS	4D21/4-125A
AX-4-125A/6155	TRANS	4D21/4-125A
EM-4-125A	TRANS	4D21/4-125A
4-400A	TRANS	4-400A
GL-4-400A	TRANS	4-400A
WL-4-400A	TRANS	4-400A
4-1000A	TRANS	4-1000A
GL-4-1000A	TRANS	4-1000A
WL-4-1000A	TRANS	4-1000A
EM-4-1000A	TRANS	4-1000A
DCG4-1000	RECT	866A
DCX4-1000G	RECT	3B28
DQ4	RECT	872A/872
KC-4	RECT	5575/100/616
GL-KC-4	RECT	5575/100/616
HM04	IR	5750/6BE6W*
PM04	IR	6660
QB4/1100GA	TRANS	4-400A
QBL4-800	TRANS	4X500A
QQE04/15	TRANS	832A
QQE04/20	TRANS	832A
QQV04/15	TRANS	832A
QY4-400	TRANS	4-400A
QY4-500A	TRANS	4X500A
TY4-350	TRANS	833A
4B13	TRANS	813
4CX250B	TRANS	4CX250B
4CX300A	TRANS	4CX300A/8167
4CX300A/8167	TRANS	4CX300A/8167
4CX1000A	TRANS	4CX1000A/8168
4CX1000A/8168	TRANS	4CX1000A/8168
4CX3000A	TRANS	4CX3000A/8169
4CX3000A/8169	TRANS	4CX3000A/8169
4CX5000A	TRANS	4CX5000A/8170
4CX5000A/8170	TRANS	4CX5000A/8170
4D21	TRANS	4D21/4-125A
GL-4D21	TRANS	4D21/4-125A
PL-4D21	TRANS	4D21/4-125A
RK-4D21	TRANS	4D21/4-125A
WL-4D21	TRANS	4D21/4-125A
4D21/4-125A	TRANS	4D21/4-125A
4G23	THYR	3C23
4G63	THYR	5563A
4G93	THYR	393A
4G/280K	THYR	5727*
4H72	RECT	872A/872
4H88	RECT	8008
4H135M	TRANS	4X150A/7034
4T100	TRANS	813
4T150A1	TRANS	813
4T250AD	TRANS	813
4X150A/7034	TRANS	4X150A/7034
GL-4X150A	TRANS	4X150A/7034
WL-4X150A	TRANS	4X150A/7034
4X250B	TRANS	4CX250B
4X500A	TRANS	4X500A
EM-4X500A	TRANS	4X500A
GL-4X500A	TRANS	4X500A
WL-4X500A	TRANS	4X500A
4Y25	TRANS	807

■Low-Microphonic †Lower Ratings ‡Higher Ratings •Balanced Sections ϕShorter Envelope ¶Higher Heater Current *General Electric Five-Star Type
▲Electrical and Mechanical replacement for other type listed. May require change in water control or oven temperature protection switches.
§Minor dimensional and voltage differences exist which will not affect interchangeability in most circuits.

This interchangeability listing has been prepared to help you find a GE replacement for your tube requirements. It is believed to be accurate as of date issued. However, no responsibility is assumed by the General Electric Company for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
4Y25N	TRANS	807
BT5	THYR	5559
DCG5/5000GB	RECT	872A/872
DCG5/5000GS	RECT	800B
G5A	RECT	872A/872
G5D	RECT	872A/872
PMO5	IR	5654/6A5KW*
QB4/1100	TRANS	4-400A
QE05/40	TRANS	6146A
QE05/40F	TRANS	6883/8032A/8552
QV05-10	TRANS	2E26
QV05/25	TRANS	807
TD05-12	TRANS	2C46
XG5-500	THYR	5557
5B/250A	TRANS	807
5C21	THYR	6807§
5C21/C6J	THYR	6807§
WL-5C21	THYR	6807§
5C/100A	TRANS	813
5H69A	RECT	GL-869B
5R4G	RECT	5R4GYA
5R4GY	RECT	5R4GYA
5R4GYA	RECT	5R4GYA
5R4GYB	RECT	5R4GYB
5S1	TRANS	807
5T33	TRANS	833A
5Y3WGTB	RECT	6087*
C6H-1	THYR	6807§
EL-C6H-1	THYR	6807§
WL-C6H-1	THYR	6807§
C6H-2	THYR	6808§
EL-C6H-2	THYR	6808§
WL-C6H-2	THYR	6808§
C6H-3	THYR	6809§
EL-C6H-3	THYR	6809§
WL-C6H-3	THYR	6809§
C6J	THYR	6807§
EL-C6J	THYR	6807§
NL-C6J	THYR	6807§
C6J/5C21	THYR	6807§
C6JA/A	THYR	6807§
C6JA/5685	THYR	6807§
C6J/F	THYR	6808§
EL-C6J/F	THYR	6808§
C6J/K	THYR	6807§
EL-C6J/K	THYR	6807§
C6J/KF	THYR	6808§
EL-C6J/KF	THYR	6808§
EL-C6J/KL	THYR	6809§
C6J/KL	THYR	6809§
EL-C6J/KL	THYR	6809
C6J/KP	THYR	6808§
NL-C6J/KP	THYR	6808§
C6J/L	THYR	6809§
EL-C6J/L	THYR	6809§
DD6	IR	6663
DD6G	IR	6663
DQ6	RECT	GL-869B
FA-6	VS	GL-5627
QE06/50	TRANS	807
QQE06/40	TRANS	5894
QQV06/40	TRANS	5894
QQV06/40A	TRANS	5894
QV06/20	TRANS	6146A
QV06/20B	TRANS	6883/8032A/8552
QV06/50	TRANS	807
ZP6B	TRANS	2C43
6AB4	IR	6664
6AC7W	IR	6134*
6AC7WA	IR	6134*
6AC7Y	IR	6AC7Y
6AG7Y	IR	6AG7Y
6AH6	IR	6485
6AH6W	IR	6485
6AH6WA	IR	6485
6AJ7	IR	6134*
6AK5	IR	5654/6AK5W*
6AK5W	IR	5654/6AK5W*
6AK5WB	IR	6AK5WB*
6AL5W	IR	5726/6AL5W*
6AN5	IR	6AN5
6AQ5	IR	6005/6AQ5W*
6AQ5A	IR	6005/6AQ5W*
6AQ5A/6HG5	IR	6005/6AQ5W*
6AQ5L	IR	6005/6AQ5W*
6AQ5W	IR	6005/6AQ5W*
6AS6	IR	6AS6
6AS6W	IR	5725/6AS6W*
6AS6/409	IR	5725/6AS6W*
6AS7G	IR	6AS7GA
6AS7GA	IR	6AS7GA
6AU6	IR	7543
6AU6A	IR	7543
6AU6W	IR	6136*
6AU6WA	IR	6136*
6AU6WB	IR	6136*
6AU6WA/WB	IR	6136*
6AU6WC	IR	6136*
6B32	IR	6663
6BA6W	IR	5749/6BA6W*
6BE6W	IR	5750/6BE6W*
6BH6	IR	6661
6BJ6	IR	6662
6BJ6A	IR	6662
6BY4	PT	7077
6C4WA	IR	6C4WA*
6C31	IR	6J4
6CB6	IR	6676
6CB6A	IR	6676
6CB6A/6CF6	IR	6676
6CC10	IR	5692
6CC42	IR	5670*
6CF8	IR	6267
6CL6	IR	6197
6D2	IR	6663
6D4	IR	6D4
6DJ8	IR	6DJ8/ECC88
6DJ8/ECC88	IR	6DJ8/ECC88
6F22	IR	6267
6F31	IR	6660
6F33	IR	6AS6
6F50R	TRANS	4X500A
6G10	THYR	FG-105
6G45	THYR	6807
6J4	IR	6J4
6J4WA	IR	6J4WA
6J4WB	IR	6J4WA
6J6L	IR	5844*
6K4	IR	5718
6L6A	IR	7581A/KT66
6L6AY	IR	7581A/KT66
6L6B	IR	7581A/KT66
6L6G	IR	7581A/KT66
6L6GA	IR	7581A/KT66
6L6GB	IR	7581A/KT66
6L6GC	IR	7581A/KT66
6L6GT	IR	7581A/KT66
6L6GY	IR	7581A/KT66
6L6W	IR	7581A/KT66
6L6WA	IR	7581A/KT66
6L6WB	IR	7581A/KT66
6L6WGB	IR	6L6WGB
6L13	JR	7025
6L41	IR	5763
6R-R8C	IR	5847/404A
6SA7Y	IR	6SA7Y
6SG7Y	IR	6SG7Y
6SJ7	IR	5693
6SJ7Y	IR	5693
6SK7WA	IR	6137*
6SK7Y	IR	6SK7Y
6SN7GT	IR	5692ϕ†
6SN7GTA	IR	5692ϕ†
6SN7GTB	IR	5692ϕ†
6SS7	IR	6137*
6U8	IR	6678
6U8A	IR	6678
6X4W	IR	6202*
6X4WA	IR	6202*
GB6X4WA	IR	6202*
7C24	TRANS	5762/7C24
ML-7C24	TRANS	5762/7C24
7C29	TRANS	GL-7D21
7D11	IR	6550
7D21	TRANS	GL-7D21
7F25A	TRANS	4-1000A/8166
QV07-40	TRANS	829B
QQV07-40	TRANS	829B
7H57	RECT	GL-857B
PJ-8	TRANS	GL-5556
8F66R	TRANS	7007/6166A
8T92	TRANS	892
MS-9S	PHOTO	931A
D2M9	IR	6663
TT10	TRANS	813
10E/9	TRANS	832A
10E/587	TRANS	807
10E/11-141	TRANS	807
11E13	IR	6360
GU12	RECT	866A
TM12	IR	6J4
RY12-100	RECT	8020
12AT7	IR	6679
12AT7W	IR	6201*
12AT7WA	IR	6201*
12AT7WB	IR	6201*
12AT7WC	IR	6201*
12AU7	IR	6189/12AU7WA*
12AU7A	IR	6189/12AU7WA*
12AU7WA	IR	6189/12AU7WA*
12AX7	IR	7025
12AX7A	IR	7025
12AX7WA	IR	12AX7WA*
12AV7	IR	5965A*
12AY7	IR	6072A*
12E13	IR	6550
12SA7Y	IR	12SA7Y
12SG7Y	IR	12SG7Y
13D2	IR	5692
AR14	IGNI	GL-5551A▲
AR14T	IGNI	GL-5551A▲
AR14TP	IGNI	GL-5551A/PC▲
AR14TWS	IGNI	GL-5551A/PC▲
NL-14	THYR	5557
P-14	THYR	5557
PL-14	THYR	5557
14GT8	IR	7724
G15F	PHOTO	927
C16J	THYR	5665/C16J
EL-C16J	THYR	5665/C16J
NL-C16J	THYR	5665/C16J
C16J/5665	THYR	5665/C16J
GS-16SO	PHOTO	1P40
QQV16/40A	TRANS	5894
TT16	TRANS	4D21/4-125A
TT16D	TRANS	4D21/4-125A
17	THYR	5557
DET-17	TRANS	810
DR-17	THYR	5557
EE-17	THYR	5557
FG-17	THYR	5557
HT-17	THYR	5557
MT-17	THYR	5557
P17A	TRANS	807
P17W	TRANS	807
RL-17	THYR	5557
TT-17	THYR	5557
WE-17	THYR	5557
WL-17	THYR	5557
18AK5	IR	408A
TT-18	TRANS	829B
CE-20	PHOTO	927
NU-20	PHOTO	927
REE-20A	TRANS	829B
20A3	THYR	5727*
NU-20C	PHOTO	927
KD-21	VR	OA3
PL-21	THYR	5727*
RL-21	THYR	2D21
BK-24	IGNI	GL-5552A▲
BK-24A	IGNI	GL-5552A▲
BK-24B	IGNI	GL-5552A▲
KD-24	VR	OC3
ARS-25	TRANS	807
ARS-25A	TRANS	807
ATS-25	TRANS	807
CE-25A	PHOTO	927
CE-25B	PHOTO	927
CE-25A/B	PHOTO	927
CEB-25A/B	PHOTO	927
RK-25B	TRANS	807
CE-25C	PHOTO	927
CEB-25C	PHOTO	927
CE-25D	PHOTO	927
CEB-25D	PHOTO	927
G25/3000	RECT	866A
KD-25	VR	OD3
NC-25C	PHOTO	927
NU-25	PHOTO	927
25BG6G	IR	5824
25L6GT	IR	6046
CV26	TRANS	813
BT-27	THYR	FG-105
CR-27	RECT	866A
D27	IR	6663
L29	TRANS	6299
CE-30	PHOTO	1P40
CE-30A	PHOTO	930
CE-30B	PHOTO	930
CE-30C	PHOTO	930
CE-30D	PHOTO	930
CE-30Q	THYR	5557
NU-30	PHOTO	930
REE-30B	TRANS	5894
CV-32	RECT	866A
ECC32	IR	5692
EN32	THYR	2050A
FG-32	RECT	5558
WL-32	RECT	5558
FG-33	THYR	5720
WL-33	THYR	5720
BK-34	IGNI	GL-5553B▲
BK-34A	IGNI	GL-5553B▲
BK-34B	IGNI	GL-5553B▲
REL-34	TRANS	2C40
ECC35	IR	5691
TE-35	IR	5654/6AK5W*
CE-36D	PHOTO	927
EL37	IR	7581A
RK-39	TRANS	807
VT39A	RECT	869B
G40	RECT	869B
V40	RECT	8020
FG-41	THYR	GL-5830
WL-41	THYR	GL-5830
BK-42	IGNI	GL-5551A▲
BK-42A	IGNI	GL-5551A▲
BK-42B	IGNI	GL-5551A▲
EB-42	RECT	GL-857B
VT42	RECT	872A/872
L-FTX-44-5	THYR	5665/C16J
TX-44-5	THYR	5665/C16J
BK-46	IGNI	GL-5555
VT46	RECT	866A
VT46A	RECT	866A
B47	BR	GL-5623/B47
GS-47X	PHOTO	927
U5D	RECT	5Y3WGTB
51A	PHOTO	927
HD-51	VR	OA2
HD-52	VR	OB2
51A3	PHOTO	927
HY51B	TRANS	829B
R51A	PHOTO	927
TS-51	IR	5654/6AK5W*
HD-52	VR	OB2
53AWB	PHOTO	927
VT53	RECT	872A/872
TE-54	IR	5687*
E55L	IR	8233
SR-55	VR	OB2
55B/400A	TRANS	5894
SR-56	VR	OA2
FG-57	THYR	5559
GL-57	THYR	5559
MT-57	THYR	5559
PL-57	THYR	5559
RL-57	THYR	5559
TG-57	THYR	5559
WL-57	THYR	5559
RK-58	TRANS	GL-838
VT60	TRANS	807
VT60A	TRANS	807
DP-61	IR	5654/6AK5W*
HY-61	TRANS	807
HY-61/807	TRANS	807
R61A	PHOTO	930
61A3	PHOTO	930
DF62	IR	1AD4
B65	IR	5692
BK66	IGNI	5550
DY70	IR	5642
EC70	IR	5718
ECC70	IR	6021
EC71	IR	5718
EF71	IR	5899
EL71	IR	5902
EF72	IR	5840
RK-R72	RECT	481B
G75/2D	VR	OA3
GL-75-30	VR	OA3
VR75	VR	OA3
VR75/30	VR	OA3
VR75/ST	VR	OA3
VT75	IR	7581A/KT66
BT-77	THYR	6807§
D77	IR	6663
DD77	IR	5726/6AL5W*
KT77	IR	7581A/KT66
L77	IR	6135*
QD77	IR	5726/6AL5W*
QL77	IR	6135*
X77	IR	5750/6BE6W*
U78	IR	6X4WA*
CC81E	IR	6201*

For footnotes see Page 1273.

Net

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
E81CC	IR	6201*
FG-81	THYR	FG-81A
FG-81A	THYR	FG-81A
WL-81A	THYR	FG-81A
E82CC	IR	6189/12AU7WA*
E82M	IR	5824
EBF82	IR	6678
83	RECT	83
GL-83	RECT	83
E83CC	IR	6681
ECC83	IR	7025
QS83/3	VR	5651
VT83	RECT	83
85A2	VR	5651
EF86	IR	6267
EF87	IR	6267
ECC88	IR	6DJ8/ECC88
E88CC	IR	6922/E88CC
KT88	IR	6550
VT88	TRANS	832A
E90F	IR	6265
GL-90-30	VR	OB3
EL90	IR	6005/6AQ5W*
VR90	VR	OB3
VR90-30	VR	OB3
VR90ST	VR	OB3
AA91E	IR	5726/6AL5W*
BT91	THYR	5544
E91AA	IR	5726/6AL5W*
E91N	THYR	5727*
EB91	IR	5726/6AL5W*
EN91	THYR	2D21
EC92	IR	6664
EN92	THYR	5696A
EF93	IR	6660
EN93	THYR	5696A
EF94	IR	6136*
E95F	IR	5654/6AK5W*
FG-95	THYR	5560
QV95/25	TRANS	807
FG-97	THYR	FG-97
FG-98	THYR	FG-98A
FG-98A	THYR	FG-98A
E99F	IR	6662
100	RECT	5575, 100/616
100A	RECT	8020
100R	RECT	8020
G100A	RECT	GL-857B
ML-100	RECT	5575, 100/616
OT-100	TRANS	8005
QY2-100	TRANS	813
QY2-250	TRANS	813
RL100/2K	TRANS	813
TXM100	THYR	2D21
VT100	TRANS	807
WTT-100	IR	6202*
WTT-102	IR	6087*
ESU103	RECT	866A
WTT-103	IR	6H6
X-103	TRANS	4D21/4-125A
104	RECT	GL-5561
FG-104	RECT	GL-5561
WL-104	RECT	GL-5561
WTT-104	RECT	575A
105	THYR	FG-105
105A	THYR	FG-105
AX-105	THYR	FG-105
AX-105/FG-105	THYR	FG-105
FG-105	THYR	FG-105
G105/1D	VR	OC3
GL-105/30	VR	OC3
MT-105	THYR	FG-105
PL-105	THYR	FG-105
RL-105	THYR	FG-105
WL-105	THYR	FG-105
VR105	VR	OC3
VR105MT	VR	OB3
VR105-30	VR	OC3
VR105ST	VR	OC3
WTT-105	TRANS	892
PL-106	THYR	6858/760P
WTT-106	THYR	5632/C3J
WTT-108	THYR	3C23
108C1	VR	OB2
E108K	VR	OB2
STR108/30	VR	OB2
STV108/30	VR	OB2
WTT-108	THYR	3C23
WTT-110	THYR	GL-5830
WTT-111	THYR	5559
TQ-112	THYR	3C23
WTT-112	THYR	5560
WTT-114	IR	OZ4/OZ4A
VT115A	IR	7581A
VT116	IR	5693
WTT-117	THYR	5557
VT118	TRANS	832A
WTT-118	THYR	FG-105
VT119	RECT	2X2A
WTT-119	THYR	FG-172
P-120-1a	TRANS	813
WTT-122	IR	5693
WTT-123	IR	7408
CV124	TRANS	807
E125A	TRANS	4D21/4-125A
RE-125A	TRANS	4D21/4-125A
T125	TRANS	810
F127A	TRANS	833A
WTT-127	TRANS	833A
BW129	TRANS	889A
HF130	TRANS	GL-838
BR132	TRANS	5762/7C24
WTT-132	IR	OA4G
WTT-133	THYR	393A
WTT-134	THYR	5665 C16J
VT139	VR	OD3
WTT-139	THYR	6807
B142	TRANS	833A
KX142	IR	2X2A
B143	TRANS	833A
C143	TRANS	813
CV143	TRANS	813
C144	TRANS	829B
VT-144	TRANS	813
BW147	TRANS	892
WTT-149	THYR	FG-172
150C1	VR	OA2
150C2	VR	OA2
150C3	VR	OD3
150C4	VR	OA2
G150/3D	VR	OD3
G150/4K	VR	OA2
QS150/40	VR	OD3
SM150-30	VR	OA2
STR150/30	VR	OA2
STV150/30	VR	OA2
VR150	VR	OD3
VR150-30	VR	OD3
VR150MT	VR	OA2
VR150ST	VR	OD3
B152	IR	6679
D152	IR	6663
Q160-1	TRANS	4D21/4-125A
BK168B	IGNI	GL-5822A▲
172	THYR	FG-172
FG-172	THYR	FG-172
WL-172	THYR	FG-172
BW175	TRANS	892
CV177	TRANS	813
C180	TRANS	832A
E180F	IR	6688
G180-2M	VR	OD3
E182CC	IR	7044
E182F	IR	5847/404A
VT-187	RECT	575A
BR191	TRANS	5762/7C24
BR191B-4606	TRANS	5762/7C24
VT-200	VR	OC3
AH201	RECT	866A
WT210-0001	THYR	2D21
WT210-0004	THYR	2050
WT210-0006	IR	6H6
WT210-0008	RECT	866A
WT210-0011	VR	OC3
WT210-0013	IR	5Z3
WT210-0015	THYR	5557
WT210-0016	VR	OB3
WT210-0018	VR	OD3
WT210-0019	IR	83
WT210-0021	IR	6X5GT
WT210-0027	RECT	872A/872
WT210-0029	IR	6C4
WT210-0038	THYR	FG-172
WT210-0040	IR	6202*
WT210-0042	IR	6087*
WT210-0043	THYR	5632/C3J
WT210-0044	RECT	575A
WT210-0045	TRANS	892
WT210-0047	THYR	3C23
WT210-0048	IR	5U4GB
WT210-0051	VR	OA2
WT210-0054	THYR	GL-5830
WT210-0056	THYR	5559
WT210-0057	THYR	5560
WT210-0060	IR	OZ4/OZ4A
WT210-0062	THYR	5557
WT210-0066	THYR	5665/C16J
WT210-0067	THYR	393A
WT210-0069	THYR	5557
WT210-0070	IGNI	GL-5550
WT210-0071	IGNI	GL-5551A
WT210-0072	IGNI	GL-5552A
WT210-0073	IGNI	GL-5553B
WT210-0074	THYR	FG-105
WT210-0075	IGNI	GL-5822A
WT210-0077	THYR	5725*
WT210-0078	THYR	FG-172
WT210-0079	THYR	FG-105
WT210-0081	IR	5693
WT210-0082	IR	7408
WT210-0086	TRANS	833A
WT210-0088	IR	6J5
WT210-0091	IR	OA4G
WT210-0100	THYR	672A
WT210-0106	THYR	5632/C3J
WT210-0108	RECT	6080
WT210-0116	THYR	5560
WT210-0134	THYR	678
WT210-0137	THYR	2050A
WT210-0141	THYR	5632/C3J
WT210-0147	IGNI	GL-5552A
WT210-0149	IGNI	GL-5551A
WT210-0152	IGNI	GL-5553B
WT210-0156	IGNI	GL-5551A
WT210-0157	IGNI	GL-5552A
WT210-0158	IGNI	GL-5551A
WT210-0159	IGNI	GL-5552A
WT210-0162	THYR	7518/710L
WT210-0165	IGNI	GL-5553B
WT210-0166	IGNI	GL-7151
WT210-0170	IGNI	GL-5822A
WT210-0179	THYR	6858/760
WT210-0181	THYR	6809
WT210-0188	THYR	6014 C1K
WT210-0234	THYR	5665/C16J
WT210-0235	IGNI	GL-5552A
WT210-0237	IGNI	GL-5551A
WT210-0240	IGNI	GL-5553B
WT210-0245	THYR	6808§
WT210-0246	IGNI	GL-7681
WT210-0249	IGNI	GL-5551A/PC
WT210-0252	IGNI	GL-5552A/PC
WT210-0258	IGNI	GL-7681
WT210-0263	IGNI	GL-8205
WT210-0274	IGNI	GL-7669
WT210-0275	IGNI	GL-7671
WT210-0281	IGNI	GL-7998
WT210-0283	IGNI	GL-7670
WT210-0285	IGNI	GL-7671/PC
WT210-0290	IGNI	GL-7669/PC
AFX-212	IR	6D4
AH-213	RECT	GL-869B
AH-216	RECT	872A/872
CV216	VR	OD3
VT-216	RECT	816
VR-216A	RECT	866A
AH-217	RECT	872A/872
AX-224	RECT	3B28
ATS-225A	TRANS	807
Z225	RECT	866A
TS229	IR	5687*
VT-229	IR	5691
ECC230	RECT	6080
230N	RECT	5558
VT-231	IR	5692
CE-232	RECT	5558
235A	IGNI	GL-5552A
FG-235A	IGNI	GL-5552A
238A	IGNI	GL-5555
GL-238A	IGNI	GL-5555
238B	IGNI	GL-5555
FG-238B	IGNI	GL-5555
VT-245	THYR	2050
WT-246	THYR	2050
G250/3000	RECT	866A
GRG250/3000	THYR	5557
RG250/3000	RECT	866A
K251	RECT	866A
HF-255	RECT	GL-869B
PL-255	THYR	GL-414‡
255A	RECT	GL-869B
255B	RECT	GL-869B
258A	IGNI	GL-5553B
FG-258A	IGNI	GL-5553B
258B	IGNI	GL-5553B
FG-258B	IGNI	GL-5553B
FG-259B	IGNI	GL-5554
VT-259	TRANS	829B
VT-260	VR	OA3
WT-261	IR	6H6
WT-261A	IR	6H6
WT-262	RECT	866A
WT-269	VR	OC3
WT-270X	IR	5Z3
FG-271	IGNI	GL-5551A
272	THYR	5557
WE-272	THYR	5557
WT-272	THYR	5557
WT-272A	THYR	5557
CR-273	RECT	8008
CR-273/8008	RECT	8008
CR-274	RECT	872A/872
CR-274/872A	RECT	872A/872
274B	IR	5R4GYB
WE-274B	IR	5R4GYB
WT-274	VR	OB3
CR-275	RECT	3B28
FG-280	RECT	FG-280
WT-280	THYR	6807§
VT-286	TRANS	832A
WT-294	VR	OD3
Z300T	IR	OA4G
WT-301	IR	83
304TL	TRANS	304TL
CE-306	THYR	6807§
CE-308	THYR	6807§
WT-308	IR	6X5GT
309	THYR	5557
CE-309	THYR	5557
QB309	IR	6201*
311	THYR	3C23
CE-311	THYR	3C23
F319A	RECT	872A/872
WE-319A	RECT	872A/872
CE-320	THYR	6011/710
320A	THYR	6011/710
CE-320A	THYR	6011/710
QM328	IR	5686*
B329	IR	6680
B339	IR	7025
350A	TRANS	807
353A	RECT	872A/872
F357A	RECT	GL-857B
F357B	RECT	GL-857B
F363A	TRANS	892
F366A	RECT	866A
WE-366A	RECT	866A
F369B	RECT	GL-869B
375A	RECT	575A
F375A	RECT	575A
381	TRANS	2C39B
ML-381	TRANS	2C39B
WT-382	RECT	872A/872
WT-390	IR	6C5
393A	THYR	393A
CE-393A	THYR	393A
GL-393A	THYR	393A
NL-393A	THYR	393A
WE-393A	THYR	393A
396A	IR	5670*
E-400A	TRANS	4-400A
RE-400F	TRANS	4-400A
WE-403	IR	5654/6AK5W*
403A	IR	5654/6AK5W*
403B	IR	5654/6AK5W*
404A	IR	5847/404A
407A	IR	407A
408A	IR	408A
409A	IR	6AS6
WE-409A	IR	6AS6
412A	IR	6203*
414	THYR	GL-414
GL-414	THYR	GL-414
WE-414	THYR	GL-414
415	IGNI	GL-5550
G415	IGNI	GL-5550
GL-415	IGNI	GL-5550
417A	IR	5842/417A
421	IR	5998A
CV424	TRANS	5894
X424D	TRANS	4X150A/7034
WT-439	THYR	FG-172
GL-446	TRANS	2C40
GL-446A	TRANS	2C40

For footnotes see Page 1273.

© United Technical Publications

Net

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
GL-446B	TRANS	2C40
CV449	VR	5651
451	RECT	8020
GL-451	RECT	8020
ZP451	RECT	8020
GL-452	TRANS	892
SRS-455	TRANS	4D21/4-125A
464	TRANS	2C43
464A	TRANS	2C43
GL-464	TRANS	2C43
ZP464A	TRANS	2C43
473	TRANS	5736
GL-473	TRANS	5736
ML-473	TRANS	5736
WL-473	TRANS	5736
X474	TRANS	2C39A
CV475	IR	5899
CV477	IR	5899
WL-481	RECT	481B
WL-481A	RECT	481B
WL-481B	RECT	481B
CV491	IR	6189/12AU7WA*
CV492	IR	7025
502	THYR	2050A
GL-502	THYR	2050A
502A	THYR	2050A
GL502A	THYR	2050A
WL-502A	THYR	2050A
506	IGNI	GL-6228
GL-506	IGNI	GL-6228
507	IGNI	GL-5564
GL-507	IGNI	GL-5564
GL-509	TRANS	889A
GL-510	RECT	GL-857B
512	RECT	575A
GL-512	RECT	575A
GL-512A	RECT	575A
DE-0517	THYR	5557
DG-0517	THYR	5557
GL-549	THYR	5663
VH550A	RECT	866A
VH550H	RECT	866A
VX550A	RECT	3B28
P552/1E	TRANS	4D21/4-125A
ZP-552	TRANS	2C39A
QM556	IR	6202*
QM557	IR	5654/6AK5W*
QM558	IR	5725/6AS6W*
QM559	IR	5726/6AL5W*
EC560	TRANS	2C40
EC562	TRANS	2C39B
CK-571AX	IR	5886
572	TRANS	2C39A
GL-572	TRANS	2C39A
ZP-572	TRANS	2C39A
575A	RECT	575A
AM-575A	RECT	575A
AX-575A	RECT	575A
DR-575A	RECT	575A
EE-575A	RECT	575A
F575A	RECT	575A
GL-575A	RECT	575A
ML-575A	RECT	575A
NL-575A	RECT	575A
WL-575A	RECT	575A
578	RECT	8020
WL-578	RECT	8020
CV597	RECT	2X2A
WT-606	THYR	2D21
ACC-612	THYR	6807
CK612	IR	6AN5
R612G	IR	2X2A
ZP-613	TRANS	2C43
616	RECT	5575/100/616
WL-616	RECT	5575/100/616
CV618	RECT	83
ZP-620	TRANS	2C40
CV627	TRANS	810
CV628	TRANS	811A
630	THYR	2050A
WL-630	THYR	2050A
630A	THYR	2050A
WL-630A	THYR	2050A
631	THYR	5559
WL-631	THYR	5559
CV632	TRANS	829B
632B	THYR	5560
GL-632B	THYR	5560
NL-632B	THYR	5560
632C	THYR	5560
CV635	TRANS	833A
WT-635	THYR	6807§
CV638	TRANS	GL-838
CV642	RECT	872A/872
CV644	RECT	575A
651	IGNI	GL-5552A
651/656	IGNI	GL-5552A
WL-651	IGNI	GL-5552A
DF652	IR	1AD4
652	IGNI	GL-5551A
WL-652	IGNI	GL-5551A
652/657	IGNI	GL-5551A
653	IGNI	GL-5555
WL-653	IGNI	GL-5555
653A	IGNI	GL-5555
WL-653A	IGNI	GL-5555
653B	IGNI	GL-5555
WL-653B	IGNI	GL-5555
655	IGNI	GL-5553B
WL-655	IGNI	GL-5553B
WL-655/658	IGNI	GL-5553B
656	IGNI	GL-5552A
WL-656	IGNI	GL-5552A
657	IGNI	GL-5551A
WL-657	IGNI	GL-5551A
658	IGNI	GL-5553B
DF658	IR	1AD4
WL-658	IGNI	GL-5553B
672	THYR	672A
GL-672	THYR	672A
WL-672	THYR	672A
672A	THYR	672A
GL-672A	THYR	672A
WL-672A	THYR	672A
673	RECT	673
AX673	RECT	673
AX673/6693	RECT	673
GL-673	RECT	673
ML-673	RECT	673
WL-673	RECT	673
678	THYR	678
GL-678	THYR	678
WL-678	THYR	678
679	IGNI	GL-5554
WL-679	IGNI	GL-5554
681	IGNI	GL-5550
681/686	IGNI	GL-5550
WL-681	IGNI	GL-5550
WL-681/686	IGNI	GL-5550
682	IGNI	GL-5550
WL-682	IGNI	GL-5550
RS-685	TRANS	4D21/4-125A
686	IGNI	GL-5550
CV686	VR	OC3
WL-686	IGNI	GL-5550
CV-688	TRANS	2C43
688	IGNI	GL-5564
WL-688	IGNI	GL-5564
689	IGNI	GL-6228
WL-689	IGNI	GL-6228
CV691	RECT	575A
WT-699	IGNI	GL-5550
710	THYR	6011/710
NL-710	THYR	6011/710
710/6011	THYR	6011/710
NL-710/6011	THYR	6011/710
NL-710A	THYR	7725
NL-710AL	THYR	7726
NL-715	THYR	5557
715 5557	THYR	5557
715/5557/FG-17	THYR	5557
NL-715/5557	THYR	5557
NL-716	THYR	6014/C1K
CV717	RECT	5R4GYB
D717	IR	6663
T717	THYR	5557
CV724	RECT	816
N727	IR	6669
W727	IR	6660
ML-728	THYR	5557
EF730	IR	5636
NL-730	THYR	5544
EF731	IR	5899
731A	IR	5654/6AK5W*
EF732	IR	5840
NL-734	THYR	5544
NL-734/5544	THYR	5544
CV752	IR	OA4G
760	THYR	GL-6858/760
CK760	THYR	GL-6858/760
NL-760	THYR	GL-6858/760
NL-760L	THYR	6809▲
760P	THYR	GL-6859/760P
760P/6859	THYR	GL-6859/760P
NL-761	THYR	GL-6858/760
NL-761L	THYR	6809§
NL-761P	THYR	GL-6859/760P
XB-767	THYR	2050A
CV788	TRANS	832A
CV797	THYR	2D21
ECC801	IR	6201*
ECC801S	IR	6201*
ECC802	IR	6189/12AU7WA*
ECC802S	IR	6189/12AU7WA*
ECC803	IR	7025
ECC803S	IR	7025
807	TRANS	807
DR-807	TRANS	807
GL-807	TRANS	807
HY-807	TRANS	807
ML-807	TRANS	807
NU-807	TRANS	807
P-807	IO	7293
RK-807	TRANS	807
TS-807	TRANS	807
UY807	TRANS	807
WL-807	TRANS	807
810	TRANS	810
DR-810	TRANS	810
GL-810	TRANS	810
ML-810	TRANS	810
NU-810	TRANS	810
P-810	VID	7038
T-810	TRANS	810
WL-810	TRANS	810
UE-810	TRANS	810
811	TRANS	811A
DR-811	TRANS	811A
GL-811	TRANS	811A
NU-811	TRANS	811A
WL-811	TRANS	811A
811A	TRANS	811A
DR-811A	TRANS	811A
GL-811A	TRANS	811A
NU-811A	TRANS	811A
RK-811A	TRANS	811A
WL-811A	TRANS	811A
812	TRANS	812A
DR-812	TRANS	812A
GL-812	TRANS	812A
NU-812	TRANS	812A
UE-812	TRANS	812A
WL-812	TRANS	812A
812A	TRANS	812A
DR-812A	TRANS	812A
GL-812A	TRANS	812A
NU-812A	TRANS	812A
WL-812A	TRANS	812A
813	TRANS	813
DR-813	TRANS	813
ECC813	IR	6463
GL-813	TRANS	813
ML-813	TRANS	813
NU-813	TRANS	813
P-813	VID	7038
RK-813	TRANS	813
T-813	TRANS	813
TH813	TRANS	813
UE-813	TRANS	813
WL-813	TRANS	813
816	RECT	816
DR-816	RECT	816
GL-816	RECT	816
HY-816	RECT	816
NU-816	RECT	816
P-816	IO	5820A
RK-816	RECT	816
WL-816	RECT	816
P-820	VID	7038
829	TRANS	829B
GL-829	TRANS	829B
NU-829	TRANS	829B
RK-829	TRANS	829B
829A	TRANS	829B
829B	TRANS	829B
GL-829B	TRANS	829B
ML-829B	TRANS	829B
NU-829B	TRANS	829B
RK-829B	TRANS	829B
T-829B	TRANS	829B
WL-829B	TRANS	829B
832	TRANS	832A
GL-832	TRANS	832A
NU-832	TRANS	832A
RK-832	TRANS	832A
832A	TRANS	832A
DR-832A	TRANS	832A
GL-832A	TRANS	832A
ML-832A	TRANS	832A
NU-832A	TRANS	832A
RK-832A	TRANS	832A
T-832A	TRANS	832A
WL-832A	TRANS	832A
833	TRANS	833A
C-833	TRANS	833A
WL-833	TRANS	833A
833A	TRANS	833A
DR-833A	TRANS	833A
ES-833A	TRANS	833A
GL-833A	TRANS	833A
ML-833A	TRANS	833A
UE-833A	TRANS	833A
WL-833A	TRANS	833A
838	TRANS	GL-838
C-838	TRANS	GL-838
DR-838	TRANS	GL-838
GL-838	TRANS	GL-838
NU-838	TRANS	GL-838
T-838	TRANS	GL-838
UE-838	TRANS	GL-838
WL-838	TRANS	GL-838
P-841	VID	8507A
P-843	VID	8572
P-844	VID	8572
P-848	VID	8507A
CV850	IR	5654/6AK5W*
S-856	VR	OA2
857	RECT	GL-857B
857A	RECT	GL-857B
F-857A	RECT	GL-857B
GL-857A	RECT	GL-857B
857B	RECT	GL-857B
DR-857B	RECT	GL-857B
F-857B	RECT	GL-857B
GL-857B	RECT	GL-857B
ML-857B	RECT	GL-857B
WL-857B	RECT	GL-857B
S-860	VR	OB2
EF861	IR	6688*
862	TRANS	862A
F-862	TRANS	862A
GL-862	TRANS	862A
P-862	VID	7735B
RCA-862	TRANS	862A
ECC863	IR	7025
F-863	TRANS	892
RCA-863	TRANS	892
F-863A	TRANS	892
P-864	VID	7735B
866	RECT	866A
C-866	RECT	866A
RK-866	RECT	866A
UX-866	RECT	866A
866A	RECT	866A
866AX	RECT	866A
866A CR27	RECT	866A
866A 3B28	RECT	866A
AG-866A	RECT	866A
C-866A	RECT	866A
CE-866A	RECT	866A
EE-866A	RECT	866A
ESU-866A	RECT	866A
GL-866A	RECT	866A
GL-866A/866	RECT	866A
HF-866A	RECT	866A
HY-866A/866	RECT	866A
ML-866A	RECT	866A
NU-866A/866	RECT	866A
RCA-866A	RECT	866A
T-866A/866	RECT	866A
UE-866A	RECT	866A
UX-866A	RECT	866A
WL-866A	RECT	866A
866JR	RECT	816
869	RECT	GL-869B
869A	RECT	GL-869B
UV-869A	RECT	GL-869B
869B	RECT	GL-869B
AG-869B	RECT	GL-869B
CE-869B	RECT	GL-869B
DR-869B	RECT	GL-869B
EE-869B	RECT	GL-869B
F-869B	RECT	GL-869B

For footnotes see Page 1273.

Net

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
GL-869B	RECT	GL-869B
ML-869B	RECT	GL-869B
NL-869B	RECT	GL-869B
WL-869B	RECT	GL-869B
870	RECT	GL-870A
870A	RECT	GL-870A
GL-870A	RECT	GL-870A
872	RECT	872A/872
872A	RECT	872A/872
872AX	RECT	872A/872
DR-872	RECT	872A/872
EE-872	RECT	872A/872
F-872A	RECT	872A/872
GL-872A	RECT	872A/872
ML-872A	RECT	872A/872
ML-872A/872	RECT	872A/872
NL-872A	RECT	872A/872
RK-872A	RECT	872A/872
UE-872A	RECT	872A/872
VE-872A	RECT	872A/872
WL-872A	RECT	872A/872
WL-872A/872	RECT	872A/872
875A	RECT	575A
T-875A	RECT	575A
879	IR	2X2A
880	TRANS	880
GL-880	TRANS	880
ML-880	TRANS	880
UE-880	TRANS	880
WL-880	TRANS	880
880A	TRANS	880
889	TRANS	889A
889A	TRANS	889A
F-889A	TRANS	889A
GL-889A	TRANS	889A
ML-889A	TRANS	889A
UE-889A	TRANS	889A
WL-889A	TRANS	889A
892	TRANS	892
ESW-892	TRANS	892
ESW-892C	TRANS	892
F-892	TRANS	892
GL-892	TRANS	892
ML-892	TRANS	892
UE-892	TRANS	892
WL-892	TRANS	892
892A	TRANS	892
A-0897	TRANS	A-0897
EH-900S	IR	7036*
Z-900T	VR	5823
EAA901	IR	5726/6AL5W*
EAA901S	IR	5726/6AL5W*
S901C	VR	5651
EF905	IR	5654/6AK5W*
UL-905	THYR	5559
A-0913	PT	A-0913
TX-920	THYR	5559
927	PHOTO	927
GL-927	PHOTO	927
WL-927	PHOTO	927
930	PHOTO	930
GL-930	PHOTO	930
WL-930	PHOTO	930
931	PHOTO	931A
931A	PHOTO	931A
GL-931A	PHOTO	931A
WL-931A	PHOTO	931A
CV932	TRANS	2C40
UE-938	TRANS	GL-838
CV939	IR	5824
SN-956	IR	5642
SN-956A	IR	5642
SN-956B	IR	5642
UE-966	RECT	866A
UE-966A	RECT	866A
BM-966B	RECT	866A
HV-966B	RECT	866A
967	THYR	5557
NU-967	THYR	5557
UE-967	THYR	5557
UE-972	RECT	872A/872
UE-972A	RECT	872A/872
SN-972D	IR	5899
SN973	IR	5840
SN973C	IR	5840
975A	RECT	575A
UE-975A	RECT	575A
976	THYR	5557
SN-976	IR	5902
SN-976D	IR	5902
SN-979	IR	5718
SN-979D	IR	5718
SN-980	IR	5719
SN-980D	IR	5719
SN994B	IR	5896
RG-1000/3000	RECT	872A/872
STE-1000/2.5-15	THYR	5559
RS-1002A	IR	OZ4/OZ4A
RS-1007	TRANS	4D21/4-125A
NL-1009A	IGNI	GL-7681
NL-1009/AP	IGNI	GL-7681/PC
RS-1009	TRANS	5894
WT-1009	IGNI	GL-7681
WT-1009/210/0246	IGNI	GL-7681
NL-1011	IGNI	GL-5551A
NL-1011A	IGNI	GL-5551A
NL-1011/AP	IGNI	GL-5551A/PC
NL-1012	IGNI	GL-5552A
NL-1012A	IGNI	GL-5552A
NL-1012AP	IGNI	GL-5552A/PC
NL-1013	IGNI	GL-5553B
NL-1013A	IGNI	GL-5553B
NL-1014A	IGNI	GL-7151
NL-1016	IGNI	GL-7681
NL-1016A	IGNI	GL-7681
NL-1016AP	IGNI	GL-7681/PC
RS-1020	IR	6360
NL-1022	IGNI	GL-5822A
NL-1022A	IGNI	GL-5822A
NL-1022AP	IGNI	GL-5822A/PC
WT-1022/210/0170	IGNI	GL-5822A
ZP-1031	TRANS	GL-8513
SN-1039A	IR	5840
NL-1051	IGNI	GL-5551A
NL-1051A	IGNI	GL-5551A
NL-1051AP	IGNI	GL-5551A/PC
WT-1051A/210/0158	IGNI	GL-5551A
WT-1051A/210/0244	IGNI	GL-5551A/PC
NL-1051P	IGNI	GL-5551A/PC
NL-1052	IGNI	GL-5552A
NL-1052A	IGNI	GL-5552A
NL-1052AP	IGNI	GL-552A/PC
WT-1052A/210/0159	IGNI	GL-5552A
NL-1052P	IGNI	GL-5552A/PC
WT-1052P/210/0252	IGNI	GL-5552A/PC
NL-1053	IGNI	GL-5553B
WT-1053A/210/0165	IGNI	GL-5553B
WT-1053P	IGNI	GL-5553B/PC
NL-1054	IGNI	GL-7151
NL-1054A	IGNI	GL-7151
NL-1059	IGNI	GL-37207
CV1060	TRANS	807
NL-1061	IGNI	GL-7669
NL-1061P	IGNI	GL-7669/PC
NL-1062	IGNI	GL-7671
NL-1062P	IGNI	GL-7671/PC
NL-1064	IGNI	GL-8205
NL-1066	IGNI	GL-7670
NL-1068	IGNI	GL-7672
NL-1071	IGNI	GL-7669
NL-1071P	IGNI	GL-7669/PC
NL-1072	IGNI	GL-7671
NL-1072P	IGNI	GL-7671/PC
NL-1073	IGNI	GL-7673
NL-1074	INI	GL-8205
CV1075	IR	7581A
NL-1079	IGNI	GL-7998
CV1088	TRANS	832A
CK-1090	VR	5823
V-1103	IR	6360
C-1108	TRANS	4D21/4-125A
C-1136	TRANS	4-400A
SC-1104A	IR	5719
CV1144	THYR	5557
Y-1171	PT	Y-1171
QS1205	VR	OA3
QS1206	VR	OC3
QS1207	VR	OA2
QS1208	VR	OB2
QS1209	VR	5651
GB1219	IR	5670*
1220	IR	5654/6AK5W*
1257	THYR	5559
1266	VR	OB3
PL-1267	VR	OA4G
RL-1267	VR	OA4G
1295	THYR	5560
S-1300-01-05	THYR	2D21
TD1320	VID	7038
CV1364	TRANS	807
YL-1370	TRANS	6146/8298A
YL-1371	TRANS	6883B/8032A/8552
CV1374	TRANS	807
1381HQ	IR	5654/6AK5W*
CV1449	RECT	872A/872
ME1504	THYR	5559
CV1572	TRANS	807
1614	IR	7581A/KT66
GL-1614	IR	7581A/KT66
RK-1614	IR	7581A/KT66
1620	IR	6J7
1622	IR	7581A/KT66
GL-1622	IR	7581A/KT66
1632	IR	12W6GT
1649	IR	6134*
1656	TRANS	2C43
1657	THYR	2050
1665	THYR	2050
1672	THYR	FG-172
1701	THYR	5557
HF-1701	THYR	5557
CV1730	IR	7581A
CV1763	IR	6J4
CV1832	VR	OA2
CV1833	VR	OB2
A1834	IR	6080
CV1835	RECT	3B28
1852	IR	6134*
CV1852	VR	OA2
1853	IR	6134*
E-1870	TRANS	4D21/4-125A
G-1889A	TRANS	889A
CV1949	IR	6D4
E1955	THYR	2D21
Z-1975	DUPL	Z-1975
CV1992	IR	OA4G
2014	IR	6197
CV2014	IR	5763
CV2020	IR	5654/6AK5W*
2050	THYR	2050
GL-2050	THYR	2050
RK-2050	THYR	2050
WL-2050	THYR	2050
2050A	THYR	2050A
GL-2050A	THYR	2050A
NL-2050A	THYR	2050A
WL-2050A	THYR	2050A
2051	THYR	2050
RK-2051	THYR	2050
2076	IR	5R4GYB
2081	IR	6AW8A
2082	IR	6072A
2100A	RECT	8020
CV2103	IR	6973
CV2129	IR	5763
CV2130	TRANS	4D21/4-125A
A-2130A	TRANS	8005
2179A	TRANS	2C40
A-2203	TRANS	2C43
A-2209	IR	6J4
CV2210	THYR	5544
A-2214J	TRANS	6161
CV2215	THYR	6807§
A-2222	TRANS	2C43
A-2229A	TRANS	2C40
CV2237	IR	1AD4
CV2241	IR	5642
A-2252	TRANS	5675
A-2293C	TRANS	2C42
A-2294C	TRANS	2C46
A-2352	TRANS	5675
QA2401	IR	6C4WA*
QS2404	IR	5726/6AL5W*
QS2406	IR	6201*
QA2407	IR	6202*
QA2408	IR	5692
CV2466	TRANS	6939
CV2492	IR	6922/E88CC
STE-2500/6/40	THYR	FG-105
AG-2509	VR	5651
CV2522	IR	6AS6
CV2523	IR	6AS7GA
CV2565	THYR	2050A
CV2573	VR	5651
CV2575	IR	5670¶*
CV2578	IR	5687*
CV2638	THYR	393A
CV2642	IR	5842/417A
CV2643	TRANS	2C40
CV2650	IR	12AY7
CV2661	TRANS	812A
CV2666	TRANS	829B
CV2679	RECT	816
CV2685	TRANS	880
CV2686	TRANS	889A
CV2694	PHOTO	930
CV2695	PHOTO	931A
CV2696	PHOTO	931A
CV2698	IR	5896
CV2721	THYR	2050
CV2723	RECT	GL-869B
CV2753	THYR	5632/C3J
CV2754	THYR	6807*
CV2790	THYR	6014/C1K
CV2797	TRANS	5894
CV2798	IR	6360
CV2842	IR	6C4WA*
CV2844	IR	6202*
CV2854	IR	6AN5
CV2858	RECT	3B24W
CV2876	IR	5727*
CV2877	IR	5654/6AK5W*
CV2882	IR	5726/6AK5W*
CV2883	IR	6005/6AQ5W*
CV2884	IR	5725/6AS6W*
CV2901	IR	6267
CV2957	THYR	5557
CV2963	TRANS	4D21/4-125A
CV2967	RECT	8020
CV2984	IR	6080
CV2990	IR	6136*
3069	RECT	866A
3070	RECT	872A/872
3071	RECT	GL-869B
3072	RECT	GL-857B
WX-3172	THYR	672A
WX-3187	THYR	GL-414
WX-3194	IGNI	GL-5550
XRI-3200	THYR	5544
WX-3230	THYR	678
CV3508	IR	6201*
CV3512	THYR	5696A
CV3523	TRANS	6146B/8298A
3546PW	PHOTO	927
3572	RECT	866A
CV3599	IR	12AY7
CV3650	TRANS	807
CV3679	IR	5693
CV3706	TRANS	832A
CV3714	RECT	2X2A
WX-3751	RECT	866A
CV3789	IR	5842/417A
CV3798	VR	OA3
CV3799	VR	OB3
3852A	TRANS	2C39A
3861B	TRANS	4X150A/7034
3874A	TRANS	813
CV3880	TRANS	4-1000A
3881A	TRANS	2C43
3885A	RECT	3B28
CV3900	IR	5963
CV3905	IR	5847/404A
CV3908	IR	6661
CV3929	IR	5840
CV3930	IR	5718
CV3942	IR	5692
CV3974	IR	6AS7GA
CV3986	IR	6021
CV3990	TRANS	2E26
CV3998	IR	6688*
CV4003	IR	6189/12AU7WA*
CV4007	IR	5726/6AL5W*
CV4008	IR	5719
CV4009	IR	5749/6BA6W*
CV4010	IR	5654/6AK5W*
CV4011	IR	5725/6AS6W*
CV4016	IR	6189/12AU7WA*
4017	RECT	866A
CV4017	IR	5751*
CV4018	IR	5727*
CV4019	IR	6005/6AQ5W*
CV4022	IR	6135*
CV4023	IR	6136*
CV4024	IR	6201*
CV4025	IR	5726/6AL5W*

For footnotes see Page 1273.

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
CV4029	IR	5902
CV4032	IR	5814A*
CV4039	IR	5763
CV4050	IR	5654/6AK5W*
A-4051	TRANS	807
A-4051G	TRANS	807
A-4051J	TRANS	807
CV4054	IR	5654/6AK5W*
4078F	RECT	GL-869B
4078Z	RECT	GL-869B
4260	THYR	5557
4261	THYR	5557
A-4273B	IR	5692
TY-4350	TRANS	833A
4401	IO	4401
4414	IO	5820A
4414/7611	IO	5820A
SRS-4451	TRANS	5894
A-4461	IR	5749/6BA6W*
4471	PHOTO	931A
4472	PHOTO	931A
A-4475	IR	6AS7GA
4478	VID	7262A
4493	VID	4493
4494	VID	4494
4495	VID	4495
A-4522	IR	7025
A-4524A	IR	7025
A-4535	IR	6080
A-4535A	IR	6080
A-4541H	IR	5763
4606	TRANS	5762 7C24
4620	RECT	GL-857B
5000GB	RECT	872A 872
5000GS	RECT	8008
EHW5000	TRANS	889A
ESW5000	TRANS	889A
CV5008	IR	6080
AGS5017	THYR	5557
PA-5021	RECT	866A
TH-5021B	RECT	866A
AGS5021	THYR	2D21
AGS5023	THYR	3C23
CV5027	THYR	5559
TH-5031B	RECT	872A 872
CV5043	TRANS	811A
Z-5053	TRANS	GL-6942
TH-5071	RECT	GL-857B
CV5122	VR	5823
CV5186	VR	5651
CV5188	VR	5651
Z-5188	IGNI	Z-5188
CV5189	IR	5726 6AL5W*
Z-51891	IGNI	Z-5189
CV5190	IR	6005 6AQ5W*
Z-5190	IGNI	Z-5190
Z-5191	IGNI	Z-5191
AGS210	VR	OB2
AGS211	VR	OA2
CV5212	IR	6201*
CV5216	IR	5654 6AK5W*
CV5220	IR	6550
TH-5221V/B	RECT	3B28
CV5311	IR	6J4WA
CV5358	IR	6DJ8 ECC88
Z-5369	DUPL	Z-5369
CV5404	IR	6463
5513	TRANS	GL-5513
GL-5513	TRANS	GL-5513
WL-5513	TRANS	GL-5513
5518	TRANS	GL-5518
GL-5518	TRANS	GL-5518
ML-5518	TRANS	GL-5518
5528	THYR	6807§
5528/C6L	THYR	6807§
5544	THYR	5544
ASG5544	THYR	5544
GL-5544	THYR	5544
MT-5544	THYR	5544
PL-5544	THYR	5544
5545	THYR	6807§
ASG5545	THYR	6807§
GL-5545	THYR	6807§
5549	TRANS	GL-5549
GL-5549	TRANS	GL-5549
5550	IGNI	GL-5550
AX-5550	IGNI	GL-5550
GL-5550	IGNI	GL-5550
NL-5550	IGNI	GL-5550
WL-5550	IGNI	GL-5550
5550/GL-415	IGNI	GL-5550
GL-5550/ GL-415	IGNI	GL-5550
WL-5550/681	IGNI	GL-5550
WL-5550/ 681/686	IGNI	GL-5550
WT-5550/ 210-0070	IGNI	GL-5550
AJ-5551	IGNI	GL-5551A
AX-5551	IGNI	GL-5551A
AX-5551/652	IGNI	GL-5551A
GL-5551	IGNI	GL-5551A
GL-5551/ FG-271	IGNI	GL-5551A
NL-5551	IGNI	GL-5551A
PL-5551	IGNI	GL-5551A
VJ-5551	IGNI	GL-5551A
WL-5551	IGNI	GL-5551A
WL-5551/652	IGNI	GL-5551A
WT-5551	IGNI	GL-5551A
5551A	IGNI	GL-5551A
5551A/PC	IGNI	GL-5551A/PC
AJ-5551A	IGNI	GL-5551A
AX-5551A	IGNI	GL-5551A
GL-5551A	IGNI	GL-5551A
GL-5551A/PC	IGNI	GL-5551A/PC
GL-5551A/ FG-271	IGNI	GL-5551A
PL-5551A	IGNI	GL-5551A
WL-5551A	IGNI	GL-5551A
WL-5551A/PC	IGNI	GL-5551A/PC
5552	IGNI	GL-5552A
AX-5552	IGNI	GL-5552A
AX-5552/651	IGNI	GL-5552A
GL-5552	IGNI	GL-5552A
NL-5552	IGNI	GL-5552A
PL-5552	IGNI	GL-5552A
WL-5552	IGNI	GL-5552A
WT-5552	IGNI	GL-5552A
5552A	IGNI	GL-5552A
5552AP	IGNI	GL-5552A/PC
5552A/PC	IGNI	GL-5552A/PC
5552A/651	IGNI	GL-5552A
AJ-5552A	IGNI	GL-5552A
AX-5552A	IGNI	GL-5552A
GL-5552A	IGNI	GL-5552A
GL-5552A/ FG-235A	IGNI	GL-5552A
NL-5552A	IGNI	GL-5552A
PL-5552A	IGNI	GL-5552A
VJ-5552A	IGNI	GL-5552A
WL-5552A	IGNI	GL-5552A
WL-5552AP	IGNI	GL-5552A/PC
WL-5552A/651	IGNI	GL-5552A
WL-5552A/ 651/PC	IGNI	GL-5552A/PC
5553	IGNI	GL-5553B
AX-5553	IGNI	GL-5553B
AX-5553 655	IGNI	GL-5553B
WL-5553	IGNI	GL-5553B
5553A	IGNI	GL-5553B
AJ-5553A	IGNI	GL-5553B
GL-5553A	IGNI	GL-5553B
5553B	IGNI	GL-5553B
5553B PC	IGNI	GL-5553B/PC
5553B 655	IGNI	GL-5553B
AJ-5553B	IGNI	GL-5553B
AX-5553B	IGNI	GL-5553B
GL-5553B	IGNI	GL-5553B
NL-5553B	IGNI	GL-5553B
NL-5553B/PC	IGNI	GL-5553B/PC
PL-5553B	IGNI	GL-5553B
VJ-5553B	IGNI	GL-5553B
WL-5553B	IGNI	GL-5553B
WL-5553B/655	IGNI	GL-5553B
WL-5553B/PC	IGNI	GL-5553B/PC
WL-5553B/ 655/PC	IGNI	GL-5553B/PC
5554	IGNI	GL-5554
5554 FG-259B	IGNI	GL-5554
AX-5554	IGNI	GL-5554
AX-5554/679	IGNI	GL-5554
GL-5554	IGNI	GL-5554
GL-5554/ FG-259B	IGNI	GL-5554
WL-5554	IGNI	GL-5554
WL-5554/679	IGNI	GL-5554
5555	IGNI	GL-5555
AX-5555	IGNI	GL-5555
GL-5555	IGNI	GL-5555
NL-5555	IGNI	GL-5555
PL-5555	IGNI	GL-5555
WL-5555	IGNI	GL-5555
5555/FG-238B	IGNI	GL-5555
5555/238	IGNI	GL-5555
AX-5555/653B	IGNI	GL-5555
GL-5555/ FG-238A	IGNI	GL-5555
GL-5555/ RG-238B	IGNI	GL-5555
5555A	IGNI	GL-6513▲
NL-5555A	IGNI	GL-6513▲
WL-5555A	IGNI	GL-6513▲
5556	TRANS	GL-5556
5556/PJ8	TRANS	GL-5556
GL-5556	TRANS	GL-5556
5557	THYR	5557
AX-5557	THYR	5557
AX-5557/ 17/1701	THYR	5557
GL-5557	THYR	5557
GL-5557/FG-17	THYR	5557
WL-5557	THYR	5557
WL-5557/17	THYR	5557
5557/715	THYR	5557
5558	RECT	5558
5558/FG-32	RECT	5558
GL-5558	RECT	5558
GL-5558/FG-32	RECT	5558
NL-5558	RECT	5558
WL-5558	RECT	5558
WL-5558/32	RECT	5558
5559	THYR	5559
AX-5559	THYR	5559
GL-5559	THYR	5559
GL-5559/FG-57	THYR	5559
NL-5559	THYR	5559
NL-5559/FG-57	THYR	5559
WL-5559	THYR	5559
WL-5559/57	THYR	5559
5560	THYR	5560
GL-5560/FG-95	THYR	5560
NL-5560 FG-95	THYR	5560
5561	RECT	5561
5561/104	RECT	5561
5561/FG-104	RECT	5561
GL-5561	RECT	5561
GL-5561/ FG-104	RECT	5561
WL-5561	RECT	5561
WL-5561/104	RECT	5561
5563	THYR	5563A
F-5563	THYR	5563A
5563A	THYR	5563A
GL-5563A	THYR	5563A
5564	IGNI	GL-5564
GL-5564	IGNI	GL-5564
GL-5564/ GL-507	IGNI	GL-5564
5575	PECT	5575/100/616
5575 100/616	RECT	5575/100/616
GL-5575/ 100/616	RECT	5575/100/616
ML-5575	RECT	5575/100/616
WL-5575	RECT	5575/100/616
5576 200	RECT	5576 200
5591	IR	5654 6AK5W*
5593	TRANS	GL-5593
GL-5593	TRANS	GL-5593
5606	TRANS	5606
5606A	TRANS	5606A
GL-5623/B47	BR	GL-5623/B47
5625	RECT	5575/100/616
GL-5625	RECT	5575/100/616
GL-5625/KC-4	RECT	5575/100/616
5627	VS	GL-5627
GL-5627	VS	GL-5627
5630	IGNI	GL-5630
GL-5630	IGNI	GL-5630
5632	THYR	5632/C3J
5632 C3J	THYR	5632/C3J
GL-5632 C3J	THYR	5632 C3J
NL-5632 C3J	THYR	5632 C3J
5640	IR	5902
5642	IR	5642
5648	TRANS	2C39B
5651	VR	5651
GL-5651	VR	5651
WL-5651	VR	5651
5654	IR	5654/6AK5W*
5654/6AK5W/ 6096	IR	5654/6AK5W*
CK5654	IR	5654/6AK5W*
GL-5654	IR	5654/6AK5W*
WL-5654/ 6AK5W	IR	5654/6AK5W*
5658	TRANS	880
5663	THYR	5663
5665	THYR	5665/C16J
5665/C16J	THYR	5565/C16J
GL-5665	THYR	5665/C16J
WL-5665	THYR	5665/C16J
5670	IR	5670*
5670WA	IR	5670*
GL-5674	TRANS	GL-5674
5675	TRANS	5675
5684	THYR	5632 C3J
5685/C6J	THYR	6807§
AX-5685/C6J	THYR	6807§
WL-5685/ C6J/A	THYR	6807§
5686	IR	5686*
5687	IR	5687*
5687WA	IR	5687WA*
5687WB	IR	5687WB*
GL-5687	IR	5687*
WL-5687	IR	5687*
5691	IR	5691
GL-5691	IR	5691
WL-5691	IR	5691
5692	IR	5692
GL-5692	IR	5692
WL-5692	IR	5692
5693	IR	5693
GL-5693	IR	5693
WL-5693	IR	5693
5696	THYR	5696A
GL-5696	THYR	5696A
WL-5696	THYR	5696A
5696A	THYR	5696A
5718	IR	5718
GL-5718	IR	5718
WL-5718	IR	5718
5718A	IR	5718
5719	IR	5719
5719A	IR	5719
5720	THYR	5720
GL-5720	THYR	5720
GL-5720 FG-33	THYR	5720
NL-5720	THYR	5720
NL-5720 FG-33	THYR	5720
WL-5720	THYR	5720
5725	IR	5725 6AS6W*
5725/6AS6W	IR	5725 6AS6W*
5725 6AS6W/ 6187	IR	5725/6AS6W*
GL-5725	IR	5725/6AS6W*
5726	IR	5726 6AL5W*
5726 6AL5W/ 6097	IR	5726 6AL5W*
5727	THYR	5727*
5727 2D21W	THYR	5727*
GL-5727	THYR	5727*
WL-5727	THYR	5727*
5736	TRANS	5736
GL-5736	TRANS	5736
ML-5736	TRANS	5736
WL-5736	TRANS	5736
5749	IR	5749 6BA6W*
5749 6BA6W	IR	5749 6BA6W*
GL-5749	IR	5749 6BA6W*
5750	IR	5750 6BE6W*
5750 6BE6W	IR	5750 6BE6W*
GL-5750	IR	5750 6BE6W*
5751	IR	5751*
CK5751	IR	5751*
GL-5751	IR	5751*
WL-5751	IR	5751*
5762	TRANS	5762 7C24
5762 7C24	TRANS	5762 7C24
5762A	TRANS	5762 7C24
5763	IR	5763
GL-5763	IR	5763
WL-5763	IR	5763
GL-5779	IGNI	GL-5779
CK5783	VR	5651
GL-5788	IGNI	GL-5788
5814	IR	5814A*
CK5814	IR	5814A*
5814A	IR	5814A*
CK5814A	IR	5814A*
GL-5814A	IR	5814A*
WL-5814A	IR	5814A*
5820	IO	5820A

For footnotes see Page 1273.

Net

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
GL-5820	IO	5820A
ML-5820	IO	5820A
WL-5820	IO	5820A
5820A	IO	5820A
5820A/L	IO	5820A
GL-5820A	IO	5820A
WL-5820A	IO	5820A
5820E	IO	5820A
5822	IGNI	GL-5822A
GL-5822	IGNI	GL-5822A
NL-5822	IGNI	GL-5822A
WL-5822	IGNI	GL-5822A
5822A	IGNI	GL-5822A
GL-5822A/PC	IGNI	GL-5822A/PC
AX-5822A	IGNI	GL-5822A
GL-5822A	IGNI	GL-5822A
NL-5822A	IGNI	GL-5822A
PL-5822A	IGNI	GL-5822A
WL-5822A	IGNI	GL-5822A
5823	VR	5823
WL-5823	VR	5823
5824	IR	5824
GL-5824	IR	5824
WL-5824	IR	5824
5830	THYR	GL-5830
GL-5830	THYR	GL-5830
GL-5830/FG-41	THYR	GL-5830
WL-5830	THYR	GL-5830
5840	IR	5840
GL-5840	IR	5840
5842	IR	5842/417A
5842/417A	IR	5842/417A
CV5843	IR	5965A
5844	IR	5844*
5847	IR	5847/404A
5855	THYR	5855
GL-5855	THYR	5855
5877	THYR	5544
WL-5877	THYR	5544
5878	THYR	6807§
WL-5878	THYR	6807§
5879	IR	5879
GL-5879	IR	5879
WL-5879	IR	5879
5881	IR	5881
GL-5881	IR	5881
WL-5881	IR	5881
5886	IR	5886
CK5886	IR	5886
WL-5886	IR	5886
CV5893	IR	5654/6AK5W*
5894	TRANS	5894
CV5894	IR	5670*
GL-5894	TRANS	5894
ML-5894	TRANS	5894
WL-5894	TRANS	5894
5894A	TRANS	5894
CV5895	IR	5750/6BE6W*
CV5896	IR	6136*
5896	IR	5896
5897	IR	5718
5898	IR	5719
5899	IR	5899
5899A	IR	5899
5900	IR	5899
5901	IR	5840
5902	IR	5902
GL-5902	IR	5902
WL-5902	IR	5902
5902A	IR	5902
5915	IR	7036‡*
GL-5915	IR	7036‡*
5915A	IR	7036‡*
5924	TRANS	5924A
5924A	TRANS	5924A
5932	IR	7581A/KT66‡
5933	TRANS	807
5963	IR	5963
GL-5963	IR	5963
WL-5963	IR	5963
5964	IR	5964
GL-5964	IR	5964
WL-5964	IR	5964
5965	IR	5965A*
GL-5965	IR	5965A*
WL-5965	IR	5965A*
5965A	IR	5965A*
CV5986	IR	6112
5998	IR	5998A
5998/421	IR	5998A
5998A	IR	5998A
6005	IR	6005/6AQ5W*
6005/6AQ5W	IR	6005/6AQ5W*
6005/6AQ5W/6095	IR	6005/6AQ5W*
6011	THYR	6011/710
ASG-6011	THYR	6011/710
GL-6011	THYR	6011/710
GL-6011/710	THYR	6011/710
PL-6011	THYR	6011/710
WL-6011	THYR	6011/710
TH-6011	THYR	5557
6012	THYR	6012
WL-6012	THYR	6012
6014	THYR	6014/C1K
6014/C1K	THYR	6014/C1K
GL-6014	THYR	6014/C1K
WL-6014	THYR	6014/C1K
6021	IR	6021
GL-6021	IR	6021
WL-6021	IR	6021
6028	IR	408A
6028/408A	IR	408A
6031	THYR	5559
TH-6031	THYR	5559
6039	TRANS	GL-6039
GL-6039	TRANS	GL-6039
6046	IR	6046
GL-6046	IR	6046
6057	IR	7025
6058	IR	5726/6AL5W*
6060	IR	6201*
6062	TRANS	5763
6067	IR	5814A*
6072	IR	6072A*
GL-6072	IR	6072A*
WL-6072	IR	6072A*
6072A	IR	6072A*
6076	TRANS	6076
6080	IR	6080
WL-6080	IR	6080
6087	IR	6087*
6095	IR	6005/6AQ5W*
6096	IR	5654/6AK5W*
6097	IR	5726/6AL5W*
6100	IR	6C4WA*
6106	IR	6087*
6111	IR	6111
6112	IR	6112
6113	IR	6SL7GT
TH-6120	THYR	FG-105
6125	IR	6C4WA*
6134	IR	6134*
6135	IR	6135*
6136	IR	6136*
GL-6136	IR	6136*
WL-6136	IR	6136*
6137	IR	6137*
6146	TRANS	6146A
GL-6146	TRANS	6146A
R-6146	RECT	8008
WL-6146	TRANS	6146A
6146A	TRANS	6146A
GL-6146A	TRANS	6146A
WL-6146A	TRANS	6146A
6146B	TRANS	6146B/8298A
6146B/8298A	TRANS	6146B/8298A
6155	TRANS	4D21/4-125A
6155/4-125A	TRANS	4D21/4-125A
6166A	TRANS	7007/6166A
6166A/7077	TRANS	7007/6166A
WL-6166A	TRANS	7007/6166A
R6175B	RECT	5R4GYB
6180	IR	5692
6183	TRANS	GL-6942
6183/Z-5053	TRANS	GL-6942
GL-6183	TRANS	GL-6942
6187	IR	5725/6AS6W*
6189	IR	6189/12AU7WA*
GL-6189	IR	6189/12AU7WA*
WL-6189	IR	6189/12AU7WA*
6197	IR	6197
WL-6197	IR	6197
6198	VID	6198A
GL-6198	VID	6198A
WL-6198	VID	6198A
6198A	VID	6198A
GL-6198A	VID	6198A
ML-6198A	VID	6198A
WL-6198A	VID	6198A
R6200	THYR	2D21
6201	IR	6201*
GL-6201	IR	6201*
WL-6201	IR	6201*
6202	IR	6202*
6203	IR	6203*
6206	IR	6206
6211	IR	6211A*
6211A	IR	6211A*
6216	IR	6216*
TH-6220	THYR	6807§
TH-6220A	THYR	6807§
6228	IGNI	GL-6228
6228/506	IGNI	GL-6228
6228/689	IGNI	GL-6228
GL-6228/GL-506	IGNI	GL-6228
NL-6228	IGNI	GL-6228
WL-6228	IGNI	GL-6228
TH-6230	THYR	3C23
GL-6251	TRANS	GL-6251
6265	IR	6265*
6267	IR	6267
6268	THYR	6268
6277	RECT	3B28
6283	TRANS	GL-6283
GL-6283	TRANS	GL-6283
6288	RECT	816
6299	TRANS	6299
GL-6299	TRANS	6299
6326	VID	GL-7038
6326A	VID	GL-7038
6336	IR	6336A
TS-6336A	IR	6336A
WL-6336A	IR	6336A
6346	IGNI	GL-5551A▲
AJ-6346	IGNI	GL-5551A▲
GL-6346	IGNI	GL-5551A▲
6347	IGNI	GL-5552A▲
AJ-6347	IGNI	GL-5552A▲
GL-6347	IGNI	GL-5552A▲
6348	IGNI	GL-5553B▲
GL-6348	IGNI	GL-5553B▲
6350	IR	6350
6360	IR	6360
AX-6360	IR	6360
6386	IR	6386*
6397	IR	6397
XR1-6400	THYR	6807§
XR1-6400A	THYR	6807§
6414	IR	6414*
6414W	IR	6414W*
6442	TRANS	6442
GL-6442	TRANS	6442
6463	IR	6463
6485	IR	6485
6511	IGNI	GL-5822A▲
GL-6511	IGNI	GL-5822A▲
6512	IGNI	GL-6512
GL-6512	IGNI	GL-6512
6513	IGNI	GL-6513
GL-6513	IGNI	GL-6513
6514	IGNI	GL-6514
GL-6514	IGNI	GL-6514
6515	IGNI	GL-6515
GL-6515	IGNI	GL-6515
6520	IR	6080
6550	IR	6550
WL-6550	IR	6550
GL-6619	QD	GL-6619
GL-6620	QD	GL-6620
GL-6621	QD	GL-6621
6626	VR	OA2
6627	VR	OB2
6660	IR	6660
GL-6660	IR	6660
WL-6660	IR	6660
6661	IR	6661
GL-6661	IR	6661
WL-6661	IR	6661
6662	IR	6662
GL-6662	IR	6662
WL-6662	IR	6662
6663	IR	6663
GL-6663	IR	6663
WL-6663	IR	6663
6664	IR	6664
GL-6664	IR	6664
WL-6664	IR	6664
6669	IR	6669
GL-6669	IR	6669
WL-6669	IR	6669
6676	IR	6676
GL-6676	IR	6676
WL-6676	IR	6676
6677	IR	6677
GL-6677	IR	6677
WL-6677	IR	6677
6678	IR	6678
GL-6678	IR	6678
WL-6678	IR	6678
6679	IR	6679
GL-6679	IR	6679
WL-6679	IR	6679
6680	IR	6680
GL-6680	IR	6680
WL-6680	IR	6680
6681	IR	6681
GL-6681	IR	6681
WL-6681	IR	6681
6688	IR	6688*
6693	RECT	673
AX-6693	RECT	673
6697	TRANS	6697
6697A	TRANS	6697A
6761	IR	6216*
6771	TRANS	6771
6807	THYR	6807
ASG-6807	THYR	6807
GL-6807	THYR	6807
WL-6807	THYR	6807
6808	THYR	6808
GL-6808	THYR	6808
WL-6808	THYR	6808
6809	THYR	6809
GL-6809	THYR	6809
6829	IR	6829*
GL-6829	IR	6829*
GL-6848	TRANS	GL-6848
6858	THYR	6858/760
6858/760	THYR	6858/760
GL-6858	THYR	6858/760
GL-6858/760	THYR	6858/760
WL-6858	THYR	6858/760
6859	THYR	6859/760P
6859/760P	THYR	6859/760P
GL-6859/760P	THYR	6859/760P
WL-6859	THYR	6859/760P
GL-6860	THYR	6808
6864	THYR	6807§
6871	THYR	6808§
6878	IGNI	GL-6878
GL-6878	IGNI	GL-6878
6883	TRANS	6883
GL-6883	TRANS	6883B/8032A/8552
WL-6883	TRANS	6883B/8032A/8552
6883A	TRANS	6883B/8032A/8552
6883B	TRANS	6883B/8032A/8552
6884	TRANS	6884
6894	RECT	575A
6895	RECT	673
6897	TRANS	6897
GL-6897	TRANS	6897
6900	IR	5687*
6907	TRANS	6907
GL-6907	TRANS	6907
6919	IR	6919*
6922	IR	6922/E88CC
6922/E88CC	IR	6922/E88CC
WL-6922	IR	6922/E88CC
6927	IR	5844*
6928	IR	6005/6AQ5W*
6939	TRANS	6939
6942	TRANS	GL-6942
GL-6942	TRANS	GL-6942
GL-6958	THYR	GL-6958/760
6968	IR	5654/6AK5W*
7007	TRANS	7007/6166A
7007/6166A	TRANS	7007/6166A
ML-7007	TRANS	7007/6166A
WL-7007	TRANS	7007/6166A
TH-7020	IGNI	GL-5551A
TH-7021	IGNI	GL-5551A▲

For footnotes see Page 1273.

© United Technical Publications

GE Interchangeability Listing

GENERAL ELECTRIC

Type To Be Replaced	Tube Class	GE Replacement Type
7023	THYR	6809§
7025	IR	7025
TH-7030	IGNI	GL-5552A
TH-7031	IGNI	GL-5552A▲
7034	TRANS	4X150A
7036	IR	7036*
7038	VID	7038
WL-7038	VID	7038
7038V	VID	7038V
7038V4	VID	7038V4
TH-7040	IGNI	GL-5553B
7041	IGNI	GL-5553B▲
TH-7041	IGNI	GL-5553B
7044	IR	7044
7054	IR	7054
7056	IR	7056
7058	IR	7058
7059	IR	7059
7060	IR	7060
7061	IR	7061
7077	PT	7077
7136	RECT	575A
7151	IGNI	GL-7151
GL-7151	IGNI	GL-7151
7167	IR	7167
7171	IGNI	GL-7171
GL-7171	IGNI	GL-7171
NL-7171	IGNI	GL-7171
WL-7171	IGNI	GL-7171
7203	TRANS	4CX250B
ZG-7207	IGNI	GL-37207
7212	TRANS	6146B/8298A
7225	RECT	866A
7226	VID	7226
7233	IR	7233
7239	IR	7239
ZG-7248	IGNI	GL-37248
7262	VID	7262A
7262A	VID	7262A
7263	VID	7263A
7263A	VID	7263A
7266	PT	7266
GL-7284 & H	IGN	GL-7284 & H
7289	TRANS	7289/3CX100A5
7289/ 3CX100A5	TRANS	7289/3CX100A5
7293A	IO	7293
7296	PT	7296
7298	THYR	6809§
7299	THYR	6808§
WL-7299	THYR	6808§
7306	THYR	5632/C3J
7306A	THYR	5632/C3J
WL-7306A	THYR	5632/C3J
7307	THYR	6011/710
7307A	THYR	6011/710
WL-7307A	THYR	6011/710
7316	IR	7189/12AU7A*
7321	THYR	6809§
WL-7321	THYR	6809§
7325	VID	7325
7370	IR	7370
7386	THYR	6807§
7391	TRANS	7391
GL-7391	TRANS	7391
7399	TRANS	GL-7399
GL-7399	TRANS	GL-7399
VH-7400	RECT	872A/872
7462	PT	7462
7486	PT	7486
7509	THYR	7518
7509A	THYR	7518
WL-7509A	THYR	7518
WL-7509/710L	THYR	7518
7518/710L	THYR	7518/710L
GL-7518	THYR	7518/710L
7527	TRANS	4-400A
7543	IR	7543
7581	IR	7581A
7581A	IR	7581A/KT66
7585	IGNI	GL-5552A
AX-7585	IGNI	GL-5552A
7588	PT	7588
7611	IO	8093A
7625	PT	7625
7629	IO	7629A
7629A	IO	7629A
7644	TRANS	7644
GL-7644	TRANS	7644
7645	TRANS	6939
7669	IGNI	GL-7669
GL-7669	IGNI	GL-7669
WL-7669	IGNI	GL-7669
7669/PC	IGNI	GL-7669/PC
GL-7669/PC	IGNI	GL-7669/PC
WL-7669/PC	IGNI	GL-7669/PC
7670	IGNI	GL-7670
GL-7670	IGNI	GL-7670
WL-7670	IGNI	GL-7670
7671	IGNI	GL-7671
GL-7671	IGNI	GL-7671
WL-7671	IGNI	GL-7671
7671/PC	IGNI	GL-7671/PC
GL-7671/PC	IGNI	GL-7671/PC
WL-7671/PC	IGNI	GL-7671/PC
7672	IGNI	GL-7672
GL-7672	IGNI	GL-7672
WL-7672	IGNI	GL-7672
7673	IGNI	GL-7673
GL-7673	IGNI	GL-7673
NL-7673	IGNI	GL-7673
7673/PC	IGNI	GL-7673/PC
GL-7673/PC	IGNI	GL-7673/PC
NL-7673P	IGNI	GL-7673/PC
WL-7673/PC	IGNI	GL-7673/PC
7681	IGNI	GL-7681
GL-7681	IGNI	GL-7681
WL-7681	IGNI	GL-7681
GL-7681/PC	IGNI	GL-7681/PC
7697	VID	7697
7701	IR	7701
7703	IGNI	GL-7703
GL-7703	IGNI	GL-7703
NL-7703	IGNI	GL-7703
WL-7703	IGNI	GL-7703
7716	IR	7716
7717	IR	7717
7720	PT	7720
7724	IR	7724
7725	THYR	7725
7726	THYR	7726
7728	IR	6201*
7729	IR	7025
7730	IR	6189/12AU7WA*
7731	IR	6678
7732	IR	6676
7733	IR	12BY7A/-BV7/ -DQ7
7735	VID	7735
7735A	VID	7735A
7735B	VID	7735B
7735BX	VID	7735BX
7736	IGNI	7736
GL-7736	IGNI	7736
7752	IR	5725/6AS6W*
7768	PT	7768
7784	TRANS	7784
GL-7784	TRANS	7784
7815	TRANS	7815/3CPN10A5
7815/ 3CPN10A5	TRANS	7815/3CPN10A5
7815R	TRANS	7815R
7841	PT	7841
Z-7856	VID	Z-7856
7861	IR	7861*
Z-7866	IO	Z-7866
Z-7869	VID	Z-7869
Z-7870	VID	Z-7870
Z-7888	IO	Z-7888
Z-7899	IO	Z-7899
7910	PT	7910
7911	PT	7911
Z-7911	VID	Z-7911
Z-7912	VID	Z-7912
7913	PT	7913
Z-7929	VID	Z-7929
Z-7929R, G, B	VID	Z-7929R, G, B
Z-7933	VID	Z-7933
Z-7946	VID	Z-7946
Z-7963	VID	Z-7963
7964	TSG	GL-7964
GL-7964	TSG	GL-7964
GL-7964-1	TSG	GL-7964-1
7984	IR	7984
7985	TRANS	7985
GL-7985	TRANS	GL-7985
7998	IGNI	GL-7998
GL-7998	IGNI	GL-7998
Z-7999	VID	Z-7999
8005	TRANS	8005
GL-8005	TRANS	8005
ML-8005	TRANS	8005
WL-8005	TRANS	8005
8008	RECT	8008
CE-8008	RECT	8008
DR-8008	RECT	8008
EE-8008	RECT	8008
GL-8008	RECT	8008
ML-8008	RECT	8008
UE-8008	RECT	8008
VE-8008	RECT	8008
WL-8008	RECT	8008
8016	RECT	1G3GTA
GL-8016	RECT	1G3GTA
8018	TRANS	807
8020	RECT	8020
DR-8020	RECT	8020
EE-8020	RECT	8020
GL-8020	RECT	8020
WL-8020	RECT	8020
8020/100R	RECT	8020
8024	TRANS	832A
8032	TRANS	6883B/8032A/ 8552
8032A	TRANS	6883B/8032A/ 8552
WL-8032A	TRANS	6883B/8032A/ 8552
CV8039	IR	5840
8042	TRANS	8042
CV8065	IR	6922/E88CC
8068	IR	8068
CV8068	IR	6267
CV8073	IR	6072A*
8077	IR	7054
8077/7054	IR	7054
M8079	IR	5726/6AL5W*
M8080	IR	6135*
8081	PT	8081
8082	PT	8082
8083	PT	8083
8092	IO	8092A
GL-8092	IO	8092A
8092A	IO	8092A
8093	IO	8093A
8093A	IO	8093A
M8096	IR	5763
M8100	IR	5654/6AK5W*
M8108	IR	5749/6BA6W*
8102	IR	8102
8106	IR	8106
8113	IR	8113*
M8121	IR	5840
8134	VID	8134
8134V	VID	8134V
8136	IR	8136
M8136	IR	6189/12AU7WA*
M8137	IR	7025
8156	IR	8156
CV8158	THYR	2D21
8161/ 3CX2500A3	TRANS	8161/3CX2500A3
CV8161	VR	OA2
CV8162	VR	OB2
M8162	IR	6201*
8166	TRANS	4-1000A
8167	TRANS	4CX300A/8167
8168	TRANS	4CX1000A/8168
8170	TRANS	4CX5000A/8170
M8178	THYR	5727*
CV8189	IR	5R4GYA
M8196	IR	5725/6AS6W*
CV8204	IR	5R4GYA
M8204	THYR	5727*
CV8205	IR	6D4
CV8206	TRANS	5763
M8212	IR	5726/6AL5W*
CV8214	RECT	8020
M8214	IR	7025
CV8216	IR	6080
M8223	VR	OA2
M8224	VR	OB2
CV8226	IR	6AS6
CV8227	IR	5750/6BE6W*
CV8229	IR	6005/6AQ5W*
CV8232	IR	6080
M8232	IR	6J4WA
8233	IR	8233
8236	IR	6DQ5
M8245	IR	6005/6AQ5W*
CV8246	IR	5654/6AK5W*
CV8247	IR	5670*
CV8248	IR	5750/6BE6W*
CV8249	IR	6136*
8251	TRANS	3CX2500F3/8251
CV8287	IR	5686*
8298	TRANS	6146B/8298A
WL-8298	TRANS	6146B/8298A
8298A	TRANS	6146B/8298A
8306	IGNI	GL-7171
WL-8306	IGNI	GL-7171
CV8310	IR	5725/6AS6W*
CV8311	IR	5726/6AL5W*
CV8312	IR	5751*
8327	IR	6BQ5
8348	TRANS	4-400A
8360	IGNI	GL-8360
GL-8360	IGNI	GL-8360
CV8403	IR	6136*
8438	TRANS	4-400A
8438/4-658	TRANS	4-400A
8465	IGNI	GL-8465
GL-8465	IGNI	GL-8465
8466	IGNI	GL-8466
GL-8466	IGNI	GL-8466
8484	VID	8484
8484H	VID	8484H
GL-8500	TRANS	GL-8500
8507A	VID	8507A
8511	VID	8511
8513	TRANS	GL-8513
GL-8513	TRANS	GL-8513
8532	IR	6J4WA
8541	VID	8541
8541A	VID	8541A
8541AX	VID	8541AX
8552	TRANS	6883B/8032A/ 8552
8572	VID	8572
8572V	VID	8572V
8572V4	VID	8572V4
8573A	VID	8573A
8573AX	VID	8573AX
8604	VID	8604
8643	TRANS	8643
8683	TRANS	8683
8751	PT	8751
GL-8866	TRANS	GL-8866
9903	TRANS	5894
AX-9903	TRANS	5894
AX-9903/5894	TRANS	5894
GLE13000/ 1.5/6	RECT	872A/872
GE-13971	PT	GE-13971
GE-14501	PT	GE-14501
GE-14811	PT	GE-14811
GLE15000/¼	RECT	872A/872
GE-15371	PT	GE-15371
GE-16841	PT	GE-16841
GE-17241	PT	GE-17241
GLE20000/ 2.5/10	RECT	866A
WL-22746	TK	N15286AA
WL-22747	TK	N15272AA
WL-22748	TK	N15287AA
WL-22749	TK	N15273AA
WL-22994	THYR	5544
WL-23011	IGNI	GL-5551A
WL-23011/PC	IGNI	GL-5551A/PC
WL-23012	IGNI	GL-5552A
WL-23012/PC	IGNI	GL-5552A/PC
WL-23013	IGNI	GL-5553B
WL-23013/PC	IGNI	GL-5553B/PC
WL-23014	IGNI	GL-7669
WL-23014/PC	IGNI	GL-7669/PC
WL-23015	IGNI	GL-7671
WL-23016	IGNI	GL-7681
WL-23017	IGNI	GL-7673
WL-23018	IGNI	GL-7673
GL-37207	IGNI	GL-37207
GL-37248	IGNI	GL-37248
38172	RECT	872A/872
38807	TRANS	807
QY53000A	TRANS	6076
GL-51038	TRANS	GL-51038
GL-51038R	TRANS	GL-51038R
GL-51064	TRANS	GL-61068
56000	RECT	8020

For footnotes see Page 1273.

Net

© United Technical Publications

GTE SYLVANIA

INTRODUCTION

This catalogue contains concise technical data for Sylvania's broad line of Industrial Products.

Products are grouped categorically as shown by the Table of Contents.

A complete Numerical/Alphabetical Index is also provided for easy access to data by type number.

TABLE OF CONTENTS

Introduction 3
Table of Contents 3
Index 4
1. Industrial and Military Receiving Tubes 8
2. GB Gold Brand Tubes for Critical Applications 11
3. Premium Subminiature Tubes 13
4. Power Amplifier Tubes 14
5. Thyratrons 16
6. Ignitrons 17
7. Rectifier Tubes 18
8. Cathode Ray Tubes 19
9. TV Camera Pick-up Tubes 23
10. Video Monitors 23
11. Strobotrons 24
12. Flash Tubes 25
13. Glow Modulators 25
14. Phototubes 25
15. Counter Tubes 26

© United Technical Publications

GTE SYLVANIA

INDEX

TYPE	PAGE
0A2	10
GB-0A2WA	12
0A3	10
0A4G	16
0A5	16
0B2	10
0B2WA	10
GB-0B2WA	12
0B3	10
0C3	10
0D3	10
1B59/R1130B	25
1D21/SN4	24
C1K/6014	16
1P39	25
1P40	25
2-01C	18
2AP1A	19
2BP1	19
2BP11	21
2C39A	14
2C39B	14
2C39WA	14
2C40A	14
2C43	14
2C51	8
2D21	16
2D21W (See 5727/2D21W)	
2E24	15
2E26	15
2X2A	18
3-400Z (See 8163/3-400Z)	
3ACP1A	19
3ACP2A	19
3ACP7A	20
3ACP11A	21
3ACP12A	20
3ACP16A	21
3ADP1	19
3ADP2	19
3ADP7	20
3ADP11	21
3ASP1	19
3ASP2	19
3ASP7	20
3ASP11	21
3B28	18
3BEP1	19
3BGP1	19
3BGP2	19
3BGP7	20
3BGP11	22
3BMP1	19
3BMP2	19
3BMP7	20
3BMP11	22
3BMP12	20
3BP1A	19
3FP7A	20
3JP1	19
3JP2	19
3JP7	20
3JP12	20
3KP1	19
3KP7	20
3KP11	22
3KP16	19
3MP1	19
3RP1	19
3RP1A	19
3SP1	19
3SP2	19
3SP11	22
3WP1	19
3WP2	19
3WP11	22
3C23	16
3CPN10A5 (See 7815/3CPN10A5)	
3CX100A5 (See 7289/3CX100A5)	
3CX2500A3	14
3CX2500F3	14
3CX3000A1	14
3CX3000F1	14
3E29	15
C3J/5632	16
C3J/A/5684	16
C3J/AL/7556A	16
3X2500A3 (See 8161/3X2500A3)	
3X2500F3 (See 8251/3X2500F3)	
JAN/SN4	24
SN4	24
4-65A (See 8165/4-65A)	
4-125A	15
4-250A	15
4-400A (See 8438/4-400A)	
4-1000A (See 8166/4-1000A)	
4CX250B (See 7203/4CX250B)	
4CX250F (See 7204/4CX250F)	
4CX250K (See 8245/4CX250K)	
4CX300A (See 8167/4CX300A)	
4CX1000A (See 8168/4CX1000A)	
4CX5000A (See 8170/4CX5000A)	
4CX10000D (See 8171/4CX1000D)	
4E27A/5-125B	15
4MP1	19
4PR60B (See 8252/4PR60C)	
4W20000A (See 8173/4W20000A)	
4X150A (See 7034/4X150A)	
4X250B	15
4X500A	15
SN5	24
5R4GYB	8
5ABP1	19
5ABP1A	19
5ABP4	22
5ABP4A	22
5ABP7	20
5ABP7A	20
5ABP11	22
5ABP11A	22
5ABP31A	19
5ADP1	19
5ADP1A	19
5ADP2	19
5ADP2A	19
5ADP7	20
5ADP7A	20
5ADP11	22
5ADP11A	22
5ADP31A	19
5AHP4A	22
5AHP7	20
5AHP7A	20
5AHP14	20
5AHP14A	20
5AHP19	20
5AHP19A	20
5AMP1	19
5AMP1A	19
5AMP2	19
5AMP2A	19
5AMP7	20
5AMP7A	20
5AMP11	22
5AMP11A	22
5AMP31A	19
5AQP1	19
5AQP1A	19
5AQP2	19
5AQP2A	19
5AQP7	20
5AQP7A	20
5AQP11	22
5AQP11A	22
5AUP24	22
5BCP1	20
5BCP4	22
5BCP7	20
5BCP11	22
5BNP16	22
5BP1A	19
5BRP1	20
5BRP4	22
5BRP7	20
5BRP11	22
5CP1A	19
5CP1B	19
5CP7A	20
5CP11A	22

© United Technical Publications

GTE SYLVANIA

INDEX

TYPE	PAGE	TYPE	PAGE	TYPE	PAGE
5CP12	20	6X4WA	8	10WP14A	21
5CVP1	20	GB-6X4WA	11	10WP19	21
5CVP7	20	6X5WGT	8	10WP19A	21
5CVP19	20	GB-6X5WGT	11	12ABP7	21
5DEP1	19	7ABP7	21	12ABP7A	21
5DEP2	19	7ABP7A	21	12ABP14	21
5DEP7	19	7ABP14	21	12ABP14A	21
5DEP11	19	7ABP14A	21	12ABP19	21
5DKP4	22	7ABP19	21	12ABP19A	21
5DKP11	22	7ABP19A	21	12AT7WC	8
5DKP15	22	7AEP1	19	12AXP1	18
5DKP16	22	7AEP2	19	12AXP7	21
5DKP24	22	7AEP7	21	12AY7	8
5DLP4	22	7AEP11	22	12DP7A	21
5FP4A	22	GB-7AK7	12	12DP7C	21
5FP7A	21	7AQP4	21	12SP7	21
5FP11A	22	7AQP7	21	12SP7B	21
5FP14A	21	7AQP16	21	12SP7D	21
5UP1	19	7AQP19	21	C16J/5665	16
5UP7	21	7APQ25	21	17DWP4	22
5UP11	22	7AUP4	22	21EYP4	22
5WP11	22	7AUP7	21	25T	14
5WP15	22	7BP2A	21	83	18
5Y3WGTA	8	7BP7A	21	FG-95 (See 5560/FG-95)	
GB-5Y3WGTA	11	7F8W	8	100 (See 5575/100)	
5ZP15	22	7MP7	21	102A	18
5ZP16	22	7MP14	21	200 (See 5576/200)	
5ZP24	22	7JP1/7VP1	19	207	14
6AD4	8	7JP7	21	250TH	14
6AH6WA	9	7UP7	21	304TH	14
6AJ5	9	7UP25	21	304TL	14
6AK6	9	8CP1	20	SA309	24
6AN5	9	8CP2	20	GB-407A	11
6AN5WA	9	8CP7	21	GB-408A	12
6AS6	9	8CP11	22	S413	24
6AS7G	8	8DP4	22	S413A	24
6AS7GA	8	8FP4	22	S413B	24
6AU6WC	9	8HP4	22	S413C	24
6BF7W	13	8KP4	22	S413D	24
GB-6BQ7A	11	8QP4	22	S413E	24
6C4WA	8	10AKP7	21	S414A	24
6D4	16	10ANP4	21	414	16
6DJ8	8	10ANP7	21	450TL	14
GB-6DJ8	11	10ANP16	21	456/332	18
C6J/A/5685	16	10ANP19	21	481B	18
C6J/F (See 6860/C6J/F)		10ANP25	21	SS501	24
C6J/L (See 7321/C6J/L)		10KP7	21	GM514	25
6J4	8	10KP7A	21	GM514C	25
GB-6J4WA	11	10KP7B	21	575A	18
6J6WA	8	10NP11	22	579B	18
6SJ7WGT	9	10SP4	22	592/3-200A3	14
6SL7WGT	8	10VP7	21	604L	18
GB-6SL7WGT	11	10VP15	22	610	16
GB-6SN7WGT	11	10WP7	21	615	18
6SN7WGTA	8	10WP7A	21	KU-624	16
6V6GTY	9	10WP14	21	627	16

© United Technical Publications

GTE SYLVANIA

INDEX

TYPE	PAGE
629	16
631P1, JAN	24
632B	16
635L	18
635/7019	18
648P1, JAN	24
652 (See 5551A/652)	
672A	16
673	18
676	16
677	16
678	16
S696	24
710 (See 6011/710)	
759	16
760	16
760L	16
807	15
810	14
811A	14
812AW	14
813	15
815	15
816	18
828	15
829B	15
832A	15
833A	14
S840	24
S841	24
S848	24
S853	24
857B	18
866A	18
869B	18
872A	18
889RA (See 5667/889RA)	
891	14
892	14
895	14
921	25
922	25
923	25
927	25
929	25
930	25
931A	25
1000T	14
1051A	17
1052A	17
1061	17
R1130B	25
R1131C	25
R1131D	25
R1166	25
R1168	25
R1169	25
R1171	25
1218A	8
GB-1220/5654	12
1229	9
GB-1252/6U8A	12
1319	23
GB-1330/12BY7A	12
GB-1331/6EV5	12
GB-1332/6CY5	12
2050	16
2050A	16
SC2854	21
R4306	25
R4307	25
R4307C	25
R4315	25
R4318	25
R4319	25
R4321	25
R4328	25
R4329	25
R4330	25
R4336	25
R4337	25
R4338	25
R4321A	25
R4403	25
R4325	25
R4338A	25
SDM5305	23
5530-H	14
5531	14
5541	14
5550/681	17
5551A/652	17
5552A/651	17
5553B	17
5554/679	17
5555/653B	17
5555A	17
5557	16
5558	18
5559	16
5560/FG951	16
5575/100	18
5576/200	18
5604	14
5606	14
5619	14
5632 (See C3J/5632)	
5636	13
5639	13
5641	13
5642	8
5643	13
5644	13
5647	13
5651	10
5651WA	10
GB-5654	12
5654W	9
5658	14
5663	16
5665 (See C16J/5665)	
5667 (889RA)	14
5668	14
5669	14
5670W	8
GB-5670	11
5682	14
5684 (See C3J/A/5684)	
5685 (See C6J/A/5685)	
GB-5687	12
5687WA	8
5692	8
5693	9
5696	16
5718	13
5719	13
5722	8
GB-5725	12
5725W	9
GB-5726	11
5726	8
GB-5727	12
5727/2D21W	10
5736	14
GB-5749	12
5749W	9
GB-5750	12
5750	9
5751	8
GB-5751	12
5763	15
5796	16
5814A	9
GB-5814A	12
5822A	17
5823	16
5840	13
5845	8
5855	16
5877	16
5879	9
5881	15
5894A	15
5896	13
5899	13
5902	13
5918A	14
5931	8

© United Technical Publications

GTE SYLVANIA

INDEX

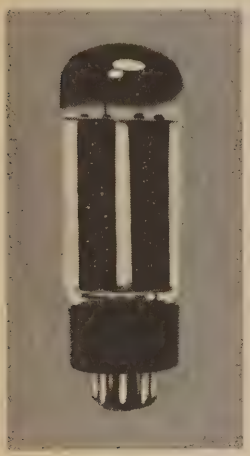
TYPE	PAGE	TYPE	PAGE	TYPE	PAGE
GB-5931	11	6425-F	15	7258	10
5932	10	6426	15	7269	16
GB-5932	12	6427	15	7289/3CX100A5	15
5933	10	6476A	26	7297	16
GB-5933	12	6483	16	7321/C6J/L	16
5933WA	10	6485	10	7325	23
5934	18	6550	15	7363	16
5936	15	6623	15	7464	15
5963	9	6660/6BA6	10	7540	15
5964	9	6661/6BH6	10	7551	10
5965	9	6662/6BJ6	10	7556A	16
5977	13	6663/6AL5	8	7560	15
5987	13	6669/6AQ5A	10	7560V	15
GB-6005	12	6676/6CB6A	10	7565	15
6005W	10	6677/6CL6	10	7604	15
6011/710	16	6678/6U8A	10	7659	18
6012	16	6679/12AT7	9	7669	17
6014 (See C1K/6014)		6680/12AU7A	9	7670	17
6021W	13	6681/12AX7	9	7671	17
6028	10	6688	10	7681	17
6072	9	6696	15	7685	15
6080	9	6788	13	7703	17
GB-6080	12	6802	26	7735A	23
6080WA	9	6807	13	7735B	23
GB-6101	12	6832	13	7738	9
6110	13	6860/C6J/F	16	7815/3CPN10A5	15
6111	13	6883A	15	7963	13
6111WA	13	6894	18	7984	10
6112	13	6897	15	8008	18
6135	9	6909	26	8035	26
GB-6135	12	6910	26		
GB-6136	12	6922	9	8043	16
6146A	15	6939	10	8070	13
6146B/8298A	15	6943	13	8071	13
6159A	15	6945	13	8077/7054	10
GB-6186	12	6946	13	8163/3-400Z	15
6186W	10	6947	13	8165/4-65A	15
GB-6189	12	6948	13	8166/4-1000A	15
6189W	9	6973	10	8167/4CX300A	15
6197	10	6977	9	8168/4CX1000A	15
GB-6201	12	7025	9	8170/4CX5000A	15
6205	13	7034/4X150A	15	8171/4CX10000D	15
6206	13	7038	23	8173/4W20000A	15
6211	9	7044	9	8210	13
6216	15	7056	10	8233	10
6257	15	7058	9	8238/3X3000A1 (See 3CX3000A1)	
6267	10	7059	10	8239/3X3000F1 (See 3CX3000F1)	
6350	9	7060	10	8245/4CX250K	15
6352	8	7120	15	8251/3X2500F3	15
6360	9	7121	15	8252W/4PR60C	15
6421	15	7155	26	8298A	15
6421-F	15	7167	9	8306	17
6422	15	7199	10	8334	9
6423	13	7203/4CX250B	15	8353	26
6423F	15	7204/4CX250F	15	8438/4-400A	15
6424	13	7215	15	8484	23
6425	13	7255	15	8507	23

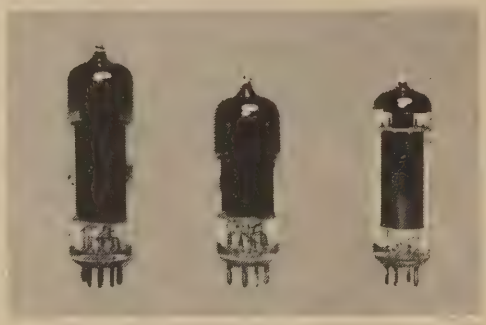
© United Technical Publications

GTE SYLVANIA

1 INDUSTRIAL & MILITARY RECEIVING TUBES

An exceptionally broad line covering a wide variety of general and specialized equipment needs. Types are designed and manufactured to Applicable Sylvania Industrial and Military specifications for reliability under extreme conditions.





DIODES

Type	Description	Bulb	Ef/If (Volts/Ma)	Max. Plate Volts	Max. Plate Ma
5R4GYB	F-W Rectifier	T-12	5/2000	3100	165
5Y3WGTA	F-W Rectifier	T-9	5.0/1800	1550	70
6X4WA	F-W Rectifier	T-5½	6.3/600	1375	27.5
6X5WGT	F-W Rectifier	T-9	6.3/600	1375	38
5642	H-V H-W Rect.	T-3	1.25/200	10 K	0.25
5722	R-F Noise Gen.	T-5½	4.9/1600	200 dc	35
5726	Gen. Purpose Det.	T-5½	6.3/300	360	10
5845	Emission Limited Di.	T-5½	3.0/365	300 dc	2.0
5931	F-W Rectifier	T-12	5.0/3000	1700	150
6352	Emission Limited Di.	T-3	3.0/360	275 dc	1.1
6663/6AL5	Gen. Purpose Det.	T-5½	6.3/300	275	10

TRIODES

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Grid No. 2 Volts	Gm (μmhos)	Mu	Plate Diss. (Watts)
2C51	VHF Duo-Triode	T-6½	6.3/300	150	—	5500	35	1.5
6AD4	General Purpose	T-3	6.3/150	100	—	2000	70	0.3
6AS7G	Duo-Triode Regulator	T-16	6.3/2500	135	—	7000	2	13
6AS7GA	Duo-Triode Regulator	T-12	6.3/2500	135	—	7000	2	13
6C4WA	General Purpose	T-5½	6.3/150	250	—	2200	17	—
6DJ8	VHF Duo-Triode	T-6½	6.3/365	90	—	12,500	33	1.8
6J4	VHF Amplifier	T-5½	6.3/400	150	—	12,000	55	2.25
6J6WA	VHF Duo-Triode	T-5½	6.3/450	100	—	6000	38	1.6
6SL7WGT	Duo-Triode Gen. Purpose	T-9	6.3/300	250	—	1600	70	1.1
6SN7WGTA	Duo-Triode Gen. Purpose	T-9	6.3/600	250	—	2600	20.5	2.75
7F8W	VHF Duo-Triode	T-9	6.3/300	250	—	5600	52	3.5
12AT7WC	VHF Duo-Triode	T-6½	6.3/300 12.6/150	250	—	5500	60	2.8
12AY7	AF Duo-Triode	T-6½	12.6/150 6.3/300	250	—	1750	40	1.5
1218A	UHF Amplifier	T-5½	6.3/225	200	—	10,750	55	4.0
5670W	VHF Duo-Triode	T-6½	6.3/350	150	—	5500	35	1.35
5687WA	Duo-Triode Gen. Purpose	T-6½	6.3/880 12.6/440	120	—	11,500	18.5	3.75
5692	Duo-Triode Gen. Purpose	T-9	6.3/600	250	—	2200	20	1.75
5751	AF Duo-Triode	T-6½	6.3/350 12.6/175	250	—	1200	70	0.8

© United Technical Publications

TRIODES (CONT.)

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Grid No. 2 Volts	Gm (μmhos)	Mu	Plate Diss. (Watts)
5814A	Duo-Triode Gen. Purpose	T-6½	6.3/350 12.6/175	250	—	2200	17	3.0
5963	Duo-Triode Computer	T-6½	6.3/300 12.6/150	67.5	—	3200	21	2.5
5964	Duo-Triode Computer	T-5½	6.3/450	100	—	6000	39	1.5
5965	Duo-Triode Computer	T-6½	6.3/450 12.6/225	150	—	7250	47	2.2
6072	Duo-Triode AF Amplifier	T-6½	6.3/350 12.6/175	250	—	1750	44	1.5
6080	Duo-Triode Regulator	T-12	6.3/2500	135	—	7000	2.0	13
6080WA	Duo-Triode Regulator	T-12	6.3/2500	135	—	7000	2.0	13
6135	VHF Amplifier	T-5½	6.3/175	250	—	2200	17	3.8
6189W	Duo-Triode Gen. Purpose	T-6½	6.3/300 12.6/150	250	—	2200	17	3.0
6211	Duo-Triode Computer	T-6½	6.3/300 12.6/150	100	—	4700	31	1.3
6350	Duo-Triode Computer	T-6½	6.3/600 12.6/300	150	—	4600	18	3.5
6679/12AT7	VHF Duo-Triode	T-6½	12.6/150 6.3/300	250	—	5500	60	2.8
6680/12AU7	Duo-Triode Gen. Purpose	T-6½	12.6/150 6.3/300	250	—	2200	17	3.0
6681/12AX7	AF Duo-Triode	T-6½	12.6/150 6.3/300	250	—	1600	100	1.1
6922	VHF Duo-Triode	T-6½	6.3/300	90	—	11,500	33	1.5
6977	Indicator	T-1	1/30	65	—	—	—	—
7025	AF Duo-Triode	T-6½	12.6/150 6.3/300	250	—	1600	100	1.0
7044	Duo-Triode Computer	T-6½	6.3/900 12.6/450	120	—	10,000	19	4.5
7058	AF Duo-Triode	T-6½	13.5/155	250	—	1650	100	1.0
7738	VHF Amplifier	T-5½	6.3/225	200	—	9500	80	5.0
8334	UHF Amplifier	T-5½	6.3/225	200	—	10,750	55	4.4

HEPTODES

5750	RF-Converter	T-5½	6.3/300	250	100	475■	—	1.1

■ Conversion Transconductance

TETRODES

1229	Electrometer Tube	ST-12	0.9/35	45	16.5	Rp = 100 Megs; Ec1 = −1.6 V and Ib = 0.33 μa		
6360	Class C Amp. and Osc.	T-6½	12.6/410 6.3/820	300	200	—	—	12.0
7167	VHF Amplifier	T-5½	13.5/90	125	80	8000	—	2.0

PENTODES

6AH6WA	RF/IF Amplifier	T-5½	6.3/450	300	150	9000	—	3.1
6AJ5	VHF Amplifier	T-5½	6.3/300	28	28	2500	—	1.7
6AK6	AF Power Amplifier	T-5½	6.3/150	180	180	2300	—	3.0
6AN5, WA	Video-Amp.	T-5½	6.3/450	120	120	8000	—	4.2
6AS6	Dual Control Amp.	T-5½	6.3/175	120	120	G1=3200 G3=470	—	1.7
6AU6WC	Gen. Purpose	T-5½	6.3/300	250	150	5200	—	3.1
6SJ7WGT	AF/DC Amp.	T-9	6.3/300	250	100	1650	—	2.8
6V6GTY	AF Power Amp.	T-9	6.3/450	250	250	4100	—	14
5654W	VHF Amplifier	T-5½	6.3/175	120	120	5000	—	1.65
5693	AF/DC Amplifier	MT-8	6.3/300	250	100	1650	—	2.0
5725W	Dual Control Amp.	T-5½	6.3/175	120	120	G1=3200 G3=700	—	1.65
5749W	RF/IF Amp.	T-5½	6.3/300	250	100	4400	—	3.3
5879	AF Amplifier	T-6½	6.3/150	250	100	1000	—	1.25

GTE SYLVANIA

1 INDUSTRIAL & MILITARY RECEIVING TUBES (CONT.)

PENTODES (CONT.)

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Grid No. 2 Volts	Gm (μmhos)	Mu	Plate Diss. (Watts)
5932	AF Power Amp.	T-12	6.3/900	250	250	6100	—	22
5933	RF/AF Power Amp.	T-12	6.3/900	250	250	5500	—	25
5933WA	RF/AF Power Amp.	T-12	6.3/900	250	250	5500	—	25
6005W	AF Power Amp.	T-5½	6.3/450	250	250	4100	—	11
6028	AF Amplifier	T-5½	20/50	120	120	5000	—	1.7
6186W	VHF Amplifier	T-5½	6.3/300	250	150	5000	—	2.5
6197	Power Amp. Computer	T-6½	6.3/650	250	150	11,000	—	7.5
6216	Filter Reactor	T-6½	6.3/1200	100	100	12,500	—	10
6267	Low Noise AF Amplifier	T-6½	6.3/200	250	140	2000	—	1.0
6485	RF/IF Amplifier	T-5½	6.3/450	300	150	9000	—	3.2
6660/6BA6	RF/IF Amplifier	T-5½	6.3/300	250	100	4400	—	3.3
6661/6BH6	RF/IF Amplifier	T-5½	6.3/150	250	150	4600	—	3.3
6662/6BJ6	RF/IF Amplifier	T-5½	6.3/150	250	100	3600	—	3.3
6669/6AQ5A	AF Power Amplifier	T-5½	6.3/450	250	250	4100	—	12
6676/6CB6	VHF IF Amplifier	T-5½	6.3/300	200	150	6200	—	2.3
6688	Wide-Band Amplifier	T-6½	6.3/300	190	160	16,500	—	3.0
6677/6CL6	RF Power Amplifier	T-6½	6.3/650	250	100	11,000	—	8.5
6939	AF/RF Amp.	T-6½	6.3/600 12.6/300	250	200	—	—	6.0
6973	Beam Pentode	T-6½	6.3/450	250	250	4800	—	13.2
7056	VHF IF Amplifier	T-5½	13.5/150	200	150	6200	−7	2.0
7551	RF Power Amplifier	T-6½	13.5/360	300	250	—	—	12.0
7984	RF Power Amplifier	T-12	13.5/580	750	250	—	—	35.0
8077/7054	AF/RF Power Amplifier	T-6½	13.5/275	250	150	11,500	—	5.0
8233	RF/AF Amplifier	T-6½	6.3/600	125	125	45,000	—	10.0

TRIODE-PENTODES

6678/6U8A	VHF Osc./Amp.	T-6½	6.3/450	150 250	— 110	8500 5200	40 —	3.0 3.0
7059	VHF Osc./Amp.	T-6½	13.5/195	150 250	— 110	8500 5200	40 —	2.5 2.8
7060	General Purpose	T-6½	13.5/280	150 200	— 125	4900 7000	40 —	2.5 3.0
7199	AF Amplifier	T-6½	6.3/450	215 220	— 130	2100 7000	17 —	2.4 3.0
7258	AF/IF Amp.	T-6½	13.5/210	150 125	— 125	4500 7800	21 —	2.8 2.3

VR TUBES

Type	Description	Bulb	Starting Current (Ma)	Plate Volts	Regulation Current Range (Ma)
OA2	Voltage Regulator	T-5½	75	151	5-30
OA3	Voltage Regulator	ST-12	100	75	5-40
OB2	Voltage Regulator	T-5½	75	108	5-30
OB2WA	Voltage Regulator	T-5½	75	108	5-30
OB3	Voltage Regulator	ST-12	100	90	10-30
OC3	Voltage Regulator	ST-12	100	108	5-40
OD3	Voltage Regulator	ST-12	100	153	5-40
5651	Voltage Reference	T-5½	—	87	1.5-3.5
5651WA	Voltage Reference	T-5½	—	87	1.5-3.5

THYRATRONS

Types	Description	Bulb	Heater (Volts/Ma)	Plate Volts	Peak Plate Current	Average Plate Current
5727/2D21W	Tetrode Thyratron	T-5½	6.3/600	500	10 Amps	10 Ma

© United Technical Publications

GTE SYLVANIA

2 GB—GOLD BRAND TUBES/for critical applications

An exclusive line of premium electron tubes tailored to the specialized electrical, physical-environmental and long-life requirements of commercial aircraft, manufacturing, process control, mobile communications, broadcasting and TV distribution systems. Features include 10,000-hour life, exceptional stability, maximum uniformity and extreme physical ruggedness.



DIODES

Type	Description	Bulb	Ef/If (Volts/Ma)	Max. Plate Volts	Max. Plate Ma
GB-5Y3WGTA	F-W Rectifier	T-9	5.0/1800	1550	70
GB-6X4WA	F-W Rectifier	T-5½	6.3/600	1375	27.5
GB-6X5WGT	F-W Rectifier	T-9	6.3/600	1375	38
GB-5726	Gen. Purpose Det.	T-5½	6.3/300	360	10
GB-5931	F-W Rectifier	T-12	5.0/3000	1700	150

TRIODES

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Grid No. 2 Volts	Gm (μmhos)	Mu	Plate Diss. (Watts)
GB-6BQ7A	Duo-Triode VHF Amplifier	T-6½	6.3/400	150	—	6400	39	2.3
GB-6DJ8	Duo-Triode VHF Amplifier	T-6½	6.3/365	90	—	12,500	33	2.1
GB-6J4WA	VHF Amplifier	T-5½	6.3/400	150	—	11,000	52.5	2.5
GB-6SL7WGT	Duo-Triode General Purpose	T-9	6.3/300	250	—	1600	70	1.1
GB-6SN7WGT	Duo-Triode General Purpose	T-9	6.3/600	250	—	2600	20.5	2.75
GB-407A	VHF Duo-Triode	T-6½	20/100 40/50	150	—	5500	35	1.35
GB-5670	VHF Duo-Triode	T-6½	6.3/350	150	—	5500	35	1.35

© United Technical Publications

GTE SYLVANIA

2 GB—GOLD BRAND TUBES/FOR CRITICAL APPLICATIONS (CONT.)

TRIODES (CONT.)

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Grid No. 2 Volts	Gm (μmhos)	Mu	Plate Diss. (Watts)
GB-5687	Duo-Triode General Purpose	T-6½	6.3/880 12.6/440	120	—	11,500	18.5	3.75
GB-5751	AF Duo-Triode	T-6½	6.3/350 12.6/175	250	—	1200	70	0.8
GB-5814A	Duo-Triode General Purpose	T-6½	6.3/350 12.6/175	250	—	2200	17	3.0
GB-6080	Duo-Triode Regulator	T-12	6.3/2500	135	—	7000	2	13
GB-6101	VHF Duo-Triode	T-5½	6.3/450	100	—	6000	38	1.6
GB-6135	VHF Amplifier	T-5½	6.3/175	250	—	2200	17	3.8
GB-6189	Duo-Triode General Purpose	T-6½	6.3/300 12.6/150	250	—	2200	17	3.0
GB-6201	VHF Duo-Triode	T-6½	6.3/300 12.6/150	250	—	5500	60	2.8

PENTODES

GB-7AK7	Dual Control Computer	T-9	6.3/800	150	90	6000	—	8.5
GB-408A	VHF Amplifier	T-5½	20/50	120	120	5000	—	1.7
GB-1220/5654	VHF Amplifier	T-5½	6.3/175	120	120	5000	—	1.65
GB-1330/ 12BY7A	CATV Wide Band Amplifier	T-6½	12.6/300 6.3/600	250	150	12,500	—	6.5
GB-1331/6EV5	CATV Wide Band Amplifier	T-5½	6.3/200	250	80	8800	—	3.25
GB-1332/6CY5	CATV Wide Band Amplifier	T-5½	6.3/200	125	80	8600	—	2.0
GB-5654	VHF Amplifier	T-5½	6.3/175	120	120	5000	—	1.65
GB-5725	Dual Control Amp.	T-5½	6.3/175	120	120	G1=3200 G3=700	—	1.65
GB-5749	RF/IF Amplifier	T-5½	6.3/300	250	100	4400	—	3.3
GB-5932	AF Power Amplifier	T-12	6.3/900	250	250	6100	—	22
GB-5933	RF-AF Power Amplifier	T-12	6.3/900	250	250	5500	—	25
GB-6005	AF Power Amplifier	T-5½	6.3/450	250	250	4100	—	11
GB-6136	General Purpose	T-5½	6.3/300	250	150	5200	—	3.1
GB-6186	VHF Amplifier	T-5½	6.3/300	250	150	5000	—	2.5

TRIODE-PENTODE

GB-1252/6U8A	VHF Osc. Tri. VHF Amp. Pent.	T-6½	6.3/450	125 125	— 110	7500 5000	40 —	2.5 3.0

HEPTODES

GB-5750	R-F Converter	T-5½	6.3/300	250	100	475■	—	1.1

■ Conversion Transconductance

THYRATRONS

Type	Description	Bulb	Ef/If (Volts/Ma)	Plate Volts	Peak Plate Current	Average Plate Current
GB-5727	Tetrode Thyratron	T-5½	6.3/600	500	10 Amps	10 Ma

VR TUBES

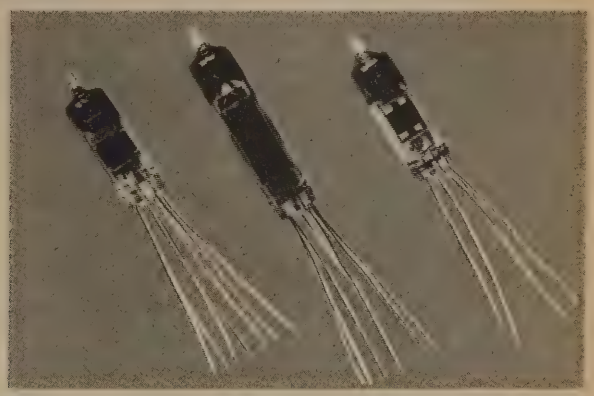
Type	Description	Bulb	Starting Current (Ma)	Plate Volts	Regulation Current Range (Ma)
GB-OA2W2	Voltage Regulator	T-5½	75	151	5-30
GB-OB2WA	Voltage Regulator	T-5½	75	108	5-30

© United Technical Publications

GTE SYLVANIA

3 PREMIUM SUBMINIATURE TUBES

Characterized by their small size, Sylvania Premium Subminiature Tubes feature long life and dependability under severe conditions of shock, vibration and temperature extremes encountered in in military usage. Types are manufactured and inspected to meet applicable Mil specifications.



PENTODES

Type	Description	Volts Ef	If ma	Eb Volts	Ec2 Volts	gm μmhos	mu	Plate Diss. Watts
5636	Dual Control Sharp Cutoff Pentode	6.3	150	100	100	3200	—	1.1
5639	Video Pentode	6.3	450	150	100	9000	—	4.0
5840	Sharp Cutoff Pentode*	6.3	150	100	100	5000	—	1.1
5899	Semi-remote Cutoff Pentode*	6.3	150	100	100	4500	—	1.1
5902	Audio Beam Power Pentode	6.3	450	110	110	4200	—	4.0
6205	Sharp Cutoff Pentode	Same as Type 5840, except with external suppressor grid connection to pin No. 4						
6206	Semi-remote Cutoff Pentode	Same as Type 5899, except with external suppressor grid connection to pin No. 4						
6788	Sharp Cutoff High Gain Audio Pentode	6.3	175	100	100	1100	—	0.5
6943	Sharp Cutoff HF Pentode	6.3	175	100	100	3600	—	1.0
6945	Audio Beam Power Pentode	6.3	350	250	150	3500	—	3.0
8210	Sharp Cutoff Pentode	6.3	125	100	100	8500	—	1.1

TRIODES

6BF7W	Medium Mu Double Triode	6.3	300	100	—	4800	35	1.1 (Each Section)
5718	Medium Mu Triode	6.3	150	100	—	5800	27	3.3
5719	High Mu Triode	6.3	150	100	—	1700	70	0.55
5977	Medium Mu Triode	6.3	150	100	—	4500	16	3.3
5987	Low Mu Power Triode	6.3	450	100	—	1850	4.1	4.0
6021	Medium Mu Double Triode	6.3	300	100	—	5400	35	1.1 (Each Section)
6111, WA	Medium Mu Double Triode	6.3	300	100	—	5000	20	1.1 (Each Section)
6112	High Mu Double Triode	6.3	300	100	—	1800	70	0.55 (Each Section)
6832	Medium Mu Double Triode	6.3	400	100	—	1050	26	0.1
6946	Medium Mu Triode	6.3	175	100	—	3800	16.5	1.5
6947	Medium Mu Double Triode	6.3	350	250	—	4000	35	0.75 (Each Section)
6948	High Mu Double Triode	6.3	350	250	—	1650	70	0.5 (Each Section)
7963	Medium Mu Triode	6.3	350	100	—	13,000	40	1.1 (Each Section)
8070	High Mu Triode	6.3	125	110	—	11,000	58	1.0
8071	High Mu Triode	6.3	125	150	—	12,000	56	2.0

THYRATRONS, VR

5641	Half Wave Power Rectifier	6.3	450	930 peak inverse plate volts absolute max. 57 ma dc output absolute max.
5647	Single Diode Detector	6.3	150	460 peak inverse plate volts absolute max.
5896	Double Diode Detector	6.3	300	460 peak inverse plate volts absolute max.
6110	Double Diode Detector	6.3	150	460 peak inverse plate volts absolute max.

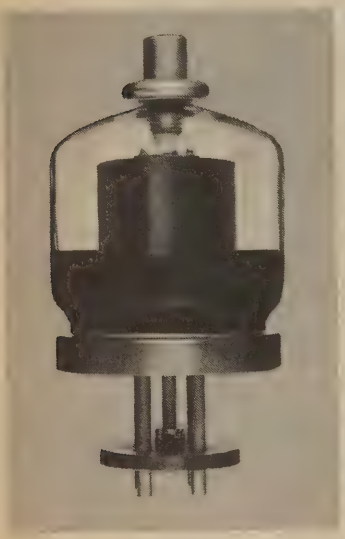
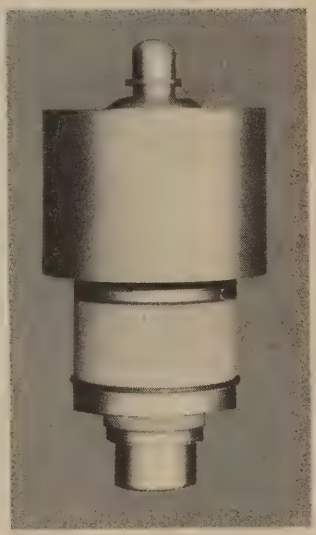
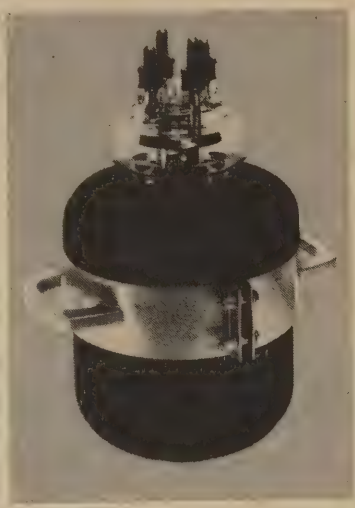
DIODES

5643	Tetrode Thyratron	6.3	150	Maximum Average Cathode Current=22 ma Peak Anode Current=100 ma
5644	Voltage Regulator	—	—	Operating Voltage=95 volts Operating Current=5.25 ma

GTE SYLVANIA

4 POWER AMPLIFIER TUBES

Audio and RF transmitting types including triodes, radial beam tetrodes and pentodes for inter-stage/multiplier and output applications covering a broad range of power and frequency.


TRIODES

Type	Cooling[1]	Ef Volts	If Amps	Max. Eb Volts	Max. Ib Amps	Max. Plate Diss. Watts	100% Input Freq. At Mc.
2C39A	F.A.	6.3	1.0	1000	0.125	100	2500
2C39B	F.A.	6.3	1.0	1000	0.125	100	2500
2C39WA	F.A.	6.0	1.0	1000	0.125	100	2500
2C40A	C. Cond.	6.3	0.75	500	0.025	6.5	3370
2C43	C. Cond.	6.3	0.9	500	0.040	12	3370
3CX2500A3	F.A.	7.5	50.5	6000	2.5	2500	75.0
3CX2500F3	F.A.	7.5	50.5	6000	2.5	2500	30.0
3CX3000A1	F.A.	7.5	51.5	6000	2.5	3000	Audio
3CX3000F1	F.A.	7.5	51.5	6000	2.5	3000	Audio
25T	C.R.	6.3	3	2000	.075	25	60
207	W.	22.0	50	15,000	2.0	10,000	1.6
250TH	C.R.	5.0	10.5	4000	0.350	250	40
304TH	C.R.	10.0	12.5	3000	.900	300	40
		5.0	25.0				
304TL	C.R.	10.0	12.5	3000	.900	300	40
450TL	C.R.	7.5	12	6000	.600	450	40
592/3-200A3	R.F.A.	10.0	5.0	3500	.250	200	150
810	C.R.	10.0	4.5	2000	0.250	125	30
811A	C.R.	6.3	4.0	1250	0.175	45	30
812AW	C.R.	6.3	4.0	1250	0.175	45	30
833A	F.A.	10.0	10.0	4000	0.500	450	20
891	F.A	22	60	12,000	2.0	6000	1.6
892	W.	22	60	15,000	2.0	7500	1.6
895	W.F.A.	19	139	17,000	9.0	40,000	6.0
1000T	R.F.A.	7.5	15.5	7500	.750	1000	50
5530H	F.A.	5.0	55	8500	1.75	4000	30
5531	F.A.	6.3	92	10,500	3.75	10,000	30
5541	F.A.	7.5	57	8500	2.75	10,000	110
5604	F.A.	11.0	12.4	12,500	3.00	10,000	25
5606	W.	22.0	60	14,000	2.00	10,000	1.6
5619	W.	11	176	12,500	3.0	20,000	22.5
5658	W.F.A.	12.0	28	12,500	5.00	20,000	15
5667 (889R)	F.A.	11.0	120	10,000	2.00	7500	22.5
5668	W.F.A.	22.0	60	14,000	2.00	20,000	5
5669	F.A.	22.0	60	14,000	2.00	10,000	5
5682	W.F.A.	16.5	325	16,000	20.0	120,000	30.0
5736	F.A.	6.0	60	5000	1.40	2500	60
5918A	W.	11	285	17,500	18.0	70,000	22.0

© United Technical Publications

GTE SYLVANIA

4 POWER AMPLIFIER TUBES (CONT.)

TRIODES (CONT.)

Type	Cooling[1]	Ef Volts	If Amps	Max. Eb Volts	Max. Ib Amps	Max. Plate Diss. Watts	100% Input Freq. At Mc.
5936	W.	20	143	18,000	10.0	70,000	15.0
6257	W.F.A.	12.6	29	5500	1.50	5000	110
6421	F.A.	7.0	85	9000	2.0	10K	30
6421, F	F.A.	7.0	85	9000	2.0	10K	30
6422	W.F.A.	7.0	85	12,500	2.5	20,000	30
6423, F	F.A.	7.0	85	12,500	2.50	10,000	30
6425, F	F.A.	7.0	120	12,500	3.50	11,000	30
6426	W.F.A.	8.0	200	12,500	8.00	40,000	30
6427	F.A.	8.0	200	12,500	8.00	20,000	30
6897	F.A.	6.3	1.0	1000	0.125	100	2500
6623	F.A.	6.0	60	5000	1.40	2500	30
6696	W.F.A.	13.0	205	16,000	11	60,000	30
7120	W.	7.0	85	10,000	2.2	12,500	30.0
7121	F.A.	7.0	85	10,000	2.2	10,000	30.0
7215	W.F.A.	6.0	60	9200	2.0	9000	30.0
7255	W.F.A.	6.0	60	9200	2.0	9000	30.0
7464	W.	6.0	60	8000	2.5	8000	Audio
7540	W.	5.0	250	15,000	10.0	35,000	Audio
7560, V	W.F.A.	14.5	450	20,000	35.0	175,000	30.0
7565	F.A.	6.0	60	8000	2.5	4000	Audio
7604	F.A.	5.0	8.0	4000	0.5	600	350
7685	F.A.	5.0	8.0	4000	0.6	600	60
7289/3CX100A5	F.A.	6.0	0.97	1000	0.125	100	2500
7815/3CPN10A5	C. Cond.	6.0	1.0	3500	0.0075	10	3000
8163/3-400Z	R.F.A.	5.0	14.5	4000	0.35	400	30
8251/3X2500F3	F.A.	7.5	51.0	6000	2.5	2500	30

RADIAL BEAM TETRODES/PENTODES

Type	Cooling[1]	Ef Volts	If Amps	Max. Eb Volts	Max. Ib Amps	Max. Plate Diss. Watts	100% Input Freq. At Mc.
2E24	C.R.	6.3	0.65	500	0.075	10	125
2E26	C.R.	6.3	0.80	500	0.075	10	125
3E29	C.R.	6.3/12.6	2.25/1.125	5000	—	15	—
4-125A	R.F.A.	5.0	6.5	3000	0.225	125	120
4-250A	R.F.A.	5.0	14.5	400	.350	250	110
4E27A/5-125B	C.R.	5.0	7.5	4000	0.200	125	75
4X150A	F.A.	6.0	2.6	2000	0.250	250	150
4X250B	F.A.	6.0	2.6	2000	0.250	250	500
4X500A	F.A.	5.0	13.0	4000	.350	500	—
807	C.R.	6.3	0.90	600	0.100	25	60
813	C.R.	10	5.0	2000	0.180	100	30
815	C.R.	6.3/12.6	1.6/0.80	400	0.150	20	150
828	C.R.	10	3.25	1250	0.160	70	30
829B	F.A.	6.3/12.6	2.25/1.125	750	0.240	40	200
832A	C.R.	6.3/12.6	1.6/0.80	750	0.090	15	200
5763	C.R.	6.0	0.75	300	0.050	12	50
5881	C.R.	6.3	0.90	400	0.065	23	—
5894A	R.F.A.	6.3/12.6	1.8/0.90	750	0.220	40	250
6146A	C. Cond.	6.3	1.25	600	.2	25	60
6146B/8298A	C. Cond.	6.3	1.125	600	.25	35	60
6159A	C. Cond.	26.5	.3	600	.2	25	60
6216	C. Cond.	6.3	1.2	300	.05	10	50
6550	C.R.	6.3	1.6	600	0.175	35	—
6883A	C. Cond.	12.6	.625	600	.2	25	60
7034/4X150A	F.A.	6.0	2.65	2000	0.250	250	150
7203/4CX250B	F.A.	6.0	2.65	2000	0.250	250	500
7204/4CX250F	F.A.	26.5	0.56	2000	0.250	250	175
8165/4-65A	C.R.	6.0	3.5	3000	0.150	65	150
8166/4-1000A	R.F.A.	7.5	21.4	6000	0.700	1000	110
8167/4CX300A	F.A.	6.0	2.85	2000	0.250	300	500
8168/4CX1000A	F.A.	6.0	8.5	3000	1.0	1000	110
8170/4CX5000A	F.A.	7.5	75.0	7500	3.0	5000	30
8171/4CX10000D	F.A.	7.5	75.5	6500	2.6	10,000	110
8173/4W20000A	W.F.A.	10.0	—	8000	15.0	20,000	220
8245/4CX250K	F.A.	6.0	2.65	2000	0.250	250	—
8252W/4PR60C	C.R.	26.0	2.1	20,000	18.0	60	—
8438/4-400A	R.F.A.	5.0	14.5	4000	.350	400	110

NOTE: 1. C = Convection
R = Radiation
W = Water

Cond. = Conduction
F.A. = Forced Air

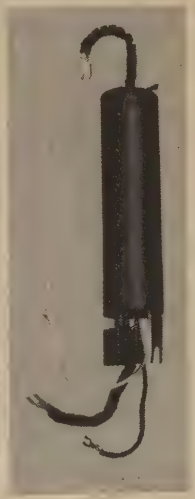
© United Technical Publications

GTE SYLVANIA

5 THYRATRONS

Cold and hot cathode types for oscillator, trigger, switching and power control applications.



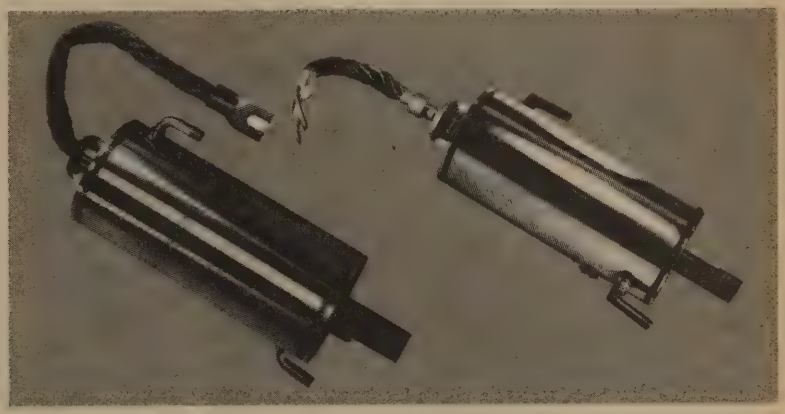



Type	Ef Volts	If Amps	Peak Inverse Volts	Amps		Type Bulb
				Peak	Avg.	
OA4G	Cold Cathode		—	—	—	ST-12
OA5	Cold Cathode		—	—	—	T-5½
C1K/6014	2.5	6.3	1250	8.0	1.0	T-12
C3J/5632	2.5	9.0	1250	30	2.5	T-12
C3J/A/5684	2.5	9.0	1250	30	2.5	T-12
C6J/A/5685	2.5	21	1250	77	6.4	T-16
C16J/5665	2.5	31	1250	100	18	T-20
2D21, W	6.3	0.6	1300	0.5	0.1	T-5½
3C23	2.5	7.0	1250	6.0	1.5	ST-16
6D4	6.3	0.25	350	0.11	0.025	T-5½
414	5.0	19.0	3000	100	5.0	—
610	2.5	6.5	500	.40	.10	—
624	5.0	10.0	2500	80	6.4	T-26
627	2.5	5.0	5000	2.5	0.64	ST-16
629	2.5	2.6	350	0.2	0.64	ST-12
632B	5.0	5.0	1500	30	2.5	T-18
672A	5.0	5.0	2500	40	3.2	T-18
676	5.0	10.0	2500	40	6.4	—
677	5.0	10.0	10,000	16	4.0	ST-30
678	5.0	7.5	15,000	6.0	1.6	—
759	Cold Cathode		—	.025	.004	T-9
760, L	2.5	21	1500	77	6.4	—
2050	6.3	0.6	1300	1.0	0.1	ST-12
2050A	Identical to Type 2050 except for					MT8
5557	2.5	5.0	5000	2.0	0.5	—
5559	5.0	4.5	1000	15	2.5	—
5560/FG95	5.0	4.5	1000	15	2.5	—
5663	6.3	.150	500	.060	.020	T-5½
5696	6.3	0.15	500	0.1	0.025	T-5½
5796	2.5	8.5	1500	20	1.6	T-12
5823	Cold Cathode		200	.100	.025	T-5½
5855	2.5	34	1500	160	18	—
5877	2.5	10.8	1500	40	3.2	T-13
6011/710	2.5	9	1500	30	2.5	—
6012	6.3	2.6	1300	5.0	0.5	T-12
6483	Cold Cathode		—	—	—	T-3
6807	2.5	21	1500	80	64	—
6860/C6J/F	2.5	21.0	1250	77	6.4	T-16
7269	5.0	5.0	21,000	12	3.2	—
7297	2.5	10.8	1500	40	3.2	T-13
7321/C6J/L	2.5	21.0	1250	77	6.4	T-16
7363	2.5	8.5	1500	20	1.6	T-12
7556A/C3J/AL	2.5	9.0	1250	30	2.5	T-12
8043	5.0	6.0	21,000	7.5	2.0	—

© United Technical Publications

GTE SYLVANIA
6 IGNITRONS

Gas-discharge, pool type tubes for resistance and frequency-changer welder service and rectifier applications.



AC WELDER CONTROL

Tube Type	RMS Line Volts	Max. Demand KVA	Corres. Current DC Amp	Max. Current DC Amp	Corres. Demand KVA	Length (Inches)	Cooling
1051A	250-600	600	30.2	56	200	13	Water
1052A	250-600	1200	76.5	140	400	13	Water
1061	250-600	600	30.2	56	200	11⅝	Water
5551A/652	250-600	600	30.2	56	200	13	Water
5552A/651	250-600	1200	76.5	140	400	14	Water
5553B	250-600	2400	192	355	800	19½	Water
5554/679	2400	1200	75	113	600	17	Water
5555/653B	2400	2400	135	207	1105	20	Water
5555A	2400	2400	135	207	1105	20	Water
7669	250-600	600	30.2	56	200	13	Water
7671	250-600	1200	75.6	140	400	14¼	Water
7681	250-600	1800	113.5	210	600	17½	Water
5550/681	250-600	300	12.1	22.4	100	9⅞	Clamp

FREQUENCY CHANGER WELDING CONTROL

Tube Type	Peak Inverse Volts	Max. Peak Amp	Corres. Avg. Amp	Max. Avg. Amp	Corres. Peak Amp	Length (Inches)	Cooling
1051A	1200	600	5	22.5	135	13	Water
1052A	500	1600	—	100	—	13	Water
1061	1200	600	5	22.5	135	11⅝	Water
5551A/652	1200	600	5	22.5	135	13	Water
5553B	1200	3000	40	140	840	19½	Water
5822A	1200	1500	20	70	420	14	Water
7669	1200	600	5	22.5	135	13	Water
7670	2500	2000	10	—	—	12	Water
7681	1200	2250	30	105	630	19½	Water

POWER RECTIFIER

Tube Type	Peak Inverse Volts	Max. Peak Amp	Max. Cont. Avg. Amp	Length (Inches)	Cooling
5554/679	900	900	100	17	Water
5555A	900	1800	200	20	Water
5555/653B	900	1800	200	20	Water

CAPACITOR DISCHARGE

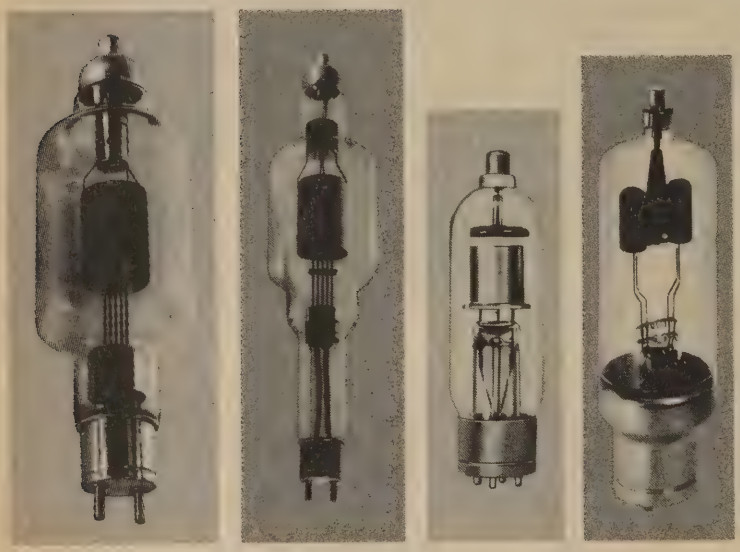
Tube Type	Hold-Off KV	Max. Peak Amp	Max. Discharge Coulombs	Max. Rep. Rate Pulses/Min.	Max. Avg. Current Amp	Length	Cooling
7703	20	100,000	—	2	—	7	Clamp
8306	15	35,000	18.6	2	0.6	8⅞	Clamp

© United Technical Publications

GTE SYLVANIA

7 RECTIFIER TUBES

Half and full wave, high vacuum and gas types for high current/low voltage and low current/high voltage applications.



HIGH-VACUUM

Type	Ef Volts	If Amps	Max. Inv. Volts	Peak Amps	Avg. Amps	Dissipation Watts	Overall Length Inches
2-01C	5.0	.35	1000	—	0.001	.1	1 3/16
2-150D	5.0	13	30,000	3.0	0.025	90	8 5/8
2X2A	2.5	1.75	13,750	0.06	0.008	—	4 17/32
102A	20	19	75,000	0.75	—	750	16 5/16
456/332	11.0	20	140,000	0.5	.060	—	18 5/8
481B	2.5	5.0	2500	0.15	0.03	—	4 13/16
579B	2.5	6.0	20,000	0.27	0.025	—	7 3/16
5575/100	20	24	150,000	1.0	—	750	25
5576/200	20	32	150,000	2.5	—	1000	25
5934	2.5	6.0	20,000	0.27	0.025	75	6 5/8

GASEOUS OR MERCURY-VAPOR

3B28	2.5	5.0	5000	2.0	0.5	—	6
83	5.0	3.0	1550	1.0	.225	—	5 3/8
575A	5.0	10	10,000	7.0	1.75	—	10 1/8
604L	2.5	11.5	900	10	2.5	—	7 1/2
615	2.5	7.0	2000	10.0	2.5	—	6 3/8
635/7019	2.5	18.0	1000	77.0	6.4	—	9 1/2
635L	Identical to Type 635/7019 except for lug base.						9 1/2
673	Identical to Type 575A except for base.						11 7/16
816	2.5	2.0	7500	0.5	0.125	—	4 11/16
857B	5.0	30.0	22,000	40.0	10.0	—	19 1/2
866A	2.5	5.0	2500	2.0	0.5	—	6 5/16
869B	5.0	19	10,000	10	2.5	—	14 1/4
872A	5.0	7.5	5,000	5.0	1.25	—	8 1/4
5558	5.0	4.5	2000	15	2.5	—	7
6894	5.0	10.0	20,000	8.3	1.8	—	10 3/32
7659	5.0	16.25	22,000	40.0	10.0	—	17 5/8
8008	Identical to Type 872A except for base.						8

© United Technical Publications

GTE SYLVANIA

8 CATHODE RAY TUBES

A line of unparalleled breadth, for industrial and military applications, ranging from spiral accelerator tubes for precision oscilloscopes to special multi-gun designs for highly sophisticated equipment. High, precise standards of engineering, design, and manufacture are followed in the production of all Sylvania CRT's.



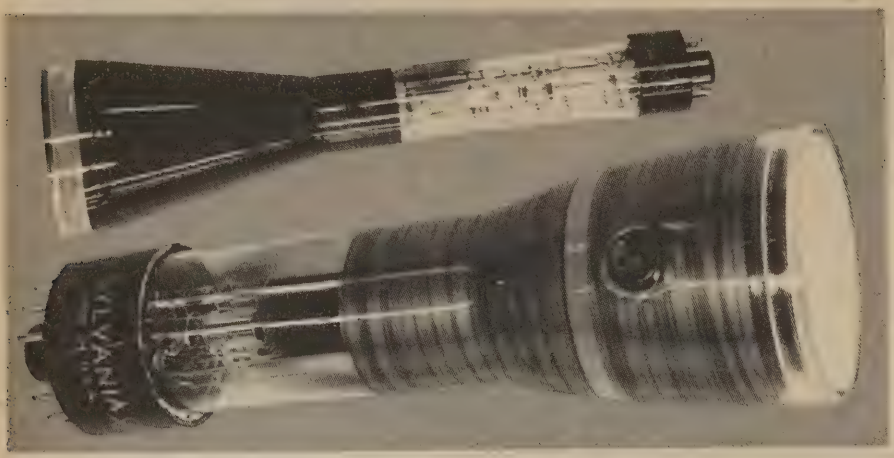


OSCILLOSCOPE

Type	Faceplate			Overall Dimensions (Inches)		Focus/ Deflection Method	Deflection Angle	Post Accel. (KV)	Anode (KV)	Typical Operation			Deflection Factors Volts DC/Inch	
	Shape	Tinted Clear Alum.	Curvature Radius (In.)	Faceplate Diameter or Width x Height	Length	ES=Electrostatic MAG=Magnetic				Focus Electrode Volts or Ma	Accel. G2 Volts	Grid No. 1 Voltage for Spot Cutoff	D1-D2	D3-D4
2AP1A	○	C	8	2	7 7/16	ES/ES	—	—	1	137-300	—	−30 to −90	230	196
2BP1	○	C	8	2	7 5/8	ES/ES	—	—	2	300-560	—	−135	230-310	148-200
3ACP1A	○	C	Flat	3	10	ES/ES	—	4	2	390-550	—	−45 to −75	175-205	138-158
3ACP2A	○	C	Flat	3	10	ES/ES	—	4	2	390-550	—	−45 to −75	175-205	138-158
3ADP1	○	C	Flat	3	10	ES/ES	—	4	2	320-470	—	−52 to −87	140-160	61-70
3ADP2	○	C	Flat	3	10	ES/ES	—	4	2	320-470	—	−52 to −87	140-160	61-70
3ASP1	▭	C	Flat	3 1/64x1 1/2	8 15/16	ES/ES	—	—	2	400-700	—	−40 to −70	68-92	28-38
3ASP2	▭	C	Flat	3 1/64x1 1/2	8 15/16	ES/ES	—	—	2	400-700	—	−40 to −70	68-92	28-38
3BP1A	○	C	8	3	10	ES/ES	—	—	2	400-690	—	−30 to −90	200	148
3BEP1	▭	C	60	3 1/64x1 1/2	9 1/8	ES/ES	—	—	1.5	247-465	—	−43.5 to −101	109-149	78-105
3BGP1	▭	C	60	3 1/64x1 1/2	9 1/4	ES/ES	—	—	2	400-700	—	−38 to −67.5	68-92	28-38
3BGP2	▭	C	60	3 1/64x1 1/2	9 1/4	ES/ES	—	—	2	400-700	—	−38 to −67.5	68-92	28-38
3BMP1	○	C	Flat	3	10	ES/ES	—	4	2	375-575	—	−45 to −75	180-220	133-163
3BMP2	○	C	Flat	3	10	ES/ES	—	4	2	375-575	—	−45 to −75	180-220	133-163
3JP1	○	C	8	3	10	ES/ES	—	3	1.5	300-515	—	−22.5 to −67.5	127-173	94-128
3JP2	○	C	8	3	10	ES/ES	—	3	1.5	300-515	—	−22.5 to −67.5	127-173	94-128
3KP1	○	C	8	3	11 1/2	ES/ES	—	—	2	320-600	—	−38 to −90	100-136	76-104
3MP1	○	C	8	3	8	ES/ES	—	—	2	400-700	—	−126	230-290	220-280
3RP1	○	C	8	3	9 1/8	ES/ES	—	—	2	330-620	—	−135	146-198	104-140
3RP1A	○	C	Flat	3	9 1/8	ES/ES	—	—	2	330-620	—	−45 to −135	146-198	104-140
3SP1	▭	C	15	3x1 1/2	9 1/8	ES/ES	—	—	2	330-620	—	−58 to −135	146-198	104-140
3SP2	▭	C	15	3x1 1/2	9 1/8	ES/ES	—	—	2	330-620	—	−58 to −135	146-198	104-140
3WP1	○	C	Flat	3	11 1/2	ES/ES	—	—	1.5	247-465	—	−45 to −75	62-76	43-52
3WP2	○	C	Flat	3	11 1/2	ES/ES	—	—	1.5	247-465	—	−45 to −75	62-76	43-52
4MP1	□	C	30	3 1/2x3 1/2	13 3/4	ES/ES	—	4	2	340-510	—	−52 to −87	68-82	42-52
5ABP1	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ABP1A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ABP31A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ADP1	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP1A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP2	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP2A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP31A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5AMP1	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP1A	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP2	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP2A	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP31A	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AQP1	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5AQP1A	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5AQP2	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5AQP2A	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5BP1A	○	C	8	5 1/4	16 3/4	ES/ES	—	—	2	315-562	—	−20 to −60	70-98	63-89
5CP1A	○	C	8	5 1/4	16 3/4	ES/ES	—	4	2	375-690	—	−30 to −90	92	78
5CP1B	○	C	8	5 1/4	16 3/4	ES/ES	—	4	2	400-690	—	−45 to −75	83-101	70-86
5DEP1	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2.0	240-640	—	90	48-64	27-37
5DEP2	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2.0	240-640	—	90	48-64	27-37
5DEP7	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2.0	240-640	—	90	48-64	27-37
5DEP11	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2.0	240-640	—	90	48-64	27-37
5UP1	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2	340-640	—	−90	56-77	46-62
7AEP1	○	C	Flat	7	15 1/2	ES/ES	—	4	2	380-620	—	−45 to −75	81-101	67-83
7AEP2	○	C	Flat	7	15 1/2	ES/ES	—	4	2	380-620	—	−45 to −75	81-101	67-83
7JP1/7VP1	○	C	20	7	14 1/2	ES/ES	—	—	6	1620-2400	—	−72 to −168	216	177

GTE SYLVANIA

8 CATHODE RAY TUBES (CONT.)





OSCILLOSCOPE (CONT.)

Type	Faceplate			Overall Dimensions (Inches)		Focus/ Deflection Method	Deflection Angle	Post Accel. (KV)	Anode (KV)	Typical Operation			Deflection Factors Volts DC/Inch	
	Shape	Tinted Clear Alum.	Curvature Radius (In.)	Faceplate Diameter or Width x Height	Length	ES=Electrostatic MAG=Magnetic				Focus Electrode Volts or Ma	Accel. G2 Volts	Grid No. 1 Voltage for Spot Cutoff	D1-D2	D3-D4
8CP1	○	C	20	8⅜	16½	ES/ES	—	4	2	540-800	—	−24 to −56	58-81	49-68
8CP2	○	C	20	8⅜	16½	ES/ES	—	4	2	540-800	—	−24 to −56	58-81	49-68
12AXP1	○	C	40	12⁷⁄₁₆	17½	ES/ES	—	10	5	1300-2200	—	−60 to −100	105-145	80-115

RADAR INDICATORS

3ACP7A	○	C	Flat	3	10	ES/ES	—	4	2	390-550	—	−45 to −75	175-205	138-158
3ACP12A	○	C	Flat	3	10	ES/ES	—	4	2	390-550	—	−45 to −75	175-205	138-158
3ADP7	○	C	Flat	3	10	ES/ES	—	4	2	320-470	—	−52 to −87	140-160	61-70
3ASP7	▭	C	60	3¼₆₄x1½	8¹⁵⁄₁₆	ES/ES	—	—	2	400-700	—	−40 to −70	68-92	28-38
3BGP7	▭	C	60	3¼₆₄x1½	9¼	ES/ES	—	—	2	400-700	—	−38 to −67.5	68-92	28-38
3BMP7	○	C	Flat	3	10	ES/ES	—	4	2	375-575	—	−45 to −75	180-220	133-163
3BMP12	○	C	Flat	3	10	ES/ES	—	4	2	375-575	—	−45 to −75	180-220	133-163
3FP7A	○	C	1¼	3	10	ES/ES	—	4	2	460-775	—	−30 to −90	200-300	144-216
3JP7	○	C	8	3	10	ES/ES	—	3	1.5	300-515	—	−22.5 to −67.5	127-173	94-128
3JP12	○	C	8	3	10	ES/ES	—	3	1.5	300-515	—	−22.5 to −67.5	127-173	94-128
3KP7	○	C	8	3	11½	ES/ES	—	—	2	320-600	—	−38 to −90	100-136	76-104
5ABP7	○	C	Flat	5¼	16¾	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ABP7A	○	CA	Flat	5¼	16¾	ES/ES	—	3.0	1.5	300-515	—	−39 to −65	40-54	27-36
5ADP7	○	C	Flat	5¼	16¾	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP7A	○	CA	Flat	5¼	16¾	ES/ES	—	3.0	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5AHP7	○	C	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AHP7A	○	CA	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AHP14	○	C	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AHP14A	○	CA	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AHP19	○	C	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AHP19A	○	CA	24	4¹⁵⁄₁₆	11⅛	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5AMP7	○	C	Flat	5¼	17⅝	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP7A	○	C	Flat	5¼	17⅝	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AQP7	○	C	Flat	5¼	16¾	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5AQP7A	○	C	Flat	5¼	16¾	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31.5-38.5
5BCP1	○	C	24	4.95	7⁷⁄₁₆	MAG/MAG	70	—	8	56-84 Ma	—	−25 to −75	—	—
5BCP7	○	C	24	4.95	7⁷⁄₁₆	MAG/MAG	70	—	8	56-84 Ma	—	−25 to −75	—	—
5BRP1	○	CA	24	4.95	7	ES/MAG	70	—	8	−50 to +350	300	−15 to −45	—	—
5BRP7	○	CA	24	4.95	7	ES/MAG	70	—	8	−50 to +350	300	−15 to −45	—	—
5CP7A	○	C	8	5¼	16¾	ES/ES	—	4	2	375-690	—	−30 to −90	92	78
5CP12	○	C	8	5¼	16¾	ES/ES	—	4	2	375-690	—	−30 to −90	92	78
5CVP1	▭	C	24	4¾x2¾	8⅝	ES/MAG	54	—	4	0-120	300	−15 to −45	—	—
5CVP7	▭	C	24	4¾x2¾	8⅝	ES/MAG	54	—	4	0-120	300	−15 to −45	—	—
5CVP19	▭	C	24	4¾x2¾	8⅝	ES/MAG	54	—	4	0-120	300	−15 to −45	—	—

© United Technical Publications

RADAR INDICATORS (CONT.)

Type	Faceplate: Shape	Faceplate: Tinted Clear Alum.	Faceplate: Curvature Radius (In.)	Overall Dimensions (Inches): Faceplate Diameter or Width x Height	Overall Dimensions (Inches): Length	Focus/Deflection Method: ES=Electrostatic MAG=Magnetic	Deflection Angle	Post Accel. (KV)	Anode (KV)	Typical Operation: Focus Electrode Volts or Ma	Typical Operation: Accel. G2 Volts	Typical Operation: Grid No. 1 Voltage for Spot Cutoff	Deflection Factors Volts DC/Inch: D1-D2	Deflection Factors Volts DC/Inch: D3-D4
5FP7A	○	C	24	4 15/16	10 5/8	MAG/MAG	53	—	6	120 Ma	250	−25 to −70	—	—
5FP14A	○	C	24	4 15/16	10 5/8	MAG/MAG	53	—	6	120 Ma	250	−25 to −70	—	—
5UP7	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2	340-640	—	−90	56-77	46-62
7ABP7	○	C	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7ABP7A	○	CA	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7ABP14	○	C	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7ABP14A	○	CA	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7ABP19	○	C	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7ABP19A	○	CA	24	7 3/16	13 1/4	ES/MAG	50	—	7	0-250	300	−28 to −72	—	—
7AEP7	○	C	Flat	7	15 1/2	ES/ES	—	4	2	380-620	—	−45 to −75	—	—
7AQP4	○	CA	24	7	8 1/2	MAG/MAG	70	—	10	−50 to +350	300	−15 to −45	—	—
7AQP7	○	CA	24	7	8 1/2	MAG/MAG	70	—	10	−50 to +350	300	−15 to −45	—	—
7AQP16	○	CA	24	7	8 1/2	MAG/MAG	70	—	10	−50 to +350	300	−15 to −45	—	—
7AQP19	○	CA	24	7	8 1/2	MAG/MAG	70	—	10	−50 to +350	300	−15 to −45	—	—
7AQP25	○	CA	24	7	8 1/2	MAG/MAG	70	—	10	−50 to +350	300	15-45	—	—
7AUP7	○	C	24	7	8 1/2	ES/MAG	70	—	8	0-300	—	−25 to −60	—	—
7BP2A	○	C	24	7	13 1/4	MAG/MAG	53	—	7	99-135 Ma	250	−25 to −70	—	—
7BP7A	○	C	24	7	13 1/4	MAG/MAG	53	—	7	99-135 Ma	250	−25 to −70	—	—
7JP7	○	C	20	7	14 1/2	ES/ES	—	—	6	1620-2400	—	−72 to −168	216	177
7MP7	○	C	24	7 3/16	12 3/4	MAG/MAG	50	—	7	85 Ma	250	−27 to −63	—	—
7MP14	○	C	24	7 3/16	12 3/4	MAG/MAG	50	—	7	85 Ma	250	−27 to −63	—	—
7UP7	○	CA	24	7	13 1/4	MAG/MAG	53	—	7	117 Ma	250	−25 to −70	—	—
7UP25	○	CA	24	7	13 1/4	MAG/MAG	53	—	7	111 Ma	250	−25 to −70	—	—
8CP7	○	C	20	8 3/8	16 1/2	ES/ES	—	4	2	540-800	—	−24 to −56	56-81	49-68
10AKP7	○	TA	42	10 1/2	17 5/8	MAG/MAG	50	—	8	105 Ma	700	−20 to −80	—	—
10ANP4	○	TA	42	10 1/2	16M	MAG/MAG	50	—	9	40-60 Ma	30-70	14	—	—
10ANP7	○	TA	42	10 1/2	16M	MAG/MAG	50	—	9	40-60 Ma	30-70	14	—	—
10ANP16	○	TA	42	10 1/2	16M	MAG/MAG	50	—	9	40-60 Ma	30-70	14	—	—
10ANP19	○	TA	42	10 1/2	16M	MAG/MAG	50	—	9	40-60 Ma	30-70	14	—	—
10ANP25	○	TA	42	10 1/2	16M	MAG/MAG	50	—	9	40-60 Ma	30-70	14	—	—
10KP7	○	T	42	10 1/2	17 5/8	MAG/MAG	50	—	9	112 Ma	250	−27 to −63	—	—
10KP7A	○	T	42	10 1/2	17 5/8	MAG/MAG	50	—	9	112 Ma	250	−27 to −63	—	—
10KP7B	○	TA	42	10 1/2	17 5/8	MAG/MAG	50	—	9	112 Ma	250	−27 to −63	—	—
10VP7	○	TA	42	10 1/2	17 5/8	MAG/MAG	50	—	11	110 Ma	250	−33 to −77	—	—
10WP7	○	T	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
10WP7A	○	TA	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
10WP14	○	T	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
10WP14A	○	TA	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
10WP19	○	T	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
10WP19A	○	TA	42	10 1/2	16 15/16	ES/MAG	50	—	10	0-300	300	−33 to −77	—	—
12ABP7	○	T	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12ABP7A	○	TA	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12ABP14	○	T	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12ABP14A	○	TA	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12ABP19	○	T	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12ABP19A	○	TA	40	12 7/16	18	ES/MAG	55	—	10	0-300	300	−33 to −77	—	—
12AXP7	○	C	40	12 7/16	17 1/2	ES/ES	—	10	5	1300-2200	—	−60 to −100	105-145	80-115
12DP7A	○	T	20	12	19 5/8	MAG/MAG	50	—	4	75-102 MA	250	−25 to −70	—	—
12DP7C	○	TA	20	12	19 5/8	MAG/MAG	50	—	4	75-102 MA	250	−25 to −70	—	—
12SP7	○	T	40	12 7/16	18 3/4	MAG/MAG	55	—	9	110 Ma	250	−27 to −63	—	—
12SP7B	○	TA	40	12 7/16	18 3/4	MAG/MAG	55	—	9	104 Ma	250	−27 to −63	—	—
12SP7D	○	TA	40	12 7/16	18 3/4	MAG/MAG	55	—	9	104 Ma	250	−27 to −63	—	—
SC-2854	○	C	24	4 15/16	11 1/8	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—

VIDEO RECORDERS

2BP11	○	C	8	2	7 5/8	ES/ES	—	—	2	300-560	—	−67.5 to −135	230-310	148-200
3ACP11A	○	C	Flat	3	10	ES/ES	—	4	2	399-550	—	−45 to −75	175-205	138-158
3ACP16A	○	C	Flat	3	10	ES/ES	—	4	2	300-550	—	−45 to −75	175-205	138-158
3ADP11	○	C	Flat	3	10	ES/ES	—	4	2	320-470	—	−52 to −87	140-160	61-70
3ASP11	▭	C	Flat	3 1/64 x 1 1/2	8 15/16	ES/ES	—	—	2	400-700	—	−40 to −70	68-92	28-38

GTE SYLVANIA

8 CATHODE RAY TUBES (CONT.)

VIDEO RECORDERS (CONT.)

Type	Faceplate: Shape	Faceplate: Tinted Clear Alum.	Faceplate: Curvature Radius (In.)	Overall Dimensions (Inches): Faceplate Diameter or Width x Height	Overall Dimensions (Inches): Length	Focus/Deflection Method: ES=Electrostatic MAG=Magnetic	Deflection Angle	Post Accel. (KV)	Anode (KV)	Typical Operation: Focus Electrode Volts or Ma	Typical Operation: Accel. G2 Volts	Typical Operation: Grid No. 1 Voltage for Spot Cutoff	Deflection Factors Volts DC/Inch: D1-D2	Deflection Factors Volts DC/Inch: D3-D4
3BGP11	▭	C	60	3 1/64 x 1 1/2	9 1/4	ES/ES	—	—	2	400-700	—	−38 to −67.5	68-92	28-38
3BMP11	○	C	Flat	3	10	ES/ES	—	4	2	375-575	—	−45 to −75	180-220	133-163
3KP11	○	C	8	3	11 1/2	ES/ES	—	—	2	320-600	—	−38 to −90	100-136	76-104
3SP5	▭	C	15	3x1 1/2	9 1/8	ES/ES	—	—	2	330-620	—	−58 to −135	146-198	104-140
3SP11	▭	C	15	3x1 1/2	9 1/8	ES/ES	—	—	2	330-620	—	−58 to −135	146-198	104-140
3WP11	○	C	Flat	3	11 1/2	ES/ES	—	—	1.5	247-465	—	−45 to −75	62-76	43-52
5ABP11	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ABP11A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-54	27-36
5ADP11	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5ADP11A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−34 to −56	40-50	30.5-37.5
5AMP11	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AMP11A	○	C	Flat	5 1/4	17 5/8	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	20-25
5AQP11	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31-5-38.5
5AQP11A	○	C	Flat	5 1/4	16 3/4	ES/ES	—	—	2.5	0-300	—	−34 to −56	40-50	31-5-38.5
5BCP11	○	C	24	4.95	7 7/16	MAG/MAG	70	—	8	56-84 Ma	—	−25 to −75	—	—
5BRP11	○	CA	24	4.95	7	ES/MAG	70	—	8	−50 to +350	300	−15 to −45	—	—
5CP11A	○	C	8	5 1/4	16 3/4	ES/ES	—	4	2	375-690	—	−30 to −90	92	78
5DKP11	○	CA	24	4 15/16	11 1/8	MAG/MAG	53	—	8.0	136 Ma	250	−30 to −75	—	—
5FP11A	○	C	24	4 15/16	10 5/8	MAG/MAG	53	—	6	120 Ma	250	−25 to −70	—	—
5UP11	○	C	20	5 1/4	14 3/4	ES/ES	—	—	2	340-640	—	−90	56-77	46-62
5WP11	○	CA	Flat	5	11 7/16	ES/MAG	50	—	27	4200-5400	200	−42 to −98	—	—
7AEP11	○	C	Flat	7	15 1/2	ES/ES	—	4	2	380-620	—	−45 to −75	81-101	67-83
8CP11	○	C	20	8 3/8	16 1/2	ES/ES	—	4	2	540-800	—	−24 to −56	58-81	49-68
10NP11	○	TA	42	10 1/2	17 5/8	MAG/MAG	50	—	18	110 Ma	—	−65 to −125	—	—

MONITORS

5ABP4	○	C	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-55	27-36
5ABP4A	○	CA	Flat	5 1/4	16 3/4	ES/ES	—	3	1.5	300-515	—	−39 to −65	40-55	27-36
5AHP4A	○	CA	24	4 15/16	11 1/8	ES/MAG	53	—	7	0-250	300	−33 to −77	—	—
5BCP4	○	C	24	4.95	7 7/16	MAG/MAG	70	—	8	56-84 Ma	—	−25 to −75	—	—
5BRP4	○	CA	24	4.95	7	ES/MAG	70	—	8	−50 to +350	300	−15 to −45	—	—
5DKP4	○	CA	24	4 15/16	11 1/8	MAG/MAG	53	—	8.0	136 Ma	250	−30 to −75	—	—
5DLP4	○	CA	—	4 15/16	8 7/8	ES/MAG	53	—	10	0 to +400	300	−35 to −72	—	—
5FP4A	○	C	24	4 15/16	10 5/8	MAG/MAG	53	—	6	120 Ma	250	−25 to −70	—	—
5RP4A	○	C	Flat	5 1/4	16 3/4	ES/ES	—	20	2	362-695	—	−30 to −90	140-210	131-197
7AUP4	○	CA	24	7	8 1/2	ES/MAG	70	—	8	0-300	300	−25 to −60	—	—
8DP4	▭	T	27	7 7/8 x 6 1/16	10 7/16	ES/MAG	90	—	8	60-360	200	−22 to −51	—	—
8FP4	▭	TA	27	7 7/8 x 6 1/16	11 7/16	MAG/MAG	90	—	16	125 Ma	300	−40 to −77	—	—
8HP4	▭	TA	27	7 7/8 x 6 1/16	10	ES/MAG	90	—	11	0-300	—	−28 to −72	—	—
8KP4	▭	TA	27	7 7/8 x 6 13/16	11 13/16	ES/MAG	90	—	16	0-400	300	−40 to −77	—	—
8QP4	▭	TA	27	7 7/8 x 6 1/16	10	ES/MAG	90	—	16	0-400	—	−28 to −72	—	—
10SP4	○	TA	42	10 1/2	16 5/8	ES/MAG	50	—	14	1640-2225	200	−23 to −53	—	—
17DWP4	▭	TA	27	15 3/8 x 12 9/32	19 3/16	ES/MAG	70	—	18	0-400	300	−40 to −77	—	—
21EYP4	▭	TA	33	20 1/4 x 16 3/8	23 1/32	ES/MAG	72	—	18	0-400	300	−40 to −77	—	—

FLYING SPOT SCANNERS

3KP16	○	C	8	3	11 1/2	ES/ES	—	—	2	320-600	—	−38 to −90	100-136	76-104
5AUP24	○	CA	Flat	5	12 1/2	MAG/MAG	40	—	27	4600-5800	200	−40 to −100	—	—
5BNP16	○	CA	24	4 15/16	10 5/8	ES/MAG	53	—	14	−50 to +350	300	−33 to −77	—	—
5DKP15	○	CA	24	4 15/16	11 1/8	MAG/MAG	53	—	8	136 Ma	250	−30 to −75	—	—
5DKP16	○	CA	24	4 15/16	11 1/8	MAG/MAG	53	—	8	136 Ma	250	−30 to −75	—	—
5DKP24	○	CA	24	4 15/16	11 1/8	MAG/MAG	53	—	8	136 Ma	250	−30 to −75	—	—
5WP15	○	CA	Flat	5	11 7/16	ES/MAG	50	—	27	4200-5400	200	−42 to −98	—	—
5ZP15	○	CA	Flat	5	14 3/8	ES/MAG	40	—	27	5500-7050	200	−42 to −98	—	—
5ZP16	○	CA	Flat	5	14 3/8	ES/MAG	40	—	27	5500-7050	200	−42 to −98	—	—
5ZP24	○	CA	Flat	5	14 3/8	ES/MAG	40	—	27	5500-7050	200	−42 to −98	—	—
10VP15	○	CA	42	10 1/2	17 5/8	MAG/MAG	50	—	11	110 Ma	250	−33 to −77	—	—

© United Technical Publications

GTE SYLVANIA

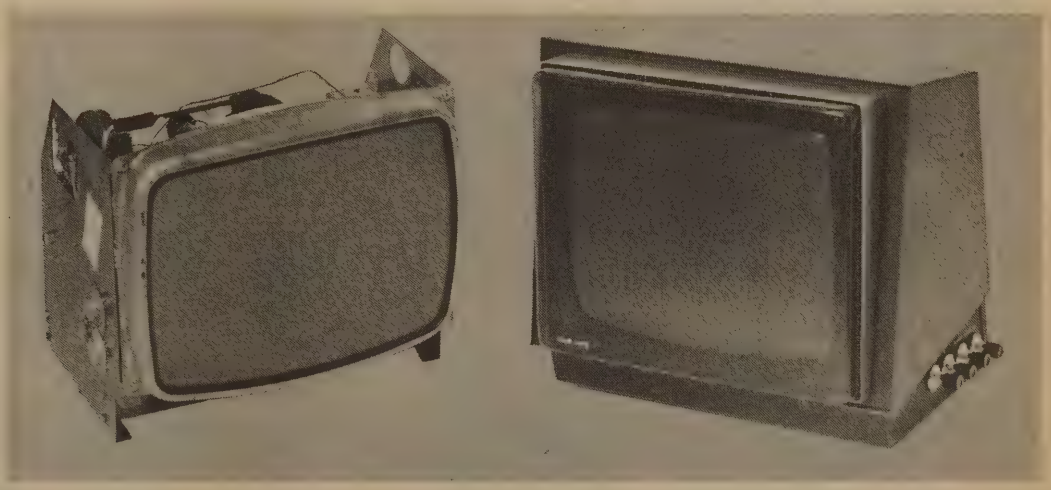
9 TV CAMERA PICK-UP TUBES

Vidicons for commercial and industrial television camera applications.

Type	Description	Length Inches	Max. Dia. Inches	Ef/If
1319	Vidicon operable to 0.2 foot candle illumination.	6¼	1	6.3/600
7038	Vidicon operable to 0.2 foot candle illumination.	6¼	1	6.3/600
7325	Vidicon operable to .1 foot candle illumination.	6¼	1.125	6.3/600
7735A, B	Vidicon operable to 0.1 foot candle illumination.	6¼	1	6.3/600
8484	Vidicon similar to 7325 but with greater sensitivity and uniformity. Premium replacement for 7325 and 7735A.	6¼	1.125	6.3/600
8507	Vidicon operable to 0.2 foot candle illumination.	6¼	1	6.3/600

10 VIDEO MONITORS

Type	Description	Model Variations
SDM5305-12	12" Video Monitor of all solid state design offering high definition in raster displays. The module is specifically designed to provide optimum legibility for the presentation of alpha-numeric display information in the form of a dot matrix. Model variations include: AC or DC operation, DC regulation, composite or separate sync, and with or without cabinet.	A (C) -00: 120 VAC; Composite Sync -15: 120 VAC; Composite Sync; Regulated DC -04: 120 VAC; Separate Sync -19: 120 VAC; Separate Sync; Regulated DC B (C) -00: 24 VDC; Composite Sync -04: 24 VDC; Separate Sync (C) - : Denotes Cabinet

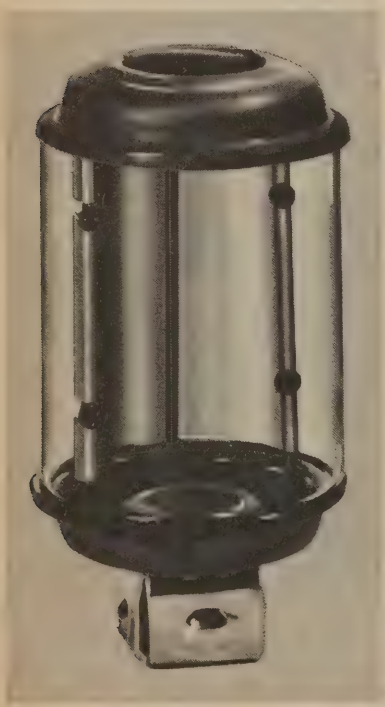


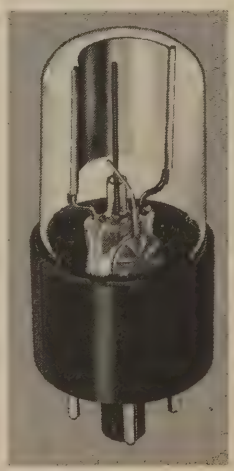
GTE SYLVANIA

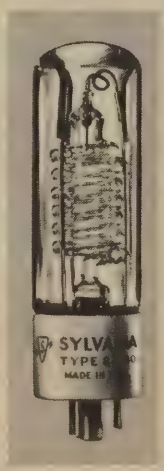
11 STROBOTRONS

Cold cathode high frequency pulse light sources of the gas discharge type for stroboscopic inspection and photography.

Type	Max. Flashing Rate of Spec. Watt Sec. (Flashes/Sec.)	Max. Power Input (Watts)	Max. Energy Input (Watt-Sec.)	Trigger Supply Voltage (Min.)	Operating Volts		Approx. Length (Inches)	Approx. Dia. or Width (Inches)	Arc Tube Shape	Color Discharge
					Min.	Max.				
SN4, JAN/SN4, 1D21/SN4	240	3	1.5	175	250	300	4¼	1 3/16	None	Neon Red
SA309	100	3.5	1.8	4,000	425	600	2½	1 1/32	U	Blue White
SN5	60	3	1.5	175	250	375	4¼	1 3/16	None	Neon Red
S413A, B, C, D, E	100	3.5	1.8	4,000	425	600	2¾	5/32	Straight	Blue White
S414A	100	3.5	3.5	4,000	600	900	2 7/16	¼	Straight	—
631P1/JAN	240	3.0	2.5	175	—	330	4¼	1 3/16	—	Neon Red
648P1/JAN	100	—	—	—	—	800	4 13/16	3/16	2 Turns	—
S696	100	3.5	1.8	4,000	425	600	2½	1 1/32	U	Blue White
S840	100	3.5	1.8	4,000	425	600	1⅜	13/64	U	Blue White
S841	100	3.5	1.8	4,000	425	600	1⅜	13/64	U	Blue White
SS501	12	25	2.5	15,000	1,800	2,000	6 3/16	1 3/32	—	Blue White
S848	100	3.5	1.8	3,500	425	600	1¾	¼	Straight	—
S853	100	3.5	1.5	4,000	425	600	2	¼	Straight	—

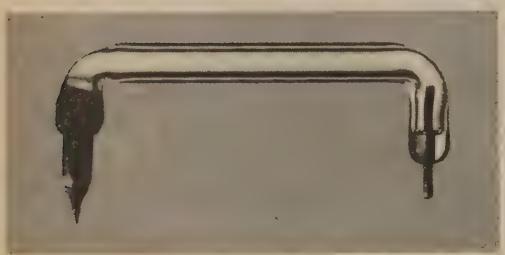












© United Technical Publications

GTE SYLVANIA

12 FLASH TUBES

Cold cathode ultra-high intensity pulse light sources of the gas discharge type for electronic photoflash, beacons, signaling, and stroboscopes.

Type	Max. Flashing Rate at Max. Watt Seconds	Max. Power Input (Watts)	Max. Energy (Watt-Sec.)	Operating Volts		Min. Trigger Supply Volts	Approx. Length (Inches)	Approx. Dia. or Width (Inches)	Arc Tube Shape
				Min.	Max.				
R4306	3/min.	2.0	40	175	750	4,000	1 7/16	5/8	U
R4307	3/min.	2.5	50	175	750	4,000	2 5/16	5/8	U
R4307C	3/min.	2.5	50	175	750	4,000	2 1/8	5/8	U
R4315	—	100	1,600	750	1,100	6,000	1 1/2	3 11/16	Circular
R4318	3/min.	—	125	450	—	4,000	2 13/16	1 3/8	1 1/2 Turns
R4319	3/min.	6.25	125	450	900	5,000	2 1/8	3/4	1 1/2 Turns
R4321	80/min.	30	25	300	500	4,000	2	1	1 Turn
R4321A	80/min.	30	25	300	500	200	2 3/4	1 1/4	1 Turn
R4325	80/min.	15	10	350	500	4,000	1 1/4	1 5/16	1 1/2 Turns
R4328	3/min.	10	200	700	1,050	5,000	2 13/16	1 3/8	1 1/2 Turns
R4329	—	10	200	700	1,050	4,000	1 3/4	1 1/8	1 1/2 Turns
R4330	6/min.	10.0	100	2,000	2,500	15,000	5 3/8	1 13/32	Helix
R4336	18/min.	120.0	400	1,700	2,300	9,000	6	2 1/16	Helix
R4337	2/sec.	—	60	850	1,500	5,000	4 1/8	1 5/16	Helix
R4338A	2/sec.	—	10	2,000	—	5,000	6	3/8	Straight
R4403	60/min.	15	15	350	450	6,000	1 3/4	—	1 1/2 Turns

13 GLOW MODULATORS

Crater type cold cathode light sources adaptable to high frequency modulation (to 1 Mc) for facsimile and stroboscopic inspection.

Type	Max. Oper. Voltage	Current (MA)		Min. Starting Voltage	Crater Dia. (Inches)	Light Output in Candlepower	Brightness in Candles/in²	Approx. Length (Inches)	Approx. Dia. (Inches)	Color of Discharge
		Av.	Peak							
GM-514	160	5-25	55	240	.056	.1 @ 25 ma	41 @ 25 ma	2 5/8	19/32	Blue Red
GM-514C	160	5-15	35	240	.093	.1 @ 15 ma	15 @ 15 ma	2 5/8	19/32	White
1B59/R-1130B, R1130B	150	5-35	75	225	.056	.13 @ 30 ma	43 @ 30 ma	3 1/16	1 3/32	Blue Violet
R-1131C, D	150	3-25	55	225	.093	.2 @ 25 ma	29 @ 15 ma	3 1/16	1 3/32	White
R-1166	150	3-25	55	225	.093	.2 @ 25 ma	29 @ 25 ma	3 1/16	1 3/32	White
R-1168	150	5-15	30	225	.015	.023 @ 15 ma	132 @ 15 ma	3 1/16	1 3/32	Blue Violet
R-1169	150	5-25	45	225	.025	.036 @ 15 ma	72 @ 15 ma	3 1/16	1 3/32	Blue Violet
R-1171	150	5-25	45	225	.025	—	—	3 1/16	1 3/32	Blue Violet

14 PHOTOTUBES

High vacuum and gas/photomultiplier tubes for sound reproduction, color comparison, and light-operated relay applications.

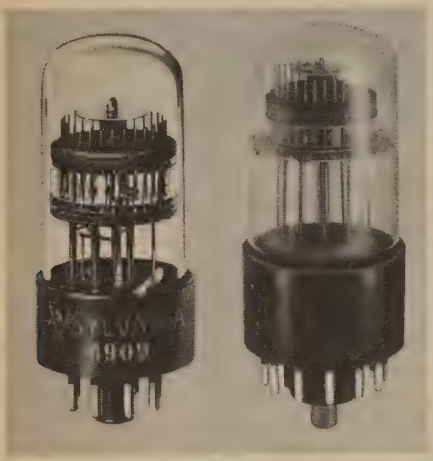
Type	Spectral Range A. U.	Vacuum or Gas	Cathode Response	Luminous Sensitivity μa/Lumen 0 Cycles	Max. Anode Volts	Type Bulb
1P39	3,000-6,700	Vac.	S4	45	250	T9
1P40	4,000-12,000	Gas	S1	135	90	T9
921	4,000-12,000	Gas	S1	135	90	Cartridge
922	4,000-12,000	Vac.	S1	20	500	Cartridge
923	4,000-12,000	Gas	S1	135	90	T9
927	4,000-12,000	Gas	S1	125	90	T-5¼
929	3,000-6,700	Vac.	S4	45	250	T9
930	4,000-12,000	Gas	S1	135	90	T9
931A	3,000-6,700	Vac.	S4	30	1,250	T9

© United Technical Publications

GTE SYLVANIA

15 COUNTER TUBES

Cold cathode glow discharge decade counting and display tubes for electronic counters, scalers, timers, keyers, and step generators.



Type		6476A	8353	6802	8035	6910	6909	7155
Mechanical Data								
Bulb		T11	T9	T9	T9	T11	T9	T5½
Base		Modified Duodeca	13 Pin	Octal	13 Pin	Modified Duodeca	Octal	7 Pin Min.
Operating Characteristics (Typical)								
Anode Supply Voltage	(Vdc)	+350	+350	+350	+400	+400	+400	+400
Nominal Tube Drop	(V)	187	187	187	235	235	235	235
Min. Guide Bias	(Vdc)	+35	+35	+35	+35	+45	+45	+45
Min. Square Double Pulse Drive Amplitude	(V)	−75	−75	−75	−70	−85	−85	−85
Min. Square Double Pulse Duration (Each)	(μsec)	60	60	60	4	4	4	4
Min. Forced Reset Pulse Amplitude	(V)	−120	−120	−120	−120	−120	−120	−120
Min. Reset Pulse Width	(μsec)	50	50	50	4	4	4	4
Max. Cathode Load Resistor	(Ohms)	150K	150K	150K	50K	50K	50K	50K

© United Technical Publications



We have only one standard 12″ monitor. All three are shown above.

A 12″ monitor is standard in everybody's line.

Except in GTE Sylvania's.

The only thing standard about our 12″ monitor is the size of the CRT.

We can't work magic with a 12″ hunk of picture tube, but you'll be amazed at what we can do with the rest of the unit.

Would you like the controls on the top? Back? Front? Side?

Do you need more space in the upper right-hand corner? Or the lower left? Or maybe you need a little extra space on top.

That's no problem for us because our standard monitor is designed to be flexible.

If you can find the space for a 12″ CRT, we'll find the space for the electronics.

Three versions of our standard monitor are shown above.

Yours could be number four.

Sylvania Electronic Components, Seneca Falls, New York 13148.

GTE SYLVANIA

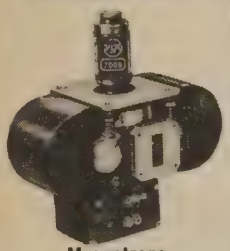
RCA

ELECTRON TUBES
FOR INDUSTRY AND COMMUNICATIONS

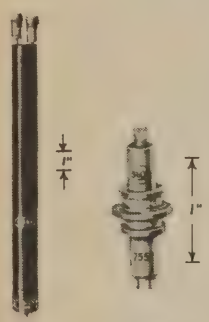
RESALE PRICE SCHEDULE • AUGUST 16, 1971

POWER / MICROWAVE / PHOTOSENSITIVE / CAMERA / DISPLAY / INDUSTRIAL RECEIVING

MICROWAVE DEVICES



Magnetrons



Traveling Wave — Pencil

CAMERA & DISPLAY

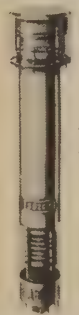
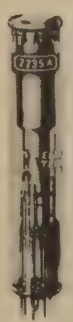


Image Orthicons



Vidicons

RCA Type	Optional Distributor Resale Price
0A2	$1.45
0A2WA	3.41
0A3	1.74
0A3A	1.74
0A4G	2.30
0B2	1.59
0B2WA	2.68
0C2	1.75
0C3	1.66
0C3A	1.66
0D3	1.64
0D3A	1.64
1C21	4.85
1EP1	34.05
1EP2	14.00
1EP11	35.45
1L4	1.67
1P21	57.40
1P22	19.90
1P28	24.10
1P28/V1	31.50
1P28A	29.00
1P28A/V1	46.20
1P29	10.55
1P37	8.40
1P39	4.60
1P40	7.15
1P41	8.45
1P42	20.25
2AP1A	24.85
2BP1	16.80
2BP11	12.40
2C39A	20.75
2C39A/V1	28.00
2C39WA	28.00
2C43	27.35
2D21	1.49
2D21W	(Use 5727)
2E24	8.70
2E26	4.65
2K26	68.00
2X2A	4.90
3A4	2.16
3A5	2.31
3AP1A	48.80
3AQP1	34.35
3B4WA	6.33
3B28	9.65
3BP1A	33.90
3C23	11.98
3C33	35.00
3C45	(Use 6130/3C45)
3CX3000A7	278.00
3CX5000H3	437.00
3CX10000A7	580.00
3CX10000H3	545.00
3D22A	45.25
3E29	23.45
3JP1	18.90
3JP7	31.15
3KP1	35.70
3KP7	14.00
3KP11	14.00
3RP1	21.00
3RP1A	38.40
3RP7A	41.20
3WP1	43.15
3WP11	45.60
3X3000F1	(Use 8239/3X3000F1)
4-65A	(Use 8165/4-65A)
4-125A/4D21	49.60
4-250A/5D22	50.00
4-400A	(Use 8438/4-400A)
4-1000A	(Use 8166/4-1000A)
4CX250B	35.60
4CX250F	(Use 7204/4CX250F)
4CX300A	(Use 8167/4CX300A)
4CX1000A	(Use 8168/4CX1000A)
4CX5000A	(Use 8170/4CX5000A)
4CX10,000D	(Use 8171/4CX10,000D)
4CX15,000A	(Use 8281/4CX15,000A)
4D21	(Use 4-125A/4D21)
4E27A/5-125B	50.00
4X150A	23.15
4X150D	(Use 7035/4X150D)
4X500A	128.50
5-125B	(Use 4E27A/5-125B)
5ABP1	55.05
5ABP7	49.70
5ABP11	21.00
5ABP31	47.60
5ADP1	55.05
5ADP31	51.05
5AUP24	150.00
5AZP4	145.00
5BP1A	47.20
5C21	(Use C6J/5C21)
5CP1A	$47.50
5CP11A	21.00
5D22	(Use 4-250A/5D22)
5FP4A	36.05
5FP7A	45.40
5R4GYB	2.40
5UP1	22.40
5UP7	33.60
5UP11	23.50
5UP31	28.00
5WP11	49.00
5ZP16	130.00
6AC7W	5.84
6AG5WA	(Use 6186/6AG5WA)
6AG7Y	3.11
6AH6WA	7.60
6AK5W	(Use 5654)
6AK6	1.40
6AL5W	(Use 5726)
6AN5	4.20
6AQ5W	(Use 6005)
6AS6	3.90
6AS6W	(Use 5725)
6AS7G	5.25
6AS7GA	4.93
6AU6WB	3.22
6BA6W	(Use 5749)
6BE6W	(Use 5750)
6CY5	(Use 7717/6CY5)
6D4	3.20
6DJ8/ECC88	1.89
6F4	14.40
6J4	4.51
6J4WA	5.84
6J6WA	5.51
6SJ7Y	2.82
6X4W	2.35
7BP7A	35.45
7C24	(Use 5762)
7MP7	59.95
7NP4	1140.00
7TP4	73.15
7VP1	30.80
7VP31	30.80
7WP4	1140.00
8HP4	60.80
8NP4	59.50
8QP4	63.00
9C25	2775.00
10SP4	99.35
12A6	3.73
12AT7WA	2.86
12AT7WB	3.03
12AU7WA	(Use 6189)
12AX7A	(Use 6681/12AX7A)
12WS7	1.95
12SY7	3.18
14GT8	(Use 7724/14GT8)
17DPW4	60.00
21EYP4	49.50
26A6	3.85
26A7GT	8.04
26C6	3.27
26D6	3.22
83	2.31
105	59.00
356	(Use 5771)
404A	(Use 5847/404A)
407A	5.90
408A	4.95
417A	(Use 5842/417A)
575A	23.60
579B	21.90
604/7014	15.00
615/7018	11.50
627	29.00
632B	35.50
672A	43.00
673	22.75
676	66.75
677	66.75
710/6011	13.15
714/7021	10.00
716/6855	12.50
760/6858	28.10
807	5.50
810	36.40
811A	9.25
812A	7.60
813	25.85
816	4.75
827R	705.00
828	37.00
829B	21.00
830B	15.55
832A	17.70
833A	73.15
834	19.25
836	14.70
837	16.65
845	35.20
857B	$239.00
866A	4.45
868	7.75
869B	142.00
872A	12.10
884	2.90
891R	455.00
892	290.00
892R	448.00
902A	24.60
917	10.10
918	7.70
919	12.70
920	17.40
921	6.85
922	4.90
923	6.20
925	6.75
926	6.20
927	9.10
929	5.35
930	6.55
931A	13.65
931VA	14.30
934	8.60
935	15.30
955	7.05
959	13.85
991	2.10
1319	67.00
1612	6.84
1613	3.53
1614	5.84
1616	17.85
1619	7.16
1620	8.64
1621	4.05
1622	6.16
1624	12.50
1625	6.60
1629	2.86
1635	5.02
1640	(Use 6405/1640)
1845P22A	99.00
1858	430.00
1946	16.15
1947	47.00
1949	23.75
2020	93.85
2022	6.35
2031	17.60
2041	(Price on Request)
2048	720.00
2050	2.48
2050A	2.29
2054	(Price on Request)
2055	19.20
2060	57.40
2061	69.30
2062	69.00
2063	110.00
2064B	125.00
2065	153.00
2067	175.00
2076/5R4GYB	2.05
2081/6AW8A	(Price on Request)
2082/12AY7	(Price on Request)
AJ2100 Series	(Sse Footnote)
HT2100	69.00
DP2118 (8575 Socket)	(Use AJ2145)
AJ2132 (8575 Adapter)	46.20
AJ2142 (4522 Accessory)	75.00
AJ2143 (4522 Adapter)	39.20
AJ2143A (4522 Adapter)	35.00
AJ2144 (8575 Socket)	13.20
AJ2145 (8575 Socket)	13.20
AJ2180	35.00
AJ2190	345.00
AJ2191	225.00
4009	1670.00
4010	920.00
4012	(Price on Request)
4013	(Price on Request)
4015	(Price on Request)
4017	(Price on Request)
4019	(Price on Request)
4020	(Price on Request)
4021	(Price on Request)
4028A	37.60
4037A	31.85
4041	(Price on Request)
4042	14.25
4043	14.75
4053	(Price on Request)
4054	(Price on Request)
4055	43.95
4058	14.50
4062A	37.80
4065	38.35
4401/V2	1165.00
4409	$ 5.85
4412	3415.00
4427	(Recommend #C23104)
4438	120.00
4439	120.00
4440	115.00
4441	170.00
4441A	360.00
4449A	(Price on Request)
4452	850.00
4454	1135.00
4456	670.00
4459	505.00
4460	250.00
4461	320.00
4463	260.00
4464	265.00
4465	305.00
4470	8775.00
4471	20.60
4472	25.50
4473	63.00
4478	36.00
4486	1150.00
4488	(Use 7735)
4490	36.05
4491	39.85
4499	28.00
4500	480.00
4501/V3	260.00
4503A	555.00
4506	1280.00
4507	155.00
4510	35.70
4516	185.00
4517	84.20
4518	105.00
4521	600.00
4522	645.00
4523	125.00
4524	135.00
4525	170.00
4526	415.00
4526/V1	418.00
4532	495.00
4532A	1110.00
4542	430.00
4543	180.00
4547	1135.00
4549	2090.00
4550	1760.00
4551	1665.00
4552	15.00
4555	15.00
4557	60.00
4559A/8507A	235.00
4572	26.25
4588	370.00
4589	370.00
4595	85.00
4600A	370.00
4604	9.85
4614	345.00
4616	(Price on Request)
4621	125.00
4624	295.00
4626	645.00
4628	1225.00
4629	445.00
4630	2670.00
4631	100.00
4632	1160.00
4634	(Use 4634/V1)
4634/V1	440.00
4635	2500.00
4636	525.00
4637	117.30
4638	700.00
4640	3165.00
4647	7215.00
4648	8325.00
4649	(Price on Request)
4651	480.00
4652/8042	11.65
4654/5762	430.00
4656	1520.00
4658	2220.00
4661	645.00
4662	103.00
4664	9435.00
4665	585.00
4666	4440.00
MW4900	320.00
MW4901	495.00
5550	53.75
5551A	71.00
5552A	110.00
5556	74.00
5557	9.50
5558	17.50
5559	23.00
5560	36.30

Net

© United Technical Publications

RCA

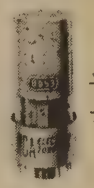
ELECTRON TUBES
FOR INDUSTRY AND COMMUNICATIONS

RESALE PRICE SCHEDULE • AUGUST 16, 1971

POWER / MICROWAVE / PHOTOSENSITIVE / CAMERA / DISPLAY / INDUSTRIAL RECEIVING

RCA Type	Optional Distributor Resale Price
5561	$71.52
5563A	57.30
5581	7.70
5582	8.85
5583	10.40
5632	(Use C3J/5632)
5636	6.10
5639	5.25
5642	3.53
5651A	1.95
5651WA	3.95
5636	6.10
5639	5.25
5652	9.80
5653	6.05
5654	2.26
5654/6AK5W	(Use 5654)
5654/6AK5W/6096	(Use 5654
5663	2.65
5665	(Use C16J/5665)
5670	2.90
5671	2665.00
5672	2.48
5675	9.25
5678	2.48
5684	(Use C3JA/5684)
5685	(Use C6JA/5685)
5686	3.97
5687	4.39
5691	9.31
5692	8.98
5693	7.24
5696	2.36
5696A	2.00
5713	850.00
5718	3.65
5719	3.15
5725	3.40
5725/6AS6W	(Use 5725)
5726	2.19
5726/6AL5W	(Use 5726)
5726/6AL5W/6097	(Use 5726)
5727	3.05
5727/2D21W	(Use 5727)
5734	22.05
5749	3.03
5749/6BA6W	(Use 5749)
5750	4.10
5750/6BE6W	(Use 5750)
5751	2.99
5751WA	(Use 5751)
5762	255.00
5762/7C24	(Use 5762)
5763	2.69
5770	1930.00
5771	700.00
5783	4.19
5786	310.00
5794A	(Use 6562/5794A)
5814A	2.76
5814WA	(Use 5814A)
5819	86.95
5823	1.84
5824	4.58
5825	33.00
5840	5.35
5840W	5.35
5842/417A	7.35
5844	2.72
5847/404A	9.55
5876A	9.45
5881	3.10
5893	20.30
5896	3.80
5899	5.55
5902	4.80
5915	1.99
5946	160.00
5963	1.48
5964	2.03
5965	2.24
6005	3.73
6005/6AQ5W	(Use 6005)
6005/5W/6095	(Use 6005)
6011	(Use 710/6011
6012	8.21
6014	(Use C1K/6014)
6021	3.50
6072	4.24
6072A	4.25
6073	3.53
6073/OA2	3.94
6074	4.02
6074/OB2	4.19
6076	350.00
6076A	350.00
6080	$ 5.50
6080WA	11.12
6082	5.84
6095	(Use 6005)
6096	(Use 5654/5W/6096)
6097	(Use 5726)
6099	(Price on Request)
6101	6.01
6101/6J6WA	(Use 6101)
6111	3.70
6112	4.15
6130/3C45	25.00
6136	3.25
6146A	4.40
6146B/8298A	5.45
6146W	6.60
6155	41.75
6159	(Use 6159B)
6159B	5.05
6159W	9.00
6159W/7357	6.60
6161	170.00
6173	16.00
6186	4.60
6186/6AG5WA	4.60
6189	4.19
6189/12AU7WA	(Use 6189)
6197	2.86
6199	58.10
6201	3.28
6202	2.69
6206	7.25
6211	2.71
6217	87.65
6263A	14.45
6264A	14.45
6293	6.15
6328	15.35
6336A	19.85
6342A	69.30
6350	2.37
6360	4.95
6360A	6.25
6381	135.00
6386	9.50
6405/1640	10.30
6417	3.53
6472	16.20
6485	2.25
6499	285.00
6521	800.00
6521/R	800.00
6521A	830.00
6521A/R	830.00
6524	31.50
6550	6.00
6550/V1—Matched Pair	12.50
6562/5794A	8.90
6570	14.30
6626/OA2WA	3.50
6655A	69.00
6660/6BA6	1.69
6661/6BH6	2.06
6662/6BJ6	2.08
6663/6AL5	1.54
6664/6AB4	1.85
6669/6AQ5A	1.76
6676/6CB6A	1.69
6677/6CL6	2.46
6678/6U8A	2.02
6679/12AT7	1.83
6680/12AU7A	1.61
6681/12AX7A	1.44
6686	6.00
6688A	6.80
6697A	1200.00
6810A	240.00
6816	56.15
6850	28.00
6855	(Use 716/6855)
6858	(Use 760/6858)
6861	995.00
6866	1280.00
6883	4.95
6883B/8032A/8552	6.05
6884	35.15
6887	1.46
6894	26.05
6895	26.05
6897	38.55
6903	430.00
6914	135.00
6914A	150.00
6922/E88CC	5.35
6929	135.00
6939	$11.37
6949	(Price on Request)
6950	(Price on Request)
6952	(Price on Request)
6953	9.85
6977	3.05
7007	(Use 6166A/7007)
7008	1140.00
7014	(Use 604/7014)
7018	(Use 615/7018)
7019	(Use 635/7019)
7021	(Use 714/7021)
7034/4X150A	(Use 4X150A)
7038	175.00
7044	3.11
7054	1.68
7055	1.18
7056	1.02
7057	2.17
7058	1.50
7059	1.65
7060	2.08
7061	1.66
7094	45.50
7102	120.00
7117	14.80
7167	1.67
7183A	965.00
7198A	1335.00
7200	210.00
7203/4CX250B	(Use 4CX250B)
7203/4CX250B/V1	(Use 4CX250B)
7204/4CX250F	38.00
7212	(Use 6146W)
7213	430.00
7214	465.00
7258	2.28
7262A	190.00
7263A	360.00
7264	290.00
7265	415.00
7268B	(Price on Request)
7271	44.80
7308	6.40
7315	925.00
7326	385.00
7360	3.77
7457	63.90
7533	11.10
7539	1765.00
7551	3.67
7552	48.05
7553	57.20
7554	40.00
7558	3.69
7586	3.65
7587	5.50
7642	1265.00
7643	7.25
7649	130.00
7650	275.00
7651	270.00
7717/6CY5	1.39
7724/14GT8	1.48
7735	110.00
7735A	150.00
7735B	175.00
7746	215.00
7764	145.00
7767	135.00
7788	15.55
7801	280.00
7835	(Price on Request)
7842	63.90
7843	35.15
7850	270.00
7870	120.00
7895	3.70
7898	1.57
7905	4.05
8000	29.05
8005	21.00
8008	12.40
8013A	21.45
8020	23.50
8032	5.15
8032A	(Use 6883B/8032A/8552)
8042	(Use 4652/8042)
8053	107.65
8054	125.00
8055	155.00
8056	5.15
8058	15.80
8072	21.85
8077/7054	$ 1.54
8106	1.71
8121	33.90
8122	35.30
8134	200.00
8136	1.43
8160/3CX10000A7	(Use 3CX10000A7)
8165/4-65A	32.50
8166/4-1000A	135.00
8167/4CX300A	60.00
8168/4CX1000A	200.00
8170/4CX5000A	495.00
8171/4CX10000D	575.00
8184	2555.00
8203	4.02
8226	80.05
8233	19.85
8234	(Price on Request)
8239/3X3000F1	245.00
8281/4CX15000A	695.00
8298	(Use 6146A)
8298A	(Use 6146B/8289A)
8379	1525.00
8393	3.60
8437	2890.00
8438/4-400A	53.80
8462	53.90
8501	1150.00
8507A	190.00
8521	610.00
8532	5.84
8532/6J4WA	5.60
8541A	180.00
8541A/X	370.00
8552	(Use 6883B/8032A/8552)
8567	995.00
8568	(Price on Request)
8571	235.00
8572A	215.00
8573	(Use 8573A)
8573A	210.00
8575	335.00
8575/V1 (Includes AJ2132)	345.00
8575/V2 (Includes AJ2144)	335.00
8587	(Price on Request)
8596	105.00
8605-1	850.00
8605-2	600.00
8605-3	600.00
8605/V1	820.00
8605/V2	565.00
8606	1890.00
8627	14.15
8627A	57.90
8628	5.00
8644	310.00
8645	415.00
8664	1665.00
8664/V1	1775.00
8684	2775.00
8727	37.80
8766	3050.00
8791/V1	148.00
8792/V1	215.00
8793	555.00
8794	645.00
8806	645.00
8807	760.00
8808	16.20
8811	3050.00
8828	130.00
8840	(Price on Request)
8850	600.00
8857-1	530.00
8857-2	470.00
8857-3	470.00
8857/V1	500.00
8857/V2	440.00
8858	1870.00
8890	705.00
9001	5.38
9002	4.33
9003	5.67
9005	8.05
9006	2.70
C1K/6014	12.30
C3J/5632	13.65
C3JA/5684	14.05
C3J/L	17.95
C6J/5C21	28.10
C6JA/5685	28.30
C16J/5665	52.50

PHOTOSENSITIVE



Multiplier



Phototubes



Photocells

POWER TUBES



Small



Large



Super

AJ2100 SERIES — Except for AJ numbers listed on the price schedule (sockets & adaptors), other AJ numbers refer to special accessories for the RCA 8568 super power Klystron used in very sophisticated Gov't Systems. Orders thru distributors will be handled in same manner as Developmental types. Contact your RCA Distributor for price and delivery information.

DEVELOPMENTAL TYPES — RCA tube type numbers which have an 'A' or 'C' prefix are usually identified as **Developmental** types. Contact your RCA Distributor for price and delivery information.

RCA

PICTURE TUBES

RCA COLOR PICTURE TUBE INTERCHANGEABILITY GUIDE

Type To Be Replaced*	Replace By RCA Type†
11SP22 11WP22	C-11WP22
14VACP22 14VADP22	H-14VADP22 H-14VAHP22
14VAHP22	H-14VAHP22
15AEP22 15AFP22 15AGP22	H-15AEP22 C-15AEP22
15AJP22	H-14VADP22 H-14VAHP22
15KP22 15LP22	H-15LP22 C-15LP22
15NP22	H-14VADP22 H-14VAHP22 C-15NP22
15RP22	H-15LP22 C-15LP22
15SP22	H-15AEP22 C-15AEP22
15TP22	H-14VADP22 H-14VAHP22 C-15NP22
15WP22	H-15LP22 C-15LP22
15XP22	H-14VADP22 H-14VAHP22 C-15NP22
15ZP22	H-15LP22 C-15LP22
16VABP22 16VACP22 16VAHP22	H-16VACP22
17EZP22 17FAP22 17FKP22	H-16VACP22 C-17EZP22
18VABP22 18VACP22 18VADP22	H-18VAHP22
18VAGP22	H-18VALP22 H-18VAMP-22 H-18VBDP22 H-18VBGP22
18VAHP22 18VAJP22	H-18VAHP22
18VALP22	H-18VALP22 H-18VBGP22
18VAMP22	H-18VALP22 H-18VAMP22 H-18VBDP22 H-18VBGP22
18VANP22	H-18VANP22
18VAQP22 18VARP22 18VASP22 18VATP22	H-18VAHP22
18VAZP22	H-18VAZP22
18VBAP22 18VBCP22	H-18VAHP22
18VBDP22	H-18VBDP22 H-18VBGP22
18VBGP22	H-18VBGP22
19EXP22 19EXP22/ 19GVP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19EYP22 19EYP22/ 19GWP22 19FMP22 19FXP22 19GLP22 19GSP22	H-18VAHP22 C-19GWP22/ 19EYP22
19GVP22 19GVP22/ 19EXP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19GWP22 19GWP22/ 19EYP22	H-18VAHP22 C-19GWP22/ 19EYP22
19GXP22 19GYP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19GZP22 19HBP22	H-18VAHP22 C-19GWP22/ 19EYP22
19HCP22 19HCP22/ 19HKP22	H-18VAHP22 C-19GWP22/ 19EYP22 C-19HCP22/ 19HKP22
19HFP22	H-18VAHP22 C-19GWP22/ 19EYP22
19HJP22 19HKP22	H-18VAHP22 C-19GWP22/ 19EYP22 C-19HCP22/ 19HKP22
19HNP22	H-18VAZP22 C-19HNP22
19HQP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19HRP22	H-18VAHP22 C-19GWP22/ 19EYP22
19HXP22	H-18VAHP22 C-19GWP22/ 19EYP22 C-19HCP22/ 19HKP22
19HYP22 19JAP22	H-18VALP22 H-18VAMP22 H-18VBDP22 H-18VBGP22
19JBP22 19JDP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19JGP22	C-19JWP22
19JHP22 19JKP22	H-18VAHP22 C-19GWP22/ 19EYP22
19JNP22	H-18VAHP22 C-19GWP22/ 19EYP22 C-19HCP22/ 19HKP22
19JQP22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
19JSP22	H-18VALP22 H-18VBGP22
19JWP22	C-19JWP22
19JXP22	H-18VANP22
19JYP22	H-18VAHP22 C-19GWP22/ 19EYP22
19JZP22	H-18VAHP22 C-19GWP22/ 19EYP22 C-19HCP22/ 19HKP22
19KBP22	H-18VALP22 H-18VBGP22
19KCP22	H-18VALP22 H-18VAMP22 H-18VBDP22 H-18VBGP22
19KEP22 19KFP22	H-18VAHP22
19KJP22	H-18VALP22 H-18VAMP22 H-18VBDP22 H-18VBGP22
19VABP22 19VACP22	H-19VABP22
19VANP22	H-19VANP22 H-19VBQP22
19VBLP22	H-19VBLP22
19VBQP22	H-19VBQP22
20VABP22	H-20VABP22 H-20VAGP22
20VADP22 20VAGP22	H-20VAGP22
20VAHP22	H-20VAHP22
20VAJP22 20VALP22	H-20VABP22 H-20VAGP22
20VAMP22 20VANP22 20VARP22	H-20VAGP22
21AXP22 21AXP22A 21AXP22A/ 21AXP22	H-19VABP22 H-21GUP22 C-21FBP22 C-21FJP22 C-21GUP22/ 21FBP22A C-21GVP22/ 21FJP22A
21CYP22 21CYP22A	H-19VABP22 H-21GUP22 C-21FBP22 C-21FJP22 C-21GUP22/ 21FBP22A C-21GVP22/ 21FJP22A
21FBP22 21FBP22A 21FBP22A/ 21GUP22	H-19VABP22 H-21GUP22 C-21FBP22 C-21FJP22 C-21GUP22/ 21FBP22A C-21GVP22/ 21FJP22A
21FJP22 21FJP22A 21FJP22A/ 21GVP22 21FKP22	H-19VABP22 C-21FJP22 C-21GVP22/ 21FJP22A
21GFP22 21GLP22 21GRP22	H-20VAGP22 H-22JP22 C-22JP22
21GUP22 21GUP22/ 21FBP22A	H-19VABP22 H-21GUP22 C-21FBP22 C-21FJP22 C-21GUP22/ 21FBP22A C-21GVP22/ 21FJP22A
21GVP22 21GVP22/ 21FJP22A	H-19VABP22 C-21FJP22 C-21GVP22/ 21FJP22A
21GWP22	H-20VAGP22 H-22JP22 C-22JP22
21GXP22 21GYP22	H-19VABP22 C-21FJP22 C-21GVP22/ 21FJP22A
21GZP22 21HAP22	H-19VABP22
21HBP22	H-20VAGP22 H-22JP22 C-22JP22
21VABP22 21VACP22 21VAFP22 21VAJP22 21VAKP22 21VAMP22 21VAQP22 21VAUP22	H-21VAKP22
22ABP22	H-20VAGP22 H-22JP22 C-22JP22
22ADP22 22AGP22 22AHP22 22ALP22	H-20VABP22 H-20VAGP22 H-22JP22 C-22JP22 C-22UP22
22AMP22	H-21VAKP22
22ANP22	H-20VAHP22
22ARP22	H-20VAGP22 H-22JP22 C-22JP22
22ASP22	H-20VABP22 H-20VAGP22 H-22JP22 C-22JP22 C-22UP22
22AVP22	H-20VABP22 H-20VAGP22
22AXP22 22AYP22 22BCP22	H-21VAKP22
22JP22	H-20VAGP22 H-22JP22 C-22JP22
22KP22	H-20VAGP22 H-22JP22 C-22JP22 C-22KP22
22LP22 22QP22	H-20VAGP22 H-22JP22 C-22JP22
22RP22	H-20VAGP22 H-22JP22 C-22JP22 C-22KP22
22SP22	H-20VAGP22 H-22JP22 C-22JP22
22UP22 22XP22	H-20VABP22 H-20VAGP22 H-22JP22 C-22JP22 C-22UP22
22YP22	H-20VAGP22 H-22JP22 C-22JP22
23EGP22 23EGP22A	C-23EGP22 (See Note 1)
23VACP22 23VADP22 23VAHP22	H-23VALP22 H-23VANP22 H-23VARP22
23VALP22 23VAMP22	H-23VALP22
23VANP22 23VAQP22	H-23VALP22 H-23VANP22
23VARP22	H-23VALP22 H-23VANP22 H-23VARP22
23VASP22 23VATP22 23VAUP22 23VAWP22 23VAXP22 23VAYP22 23VAZP22 23VBAP22	H-23VALP22
23VBCP22 23VBDP22 23VBEP22	H-23VALP22 H-23VANP22 H-23VARP22
23VBGP22	H-23VALP22
23VBHP22 23VBJP22 23VBRP22	H-23VALP22 H-23VANP22 H-23VARP22
25ABP22 25ADP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25AEP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A C-25YP22/ 25BP22A
25AFP22 25AGP22 25AJP22 25ANP22 25AP22 25AP22A 25AP22A/ 25XP22 25AQP22 25ASP22 25AWP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25AXP22 25AZP22	C-25XP22/ 25AP22A
25BAP22 25BCP22 25BDP22	H-23VALP22 C-25BCP22
25BFP22 25BGP22 25BHP22 25BJP22 25BMP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25BP22 25BP22A 25BP22A/ 25YP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A C-25YP22/ 25BP22A
25BRP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25BSP22 25BVP22 25BWP22 25BXP22 25BZP22 25CBP22	H-23VALP22 H-23VANP22 H-23VARP22
25CP22 25CP22A	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25FP22 25FP22A	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A C-25YP22/ 25BP22A
25GP22 25GP22A	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25RP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A C-25YP22/ 25BP22A
25SP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25VABP22 25VACP22 25VADP22 25VAEP22 25VAFP22 25VAJP22 25VAMP22 25VAQP22 25VARP22 25VASP22 25VATP22 25VAUP22 25VAWP22 25VAZP22 25VBAP22 25VBGP22 25VBHP22 25VBMP22 25VBNP22	H-25VABP22
25VP22 25WP22 25XP22 25XP22/ 25AP22A	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
25YP22 25YP22/ 25BP22A	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A C-25YP22/ 25BP22A
25ZP22	H-23VALP22 H-23VANP22 H-23VARP22 C-25BCP22 C-25XP22/ 25AP22A
26AP22 26DP22 26FP22 26GP22 26KP22	H-25VABP22
370AB22	H-15AEP22 C-15AEP22
370CB22	H-14VADP22 H-14VAHP22 C-15NP22
490AB22 490ACB22 490ADB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490AEB22 490AFB22 490AGB22	H-18VAHP22 C-19GWP22/ 19EYP22
490AHB22 490AHB22A	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490AJB22 490AJB22A	H-18VAHP22 C-19GWP22/ 19EYP22
490AKB22 490ALB22 490AMB22 490ANB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490ARB22	H-18VAHP22 C-19GWP22/ 19EYP22
490ASB22	H-18VAHP22 C-19GWP22/ 19EYP22
490BAB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490BCB22 490BDB22	H-18VAHP22 C-19GWP22/ 19EYP22
490BGB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490BHB22	H-18VAHP22 C-19GWP22/ 19EYP22
490BNB22	C-19JWP22
490BRB22	H-18VAHP22 C-19GWP22/ 19EYP22
490BVB22 490BXB22	C-19JWP22
490CB22 490DB22 490EB22 490EB22A 490FB22 490GB22 490HB22 490JB22 490JB22A 490KB22 490KB22A 490LB22 490MB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490NB22 490RB22 490SB22 490TB22	H-18VAHP22 C-19GWP22/ 19EYP22
490UB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490VB22	H-18VAHP22 C-19GWP22/ 19EYP22
490WB22	H-18VAHP22 C-19GVP22/ 19EXP22 C-19GWP22/ 19EYP22
490XB22 490YB22 490ZB22	H-18VAHP22 C-19GWP22/ 19EYP22

RCA HI-LITE COLOR PICTURE TUBES

Manufactured to all OEM specifications, RCA HI-LITE Picture Tubes contain all new glass, parts and material, and feature: Perma-Chrome; "Rare Earth" and Unity Current Ratio.

H-14VADP22
H-14VAHP22
H-15AEP22
H-15LP22
H-16VACP22

H-18VAHP22
H-18VALP22
H-18VAMP22
H-18VANP22
H-18VAZP22

H-18VBDP22
H-18VBGP22
H-19VABP22
H-19VANP22
H-19VBLP22

H-19VBQP22
H-20VABP22
H-20VAGP22
H-20VAHP22
H-21GUP22

H-21VAKP22
H-22JP22
H-23VALP22
H-23VANP22
H-23VARP22
H-25VABP22

RCA COLORAMA PICTURE TUBES

RCA Colorama Picture Tubes contain used materials which, prior to re-use, are carefully inspected to meet our high quality standards.

RARE EARTH TYPES
C-11WP22
C-15AEP22
C-15LP22
C-15NP22
C-17EZP22

RARE EARTH TYPES
C-19GVP22/19EXP22
C-19GWP22/19EYP22
C-19HCP22/19HKP22
C-19HNP22
C-19JWP22

RARE EARTH TYPES
C-21GUP22/21FBP22A
C-21GVP22/21FJP22A
C-22JP22
C-22KP22
C-22UP22

RARE EARTH TYPES
C-25BCP22
C-25XP22/25AP22A
C-25YP22/25BP22A

SULFIDE TYPES
C-21FBP22
C-21FJP22
C-23EGP22

© United Technical Publications

RCA

PICTURE TUBES

RCA MONOCHROME PICTURE TUBE INTERCHANGEABILITY GUIDE

All materials and parts used in the manufacture of RCA Silverama picture tubes are new except for the envelope which, prior to re-use, was carefully inspected to meet the standards of the original new envelope.

Type To Be Replaced*	Replace By RCA Type†
8DP4	8DP4
9AEP4	9AEP4
9WP4	9WP4
10ATP4	10ATP4
10AVP4	10AVP4
11AP4 11BP4	11HP4A
11CP4	11CP4
11GP4	11GP4
11HP4 11HP4A	11HP4A
12BNP4 12BNP4A	12BNP4A
12CFP4	12CNP4
12CGP4	12BNP4A
12CNP4 12CNP4A	12CNP4A
12DEP4	12DEP4
12DFP4	12DFP4
12DKP4	12DKP4
12DSP4	12DSP4
12VAGP4	12VAGP4
14NP4 14NP4A 14RP4 14RP4A 14SP4 14WP4 14WP4/ 14ZP4 14ZP4 14ZP4/ 14WP4	14WP4
15VACP4	15VACP4
16ASP4 16AXP4	16CMP4A
16AYP4	16BGP4
16BFP4	16CMP4A
16BGP4	16BGP4
16BKP4	15VACP4 16CHP4A
16BMP4	16BGP4
16BQP4	16CMP4A
16BTP4	15VACP4 16CHP4A
16BVP4	16CMP4A
16BWP4 16CAP4	16BGP4
16CEP4	16CMP4A
16CHP4 16CHP4A	15VACP4 16CHP4A
16CJP4 16CMP4 16CMP4A	16CMP4A
16CTP4	16BGP4
16CUP4	16CMP4A
16CVP4	15VACP4 16CHP4A
16KP4 16KP4A 16QP4 16RP4 16RP4/ 16KP4 16RP4A 16RP4A/ 16KP4A 16RP4B 16TP4 16UP4 16XP4	16RP4B
17AP4	17BP4D
17ATP4 17ATP4/ 17AVP4 17ATP4A 17ATP4A/ 17AVP4A 17AVP4 17AVP4/ 17ATP4 17AVP4A 17AVP4A/ 17ATP4A 17BJP4	17BJP4
17BP4 17BP4A 17BP4B 17BP4C 17BP4D	17BP4D
17BRP4	17DSP4
17BUP4	17BJP4
17BZP4 17BZP4/ 17CAP4/ 17CKP4 17BZP4/ 17CAP4/ 17CKP4/ 17BRP4 17CAP4	17DSP4
17CBP4	17BJP4
17CFP4	17CFP4
17CKP4	17DSP4
17CLP4	17BJP4
17CWP4	17DSP4
17CYP4	17CFP4
17DAP4	17DRP4
17DKP4 17DLP4	17DSP4
17DQP4	17DQP4
17DRP4	17DRP4
17DSP4 17DTP4	17DSP4
17EAP4	17HP4C
17EMP4 17EWP4	17EMP4
17FP4 17FP4A 17HP4 17HP4/ 17RP4 17HP4A 17HP4B 17HP4B/ 17RP4C 17HP4C	17HP4C
17JP4	17BP4D
17KP4 17KP4A	17HP4C
17LP4 17LP4/ 17VP4 17LP4A 17LP4A/ 17VP4B 17LP4B	17LP4B
17QP4 17QP4A 17QP4B	17QP4B
17RP4 17RP4C	17HP4C
17SP4	17LP4B
17UP4	17QP4B
17VP4 17VP4/ 17LP4 17VP4B	17LP4B
17YP4	17QP4B
18VAUP4	18VAUP4
19ABP4	19ABP4
19ACP4	19CHP4
19ADP4	19AVP4
19AFP4	19AFP4
19AGP4	19AVP4
19AHP4	19AYP4
19AJP4	19AJP4
19AKP4	19AVP4
19ANP4	19AYP4
19ARP4 19ATP4 19AUP4	19AFP4
19AVP4	19AVP4
19AWP4 19AXP4 19AYP4	19AYP4
19AZP4	19AVP4
19BDP4	19BDP4
19BHP4 19BLP4	19AVP4
19BMP4	19AFP4
19BRP4	19DRP4
19BSP4 19BTP4 19BVP4	19AVP4
19BWP4 19BXP4	19AYP4
19CAP4	19AVP4
19CDP4	19CXP4
19CFP4 19CHP4	19CHP4
19CJP4	19AVP4
19CKP4	19CHP4
19CLP4	19BDP4
19CMP4 19CMP4A	19CMP4
19CQP4	19CXP4
19CRP4	19BDP4
19CSP4	19CHP4
19CUP4	19CMP4
19CXP4	19CXP4
19CYP4	19AVP4
19CZP4 19DAP4	19DQP4
19DCP4	19DRP4
19DEP4	19AVP4
19DFP4	19CHP4
19DHP4	19DSP4
19DKP4	19DRP4
19DLP4	19CHP4
19DNP4	19DRP4
19DQP4	19DQP4
19DRP4	19DRP4
19DSP4	19DSP4
19DTP4	19DQP4
19DUP4	19DUP4
19DWP4	19DQP4
19EAP4	18VAUP4 19FEP4B
19EBP4	19EBP4
19EDP4	19DRP4
19EFP4	19DSP4
19EGP4	19EGP4
19EHP4 19EHP4A	19DRP4
19EJP4	18VAUP4 19FEP4B
19ELP4	19AVP4
19EMP4	19EBP4
19ENP4 19ENP4A	18VAUP4 19FEP4B
19ERP4	19DRP4
19ESP4	19DSP4
19EUP4	19DRP4
19EVP4 19EWP4	19DQP4
19EZP4	19EZP4
19FBP4	19EGP4
19FCP4 19FCP4A 19FDP4	19DQP4
19FEP4 19FEP4A 19FEP4B	18VAUP4 19FEP4B
19FJP4 19FJP4A	19DQP4
19FLP4	19FLP4
19FSP4	18VAUP4 19FEP4B
19FTP4	19FLP4
19FWP4	19AYP4
19GAP4	19GAP4
19GBP4	19DQP4
19GEP4 19GEP4A 19GFP4	19GEP4A
19GHP4	19DUP4
19GJP4 19GJP4A	19DQP4
19GNP4	19DRP4
19GRP4	19DQP4
19GTP4	18VAUP4 19FEP4B
19VAHP4	19VAHP4
19VAJP4	19VAJP4
19VALP4	19VALP4
19XP4 19YP4 19ZP4	19AVP4
20ALP4	19VAJP4
20RP4	20RP4
20SP4	19VAHP4
20TP4	20TP4
20VAQP4	20VAQP4
20UP4	19VALP4
20XP4	20TP4
20YP4 20ZP4	19VAHP4
21ACP4 21ACP4/ 21AMP4 21ACP4A 21ACP4A/ 21AMP4A 21ACP4B/ 21BSP4 21ACP4A/ 21BSP4/ 21AMP4A	21AMP4B
21AFP4	21YP4B
21ALP4 21ALP4A 21ALP4B 21ALP4B/ 21ALP4A	21CBP4A
21AMP4 21AMP4A 21AMP4B	21AMP4B
21ANP4 21ANP4A	21CBP4A
21AQP4 21AQP4A	21AMP4B
21ARP4 21ARP4A	21ZP4C
21ASP4	21XP4B
21ATP4 21ATP4A 21ATP4A/ 21ATP4 21ATP4B	21CBP4A
21AUP4 21AUP4A 21AUP4B 21AUP4B/ 21AUP4A 21AUP4C 21AVP4 21AVP4/ 21AUP4 21AVP4A 21AVP4B 21AVP4B/ 21AUP4B/ 21AVP4A/ 21AUP4A 21AVP4B/ 21AVP4A 21AVP4C	21AVP4C
21AWP4 21AWP4A	21AWP4A
21AYP4	21XP4B
21BAP4	21CBP4A
21BCP4	21YP4B
21BDP4	21AVP4C
21BNP4	21CBP4A
21BSP4	21AMP4B
21BTP4 21CBP4 21CBP4A 21CBP4A/ 21CBP4/ 21CMP4 21CBP4B	21CBP4A
21CEP4 21CEP4A	21EMP4/ 21EQP4
21CMP4	21CBP4A
21CQP4	21CQP4
21CUP4	21AMP4B
21CVP4 21CWP4	21CBP4A
21CXP4	21DSP4
21CZP4 21DAP4 21DEP4 21DEP4A 21DEP4A/ 21DEP4/ 21CZP4 21DFP4	21EMP4/ 21EQP4
21DLP4	21DLP4
21DMP4	21EMP4/ 21EQP4
21DNP4	21CBP4A
21DQP4	21DLP4
21DRP4	21CBP4A
21DSP4	21DSP4
21EAP4	21FDP4
21EDP4 21EMP4 21EMP4/ 21EQP4	21EMP4/ 21EQP4
21EP4 21EP4A 21EP4B 21EP4C	21EP4C
21EQP4 21ESP4 21ETP4	21EMP4/ 21EQP4
21EVP4	21FDP4
21FAP4	21EMP4/ 21EQP4
21FDP4	21FDP4
21FLP4	21CBP4A
21FP4 21FP4A 21FP4C 21FP4D	21FP4D
21FVP4 21FWP4 21FZP4	21FVP4
21GAP4 21GAP4A	20VAQP4 21GAP4A
21KP4 21KP4A	21FP4D
21MP4	21YP4B
21WP4 21WP4A 21WP4B	21WP4B
21XP4 21XP4A 21XP4B	21XP4B
21YP4 21YP4A 21YP4B	21YP4B
21ZP4 21ZP4A 21ZP4B 21ZP4C	21ZP4C
22VABP4 22VACP4	22VABP4
22VAEP4	22VAEP4
23ACP4 23AFP4	23YP4
23AGP4	23CP4
23AHP4 23AHP4/ 23ASP4	23AHP4/ 23ASP4
23AKP4	23FP4A
23ALP4	23CQP4
23ANP4	23BKP4
23ARP4	23ARP4
23ASP4	23AHP4/ 23ASP4
23ATP4	23BKP4
23AUP4	23AHP4/ 23ASP4
23AVP4	23CP4
23AWP4	23BJP4
23BAP4	23CP4
23BDP4	23YP4
23BFP4	23FP4A
23BGP4 23BHP4	23BGP4
23BJP4	23BJP4
23BKP4 23BLP4	23BKP4
23BMP4	23YP4
23BNP4 23BP4	23CP4
23BQP4	23BQP4
23BTP4 23BVP4 23BWP4	23YP4
23BXP4	23EKP4
23BZP4	23CGP4
23CBP4	23BQP4
23CEP4	23ARP4
23CGP4	23CGP4
23CP4 23CP4A	23CP4
23CQP4	23CQP4
23CUP4	23CP4
23CZP4	23AHP4/ 23ASP4
23DAP4	23DAP4
23DBP4	23DBP4
23DKP4	23EKP4
23DLP4 23DLP4A	23ENP4
23DNP4	23BKP4
23DP4	23CP4
23DQP4	23BKP4
23DSP4 23DSP4A	23ENP4
23DTP4	23EKP4
23DXP4	23CP4
23DYP4	23ETP4
23DZP4	23EWP4A
23ECP4	23ENP4
23EDP4 23EHP4 23EKP4 23ELP4 23EMP4	23EKP4
23ENP4	23ENP4
23EP4	23EP4
23EQP4	23EWP4A
23ESP4	23HFP4A
23ETP4	23ETP4
23EWP4 23EWP4A	23EWP4A
23EYP4	23EYP4
23EZP4	23EZP4
23FBP4	23ENP4
23FCP4 23FDP4	22VABP4 23HUP4A
23FEP4	23ENP4
23FHP4	22VABP4 23HUP4A
23FJP4	23ETP4
23FLP4	23EKP4
23FMP4	23HFP4A
23FNP4	23FNP4
23FP4 23FP4A	23FP4A
23FRP4	23FRP4
23FSP4	23FSP4
23FVP4 23FVP4A 23FVP4B	23HFP4A
23FZP4	23FSP4
23GBP4	23HFP4A
23GEP4	23ENP4
23GFP4	22VAEP4
23GJP4 23GJP4A	22VABP4 23HUP4A
23GP4	23CP4
23GSP4	23FSP4
23GTP4	23ETP4
23GUP4	23FRP4
23GVP4	22VABP4 23HUP4A
23GWP4	23GWP4
23GXP4	23FSP4
23GZP4	23EKP4
23HFP4 23HFP4A	23HFP4A
23HGP4	22VAEP4
23HLP4	23FSP4
23HP4	23CP4
23HQP4	22VAEP4
23HRP4 23HSP4	23HWP4A
23HUP4 23HUP4A	22VABP4 23HUP4A
23HWP4 23HWP4A	23HWP4A
23HXP4	23HFP4A
23HYP4	23JEP4
23JAP4	22VABP4 23HUP4A
23JBP4	23FSP4
23JEP4	23JEP4
23JGP4	23FRP4
23JHP4	23HFP4A
23JLP4	22VABP4 23HUP4A
23JP4	23JP4
23KP4 23KP4A	23FP4A
23LP4	23ETP4
23MP4 23MP4/ 23MP4A/ 23WP4 23MP4A	23FP4A
23NP4	23NP4
23QP4	23CP4
23TP4	23YP4
23UP4	23BQP4
23WP4	23FP4A
23XP4 23YP4	23YP4
24ADP4 24ADP4/ 24VP4A/ 24CP4A/ 24TP4	24CP4B
24AEP4	24AEP4
24AHP4 24ALP4	24AHP4
24ANP4	24AEP4
24AUP4	24AUP4
24CP4 24CP4A 24CP4B	24CP4B
24DP4 24DP4A 24DP4A/ 24YP4	24AEP4
24QP4 24TP4 24VP4 24VP4A 24XP4	24CP4B
24YP4 24ZP4	24AEP4
230RB4	9WP4
310AVB4	12CNP4A
310FCB4	12VAGP4
400AFB4A	16BGP4
400AJB4	17BP4D
470ACB4	19AYP4
500KB4	20TP4
SG14WP4	14WP4
SG16KP4A	16RP4B
SG17BJP4	17BJP4
SG17BP4B	17BP4D
SG17CKP4	17DSP4
SG17HP4B	17HP4C
SG17LP4A	17LP4B
SG17QP4A	17QP4B
SG21ACP4A	21AMP4B
SG21AUP4B	21AVP4C
SG21AWP4 SG21AWP4A	21AWP4A
SG21DEP4A	21EMP4/ 21EQP4
SG21EP4B	21EP4C
SG21FLP4	21CBP4A
SG21FP4C	21FP4D
SG21WP4A	21WP4B
SG21XP4A	21XP4B
SG21YP4A	21YP4B
SG21ZP4B	21ZP4C
SG24AEP4	24AEP4
SG24CP4A	24CP4B

NOTICE: †Replacement information supplied in this chart is based primarily on electrical and mechanical similarity of the picture tube types covered. The service technician should make certian that replacement is in accord with all safety precautions required by the TV receiver for picture tube insulation or mechanical mounting.

The tube type to be replaced may have a manufacturer's coding prefix such as AN, C, CR, H, HR, OC, RE, REA, etc. Since these prefixes do not affect the electrical characteristics or interchangeability of the type, the prefixes have been omitted from the type numbers. Please consult the RCA Picture Tube Product Guide, PIX-300E, for specific characteristics and replacement information.

© United Technical Publications

RCA

ELECTRON TUBES

ENTERTAINMENT RECEIVING TYPES

PRICE SCHEDULE — AUGUST 16, 1971

RCA Type	Optional List Price
OZ4	3.85
OZ4A	3.85
1A3	6.65
1A5GT	4.00
†1AD2	3.85
1AY2A	4.05
1B3GT use 1G3GTA/1B3GT	
1BC2	3.25
1BH2A	3.90
1DG3	4.10
†1G3GTA/1B3GT	3.95
1K3A/1J3	3.95
1L6	12.55
1N5GT	4.90
1R5	5.20
1RK23 use 1S2A/DY87	
1S2A/DY87	2.55
1S4	4.10
1S5	3.40
1T4	3.85
1U4	3.85
1U5	3.40
†1V2	2.55
†1X2A use 1X2B/1X2A	
1X2B/1X2A use 1X2C	
†1X2C	5.50
2A3	9.90
†2AF4B/2DZ4	4.10
2AH2 use 2BU2/2AH2	
2AS2A	3.90
†2AV2	3.10
2BJ2	4.20
2BN4A	3.55
†2BU2/2AH2	3.90
†2CN3A	4.10
2CW4	4.90
2CY5	4.85
2DS4	4.90
†2DV4	6.45
2DZ4 use 2AF4B/2DZ4	
†2EG4	4.90
2EN5	3.20
2ER5	3.70
2FH5	3.70
†2FQ5A use 2GK5/2FQ5A	
2FS5	4.85
†2GK5/2FQ5A	4.20
2GU5	4.50
2HA5	3.85
†2HQ5	3.85
†3A2	5.50
†3A3B use 3A3C	
†3A3C	4.05
3AF4A/3DZ4	4.10
†3AL5	2.70
†3AT2B	3.90
3AU6	2.95
3AV6	2.95
†3AW2A	4.05
†3AW3 use 3A3C	
3B2 use 3A3C	
†3BA6	2.35
3BC5/3CE5	2.95
†3BL2A	4.50
†3BM2	3.60
†3BN2	4.00
3BN4A	3.40
†3BN6	4.75
†3BS2A use 3BW2/3BS2A/3BT2	
†3BT2 use 3BW2/3BS2A/3BT2	
3BU8/3GS8	4.90
†3BW2/3BS2A/3BT2	4.20
†3BY6	3.00
†3BZ6	3.70
†3CA3	3.70
3CB6/3CF6	2.95
3CE5 use 3CB6/3CF6	
3CF6 use 3CB6/3CF6	
†3CN3B	4.10
†3CS6	3.70
†3CU3A	4.90
†3CX3	3.50
†3CY3 use 3DB3/3CY3	
†3CY5	3.90
†3CZ3A	4.35
†3DB3/3CY3	4.50
†3DC3	4.65
3DF3	4.20
†3DG4	5.90
3DJ3	4.25
3DK6	3.55
†3DT6A	3.25
3DZ4 use 3AF4A/3DZ4	
3EH7/XF183	2.55
3EJ7/XF184	2.55
3ER5	4.45
3FH5	3.25
3FS5	4.30
†3GK5	4.20
3GS8 use 3BU8/3GS8	
3HM5/3HA5	3.85
†3HQ5	5.65
†3HS8	4.30
†3JC6A	5.05
†3KT6	3.80
3Q4	3.35
3Q5GT	5.85
3S4	3.40
3V4	4.45
†4AU6	3.85
4AV6	2.95
4BC8	4.00
†4BL8/XCF80	2.40
4BN6	4.05
4BQ7A	4.90
4BS8	4.25
4BU8/4GS8	4.45
†4BZ6	3.70
4BZ7	4.90
†4CB6	2.85
4CS6	3.85
4DE6	2.95
4DK6	3.40
†4DT6A	3.85
†4EH7/LF183	3.55
†4EJ7/LF184	3.55
4ES8/XCC189	5.50
4EW6	2.90
4GJ7/XCF801	3.85
†4GK5	3.90
4GM6	2.20
4GS8 use 4BU8/4GS8	
4GX7	4.60
†4HA5/PC900	2.35
4HA7/4HC7	4.25
4HC7 use 4HA7/4HC7	
4HM6	3.10
4HQ5	4.60
4HS8	3.70
†4JC6A	5.05
4JD6	4.60
4JH6	3.40
†4KE8	6.05
4KN8/4RHH8	7.40
4KT6	4.15
†4LJ8	4.40
4LU6	3.40
4RHH2 use 4BQ7A	
†5AM8	4.90
†5AN8	5.20
†5AQ5	3.70
5AR4/GZ34	4.25
5AS4A	3.45
5AS8	4.40
†5AT8	4.45
5AU4 use 5V3A/5AU4	
5AV8	4.05
5AZ4	5.30
5B8	5.50
†5BC3A	3.40
5BE8	3.10
5BK7A	4.15
5BQ7A	4.30
5BR8/5FV3	4.90
†5BT8	3.10
5BW8	3.30
†5CG8	4.00
5CL8A	4.90
5CQ8	4.10
5CZ5	4.45
5DJ4	3.55
5EA8	5.65
5ES8/YCC189	5.50
5EU8	4.00
5EW6	4.00
5FG7	4.60
5FV8 use 5BR8/5FV8	
†5GH8A	4.90
†5GJ7/LCF801	2.95
5GM6	3.25
†5GS7	3.65
5GX6 use 5HZ6	
†5GX7	4.60
5HA7	4.25
5HB7	3.40
5HG8/LCF86	3.70
†5HZ6	3.25
5J6	3.70
†5JK6	3.85
†5JL6	3.85
5KD8	2.50
5KE8	6.05
†5KZ8	3.55
†5LJ8	4.40
†5MB8	3.65
5MHH3 use 5J6	
5T8	4.45
†5U4G	2.75
†5U4GB	3.05
5U8	4.70
†5U9/LCF201	2.95
†5V3A/5AU4	3.80
5V4GA	4.30
†5V6GT	3.70
5X8	4.15
†5Y3GT	2.95
5Y4GA	2.45
5Y4GT	3.40
5Z3	4.45
5Z4 use 5Y3GT	
6A7	8.00
6A8	7.10
6AB4	3.60
6AC7	5.75
†6AC10	4.25
†6AD10	8.15
6AF3	4.05
†6AF4	4.90
†6AF4A	4.90
6AF6G	6.30
†6AF9	3.55
6AF11	5.20
6AG5	4.30
†6AG7	7.70
†6AG9	6.15
6AG11	5.70
†6AH4GT	3.25
†6AH6	5.80
†6AH9	4.75
6AK5/EF95	4.75
6AK8/EABC80	3.30
†6AK10	5.05
6AL3/EY88	2.60
†6AL5	2.95
6AL7GT	6.95
†6AL11	5.70
6AM4	7.20
6AM8A	4.60
6AN4	6.15
†6AN8A	5.20
†6AQ5A	3.40
6AQ6	3.25
6AQ7GT	4.70
†6AQ8/ECC85	3.00
6AR5	2.45
6AR8	5.90
6AR11	5.35
6AS5	4.00
†6AS8	5.35
6AS11	5.85
†6AT6	2.40
†6AT8A	5.20
†6AU4GTA	4.85
†6AU5GT	5.20
†6AU6A	2.95
†6AU8A	5.65
†6AV5GA	5.20
†6AV6	2.70
†6AV11	4.40
†6AW8A	4.45
6AX3	3.40
†6AX4GTB	3.70
6AX5GT	3.85
6AX8	3.50
6AY3B	3.70
6AY11	5.70
†6AZ8	5.50
6B8	6.85
6B10	4.45
6BA3	3.05
†6BA6/EF93	3.25
6BA7	5.85
†6BA8A	5.20
†6BA11	4.90
6BC4	5.50
6BC5/6CE5	3.25
†6BC7	3.60
†6BC8/6BZ8	4.90
6BD6	2.35
68D11	5.85
†6BE3/6BZ3	4.45
6BE6	3.40
6BF5	3.35
6BF6	2.85
6BF11	5.05
†6BG6G	7.15
6BH3A	2.80
†6BH6	4.00
†6BH8	4.60
†6BH11	4.70
6BJ3	3.25
6BJ6	4.05
†6BJ7	2.95
†6BJ8	4.45
†6BK4B use 6BK4C/6EL4A	
†6BK4C/6EL4A	7.70
†6BK5	3.50
†6BK7B	4.90
†6BL7GTA	6.05
†6BL8/ECF80	2.70
†6BM8/ECL82	2.90
†6BN4A	4.00
†6BN6/6KS6	4.50
†6BN8	4.30
6BN11	5.35
†6BQ5/EL84	3.90
†6BQ6GTB/6CU6	5.40
†6BQ7A/6BZ7/6BS8	5.00
†6BR3/6RK19	4.55
†6BR8A/6FV8A	5.20
†6BS3A	3.70
†6BS8 use 6BQ7A/6BZ7/6BS8	
†6BU8	5.05
†6BV8	3.30
†6BV11	4.95
†6BW3 use 6CG3/6BW3	
6BW4	2.75
6BW8	4.70
6BW11	5.35
6BX7GT	5.90
6BY5GA	4.80
†6BY6	3.40
†6BY8	2.70
6BY11	5.00
†6BZ3 use 6BE3/6BZ3	
†6BZ6	3.10
†6BZ7 use 6BQ7A/6BZ7/6BS8	
†6BZ8 use 6BC8/6BZ8	
†6C4	3.70
6C5	5.35
6C6	7.85
6C9	5.50
6C10	3.70
6CA4	3.75
6CA5	3.00
6CA7/EL34	5.35
†6CB5A	9.90
†6CB6A/6CF6	3.25
6CD3 use 6CE3/6CDE3	
†6CD6GA	6.65
†6CE3/6CD3	3.90
6CE5 use 6CB5/6CE5	
6CF6 use 6CB6A/6CF6	
†6CG3/6BW3	3.90
6CG7 use 6FQ7/6CG7	
†6CG8A	4.30
†6CH3 use 6CJ3/6CH3	
6CH8	5.60
†6CJ3/6CH3	3.70
6CK3 use 6CL3/6CK3	
6CK4	3.55
†6CL3/6CK3	3.70
†6CL6	4.75
†6CL8A	4.60
†6CM3	4.90
†6CM6	3.85
6CM7	4.15
6CM8	4.05
†6CN7	4.45
6CQ4 use 6DE4/6CQ4	
†6CQ8	4.60
6CR6	2.95
†6CS6	4.10
6CS7	3.75
6CU5	4.40
6CU6 use 6BQ6GTB/6CU6	
6CU8	4.60
†6CW4	5.65
†6CW5/EL86	2.75
6CX8	5.20
6CY5	4.85
6CY7	3.05
†6CZ5	4.75
6D10	4.65
6DA4 use 6DM4A/6DA4	
6DB5	5.00
†6DC6	3.85
6DC8/EBF89	3.05
6DE4/6CQ4	4.15
†6DE6	3.25
6DE7	4.45
6DG6GT	3.85
†6DK6	3.55
†6DL3	5.20
†6DL4/EC88	7.95
6DL5/EL95	2.95
6DM4A/6DA4	3.70
†6DN3	4.10
6DN6	7.00
6DN7	4.60
†6DQ5	8.15
†6DQ6B use 6GW6/6DQ6B	
6DR7	5.05
†6DS4	5.65
6DS5	3.65
6DT5	3.55
†6DT6A	3.25
†6DT8	3.75
†6DV4	6.45
†6DW4B	3.70
†6DX8/ECL84	2.90
†6DZ4	4.90
6E5	5.65
6EA5 use 6CY5	
6EA7 use 6EM7/6EA7	
†6EA8	3.90
6EB8	5.65
†6EH4A	8.20
6EH5	3.55
†6EH7/EF183	3.85
6EH8	3.50
†6EJ4A	9.35
†6EJ7/EF184	3.55
†6EL4 use 6BK4C/6EL4A	
†6EM5	4.45
†6EM7/6EA7	5.70
†6EN4	8.45
6EQ7	2.95
†6ER5	4.20
6ES5	2.85
6ES8/ECC189	5.45
6ET7	4.00
6EU7	3.95
6EU8	3.70
6EV5	4.25
6EV7	3.25
†6EW6	3.55
6EW7	6.50
†6EZ5	5.05
6EZ8	3.55
6F5	5.85
6F6	6.15
6F6GT	5.80
6F8G	8.45
6FA7	2.95
6FD7	5.70
6FE5	3.40
6FG6/EM84	3.35
†6FG7	4.60
†6FH5	5.00
6FH8	4.40
†6FJ7	4.15
†6FM7	4.60
6FM8	3.95
6FQ5A use 6GK5/6FQ5A	
†6FQ7/6CG7	2.95
6FS5	4.10
6FV6	4.45
6FV8A use 6BR8A/6FV8A	
6FW5	4.65
6FY5/EC97	2.75
6FY7	3.50
6G11	6.00
6GB3A use 6BQ6GTB/6CU6	
6GB5/EL500	3.80
6GB6 use 6GW6/6DQ6B	
6GB7 use 6GW6/6DQ6B	
†6GC5	5.65
6GE5	5.70
6GF5	3.80
†6GF7A	5.35
†6GH8A	3.20
6GJ5A	6.15
†6GJ7/ECF801	3.10
†6GK5/6FQ5A	4.60
†6GK6	3.70
6GK17 use 6AU4GTA	
†6GL7	5.80
6GM5	3.05
†6GM6	3.85
6GN8	5.65
†6GQ7	3.75
†6GS7	3.75
6GT5A	6.35
6GU5	4.10
†6GU7	4.15
6GV5	4.15
6GV8/ECL85	4.60
†6GW6/6DQ6B	5.35
†6GW8/ECL86	3.05
†6GX6	3.50
†6GX7	4.60
6GY5	4.60
†6GY6	3.20
6GY8	5.15
6H6	5.80
†6HA5 use 6HM5/6HA5	
†6HA6 use 6HB6/6HA6	
6HB5	4.60
†6HB6/6HA6	4.45
†6HB7	4.30
†6HE5	4.65
†6HF5	8.70
†6HF8	5.90
6HG5	3.40
†6HG8/ECF86	3.70
6HJ8	3.10
6HK5	3.90
†6HL8	3.05
†6HM5/6HA5	3.85
6HM6	2.95
†6HQ5	5.05
6HR5	2.55
6HR6	3.70
†6HS5	7.75
6HS6	3.70
†6HS8	4.75
6HU6/EM87	4.85
6HU8/ELL80	5.40
†6HV5A	9.80
6HZ5/6JD5	7.75
†6HZ6	3.20
6J5	4.60
†6J5GT	4.10
†6J6A	4.45
6J7	6.35
†6J10 use 6Z10/6J10	
6J11	5.75
†6JB5	4.75
6JB6A	6.35
†6JC6A	4.45
6JC8	3.35
†6JD6	4.60
†6JE6A use 6LQ6/6JE6C	
6JE8	3.70
6JF6	7.25
6JG6A	6.50
†6JH6	3.60
†6JH8	5.50
†6JK6	3.85
†6JK8	4.05
†6JM6A	5.70
†6JN6	5.35
6JN8	3.65
6JQ6	3.85
6JR6	6.35
†6JS6C	7.50
6JT6A	5.85
†6JT8	4.45
6JU6	6.95
†6JU8A	4.40
6JV8	4.40
†6JW8/ECF802	3.10
6JZ6	4.65
6JZ8	3.55
6K6GT	4.00
6K7	5.90
6K8	7.70
6K11/6Q11	3.80
†6KA8	4.90
†6KD6	8.85
6KD8 use 6U8A/6KD8	
†6KE8	6.05
†6KG6A/EL509	9.60
6KL8	2.95
†6KM6	8.85
6KM8	3.45
†6KN6	7.20
6KN8/6RHH8	7.40
6KR8	4.25
†6KS6 use 6BN6/6KS6	
†6KT6	4.90

Trade Discount Applies To List Prices Only

© United Technical Publications

RCA

ELECTRON TUBES

ENTERTAINMENT RECEIVING TYPES

PRICE SCHEDULE — AUGUST 16, 1971

RCA Type	Optional List Price
†6KT8	5.40
6KU8	4.80
†6KV6A	7.30
6KV8	5.85
6KY8A	7.70
†6KZ8	4.05
6L6	10.20
†6L6GC	5.90
6L7	6.95
†6LB6	8.85
6LB8	4.70
6LC8	4.75
†6LE8	6.20
†6LF6	8.45
†6LF8	5.10
†6LH6A use 6LJ6A/6LH6A	
†6LJ6 use 6LJ6A/6LH6A	
†6LJ6A/6LH6A	8.30
†6LJ8	4.40
6LM8	4.90
†6LN8/LCF80	2.40
†6LQ6/6JE6C	8.65
6LQ8	5.55
†6LR6	8.15
†6LR8	4.75
†6LT8	4.00
6LU8	4.75
6LX8/LCF802	2.60
†6LY8	3.90
†6M11	5.80
†6MB8	3.65
†6MD8	5.35
†6ME6	8.80
†6ME8	5.65
†6MF8	4.75
†6MG8	2.45
6MHH3 use 6J6A	
†6MJ8	4.65
6MK8	4.30
†6MN8	4.75
†6MQ8	3.80
†6MU8	5.20
6N7	5.05
6N7GT	5.90
6Q7	5.90
6Q11 use 6K11/6Q11	
6RHH2 use 6BC8/6BZ8	
†6RK19 use 6BR3/6RK19	
6RP22	9.95
†6S4A	3.70
6SA7	5.90
6SA7GT	4.40
6SB7Y	5.95
6SC7	5.35
6SF5	5.00
6SF7	6.30
6SG7	5.60
6SH7	6.15
6SJ7	5.35
6SK7	5.00
6SK7GT	5.50
6SL7GT	4.90
†6SN7GTB	4.00
6SQ7	4.95
6SR7	4.90
†6T4	5.15
†6T8A	4.70
6T9	4.40
†6T10	5.55
6U5	7.40
†6U8A/6KD8	3.90
†6U9/ECF201	2.90
†6U10	4.05
6V3A	4.55
6V6	6.80
†6V6GTA	4.45
6W4GT	3.30
†6W6GT	4.60
6X4	3.40
6X5GT	3.55
†6X8A	4.45
†6X9/ECF200	2.90
6Y6GT use 6Y6GA/6Y6G	
6Y6GA/6Y6G	4.95
†6Y9/EFL200	2.95
6Z4 use 84/6Z4	
†6Z10/6J10	6.20
†7AU7	3.10
7C5	3.35
7C7	3.40
7EY6	3.70
7F7	7.50
7F8	8.25
†7GS7	4.70
7HG8/PCF86	2.75
†7KY6	4.30
7N7	7.10
8A8 use 9A8/PCF80	
†8AC10	5.05
†8AL9	8.15
†8AR11	5.35
8AU8	3.85
8AW8A	5.35
8B8	5.45
8B10	4.40
8BA8A	3.45
8BA11	5.50
8BH8	3.35
†8BM11	4.70
8BN8	3.70
†8BN11	4.35
8BQ5	3.75
†8BQ11	4.30
†8BU11	5.00
8CB11	5.60
8CG7 use 8FQ7/8CG7	
8CM7	2.70
8CN7	3.05
8CS7	4.00
8CW5/XL86	2.55
8CX8	4.40
†8EB8 use 8GN8/8EB8	
8EM5	4.10
8ET7	4.15
†8FQ7/8CG7	2.95
8GJ7/PCF801	2.90
†8GN8/8EB8	4.15
†8GU7	3.20
†8JU8A	3.35
†8JV8	4.30
8KA8	4.65
8LC8	4.75
8LT8	4.00
†9A8/PCF80	2.65
†9AH9	4.75
†9AK10	5.05
9AQ8/PCC85	7.15
9AU7	2.95
9BJ11	5.35
9BR7	3.15
†9GH8A	4.10
9GV8/XCL85	3.40
†9JW8/PCF802	3.90
†9KC6	4.35
9KX6	4.15
9KZ8	2.95
†9LA6	4.20
9RAL1 use 10DE7	
9U8A	3.10
10AL11	4.55
10BQ5	2.75
10C8	6.05
†10CW5/LL86	2.55
10DE7	4.90
10DR7	4.45
10DX8/LCL84	2.75
10EG7	4.35
10EM7	4.90
10EW7	5.30
†10GF7A	5.45
10GK6	4.50
†10GN8	4.90
10GV8/LCL85	4.30
10HF8	5.35
10JA8/10LZ8	4.15
†10JT8	4.70
10JY8	3.65
10KR8	4.25
10KU8	4.85
†10LB8	4.70
†10LE8	5.90
10LW8	5.30
10LZ8 use 10JA8/10LZ8	
†10T10	5.35
†10Z10	5.50
†11AF9	3.10
11AR11	5.35
†11BM8	5.85
11BQ11	5.35
†11BT11	6.50
†11CA11	7.50
11CF11	7.80
11CY7	4.65
†11DS5	4.60
†11FY7	3.70
†11HM7	5.85
11JE8	3.85
11KV8	6.50
†11LQ8	5.90
†11LT8	4.00
11MS8	4.30
11Y9/LFL200	3.70
12AB5	3.85
12AC6	2.10
†12AC10A	5.05
12AD6	3.50
12AE6A	3.10
12AE10	5.80
12AF3/12BR3/12RK19	4.25
12AF6	3.15
12AL5	2.75
12AL8	6.15
12AL11	5.65
12AQ5	3.50
12AT6	2.75
†12AT7/ECC81	3.55
12AU6	3.55
†12AU7A/ECC82	3.10
12AV5GA	5.45
†12AV6	2.35
†12AV7	4.60
12AW6	3.55
†12AX3	3.00
12AX4GTB	3.35
†12AX7A/ECC83	2.80
12AY3A	2.90
12AY7	6.45
†12AZ7A	4.00
12B4A	4.00
12BA6	2.85
12BA7	5.90
12BD6	2.35
12BE3	3.45
12BE6	3.05
12BF6	2.35
†12BF11	5.80
†12BH7A	3.85
†12BK5	3.75
12BL6	3.70
12BN6	3.65
12BQ6GTB/12CU6	4.45
12BR3 use 12AF3/12BR3/12RK19	
12BR7	3.05
12BS3A/12DW4A	3.70
12BT3	3.45
12BV7 use 12BY7A/12BV7/12DQ7	
†12BV11	4.80
12BW4	3.35
†12BY7A/12BV7/12DQ7	3.55
12BZ6	2.40
12BZ7	4.15
12C5 use 12CU5/12C5	
12CA5	3.95
†12CL3	3.50
12CN5	3.25
12CR6	2.95
†12CT3	3.25
12CU5/12C5	4.30
12CU6 use 12BQ6GTB/12CU6	
12CX6	2.75
12D4	3.05
12DB5	2.60
12DK6	2.30
12DQ6B use 12GW6/12DQ6B	
†12DQ7 use 12BY7A/12BV7/12DQ7	
12DS7	5.40
12DT5	3.10
12DT8	4.00
12DW4A use 12BS3A/12DW4A	
†12DW7	3.05
12DY8	7.95
12DZ6	3.60
12ED5	2.70
12EK6	3.55
12EQ7	2.75
12F8	3.25
12FK6	2.55
12FM6	2.60
†12FQ7	2.45
12FQ8	5.20
12FV7	3.40
12FX5	3.25
12GB3 use 12BQ6GTB/12CU6	
12GB6 use 12GW6/12DQ6B	
12GB7 use 12GW6/12DQ6B	
†12GC6	4.35
†12GE5	5.20
12GJ5A	4.90
†12GN7A use 12HG7/12GN7A	
12GT5	5.35
12GW6/12DQ6B	5.35
12H6	4.45
12HE7	6.80
†12HG7/12GN7A	5.65
†12HL7	4.90
12J5GT	4.80
12J8	4.35
12JB6A	6.20
12JN6	3.90
12JN8	3.70
†12JQ6	4.45
12JT6A	4.95
12K5	3.45
12KL8	2.45
12L6GT	3.55
†12MD8	4.85
12R5	3.35
12RK19 use 12AF3/12BR3/12RK1	
12SA7	5.90
12SC7	5.20
12SF5	3.85
12SF7	6.20
12SG7	4.70
12SH7	5.40
12SJ7	4.30
12SK7	5.30
12SK7GT	4.45
12SL7GT	4.95
12SN7GTA	4.30
12SQ7	4.95
†12T10	4.65
12V6GT	4.45
12W6GT	4.90
12X4	2.25
13CW4	5.05
13DE7	4.75
13DR7	5.70
13EM7/15EA7	6.45
13FD7	5.30
13FM7/15FM7	4.00
13GB5/XL500	3.70
13GF7A	5.20
13J10 use 13Z10/13J10	
13JZ8	5.05
13V10	5.90
13Z10/13J10	6.20
14BL11	7.30
14BR11	5.80
14GT8	3.45
14JG8	3.10
15AF11	4.75
15BD11A	5.50
†15CW5/PL84	2.45
†15DQ8/PCL84	3.40
15EA7 use 13EM7/15EA7	
15FM7 use 13FM7/15FM7	
15FY7	3.90
15KY8A	6.35
†15LE8	7.65
†15MF8	4.75
†16A8/PCL82	3.40
†16AK9	6.80
16AQ3/XY88	2.70
16BQ11	5.35
†16BX11	6.20
16GK6	3.05
16GY5	4.85
†16LU8A	7.25
17AB10/17X10	5.50
17AX3	2.60
17AX4GTA	3.70
17AY3A	3.70
17BB14	10.45
17BE3/17BZ3	3.70
17BF11	5.90
17BH3	2.85
17BQ6GTB	5.20
17BR3/17RK19	3.35
17BS3A/17DW4A	3.70
17BW3	3.20
17BZ3 use 17BE3/17BZ3	
17C5 use 17CU5/17C5	
17C9	7.15
17CK3	3.55
17CT3	2.95
17CU5/17C5	3.10
17D4	4.05
17DE4	3.65
17DM4A	4.05
17DQ6B use 17GW6/17DQ6B	
17DW4A use 17BS3A/17DW4A	
17EW8/HCC85	2.75
17GB3 use 17BQ6GTB	
17GE5	4.35
17GJ5A	6.05
17GT5A	5.55
17GV5	4.20
17GW6/17DQ6B	5.55
17HB25	8.20
17JB6A	5.85
17JF6	6.85
17JG6A	6.30
17JM6A	5.90
17JN6	5.35
17JQ6	4.45
17JT6A	5.60
17JZ8	3.55
†17KV6A	8.60
17LD8 use 15KY8A	
17RK19 use 17BR3/17RK19	
17X10 use 17AB10/17X10	
17Z3/PY81	4.40
†18AJ10	5.90
18FW6A	2.45
18FX6A	2.95
18FY6A	2.95
18GB5/LL500	5.15
18GD6A	2.95
18GV8/PCL85	4.65
†19AU4GTA	4.35
19BG6GA	6.65
†19CG3	3.60
19CL8A use 19JN8/19CL8A	
†19DE3	4.50
19EA8	4.45
19EZ8	4.50
19FX5	3.55
19GQ7	3.80
19HR6	2.45
19HS6	2.40
19HV8	4.70
19J6	3.70
19JN8/19CL8A	3.20
19KG8	3.10
19MR9 use 18GD6A	
19T8	4.90
19X8	4.10
20AQ3/LY88	3.25
20EZ7	3.40
†20LF6	8.50
21GY5	4.65
21HB5A	4.75
21JS6A use 23JS6A	
21JV6	4.65
21JZ6	4.85
21KA6	4.45
21KQ6	12.75
†21LG6A	8.95
†21LR8	4.75
†21LU8	4.75
22BH3A	3.10
22BW3	4.15
22DE4	4.20
22JF6	7.25
22JG6A	6.75
22JR6	6.80
22JU6	6.80
†22KM6	8.20
†22KV6A	7.30
†23JS6A	13.35
23Z9	4.70
24BF11	5.20
†24JE6A use 24LQ6/24JE6C	
24JZ8	4.50
†24LQ6/24JE6C	8.65
25AV5GA	5.65
25AX4GT	3.05
25BK5	3.40
25BQ6GTB/25CU6	4.40
25C5	3.70
25CA5	3.60
25CD6GB	6.40
†25CG3	3.40
†25CK3	3.40
†25CT3	2.95
25CU6 use 25BQ6GTB/25CU6	
25DL3	5.50
25DN6	6.60
25E5/PL36	6.65
25EC6	6.15
25EH5	3.70
25F5A	3.85
†25HX5	5.20
25JZ8	5.80
25L6GT/25W6GT	3.70
25W4GT	3.70
25W6GT use 25L6GT/25W6GT	
25Z6GT	3.85
†26HU5	12.05
†26LX6	9.50
27GB5/PL500	3.70
29KQ6/PL521	11.75
†29LE6	5.90
30AE3/PY88	3.25
30JZ6	6.15
†30KD6	8.10
31AL10	6.35
†31JS6C	7.30
†31LQ6	8.50
†31LR8	10.05
†31LZ6	9.75
32ET5A	2.40
32HQ7	7.70
33GT7	6.95
33GY7A	6.45
33JR6	6.20
33JV6	4.65
†34CE3	3.90
34GD5A	2.95
34R3	3.45
35B5	3.20
35C5	3.20
35EH5	3.40
35L6GT	3.85
†35LR6	8.15
35W4	1.95
35Y4	4.50
35Z4GT	2.55
35Z5GT	3.40
36AM3B	2.55
†36KD6/40KD6	8.85
38HE7	7.25
38HK7	7.10
†40KD6 use 36KD6/40KD6	
†40KG6A/PL509	10.05
42	4.85
†42EC4A/PY500	4.90
†42KN6	7.20
43	7.20
50A5	5.85
50B5	2.95
50BM8/UCL82	4.35
†50C5	3.05
50DC4	2.40
50EH5	3.55
50FE5	4.45
50FK5	2.20
†50GY7A	9.90
50HC6	3.55
50HK6	2.15
50JY6	7.00
50L6GT	4.45
50Y6GT	4.35
53HK7	8.35
60FX5	2.95
80	4.80
117L7/M7GT	14.75
117N7GT	12.85
117Z3	4.50
5879	5.35
6973	5.05
7025	3.10
7027A	7.45
7189	4.40
7199	5.65
7247	4.05
7355	3.65
7408	3.35
7543	3.25
7581A	6.15
7591A	2.80
7695	4.40
7868	5.65
8417	5.65
EM84/6FG6 use 6FG6/EM84	

† Denotes Types Used In Color TV

© United Technical Publications

Trade Discount Applies To List Prices Only

RCA

ELECTRON TUBES
REPLACEMENT SEMICONDUCTORS

PRICE SCHEDULE — AUGUST 16, 1971

INDUSTRIAL TUBES FOR DEALER SERVICE

RCA Type	Optional Distributor Resale Price	RCA Type	Optional Distributor Resale Price	RCA Type	Optional Distributor Resale Price	RCA Type	Optional Distributor Resale Price	RCA Type	Optional Distributor Resale Price
0A2	$ 2.05	12AT7WA	$ 4.05	5670	$ 4.10	6005	$ 5.25	6681/12AX7A	$ 2.02
0A2WA	4.80	12AT7WB	4.25	5672	3.65	6012	11.50	6688A	11.60
0A3	2.45	83	3.25	5678	3.70	6021	4.90	6883	5.80
0A3A	2.45	807	6.45	5686	5.55	6072	5.95	6883/8032A/8552	7.10
0A4G	3.25	811A	10.85	5687	6.15	6080	7.70	6922/E88CC	7.50
0B2	2.25	812A	8.90	5691	13.05	6136	4.55	6939	15.95
0B2WA	3.80	816	5.55	5692	12.60	6146A	5.15	6977	4.30
0C2	2.45	866A	5.20	5693	10.15	6146B/8298A	6.40	7054	2.40
0C3	2.35	868	9.10	5696	3.35	6159B	5.90	7055	1.70
0C3A	2.35	884	4.10	5696A	2.85	6197	4.05	7056	1.45
0D3	2.30	918	9.00	5718	5.10	6201	4.60	7057	3.05
0D3A	2.30	920	20.35	5725	4.80	6202	3.80	7058	2.10
1L4	2.35	922	5.75	5725/6AS6W	(Use 5725)	6211	3.80	7059	2.35
1P40	8.40	925	7.90	5726	3.10	6336A	27.80	7060	2.95
2D21	2.10	927	10.65	5727	4.25	6350	3.35	7061	2.35
2E24	10.20	929	6.25	5749	4.25	6360	6.30	7167	2.35
2E26	5.45	930	7.70	5750	5.75	6360A	8.75	7258	3.20
2X2A	5.75	991	2.95	5751	4.20	6386	13.30	7308	9.00
3A5	3.25	1612	9.60	5763	3.80	6417	4.95	7360	5.30
3AQP1	40.20	1614	8.20	5783	5.90	6485	3.15	7551	5.15
5CP1A	55.60	1619	10.05	5814A	3.90	6550	8.40	7558	5.20
5R4GYB	3.40	1620	12.10	5823	2.60	6550VI (Matched Pair)	17.50	7717/6CY5	3.95
5UP1	26.25	1625	7.75	5824	6.40	6660/6BA6	2.36	7724/14GT8	2.10
6AH6WA	10.60	1629	4.05	5840	7.45	6661/6BH6	2.89	7895	5.15
6AK6	2.90	1635	7.05	5842/417A	10.30	6662/6BJ6	2.92	7898	2.20
6AS6	5.50	2050	3.50	5844	3.85	6663/6AL5	2.15	7905	5.70
6AS7G	7.35	2050A	3.25	5847/404A	13.30	6664/6AB4	2.60	8056	7.20
6AS7GA	6.95	2076/5R4GYB	2.90	5881	4.35	6669/6AQ5A	2.46	8077/7054	2.20
6AU6WB	4.55	5581	9.00	5902	6.70	6676/6CB6A	2.36	8106	2.40
6D4	4.50	5642	4.95	5915	2.80	6677/6CL6	3.45	8136	2.00
6DJ8/ECC88	2.65	5651A	2.75	5963	2.10	6678/6U8A	2.85	9001	7.55
6J4	6.35	5654	3.20	5964	2.85	6679/12AT7	2.56	9002	6.10
6X4W	2.35	5663	3.75	5965	3.15	6680/12AU7A	2.25	9003	7.95
12A6	5.25								

FOREIGN TYPES

Foreign Type	Use RCA Type	Foreign Type	Use RCA Type	Foreign Type	Use RCA Type	Foreign Type	Use RCA Type	Foreign Type	Use RCA Type
DY87	1S2A/DY87	EF184	6EJ7/EF184	LFL200	11Y9/LFL200	XCC189	4ES8/XCC189	6RK19	6BR3/6RK19
EBF89	6DC8/EBF89	EFL200	6Y9/EFL200	LL86	10CW5/LL86	XCF80	4BL8/XCF80	6RP22	6RP22
EC88	6DL4/EC88	EL34	6CA7/EL34	LL500	18GB5/LL500	XCF801	4GJ7/XCF801	7GS7	7GS7
EC97	6FY7/EC97	EL84	6BQ5/EL84	LY88	20AQ3/LY88	XCL85	9GV8/XCL85	8A8	9A8/PCF80
ECC81	12AT7/ECC81	EL86	6CW5/EL86	PC900	4HA5/PC900	XF183	3EH7/XF183	8B8	8B8
ECC82	12AU7A/ECC82	EL95	6DL5/EL95	PCC85	9AQ8/PCC85	XF184	3EJ7/XF184	9RAL1	10DE7
ECC83	12AX7A/ECC83	EL500	6GB5/EL500	PCF80	9A/PCF80	XL86	8CW5/XL86	11BM8	11BM8
ECC85	6AQ8/ECC85	ELL80	6HU8/ELL80	PCF86	7HG8/PCF86	XL500	13GB5/XL500	12DW4A	12BS3A/12DW4A
ECC189	6ES8/ECC189	EM84	6FG6/EM84	PCF801	8GJ7/PCF801	XY88	16AQ5/XY88	12GB3	12BQ6GTB/12CU6
ECF80	6BL8/ECF80	EM87	6HU6/EM87	PCF802	9JW8/PCF802	YCC189	5ES8/YCC189	12GB6	12GW6/12DQ6B
ECF86	6HG8/ECF86	EY88	6AL3/EY88	PCL82	16A8/PCL82	1RK23	1S2A/DY87	12GB7	12GW6/12DQ6B
ECF200	6X9/ECF200	GZ34	5AR4/GZ34	PCL84	15DQ8/PCL84	4RHH2	4BQ7A	12RK19	12AF3/12BR3/12RK19
ECF201	6U9/ECF201	HCC85	17EW8/HCC85	PCL85	18GV8/PCL85	4RHH8	4KN8/4RHH8	17BB14	17BB14
ECF801	6GJ7/ECF801	LCF80	6LN8/LCF80	PL36	25E5/PL36	5GS7	5GS7	17DW4A	17BS3A/17DW4A
ECF802	6JW8/ECF802	LCF86	5HG8/LCF86	PL84	15CW5/PL84	5MHH3	5J6	17GB3	17BQ6GTB
ECL82	6BM8/ECL82	LCF201	5U9/LCF201	PL500	27GB5/PL500	6GB3A	6BQ6GTB/6CU6	17HB25	17HB25
ECL84	6DX8/ECL84	LCF801	5GJ7/LCF801	PL509	40KG6A/PL509	6GB6	6GW6/6DQ6B	17RK19	17BR3/17RK19
ECL85	6GV8/ECL85	LCF802	6LX8/LCF802	PL521	29KQ6/PL521	6GB7	6GW6/6DQ6B	19MR9	18GD6A
ECL86	6GW8/ECL86	LCL84	10DX8/LCL84	PY81	17Z3/PY81	6GK17	6AU4GTA	21JS6A	22JS6A
EF93	6BA6/EF93	LCL85	10GV8/LCL85	PY88	30AE3/PY88	6GS7	6GS7	23JS6A	23JS6A
EF95	6AK5/EF95	LF183	4EH7/LF183	PY500	42EC4A/PY500	6MHH3	6J6A	25JZ8	25JZ8
EF183	6EH7/EF183	LF184	4EJ7/LF184	UCL82	50BM8/UCL82	6RHH2	6BC8/6BZ8	34R3	34R3
						6RHH8	6KN8/6RHH8	50JY6	50JY6

REPLACEMENT SEMICONDUCTORS

SK3003	$ 1.65	SK3019	$ 2.45	SK3035	$ 9.15	SK3051	$ 1.80	SK3067	$ 7.80
SK3004	1.90	SK3020	2.20	SK3036	9.75	SK3052	3.90	SK3068	8.40
SK3005	1.95	SK3021	3.15	SK3037	19.50	SK3053	7.80	SK3069	19.50
SK3006	2.35	SK3022	6.60	SK3038	2.40	SK3054	4.50	SK3070	7.80
SK3007	2.10	SK3023	6.60	SK3039	3.30	SK3055	1.80	SK3071	11.70
SK3008	2.05	SK3024	3.30	SK3040	3.75	SK3056	1.80	SK3072	8.40
SK3009	3.90	SK3025	4.50	SK3041	4.20	SK3057	1.80	SK3073	13.80
SK3010	2.10	SK3026	3.00	SK3042	6.60	SK3058	1.80	SK3074	14.25
SK3011	2.70	SK3027	5.25	SK3043	3.00	SK3059	1.80	SK3075	11.70
SK3012	7.95	SK3028	6.00	SK3044	9.15	SK3060	1.80	SK3076	11.70
SK3013	7.80	SK3029	10.50	SK3045	9.45	SK3061	1.80	SK3077	11.70
SK3014	5.25	SK3030	.70	SK3046	3.30	SK3062	1.80	SK3078	11.70
SK3015	10.50	SK3031	.85	SK3047	4.80	SK3063	1.80	SK3079	8.25
SK3016	.90	SK3032	1.02	SK3048	9.30	SK3064	1.80	SK3080	1.35
SK3017A	.95	SK3033	1.35	SK3049	13.50	SK3065	6.90	SK3081	1.50
SK3018	2.25	SK3034	7.50	SK3050	6.30	SK3066	5.25		

Net

© United Technical Publications



1,500,000 TEST HOURS A MONTH

MEANS THE KIND OF QUALITY, DEPENDABILITY AND FEWER CALL-BACKS THAT ZENITH "ROYAL CREST" REPLACEMENT TUBES GIVE YOU!

We spend a lot of time checking Zenith "Royal Crest" circuit tubes. To help you avoid embarrassing and costly call-backs. To give you replacement tubes tested for reliability and longevity.

1,500,000 hours of tube testing are logged each month in Zenith Quality Control Laboratories. And no tube is passed unless it meets the same rigid quality standards as the original equipment used in Zenith products.

Result: a complete line of more than 1,200 "Royal Crest" replacement tubes . . . each one built with Zenith quality for fewer call-backs and longer life.

ZENITH®

THE QUALITY GOES IN BEFORE THE NAME GOES ON®

© United Technical Publications

Mil-W-76B Plastic Wire

alpha

DESCRIPTION: Solid or extra flexible stranded tinned copper, color coded polyvinylchloride insulation. Shielded constructions employ braided TC shields, 80% minimum coverage.

CHARACTERISTICS: Temperature rating −40°C to +80°C (with nylon, 90°C). Resistant to acids, alkalis, oil, flame. moisture and fungus.

***STOCK COLORS:** 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate), 10-Violet (purple), 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Orange, 18-White/Gray, 19-White/Violet, 20-White/Black/Red, 21-White/Black/Green, 22-White/Black/Yellow, 23-White/Black/Blue, 24-White/Black/Brown, 25-White/Black/Orange, 26-White/Black/Gray, 27-White/Black/Violet.

TYPE MW — UNCOVERED PLASTIC
.016" WALL THICKNESS — 1000 VOLTS

ALPHA No.	Type Designation	Conductor Size	Conductor Strand	Nominal Jacket	Nominal O.D.	*Stock Colors
1550	MW-C 24(7)U	24	7/32	—	.059"	1-19
1551	MW-C 22(7)U	22	7/30	—	.064"	1-27
1553	MW-C 20(10)U	20	10/30	—	.073"	1-27
1555	MW-C 18(16)U	18	16/30	—	.084"	1-27
1557	MW-C 16(26)U	16	26/30	—	.095"	1-19
1559	MW-C 14(41)U	14	41/30	—	.110"	1-10
1560	MW-C 12(65)U	12	65/30	—	.125"	1-10
			SOLID			
1561/24	MW-C 24(1)U	24	1	—	.055"	1-10
1561	MW-C 22(1)U	22	1	—	.060"	1-19
1563	MW-C 20(1)U	20	1	—	.066"	1-19
1565	MW-C 18(1)U	18	1	—	.074"	1-10

TYPE MW — SHIELDED
.016" WALL THICKNESS — 1000 VOLTS

1350	MW-C 24(7)S	24	7/32	—	.075"	1 Only
1351	MW-C 22(7)S	22	7/30	—	.085"	1 Only
1352	MW-C 20(10)S	20	10/30	—	.095"	1 Only

TYPE MW — SHIELDED — NYLON JACKET
.016" WALL THICKNESS — 1000 VOLTS

1370	MW-C 24(7)SJ	24	7/32	.003"	.085"	1 Only
1371	MW-C 22(7)SJ	22	7/30	.003"	.092"	1 Only
1372	MW-C 20(7)SJ	20	7/28	.003"	.100"	1 Only
1373	MW-C 18(19)SJ	18	19/30	.003"	.110"	1 Only
1374	MW-C 16(19)SJ	16	19/29	.004"	.120"	1 Only

TYPE MW — NYLON JACKET
.016" WALL THICKNESS — 1000 VOLTS

1504	MW-C 22(7)J	22	7/30	.003"	.072"	1, 2, 3
1505	MW-C 20(10)J	20	10/30	.003"	.079"	1 Only
1506	MW-C 18(16)J	18	16/30	.003"	.090"	1 Only
1507	MW-C 16(26)J	16	26/30	.004"	.103"	1 Only
1508	MW-C 14(41)J	14	41/30	.004"	.118"	1 Only
1509	MW-C 12(65)J	12	65/30	.005"	.135"	1 Only

TYPE LW — UNCOVERED PLASTIC
.010" WALL THICKNESS — 300 VOLTS

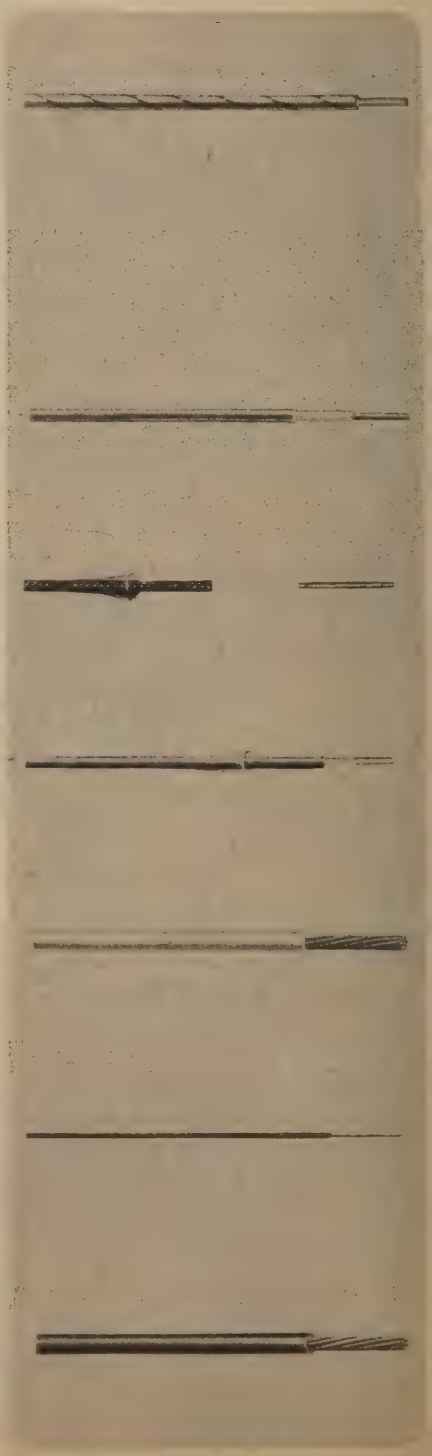
1685	LW-C 30(7)U	30	7/38	—	.033"	1-3
1686	LW-C 28(7)U	28	7/36	—	.035"	1-10
1687	LW-C 26(7)U	26	7/34	—	.038"	1-10
1688	LW-C 24(7)U	24	7/32	—	.043"	1-10
1689	LW-C 22(7)U	22	7/30	—	.049"	1-10
1690	LW-C 20(7)U	20	7/28	—	.060"	1-10

TYPE LW — NYLON JACKET
.010" WALL THICKNESS — 300 VOLTS

1677	LW-C 26(7)J	26	7/34	.002"	.042"	1-3
1678	LW-C 24(7)J	24	7/32	.002"	.047"	1-3
1679	LW-C 22(7)J	22	7/30	.002"	.053"	1-3
1680	LW-C 20(7)J	20	7/28	.002"	.065"	1-3

TYPE HW — UNCOVERED PLASTIC
#22 TO #16 — .032" WALL THICKNESS — 2500 VOLTS
#14 TO #8 — .045" WALL THICKNESS — 600 VOLTS

1571	HW-C 22(7)U	22	7/30	—	.092"	1-6
1573	HW-C 20(10)U	20	10/30	—	.100"	1-6
1575	HW-C 18(16)U	18	16/30	—	.112"	1-6
1577	HW-C 16(26)U	16	26/30	—	.126"	1-3
1579	HW-C 14(41)U	14	41/30	—	.170"	1-2
1651	HW-C 12(65)U	12	65/30	—	.186"	1-2
1653	HW-C 10(105)U	10	105/30	—	.210"	1-2
1655	HW-C 8(133)U	8	133/29	—	.260"	1-2



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

© United Technical Publications

Mil-W-16878D Plastic Wire

alpha

DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation. Shielded constructions employ braided tinned copper shields, providing 90% minimum coverage.

CHARACTERISTICS: Temperature rating −55°C to +105°C (115°C with nylon). Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

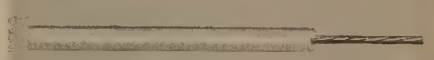
TYPE B — UNCOVERED PLASTIC
REGULAR TINNED COPPER CONDUCTOR — 600 VOLTS

ALPHA No.	Type Designation	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.	Stock Colors
1850	B-32	32	7/40	.010″	—	.028″	1-3
1851	B-30	30	7/38	.010″	—	.032″	1-3
1852	B-28	28	7/36	.010″	—	.034″	1-10
1853	B-26	26	7/34	.010″	—	.038″	1-10
1854	B-24	24	7/32	.010″	—	.043″	1-10
1854/19	B-24	24	19/36	.010″	—	.043″	1-10
1855	B-22	22	7/30	.010″	—	.050″	1-10
1855/19	B-22	22	19/34	.010″	—	.050″	1-10
1856	B-20	20	7/28	.010″	—	.058″	1-10
1856/19	B-20	20	19/32	.010″	—	.058″	1-10
1857	B-18	18	7/26	.010″	—	.068″	1-10
1857/19	B-18	18	19/30	.010″	—	.068″	1-10
1858/19	B-16	16	19/29	.010″	—	.077″	1-10
1859/19	B-14	14	19/27	.010″	—	.091″	1-10



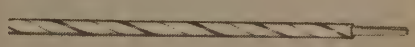
TYPE B — NYLON JACKET
REGULAR TINNED COPPER CONDUCTOR — 600 VOLTS

1863	B-26	26	7/34	.010″	.003″	.044″	1-3
1864	B-24	24	7/32	.010″	.003″	.049″	1-3
1864/19	B-24	24	19/36	.010″	.003″	.049″	1-3
1865	B-22	22	7/30	.010″	.003″	.056″	1-3
1865/19	B-22	22	19/34	.010″	.003″	.056″	1-3
1866	B-20	20	7/28	.010″	.003″	.064″	1-3
1866/19	B-20	20	19/32	.010″	.003″	.064″	1-3
1867	B-18	18	7/26	.010″	.003″	.074″	1-3
1867/19	B-18	18	19/30	.010″	.003″	.074″	1-3
1868/19	B-16	16	19/29	.010″	.003″	.085″	1-3
1869/19	B-14	14	19/27	.010″	.004″	.099″	1-3



TYPE B — UNCOVERED PLASTIC
PRE-BONDED TINNED COPPER CONDUCTOR* — 600V

3154	B-24	24	7/32	.010″	—	.044″	1-19
3155	B-22	22	7/30	.010″	—	.051″	1-19
3156	B-20	20	7/28	.010″	—	.059″	1-3
3157	B-18	18	7/26	.010″	—	.070″	1-3



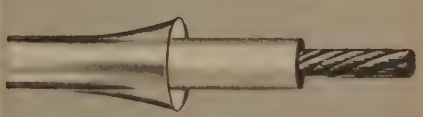
TYPE C — UNCOVERED PLASTIC
1000 VOLTS

1830	C-24	24	7/32	.016″	—	.058″	1-10
1831	C-22	22	7/30	.016″	—	.064″	1-10
1832	C-20	20	7/28	.016″	—	.072″	1-10
1833	C-18	18	7/26	.016″	—	.082″	1-10
1834	C-16	16	19/29	.016″	—	.091″	1 Only
1835	C-14	14	19/27	.016″	—	.105″	1 Only
1836	C-12	12	19/25	.016″	—	.124″	1 Only



TYPE C — NYLON JACKET
1000 VOLTS

1841	C-22	22	7/30	.016″	.003″	.072″	1-3
1842	C-20	20	7/28	.016″	.003″	.079″	1 Only
1843	C-18	18	7/26	.016″	.003″	.090″	1 Only
1844	C-16	16	19/29	.016″	.004″	.099″	1 Only
1845	C-14	14	19/27	.016″	.004″	.114″	1 Only



TYPE C — SHIELDED — NYLON JACKET
1000 VOLTS

1470	C-24	24	7/32	.016″	.005″	.091″	1 Only
1471	C-22	22	7/30	.016″	.005″	.098″	1 Only
1472	C-20	20	7/28	.016″	.005″	.105″	1 Only
1473	C-18	18	19/30	.016″	.005″	.115″	1 Only
1474	C-16	16	19/29	.016″	.005″	.125″	1 Only



TYPE D — UNCOVERED PLASTIC
3000 VOLTS

1871	D-22	22	7/30	.029″	—	.088″	1 Only
1872	D-20	20	7/28	.029″	—	.096″	1 Only
1873	D-18	18	7/26	.029″	—	.106″	1 Only
1874	D-16	16	19/29	.029″	—	.115″	1 Only
1875	D-14	14	19/27	.029″	—	.129″	1 Only
1876	D-12	12	19/25	.034″	—	.158″	1 Only
1877	D-10	10	37/26	.037″	—	.185″	1 Only



*Each strand of the conductor is double tined and then heated, which bonds the individual strands together for easy stripping.

STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

© United Technical Publications

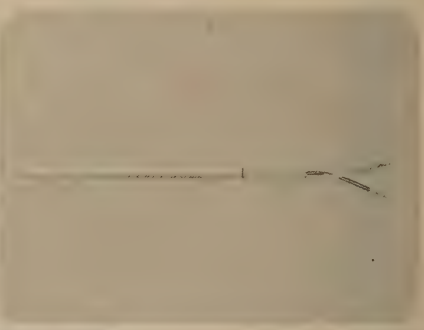
Mil-W-16878D Multi-Conductor Cable

alpha

DESCRIPTION: Each conductor stranded tinned copper, .010" polyvinylchloride insulation, color coded, clear nylon (polyamide) jacket, conductors cabled. Braided tinned copper shield 90% approx. coverage, white polyvinylchloride jacket overall.
CHARACTERISTICS: Temperature rating −55°C to +105°C. Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus and solvents.
COLOR CODE OF CONDUCTORS: 1-White, 2-Black, 3-Red.

NYLON SHIELDED — PLASTIC JACKET
TYPE B

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Nylon Thickness	Nom. Overall Jacket	Nom. O.D.
3210	1	24	19/36	.010"	.003"	.016"	.106"
3211	2	24	19/36	.010"	.003"	.020"	.165"
3212	3	24	19/36	.010"	.003"	.020"	.173"
3220	1	22	19/34	.010"	.003"	.018"	.117"
3221	2	22	19/34	.010"	.003"	.020"	.179"
3222	3	22	19/34	.010"	.003"	.022"	.192"
3230	1	20	19/32	.010"	.003"	.018"	.125"
3231	2	20	19/32	.010"	.003"	.024"	.203"
3232	3	20	19/32	.010"	.003"	.024"	.213"
3240	1	18	19/30	.010"	.003"	.020"	.189"
3241	2	18	19/30	.010"	.003"	.026"	.227"
3242	3	18	19/30	.010"	.003"	.026"	.239"
3245	1	16	19/29	.010"	.003"	.022"	.150"
3246	2	16	19/29	.010"	.003"	.028"	.245"
3247	3	16	19/29	.010"	.003"	.028"	.258"



Flat Ribbon Cable
MULTI-CONDUCTOR — PLASTIC INSULATION CONDUCTORS PER MIL-16878D — TYPE C — 1000 VOLTS

DESCRIPTION: Each conductor stranded tinned copper, color coded .016" polyvinylchrolide insulation, conductors bonded together to form flat ribbon cable.
CHARACTERISTICS: Temperature rating −55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.
COLOR CODE OF CONDUCTORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate), 10-Violet (purple), 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Orange, 18-White/Gray, 19-White/Violet, 20-White/Black/Red.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nominal O.D.
3504	4	22	7/30	.016"	.065" x .260"
3508	8	22	7/30	.016"	.065" x .520"
3512	12	22	7/30	.016"	.065" x .780"
3516	16	22	7/30	.016"	.065" x 1.040"
3520	20	22	7/30	.016"	.065" x 1.300"



Control and Instrumentation Cable
MULTI-CONDUCTOR SHIELDED PLASTIC JACKET—MIL-W-16878D

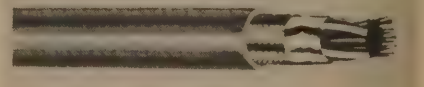
DESCRIPTION: Each conductor stranded tinned copper. Color coded, polyvinylchloride insulation, cabled, mylar wrap. Braided tinned copper shield 90% coverage, chrome gray polyvinylchloride jacket overall.
CHARACTERISTICS: Interconnecting cables for electronic equipment, instrumentation and control cable, telemetry data, remote control of sensitive recording instruments.
COLOR CODE OF CONDUCTORS (CONFORMS TO MIL-C-915): 1-Black, 2-White, 3-Red, 4-Green, 5-Orange, 6-Blue, 7-White/Black, 8-Red/Black, 9-Green/Black, 10-Orange/Black 11-Blue/Black, 12-Black/White, 13-Red/White, 14-Green/White, 15-Blue/White, 16-Black/Red, 17-White/Red, 18-Orange/Red, 19-Blue/Red, 20-Red/Green, 21-Orange/Green, 22-Black/White/Red, 23-White/Black/Red, 24-Red/Black/White, 25-Green/Black/White, 26-Orange/Black/White, 27-Blue/Black/White, 28-Black/Red/Green, 29-White/Red/Green, 30-Red/Black/Green.

MINIATURE SHIELDED CONTROL CABLE
TYPE B CONDUCTOR — 600 VOLTS

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jacket	Nom. O.D.
3302	2	B-28	7/36	.010"	.017"	.130"
3303	3	B-28	7/36	.010"	.018"	.138"
3304	4	B-28	7/36	.010"	.019"	.150"
3306	6	B-28	7/36	.010"	.020"	.172"
3308	8	B-28	7/36	.010"	.022"	.186"
3310	10	B-28	7/36	.010"	.024"	.214"
3312	12	B-28	7/36	.010"	.026"	.223"
3315	15	B-28	7/36	.010"	.028"	.242"
3320	20	B-28	7/36	.010"	.030"	.272"

HEAVY DUTY SHIELDED CONTROL CABLE
TYPE C CONDUCTOR — 1000 VOLTS

3405	5	C-18	19/30	.016"	.025"	.300"
3410	10	C-18	19/30	.016"	.035"	.405"
3415	15	C-18	19/30	.016"	.040"	.470"
3420	20	C-18	19/30	.016"	.045"	.530"
3430	30	C-18	19/30	.016"	.055"	.650"



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Mil-W-16878D Teflon Wire

DESCRIPTION: Single conductor stranded silver plated copper, extruded TFE Teflon

CHARACTERISTICS: Temperature rating −65°C to +200°C. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.

STOCK COLORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate) 10-Violet (purple), 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Orange, 18-White/Gray, 19-White/Violet.

Other solid colors and striped combinations available to order.

TYPE E — EXTRUDED
600 VOLTS

ALPHA No.	Type Designation	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. O.D.	Stock Colors
2850	E-32	32	7/40	.010″	.029″	1-19 as listed
2851	E-30	30	7/38	.010″	.032″	1-19 as listed
2852	E-28	28	7/36	.010″	.036″	1-19 as listed
2853	E-26	26	7/34	.010″	.040″	1-19 as listed
2854	E-24	24	19/36	.010″	.045″	1-19 as listed
2854/7	E-24	24	7/32	.010″	.044″	1-19 as listed
2855	E-22	22	19/34	.010″	.051″	1-19 as listed
2855/7	E-22	22	7/30	.010″	.050″	1-19 as listed
2856	E-20	20	19/32	.010″	.059″	1-19 as listed
2856/7	E-20	20	7/28	.010″	.058″	1-19 as listed
2857	E-18	18	19/30	.010″	.070″	1-19 as listed
2858	E-16	16	19/29	.010″	.077″	1-19 as listed
2859	E-14	14	19/27	.012″	.094″	1-6 & 11-19
2859/12	E-12	12	19/25	.012″	.113″	1 & 11-19
2859/10	E-10	10	37/26	.012″	.134″	1 & 11-19

SOLID CONDUCTOR

5853/1	E-26	26	1	.010″	.036″	1-10
5854/1	E-24	24	1	.010″	.040″	1-10
5855/1	E-22	22	1	.010″	.045″	1-10
5856/1	E-20	20	1	.010″	.052″	1-10
5857/1	E-18	18	1	.010″	.060″	1-10

TYPE EE — EXTRUDED
1000 VOLTS

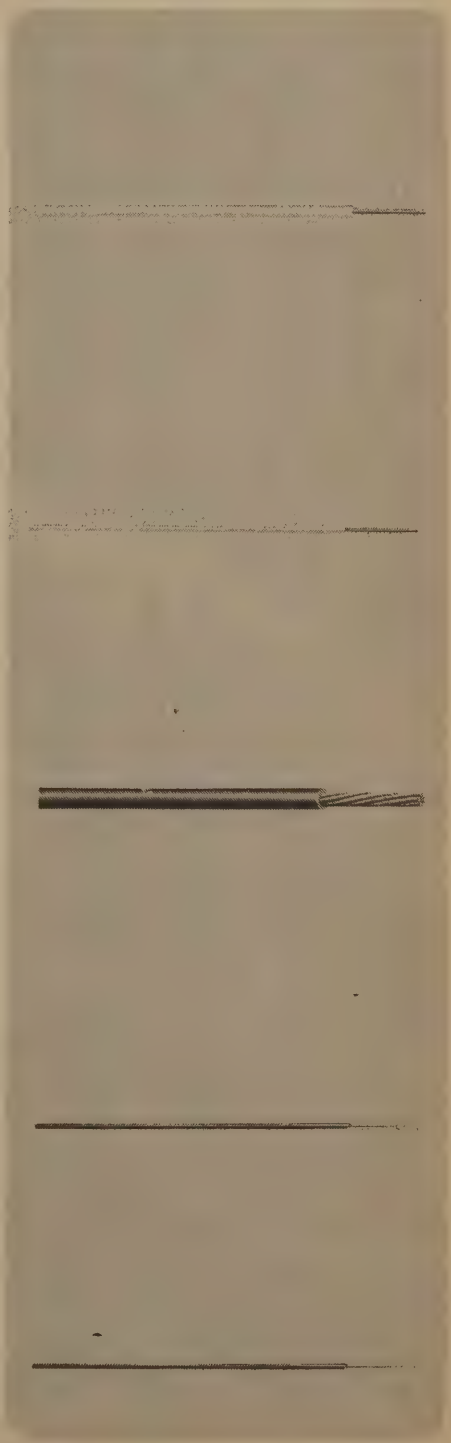
2874	EE-24	24	19/36	.014″	.055″	1-19
2875	EE-22	22	19/34	.014″	.062″	1-19
2876	EE-20	20	19/32	.014″	.070″	1-19
2877	EE-18	18	19/30	.014″	.080″	1-19
2878	EE-16	16	19/29	.014″	.089″	1 & 11-19
2879	EE-14	14	19/27	.017″	.106″	1 & 11-19
2879/12	EE-12	12	19/25	.017″	.124″	1 & 11-19
2879/10	EE-10	10	37/26	.017″	.145″	1 & 11-19
2879/8	EE-8	8	133/29	.020″	.210″	1 only

TYPE ET — EXTRUDED
250 VOLTS

2840/7	ET-32	32	7/40	.006″	.021″	1-10
2841/7	ET-30	30	7/38	.006″	.024″	1-10
2842/7	ET-28	28	7/36	.006″	.027″	1-10
2842/19	ET-28	28	19/40	.006″	.027″	1-10
2843/7	ET-26	26	7/34	.006″	.031″	1-10
2843/19	ET-26	26	19/38	.006″	.032″	1-10
2844/7	ET-24	24	7/32	.006″	.036″	1-10
2844/19	ET-24	24	19/36	.006″	.037″	1-10
2845/7	ET-22	22	7/30	.006″	.042″	1-10
2845/19	ET-22	22	19/34	.006″	.044″	1-10

SOLID CONDUCTOR

2841/1	ET-30	30	1	.006″	.022″	1-10
2842/1	ET-28	28	1	.006″	.025″	1-10
2843/1	ET-26	26	1	.006″	.028″	1-10
2844/1	ET-24	24	1	.006″	.032″	1-10



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

†T.M. DuPont.

© United Technical Publications

Mil-W-16878D Shielded Teflon Cables

alpha

DESCRIPTION: Each conductor stranded silver plated copper, Type E extruded TFE .010" insulation, braided silver plated copper shield over conductor(s), 90% coverage.

CHARACTERISTICS: Temperature rating −65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

COLOR CODE OF CONDUCTORS: 1-White, 2-Black, 3-Red, 4-Green.

NO OUTER COVERING OVER SHIELD

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Nom. Cap. in MMF Shield To Cond.	Nom. Cap. in MMF Cond. To Cond.
2809	1	24	19/36	.069"	45	—
2809/2	2	24	19/36	.112"	35	25
2809/3	3	24	19/36	.120"	35	20
2809/4	4	24	19/36	.132"	35	20
2812	1	22	19/34	.075"	55	—
2812/2	2	22	19/34	.124"	45	25
2812/3	3	22	19/34	.132"	35	25
2812/4	4	22	19/34	.146"	35	25
2815	1	20	19/32	.083"	55	—
2815/2	2	20	19/32	.142"	95	25
2815/3	3	20	19/32	.151"	85	25
2815/4	4	20	19/32	.168"	140	30
2818	1	18	19/30	.093"	70	—
2818/2	2	18	19/30	.162"	60	35
2818/3	3	18	19/30	.172"	60	35
2818/4	4	18	19/30	.192"	55	35
2807	1	16	19/29	.103"	107	—
2807/2	2	16	19/29	.184"	67	35



TEFLON IMPREGNATED FIBERGLASS BRAID OVER SHIELD

2811	1	24	19/36	.081"	45	—
2811/2	2	24	19/36	.126"	35	25
2811/3	3	24	19/36	.133"	35	20
2811/4	4	24	19/36	.144"	35	20
2814	1	22	19/34	.088"	55	—
2814/2	2	22	19/34	.137"	45	25
2814/3	3	22	19/34	.144"	35	25
2814/4	4	22	19/34	.158"	35	25
2817	1	20	19/32	.097"	55	—
2817/2	2	20	19/32	.154"	95	25
2817/3	3	20	19/32	.163"	85	25
2817/4	4	20	19/32	.180"	140	30
2819	1	18	19/30	.106"	70	—
2819/2	2	18	19/30	.174"	60	35
2819/3	3	18	19/30	.185"	60	35
2819/4	4	18	19/30	.205"	55	35
2820	1	16	19/29	.117"	107	—
2820/2	2	16	19/29	.196"	67	35



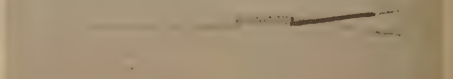
TEFLON TAPE WRAP JACKET OVER SHIELD

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Jkt. Thickness	Nom. O.D. at High Point	Nom. Cap. in MMF Shield To Cond.	Nom. Cap. in MMF Cond. To Cond.
2821	1	24	19/36	.0125"	.095"	45	—
2821/2	2	24	19/36	.0125"	.140"	35	25
2821/3	3	24	19/36	.0125"	.147"	35	20
2821/4	4	24	19/36	.0125"	.159"	35	20
2824	1	22	19/34	.0125"	.102"	55	—
2824/2	2	22	19/34	.0125"	.154"	45	25
2824/3	3	22	19/34	.0125"	.162"	35	25
2824/4	4	22	19/34	.0125"	.176"	35	25
2827	1	20	19/32	.0125"	.110"	55	—
2827/2	2	20	19/32	.0125"	.170"	95	25
2827/3	3	20	19/32	.0125"	.180"	85	25
2827/4	4	20	19/32	.0125"	.195"	140	30
2829	1	18	19/30	.0125"	.120"	70	—
2829/2	2	18	19/30	.0125"	.190"	60	35
2829/3	3	18	19/30	.0125"	.203"	60	35
2829/4	4	18	19/30	.0125"	.220"	55	35
2826	1	16	19/29	.0125"	.130"	107	—
2826/2	2	16	19/29	.0125"	.210"	67	25



TEFLON FEP EXTRUDED JACKET OVER SHIELD

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.	Nom. Cap in MMF Shield To Cond.	Nom. Cap in MMF Cond. To Cond.
2831	1	24	19/36	.010"	.010"	.085"	45	—
2831-2	2	24	19/36	.010"	.010"	.130"	35	25
2831/3	3	24	19/36	.010"	.010"	.135"	35	20
2834	1	22	19/34	.010"	.010"	.091"	55	—
2834/2	2	22	19/34	.010"	.010"	.150"	45	25
2834/3	3	22	19/34	.010"	.010"	.158"	35	25
2837	1	20	19/32	.010"	.010"	.100"	55	—
2837/2	2	20	19/32	.010"	.010"	.168"	95	25
2837/3	3	20	19/32	.010"	.010"	.178"	85	25



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

†T.M. DuPont.

© United Technical Publications

Mil-W-5086A

UNSHIELDED AIRCRAFT WIRE FOR ELECTRICAL SYSTEMS

DESCRIPTION:

MIL-W-5086A — Type I — AN-22 thru AN-12 — Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon, (polyamide) jacket overall.

MIL-W-5086A — Type II — AN-22 thru AN-12 — Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, clear nylon (polyamide) jacket overall.

MIL-W-5086A — Type II — AN-10 thru AN-0000 — Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, flame retardant nylon lacquered nylon braid overall.

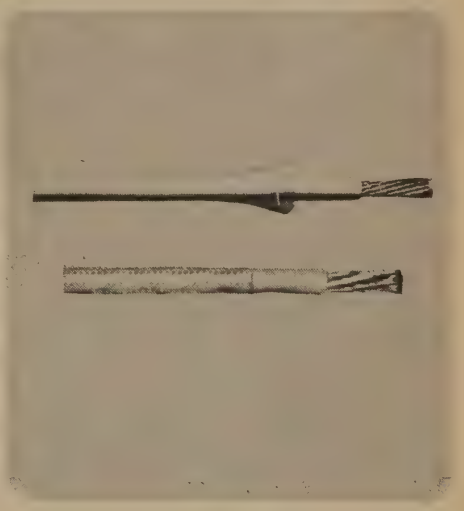
CHARACTERISTICS: Temperature Rating, −55°C to +105°C. Voltage Rating, 600 V.

UNSHIELDED (MIL-W-5086A) TYPE I

ALPHA No.	MIL Type Designation	Conductor Size	Conductor Strand	Nominal O.D.
1381	AN-22	22	19/34	.068″
1382	AN-20	20	19/32	.078″
1383	AN-18	18	19/30	.088″
1384	AN-16	16	19/29	.098″
1385	AN-14	14	19/27	.117″
1386	AN-12	12	19/25	.137″

UNSHIELDED (MIL-W-5086A) TYPE II

1341	AN-22	22	19/34	.075″
1342	AN-20	20	19/32	.085″
1343	AN-18	18	19/30	.095″
1344	AN-16	16	19/29	.105″
1345	AN-14	14	19/27	.125″
1346	AN-12	12	19/25	.143″
1387	AN-10	10	49/27	.189″
1388	AN-8	8	133/29	.240″
1389	AN-6	6	133/27	.293″
1389/4	AN-4	4	133/25	.355″
1389/2	AN-2	2	665/30	.425″
1389/0	AN-0	0	1045/30	.525″
1389/00	AN-00	00	1330/30	.590″



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

U.L. & C.S.A. Listed Hook-Up Wire

DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating (−10°C to +80°C, 300V) (−10°C to +105°C, 600V). Resistant to acids, alkalis, oil, flame, moisture and fungus. Nom. wall thickness — .016″.

STOCK COLORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate) 10-Violet (purple).

300 VOLT 80°C STYLE NO. 1007

CSA STYLE TR-64 — 1/64″ NOM. WALL THICK.

ALPHA No.	Conductor Size	Conductor Strand	Nom. O.D.
3050	24	7/32	.057″
3051	22	7/30	.065″
3053	20	10/30	.071″
3055	18	16/30	.080″
3057	16	26/30	.095″

600 VOLT* 105°C STYLE NO. 1015

CSA STYLE TEW-105 — 1/32″ NOM. WALL THICK.

ALPHA No.	Conductor Size	Conductor Strand	Nom. O.D.
3071	22	7/30	.095″
3073	20	10/30	.102″
3075	18	16/30	.112″
3077	16	26/30	.125″
3079	14	41/30	.142″

*Other striped color combinations to order.



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

Test Lead Wire

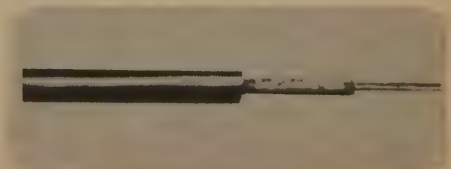
DESCRIPTION: Single conductor, extra flexible stranded tinned soft annealed copper, separator, color coded rubber insulation, smooth satin finish.

APPLICATIONS: As test leads in analyzers, oscillators, multi-meters, and all other types of testing apparatus or wherever an extra flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

Suggested operating temperature −20°C to +60°C.

ALPHA No.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Breakdown Voltage	Sugg. Working Voltage	Nom. O.D.	Stock Colors
1632	20	41/36	.040″	6,000††	1,500 V	.125″	Black, Red
1635	20	41/36	.047″	12,000††	3,000 V	.140″	Black, Red
1636	18	65/36	.045″	20,000††	5,000 V	.140″	Black, Red
1638	18	65/36	.090″	29,000††	10,000 V	.230″	Black, Red
*1639	18	65/36	.047″	20,000††	5,000 V	.145″	Black, Red, Green

*Military type specification MIL-W-13169B. ††60 Cycles.



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Rayovin Irradiated PVC Hook-Up Wire

MEETS MIL-W-16878D TYPE B AND U.L. STYLE 1429

New irradiated hook-up wire will not shrink back, melt, blow or deform when soldered. Increased abrasion and cut through resistance.

DESCRIPTION: Solid or stranded tinned copper conductor, irradiated, color coded polyvinylchloride insulation.

CHARACTERISTICS: Type B: Temperature rating 55°C to 105°C, 600 volts.
UL 1429: Temperature rating 55°C to 80°C, 300 volts.
Resistant to acids, alkalis, oil, flame, moisture, and fungus.

APPLICATIONS: The ideal hook-up wire for use in production soldering of tight high density systems.

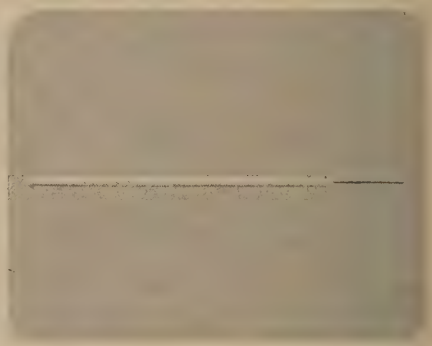
STOCK COLORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate) 10-Violet (purple).

MIL-W-16878D TYPE B

ALPHA No.	Type Desig.	Conductor Size	Conductor Strand	Nom. Wall Thick.	Nom. O.D.
7053	B26	26	7/34	.010″	.038″
7054	B24	24	7/32	.010″	.043″
7054/19	B24	24	19/36	.010″	.043″
7055	B22	22	7/30	.010″	.050″
7055/19	B22	22	19/34	.010″	.050″
7056	B20	20	7/28	.010″	.058″
7056/19	B20	20	19/32	.010″	.058″
7057	B18	18	7/26	.010″	.068″
7057/19	B18	18	19/30	.010″	.068″
7058/19	B16	16	19/.0117	.010″	.077″

U.L. STYLE 1429

ALPHA No.	Conductor Size	Conductor Strand	Nom. Wall Thick.	Nom. O.D.
7149	26	7/24	.010″	.038″
7150	24	7/32	.010″	.043″
7151	22	7/30	.010″	.050″
7153	20	7/28	.010″	.068″
7155	18	7/26	.010″	.068″
7157	16	19/.0117	.010″	.077″
7161	22	Solid	.010″	.045″
7161/24	24	Solid	.010″	.040″
7163	20	Solid	.010″	.054″



STANDARD PUT-UP: 1000 FT.

T.M. Raychem Corp.

Miniature U.L. Kynar® Insulated Hook-Up Wire

OPERATING TEMPERATURE 125°C 300 VOLTS

DESCRIPTION: Solid, silver-plated, oxygen-free, high conductivity (OFHC) copper conductor, extruded Kynar® (Polyvinylidene fluoride) insulation.

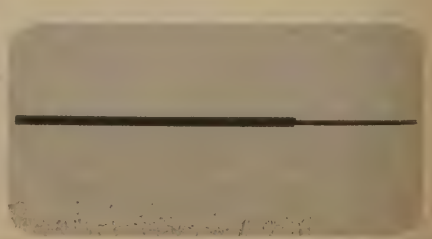
CHARACTERISTICS: Operating temperature through 125°C continuous (U.L. rated at 105°C). Extremely tough; high cut-through resistance. Self-extinguishing; will not support combustion. Resistant to most chemicals and solvents. Excellent ultra-violet and weathering resistance.

APPLICATIONS: Designed for use in automatic wire wrapping equipment for applications in the computer and related industries.

U.L. LISTING: Each spool bears U.L. Label certifying conformance to all requirements of U.L. style 1422.

STOCK COLORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Slate, 10-Violet.
Other sizes, colors and put-ups available on special order. Write for quotation.

ALPHA No.	Cond. Size	Nom. Wall Thickness	Nom. O.D.	Stock Colors
5951	30	.005″	.020″	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
5953	26	.005″	.026″	1, 3, 4, 5, 6, 9
5954	24	.005″	.030″	1, 3, 4, 5, 6



STANDARD PUT-UP: 1000 ft. on a specially designed spool incorporating an extra large diameter core, minimizing "sets" caused by small bend radius.

® RG. T.M. Pennsalt

© United Technical Publications

Unshielded Audio Cable

MULTI-CONDUCTOR — PLASTIC JACKET

alpha

DESCRIPTION: Each conductor, solid or stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

APPLICATIONS: Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Electronic computer cable. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C.

COLOR CODE OF CONDUCTORS*: 1-Black, 2-Red, 3-White, 4-Green, 5-Orange, 6-Blue, 7-Brown, 8-Yellow, 9-Purple, 10-Slate, 11-Pink, 12-Tan, 13-Red/Green, 14-Red/Yellow, 15-Red/Black, 16-White/Black, 17-White/Red, 18-White/Green, 19-White/Yellow, 20-White/Blue, 21-White/Brown, 22-White/Orange, 23-White/Gray, 24-White/Violet, 25-White/Black/Red, 26-White/Black/Green, 27-White/Black/Yellow, 28-White/Black/Blue, 29-White/Black/Brown, 30-White/Black/Orange, 31-White/Black/Slate, 32-White/Black/Purple, 33-White/Black/Black, 34-White/Red/Black, 35-White/Red/Red, 36-White/Red/Green, 37-White/Red/Blue, 38-White/Red/Brown, 39-White/Red/Purple, 40-White/Green/Black, 41-White/Green/Red, 42-White/Green/Green, 43-White/Green/Blue, 44-White/Green/Brown, 45-White/Green/Purple, 46-White/Blue/Black, 47-White/Blue/Red, 48-White/Blue/Green, 49-White/Blue/Blue, 50-White/Blue/Brown, 51-White/Blue/Purple, 52-White/Brown/Black, 53-White/Brown/Red, 54-White/Brown/Green, 55-White/Brown/Blue, 56-White/Brown/Brown, 57-White/Brown/Purple, 58-White/Purple/Red, 59-White/Purple/Green, 60-White/Purple/Blue.

200 VOLTS

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1172	2	22	7/30	.010″	.020″	.140″
1173	3	22	7/30	.010″	.020″	.145″
1174	4	22	7/30	.010″	.020″	.170″
1175	5	22	7/30	.010″	.020″	.175″
1176	6	22	7/30	.010″	.020″	.185″
1177	7	22	7/30	.010″	.020″	.190″
1178	8	22	7/30	.010″	.020″	.200″
1179	9	22	7/30	.010″	.020″	.225″
1180	10	22	7/30	.010″	.020″	.235″
1181	12	22	7/30	.010″	.020″	.255″
1181/15	15	22	7/30	.010″	.020″	.280″
1181/20	20	22	7/30	.010″	.020″	.310″
1181/25	25	22	7/30	.010″	.020″	.340″
1181/30	30	22	7/30	.010″	.020″	.365″
1181/40	40	22	7/30	.010″	.025″	.425″
1181/50	50	22	7/30	.010″	.035″	.500″
1181/60	60	22	7/30	.010″	.035″	.530″

350 VOLTS

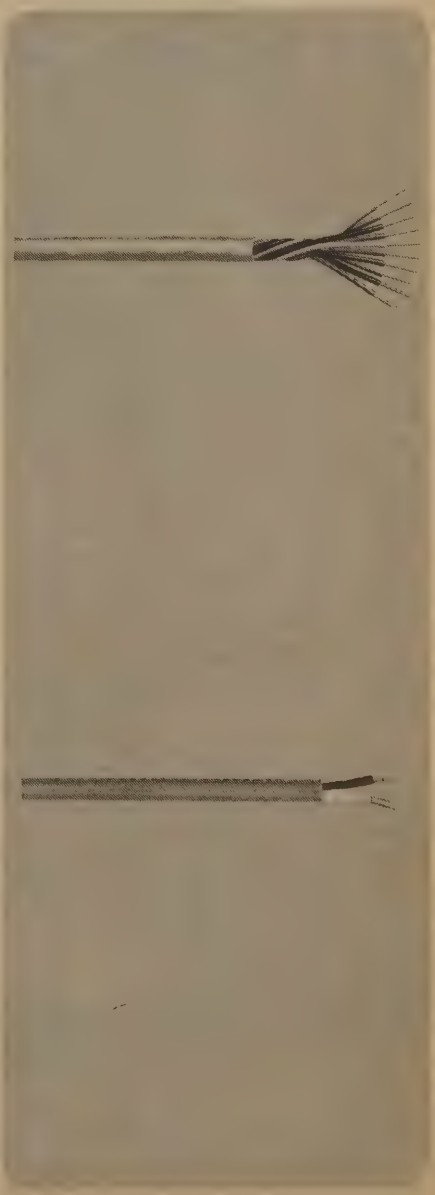
1895	2	20	10/30	.016″	.020″	.180″
1896	3	20	10/30	.016″	.020″	.190″
1896/4	4	20	10/30	.016″	.020″	.215″
1897	2	18	16/30	.016″	.020″	.200″
1898	3	18	16/30	.016″	.020″	.210″
1898/4	4	18	16/30	.016″	.020″	.240″
1898/6	6	18	16/30	.016″	.020″	.290″
1898/8	8	18	16/30	.016″	.025″	.315″
1899	2	16	26/30	.016″	.020″	.225″
1891	2	14	41/30	.016″	.020″	.260″
1891/3	3	14	41/30	.016″	.020″	.280″

SOLID

1793	2	22	1	.010″	.020″	.130″
1794	3	22	1	.010″	.020″	.140″
1795	2	20	1	.016″	.020″	.170″
1797	2	18	1	.016″	.020″	.190″

MULTI-CONDUCTOR COMBINED SIZES

1826	6	4 x 22	7/30	.010″	.025″	.222″
	6	2 x 18	16/30	.018″	.025″	.222″
1827	7	5 x 22	7/30	.010″	.028″	.246″
	7	2 x 18	16/30	..18″	.028″	.246″
1828	8	6 x 22	7/30	.010″	.028″	.250″
	8	2 x 18	16/30	.018″	.028″	.250″



*Note: Color code of 1826, 1827, 1828 follow table at top, with 18 AWG Conductors colored Black and Red, remaining 22 AWG Conductors colored White, Green, Orange, etc.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Plastic Jacketed Intercom Cable

alpha

PAIRED CONDUCTORS — UNSHIELDED

DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted into pairs, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

APPLICATIONS: Balanced intercom systems. Annunciators. Telephones. Nurses call systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. Alarm systems.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Suggested operating voltage 200 volts.

COLOR CODE OF CONDUCTORS: 1-Black p.w. Red, 2-Black p.w. White, 3-Black p.w. Green, 4-Black p.w. Blue, 5-Black p.w. Brown, 6-Black p.w. Yellow, 7-Black p.w. Orange, 8-Red p.w. Green, 9-Red p.w. White, 10-Red p.w. Blue, 11-Red p.w. Yellow, 12-Red p.w. Brown, 13-Red p.w. Orange, 14-Green p.w. Blue, 15-Green p.w. White, 16-Green p.w. Brown, 17-Green p.w. Orange, 18-Green p.w. Yellow, 19-White p.w. Blue, 20-White p.w. Brown, 21-White p.w. Orange, 22-White p.w. Yellow, 23-Blue p.w. Brown, 24-Blue p.w. Orange, 25-Blue p.w. Yellow, 26-Brown p.w. Orange, 27-Brown p.w. Yellow, 28-Purple p.w. Red, 29-Purple p.w. White, 30-Purple p.w. Green, 31-Purple p.w. Blue, 32-Purple p.w. Brown, 33-Purple p.w. Yellow, 34-Purple p.w. Orange, 35-Purple p.w. Slate, 36-Purple p.w. Black, 37-Slate p.w. Red, 38-Slate p.w. White, 39-Slate p.w. Green, 40-Slate p.w. Blue, 41-Slate p.w. Brown, 42-Slate p.w. Yellow, 43-Slate p.w. Orange, 44-Slate p.w. Black, 45-White/Black p.w. Red, 46-White/Black p.w. Green, 47-White/Black p.w. Blue, 48-White/Black p.w. Brown, 49-White/Black p.w. Yellow, 50-White/Black p.w. Orange, 51-White/Black p.w. Purple.

NOTE: p.w. = paired with.

SOLID CONDUCTORS

ALPHA No.	No. of Pairs	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1300	1	2	22 Solid	1	.010″	.020″	.130″
1302	2	4	22 Solid	1	.010″	.020″	.195″
1304	3	6	22 Solid	1	.010″	.020″	.220″
1307	6	12	22 Solid	1	.010″	.020″	.275″
1307/9	9	18	22 Solid	1	.010″	.020″	.310″
1309	13	26	22 Solid	1	.010″	.025″	.380″
1309/15	15	30	22 Solid	1	.010″	.025″	.400″
1310	16	32	22 Solid	1	.010″	.025″	.420″
1313	27	54	22 Solid	1	.010″	.035″	.510″
1313/31	31	62	22 Solid	1	.010″	.035″	.555″
1313/41	41	82	22 Solid	1	.010″	.035″	.630″
1314	51	102	22 Solid	1	.010″	.045″	.735″

STRANDED CONDUCTORS

1316	1	2	22	7/30	.010″	.020″	.145″
1317	2	4	22	7/30	.010″	.020″	.210″
1318	3	6	22	7/30	.010″	.020″	.225″
1319	4	8	22	7/30	.010″	.020″	.240″
1320	5	10	22	7/30	.010″	.020″	.265″
1322	6	12	22	7/30	.010″	.020″	.290″
1323	9	18	22	7/30	.010″	.020″	.355″
1324	11	22	22	7/30	.010″	.020″	.365″
1327	15	30	22	7/30	.010″	.025″	.450″
1327/19	19	38	22	7/30	.010″	.025″	.480″
1329	27	54	22	7/30	.010″	.035″	.570″
1329/41	41	82	22	7/30	.010″	.040″	.710″



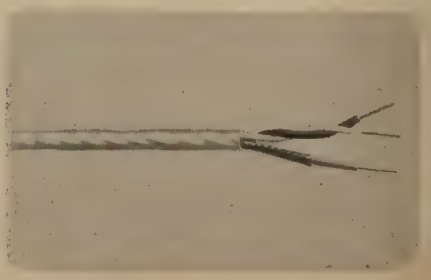
MULTI-CONDUCTOR — SHIELDED

DESCRIPTION: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, braided tinned copper shield (See Chart) over one, two, or three conductors, remaining conductors unshielded and paired, chrome polyvinylchloride jacket overall.

APPLICATIONS: General wiring from station to station where shielded conductor(s) is essential to eliminate cross talk. 1243: Recommended for unbalanced system with remote "break-in." 1243/4: Recommended for balanced systems. 1243/6: Recommended for circuits requiring complete isolation.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Suggested operating voltage 350 volts.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	No. Cond. Shield	Nom. Wall Thick.	Nom. Jkt.	Nominal O.D.	Color Code of Cond.
1243	3	22	7/30	1	.016″	.025″	.200″	White Shielded Black, Red Unshielded
1243/4	4	22	7/30	2	.016″	.030″	.180″ x .285″	Black, White Shielded Black, Red Unshielded
1243/6	4	22	7/30	2 Pair	.016″	.030″	.180″ x .315″	Black, White Shielded Black, Red Shielded



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Shielded Plastic Jacketed Cable

alpha

DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted. Spiral wrapped or braided copper shield. .020" gray polyvinylchloride jacket overall. Suitable for outdoor installations.

CHARACTERISTICS: Spiral shield makes pigtailing off extremely simple and fast. Excellent for production line work. Provides 85% shielded coverage for audio and RF frequencies. Braided shield provides approximately 75% coverage; is particularly desirable where flexibility is required. The copper shield allows ease of pigtail soldering. Shield construction provides additional cable strength. Operating temperature −20°C to +60°C.

APPLICATIONS: For public address and sound systems, ideal for recording studios, amateur radio transmitters, shielded power or electronic circuits, wherever an economical shielded cable is required.

COLOR CODE OF CONDUCTORS: 1-Black, 2-Red, 3-White, 4-Green, 5-Yellow, 6-Blue.

SPIRAL WRAPPED COPPER SHIELD

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nominal O.D.	Sugg. Working Voltage
2254/1	1	22	7/30	.016"	.115"	350V
2254	2	22	7/30	.016"	.175"	350V
2254/3	3	22	7/30	.016"	.190"	350V
2254/4	4	22	7/30	.016"	.200"	350V
2254/6	6	22	7/30	.016"	.235"	350V
2256/1	1	20	10/30	.016"	.130"	350V
2256	2	20	10/30	.016"	.195"	350V
2256/3	3	20	10/30	.016"	.210"	350V
2256/4	4	20	10/30	.016"	.225"	350V
2256/6	6	20	10/30	.016"	.265"	350V
2258/1	1	18	16/30	.016"	.135"	350V
2258	2	18	16/30	.016"	.230"	350V
2258/3	3	18	16/30	.016"	.235"	350V
2258/4	4	18	16/30	.016"	.245"	350V
2260	2	16	26/30	.016"	.240"	350V
2260/3	3	16	26/30	.016"	.245"	350V
2265	2	14	41/30	.020"	.285"	450V



BRAIDED COPPER SHIELD — STRANDED

1736	2	22	7/30	.016"	.185"	350V
1737	3	22	7/30	.016"	.200"	350V
1738	4	22	7/30	.016"	.210"	350V
1741	2	20	10/30	.016"	.200"	350V
1742	3	20	10/30	.016"	.220"	350V
1746	2	18	16/30	.016"	.235"	350V
1747	3	18	16/30	.016"	.245"	350V
1748	2	16	26/30	.016"	.250"	350V
1750	2	14	41/30	.020"	.290"	450V
1751	3	14	41/30	.020"	.295"	450V
1760	2	12	65/30	.020"	.335"	450V

BRAIDED COPPER SHIELD — SOLID

1775*	2	22	1	.016"	.175"	350V

*With 22 AWG solid tinned copper ground wire under braided copper shield.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Shielded Audio & Data Cable

alpha

INDIVIDUALLY SHIELDED MULTIPLE PAIRS—PLASTIC JACKET

DESCRIPTION: Each conductor, tinned copper, color coded, high density polyethylene, conductors twisted into pairs. 22 gauge tinned copper drain wire. Mylar-supported aluminum foil shield, aluminum facing inward. Chrome Grey PVC jacket overall.

CHARACTERISTICS: Mutual conductance between conductors of a pair, 25 pf/ft. Capacitance of a single conductor to shield, 45 pf/ft.

APPLICATIONS: For audio, R.F. and pulse applications requiring superior circuit isolation.

COLOR CODE OF CONDUCTORS: 1-Black p.w. Red, 2-Black p.w. White, 3-Black p.w. Green, 4-Black p.w. Blue, 5-Black p.w. Brown, 6-Black p.w. Yellow, 7-Black p.w. Orange, 8-Red p.w. Green, 9-Red p.w. White, 10-Red p.w. Blue, 11-Red p.w. Yellow, 12-Red p.w. Brown, 13-Red p.w. Orange, 14-Green p.w. Blue, 15-Green p.w. White, 16-Green p.w. Brown, 17-Green p.w. Orange, 18-Green p.w. Yellow, 19-White p.w. Blue, 20-White p.w. Brown, 21-White p.w. Orange, 22-White p.w. Yellow, 23-Blue p.w. Brown, 24-Blue p.w. Orange, 25-Blue p.w. Yellow, 26-Brown p.w. Orange, 27-Brown p.w. Yellow.

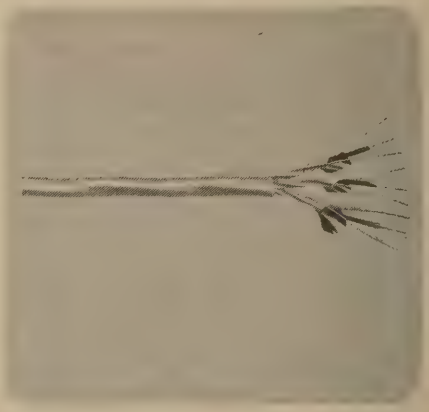
NOTE: p.w. = paired with.

#22 — SOLID

ALPHA No.	No. of Pairs	Number of Cond.	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
6002	6	12	1	.010″	.030″	.318″
6004	9	18	1	.010″	.030″	.371″

#22 — STRANDED

6010	3	6	7/30	.010″	.025″	.252″
6012	6	12	7/30	.010″	.030″	.342″
6014	9	18	7/30	.010″	.035″	.410″
6016	11	22	7/30	.010″	.040″	.457″
6018	15	30	7/30	.010″	.040″	.523″
6020	19	38	7/30	.010″	.050″	.570″
6022	27	54	7/30	.010″	.055″	.687″



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

Shielded Plastic Jacketed Cable

MYLAR SUPPORTED ALUMINUM FOIL SHIELD

DESCRIPTION: Each conductor stranded tinned copper, color, coded polyethylene insulation, conductors cabled, wrapped mylar supported aluminum foil shield, 100% coverage with drain wire* laid parallel, aluminum foil facing outward to provide maximum ground, gray PVC jacket overall.

CHARACTERISTICS: Operating temperature −20°C to +60°C. Operating voltage 400 volts. Lightweight, reduces cable diameter, and provides 100% shield coverage.

COLOR CODE OF CONDUCTORS: 1-Black, 2-Red, 3-White, 4-Green.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
2402	2	22	7/30	.016″	.020″	.195″
2403	3	22	7/30	.016″	.020″	.210″
2404	4	22	7/30	.016″	.020″	.225″
2412	2	20	10/30	.016″	.020″	.210″
2413	3	20	10/30	.016″	.020″	.225″
2414	4	20	10/30	.016″	.020″	.240″
2422	2	18	16/30	.016″	.020″	.230″
2423	3	18	16/30	.016″	.020″	.245″
2424	4	18	16/30	.016″	.020″	.265″
2432	2	16	26/30	.016″	.020″	.255″
2433	3	16	26/30	.016″	.020″	.275″
2442	2	14	41/30	.016″	.020″	.290″
2443	3	14	41/30	.016″	.020″	.310″



*24 AWG solid tinned copper.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Hi-Fi & Stereo Interconnecting Cable Phono Wire

DESCRIPTION: 1115 and 1116 — Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted.
1101-1107 — Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted with an extra tight lay for flexibility. When shielded, the overall shield has been specially designed for extreme limpness so as not to impede the movement of the phono arm when tracking.
CHARACTERISTICS: Suggested operating temperature −55°C to +105°C.

UNSHIELDED

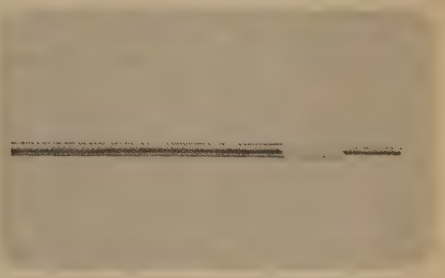
ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. O.D.	Sugg. Oper. Voltage	Color Code
1115	2	30	7/38	.010″	.065″	200V	Black & Red
1116	3	30	7/38	.010″	.070″	200V	Blk., Red & White

STEREO — UNSHIELDED

1101	3	32	7/40	.010″	.053″	200V	Blk., Red & White
1102	4	32	7/40	.010″	.061″	200V	Blk., Red, Wh. & Gr.

STEREO — SHIELDED

1105	2	32	7/40	.010″	.055″	200V	Black & Red
1107	4	32	7/40	.010″	.068″	200V	Blk., Red, Wh. & Gr.



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

Miniature Shielded Cable Clear Plastic Jacket

DESCRIPTION: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, fine braided tinned copper shield overall, clear polyvinylchloride jacket overall.
CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Suggested operating voltage 200 Volts.
COLOR CODE OF CONDUCTORS: 1-Black, 2-Red, 3-White, 4-Green.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1120	2	28	7/36	.010″	.010″	.105″
1121	3	28	7/36	.010″	.010″	.115″
1122	4	28	7/36	.010″	.010″	.120″

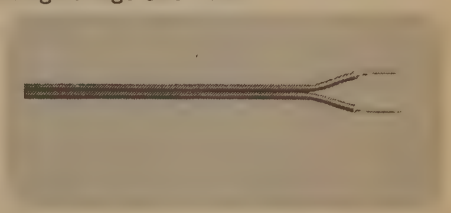


STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

Plastic Speaker Cable Colored & Clear Insulation

DESCRIPTION: Conductors parallel, stranded bare copper, color coded polyvinylchloride insulation, conductors separate easily when slit apart.
APPLICATION: Hi-Fi speaker cable, miniature juke box speaker connection and rear auto speaker extension cable. Clear insulation will blend with interior room decor.
CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Operating voltage 300 Volts.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nominal O.D.	Stock Colors
1944	2*	24	7/32	.016″	.057″ x .120″	Brn., Blk., Wh., Gray, Tan
1945	2*	24	7/32	.016″	.057″ x .120″	Clear
1948	2*	22	Solid	.016″	.057″ x .120″	Chrome
1949	2*	20	7/28	.020″	.073″ x .146″	Chrome, Clear
1977	2	18	41/34	.032″	.115″ x .215″	Brn., Blk., Wh., Gray, Clear
1979†	2	18	41/34	.032″	.115″ x .215″	Clear



*1 Conductor Tinned, 1 Bare.
†U.L. Listed (see page ??? for complete listing of U.L. Types).
STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

Twisted Conductors (unjacketed) Vinyl Insulation

ALPHA No.	No. of Cond	Conductor AWG & Stranding	Insul. Thick.	Nom. O.D.	Conductor Color Coding	Sugg. Working Voltage	
1902	2	22 (Solid) BC	.016″	.112″	Brown, Tan	350V	
1920	2	18 (7/26) TC	.020″	.175″	Black, White	450V	
1926	2	16 (19/29) TC	.023″	.195″	Black, White	600V	
1913	2	22 (Solid)	.025″	.150″	Ivory or Brown		One Cond. Tinned
1914	2	22 (7/30)	.025″	.160″	Ivory or Brown		One Cond. Bare



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Shielded Microphone Cable
PLASTIC JACKET

DESCRIPTION: 1702-1706 — Single conductor, stranded tinned copper, white polyethylene insulation, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

1709-1712 — Each conductor stranded tinned copper, color coded polyethylene insulation, cabled with fillers, textile wrap, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

APPLICATIONS: 1702-1706 — All high impedance microphones, lapel, ribbon, velocity, crystal contact, hi-fi interconnecting cables.

1709-1712 — All low impedance microphones — carbon, condenser, dynamic.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	*Capacity Nom./ Ft.	Sugg. Working Voltage	Type of Shield	Nom. Jkt. Thickness	Nom. O.D.
1702	1	26	3/34† 4/34†	.016″	38 mmf.	1000	Spiral Wrapped	.020″	.110″
1703	1	24	10/34	.020″	35 mmf.	3500	Braided	.030″	.145″
1704	1	24	10/34	.040″	23 mmf.	5000	Braided	.030″	.190″
1705	1	24	10/34	.016″	45 mmf.	1000	Spiral Wrapped	.020″	.110″
1706	1	20	26/34	.030″	36 mmf.	4000	Braided	.030″	.175″
1709	2	24	10/34	.016″	38 mmf.	1000	Spiral Wrapped	.030″	.190″
1710	2	22	16/34	.025″	31 mmf.	1000	Braided	.025″	.230″
1712	2	20	26/34	.015″	45 mmf.	600	Braided	.030″	.245″

*Between one conductor and remaining conductors connected to shield.
†Three strands of tinned copper and four strands of tinned copperweld.



CELLULAR FOAM POLYETHYLENE INSULATION — PLASTIC JACKET

DESCRIPTION: Single conductor, stranded tinned copper, white foam polyethylene insulation, braided tinned copper shield, chrome gray polyvinylchloride jacket. Two conductors, stranded tinned copper, color coded foam polyethylene insulation, 1 white and 1 black, cabled with fillers, textile wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Low loss foam polyethylene provides lower capacitance and attenuation than standard solid polyethylene microphone cables, thereby increasing the effective length of usable cable without loss of signal.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	*Capacity Nom./Ft.	Nom. Jkt. Thickness	Nom. O.D.
2311	1	24	10/34	.035″	20 mmf.	.030″	.180″
2312	1	24	10/34	.055″	15 mmf.	.030″	.225″
2323	2	22	16/34	.035″	††	.030″	.300″

*Between one conductor and remaining conductors connected to shield. ††Cond. to shield = 19 mmf. Cond. to Cond. = 12 mmf.

RUBBER AND NEOPRENE JACKETS

DESCRIPTION: Each conductor stranded tinned copper, color coded rubber insulation, cotton wrap, braided tinned copper shield, tough black rubber or neoprene jacket overall.

APPLICATIONS: 1248-1449 — All high impedance microphone, broadcast and heavy duty studio use, communication and audio systems.
1250-1450/16 — All low impedance microphone, broadcast and heavy duty studio use. Can also be used for control circuits, video and audio interconnection cable, and as electronic power cables.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Rubber jacketed cable suited for standard duty indoor use. Neoprene jacketed cable suited for heavy duty outdoor use and direct burial. Will resist oil, acid, sunlight, aging and abrasion.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Type of Jkt.	*Nom. Cap. MMF/Ft.	Nom. O.D.
1248†	1	20	26/34	.025″	.030″	Rubber	97	.190″
1249	1	20	26/34	.040″	.035″	Rubber	60	.230″
1249/18	1	18	41/34	.040″	.035″	Rubber	69	.240″
1449	1	18	41/34	.040″	.035″	Neoprene	69	.240″
1250	2	20	26/34	.020″	.035″	Rubber	68	.270″
1250/18	2	18	41/34	.020″	.035″	Rubber	78	.295″
1450	2	18	41/34	.020″	.035″	Neoprene	78	.295″
1450/16	2	16	65/34	.025″	.035″	Neoprene	82	.335″

*Between one conductor and remaining conductors connected to shield.
†Mylar wrap under tinned copper shield.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1-White, 2-Black.

© United Technical Publications

Unshielded Control Cable

alpha

HEAVY-DUTY MULTI-CONDUCTOR RUGGED NEOPRENE JACKET
600 VOLTS

DESCRIPTION: Each conductor stranded bare copper, color coded rubber insulation, cabled with fillers where necessary, wrap over conductors, heavy duty black neoprene jacket overall. 600 volt operating voltage.

APPLICATIONS: Remote control of automatic electrical equipment and sub-stations, telemetering, voltage pressure and motor control, signal transmission. Flexible heavy duty neoprene jacketed cable, recommended for outside installation, cable resists oil, ozone, sunlight, moisture, abrasion and impact.

COLOR CODE: The color code of neoprene jacketed control cables conforms to I.P.C.E.A. standards either with full color code or surface printed with color name and number.

18 GAUGE — #41/34 BARE COPPER — 2/64" INSULATION THICKNESS

ALPHA No.	No. of Cond.	Nom. Jkt. Thickness	Nom. O.D.
4505	5	.078"	.485"
4506	6	.078"	.510"
4508	8	.078"	.560"
4509	9	.078"	.595"
4510	10	.078"	.620"
4514	14	.094"	.710"

16 GAUGE #65/34 BARE COPPER — 2/64" INSULATION THICKNESS

4605	5	.078"	.520"
4606	6	.078"	.540"
4607	7	.078"	.540"
4608	8	.078"	.580"
4610	10	.094"	.720"
4612	12	.094"	.745"
4614	14	.094"	.765"
4616	16	.094"	.810"
4619	19	.094"	.840"
4620	20	.094"	.890"
4622	22	.094"	.920"
4624	24	.109"	1.000"
4626	26	.109"	1.030"
4630	30	.109"	1.080"
4637	37	.109"	1.130"
4640	40	.109"	1.210"
4644	44	.109"	1.275"
4650	50	.125"	1.320"
4660	60	.125"	1.470"



14 GAUGE #41/30 BARE COPPER — 3/64" INSULATION THICKNESS

4705	5	.095"	.675"
4706	6	.094"	.705"
4707	7	.094"	.710"
4708	8	.094"	.760"
4709	9	.094"	.810"
4710	10	.094"	.870"
4712	12	.094"	.900"

12 GAUGE #65/30 BARE COPPER — 3/64" INSULATION THICKNESS

4805	5	.094"	.740"
4806	6	.094"	.790"
4807	7	.094"	.790"
4808	8	.094"	.820"
4809	9	.109"	.900"
4810	10	.109"	1.010"
4812	12	.109"	1.040"
4816	16	.109"	1.160"
4818	18	.109"	1.220"

10 GAUGE #104/30 BARE COPPER — 3/64" INSULATION THICKNESS

4825	5	.094"	.800"
4826	6	.094"	.850"
4828	8	.094"	.910"
4830	10	.109"	1.120"

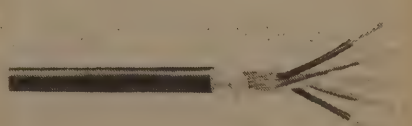
STANDARD SPOOL PUT-UP: CUT TO SPECIFIC LENGTHS — MIN. 25 FT. ALL ORDERS — NON-CANCELLABLE

GENERAL PURPOSE MULTI-CONDUCTOR RUBBER INSULATED & RUBBER JACKET

DESCRIPTION: Each conductor stranded tinned copper, color coded rubber insulation, cabled with fillers, where necessary, cotton wrap, tough black rubber jacket overall.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Slate, 10-Purple, 11-White/Black (Braid), 12-White/Red (Braid), 13-White/Green (Braid), 14-White/Yellow (Braid), 15-White/Blue (Braid), 16-White/Brown (Braid), 17-White/Purple (Braid) 18-White/Slate (Braid), 19-Black/Red (Braid), 20-Black/Yellow (Braid).



ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1244	2	20	26/34	.020"	.035"	.240"
1245	3	20	26/34	.020"	.035"	.255"
1246	4	20	26/34	.020"	.035"	.275"
1247	5	20	26/34	.020"	.035"	.300"
1247/6	6	20	26/34	.020"	.035"	.315"
1247/8	8	20	26/34	.020"	.035"	.360"
1247/10	10	20	26/34	.020"	.035"	.410"
1247/12	12	20	26/34	.020"	.035"	.435"
1247/15	15	20	26/34	.020"	.035"	.505"
1247/20	20	20	26/34	.020"	.035"	.570"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Unshielded Station Control Cable

alpha

HEAVY-DUTY MULTI-CONDUCTOR PLASTIC JACKET
600 VOLTS

DESCRIPTION: Each conductor, stranded bare copper, polyethylene insulation,* .010" polyvinylchloride jacket over each conductor, color coded, cabled with fillers where necessary, moisture resistant tape, black polyvinylchloride jacket overall. 600 volt operating voltage.

APPLICATIONS: Remote control of automatic electrical equipment, recording and relaying devices, telemetering, switchgear operations and indicators, substation operation, temperature voltage, pressure and motor control, dimensional tolerance on automatic quality control.

COLOR CODE: The color code of Plastic-jacketed control cables conforms to I.P.C.E.A. standards either with full color code or surface printed with color name and number.

*16 gauge — .015" Polyethylene Insulation. 14 & 12 gauge — .020" Polyethylene Insulation.

16 GAUGE — 26/30 BARE COPPER

ALPHA No.	No. of Cond.	Nom. Jkt. Thickness	Nom. O.D.
4102	2	.045"	.320"
4103	3	.045"	.340"
4105	5	.045"	.400"
4106	6	.045"	.435"
4107	7	.045"	.435"
4108	8	.045"	.480"
4110	10	.060"	.580"
4112	12	.060"	.590"
4114	14	.060"	.605"
4116	16	.060"	.665"

ALPHA No.	No. of Cond.	Nom. Jkt. Thickness	Nom. O.D.
4119	19	.060"	.690"
4121	21	.060"	.735"
4122	22	.060"	.760"
4124	24	.060"	.805"
4126	26	.060"	.805"
4130	30	.080"	.900"
4137	37	.080"	.965"
4140	40	.080"	1.010"
4150	50	.080"	1.100"
4160	60	.080"	1.200"



14 GAUGE — 19/27 BARE COPPER

4202	2 Rd.	.045"	.380"
4203	3 Rd.	.045"	.390"
4204	4	.045"	.425"
4205	5	.045"	.465"
4206	6	.045"	.520"
4207	7	.045"	.520"
4208	8	.060"	.580"
4209	9	.060"	.635"
4210	10	.060"	.690"
4212	12	.060"	.705"

4214	14	.060"	.750"
4216	16	.060"	.785"
4219	19	.060"	.835"
4224	25	.080"	1.010"
4227	27	.080"	1.200"
4230	30	.080"	1.070"
4234	34	.080"	1.140"
4237	37	.080"	1.160"
4240	40	.080"	1.175"

12 GAUGE — 19/25 BARE COPPER

4302	2 Twin	.045"	.415"
4303	3 Rd.	.045"	.445"
4304	4	.045"	.485"
4305	5	.045"	.530"
4306	6	.045"	.610"
4307	7	.060"	.610"
4308	8	.060"	.660"
4309	9	.060"	.700"
4310	10	.060"	.770"
4312	12	.060"	.790"
4314	14	.060"	.830"

4315	15	.080"	.915"
4316	16	.080"	.915"
4318	18	.080"	.970"
4319	19	.080"	.970"
4320	20	.080"	1.020"
4322	22	.080"	1.050"
4325	25	.080"	1.130"
4327	27	.080"	1.050"
4330	30	.080"	1.200"
4334	34	.080"	1.270"
4337	37	.080"	1.285"

STANDARD SPOOL PUT-UP: CUT TO SPECIFIC LENGTHS — ALL ORDERS NON-CANCELLABLE

© United Technical Publications

Shielded Control Cable

alpha

DESCRIPTION: Each conductor, stranded tinned copper, color coded rubber insulation, cabled with fillers where necessary, cotton wrap, braided tinned copper shield, tough black rubber or heavy duty black neoprene jacket overall or heavy.

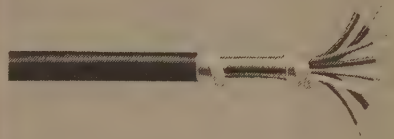
CHARACTERISTICS: Suggested operating temperature −20°C to +60°C.

APPLICATIONS: Cables are extremely flexible for control circuits, video and audio inter-connecting cable, broadcast and heavy duty studio use. Neoprene jackets for outdoor use or where subjected to abuse.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Slate, 10-Purple, 11-White/Black (Braid), 12-White/Red (Braid), 13-White/Green (Braid), 14-White/Yellow (Braid), 15-White/Blue (Braid), 16-White/Brown (Braid), 17-White/Purple (Braid), 18-White/Slate (Braid), 19-Black/Red (Braid), 20-Black/Yellow (Braid).

GENERAL PURPOSE MULTI-CONDUCTOR RUBBER INSULATED AND RUBBER JACKET

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1250/18	2	18	41/34	.020″	.035″	.295″
1250	2	20	26/34	.020″	.035″	.270″
1251	3	20	26/34	.020″	.035″	.285″
1252	4	20	26/34	.020″	.035″	.305″
1253	5	20	26/34	.020″	.035″	.330″
1254	6	20	26/34	.020″	.035″	.345″
1255/8	8	20	26/34	.020″	.035″	.385″
1255/10	10	20	26/34	.020″	.035″	.440″
1255/12	12	20	26/34	.020″	.065″	.525″
1255/15	15	20	26/34	.020″	.065″	.595″
1255/20	20	20	26/34	.020″	.065″	.660″



HEAVY-DUTY MULTI-CONDUCTOR RUGGED NEOPRENE JACKET

1450	2	18	41/34	.020″	.035″	.295″
1451	3	18	41/34	.020″	.035″	.305″
1452	4	18	41/34	.020″	.035″	.330″
1454	6	18	41/34	.020″	.035″	.370″
1456	8	18	41/34	.020″	.035″	.420″
1458	10	18	41/34	.020″	.035″	.480″
1459	12	18	41/34	.020″	.065″	.555″
1459/15	15	18	41/34	.020″	.065″	.640″
1459/20	20	18	41/34	.020″	.065″	.730″
1450/16	2	16	65/34	.025″	.035″	.335″
1451/16	3	16	65/34	.025″	.035″	.355″
1452/16	4	16	65/34	.025″	.035″	.385″
1400	2	14	41/30	.030″	.040″	.395″
1401	3	14	41/30	.030″	.040″	.425″
1410	2	12	65/30	.030″	.040″	.440″



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

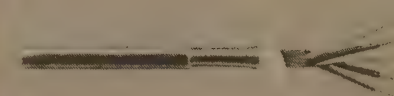
GENERAL PURPOSE MULTI-CONDUCTOR PLASTIC JACKETED CABLE

DESCRIPTION: Each conductor stranded tinned copper, color coded, polyethylene insulation, cabled with fillers where necessary, rayon wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket overall.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Suggested operating voltage 600 Volts.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Slate, 10-Purple, 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Purple, 18-White/Slate, 19-Black/Red, 20-Black/Yellow.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jkt. Thickness	Nom. O.D.
1712	2	20	26/34	.015″	.030″	.245″
1713	3	20	26/34	.015″	.035″	.250″
1715	4	20	26/34	.015″	.035″	.260″
1716	5	20	26/34	.015″	.035″	.275″
1717	6	20	26/34	.015″	.035″	.300″
1719	8	20	26/34	.015″	.035″	.330″
1721	10	20	26/34	.015″	.035″	.375″
1723	12	20	26/34	.015″	.035″	.380″
1726	15	20	26/34	.015″	.035″	.410″
1728	20	20	26/34	.015″	.035″	.455″



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

© United Technical Publications

Alpha RG Cable Types

POLYETHYLENE DIELECTRIC

ALL TYPES LISTED CONFORM TO LATEST REVISION MIL-C-17: C-Bare Copper, TC-Tinned Copper, SC-Silver Covered Copper, CW-Copper Covered Steel, PE-Solid Polyethylene, SSP-Semi Solid Polyethylene, BP-Black Polyethylene—Type IIIA, NP-Natural Polyethylene—Type III, V-Polyvinylchloride—Type I, NCV-Non-Contaminating Polyvinylchloride—Type IIA.

ALPHA No.	RG Cable Type	Inner Conductor Mat.	Inner Conductor Strand	Inner Conductor Nom. O.D.	Dielectric Mat.	Dielectric O.D.	Shields Inner	Shields Outer	O.D.	Jacket Mat.	Jacket O.D.	Armor (.0126 Alum. Wire)	Opr. Volts RMS	Lbs. Per M/Ft.	Nom. Imped. Ohms	Nom. Cap. MMF/Ft.
9006A	6A/U	CW	1	.0285	PE	.189	SC	C	.264	NCV	.336		2700	74	75	20
9008	8/U	C	7/.0285	.086	PE	.295	C	—	.340	V	.415		5000	105	52	29.5
9008A	8A/U	C	7/.0285	.086	PE	.295	C	—	.340	NCV	.415		5000	99	52	29.5
9009B	9B/U	SC	7/.0285	.086	PE	.285	SC	SC	.355	NCV	.430		5000	126	50	30
9011	11/U	TC	7/.0159	.048	PE	.295	C	—	.340	V	.415		5000	94	75	20.5
9011A	11A/U	TC	7/.0159	.048	PE	.292	C	—	.340	NCV	.412		5000	89	75	20.5
9012A	12A/U	TC	7/.0159	.048	PE	.292	C	—	.340	NCV	.412	.475	5000	113	75	20.5
9014A	14A/U	C	1	.102	PE	.383	C	C	.463	NCV	.558		7000	201	52	29.5
9017A	17A/U	C	1	.188	PE	.695	C	—	.760	NCV	.885		11000	462	52	29.5
9019A	19A/U	C	1	.250	PE	.925	C	—	.990	NCV	1.135		14000	720	52	29.5
9022B	22B/U	C	Two 7/.0152	.047	PE	.291	TC	TC	.355	NCV	.430		1000	124	95	16
9055	55/U	C	1	.032	PE	.121	TC	TC	.176	NP	.206		1900	31	53.5	28.5
9055B	55B/U	SC	1	.032	PE	.121	TC	TC	.176	BP	.206		1900	32	53.5	28.5
9058	58/U	C	1	.032	PE	.121	TC	—	.150	V	.200		1900	24	53.5	28.5
9058A	58A/U	TC	19/.0071	.0375	PE	.120	TC	—	.150	V	.199		1900	25	50	29.5
9058C	58C/U	TC	19/.0071	.0375	PE	.120	TC	—	.150	NCV	.199		1900	25	50	29.5
9059	59/U	CW	1	.0253	PE	.150	C	—	.191	V	.250		2300	36	73	21
9059B	59B/U	CW	1	.023	PE	.150	C	—	.191	NCV	.246		2300	36	75	20.5
9062	62/U	CW	1	.025	SSP	.151	C	—	.191	V	.250		750	34	93	13.5
9062A	62A/U	CW	1	.025	SSP	.151	C	—	.191	NCV	.249		750	34	93	13.5
9063B	63B/U	CW	1	.0253	SSP	.295	C	—	.340	NCV	.415		1000	78	125	10
9071B	71B/U	CW	1	.025	SSP	.151	C	TC	.208	BP	.250		750	42	93	13.5
9174	174/U	CW	7/.0063	.019	PE	.060	TC	—	.088	V	.105		1500	7	50	30
9212	212/U	SC	1	.056	PE	.189	SC	SC	.265	NCV	.336		3000	85	50	29.5
9213	213/U	C	7/.0296	.090	PE	.292	C	—	.340	NCV	.412		5000	100	50	30.5
9214	214/U	SC	7/.0296	.090	PE	.292	SC	SC	.360	NCV	.432		5000	129	50	30.5
9215	215/U	C	7/.0296	.090	PE	.292	C	—	.340	NCV	.412	.475	5000	122	50	30.5
9217	217/U	C	1	.106	PE	.380	C	C	.463	NCV	.555		7000	202	50	30
9218	218/U	C	1	.195	PE	.690	C	—	.760	NCV	.880		11000	457	50	30
9219	219/U	C	1	.195	PE	.690	C	—	.760	NCV	.880	.945	11000	507	50	30
9223	223/U	SC	1	.036	PE	.120	SC	SC	.176	NCV	.216		1900	36	50	30

All dimensions are maximum except where indicated.



TEFLON DIELECTRIC

CONDUCTORS SILVER PLATED COPPERWELD

CHARACTERISTICS: Operating temperature 200°C.

ALPHA No.	RG Type	Cond.	Nom. Wall Thick.	Nom. Jkt. Thick.	Jacket Type	Max. O.D.	Cap. Nom.	Imped. Ohms	Max. Oper. Voltage
9178B	178B/U	7/.004	.012	.010	Extruded FEP	.075	27.9	50±2	1000
9179B	179B/U	7/.004	.021	.010	Extruded FEP	.105	20.4	75±3	1200
9180B	180B/U	7/.004	.045	.010	Extruded FEP	.145	15.3	93±2	850
9187A	187A/U	7/.004	.024	.012	Fused TFE Tape	.110	19.5	75±3	1200
9188A	188A/U	7/.0067	.020	.012	Fused TFE Tape	.110	27.5	50±2	1200
9195A	195A/U	7/.004	.045	.014	Fused TFE Tape	.155	14.5	95±3	1500
9196A	196A/U	7/.004	.011	.012	Fused TFE Tape	.080	28.5	50±2	1000

9800 SERIES COAXIAL CABLE

FOR GENERAL COMMUNICATIONS, CATV, MATV, AND COMMERCIAL APPLICATIONS

Highest quality coaxial cable specifically designed for commercial and general communication applications. 75 Ohm impedance, RG 59/U type with polyethylene dielectric and PVC jacket, bare copperweld conductor.

STOCK COLOR: Black.

EACH REEL SWEPT THROUGH 20-220 MHz RANGE TO GUARANTEE UNIFORM ATTENUATION

ALPHA No.	Jkt. Type	Conductor Awg. Size	Conductor Nom. O.D.	Conductor Matl.	Dielectric Nom. O.D.	Shield Type	Shield Nom. O.D.	Jkt. Nom. O.D.	Average Attenuation db/100 Ft. Ch. 2	Ch. 6	Ch. 13	Ch. 14	Ch. 83
RG-59 TYPE: SOLID POLYETHYLENE DIELECTRIC													
9830	PVC	#22	.0253	BCW	0.146	Comm'l. Std.	0.170	0.242	2.6	3.3	5.2	8.0	11.0
RG-59 TYPE: UNICELLULAR FOAMED POLYETHYLENE DIELECTRIC													
9840	PVC	#22	.0253	BCW	0.146	Comm'l. Std.	0.170	0.242	2.3	2.7	4.3	6.3	8.5

STANDARD PUT-UP: 1000 FT. REELS.

© United Technical Publications

Service & Power Cords

U.L. LISTED

DESCRIPTION: Rubber Portable Cords, Type SV, SJ, & S — Each conductor stranded bare copper, separator, color coded rubber insulation, cabled with fillers, separator, tough black rubber jacket overall. **Neoprene Portable Cords, Type SVO, SJO, & SO** — Each conductor stranded bare copper, separator color coded, rubber insulation cabled with fillers, separator, black neoprene jacket overall. Oil, grease, ozone, acid, moisture resistant.

CHARACTERISTICS & APPLICATIONS: Suggested operating temperatures −20°C to +60°C.

COLOR CODE OF CONDUCTORS: 1-White, 2-Black, 3-Green, 4-Red.

RUBBER PORTABLE CORD — 300 VOLT

STATIONARY SERVICE

ALPHA No.	Type	Conductor No.	Conductor Size	Nom. Thickness Ins.	Nom. Thickness Jkt.	Current Carrying Capacity in Amps	Nom. O.D.
1951	SV	2	18	.016″	.032″	7	.250″
1952	SJ	2	18	.032″	.032″	7	.305″
1952/3	SJ	3	18	.032″	.032″	7	.330″
1953	SJ	2	16	.032″	.032″	10	.330″
1953/3	SJ	3	16	.032″	.032″	10	.360″



NEOPRENE PORTABLE CORD—300 VOLT

STATIONARY SERVICE

1931	SVO	2	18	.016″	.032″	7	.250″
1932	SJO	2	18	.032″	.032″	7	.305″
1932/3	SJO	3	18	.032″	.032″	7	.330″
1933	SJO	2	16	.032″	.032″	10	.330″
1933/3	SJO	3	16	.032″	.032″	10	.360″

STANDARD/SPOOL PUT-UP: 50 FT., 100 FT., 250 FT.

NEOPRENE PORTABLE CORD—600 VOLT

U.L. LISTED

1934	SO	2	18	.030″	.060″	7	.390″
1934/3	SO	3	18	.030″	.060″	7	.405″
1934/4	SO	4	18	.030″	.060″	6	.435″
1935	SO	2	16	.030″	.060″	10	.405″
1935/3	SO	3	16	.030″	.060″	10	.430″
1935/4	SO	4	16	.030″	.060″	8	.485″
1936	SO	2	14	.045″	.075″	15	.530″
1936/3	SO	3	14	.045″	.075″	15	.560″
1936/4	SO	4	14	.045″	.075″	12	.605″
1937	SO	2	12	.045″	.090″	20	.600″
1937/3	SO	3	12	.045″	.090″	20	.635″
1937/4	SO	4	12	.045″	.090″	16	.665″
1938	SO	2	10	.045″	.090″	25	.640″
1938/3	SO	3	10	.045″	.090″	25	.690″
1938/4	SO	4	10	.045″	.090″	20	.745″



STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT.

Replacement Cord Sets

U.L. AND C.S.A. LISTED

DESCRIPTION: Durable, open end cord replacement set with a flexible high quality black rubber cord. One end has a black molded straight plastic plug, the other end of the jacket is stripped back 1½″, and ⅝″ of the conductors are stripped assuring easy termination into equipment or components. Cord set has a 300 volt rating.

APPLICATION: Replacement cords for direct termination; for office business machines, small electric hand tools, and home appliances which use fractional horsepower motors. 3 conductor cord used when 1 conductor requires grounding.



2-CONDUCTOR

ALPHA No.	Conductor Size	Conductor Strand	Amp Rating	U.L. Type	Nom. O.D. of Cord	Cord Length
600	18	41/34	7	SV	.245″	6′
602	18	41/34	7	SV	.245″	9′

3-CONDUCTOR

615	18	16/30	7	SJ	.330″	6′
616	18	16/30	7	SJ	.330″	9′
618	16	26/30	10	SJ	.365″	6′
619	16	26/30	10	SJ	.365″	9′

© United Technical Publications

PVC Retractile Coil Cords Shielded & Unshielded

alpha

RETRACTED LENGTHS—1 FT., 2 FT., 3 FT., 4 FT.
EXTENDED LENGTHS—6 FT., 12 FT., 18 FT., 25 FT.

DESCRIPTION: Durable, long lasting plastic retractile coil cords. Economically priced, but offering maximum flex resistance and long life. Each conductor is stranded tinned copper PVC insulation and PVC jacket over all.

APPLICATION: Heavy duty machinery, electrical tools, mobile and ham radio equipment, head sets. Eliminates hazards and inconveniences caused by tangled straight cords.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. 23 AWG conductor—21/36 strands, 120 volts, 1 amp.

COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White/Black, 10-White/Red, 11-White/Green, 12-White/Blue, 13-White/Yellow, 14-White/Brown, 15-White/Ora·

UNSHIELDED

ALPHA No. 1 Ft. Lengths	2 Ft. Lengths	3 Ft. Lengths	4 Ft. Lengths	No. of Cond.	Nom. Coil O.D.	Nom. Cord O.D.
702	702/2	702/3	702/4	2	3/4"	.200"
703	703/2	703/3	703/4	3	3/4"	.210"
704	704/2	704/3	704/4	4	13/16"	.240"
705	705/2	705/3	705/4	5	1"	.285"
706	706/2	706/3	706/4	6	1 1/8"	.305"
707	707/2	707/3	707/4	7	1 1/4"	.320"
			708/4	8	1 3/32"	.360"
			710/4	10	1 5/32"	.380"
			712/4	12	1 7/32"	.410"
			715/4	15	1 3/32"	.470"



SHIELDED
BRAIDED TINNED COPPER SHIELD

ALPHA No. 2 Ft. Lengths	4 Ft. Lengths	No. of Cond.	Nom. Coil O.D.	Nom. Cord O.D.	Shielded	Color Code of Conductors
720/2	720/4	1	5/8"	.160"	Shielded	White
722/2	722/4	2	7/8"	.225"	Individually Shielded	White & Black
723/2	723/4	3	1"	.250"	2 Unshielded	Black & Red
					1 Shielded	White
724/2	724/4	4	1 1/4"	.270"	2 Unshielded	Red & Green
					2 Individually Shielded	White & Black

Retractile Coil Cords

POWER CORDS—NEOPRENE JACKET—U.L. LISTED
RETRACTED LENGTHS 2 FT., 4 FT.
EXTENDED LENGTHS 12 FT., 25 FT.

DESCRIPTION: Durable, quality multi-conductor power cord. Each conductor is stranded copper, with rubber insulation, and a rugged weather and oil resistant neoprene jacket overall.

APPLICATION: Used on electric tools, portable drills, soldering irons, electrical and household appliances, etc., to eliminate hanging wires and to prevent wires from tangling.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Green, 4-Red.

ALPHA No. 2 Ft. Lengths	4 Ft. Lengths	No. of Cond.	Conductor Size	Conductor Strand	U.L. Type	Amp Rating	Volt Rating	Nom. Coil O.D.	Nom. Cord O.D.
660/2	660/4	2	18	41/34	SVO	7	300	7/8"	.260"
760/2	760/4	3	18	41/34	SVO	7	300	1"	.275"
661/2	661/4	2	18	41/34	SJO	7	300	1 3/16"	.320"
662/2	662/4	3	18	41/34	SJO	7	300	1 3/8"	.350"
663/2	663/4	4	18	41/34	SJO	5.6	300	1 7/16"	.385"
664/2	664/4	2	16	65/34	SJO	10	300	1 3/8"	.360"
665/2	665/4	3	16	65/34	SJO	10	300	1 7/16"	.390"
666/2	666/4	4*	16	65/34	SJO	8	300	1 1/2"	.425"
670/2	670/4	3	16	41/34	SO	10	600	1 13/16"	.470"
671/2	671/4	4*	16	65/34	SO	8	600	1 7/8"	.500"
673/2	673/4	3	14	41/30	SO	15	600	2 1/8"	.560"
674/2	674/4	4*	14	41/30	SO	12	600	2 1/4"	.605"



*If all four conductors normally carry current, amp rating is as shown. If one lead is used as a ground, amp rating is the same as 2 and 3 conductor cords.

© United Technical Publications

Retractile Coil Cords (Continued)

RETRACTILE POWER CORD SETS
U.L. LISTED
RETRACTED LENGTH 18 IN. — EXTENDED LENGTH 7½ FT.

DESCRIPTION: Coiled power cord with a sturdy molded male plug on one end; on other a portion of the neoprene jacket has been removed with the conductors exposed and stripped for easy termination. Operating voltage, 300 volts.

APPLICATION: Same as power cords, but equipped with a plug on one end.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Green.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	U.L. Type	Nom. Coil O.D.	Nom. Cord O.D.
654	2	18	41/34	SVO	7/8"	.260"
656	3	18	41/34	SJO	1 3/8"	.350"
657	2	16	65/34	SJO	1 3/8"	.360"
658	3	16	65/34	SJO	1 7/16"	.390"



RETRACTILE TEST LEAD WIRE
RETRACTED LENGTH 12 IN. — EXTENDED LENGTH 6 FT.

DESCRIPTION: High grade quality rubber insulation for maximum flex life extruded over a single conductor of extra flexible tinned copper. Available in a 12" retracted length with a 6" straight lead on each end, the cord extends to approx. 6 feet.

ALPHA No.	Conductor Size	Conductor Strand	Amp Rating	Volt Rating	Nom. Coil O.D.	Nom. Cord O.D.	Color Code
650	20	41/36	4	5,000	3/4"	.165"	Black or Red

RETRACTILE COMMUNICATION COIL CORDS
RETRACTED LENGTHS 2 FT., 4 FT. — EXTENDED LENGTHS 12 FT., 25 FT.

DESCRIPTION: Multi-conductor communication cord manufactured with extra flexible #23 AWG-21/36 tinned soft cadmium copper for maximum flex life. Insulated with rubber for communication circuits of maximum 120 working volts. Specially compounded cured neoprene jacket gives long life to the retractile cord.

APPLICATION: Eliminate hazards and inconveniences caused by tangled straight cords in communication equipment, such as telephone car carriers, mobile and ham radio head sets, radio transmitter to receiver head sets, communication cords.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown.

ALPHA No. 2 Ft. Lengths	ALPHA No. 4 Ft. Lengths	No. of Cond.	Conductor Size	Conductor Strand	Amp Rating	Voltage Rating	Nom. Coil O.D.	Nom. Cord O.D.
680/2	680/4	2	23	21/36	1	120	3/4	.215"
681/2	681/4	3	23	21/36	1	120	13/16"	.220"
682/2	682/4	4	23	21/36	1	120	15/16"	.250"
683/2	683/4	5	23	21/36	1	120	1 1/16"	.285"
684/2	684/4	6	23	21/36	1	120	1 1/8"	.305"
685/2	685/4	7	23	21/36	1	120	1 1/4"	.320"



RETRACTILE COMMUNICATION CORDS
SHIELDED
RETRACTED LENGTHS 2 & 4 FT. — EXTENDED LENGTHS 12 & 25 FT.

DESCRIPTION: Same as above, except that shielded conductors are individually shielded with a cadmium copper shield to eliminate external electrical interference. Shield can be pigtailed for direct soldering connections.

APPLICATION: Same applications as above, but where a shielded conductor is needed.

ALPHA No. 2 Ft. Lengths	ALPHA No. 4 Ft. Lengths	No. of Cond.	Conductor Size	Conductor Strand	Voltage Rating	Shielding	Nom. Coil O.D.	Nom. Cord O.D.	Color Code of Conductors
690/2	690/4	1	24	41/40	75	Shielded	5/8"	.160"	White
692/2	692/4	2	1-23	21/36	120	Unshielded	7/8"	.240"	Black
			1-24	41/40	75	Shielded			White
694/2	694/4	3	2-23	21/36	120	Unshielded	7/8"	.240"	Black & Red
			1-24	41/40	75	Shielded			White
696/2	696/4	4	2-23	21/36	120	Unshielded	1"	.270"	Red & Black
			2-24	41/40	75	Individually Shielded			White & Green



MINIATURE RETRACTILE COMMUNICATION CORDS
RETRACTED LENGTH 2 FT. — EXTENDED LENGTH 10 FT.

DESCRIPTION: Small diameter plastic cord with stranded tinned copper conductors for maximum flexibility, insulated and jacketed with polyvinyl-chloride. Each cord is available in a 2 ft. retracted length with a 6" straight lead on each end and extends to approx. 10 feet.

APPLICATION: For low voltage power and communication equipment where miniaturization is required due to space and weight limitations.

COLOR CODE OF CONDUCTORS: 1-Black, 2-White, 3-Green, 4-Red.

ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Amp. Rating	Volt Rating	Nom. Coil O.D.	Nom. Cord O.D.
651	2	28	19/40	0.5	100	1/2"	.135"
652	4	28	19/40	0.5	100	1/2"	.150"

For 3 conductor, use 4 conductor with one lead unused.

© United Technical Publications

Extension Cord Sets

U.L. AND C.S.A. LISTED

alpha

DESCRIPTION: Extension cord sets manufactured for lasting service with a flexible 2 or 3 conductor quality black rubber cord. This rugged cord has a black molded plastic male and female plug on either end to fit conventional sockets and plugs. Extension cords have a 300 volt rating.

APPLICATION: Small business machines, vacuum cleaners, lamps, movie projectors, or any other home appliance. 3 conductor cord used when 1 conductor requires grounding.

2-CONDUCTORS

ALPHA No.	Conductor Size	Conductor Strand	Amp Rating	U.L. Type	Nom. O.D.	Cord Length
620	18	41/34	7	SV	.245″	6′
628	16	26/30	10	SJ	.325″	10′

3-CONDUCTOR

ALPHA No.	Conductor Size	Conductor Strand	Amp Rating	U.L. Type	Nom. O.D. of Cord	Cord Length
636	18	16/30	7	SJ	.330″	10′
638	18	16/30	7	SJ	.330″	25′
640	16	26/30	7	SJ	.365″	15′
642	16	26/30	7	SJ	.365″	25′
644	16	26/30	7	SJ	.365″	50′



E-Z-Strip Lamp Cords

U.L. LISTED

DESCRIPTION: Conductors parallel, stranded extra flexible bare copper, poly vinylchloride jacket overall. Slit in jacket to permit "E-Z" separation.

APPLICATIONS: For line cord on radios, lamps, electric clocks, food mixers and other small instruments and appliances.

CHARACTERISTICS: Suggested operating temperature −20°C to +60°C. Suggested operating voltage 300 volts.



ALPHA No.	No. of Cond.	Conductor Size	Conductor Strand	Insul. Type	Nom. Wall Thick.	U.L. Type	Nominal O.D.	Stock Colors
1977	2	18	41/34	Plastic	.032″	SPT-1	.215″ x .115″	Brn., Blk., Wh., Gray, Tan
1978	2	18	41/34	Plastic	.045″	SPT-2	.285″ x .150″	Brown
1979	2	18	41/34	Plastic	.032″	SPT-1	.215″ x .115″	Clear

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

Neoprene Welding Cable

DESCRIPTION: Stranded bare copper conductor, tape wrap, black neoprene rubber insulation.

CHARACTERISTICS: Lightweight, flexible cables with high resistance to abrasion, impact, flexing, and twisting.

RECOMMENDED CABLE SIZES: The sizes of cable recommended by the Machine Group of the NEMA Electric Welding Section for standard hand welding equipment based on lengths up to 90 ft. that is, 45 ft. of welding cable and 45 ft. of return cable, as as follows:

100-Ampere Welder-4 AWG, 150-Ampere Welder-3 AWG, 200-Ampere Welder-2 AWG, 300-Ampere Welder-1/0 AWG, 400-Ampere Welder-2/0 AWG, 500-Ampere Welder-2/0 AWG, 600-Ampere Welder-3/0 AWG.

The above values for carrying capacity are based on a copper temperature of 60°C and an ambient temperature of 40°C and yield load factors of from approximately 32 percent for size 2 AWG cable to approximately 23 percent for the size 3/0 AWG cable and higher for the smaller sizes. The sizes of the cable generally used range from size 2 to 3/0 AWG. In actual service the load factors may be much higher without overheating the cable as the ambient temperature will generally be substantially lower than 40°C.

ALPHA No.	Conductor Size	Conductor Strand	Nom. Overall Diameter	IPCEA Cable Rating Current (1) Carrying Capacity (Amperes)	IPCEA Cable Rating Voltage Drop Per 100 Ft. At 60°C (Volts)	Approx. Net Wt. Lb. Per M/Ft.
6112	6	266/30	0.38″	75	3.58	134
6113	4	420/30	0.43″	100	3.18	187
6114	3	532/30	0.43″	150	3.70	233
6115	2	665/30	0.51″	200	3.92	299
6116	1	833/30	0.54″	250	3.88	365
6117	1/0	1057/30	0.61″	300	3.72	457
6118	2/0	1317/30	0.67″	375	3.68	555
6119	3/0	1622/30	0.74″	450	3.51	698
6120	4/0	2109/30	0.86″	550	3.41	871



STANDARD PUT-UP: CUT TO SPECIFICATIONS — MIN. 25 FT.
ALL ORDERS NON-CANCELLABLE.

Projector & Arc Lamp Cable

TYPE AA ASBESTOS
SINGLE CONDUCTOR — FLEXIBLE STRANDED

DESCRIPTION: Extra flexible stranded, untinned, annealed copper conductor. Asbestos insulation saturated with flame and heat-resisting compound. White overall asbestos braid, saturated and finished with flame and heat-resisting compound.

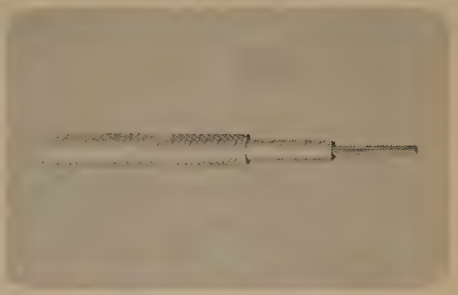
CHARACTERISTICS: Maximum operating voltage 300 volts. Maximum operating temperature 200°C.

APPLICATIONS: Recommended for wiring motion picture projectors, arc lamps, search lights, flood lights, spot lights and similar equipment.

© United Technical Publications

Projector & Arc Lamp Cable (Continued)

ALPHA No.	Conductor Size AWG	Conductor Strand	Diameter	Asbestos Insulation Thickness	Asbestos Braid Thickness	Nom. O.D.	Nom. Net Wt. Lbs. Per M/Ft.
6140	14	104 x #34	.077″	.030″	.040″	.220″	38
6141	12	259 x #36	.102″	.030″	.040″	.245″	50
6142	10	413 x #36	.130″	.030″	.040″	.270″	70
6143	8	665 x #36	.165″	.030″	.040″	.305″	97
6144	6	1050 x #36	.205″	.040″	.045″	.375″	140
6145	4	1666 x #36	.275″	.040″	.045″	.445″	207
6146	2	2646 x #36	.350″	.040″	.045″	.520″	300
6147	1	3332 x #36	.400″	.060″	.045″	.610″	390
6148	1/0	4214 x #36	.440″	.060″	.045″	.650″	470
6149	2/0	5292 x #36	.500″	.060″	.045″	.710″	570
6150	3/0	6713 x #36	.570″	.060″	.045″	.780″	700
6151	4/0	8512 x #36	.640″	.060″	.045″	.850″	870



STANDARD PUT-UP: CUT TO SPECIFICATIONS — MIN. 25 FT.
ALL ORDERS NON-CANCELLABLE.

Uninsulated Tinned Copper

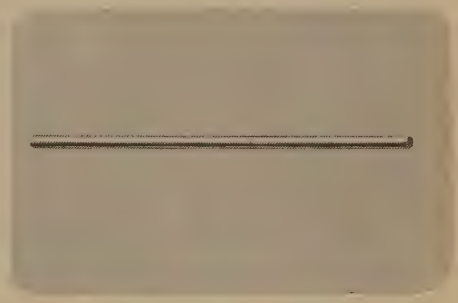
SOLID WIRE — SOFT DRAWN

DESCRIPTION: Pure electrolytic soft, drawn, solid, copper properly annealed and tinned for quick soldering.

APPLICATIONS: Winding of coils. Antennas. Point to point wiring. Bus-bar. Component leads. Ground wire.

SPECIFICATIONS: MIL-W-3861 — Type S, QQ-W-343; Type S, ASTM-B-33.

ALPHA No.	Conductor Zize	Nominal Circular Mil Area	Nominal O.D.
299/3	30 AWG	100.5	.010″
299/2	28 AWG	159.8	.013″
299/1	26 AWG	254.1	.016″
299	24 AWG	404.0	.020″
298	22 AWG	642.4	.025″
297	20 AWG	1022.0	.033″
296	18 AWG	1642.0	.040″
295	16 AWG	2583.0	.051″
286	14 AWG	4107.0	.065″
289	12 AWG	6530.0	.082″
292	10 AWG	10380.0	.103″
292/8	8 AWG	16510.0	.129″
292/6	6 AWG	26250.0	.162″



STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

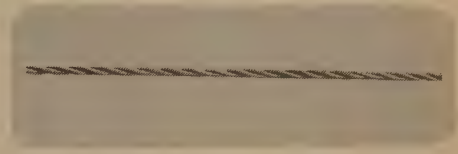
Antenna-Aerial Wire

APPLICATIONS:

1161-1164 — Recommended especially for ship, short-wave and transmitter antennas where high tensile strength and corrosion resistance is required.

136 and 112 — For shortwave and transmitter antennas. Suitable for commercial and amateur use. Easy to install, no "backlash."

ALPHA No.	Conductor Size	Conductor Strand	Breaking Strength	Conductor Type	Nominal O.D.	Government Specification
1161	12	7/20	650 Lbs.	Silicon Bronze	.100″	MIL-W-13276
1163	10	7/18	1000 Lbs.	Silicon Bronze	.122″	MIL-W-13074
1164	8	7/16	1600 Lbs.	Silicon Bronze	.150″	—
136	16	7/24	—	Bare Copper	.060″	—
112	14	7/22	—	Bare Copper	.075″	—



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

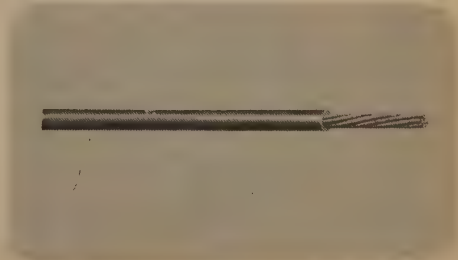
Series '5000' Hook-up Wire

TEFLON-TYPE E EXTRUDED TEFLON MIL-W-16878D

DESCRIPTION: Stranded silver plated copper .010″ nominal wall thickness extruded TFE Teflon insulation −65°C to +200°C, voltage rating 600 volts.

STOCK COLORS: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Light Blue, 7-Brown, 8-Orange, 9-Gray (slate), 10-Violet (purple), 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Orange, 18-White/Gray, 19-White/Violet.

ALPHA No.	Type Designation	Conductor Size	Conductor Strand	Min. O.D.
5851	E-30	30	7/38	.028″
5852	E-28	28	7/36	.031″
5853	E-26	26	7/34	.035″
5854	E-24	24	19/36	.040″
5854/7	E-24	24	7/32	.039″
5855	E-22	22	19/34	.046″
5856/7	E-20	20	7/28	.053″
5856	E-20	20	19/32	.054″
5856/7	E-20	20	7/28	.053″
5857	E-18	18	19/30	.064″
5858	E-16	16	19/29	.073″



STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED.

© United Technical Publications

Tinned Copper Tubular Braid

TO MIL SPEC QQ-B-575

alpha

DESCRIPTION: A woven tinned copper braid which is manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand of the braid is soft drawn tinned copper wire. The braid is self-supporting and maintains its round configuration. The percentage of shielding coverage is 95% or more when placed over a mandrel of an equivalent diameter to the inside braid diameter.

APPLICATIONS: Maximum shielding against electrostatic interference for wires, cables and other compopents. Also as a protective covering against mechanical abrasion and stresses.

ALPHA No.	Nom. I.D. When Rounded	Braid Construction: AWG of Indiv. Ends	Carriers	Total No. of Indiv. Ends	Approx. AWG Equiv.	Nom. Circular Mills	*Current Carrying Capacity (Amps)	Put-up Code
2160	1/32"	36	24	24	22	600	7.0	2, 3
2162	1/16"	36	24	48	19	1200	11.0	2, 3
2163	3/64"	36	24	72	18	1800	16.0	2, 3
2164	1/16"	36	24	96	16	2400	19.0	2, 3
2166	1/8"	36	24	120	15	3000	25.0	2, 3
2167	5/32"	36	24	240	12	6000	40.0	2, 3
2168	11/64"	36	24	168	14	4200	32.0	2, 3
2170	13/64"	34	24	192	11	7630	46.0	2
2171	1/4"	36	24	384	10	9600	53.0	2
2171/1	9/32"	30	24	120	9	12060	60.0	2
2172	3/8"	36	48	384	10	9600	53.0	2
2173	7/16"	30	24	240	6	24120	90.0	2
2174	1/2"	36	48	528	9	13200	62.0	2
2175	9/16"	30	48	480	3	48240	145.0	2
2175/1	21/32"	30	48	768	1	77180	190.0	2
2176	25/32"	36	48	864	7	21600	88.0	2



EXTRA LARGE TINNED COPPER TUBULAR BRAID

2177	7/8"	30	48	336	5	33700	100.0	1, 2
2178	1"	30	48	384	4	38600	120.0	1, 2
2179	1 1/8"	30	48	432	4	43330	130.0	1, 2
2180	1 1/4"	30	48	480	3	48150	145.0	1, 2
2181	1 3/8"	30	48	528	3	53000	150.0	1, 2
2182	1 1/2"	30	48	576	2	57775	165.0	1, 2

SILVER PLATED TUBULAR BRAID CONSTRUCTION TO MIL SPEC QQ-B-575

APPLICATIONS: Silver plated braid is used where a high operating temperature (200°C) and corrosion resistance is required.

2191	1/16"	36	24	48	19	1200	11.0	1, 2
2193	7/64"	36	24	96	16	2400	19.0	1, 2
2194	1/8"	36	24	120	15	3000	25.0	1, 2
2195	5/32"	36	24	240	12	6000	40.0	1, 2
2196	11/64"	36	24	168	14	4200	32.0	1, 2
2197	13/64"	34	24	192	11	7640	46.0	1, 2
2198	1/4"	36	24	384	10	9600	53.0	1, 2

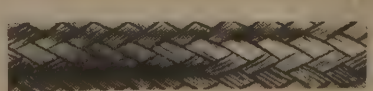
Oval Commercial Braid



2132	1/16"	34	16	32	19	1192	11.0	2, 4, 5
2138	11/64"	34	24	120	14	4770	32.0	2, 4, 5
2140	3/16"	34	24	144	13	5724	38.0	2, 4
2142	1/4"	34	24	168	12	6678	41.0	2, 4
2144	3/8"	34	24	192	11	7632	46.0	2, 4
2146	1/2"	34	48	336	9	13356	62.0	2
2148	5/8"	34	48	384	8	14264	64.0	2
2150	11/16"	34	48	480	7	19080	81.0	2
2152	25/32"	34	48	528	7	20988	85.0	2

Flat Braid

APPLICATIONS: A woven braid, composed of tinned copper strands, which is rolled flat at time of manufacture to a specific width depending upon construction.



1221	.025	36	8	8	27	200	4.0	2, 4, 5
1222	1/32"	36	16	16	24	400	6.0	2, 4, 5
1223	3/64"	36	24	24	22	600	7.0	2, 4, 5
1224	3/32"	36	16	48	19	1200	11.0	2, 4, 5
1229	1/8"	36	24	72	18	1800	16.0	2, 4, 5
1230	3/16"	36	24	120	15	3000	25.0	2, 4, 5
1231	1/4"	36	24	168	14	4200	32.0	2, 4, 5
1232	3/8"	36	48	288	12	7200	46.0	2, 4, 5
1233/2	1/2"	36	48	384	10	9600	53.0	2, 4, 5
1233	5/8"	36	48	384	10	9600	53.0	2, 4, 5
1234	3/4"	36	48	832	7	20800	85.0	2, 4, 5
1235	1"	36	48	832	7	20800	85.0	2, 4, 5
1239	1 3/8"	30	48	336	5	33700	100.0	2, 4, 5
1240	1 1/2"	30	48	528	3	53064	150.0	2
1241	1 3/4"	30	48	1248	00	125424	280.0	2
1242	2"	30	48	1536	000	154368	310.0	2
1242/4	3"	30	48	2256	0000	225000	390.0	2, 4

*Values shown are for bare cable in free air at 30°C (86°F) and intended as a reference guide only. Actual values will depend on permissible temperature rise, permissible voltage drop and other conditions of service.

PUT-UP CODE: 1-50 FT., 2-100 FT., 3-250 FT., 4-500 FT., 5-1000 FT.

© United Technical Publications

Alpha Fit® Shrinkable Tubing

THE FINEST QUALITY IRRADIATED, CROSSLINKED HEAT-SHRINKABLE TUBING

Tubing Type	Characteristics	Min. Shrink Temp. °C/°F	Tensile Strength PSI Elongation % ASTM-D-2671	Heat Aging Heat Shock ASTM-D-2671 Hrs/°C/% Elongation	Low Temp. Flexibility Without Cracking ASTM-D-2671 Hrs/°C	Dielectric Strength Volts/mil	Meets S.A.E. Aerospace Materials Specification No.	Meets Mil-I-Z3053B	Max. Longitudinal Change When Recovered ASTM-D-876 %	Volume Resistivity ohm-cm, min. ASTM-D-257	Water Absorption ASTM-D-570 %
FIT-105	A shrinkable PVC which will not melt. Recommended as an economical cabling & jacketing material with excellent flexibility & abrasion resistance. Black color only. Shrink Ratio — 2:1 (50%).	175/347	2600/250	4/130 no cracking 4/200 no cracking	4/ — 25	750	3582	/2	10	10^{12}	3/5 (0.6)
FIT-221	An excellent general-purpose polyolefin tubing, flexible, 5 standard colors. Shrink ratio — 2:1 (50%) Flame - retarded.	121/250	2400/400	336/175/175 4/250	4/ — 55	1300	3636B	/5	5	10^{15}	1/2 (0.5)
FIT-221 Clear	Similar to FIT-221 above except available only in clear, not flame-retarded.	121/250	2400/400	336/175/175 4/250	4/ — 55	1300	3637B	/5	5	10^{17}	1/5 (0.2)
FIT-295	An extremely tough, semi - rigid polyolefin tubing with very high mechanical strength. Recommended for jacket-termination, connection, or splice where subject to mechanical stress. Flame-retarded color - coded by size. Shrink ratio — 2:1 (50%).	135/275	2600/400	336/175/175 4/250	4/ — 55	1300	3638B	/6	5	10^{16}	1/10 (0.1)
FIT-295 Clear	Same as above, except clear, not flame - retarded.	135/275	2600/400	336/175/175 4/250	4/ — 55	1300	3639B	/6	5	10^{18}	1/10 (0.1)
FIT-300	Selectively crosslinked polyolefin with shrinkable outer wall & meltable inner wall for moisture-proof encapsulation or potting. Achieves the effect of molding-in-place, but without the cost or inconvenience of molding. Color - coded by size. Shrink ratios greater than 2:1.	135/275	2500/400	168/175 no cracking 4/250 no cracking (outer wall only) inner wall softens at 110°C	4/ — 55	1100	3634	/4	10	10^{16}	1/10 (0.1)
FIT-350	Extremely tough, thin-wall, non-burning, unpigmented, semi - rigid fluoro - carbon, wide continuous operating temp. range, outstanding heat solvent resistance. Shrink ratio — 2:1 (50%).	175/347	8000/300	168/250 no cracking 4/300	4/ — 55	1500	3632B	/8	10	2 x 10^{15}	1/10 (0.1)



Irradiated Polyvinylchloride

FIT-105

HIGHLY FLEXIBLE—IDEAL FOR CABLE JACKETING—CONFORMS TO MIL-I-23053/2

ALPHLEX No. (Black only)	Size	Minimum I.D. Before Shrinking	Recovered I.D. After Shrinking	Nominal Wall Thickness	Standard Put-up/Ft.
FIT-105-3/64	3/64″	.046″	.023″	.020″	25, 100, 500
FIT-105-1/16	1/16″	.062″	.031″	.020″	25, 100, 500
FIT-105-3/32	3/32″	.093″	.046″	.020″	25, 100, 200
FIT-105-1/8	1/8″	.125″	.062″	.025″	25, 100, 200
FIT-105-3/16	3/16″	.187″	.093″	.025″	25, 100, 200
FIT-105-1/4	1/4″	.250″	.125″	.025″	25, 100, 200
FIT-105-3/8	3/8″	.375″	.187″	.030″	25, 100, 200
FIT-105-1/2	1/2″	.500″	.250″	.030″	25, 100
FIT-105-3/4	3/4″	.775″	.375″	.035″	25, 100
FIT-105-1	1″	1.000″	.500″	.040″	25, 100
FIT-105-1 1/2	1 1/2″	1.500″	.750″	.045″	25, 100
FIT-105-2	2″	2.000″	1.000″	.050″	10, 25, 50

STOCK COLOR: Black.

LONG LENGTHS:
Maximum three lengths per put-up.

PACKAGED ASSORTMENTS

FIT-105-MS — Assorted sizes per box — contains an assortment of 6″ lengths in various sizes. Every length identified as to size; supplied in black only.

ALPHLEX No.	Tubing Size Range	Lengths Per Box
FIT-105-MS-1	3/64″ thru 1/4″ (6 sizes)	10 lgths. per size (60 lengths)
FIT-105-MS-2	3/8″ thru 1″ (4 sizes)	10 lgths. per size (40 lengths)
FIT-105-MS-3	1 1/2″ and 2″ (2 sizes)	7 lgths. per size (14 lengths)



© United Technical Publications

Irradiated Polyolefin Tubing

alpha

FIT-221 MIL-I-23053/5 — CLASS I (COLORED INSULATIONS) MIL-I-23053/5 — CLASS II (CLEAR INSULATIONS)

Shrinks 50% (2:1 ratio) with only 5% longitudinal shrinkage. Fewer sizes covering more applications. Available to meet U.L. specifications.

STOCK COLORS: Black, White, Red, Yellow, Blue, and Clear.

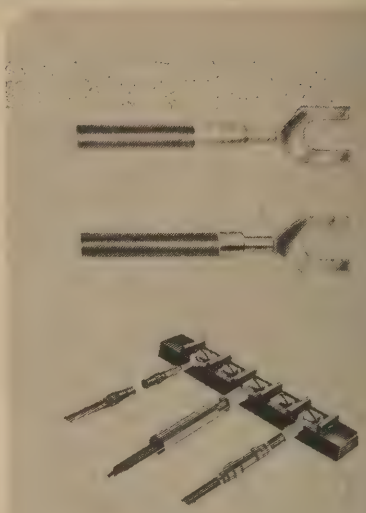
ALPHA No.	Size	Min. I.D. Before Shrinkage	Recovered I.D. After Shrinkage	Recovered Nom. Wall Thickness	Standard Pkg.* 4′ Lengths Tot. Ftg.	Standard Pkg.* 4′ Lengths No. of Lgths.	Standard Pkg.* 6″ Lengths Tot. Ftg.	Standard Pkg.* 6″ Lengths No. of Lgths.
FIT-221-3/64	3/64″	.046″	.023″	.016″	100′	25	20′	40
FIT-221-1/16	1/16″	.063″	.031″	.017″	100′	25	18′	36
FIT-221-3/32	3/32″	.093″	.046″	.020″	100′	25	16′	32
FIT-221-1/8	1/8″	.125″	.062″	.020″	100′	25	14′	28
FIT-221-3/16	3/16″	.187″	.093″	.020″	100′	25	12′	24
FIT-221-1/4	1/4″	.250″	.125″	.025″	100′	25	10′	20
FIT-221-3/8	3/8″	.375″	.187″	.025″	100′	25	8′	16
FIT-221-1/2	1/2″	.500″	.250″	.025″	20′	5	7′	14
FIT-221-3/4	3/4″	.750″	.375″	.030″	20′	5	6′	12
FIT-221-1	1″	1.000″	.500″	.035″	20′	5	4′	8
FIT-221-1 1/2	1 1/2″	1.500″	.750″	.040″	20′	5	2.5′	5
FIT-221-2	2″	2.000″	1.000″	.045″	20′	5	1.5′	3
FIT-221-3	3″	3.000″	1.500″	.050″	8′	2	1′	2
FIT-221-4	4″	4.000″	2.000″	.055″	8′	2	.5′	1

*STANDARD PACKAGE FIT-221 Tubing is available ONLY in the specified packages.

ALPHA No.	Tubing Size Range	Lengths Per Box
FIT-221-MS-1	3/64″ thru 3/16″	30
FIT-221-MS-2	1/4″ thru 3/4″	16
FIT-221-MS-3	1″ thru #4	10

PACKAGED ASSORTMENTS

FIT-221 — Assorted sizes and colors per box — contains an assortment of 6″ lengths in various sizes and colors. Every length identified as to size and supplied in Black, White, Red, Yellow, Blue, Clear.



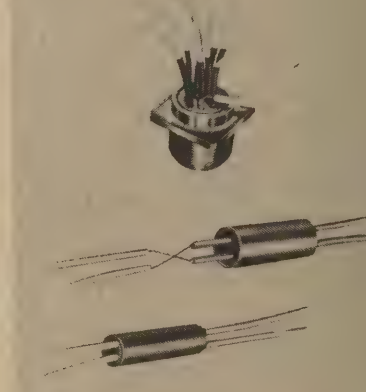
FIT-295 FOR MAXIMUM STRENGTHS AT ALL STRESS POINTS MIL-I-23053/6 — CLASS I (COLORED INSULATIONS) MIL-I-23053/6 — CLASS II (CLEAR INSULATIONS)

ALPHA No.	Stock Colors	Size	Minimum I.D. Before Shrinking	Recovered I.D. Shrinking	Nominal Thickness	Standard Pkg.* 4′ Lengths Tot. Ftg.	Standard Pkg.* 4′ Lengths No. of Lgths.	Standard Pkg.* 6″ Lengths Tot. Ftg.	Standard Pkg.* 6″ Lengths No. of Lgths.
FIT-295-3/64	Yellow, Clear	3/64″	.046′	.023″	.020″	100′	25	20′	40
FIT-295-1/16	White, Clear	1/16″	.063″	.032″	.020″	100′	25	18′	36
FIT-295-3/32	Blue, Clear	3/32″	.093″	.045″	.020″	100′	25	16′	32
FIT-295-1/8	Red, Clear	1/8″	.125″	.063″	.020″	100′	25	14′	28
FIT-295-3/16	Green, Clear	3/16″	.187″	.093″	.025″	100′	25	12′	24
FIT-295-1/4	Slate, Clear	1/4″	.250″	.125″	.025″	100′	25	10′	20
FIT-295-3/8	Brown, Clear	3/8″	.375″	.187″	.030″	100′	25	8′	16
FIT-295-1/2	White, Clear	1/2″	.500″	.250″	.030″	20′	5	7′	14

ALPHA No.	Tubing Size Range	Lengths Per Box
FIT-295-MS-1	3/64″ thru 1/2″ (8 sizes)	5 lgths. per size (40 lengths)

PACKAGED ASSORTMENTS

FIT-295-MS — Contains an assortment of 6″ lengths in all sizes. Every length identified as to size.

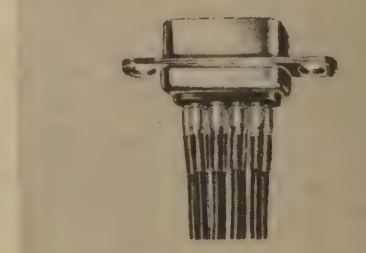


FIT-300 SURFACE-IRRADIATED POLYOLEFIN TUBING

CONFORMS TO: MIL-I-23053/4. **DESCRIPTION:** Outer wall shrinks — inner wall melts. Provides a tough, moisture-proof encapsulating jacket.

ALPHA No.	Stock Color	Size	Min. I.D. Before Shrinkage	Recov'd Max. I.D. After Shrinkage	Nominal Recov'd Tot. Wall Thick.	Nominal Recov'd Meltable Wall Thick.	Standard Pkg. 4′ Lengths Tot. Ftg.	Standard Pkg. 4′ Lengths No. of Lgths.	Standard 6″ Lengths Tot. Ftg.	Standard 6″ Lengths No. of Lgths.
FIT-300-1/8	Brown	1/8″	125″	.023″	.038″	.020″	100′	25	7′	14
FIT-300-3/16	Gray	3/16″	.187″	.060″	.043″	.025″	100′	25	6′	12
FIT-300-1/4	White	1/4″	.250″	.080″	.047″	.027″	100′	25	5′	10
FIT-300-3/8	Red	3/8″	.375″	.135″	.050″	.030″	100′	25	4′	8
FIT-300-1/2	Blue	1/2″	.500″	.195″	.055″	.035″	20′	5	3′	6
FIT-300-3/4	Yellow	3/4″	.750″	.313″	.065″	.040″	20′	5	2′	4
FIT-300-3/10*	Blue	3/10″	.300″	.050″	.100″	.065″	100′	25	2′	4

*Heavy walled tubing for use where a large volume of meltable material is needed.

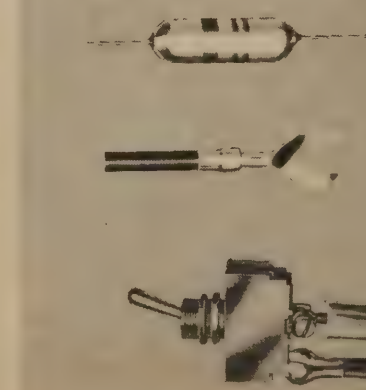


FIT-350 IRRADIATED KYNAR® TUBING

High Temperature Tubing. Clear and non-flammable. A tough, thin wall tubing with outstanding cut-through and abrasion resistance. Semi-rigid polyvinylidene fluoride. **STOCK COLOR:** Clear only.

ALPHA No.	Minimum I.D. Before Shrinkage	Recovered I.D. After Shrinkage	Recovered Nom. Wall Thickness	Standard Pkg. 4′ Lengths Tot. Ftg.	Standard Pkg. 4′ Lengths No. of Lgths.	Standard Pkg. 6″ Lengths Tot. Ftg.	Standard Pkg. 6″ Lengths No. of Lgths.
FIT-350-3/64″	.046″	.023″	.010″	100′	25	16′	32
FIT-350-1/16″	.063″	.031″	.010″	100′	25	14′	28
FIT-350-3/32″	.093″	.046″	.010″	100′	25	12′	24
FIT-350-1/8″	.125″	.062″	.010″	100′	25	10′	20
FIT-350-3/16″	.187″	.093″	.010″	100′	25	8′	16
FIT-350-1/4″	.250″	.125″	.012″	100′	25	6′	12
FIT-350-3/8″	.375″	.187″	.012″	100′	25	4′	8
FIT-350-1/2″	.500″	.250″	.012″	20′	5	2′	4
FIT-350-3/4″	.750″	.375″	.017″	20′	5	1′	2
FIT-350-1″	1.000″	.500″	.019″	20′	5	.5′	1

STANDARD PACKAGE: FIT-350 tubing is available only in the specified packages. When ordering, indicate package desired (6 inches or 4 foot).



© United Technical Publications

Alpha Teflon Extruded Tubing

DESCRIPTION: Alpha Teflon Tubing is unmatched by any other type of tubing for use in electrical applications at high frequencies and temperatures. Teflon is rated for continuous operation at 250°C, and retains an exceptional toughness and its flexibility throughout its temperature range.

APPLICATIONS: A thin flexible insulation, Alpha Teflon tubing permits a miniaturization and compactness of design never before possible. Invaluable in any application where a high heat resistant, flexible, non-flammable, chemical solvent and corrosion-resistant material is required.

CONFORMS TO MIL-I-22129C

ALPHA No.	Size	Nom. Inside Dia.	Nom. Wall Thick.	Stock Colors
TFT-200/30	30	.012″	.009″	Natural, Black
TFT-200/28	28	.015″	.009″	Natural, Black
TFT-200/26	26	.018″	.010″	Natural, Black
TFT-200/24	24	.022″	.010″	Natural, Black
TFT-200/22	22	.027″	.010″	Natural, Black
TFT-200/20	20	.034″	.012″	Natural, Black
TFT-200/19	19	.038″	.012″	Natural, Black
TFT-200/18	18	.032″	.012″	Natural, Black
TFT-200/17	17	.047″	.012″	Natural, Black
TFT-200/16	16	.053″	.012″	Natural, Black
TFT-200/15	15	.059″	.012″	Natural, Black
TFT-200/14	14	.066″	.012″	Natural, Black
TFT-200/13	13	.076″	.012″	Natural, Black
TFT-200/12	12	.085″	.012″	Natural, Black
TFT-200/11	11	.095″	.012″	Natural, Black
TFT-200/10	10	.106″	.012″	Natural, Black
TFT-200/9	9	.118″	.015″	Natural, Black
TFT-200/8	8	.133″	.015″	Natural, Black
TFT-200/7	7	.148″	.015″	Natural Only
TFT-200/6	6	.166″	.015″	Natural Only
TFT-200/5	5	.186″	.015″	Natural Only
TFT-200/4	4	.208″	.015″	Natural Only
TFT-200/3	3	.234″	.015″	Natural Only
TFT-200/2	2	.263″	.015″	Natural Only
TFT-200/1	1	.294″	.015″	Natural Only
TFT-200/0	0	.330″	.015″	Natural Only

STANDARD PUT-UPS: 100′ SPOOLS
STANDARD PUT-UPS: 100′ COILS*
*Random Lengths Packed in 100′ Coils.



CONFORMS TO MIL-I-22129C

CHARACTERISTICS: Similar in characteristics to TFT-200 (Thin Wall Tubing), but for use in application where additional dielectric values and mechanical strength are necessary.

TFT-250/24	24	.022″	.012″	Natural Only
TFT-250/22	22	.027″	.012″	Natural Only
TFT-250/20	20	.034″	.016″	Natural Only
TFT-250/19	19	.038″	.016″	Natural Only
TFT-250/18	18	.042″	.016″	Natural Only
TFT-250/17	17	.047″	.016″	Natural Only
TFT-250/16	16	.053″	.016″	Natural Only
TFT-250/15	15	.059″	.016″	Natural Only
TFT-250/14	14	.066″	.016″	Natural Only
TFT-250/13	13	.076″	.016″	Natural Only
TFT-250/12	12	.085″	.016″	Natural Only
TFT-250/11	11	.095″	.016″	Natural Only
TFT-250/10	10	.106″	.016″	Natural Only
TFT-250/9	9	.118″	.020″	Natural Only
TFT-250/8	8	.133″	.020″	Natural Only
TFT-250/7	7	.148″	.020″	Natural Only
TFT-250/6	6	.166″	.020″	Natural Only
TFT-250/5	5	.186″	.020″	Natural Only
TFT-250/4	4	.208″	.020″	Natural Only
TFT-250/3	3	.234″	.020″	Natural Only
TFT-250/2	2	.263″	.020″	Natural Only
TFT-250/1	1	.294″	.020″	Natural Only
TFT-250/0	0	.330″	.020″	Natural Only

STANDARD PUT-UPS: 100′ SPOOLS
STANDARD PUT-UPS: 100′ COILS*
*Random Lengths Packed in 100′ Coils.

Alpha Zipper Tubing

Select the type of Zipper Tubing desired from the charts below and the required Inside Diameter. When ordering, request as follows: For example, ZIP-31 Tubing in ⅝″ Inside Diameter order — ZIP-31 — ⅝.

A tighter fitting jacket will result when using an I.D. of Zipper Tubing, the same size as, or to the nearest larger size of the O.D. of the cable to be covered. However, in this case, the Zipper Tubing must be closed by manually engaging the tracks.



Type	Material	Wall Thickness	Oper. Temp.	Applications	Stock Colors	Standard Put-ups
ZIP-31	Polyvinylchloride made from MIL-I-631D, GRADE C Materials.	.020″	−20°C to 105°C	All Purpose Type	Clear Black	25′, 50′, 100′ 25′, 50′, 100′
ZIP-31M	Polyvinylchloride made from MIL-I-631D, GRADE C Materials.	.040″	−20°C to 105°C	Heavy Duty Constructions	Clear Black	100′ 100′
ZIP-50	Polyvinylchloride "sandwich" of aluminum foil laminated between two sheets of polyvinyl.	.040″	−20°C to 105°C	100% RF Shielding	Silver-Grey	100′

© United Technical Publications

High Temperature Teflon Tubing

HEAT SHRINKABLE — FIT-500

CHARACTERISTICS: Continuous operating range −67°C to +250°C. Outstanding chemical and solvent resistance. Non Flammable. High mechanical strength and lowest coefficient of friction. Offers all the outstanding physical, electrical and chemical advantages of Teflon, in an easy to use heat-shrinkable, tubing. Has the same high resistance to chemicals and corrosive agents as ordinary Teflon tubing (Alpha TFT-200 and TFT-250). Non-burning, non-corrosive and has excellent electrical characteristics that remain stable throughout its electrical range. When a temperature of 327°C is applied to FIT-500, the tubing shrinks to approximately 65% of its supplied size returning to its original pre-determined diameter. Longitudinal shrinkage is less than 10%. FIT-500 forms a tight, flexible, protective covering for wires, and electronic components, is recommended for use as a mechanical shield and is ideal for friction-proofing.

CONFORMS TO MIL-I-23053/12

ALPHA No.	Minimum I.D. Before Shrinkage	Recovered I.D. After Shrinkage	Nominal Recovered Wall Thickness	Standard Package 2′ Lengths Total Footage	No. of Lengths
FIT-500-30	.030″	.022″	.009″	100′	50
FIT-500-28	.035″	.025″	.009″	100′	50
FIT-500-26	.040″	.028″	.010″	100′	50
FIT-500-24	.050″	.032″	.010″	100′	50
FIT-500-22	.055″	.037″	.010″	100′	50
FIT-500-20	.060″	.044″	.012″	100′	50
FIT-500-18	.076″	.052″	.012″	100′	50
FIT-500-16	.093″	.063″	.012″	100′	50
FIT-500-14	.121″	.078″	.012″	100′	50
FIT-500-12	.153″	.096″	.012″	50′	25
FIT-500-10	.191″	.116″	.012″	50′	25
FIT-500-8	.240″	.144″	.015″	50′	25
FIT-500-6	.302″	.178″	.015″	20′	10
FIT-500-4	.370″	.224″	.015″	20′	10
FIT-500-2	.340″	.278″	.015″	20′	10
FIT-500-0	.470″	.000″	.015″	20′	10

How to Apply FIT-500 — Use Alpha HG-2 heat gun to obtain proper heat for shrinkage. When a temperature of 327°C is obtained, the tubing will change from a cloudy translucence to a completely clear appearance. When this occurs, heat source should be removed, and tubing allowed to continue shrinking without applying further heat.

Alpha Polyvinylchloride Plastic Tubing (PCV-105)

DESCRIPTION: The superior mechanical, thermal, and electrical properties of Alpha PVC-105, coupled with its economical cost have led to an ever increasing use of this all-purpose insulating material. Another major advantage of Alpha PVC-105 is its high degree of flexibility, which is maintained even under severe environmental conditions. Rated for temperatures as high as 105°C, PVC-105 has a high resistance to the agents of heat, oil, chemical corrosion and temperature throughout its range. PVC-105 maintains a high dielectric strength that remains unaffected by increasing fungi with no loss in tensile strength, or flexibility. Other features include an exceptional resistance to abrasion and indefinite shelf life.

APPLICATIONS: For general electronic, aircraft and electrical applications involving temperatures as high as 105°C. Especially useful to protect wires and cables subject to abrasion or where a flexible tubing with a high degree of resistivity to oil, chemicals or solvents is necessary. **STOCK COLORS:** 1-Clear, 2-Black, 3-White.

CONFORMS TO MIL-I-631D

ALPHA No.	Size	Nominal Inside Diameter	Nominal Wall Thickness	Stock Colors	Standard Put-ups
PVC-105/24	24	.022″	.013″	1, 2, 3	100′, 1000′ Spools
PVC-105/22	22	.027″	.012″	1, 2, 3	100′, 1000′ Spools
PVC-105/20	20	.034″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/19	19	.038″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/18	18	.042″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/17	17	.047″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/16	16	.053″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/15	15	.059″	.016″	1, 2, 3	100′, 1000′ Spools
PVC-105/14	14	.066″	.016″	1, 2, 3	100′, 500′ Spools
PVC-105/13	13	.076″	.016″	1, 2, 3	100′, 500′ Spools
PVC-105/12	12	.085″	.016″	1, 2, 3	100′, 500′ Spools
PVC-105/11	11	.095″	.016″	1, 2, 3	100′, 500′ Spools
PVC-105/10	10	.106″	.016″	1, 2, 3	100′, 500′ Spools
PVC-105/9	9	.118″	.020″	1, 2, 3	100′, 500′ Spools
PVC-105/8	8	.133″	.020″	1, 2, 3	100′, 500′ Spools
PVC-105/7	7	.148″	.020″	1, 2, 3	100′, 500′ Spools
PVC-105/6	6	.166″	.020″	1, 2, 3	100′, 500′ Spools
PVC-105/5	5	.186″	.020″	1, 2, 3	100′, 500′ Spools
PVC-105/4	4	.208″	.020″	1, 2, 3	100′, 250′ Spools
PVC-105/3	3	.234″	.020″	1, 2, 3	100′, 250′ Spools
PVC-105/2	2	.263″	.020″	1, 2, 3	100′, 250′ Coils
PVC-105/1	1	.294″	.020″	1, 2, 3	100′, 250′ Coils
PVC-105/0	0	.330″	.020″	1, 2, 3	100′, 250′ Coils
PVC-105/3/16	3/16″	.312″	.025″	1, 2, 3	100′, 250′ Coils
PVC-105/3/8	3/8″	.375″	.025″	1, 2, 3	100′, 250′ Coils
PVC-105/7/16	7/16″	.438″	.025″	1, 2, 3	100′ Coils
PVC-105/1/2 A	1/2″	.500″	.025″	1, 2, 3	100′ Coils
PVC-105/9/16	9/16″	.562″	.030″	1, 2, 3	100′ Coils
PVC-105/5/8	5/8″	.625″	.030″	1, 2, 3	100′ Coils
PVC-105/3/4	3/4″	.750″	.035″	1, 2, 3	50′ Coils
PVC-105/7/8	7/8″	.875″	.035″	1, 2, 3	50′ Coils
PVC-105/1	1″	1.000″	.035″	1, 2, 3	50′ Coils
PVC-105/1 1/8	1 1/8″	1.125″	.035″	1, 2	50′ Coils
PVC-105/1 1/4	1 1/4″	1.250″	.040″	1, 2	50′ Coils
PVC-105/1 3/8	1 3/8″	1.375″	.040″	1, 2	50′ Coils
PVC-105/1 1/2	1 1/2″	1.500″	.045″	1, 2	50′ Coils
PVC-105/1 3/4	1 3/4″	1.750″	.055″	1, 2	50′ Coils
PVC-105/2	2″	2.000″	.060″	1, 2	50′ Coils
PVC-105/2 1/4	2 1/4″	2.250″	.065″	1, 2	50′ Coils
PVC-105/2 1/2	2 1/2″	2.500″	.070″	1, 2	50′ Coils



© United Technical Publications

Alpha Plastic Impregnated Fiberglass Tubing (PIF-130)

DESCRIPTION: PIF-130 is the toughest and most pliable of insulating materials and is formulated to provide the maximum in electircal characteristics, chemical resistance, heat stability and abrasion resistance. A Class B, Grade B, insulating material, PIF-130, is recommended for conditions requiring continuous operation at temperatures up to 130°C. Prolonged baking at this high temperature does not affect the tubing's retention of color. The tubing is constructed from an inorganic fiberglass base sleeving coated with a heat resistant, extremely flexible, tough plastic insulation. Alphlex PIF-130 has excellent "cut-through" characteristics and is heat-treated to permanently set the glass fibers assuring perfect roundness and ends that will not fray, when cut. Neither the fiberglass base sleeving nor the plastic coating will support combustion.

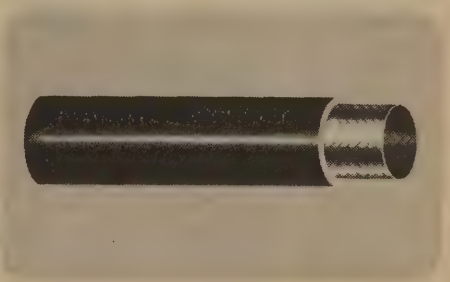
APPLICATIONS: Because of its toughness and flexibility the material is widely used where tubing is subject to bending, knotting, and high torque. PIF-130 will not peel or crack or lose its dielectric values even under conditions involving extreme abuse. Other applications include use in electric motors, generator or resistor leads where maximum push-back of insulation is desirable.

STOCK COLOR: Black.

CONFORMS TO MIL-I-3190B — GRADE B

ALPHA No.	Size	Wall Thickness Max.	Wall Thickness Min.
PIF-130/24	24	.022″	.016″
PIF-130/22	22	.022″	.016″
PIF-130/20	20	.022″	.016″
PIF-130/18	18	.022″	.016″
PIF-130/16	16	.028″	.020″
PIF-130/14	14	.028″	.020″
PIF-130/12	12	.028″	.020″
PIF-130/10	10	.028″	.020″
PIF-130/8	8	.028″	.020″
PIF-130/6	6	.028″	.020″

ALPHA No.	Size	Wall Thickness Max.	Wall Thickness Min.
PIF-130/4	4	.036″	.026″
PIF-130/2	2	.036″	.026″
PIF-130/0	0	.042″	.030″
PIF-130/3/8	3/8″	.042″	.030″
PIF-130/7/16	7/16″	.042″	.030″
PIF-130/1/2 A	1/2″	.042″	.030″
PIF-130/5/8	5/8″	.042″	.030″
PIF-130/3/4	3/4″	.042″	.030″
PIF-130/7/8	7/8″	.042″	.030″
PIF-130/1	1″	.042″	.030″



STANDARD PUT-UPS: #24, #16 — 100 FT., 500 FT., 1000 FT.
#14, #8 — 100 FT., 500 FT.
#6, #2 — 100 FT., 250 FT.
#0 — 1 IN., 100 FT.

Irradiated Polyolefin FIT-Caps

Polyolefin FIT-Caps are short lengths of semi-rigid Shrinkable Tubing sealed on one end and specifically designed to act as termination caps over wire, cable and splices. Polyolefin FIT-Caps, with controlled shrinkage, form a tight-fitting mechanical bond over terminations. Made of flame resistant, extremely tough, abrasion-resistant polyolefin tubing, the caps shrink and seal the ends of one or more wires, making a firmly encapsulated, moisture-resistant termination. Controlled shrinkage to the correct predetermined size takes place within seven seconds at 275°F to 300°F. Shrinkage Ratio 2:1.

ALPHLEX No.	Minimum I.D. Before Shrinking	Recovered I.D. After Shrinking	Nominal Wall Thickness	Nominal Length	Stock Colors	Standard Pkg. Put-up (Pieces)
CAP-1	.063″	.025″	.016″	3/4″	White	100 or 1000
CAP-2	.125″	.050″	.020″	1″	Red	100 or 1000
CAP-3	.250″	.100″	.025″	1 1/4″	Slate	100 or 1000
CAP-5	.350″	.175″	.035″	1 1/3	Brown	100 or 1000
CAP-4	.500″	.250″	.040″	1 1/2	Black	100 or 1000

SELF-ENCAPSULATING FIT-CAPS

A new method of wire encapsulation that allows permanent, abrasion resistant, moisture-proof encapsulations without molding, potting, or special tools. Molded caps are made of a molded, heat shrinkable, cross-linked polyolefin with two inserts. The insert at the closed end of the cap melts and flows between the splice forming a moisture proof encapsulation. The insert near the open end acts as a dam, preventing the molten material from flowing out beyond the cap. Cap shrinks and melts at 275°F.

STOCK COLOR: Black.

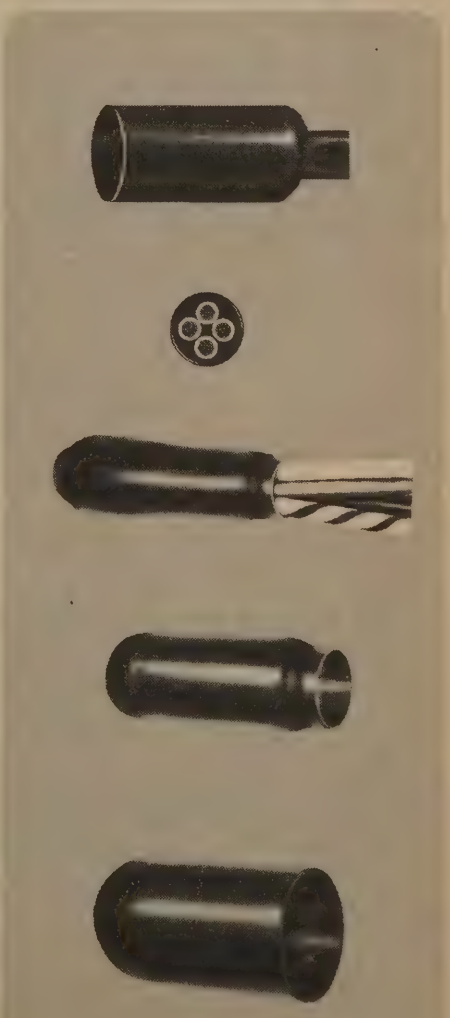
ALPHLEX No.	Minimum I.D. Before Shrinking	Recovered I.D. After Shrinking	Nominal Inner Wall Thickness	Nominal Outer Wall Thickness	Nominal Length	Standard Pkg. Put-up (Pieces)
CAP-11	.160″	.080″	.013″	.040″	1.12″	10 or 25
CAP-12	.250″	.120″	.020″	.050″	1.25″	10 or 25
CAP-15	.360″	.180″	.030″	.060″	1.50″	10 or 25

MOLDED FIT-CAPS

Alphlex molded FIT-Caps are made of molded polyolefin that shrinks when heated (275°F) to a predetermined size and shape. Molded FIT-Caps provide a tough, abrasion resistant outer covering for wire and cable terminations. Shrinkage ratio, 2:1.

STOCK COLOR: Black.

ALPHA No.	Minimum I.D. Before Shrinking	Recovered I.D. After Shrinking	Nominal Wall Thickness	Nominal Length	Standard Pkg. Put up (Pieces)
CAP-21	.16″	.08″	.04″	1.12″	10 or 25
CAP-22	.25″	.12″	.05″	1.15″	10 or 25
CAP-23	.36″	.18″	.06″	1.40″	10 or 25
CAP-24	.50″	.25″	.07″	1.87″	10 or 25
CAP-25	.75″	.37″	.08″	2.70″	10 or 25
CAP-26	1.00″	.50″	.09″	3.50″	10 or 25
CAP-27	1.50″	.75″	.10″	4.00″	10 or 25
CAP-28	2.00″	1.00″	.11″	4.50″	10 or 25



© United Technical Publications

FIT-Markers — Shrinkable Wire Markers

AN IRRADIATED FLEXIBLE POLYOLEFIN PRODUCT

Shrinkage Ratio 2:1 (50% Shrinkage). Easy to apply—even over terminations. Slip-proof. Insulates and marks terminations and connectors.

ASSORTMENTS: FIT-Markers are available in various assortments of 100 markers each. Number assortments contain 2 markers of every number from 1-50; letter assortments contain 4 markers of every letter from A-Z.

COLOR STOCK: Black.

ALPHLEX No.	O.D. of Wire to be Identified	Minimum I.D. Before Shrinking	Recovered I.D. After Shrinking	Printing on Markers	Standard Package
MRK-A-NS	.049"-.065"	.098"	.049"	1-50	100*
MRK-B-NS	.066"-.095"	.122"	.061"	1-50	100*
MRK-C-NS	.096"-.150"	.178"	.089"	1-50	100*
MRK-A-LS	.049"-.065"	.098"	.049"	A-Z	100†
MRK-B-LS	.066"-.095"	.122"	.061"	A-Z	100†
MRK-C-LS	.096"-.150"	.178"	.089"	A-Z	100†

*2 of each number. †4 of each letter.

STANDARD MARKINGS: Individual numbers, 1, 2, etc. thru 50 or individual letters, A, B, C.



DACRON: Retains all the above characteristics of nylon, plus: less elongation, better resistance to acids, no appreciable discoloration.

Nylon: Synthetic fiber, resistant to: Fungus, flame, acids, abrasion. Excellent tensile strength, lightweight, small size.

FINISHES

GE: A synthetic rubber-like resin formulated with a non-mercuric compound which lends the finish fungicidal properties. This finish permits easier handling and better knot retention. This finish has a melting point in excess of 190°F and will soften, but not flow, at 140°F.

MW: A micro-crystalline wax with a melting point above 130°F compounded with a fungicide which does not contain either copper of mercuric materials. Excellent knot retention, yet finish does not have too great a "waxy" feel to the user. MW is soft, pliable, easy to tie and meets Government Spec. MIL-T-713.

AM: A thermoplastic synthetic resin with a melting point above 350°F for use where a "wax-free" type is specified. It is a non-dusting or flaking, dry finish with good knot tying qualities.

SR: A special continuous coating of fungistatic synthetic rubber containing no corrosive compounding ingredients. Knots tied with this finish will not slip. It is extremely pliable and soft and will not injure the user's hands. This finish will not flake or dust.

Alpha Electronic Lacing Cords & Tapes

MIL-T-713A NYLON TWISTED CORD

ALPHA No.	Class	Type	Breaking Strength	Finish	Nominal Diameter	Stock Colors	Yards Per Pound	Standard Put-up
LC-113	I	P Twine	70 lbs.	MW	.050"	Wh., Blk.	560	8 oz. Spools
LC-114	II	P Twine	48 lbs.	MW	.035"	Wh., Blk.	750	8 oz. Spools
LC-115	III	P Twine	32 lbs.	MW	.030"	Wh., Blk.	1180	8 oz. Spools

MIL-T-43435 NYLON & DACRON FLAT BRAIDED TAPE

ALPHA No.	Size	Type	Breaking Strength	Nominal Width	Nominal Thickness	Finish	Stock Colors	Standard Put-up
LC-136	3	I (Nyl.)	50 lbs.	.090" (3/32")	.014"	B(MW)	Wh., Blk.	500 yd. Spools
LC-162	3	II (Dac.)	50 lbs.	.090" (3/32")	.012"	B(MW)	Wh., Blk.	500 yd. Spools

NYLON FLAT BRAIDED TAPE

ALPHA No.	Width	Thickness	Tensile Strength	Finish	Stock Colors	Standard Put-up
LC-132	3/32"	.014"	50 lbs.	GE	Wh., Blk.	500 yd. Tubes
LC-134	1/16"	.010"	30 lbs.	MW	Wh., Blk.	500 yd. Spools
LC-136	3/32"	.014"	50 lbs.	MW	Wh., Blk.	500 yd. Spools
LC-140	3/32"	.014"	50 lbs.	SR	Wh., Blk.	500 yd. Spools
LC-143	3/32"	.014"	50 lbs.	AM	Wh., Blk.	500 yd. Spools

Alpha Heat Guns & Accessories

TURBO FAN
PROVIDES TEMPERATURES UP TO 1000°F.
HG-1 TO 500°F. HG-2 750°F. TO 1000°F.

DESCRIPTION: Flameless, quiet operating, hot air torches that may be used for portable operations or secured permanently to a bench by means of a mounting bracket. Heavy duty construction to withstand continuous operation use, the HG-1 is the recommended tool for shrinking ALL FIT tubing, except FIT-500 Teflon tubing. Both have adjustable air intake to control temperature and a double jacketed housing of die cast aluminum. Equipped with an 8 ft. neoprene jacketed 3-wire cord and plug and adaptor for 2 prong receptacle.

HG-1 & HG-2 SPECIFICATIONS: Voltage, 115V, AC/DC. Amperage, 14 amp. Air Volume, 35 CFM at 3000 FPM velocity. Overall Height, 8". Nozzle Length, 4". Overall Length, 11". Nozzle Diameter, 1 3/32". Base Plate, 5 3/4" each side (triangular shaped). Power Cord, 8' neoprene jacketed 3 conductor cord with adaptor for 2 prong receptacle.



© United Technical Publications

Alpha Heat Guns & Accessories (Continued)

NEW MINIATURE FIT-GUN

USE FOR FIT SLEEVES AND ALL FIT TUBING

DESCRIPTION: A new miniature heat gun that has been developed for shrinking all FIT Tubing as well as FIT Sleeves. A durable, electric motor-driven unit delivers a high volume of air to the nozzle. Easily replaceable heat elements. 3 position rocker switch. Lightweight—use as bench or hand unit.

SPECIFICATIONS: Amp Rating, 7. Operating Volt., 115 AC. Wt. of Gun, 3 lbs.

TYPICAL TEMPERATURES: 175°C (347°F) without adaptor; 205°C (401°F) with adaptor only; 230°C (446°F) with tubing reflector; 340°C (664°F) with FIT Sleeve reflector.

Temperatures will vary with fluctuations in line voltage.

MODEL FG-1: Includes gun, stand, tubing reflector and FIT Sleeve reflector.



FIT® SOLDERING SLEEVES

SOLDERS—INSULATES—ENCAPSULATES FOR WIRE SPLICING AND SHIELD GROUNDING

MEETS PERFORMANCE REQUIREMENTS FOR MIL-F-21608A, MIL-T-7928

A new pre-packaged soldering device that insulates, encapsulates and prepares a reliable, uniform solder joint.

The sleeve consists of an irradiated, heat-shrinkable, polyolefin sleeve containing a preform of fluxed solder at the center and a thermoplastic sealing ring on each end. When placed over a cable shield and ground lead, or splice, and briefly heated, the outer sleeve shrinks and the solder and thermoplastic inserts melt forming an insulated, encapsulated, soldered termination. Soldering sleeves offer many advantages over crimped and other forms of connection including: the proper type and quantity of solder for each joint; easy observation of solder flow, and inspection of completed joint; built-in stress relief by shrinkage of sleeving over ends of insulated wire, giving longer life and greater flexibility at connection points. Cost savings are gained by eliminating braid cutting, space saving, and excellent moisture and environmental resistance characteristics.

Soldering sleeves may be used in shield ground applications, as junctions or as a stub splice. The FG-1 heat gun with soldering sleeve reflector is recommended. Heating time is from three to five seconds. Heat should be maintained on sleeve until solder ring changes from dull grey to bright silver and flows toward dam on both ends of sleeve.

ALPHA No.	For Use as Shield Termination Max. Dia. (A)	Min. Dia. (B)	2 Wires Min.	2 Wires Max.	For Use as Cap Splice *CMA of Conductors 3-4 Wires Min.	3-4 Wires Max.	5-6 Wires Min.	5-6 Wires Max.	Standard† Put-up
FSL-1 FSH-1	.125	.055	2000 **	4000	1400	2800	1500	2000	25, 100, 1000 Sleeves
FSL-2 FSH-2	.200	.100	4000	5000	2800	7700	2000	7200	25, 100, 1000 Sleeves
FSL-3 FSH-3	.300	.160			For Use as Shield Termination Only				25, 100, 1000 Sleeves

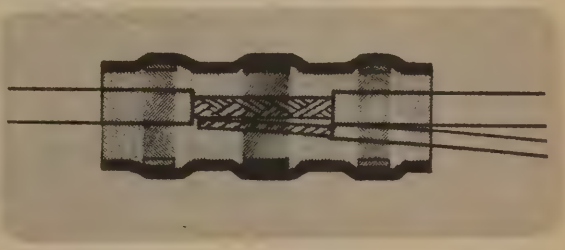
†25 and 100 piece put-ups in reuseable plastic vials. 1000 pieces bulk in plastic bags in corrugated container.

*CMA Range not to be exceeded. Figures based on total surface area to be soldered and total mass of conductors to provide optimum solder flow.

**Will splice two #26 conductors or larger.

Wire Size	26	24	22	20	18	6
(CMA) Circular Mill Area	304	475	754	1216	1900	2413

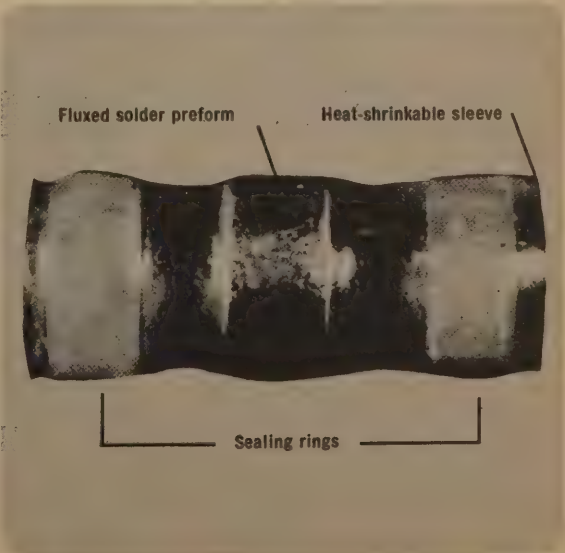
HOW TO ORDER: Measure maximum and minimum diameters of wire with shield to be terminated or wires to be lap spliced. Select soldering sleeve that falls in range shown on chart.



SLEEVE TYPES

FSL sleeves contain a solder alloy of 51.2% tin, 30.6% lead, 18.2% cadmium to MIL-F-14256. Solder melting temperature is 293°F. Application includes use on vinyl, vinyl-nylon and other thermoplastic insulations.

FSH sleeves contain an Sn63 solder preform to QQ-S-571 and are coated with activated resin to MIL-F-14256. Solder melting temperature is 361°F. Applications include use on teflon, high temperature and irradiated insulations.



Alpha Quick Custom Cable Division

alpha

WE'LL GO TO ANY LENGTH TO MAKE SPECIAL WIRE AND CABLE AND WE'LL MAKE IT IN ANY LENGTH—AND FAST!

Alpha Wire has set up a special division. It's called Quick Custom Cable — because it is equipped to design from scratch, or to design to your specifications, virtually any wire or cable, any construction. And deliver it rapidly.

And when we say special, we mean special. Special shielding, braiding, special conductors — any material, any jacket. We're prepared to give you the special wire you must have and must have promptly — in any lengths, from one foot to a meter. We're prepared to design and produce it and get it to you fast. We'll air ship to meet your deadlines. This is the first service of its kind offered by any nationally known wire and cable manufacturer.

Our Quick Custom Cable division — just another way Alpha makes it easier for you to get the cable you want when you want it.

QCC by Alpha

© United Technical Publications



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

BIRNBACH COMPANY INC.

HEAT SHRINKABLE TUBING

PVC / TEFLON / POLYOLEFIN

SK-221 & SK-105 TUBING PROPERTIES

	Rating	Test
Tensile Strength	2960 PSI	ASTM D-876-59-T
Ultimate Elongation	200%	ASTM D-876-59-T
Brittleness Temperature	−34°C	ASTM D-746-57-T
Specific Gravity	1.34	MIL-I-631 D, 4. 6. 12
Water Absorption	0.06% 24 Hours	ASTM D-570-57-T Proc. A
Dielectric Strength	1050 Volts/Mil	ASTM D-149-55-T
Volume Resistivity	5.2 x 10^{14} Ohm-cm	ASTM D-257-58 MIL-I-631 D, 4. 6. 13
Fungus Resistivity	0-1	MIL-I-631 D 3. 5. 7 and 4. 6. 16
Flammability	Self-Extinguishing	ASTM D-876-60-T MIL-I-631 D, 4. 6. 13
Flexibility After Heat Aging 200 Hrs. a 100°C Bend Over ⅛" Mandrel	Good	
Corrosion on Copper, Brass and Aluminum After 14 Days a 100°C	Excellent	MIL-I-7444 B

CHEMICAL RESISTANCE

Fuel JP-4 MIL-J-5624	Excellent
Aviation Gasoline 100/130	Excellent
Hydraulic Oil MIL-0-5606	Excellent
Hydrochloric Acid 35%	Excellent
Water	Excellent
Sodium Chloride 5%	Excellent
Alkalis	Excellent

Birnbach Number New Number	Birnbach Number Former Number	Size Expanded	Size Recovered	Min. Expanded I.D.	Max. Recovered I.D	Nom. Wall Recovered
SK-105 Formerly SK-265	Vinyl		105°C		Mil-I-23053 A - Grade 5	Mil-I-631 Grade C
SK105-1/16"	SK265-1/32"	1/16"	1/32"	.062	.031	.020
SK105-3/32"	SK265-3/64"	3/32"	3/64"	.094	.047	.025
SK105-1/8"	SK265-1/16"	1/8"	1/16"	.125	.063	.025
SK105-3/16"	SK265-3/32"	3/16"	3/32"	.184	.094	.025
SK105-1/4"	SK265-1/8"	1/4"	1/8"	.250	.125	.025
SK105-3/8"	SK265-3/16"	3/8"	3/16"	.375	.188	.025
SK105-1/2"	SK265-1/4"	1/2"	1/4"	.500	.250	.025
SK105-3/4"	SK265-3/8"	3/4"	3/8"	.750	.375	.025
SK105-1"	SK265-1/2"	1"	1/2"	1.00	.500	.030
SK105-1 1/2"	SK265-3/4"	1 1/2"	3/4"	1.50	.750	.035
SK105-2"	SK265-1"	2"	1"	2.00	1.00	.040

SK-221 Formerly SK-275	Irradiated Polyolefin			135°C	MIL-I-23053 (WEP) CLASS I	
SK221-1/16"	SK275-1/32"	1/16"	1/32"	.062	.031	.020
SK221-3/32"	SK275-3/64"	3/32"	3/64"	.094	.047	.025
SK221-1/8"	SK275-1/16"	1/8"	1/16"	.125	.063	.025
SK221-3/16"	SK275-3/32"	3/16"	3/32"	.184	.094	.025
SK221-1/4"	SK275-1/8"	1/4"	1/8"	.250	.125	.025
SK221-3/8"	SK275-3/16"	3/8"	3/16"	.375	.188	.025
SK221-1/2"	SK275-1/4"	1/2"	1/4"	.500	.250	.025
SK221-3/4"	SK275-3/8"	3/4"	3/8"	.750	.375	.025
SK221-1"	SK275-1/2"	1"	1/2"	1.00	.500	.030
SK221-1 1/2"	SK275-3/4"	1 1/2"	3/4"	1.50	.750	.035
SK221-2"	SK275-1"	2"	1"	2.00	1.00	.040

*NOTE: SK-105 PVC tubing is unsuitable in contact with organic solvents.
SK-105 PVC tubing has a higher resistance to oils than low density Polyethylene.

All SK-221 available in 4 foot lengths and spools.

Stock Colors: Black, White, Clear

1/32" Thru 1/8" 500' — 250' — 100' — 50' — 25'
5/32" Thru 1/4" 250' — 100' — 50' — 25'
3/8" Thru 1" 100' — 50' — 25'

SK-621 TEFLON* 250°C/MIL-23053 (WEP) CLASS II

Birnbach Number	Size Number	Min. Expanded I.D.	Max. Recovered I.D.	Nom. Wall Recovered
SK-621-22	22*	.055"	.032"	.010"
SK-621-20	20*	.060"	.039"	.012"
SK-621-19	19	.065"	.043"	.012"
SK-621-18	18*	.076"	.049"	.012"
SK-621-17	17	.085"	.054"	.012*
SK-621-16	16*	.093"	.061"	.012"
SK-621-15	15	.110"	.067"	.012"
SK-621-14	14*	.120"	.072"	.012"
SK-621-13	13	.140"	.080"	.012"
SK-621-12	12*	.150"	.089"	.012"
SK-621-11	11	.170"	.101"	.012"
SK-621-10	10*	.191"	.112"	.012"
SK-621-9	9	.205"	.124"	.015"
SK-621-8	8*	.240"	.141"	.015"
SK-621-7	7	.270"	.158"	.015"
SK-621-6	6*	.302"	.178"	.015"
SK-621-5	5	.320"	.198"	.015"
SK-621-4	4*	.348"	.224"	.015"
SK-621-3	3	.360"	.249"	.015"
SK-621-2	2*	.375"	.278"	.015"
SK-621-1	1	.385"	.311"	.015"
SK-621-0	0*	.400"	.347"	.015"
SK-621-3/8"	3/8"*	.560"	.399"	.020"
SK-621-7/16"	7/16"*	.655"	.462"	.020"
SK-621-1/2"	1/2"*	.750"	.524"	.020"

Standard Put-up: 36" Straight Lengths.

* Dupont Trade Name

BIRFLON SHRINK SERIES TE TUBING

HEAT SHRINKABLE TEFLON TUBING*

Is a Class C material modified from polytetrafluorethylene. The tubing will shrink when heated to 621°F. (It should be heated until it turns semi-transparent, then the heating process immediately stopped. Overheating can cause splitting, therefore trial and error testing is recommended to establish the proper time and temperature for each application.) Correct procedure will result in a snug-fitting insulating wrap possessing hi-heat resistance, superior chemical resistance and excellent electrical characteristics. The tubing is available in a full range of colors. Stock colors: black, white, natural.

* Dupont Polytetrafluorethylene

TUBING PROPERTIES

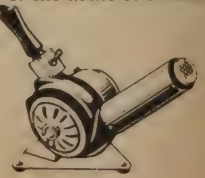
Dielectric Strength (20 Mil Wall)	850 Volts/Mil
Dielectric Constant	2.2
Power Factor	.00
Volume Resistivity	10^{17} Ohms/CM
Fungus Resistance	Inert
Flammability	Will not Support Combustion
Fuel and Oil Resistance	Superior
Hydraulic Fluid Resistance	Superior
Solvent Resistance	Superior
Acid and Alkali Resistance	Superior
Corrosion Resistance	Excellent
Tensile Strength	5000-7500 PSI
Ultimate Elongation	300-500%
Water Absorption	Nil
Low Temperature Brittle Point	−66°F
Hardness	98 Shore A
Specific Gravity	2.2

HOT AIR GUN

HAG-12 500/750°F For PVC Series

HAG-13 750/1000°F For TE Series

The quickest and most versatile method for applying heat is the hot air gun noted herein. Also, use of an oven, radiant heat, dipping in hot liquids, or using a soldering iron or the flame of a match.



FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

EXTRUDED PLASTIC TUBING



APPROVED FOR 105°C. OPERATION — MEETS MIL-I-631D SPECS — A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grade A and C, Class 2, Category 1). **U. L. Approved**

STANDARD COLORS

EVEN NUMBERS — #24, 22, 18, 16 — Clear Black, Yellow, Red, Green, Brown, Orange, Blue, White, Violet and Gray; #14, 12, 10, 8, 6, 4, 2, 5/16", — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue and White.

ODD NUMBERS — #19, 17, 15, 13, 11, 9, 7, 5, 3, 1, 0 — Clear, Black, White; #3/4" thru 2 1/2" — Clear, Black, White.

STANDARD PUT-UPS

#24 thru #15	1,000' - 500' - 100' - 50' - 25' spools
#14 thru #8	500' - 100' - 50' - 25' spools
#4 thru 1/2"	250' - 100' - 50' - 25' coils
9/16" thru 7/8"	100' - 50' - 25' coils
1" and larger	50 coils

SIZES #24 THRU #15 AVAILABLE IN 36" LENGTHS

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
24	B105-24	308	.022	.012
22	B105-22	311	.027	.012
20	B105-20	313	.034	.016
19	B105-19	—	.038	.016
18	B105-18	314	.042	.016
17	B105-17	—	.047	.016
16	B105-16	315	.053	.016
15	B105-15	—	.059	.016
14	B105-14	316	.066	.016
13	B105-13	—	.076	.016
12	B105-12	317	.085	.016
11	B105-11	—	.095	.016
10	B105-10	325	.106	.016
9	B105-9	—	.118	.020
8	B105-8	318	.133	.020
7	B105-7	—	.148	.020
6	B105-6	326	.166	.020
5	B105-5	—	.186	.020
4	B105-4	319	.208	.020
3	B105-3	—	.234	.020
2	B105-2	320	.263	.020
1	B105-1	—	.294	.020
0	B105-0	—	.330	.020
5/16"	B105-5/16"	321	.312	.025
3/8"	B105-3/8"	322	.375	.025
7/16"	B105-7/16"	—	.438	.025
1/2"	B105-1/2"	323	.500	.025
9/16"	B105-9/16"	—	.562	.030
5/8"	B105-5/8"	324	.625	.030
3/4"	B105-3/4"	327	.750	.035
7/8"	B105-7/8"	360	.875	.035
1"	B105-1"	361	1.000	.035
1 1/8"	B105-1 1/8"	—	1.125	.040
1 1/4"	B105-1 1/4"	362	1.250	.040
1 3/8"	B105-1 3/8"	—	1.375	.040
1 1/2"	B105-1 1/2"	363	1.500	.045
1 3/4"	B105-1 3/4"	328	1.750	.055
2"	B105-2"	329	2.000	.060
2 1/4"	B105-2 1/4"	364	2.250	.065
2 1/2"	B105-2 1/2"	365	2.500	.070

TABLE OF PHYSICAL & ELECTRICAL PROPERTIES — B-105 — TUBING

Tensile Strength — 2500 Psi. (Minimum Average)

Flammability — Non-Flammable

Ultimate Elongation — 340%

Recommended for Temperature to — 105°C

Cold Bend — 40°C

Dielectric Strength .020" Wall — 800 V/Mil

Varnish Baking — Good

Water Absorption

Weight Increase (1 Week) — **0.1%** — Fungus Resistance — Yes

Oil Resistance — indefinitely flexible when immersed in oil.

Insulation Resistance — over 1,000,000 megohms.

IN STOCK The Birnbach Line of insulated sleeving and tubing is the basic quality line designed for the rigid performance requirements of the Aircraft, Electrical and Electronic Industries. Meets or exceeds the required MIL Specifications and ASTM and NEMA standard. We invite your inquiries on special problems and requirements.

VINYL COATED/ FIBERGLASS SLEEVING



B-130 • Per Mil-I-3190B and NEMA Standards to 130°C.

(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS. — Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. The plastic compound provides the highest electrical properties, heat stability (130°C), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.

Birnbach No.	B&S Ga. Size No.	Old No.	Nom. I.D.
B130-24	24	289	.022
B130-22	22	290	.027
B130-20	20	291	.037
B130-19	19	—	.038
B130-18	18	293	.042
B130-17	17	—	.047
B130-16	16	294	.053
B130-15	15	—	.059
B130-14	14	295	.066
B130-13	13	—	.076
B130-12	12	300	.085
B130-11	11	—	.095
B130-10	10	307	.106
B130-9	9	—	.118
B130-8	8	301	.133
B130-7	7	—	.148
B130-6	6	302	.166
B130-5	5	—	.186
B130-4	4	305	.208
B130-3	3	—	.234
B130-2	2	306	.263
B130-1	1	—	.294
B130-10	0	303	.330
B130-3/8	3/8"	304	.387
B130-7/16	7/16"	—	.450
B130-1/2	1/2"	299	.512
B130-5/8	5/8"	296	.640
B-130-3/4	3/4"	—	.768
B130-7/8	7/8"	—	.893
B-130-1	1"	—	1.018

DIMENSIONAL TOLERANCES

Size	Approx. I.D.	N.E.M.A. Tolerances Inches
24	.022	.020-.927
22	.027	.025-.032
20	.034	.032-.039
18	.042	.040-.049
16	.053	.051-.061
14	.066	.064-.072
12	.085	.081-.089
10	.106	.102-.112
8	.133	.129-.141
6	.166	.162-.178
4	.208	.204-.224
1/4", 2	.263	.258-.278
5/16", 0	.3125	.312-.328
3/8"	.375	.375-.399
1/2"	.500	.500-.524
5/8"	.625	.625-.655

PHYSICAL & ELECTRICAL PROPERTIES

Class B

Grade B-1

Dielectric Strength .....4000 V.

Temperature Rating .....130°C.

Low Temperature Flexibility ..—30°C.

Non-Flammable

Ins. Resist. .....Over 1,000,000 MEGS

Corrosion Resistance .....Excellent

Oil Resistance .....Good

COLORS

Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

SIZES	STANDARD COLORS
#24, 22, 20, 18, 14, 12, 10, 8, 6, 4, 2	Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple
5/16", 3/8", 1/2", 5/8"	Black, Red, White, Yellow, Orange, Green, Blue
#19, 17, 15, 13, 11, 9, 7, 5, 3	Black, Red, Yellow, Green
#1, 0, 7/16"	Black, Yellow
3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2"	Black

OTHER COLORS AVAILABLE TO ORDER

STANDARD PUT-UPS

#24 thru #15	1,000' - 500' - 250' - 100' - 50' - 25' - 30"
#14 thru #6	500' - 250' - 100' - 50' - 25' - 30"
#5 thru #2	250' - 100' - 50' - 25' - 30"
#1 thru 1/2"	250' - 100' - 50' - 25' - 36"
5/16" to 7/8"	100' - 50' - 25' - 36"
1" thru 2 1/2"	50' - 25'

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

TEFLON* TUBING

TFE EXTRUDED TUBING

T-500 T-500 Tubing is extruded from DuPont Tetrafluoroethylene Resin. Used in electronic and electrical equipment for connection of components. Its flexibility, ease of handling has established it as the best and most popular insulation sheathing. This high temperature Class C insulation does not melt and flow as the conventional thermoplastic materials. Birflon T-500 Teflon has unique electrical, chemical and mechanical properties unmatched by any other type tubing for use in applications requiring high frequencies and high temperatures.

Because of Teflon's continuous service temperature of 250° C., which is more than 100° C. above other materials, the soldering technique is simplified since "Teflon" is not harmed by the hot barrel of the soldering iron — therefore, the assembly of aircraft, missile and electronic communication equipment is greatly speeded up. Thin Wall flexible Teflon Tubing can be processed easily into flexible and rigid printed circuits. As a thin, flexible insulation, it permits miniaturization and compactness of design never before possible.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73°F.	D638-52T	1500-3000 Lb/Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122°F.		
1200 Lb/Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb/Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp, 66 Lb/Sq. In.	D648B-45T	250°F.
Dielectric Strength, .180"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10^{15} Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	3.6×10^{6} Megohms
Dielectric Constant, 60 to 10^{8} Cycles	D150-54T	2.00
Power Factor, 60 to 10^{8} Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. T-500-3/8 thru T-500-1¼ available in Natural. Additional Colors. Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

Tracer Colors Available—We Invite Your Inquiries For Your Special Requirements

ADDITIONAL ADVANTAGES OF BIRFLON T-500 TEFLON*

- **ELECTRICAL:** Low power factor, low dielectric constant, high volume and surface resistivity, good dielectric strength (500 to 1000 volts/MIL) constant over wide ranges of temperatures and frequencies. Dielectric constant of 2.0 and dissipation factor of 0.0002 are lowest of any solid dielectric.
- **THERMAL:** No change of electrical properties with temperature (25°C. to 250°C.) or frequency (60 CPS to 100 MC). Class C insulation — capable of continuous service at temperatures to 250°C. Has color stability.
- **TOUGHNESS AND FLEXIBILITY:** Has high impact strength. Is tough and flexible over the broad temperature range of —90°C. to 250°C. Service range —320°F. to 500°F.
- **CHEMICAL INERTNESS:** Completely inert to all chemicals and solvents except molten alkali metals and fluorine at elevated temperatures and pressures. Non-corrosive to all metals.
- **MOISTURE ABSORPTION:** Zero moisture absorption. Completely sun and weather resistant.
- **NON-FLAMMABLE** • **LOWEST COEFFICIENT OF FRICTION**
- **FUNGI RESISTANCE:** Inert to all fungi growths.
- **SIZES:** Birflon T-500 Teflon Tubing available in sizes to fit B & S gauge wires. Thin wall available from stock, in sizes No. 32 thru 1¼" I.D. Additional sizes and wall thicknesses made to order.

  Birflon T-500 is made from high molecular weight virgin "Teflon" and meets AMS 3651B, 3653B, 3654, 3655, MIL-C-17B and MIL-I-22129C.

NOTE: When cutting Teflon Tubing, use single edge razor blade for clean unpinched cut.

"Teflon"* DuPont Trade Name for Tetrafluoroethylene Resin

T-500 — THIN WALL (.0085" - .030")

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-32	32	8013	.011	.0085
T500-30	30	8014	.012	.009
T500-28	28	8015	.015	.009
T500-26	26	8016	.018	.010
T500-24	24	8000	.022	.010
T500-22	22	8001	.027	.010
T500-20	20	8002	.034	.012
T500-19	19	—	.038	.012
T500-18	18	8003	.042	.012
T500-17	17	—	.047	.012
T500-16	16	8004	.053	.012
T500-15	15	—	.059	.012
T500-14	14	8005	.066	.012
T500-13	13	—	.076	.012
T500-12	12	8006	.085	.012
T500-11	11	—	.095	.012
T500-10	10	8007	.106	.012
T500-9	9	—	.118	.015
T500-1/8	1/8	—	.125	.015
T500-8	8	8008	.133	.015

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-7	7	—	.148	.015
T500-6*	6	8009	.166	.015
T500-5*	5	—	.186	.015
T500-4*	4	8010	.208	.015
T500-3*	3	—	.234	.015
T500-1/4	1/4	—	.250	.015
T500-2*	2	8011	.263	.015
T500-1*	1	—	.294	.015
T500-5/16*	5/16	—	.312	.015
T500-0*	0	8012	.330	.015
T500-3/8*	3/8	8020	.390	.020
T500-7/16*	7/16	8021	.453	.020
T500-1/2	1/2	8022	.515	.025
T500-9/16*	9/16	8023	.583	.025
T500-5/8*	5/8	8024	.640	.030
T500-3/4*	3/4	8025	.765	.030
T500-7/8*	7/8	8026	.895	.030
T500-1*	1	8027	1.025	.030
T500-1 1/8*	1 1/8	8028	1.150	.030
T500-1 1/4*	1 1/4	8029	1.275	.030

STANDARD PUT-UPS

SIZES #32 thru 26 .....1000' - 500' - 250' - 100'

SIZES #24 thru 1¼ .....1000' - 500' - 250' - 100'

* In random lengths.

Tolerance — Nos. 32 thru 0 — ±.003" on Wall

Tolerance — Nos. 3/8" thru 1¼" — .020" on I.D., .006" on Wall

T-550 — STANDARD WALL (.012" - .020")

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-24	24	.022	.012
T550-22	22	.027	.012
T550-20	20	.034	.016
T550-19	19	.038	.016
T550-18	18	.042	.016
T550-17	17	.047	.016
T550-16	16	.053	.016
T550-15	15	.059	.016
T550-14	14	.066	.016
T550-13	13	.076	.016
T550-12	12	.085	.016
T550-11	11	.095	.016
T500-10	10	.106	.016

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-9	9	.118	.020
T550-1/8	1/8	.125	.020
T550-8	8	.133	.020
T550-7	7	.148	.020
T550-6	6	.166	.020
T550-5	5	.186	.020
T550-4	4	.208	.020
T550-3	3	.234	.020
T550-1/4	1/4	.250	.020
T550-2	2	.263	.020
T550-1	1	.294	.020
T550-5/16	5/16	.312	.020
T550-0	0	.330	.020

STANDARD PUT-UPS — 1000' - 500' - 250' - 100'

SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

BUS BAR, TINNED AND UNTINNED MAGNET WIRE PER MIL-W-583B

TINNED COPPER WIRE — SOLID SOFT BRAND

Pure Electrolytic, Copper, annealed, tinned for quick soldering MIL-W-3861 Type S, ASTM-B-33 specifications, QQ-W-343 Type S

Cat. No.	Size AWG	Area Circular Mills	O.D.
1433	8	16,510	.129″
1402	10	10,380	.103″
1406	12	6,530	.082″
1410	14	4,107	.065″
1414	16	2,583	.051″
1418	18	1,624	.040″
1422	20	1,022	.033″
1434	22	624.4	.025″
1424	24	404.0	.020″
1426	26	254.1	.016″
1428	28	159.8	.013″
1430	30	100.5	.010″

PUT-UPS: 100′ and 1000′ Spools

SOLID TINNED (SOFT DRAWN) SYMBOL TC

Specification MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33

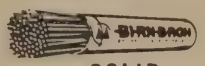
Cat. No.	¼ lb. SPOOL Size B&S	¼ lb. SPOOL Ft.	½ lb. SPOOL Size B&S	½ lb. SPOOL Ft.	1 lb. SPOOL Size B&S	1 lb. SPOOL Ft.	Nom. O.D.
BST-10	10	8	10	16	10	32	.103″
BST-12	12	12	12	25	12	50	.082″
BST-14	14	20	14	40	14	80	.065″
BST-16	16	32	16	63	16	126	.051″
BST-18	18	50	18	100	18	201	.040″
BST-20	20	80	20	160	29	320	.033″
BST-22	22	127	22	254	22	508	.025″
BST-24	24	201	24	403	24	806	.020″
BST-26	26	320	26	640	26	1280	.016″
BST-28	28	507	28	1015	28	2030	.013″
BST-30	30	805	30	1610	30	3220	.010″

ALL SOLID TINNED COPPER AVAILABLE IN 1000 FT. SPOOLS
BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

(See Rest of Page)

BUS BAR WIRE (Hard Drawn)

QQ-W-343 Type S — MIL-W-3861 Type S, ASTM-B-33, ASTM-B-246-51 Specifications



SOLID

For hooking up all types of transmitters especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

Cat. No.	No.	
2010	10	Round Tinned
2013	12	Round Tinned
2015	14	Round Tinned
2016	16	Round Tinned
2018	18	Round Tinned
2020	20	Round Tinned
2022	22	Round Tinned

STANDARD PACKAGE: 100 pieces of 2 Ft. each.

HEAVY FORMVAR (HF) TYPE 2 — MIL-C-583C

Single conductor round bare copper, baked film insulation from a varnish based on a vinyl acetal resin. 105°C.

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

ALL MAGNETIC WIRE AVAILABLE IN LARGER PUT-UPS

Cat. No.	¼ lb. SPOOL Size B&S	¼ lb. SPOOL Ft.	½ lb. SPOOL Size B&S	½ lb. SPOOL Ft.	1 lb. SPOOL Size B&S	1 lb. SPOOL Ft.	Nom. O.D.
BHF-10	10	8	10	16	10	32	.1056″
BHF-12	12	12	12	25	12	50	.0842″
BHF-14	14	20	14	39	14	78	.0673″
BHF-16	16	31	16	62	16	124	.0539″
BHF-18	18	49	18	99	18	198	.0432″
BHF-20	20	78	20	156	20	313	.0346″
BHF-22	22	125	22	250	22	501	.0277″
BHF-24	24	200	24	399	24	798	.0224″
BHF-26	26	300	26	600	26	1200	.0180″
BHF-28	28	500	28	1000	28	1999	.0144″
BHF-30	30	800	30	1600	30	3200	.0116″

SILICON BRONZE AERIAL WIRE



Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

#528 and #499 meets MIL-W-13074; #524 meets MIL-W-13276

STANDARD PUT-UPS: 100′ - 500′ - 1000′

Cat. No.	Size AWG	Strand	Breaking Strength/Lbs.	Nom. O.D.
527	8	7/16	1600	.150″
499	10	7/18	1000	.122″
524	12	7/20	650	.100″
526	14	7/22	420	.075″

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

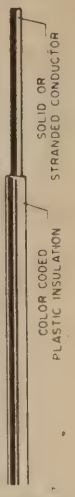
BIRNBACH COMPANY INC.

MIL-W-76B PLASTIC WIRE

TYPE MW — UNCOVERED PLASTIC 1000 V

DESCRIPTION: Solid or extra flexible tinned copper, color coded **medium wall** polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating −40° to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.



STRANDED

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7024	24	MW-C 24(7)U	7/32	.015″	1000	.059″
7001	22	MW-C 22(7)U	7/30	.017″	1000	.066″
7003	20	MW-C 20(10)U	10/30	.017″	1000	.074″
7005	18	MW-C 18(16)U	16/30	.017″	1000	.085″
7007	16	MW-C 16(26)U	26/30	.017″	1000	.098″
7009	14	MW-C 14(41)U	41/30	.017″	1000	.114″
7011	12	MW-C 12(65)U	65/30	.017″	1000	.132″

SOLID

7025	24	MW-C 24(1)U	1	.017″	1000	.056″
7000	22	MW-C 22(1)U	1	.017″	1000	.061″
7002	20	MW-C-20(1)U	1	.017″	1000	.068″
7004	18	MW-C 18(1)U	1	.017″	1000	.075″
7026	16	MW-C 16(1)U	1	.017″	1000	.084″

STANDARD OUTPUTS: 100′ - 500′ - 1000′

STOCK COLORS: 1 - 9

TYPE LW (Light Wall) VINYL — 300 VOLTS

TEMP. RATING —40°C TO 80+°C

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation. Nom. Wall .010″.

CHARACTERISTICS: Temperature rating −40°C to +80°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil flame, moisture and fungus.

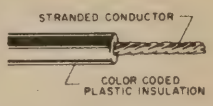


Cat. No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.	Standard Colors
7330	30	LW-C 30(7)U	7/38	.033″	1-19
7328	28	LW-C 28(7)U	7/36	.035″	1-19
7326	26	LW-C 26(10)U	10/36	.040″	1-19
7324	24	LW-C 24(7)U	7/32	.044″	1-19
7324/22	22	LW-C 22(7)U	7/30	.050″	1-19
7324/20	20	LW-C 20(7)U	7/28	.060″	1-19

STANDARD PUT-UPS: 100′ - 500′ - 1000′

TYPE HW (Heavy Wall) 2500 VOLTS (Fungus Proof)

DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger wall of primary thermoplastic insulation.



CHARACTERISTICS: Temperature rating—40°C to +80°C. Resistant to acids, alkalis, oil flame, moisture and fungus.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors As Listed
7322	22	HW-C 22(7)U	7/30	.033″	2500	.094″	1-10
7320	20	HW-C 20(10)U	10/30	.033″	2500	.102″	1-10
7318	18	HW-C 18(16)U	16/30	.033″	2500	.114″	1-10
7316	16	HW-C 16(26)U	26/30	.033″	2500	.128″	1-10
7314	14	HW-C 14(41)U	41/30	.045″	600	.175″	1-10
7312	12	HW-C 12(65)U	65/30	.045″	600	.188″	1-10
*7013	10	HW-C 10(105)U	105/30	.045″	600	.217″	1-3
*7015	8	HW-C 8(133)U	133/29	.045″	600	.268″	1-3
*7017	6	HW-C 6(133)U	133/27	.045″	600	.315″	1-3

STANDARD PUT-UPS: 100′ - 500′ - 1000′

SHIELDED PLASTIC HOOK-UP WIRE

TEMPERATURE RATING: —40°C TO +80°C

TYPE MW (Medium Wall) — SHIELDED

DESCRIPTION: One conductor stranded tinned copper with **WHITE** thermoplastic insulation and tinned copper shielded braid overall.



Cat. No.	Size AWG	Mil-W-76B Type Designation	Minimum Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074	24	MW-C 24(7)S	7/32	.015″	1000	.074″
7072	22	MW-C 22(7)S	7/30	.017″	1000	.084″
7070	20	MW-C 20(10)S	10/30	.017″	1000	.094″
7068	18	MW-C 18(16)S	16/30	.017″	1000	.106″
7067	16	MW-C 16(26)S	26/30	.017″	1000	.121″
*7066	14	MW-C 14(41)S	41/30	.017″	1000	.137″
*7065	12	MW-C 12(65)S	65/30	.017″	1000	.155″

STANDARD PUT-UPS: 100′ - 500′ - 1000′

TYPE MW — SHIELDED — NYLON JACKET

DESCRIPTION: One conductor stranded tinned copper, **WHITE** medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, clear nylon (polymide) jacket overall. Temperature rating −40° to +90°C. Resistant to acids, alkalis, oil, flame, moisture, fungus.



Additional colors available to order.

Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074J	24	MW-C 24(7)SJ	7/32	.016″	1000	.087″
7072J	22	MW-C 22(7)SJ	7/30	.017″	1000	.094″
7070J	20	MW-C 20(10)SJ	10/30	.017″	1000	.100″
7068J	18	MW-C 18(16)SJ	16/30	.017″	1000	.110″
7067J	16	MW-C 16(26)SJ	26/30	.017″	1000	.125″
7066J	14	MW-C 14(41)SJ	41/30	.017″	1000	.138″
7065J	12	MW-C 12(65)SJ	65/30	.017″	1000	.160″

STANDARD PUTUPS: 100′ - 500′ - 1000′

SAMPLE MIL TYPE NUMBER **MW - C 22 (7) J**

Type OF WIRE	CONDUCTOR MATERIAL	CONDUCTOR SIZE (AWG)	STRANDING	CONSTRUCTION
LW ... **300 Volt** Light Wall	Tinned Copper	30 thru 20	Solid 7 Strand 16 Strand 26 Strand 41 Strand 65 Strand 105 Strand 133 Strand	Symbol — Covering Over Insulated Wire U — None J — Jacket B — Braid S — Shield JS — Jacket and Shield BS — Braid and Shield SJ — Shield & Outer Jacket JSJ — Jacket, Shield and Outer Jacket BSJ — Braid, Shield and Outer Jacket
MW ... **1,000 Volt** Medium Wall		24 thru 12		
HW .. **2500 Volt** Heavy Wall		22 thru 12		
HW .... **600 Volt** Heavy Wall		10 thru 6		

*** STOCK COLORS**

1—White	16—White/Brown
2—Black	17—White/Orange
3—Red	18—White/Gray
4—Green	19—White/Violet
5—Yellow	20—White/Black/Red
6—Light Blue	21—White/Black/Green
7—Brown	22—White/Black/Yellow
8—Orange	23—White/Black/Blue
9—Gray (state)	24—White/Black/Brown
10—Violet (purple)	25—White/Black/Orange
11—White/Black	26—White/Black/Gray
12—White/Red	27—White/Black/Violet
13—White/Green	28—Tan
14—White/Yellow	29—Pink
15—White/Blue	30—Dark Blue

*Other striped color combinations available to order.

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

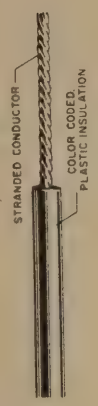
BIRNBACH COMPANY INC.

PLASTIC HOOK-UP WIRE

MIL-W-16878D — TYPE B
High Temperature Vinyl — 600 Volt

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required. .010" Wall Vinyl

DESCRIPTION: One conductor stranded tinned copper with rated —55°C to +105°C high temperature thermoplastic light wall insulation. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus. Nominal wall: 0.010.



Cat. No.	MIL-W-16878D Type Designation	Size AWG	Conductor Strand	Wall Thick.	Nom. O.D.
7190	B-32	32	7/40	.010"	.028"
7191	B-30	30	7/38	.010"	.030"
7192	B-28	28	7/36	.010"	.033"
7193	B-26	26	7/34	.010"	.037"
7194	B-24	24	7/32	.010"	.043"
7194/19	B-24	24	19/36	.010"	.043"
7195	B-22	22	7/30	.010"	.048"
7195/19	B-22	22	19/34	.010"	.048"
7196	B-20	20	7/28	.010"	.057"
7196/19	B-20	20	19/32	.010"	.057"
7197	B-18	18	7/26	.010"	.067"
7197/19	B-18	18	19/30	.010"	.067"
7198	B-16	16	19/29	.010"	.077"
7199	B-14	14	19/27	.010"	.091"

*STOCK COLORS: 1 thru 19, as listed.
STANDARD PUT-UPS: 100' - 500' - 1000'

MIL-W-16878D — TYPE B
Nylon Jacket — 600 Volt

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: Stranded tinned copper, color coded. .010" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.



Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
7190N	B-32	32	7/40	.034"
7191N	B-30	30	7/38	.038"
7192N	B-28	28	7/36	.040"
7193N	B-26	26	7/34	.043"
7194N	B-24	24	7/32	.048"
7194N/19	B-24	24	19/36	.048"
7195N	B-22	22	7/30	.055"
7195N/19	B-22	22	19/34	.055"
7196N	B-20	20	7/28	.065"
7196N/19	B-20	20	19/32	.065"
7197N	B-18	18	7/26	.075"
7197N/19	B-18	18	19/30	.075"
7198N	B-16	16	19/29	.085"
7199N	B-14	14	19/27	.099"

STANDARD PUT-UPS: 100' - 500' - 1000'
*STOCK COLORS: 1 thru 19, as listed.

MIL-W-16878D — TYPE C
High Temperature — Vinyl — 1000 Volt (.016")

DESCRIPTION: One Conductor Similar to Type B — Heavier Wall Hi-Temp. Thermoplastic Insulation. Nom. Wall .016".

CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.



Cat. No.	MIL-W-16878C Type Designation	Size AWG	Minimum Strand	Nom. O.D.
7170	C-24	24	7/32	.058"
7171	C-22	22	7/30	.064"
7172	C-20	20	7/28	.073"
7173	C-18	18	7/26	.085"
7174	C-16	16	19/29	.095"
7175	C-14	14	19/27	.109"
7176	C-12	12	19/25	.124"

*STOCK COLORS: 1 thru 19, as listed.
STANDARD PUT-UPS: 100' - 500' - 1000'

MIL-W-16878D — TYPE C
Shielded — Nylon Jacket

DESCRIPTION: Stranded tinned copper, white .016" polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket (which can be striped to order for color identification) overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.



Cat. No.	Conductor Size	Conductor Strand	Nom. Wall Thickness	Nom. Jacket Thickness	Nom. O.D.
7180/24	24	7/32	.016"	.005"	.091"
7180/22	22	7/30	.016"	.005"	.098"
7180/20	20	7/28	.016"	.005"	.105"
7180/18	18	16/30	.016"	.005"	.115"
7180/16	16	19/29	.016"	.005"	.125"
7180/14	14	19/27	.016"	.005"	.138"
7180/12	12	19/25	.016"	.005"	.159"

STANDARD PUT-UPS: 100' - 500' - 1000'

MIL-W-16878D — MULTI-CONDUCTOR CABLE
TYPE B — Nylon Shieleded-Plastic Jacket

DESCRIPTION: Each conductor stranded tinned copper, .010" polyvinylchloride insulation, color coded, clear nylon .003 (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, with polyvinylchloride jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.



Birnbach No.	No. of Cond.	Conductor Size	Conductor Strand	Overall Jacket	Volt Rating	Nom. O.D.
7366-1	1	24	19/36	.010"	600 v	.092"
7366-2	2	24	19/36	.016"	600 v	.152"
7366-3	3	24	19/36	.016"	600 v	.161"
7366-4	4	24	19/36	.017"	600 v	.166"
7367-1	1	22	19/34	.010"	600 v	.100"
7367-2	2	22	19/34	.016"	600 v	.168"
7367-3	3	22	19/34	.017"	600 v	.178"
7367-4	4	22	19/34	.019"	600 v	.174"
7368-1	1	20	19/32	.010"	600 v	.106"
7368-2	2	20	19/32	.019"	600 v	.186"
7368-3	3	20	19/32	.019"	600 v	.196"
7368-4	4	20	19/32	.021"	600 v	.193"
7369-1	1	18	19/30	.012"	600 v	.120"
7369-2	2	18	19/30	.021"	600 v	.210"
7369-3	3	18	19/30	.022"	600 v	.227"
7369-4	4	18	19/30	.023"	600 v	.231"
7370-1	1	16	19/29	.016"	600 v	.137"
7370-2	2	16	19/29	.023"	600 v	.236"
7370-3	3	16	19/29	.024"	600 v	.240"
7370-4	4	16	19/29	.025"	600 v	.274"

STANDARD PUT-UPS: 100' - 500' - 1000'

COLOR CODE OF CONDUCTORS:
1 — White, 2 — Black, 3 — Red, 4 — Green

AIRCRAFT PLASTIC HOOK-UP WIRE • MIL-W-5086A — UNSHIELDED — 600 Volt Rating

DESCRIPTION: MIL-W-5086A — **Type I** — AN-22 thru AN-12 — Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon (polyamide) jacket overall. MIL-W-5086A—**Type II**—AN-22 thru AN-12—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, clear nylon (polyamide) jacket overall. MIL-W-5086A—**Type II**—AN-10 thru AN-00—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, flame retardant nylon lacquered nylon braid overall.



Cat. No.	Size AWG	Mil. Type	Cond. Type	Conds. Strand	Nom. Type
7351	22	AN-22	No. 1	19/34	.100"
7353	20	AN-20	No. 1	19/32	.080"
7355	18	AN-18	No. 1	19/30	.090"
7357	16	AN-16	No. 1	19/29	.100"
7359	14	AN-14	No. 1	19/27	.125"
7361	12	AN-12	No. 1	19/25	.140"
7363	8	AN-8	No. 2	133/29	.240"
7364	6	AN-6	No. 2	133/27	.297"
7365	4	AN-4	No. 2	133/25	.355"

No.7351 TYPE 1

MIL-C-7078A — **Type I** — Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon jacket, braided tinned copper shield overall, 85% coverage. **MS Numbers by special order.**

CHARACTERISTICS: Temperature rating: —55°C. to +105°V. Voltage rating: 600 volts. Resists effects of water, oil, aircraft fuels, hydraulic fluid, skydral, ethyleneglycol, alcohol, dilute acids, alkalis, fungus and abrasion.



Cat. No.	Size AWG	Mil. Type	Cond. Type	Conds. Strand	Nom. Type
7365/2	2	AN-2	No. 2	665/30	.412"
7365/0	0	AN-0	No. 2	1045/30	.518"
7365/00	00	AN-00	No. 2	1330/30	.588"
7351 NB	22	AN-22	No. 2	19/34	.068"
7353 NB	20	AN-20	No. 2	19/32	.078"
7355 NB	18	AN-18	No. 2	19/30	.088"
7357 NB	16	AN-16	No. 2	19/29	.098"
7359 NB	14	AN-14	No. 2	19/27	.117"
7361 NB	12	AN-12	No. 2	19/25	.137"
7362 NB	10	AN-10	No. 2	49/27	.189"

MIL-C-Shielded also available

No. 7363 TYPE 2

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

TEST LEAD WIRES

KINKLESS TEST LEAD WIRE

Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments; wherever extreme exibility and limpness is required. Has excellent dielectric properties.

DESCRIPTION: **RUBBER INSULATED**

No. 61—#20—41/36 extra flexible annealed tinned copper, stranded.

No. 66—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/64" special low capacity rubber, wax finish.

Colors: Red, Black.

Types WS-16/U Black, WS-17/U Red; No. 70 per MIL-W-13169 Specification available same construction as Birnbach #66 except compound per specification.



Cat. No.	Size AWG	Strand	Insulation	Puncture Voltage	Nom. O.D.
61	20	41/36	3/64"	20,000 V	.137"
66	18	65/36	3/64"	22,000 V	.145"
70*	18	65/36	3/64"	22,000 V	.145"

* MILITARY TYPE SPECIFICATION MIL-W-13169B
WS-16/U Black WS-17/U Red

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

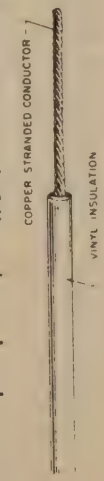
NEW PLASTIC KINKLESS TEST LEAD WIRE

New formulation vinyl compound insulation allows maximum flexibility; rough treatment; extreme variation in climatic conditions; excellent abrasion resistance; greater temperature stability from −80°C to +115°C; fungus resistant; self extinguishing-flame proof; smooth surface. Resists exposure to gasoline and oil. 5000 volts.

For portable test equipment; as test leads for instrumentation exceeds the requirements for MIL-I-3930A type JP (PVC). It is superior to synthetic rubber spec MIL-R-6855, Class II, Grade 60.

DESCRIPTION: One conductor tinned copper stranded, special formulation vinyl insulation.

Colors: Black, Red, Yellow, Green, White, Blue.



Cat. No.	Size AWG	Strand	Insulation	Nom. O.D.
1922	22	26/36	.032"	.100"
1920	20	26/34	.032"	.104"
1918	18	65/36	.032"	.112"
1916	16	65/34	.032"	.129"

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

HEAVY DUTY HI-VOLTAGE TYPE TEST LEADS

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

DESCRIPTION: #—65/36 extra flexible annealed tinned copper; stranded; paper serve; 3/64" special low capacity rubber, wax finish.

COLORS: Red, Black **Rubber Insulated**



Cat. No.	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
68	18	65/36	5/64"	29,000V	.210"

STANDARD PUT-UPS: 100' - 250' - 1000'

U.L. HOOK-UP WIRES

KYNAR® "WIRE WRAP" WIRE—UL APPROVED (POLYVINYLDENE FLUORIDE) INSULATED, 130°C—300V

Description: Solid silver plated copper, Kynar insulation.
Applications: Especially designed for use on computer back panel wiring in conjunction with "wire wrap" ssytems. Kynar insulation is particularly suited for this application because of its cut through resistance, high temperature rating and because it can be made available in long lengths.

Part No.	Conductor	Nom. Insulation Thickness	O.D.	U.L. Style	Stock *Color
BK-2130	#30 Solid Copper	.0045"	.0195" ±.001"	#1422	1-10
BK-2128	#28 Solid Copper	.005"	.020" ±.001"	#1423	1-10
BK-2126	#26 Solid Copper	.0055"	.027" ±.0015"	#1422	1-10
BK-2124	#24 Solid Copper	.005"	.030" ±.0015"	#1327	1-10

Striped Kynar and other sizes available to special order.

* **STOCK COLORS:** 1—White; 2—Black; 3—Red; 4—Green; 5—Yellow; 6—Light Blue; 7—Brown; 8—Orange; 9—Gray; 10—Violet.

® PENNSALT CHEMICAL COMPANY

U.L. PLASTIC INSULATED HOOK-UP WIRE

Designed for the chassis, sub-chassis wiring of radio and television receivers and transmiters inside or outside the chassis. UL type for 105°C. (221°F.) operating temperature.

DESCRIPTION: One Conductor stranded annealed copper tinned, plastic insulation.



UL Style 1015, CSA TR-32

Cat. No.	AWG	Stranding	Nom. Wall	Volt. Breakdown	DC Ins. Res. Megs./Ft.	Max. O.D.
7201	22	7/30	.032"	18000	5000	.100"
7203	20	10/30	.032"	18000	5000	.104"
7205	18	16/30	.032"	18000	5000	.112"
7207	16	26/30	.032"	18000	5000	.129"
7202	22	Solid	.032"	18000	5000	.095"
7204	20	Solid	.032"	18000	5000	.102"

STOCK COLORS: 1 thru 10, as listed
STANDARD PUT-UPS: 100' - 500' - 1000'

U.L. APPROVED HOOK-UP WIRE 300V—80°C

UL Style 1007, CSA TR-64

Stranded tinned copper, polyvinyl-chloride insulation −10°C to +80°C — 300 v.

Birnbach No.	Size	Strand	Nom. Wall	Nom. O.D.
7230	24	7/32	.016"	.057"
7231	22	7/30	.016"	.065"
7233	20	10/30	.016"	.071"
7234	18	16/30	.016"	.080"
7235	16	26/30	.016"	.095"

STANDARD PUT-UPS: 100' - 500' - 1000'

STOCK COLORS: 1-10 as listed

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

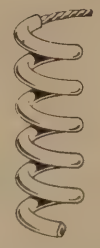
© United Technical Publications

BIRNBACH COMPANY INC.

RETRACTILE CORDS

This series of Birnbach Coiled Kinkless Retractile Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recover'y' properties. These Retractile cords extend approximately six times its retracted length, returning to its original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents. Useful wherever cords or cables must change length or position.

RETRACTILE TEST LEAD WIRE



Stretch coiled kinkless test lead wire description. 12" coil—stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Coil O.D. ¾".
100 Volts Maximum Working

Cat. No.		Pkge. Std.
64	12" Retracted - Approx. 6' Extended	6
65	24" Retracted - Approx. 12' Extended	6

MINIATURE RETRACTILE CORD

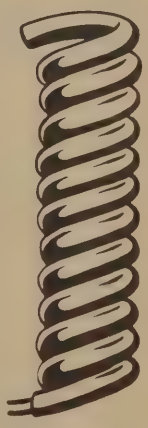


This small size is suitable where compact equipment is required. 2 ft. retracted, approximately 10 ft. extended. Black plastic jacket overall.
Tinsel Cordage
Nom. Cond. resistance:
.07 OHMS per linear foot (approx. .6 OHMS per retracted ft.)
Maximum working voltage: 100; current capacity ½ amp.

Cat. No.	Cond.	Size AWG	Strand	Coil O.D.	Cond. O.D.	Std. Pkg.
875/28	2	28	19/40TC	½"	.135	10
877/28	4	28	19/40TC	½"	.150	10

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green. For 3 conductors, use 4 cond. and cut one dead

RETRACTILE COILED COMMUNICATION CORD



Multi-conductors stranded communication cord No. 23 AWG. Tinned copper wire neoprene or Geon plastic jacketed. Long lengths can be cut to exact requirement. Adds product reliability. Useful wherever cords must change length or position. Nom. cond. resistance .022 ohms per linear foot, .185 ohms per retracted foot. Maximum working voltage 120 volts. Current carrying capacity 1 ampere.

Cat. No.	Retracted Length	Approx. Length Extended	Cond.	Size AWG	Strand	Coil O.D.	Nom. O.D.
875-2	24"	12 Ft.	2	23	21/36	¾"	.200"
875	36"	18 Ft.	2	23	21/36	¾"	.200"
875-4	48"	25 Ft.	2	23	21/36	¾"	.200"
876-2	24"	12 Ft.	3	23	21/36	¾"	.210"
876	36"	18 Ft.	3	23	21/36	¾"	.210"
876-4	48"	25 Ft.	3	23	21/36	¾"	.210"
877-2	24"	12 Ft.	4	23	21/36	13/16"	.240"
877	36"	18 Ft.	4	23	21/36	13/16"	.240"
877-4	48"	25 Ft.	4	23	21/36	13/16"	.240"
878-2	24"	12 Ft.	5	23	21/36	1"	.285"
878	36"	18 Ft.	5	23	21/36	1"	.285"
878-4	48"	25 Ft.	5	23	21/36	1"	.285"
878/6-2	24"	12 Ft.	6	23	21/36	1⅛"	.305"
878/6	36"	18 Ft.	6	23	21/36	1⅛"	.305"
878/6-4	48"	25 Ft.	6	23	21/36	1⅛"	.305"
878/7-2	24"	12 Ft.	7	23	21/36	1¼"	.320"
878/7	36"	18 Ft.	7	23	21/36	1¼"	.320"
878/7-4	48"	25 Ft.	7	23	21/36	1¼"	.320"
878/8	48"	25 Ft.	8	23	21/36	1⅜"	.360"
878/10	48"	25 Ft.	10	23	21/36	1⅝"	.380"
878/12	48"	25 Ft.	12	23	21/36	1⅞"	.410"
878/15	48"	25 Ft.	15	23	21/36	1⅞"	.470"
878/37	48"	25 Ft.	37	23	21/36	2½"	.680"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White/Black Tracer, 10-White/Red Tracer, 11-White/Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White/Orange Tracer. Also available in retracted lengths of 12", 24" and 48".

RETRACTILE (KINKLESS) COILED SHIELDED COMMUNICATION CORDS



DESCRIPTION: Single and multi-conductor shielded microphone cable neoprene or geon plastic jacketed. This cable remains neat and compact with no danger of tripping or of the wire becoming entangled in equipment. Also suitable for stereo and additional speaker extensions. Shield can be pigtailed for soldering. No. 24 AWG Str. is 41/40 tinned soft cad. copper: No. 23 has 21/36 tinned soft cad. copper. Spiral wrapped tinned soft copper shielding.

Cat. No.	Retr. Length	Approx. Length Extended	Cond.	Size AWG	Coil O.D.	Nom. O.D.	Maximum Working Voltage	Capacitance MMF Lin. Ft.	Capacitance MMF Retr. Ft.	Std. Pkg.
895	48"	25 Ft.	1	No. 24 Shielded	⅝"	.160"	75	56	440	10
895A	12"	6 Ft.	1	No. 24 Shielded	⅝"	.160"	75	56	440	10
895B	6"	3 Ft.	1	No. 24 Shielded	⅝"	.160"	75	56	440	10
896	48"	25 Ft.	2	1-No. 23 1-No. 24 Shielded	⅞"	.200"	#23-120 #24- 75	56	450	10
896A	12"	6 Ft.	2	1-No. 23 1-No. 24 Shielded	⅞"	.200"	#23-120 #24- 75	56	450	10
897	48"	25 Ft.	3	2-No. 23 1-No. 24 Shielded	⅞"	.240"	#23-120 #24- 75	56	450	10
897A	12"	6 Ft.	3	2-No. 23 1-No. 24 Shielded	⅞"	.240"	#23-120 #24- 75	56	450	10
899	48"	25 Ft.	2	2-No. 24 Shielded	⅞"	.210"	75	56	450	10
899A	12"	6 Ft.	2	2-No. 24 Shielded	⅞"	.210"	75	56	450	10
898	48"	25 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	#23-120 #24- 75	56	460	10
898A	12"	6 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	#23-120 #24- 75	56	460	10

Additional conductors and sizes available. CONDUCTORS ARE COLOR CODED.

RETRACTILE COMMUNICATION CORDS

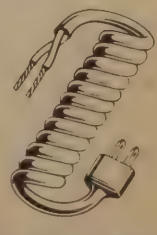
PREPARED FOR EASY INSTALLATION AND REPLACEMENT

RETRACTED LENGTH 12" — EXTENDED LENGTH 6 FEET

DESCRIPTION: Same as communication cords except each end is prepared as indicated. Tinsel Cordage

Cat. No.	Cond.	Size AWG	Nom. Coil O.D.	Nom. Cord O.D.	Preparation
883	3	23-21/36	13/16"	.220"	**1 end:** total length 1½". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
884	4	23-21/36	15/16"	.250"	**1 end:** total length 1". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
885	5	23-21/36	1 1/16"	.285"	**1 end:** total length 4¼". Conductors stripped and tinned. **Other end:** total length 4⅛" conductors stripped and tinned.

RETRACTILE POWER CORD SETS



Excellent for portable use. All mobile equipment and office equipment wherever the device application is synonymous with repetitive movement. The "Answer" to most tough hazard problems. 2 and 3 conductors SVO and SJO Retractile Kinkless Neoprene Service Cord Sets with Molded Male Plug one end, other end stripped for application. Adds reliability, compactness and portability.

Cat. No.	Retracted Length	Ext.	Cond.	Size AWG	UL Type	Strand	Coil O.D.
880	18"	9 Ft.	2	18	SVO	41/34	1"
880/3	18"	9 Ft.	3	18	SVO	41/34	1 1/16"
881	18"	9 Ft.	2	18	SJO	41/34	1¼"
881/3	18"	9 Ft.	3	18	SJO	41/34	1½"
882	18"	9 Ft.	2	16	SJO	65/34	1½"
882/3	18"	9 Ft.	3	16	SJO	65/34	1½"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green.

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

RETRACTILE HEAVY DUTY AND POWER CORD SETS

GUARANTEED TO RETRACT FOR 4 YEARS MILITARY INDUSTRIAL. AWG SIZES — 12, 14, 16, 3 AND 4 COND.

Especially desirable in the maintenance of **industrial automation** equipment, refrigerated trucks and trailers, mass assembly and production equipment, plane maintenance, control cable for cherry pickers, magnetic cranes, standby power distribution, heavy duty machinery.

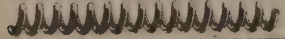
Useful whenever and wherever a tougher, more rugged heavy duty power cable is indicated as in foundries, aboad ships, reelins on overhead cranes and hoists, tanks, plug-in power for refrigeration and immersion heaters, etc. Usable around salt water, chemicals and many other areas which makes the use of reels undesirable . . . 48″ retracted — 25′ extended.

NEW! All Birnbach Retractiles Available in One Foot Lengths.



Bureau of Mines, C.S.A. (Canada), U.S. Coast Guard, UL and Army/Navy approved

RETRACTILE (KINKLESS) POWER CORDS RUBBER, NEOPRENE AND PLASTIC — UL AND CSA APPROVED



DESCRIPTION: Multi-conductor power cords, each conductor stranded copper, tough rubber, neoprene or geon plastic jacket overall UL and CSA approved. Available from stock in indicated lengths, can be cut to desired length.

Cat. No.	Retracted Length	Approx. Length Ext.	No. Cond.	Size AWG	Strand	UL Type	Amp. Rating	Volt Rating	Coil Nom. O.D.	Cord. Nom. O.D.
886-2	24″	12′	2	18	41/34	SVO	7	300	7/8″	.250
886	36″	18′	2	18	41/34	SVO	7	300	7/8″	.250
886-4	48″	25′	2	18	41/34	SVO	7	300	7/8″	.250
886/3-2	24″	12′	3	18	41/34	SVO	7	300	1″	.275
886/3-3	36″	18′	3	18	41/34	SVO	7	300	1″	.275
886/3	48″	25′	3	18	41/34	SVO	7	300	1″	.275
887-2	24″	12′	2	18	41/34	SVO	7	300	7/8″	.250
887	36″	18′	2	18	41/34	SVO	7	300	7/8″	.250
887-4	48″	25′	2	18	41/34	SVO	7	300	7/8″	.250
889-2	24″	12′	2	18	41/34	SJO	7	300	1 3/16″	.310
889	36″	18′	2	18	41/34	SJO	7	300	1 3/16″	.310
889-4	48″	25′	2	18	41/34	SJO	7	300	1 3/16″	.310
890-2	24″	12′	2	18	41/34	SJO	7	300	1 3/16″	.310
890	36″	18′	2	18	41/34	SJO	7	300	1 3/16″	.310
890-4	48″	25′	2	18	41/34	SJO	7	300	1 3/16″	.310
889/3-2	24″	12′	3	18	41/34	SJO	7	300	1 1/4″	.330
889/3	36″	18′	3	18	41/34	SJO	7	300	1 1/4″	.330
889/3-4	48″	25′	3	18	41/34	SJO	7	300	1 1/4″	.330
889/4-2	24″	12′	4	18	41/34	SJO	5.6	300	1 1/16″	.360
889/4	36″	18′	4	18	41/34	SJO	5.6	300	1 1/16″	.360
889/4-4	48″	25′	4	18	41/34	SJO	5.6	300	1 1/16″	.360
889/5-2	24″	12′	5	18	41/34	—	5.6	300	1 3/4″	.440
889/5	48″	25′	5	18	41/34	—	5.6	300	1 3/4″	.440
889/7-2	24″	12′	7	18	41/34	—	5.6	300	1 7/8″	.500
889/7	48″	25′	7	18	41/34	—	5.6	300	1 7/8″	.500
891-?	24″	12′	2	16	65/34	SJO	10	300	1 3/4″	.330
891	36″	18′	2	16	65/34	SJO	10	300	1 3/4″	.330
891-4	48″	25′	2	16	65/34	SJO	10	300	1 3/4″	.330
891/3-2	24″	12′	3	16	65/34	SJO	10	300	1 1/16″	.365
891/3	36″	18′	3	16	65/34	SJO	10	300	1 1/16″	.365
891/3-4	48″	25′	3	16	65/34	SJO	10	300	1 1/16″	.365
891/4-2	24″	12′	4	16	65/34	SJO	8	300	1 5/8″	.395
891/4	36″	18′	4	16	65/34	SJO	8	300	1 5/8″	.395
891/4-4	48″	25′	4	16	65/34	SJO	8	300	1 5/8″	.395
891/5-2	24″	12′	5	16	65/34	—	8	600	2″	.540
891/5	48″	25′	5	16	65/34	—	8	600	2″	.540
891/6-2	24″	12′	6	16	65/34	—	8	600	2 1/4″	.550
891/6	48″	25′	6	16	65/34	—	8	600	2 1/4″	.550
891/7-2	24″	12′	7	6/16	#16-65/34	—	#16-8	600	2 1/4″	.600
				1/14	#14-41/30	—	#14-12			
891/7	48″	25′	7	6/16	#16-65/34	—	#16-8	600	2 1/4″	.600
				1/14	#14-41/30	—	#14-12			
893-2	24″	12′	2	14	41/30	SO	15	600	2″	.535
893	36″	18′	2	14	41/30	SO	15	600	2″	.535
893-4	48″	25′	2	14	41/30	SO	15	600	2″	.535
893/3-2	24″	12′	3	14	41/30	SO	15	600	2 1/8″	.560
893/3	36″	18′	3	14	41/30	SO	15	600	2 1/8″	.560
893/3-4	48″	25′	3	14	41/30	SO	15	600	2 1/8″	.560
893/4-2	24″	12′	4	14	41/30	SO	12	600	2 1/4″	.605
893/4	36″	18′	4	14	41/30	SO	12	600	2 1/4″	.605
893/4-4	48″	25′	4	14	41/30	SO	12	600	2 1/4″	.605
894-2	24″	12′	2	12	65/30	SO	20	600	2 1/4″	.605
894	36″	18′	2	12	65/30	SO	20	600	2 1/4″	.605
894-4	48″	25′	2	12	65/30	SO	20	600	2 1/4″	.605
894/3-2	24″	12′	3	12	65/30	SO	20	600	2 3/8″	.635
894/3	36″	18′	3	12	65/30	SO	20	600	2 3/8″	.635
894/3-4	48″	25′	3	12	65/30	SO	20	600	2 3/8″	.635
894/4-2	24″	12′	4	12	65/30	SO	16	600	2 1/2″	.665
894/4	36″	18′	4	12	65/30	SO	16	600	2 1/2″	.665
894/4-4	48″	25′	4	12	65/30	SO	16	600	2 1/2″	.665
894/6-2	24″	12′	6	2-12	#12-65/30	—	#12-17	600	2 1/4″	.605
				4-18	#18-41/34	—	#18-6			
894/6	48″	25′	6	2-12	#12-65/30	—	#12-17	600	2 1/4″	.605
				4-18	#18-41/34	—	#18-6			
894/7-2	24″	12′	7	12	65/30	—	16	600	2 3/4″	.775
894/7	48″	25′	7	12	65/30	—	16	600	2 3/4″	.775

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green, 4-Red, 5-Blue, 6-Brown, 7-Yellow

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

MULTI-CONDUCTOR, INTERCOM AND AUDIO CABLES

PLASTIC INTERCOMMUNICATING CABLES

TWISTED PAIRS — SOLID CONDUCTORS

DESCRIPTION: Each Conductor #22 Solid Copper Tinned .010" Wall Vinyl Plastic Insulation, conductors color coded, twisted pairs cabled, tubed gray Vinyl plastic jacket overall. Suitable for outdoor installations.

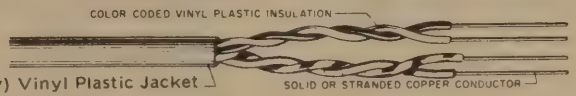
Cat. No.	Pairs	Cond.	Size AWG	Nom. Jacket	Nom. O.D.
4701	1	2	22 Solid	.020"	.145"
4702	2	4	22 Solid	.020"	.205"
4703	3	6	22 Solid	.020"	.215"
4706	6	12	22 Solid	.020"	.250"
4709	9	18	22 Solid	.020"	.310"
4711	11	22	22 Solid	.020"	.350"
4711/13	13	26	22 Solid	.025"	.385"
4715	15	30	22 Solid	.025"	.390"
4716	16	32	22 Solid	.025"	.405"
4727	27	54	22 Solid	.035"	.495"
4727/31	31	62	22 Solid	.035"	.555"
4727/41	41	82	22 Solid	.035"	.630"
4729	51	102	22 Solid	.045"	.750"
4729/76	76	152	22 Solid	.070"	.970"
4729/101	101	202	22 Solid	.080"	1.140"

TWISTED PAIRS — STRANDED CONDUCTORS

DESCRIPTION: Each Conductor #22 7/30 Stranded Tinned Copper, .010" Vinyl plastic insulation, twisted pairs cabled, conductors color coded, tubed gray Vinyl plastic jacket overall.

Cat. No.	Pairs	Cond.	Size AWG	Strand	Jacket Thickness	Nom. O.D.
4731	1	2	22	7/30	.020"	.145"
4732	2	4	22	7/30	.020"	.210"
4733	3	6	22	7/30	.020"	.225"
4734	4	8	22	7/30	.020"	.235"
4735	5	10	22	7/30	.020"	.245"
4736	6	12	22	7/30	.020"	.270"
4739	9	18	22	7/30	.020"	.325"
4740	11	22	22	7/30	.020"	.365"
4745	15	30	22	7/30	.025"	.455"
4745/19	19	38	22	7/30	.025"	.480"
4746	23	46	22	7/30	.030"	.530"
4747	27	54	22	7/30	.035"	.570"
4748	31	62	22	7/30	.040"	.635"
4749	41	82	22	7/30	.040"	.710"
4750	51	102	22	7/30	.045"	.800"

STANDARD PUT-UPS:
50' - 100' - 250' - 1000'



Pair No.	Color Combo.	Pair No.	Color Combo.	Pair No.	Color Combo.	Pair No.	Color Combo.	Pair No.	Color Combo.	Pair No.	Color Combo.
1	Black p. w. Red	10	Red p. w. Blue	18	Green p. w. Yellow	27	Brown p. w. Yellow	35	Purple p. w. Slate	44	Slate p. w. Black
2	Black p. w. White	11	Red p. w. Yellow	19	White p. w. Blue	28	Purple p. w. Red	36	Purple p. w. Black	45	White/Black p. w. Red
3	Black p. w. Green	12	Red p. w. Brown	20	White p. w. Brown	29	Purple p. w. White	37	Slate p. w. Red	46	White/Black p. w. Green
4	Black p. w. Blue	13	Red p. w. Orange	21	White p. w. Orange	30	Purple p. w. Green	38	Slate p. w. White	47	White/Black p. w. Blue
5	Black p. w. Brown	14	Green p. w. Blue	22	White p. w. Yellow	31	Purple p. w. Blue	39	Slate p. w. Green	48	White/Black p. w. Brown
6	Black p.w. Yellow	15	Green p. w. White	23	Blue p. w. Brown	32	Purple p. w. Brown	40	Slate p. w. Blue	49	White/Black p. w. Yellow
7	Black p. w. Orange	16	Green p. w. Brown	24	Blue p. w. Orange	33	Purple p. w. Yellow	41	Slate p. w. Brown	50	White/Black p. w. Orange
8	Red p. w. Green	17	Green p. w. Orange	25	Blue p. w. Yellow	34	Purple p. w. Orange	42	Slate p. w. Yellow	51	White/Black p. w. Purple
9	Red p. w. White	(p.w. = paired with)		26	Brown p. w Orange	(p.w. = paired with)		43	Slate p. w. Orange	(p.w. = paired with)	

SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

PLASTIC JACKETED — WITH SPIRAL WRAPPED COPPER SHIELD

Designed for P.A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.

DESCRIPTION Each conductor copper tinned, ¼ plastic insulation, color coded, twisted, spiral wrapped tinned copper shield, gray plastic jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
941	2	22	7/30	.017"	.020"	.171"
941/1	1	22	7/30	.017"	.020"	.120"
941/3	3	22	7/30	.017"	.020"	.190"
941/4	4	22	7/30	.017"	.020"	.205"
941/6	6	22	7/30	.017"	.020"	.240"
950	2	22	1	.017"	.020"	.169"
942	2	20	10/30	.017"	.020"	.190"
942/1	1	20	10/30	.017"	.020"	.129"
943	3	20	10/30	.017"	.020"	.208"
944	4	20	10/30	.017"	.020"	.222"
945	6	20	10/30	.017"	.020"	.260"
946	1	18	16/30	.017"	.020"	.139"
947	2	18	16/30	.017"	.020"	.230"
947/3	3	18	16/30	.017"	.020"	.228"
947/4	4	18	16/30	.017"	.020"	.243"
948	2	16	26/30	.017"	.020"	.250"
949	3	16	26/30	.017"	.020"	.249"



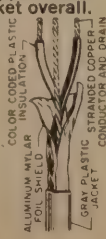
CONDUCTOR COLOR CODE: 1-Black, 2-Red, 3-White, 4-Green
STANDARD PUT-UP: 100' - 250' - 500' - 1000'

SHIELDED PLASTIC JACKETED CABLE with ALUMINUM MYLAR* FOIL SHIELD

This cable is extremely light in weight and provides 100% shield coverage at audio and radio frequencies.

DESCRIPTION: Each conductor tinned copper, color coded polyethylene insulation, twisted with #22 7/30 stranded tinned copper drain wire, aluminum Mylar* foil shield, gray polyvinylchloride jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
1890	2	22	7/30	.015"	.020"	.165"
1890/3	3	22	7/30	.015"	.020"	.175"
1890/4	4	22	7/30	.015"	.020"	.190"
1891	2	20	10/30	.015"	.020"	.180"
1891/3	3	20	10/30	.015"	.020"	.190"
1891/4	4	20	10/30	.015"	.020"	.200"
1892	2	18	16/30	.017"	.020"	.220"
1892/3	3	18	16/30	.017"	.020"	.230"
1892/4	4	18	16/30	.017"	.020"	.240"



CONDUCTOR COLOR CODE: 1-Black, 2-Red, 3-White, 4-Green
STANDARD PUT-UP: 100' - 500' - 1000'

MULTI-CONDUCTOR FLEXIBLE CABLE

DESCRIPTION: Each Conductor #22 7/30 Tinned Copper Stranded .010" thermoplastic insulation, color coded conductors twisted, gray vinyl plastic jacket overall. Used for signal, P.A. systems. Electronic computer cable, suitable for outdoor use. **GRAY JACKET**

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
156	2	22	7/30	.010"	.020"	.140"
157	3	22	7/30	.010"	.020"	.145"
158	4	22	7/30	.010"	.020"	.170"
159	5	22	7/30	.010"	.020"	.175"
160	6	22	7/30	.010"	.020"	.185"
161	7	22	7/30	.010"	.020"	.190"
162	8	22	7/30	.010"	.020"	.200"
163	9	22	7/30	.010"	.020"	.225"
164	10	22	7/30	.010"	.020"	.235"
165	12	22	7/30	.010"	.020"	.255"
165/15	15	22	7/30	.010"	.020"	.280"
165/20	20	22	7/30	.010"	.020"	.310"
165/25	25	22	7/30	.010"	.020"	.340"
165/30	30	22	7/30	.010"	.020"	.365"
165/40	40	22	7/30	.010"	.020"	.425"
165/50	50	22	7/30	.010"	.020"	.500"
165/60	60	22	7/30	.010"	.020"	.530"



STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

COLOR CODE OF CONDUCTORS

1-Black	21-White/Brown	41-White/Green/Red
2-Red	22-White/Orange	42-White/Green/Green
3-White	23-White/Gray	43-White/Green/Blue
4-Green	24-White/Violet	44-White/Green/Brown
5-Orange	25-White/Black/Red	45-White/Green/Purple
6-Blue	26-White/Black/Green	46-White/Blue/Black
7-Brown	27-White/Black/Yellow	47-White/Blue/Red
8-Yellow	28-White/Black/Blue	48-White/Blue/Green
9-Purple	29-White/Black/Brown	49-White/Blue/Blue
10-Slate	30-White/Black/Orange	50-White/Blue/Brown
11-Pink	31-White/Black/Slate	51-White/Blue/Purple
12-Tan	32-White/Black/Purple	52-White/Brown/Black
13-Red/Green	33-White/Black/Black	53-White/Brown/Red
14-Red/Yellow	34-White/Red/Black	54-White/Brown/Green
15-Red/Black	35-White/Red/Red	55-White/Brown/Blue
16-White/Black	36-White/Red/Green	56-White/Brown/Brown
17-White/Red	37-White/Red/Blue	57-White/Brown/Purple
18-White/Green	38-White/Red/Brown	58-White/Purple/Red
19-White/Yellow	39-White/Red/Purple	59-White/Purple/Green
20-White/Blue	40-White/Green/Black	60-White/Purple/Blue

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

BIRNBACH COMPANY INC.

SHIELDING BRAID

FLAT TINNED COPPER SHIELDING



Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.
DESCRIPTION:
No. 853 thru 856/7—Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and **Rolled Flat.**
No. 860—Composed of extremely flexible fine soft annealed copper wires closely woven, braided and **Rolled Flat.**

TINNED

Cat. No.	Size & No. of Wires	Inside Diam. Flat.	Approx. O.D. Flat.	Approx. AWG Equiv.	Nom. Circ. Mills	Current Carrying Cap./Amps.
853	12x 2/36	1/32"	3/64"	24	400	6.0
854	12x 2/36	3/64"	1/16"	22	600	7.0
855	16x 3/36	1/16"	3/64"	20	1200	11.00
858	24x 5/36	1/8"	5/32"	18	1800	16.00
859	24x 5/36	3/16"	7/32"	15	3000	25.00
863	24x 7/36	1/4"	9/32"	14	4200	32.00
864	48x 4/36	3/16"	13/32"	12	7200	46.00
868	48x 7/36	1/2"	19/32"	10	9600	53.00
865	48x 8/36	5/8"	23/32"	10	9600	53.00
865/1	48x11/36	3/4"	13/16"	7	20,800	85.00
857	48x19/36	25/32"	27/32"	7	20,800	85.00
856	48x19/36	1"	1 1/16"	7	20,800	85.00
856/1	48x19/36	1 3/16"	1 7/16"	7	53,064	85.00
856/2	48x19/36	1 1/2"	1 13/16"	3	125,425	150.00
856/3	48x27/30	1 3/4"	1 7/8"	001	154,368	280.00
856/4	48x32/30	2"	2 1/4"	000	192,000	310.00
856/6	48x45/30	2 1/2"	2 3/4"	000	216,000	340.00
856/7	48x64/30	3"	3 1/4"	0000	225,000	390.00

SPECIAL CONSTRUCTIONS AVAILABLE TO ORDER

STANDARD PUT-UPS:
#853 thru #856/1 — 50′ — 100′ — 250′ — 500′ — 1000′
#856/2 thru #856/7 — 50′ — 100′ — 250′
#860 — 50′ — 100′ — 250′ — 500′ — 1000′

TUBULAR BRAID PER MIL SPEC. QQ-B-575



Manufactured completely round as noted in MIL Spec. QQ-B-575, this tinned copper shielded braid has self-supporting characteristics which enables it to maintain its round shape. The shielding coverage percentage is 95% or more. This tubular braid is used in military applications where maximum shielding against electrostatic interference is indicated. In addition, it is used as a protective covering against mechanical abrasion and stresses for the wires, cables and other components.

Cat. No.	Nom. Inside Diam. When Rounded	Construction: Total No. of Wires	Construction: Carriers	AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Circular Mills	*Current Carrying Capacity Amps
2250-1/32	1/32"	24	24	36	22	640	7.0
2250-1/16	1/16"	48	24	36	19	1,290	11.0
2250-5/64	5/64"	72	24	36	17	1,900	18.0
2250-7/64	7/64"	96	24	36	16	2,500	22.0
2250-1/8	1/8"	120	24	36	15	3,260	28.0
2250-5/32	5/32"	240	24	36	12	6,200	39.0
2250-11/64	11/64"	168	24	36	14	4,500	32.0
2250-3/16	3/16"	192	24	36	13	5,100	35.0
2250-13/64	13/64"	312	24	36	11	8,200	46.0
2250-1/4	1/4"	384	24	36	10	10,400	53.0
2250-3/8	3/8"	384	48	36	10	10,400	53.0
2250-1/2	1/2"	528	48	36	9	13,200	70.0
2250-9/16	9/16"	528	48	36	9	13,200	70.0
2250-11/16	11/16"	720	48	36	7	19,000	82.0
2250-25/32	25/32"	864	48	36	7	21,750	85.0
2250-13/16	13/16"	864	48	36	7	21,750	85.0
2250-1"	1"	864	48	36	4	38,600	120.0

STANDARD SPOOL PUT-UPS: 50′ — 100′ — 250′, 500′ — 1000′

*Values based on copper in free air at 65°F.
Additional constructions and variations made to order. Also available in silver plated copper, bare copper and stainless steel.

SILVER PLATED TUBULAR BRAID AVAILABLE IN ALL SIZES: 1/32", 1/6", 5/64", 7/64", 1/8", 5/32", 11/64", 13/64", 1/4" and more.

COMPLETE WIRE MEASURING OUTFIT

ACCURATE • COMPACT • NOISELESS

MEASURING MACHINE

Sturdy and compact construction. Has a precision quality built counter with large numbers for easy reading and will register wire up to .9,999 feet for direct accurate reading. Can be easily reset to zero position.

Wire passes through two rollers, the upper roller being self-adjusting and the tension of the upper roller can be set by a thumb screw to provide the proper grip for very fine as well as for heavy wire.

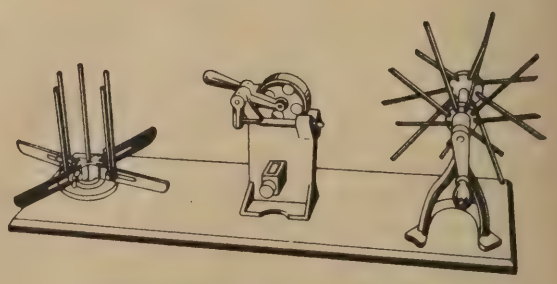
Two hardened lead bushings with an opening of 1/8" diameter will guide the wire properly through the rollers. Bushings are removable to allow cables up to 1" dia. to pass through. Will measure accurately all electric wires, cables, coaxial cables, rope, tape, etc.

WIRE WINDER

Has adjustable arms to be set to the desired coil size and the arms will open to a flat position for easy removal of the coil. Simply open thumb screw which holds the front collar tight on the shaft, push the collar in any direction to the desired position and tighten the thumb screw again.

HOLDING REEL

Compact, adjustable to size of coil and folding. Will hold spools or coils of wire.



MEASURES IN INCHES AND FEET
CERTIFICATE OF APPROVAL NO. 498-61
DEPARTMENT OF AGRICULTURE STATE OF CALIFORNIA

	Model No.
Complete:	
Wire Measuring Outfit	7389A
Separately:	
Holding Reel	7398-1M
Measuring Machine	7398-2MA
Wire Winder	7398-3M

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

© United Technical Publications

It's easy

to order from this catalog.

When ordering products shown in this catalog
or writing for additional information,
be sure to specify:

1. **The year and edition of this MASTER**
2. **Manufacturers' catalog numbers and page numbers**

This will avoid confusion
and expedite delivery.

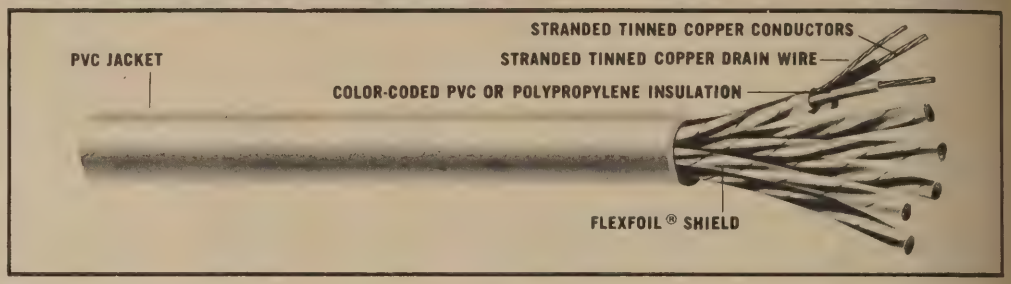
Thank you!



COLUMBIA ELECTRONIC CABLES

AUDIO/COMMUNICATIONS

Audio/Data Individually Shielded Multiple Pair Cable PVC Jacket



Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded polypropylene insulation, cabled in pairs, each pair and its drain wire under Flexfoil® aluminum foil polyester shield, PVC jacket overall.

Specifications: +105°C. Suggested working voltage 300V. 100 Megohms/M insulation resistance between shields. 115 MMF/Ft. capacitance between adjacent shields. 1500V voltage breakdowns between adjacent shields. 50V working voltage between adjacent shields.

Applications: For audio RF and pulse applications requiring superior circuit isolation. The use of polypropylene insulation results in excellent high frequency properties and mechanical durabilty.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

NO. OF PAIRS	COLOR CODING
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow

CATALOG NUMBER	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND.	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	NOM. O.D. (INCHES)	NOM. CAP.* MMF/FT.	NOM. CAP.** MMF/FT.
06040	3	6	22	7/30	.008	.030	.265	35	62
06041	6	12	22	7/30	.008	.035	.360	35	62
06042	9	18	22	7/30	.008	.040	.420	35	62
06043	11	22	22	7/30	.008	.040	.460	35	62
06044	15	30	22	7/30	.008	.045	.530	35	62
06045	19	38	22	7/30	.008	.055	.580	35	62
†06046	27	54	22	7/30	.008	.070	.720	35	62
06047	3	6	18	16/30	.016	.035	.375	30	55
06048	6	12	18	16/30	.016	.045	.555	30	55
06049	9	18	18	16/30	.016	.055	.620	30	55
06050	12	24	18	16/30	.016	.070	.765	30	55
06051	15	30	18	16/30	.016	.070	.830	30	55

Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded PVC insulation, cabled in pairs, each pair and its drain wire under Flexfoil® aluminum foil/polyester shield, PVC jacket overall.

Specifications: −20°C to +60°C. Recommended operating voltage 300V. 100 Megohms/M insulation resistance between shields. 115 MMF/Ft. capacitance between adjacent shields. 1500V voltage breakdowns between adjacent shields. 50V working voltage between adjacent shields.

Applications: For audio RF and pulse applications requiring superior circuit isolation.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

See Color Code Above

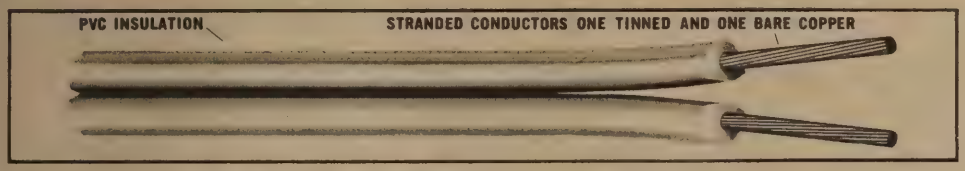
CATALOG NUMBER	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND.	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
06035	3	6	22	Solid	.015	.030	300V	.280
06036	6	12	22	Solid	.015	.035	300V	.400
06037	9	18	22	Solid	.015	.040	300V	.455
06039	11	22	22	Solid	.015	.040	300V	.500
06038	15	30	22	Solid	.015	.045	300V	.555

†Cat. No. 06046 is available cut to specified length. Maximum length is 1000′.
*Capacitance between conductors.
**Capacitance between one conductor and other conductor connected to shield.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

AUDIO/COMMUNICATIONS



Audio Cable Miniature Zip-Cord

Stock Color: See table below.

Construction: One conductor tinned copper, one conductor bare copper for polarity identification, PVC insulation, conductors parallel, rip-type construction for easy separation of conductors when split apart.

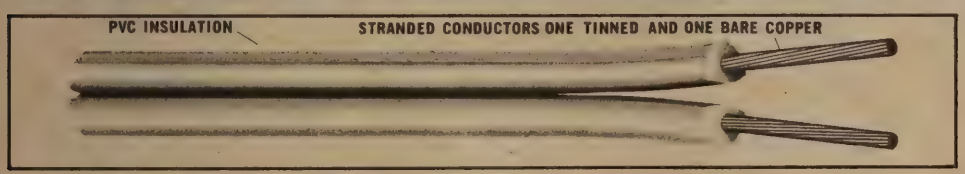
Specifications: −20°C to +60°C.

Applications: Hi-Fi and stereo speaker cable, miniature juke box speaker connection cable, automotive rear seat extension cable. Decorator colors will blend with interior room decor.

Put-up: 50′, 100′, 250′, 500′ and 1000′ spools packaged in attractive counter display cartons. (Other put-ups also available.)

STOCK COLORS AVAILABLE
1 Clear
2 Gray
3 Brown
4 White
5 Clear gold

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)	STOCK COLORS
01356	2	24	7	.016	250V	.060 x .120	1-5



Audio Cable Heavy-Duty Zip-Cord

Stock Color: See table below.

Construction: One conductor tinned copper, one conductor bare copper for polarity identification, PVC insulation, identifying ridge on one conductor, conductors laid parallel, rip-type construction for easy separation of conductors when split apart.

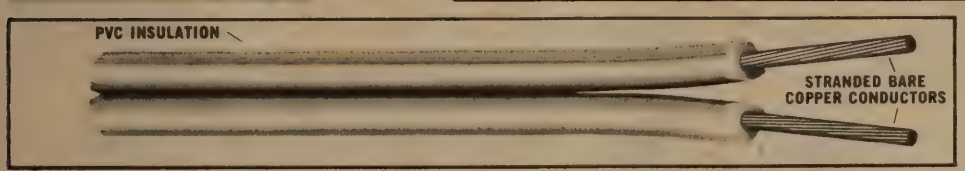
Specifications: −20°C to +60°C.

Applications: Hi-Fi and stereo speaker cable, miniature juke box speaker cable, automotive rear seat speaker extension cable, 20 gauge conductors allow for less line loss permitting longer runs.

Put-up: 100′, 250′, 500′ and 1000′ spools. 100′ spools packaged in attractive counter display cartons. (Other put-ups also available.)

STOCK COLORS AVAILABLE
1 Clear
2 Gray
3 Brown
4 White
5 Clear gold

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)	STOCK COLORS
01360	2	20	10	.020	300V	.090 x .180	1-5



Audio Cable Extra Heavy-Duty Zip-Cord

Stock Color: See table below.

Construction: Bare copper conductors, PVC insulation, one conductor ridged for polarity identification, conductors laid parallel, rip-type construction for easy separation of conductors when split apart. Cable UL listed SPT-1.

Specifications: −20°C to +60°C.

Applications: Extra heavy-duty cable for hi-fi and stereo speaker cable, juke box speaker cable, automotive rear seat speaker extension cable. UL listed for light duty line cord on radios, lamps, electric clocks, food mixers and other instruments and applications.

Put-up: 100′ and 250′ spools. (Other put-ups also available.)

STOCK COLORS AVAILABLE
1 Clear
2 Gray
3 Brown
4 White
5 Cleargold
6 Black
7 Clear Silver
8 Antique gold

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)	STOCK COLORS
01415	2	18	41/34	.031	300V	.110 x .207	2-4, 6
01419	2	18	41/34	.031	300V	.110 x .207	5
01416	2	18	41/34	.031	300V	.110 x .207	8
01417	2	18	41/34	.031	300V	.110 x .207	7
01418	2	18	41/34	.031	300V	.110 x .207	1

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

AUDIO/COMMUNICATIONS

Audio Cable Braid Shielded PVC Jacket



Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded PVC insulation, conductors cabled, tinned copper braid shield, PVC jacket overall.

Specifications: −20°C to +60°C.

Applications: Shielded cable for recording studios, radio transmitters, sound systems and electronic circuits where shielding is required.

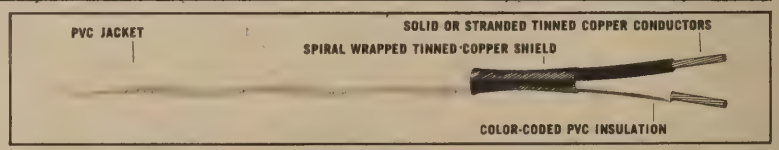
Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

CATALOG NUMBER	NO. OF COND.	COND. SIZE	COND. STRAND.	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	APPROX. PERCENT SHIELD COVERAGE	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
SOLID CONDUCTORS								
02695	2	20	Solid	.015	.020	75	200V	.210
02696	2	18	Solid	.015	.020	75	200V	.220
STRANDED CONDUCTORS								
02679	2	22	7/30	.015	.020	75	200V	.185
02678	3	22	7/30	.015	.020	75	200V	.200
02680	4	22	7/30	.015	.020	75	200V	.210
02681	2	20	10/30	.015	.020	75	200V	.204
01332	3	20	10/30	.015	.020	75	200V	.214
02683	4	20	10/30	.015	.020	75	200V	.232
02686	2	18	16/30	.018	.020	75	300V	.224
02687	3	18	16/30	.018	.020	75	300V	.236
02688	4	18	16/30	.018	.020	75	300V	.257
02689	2	16	26/30	.018	.020	75	300V	.250
02690	3	16	26/30	.018	.020	75	300V	.259
02691	2	14	41/30	.020	.020	75	250V	.290
02692	3	14	41/30	.020	.020	75	250V	.295
02693	2	12	65/30	.020	.020	75	250V	.335
02694	3	12	65/30	.020	.020	75	250V	.340

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	Black
2	Red
3	White
4	Green

Audio Cable Spiral Shielded PVC Jacket



Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded PVC insulation, conductors cabled, tinned copper spiral wrapped shield, PVC jacket overall.

Specifications: −20°C to +60°C.

Applications: Cable for recording studios, radio transmitters, sound systems and electronic circuits where shielding is required. Spiral shield allows ease of pigtail soldering.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

CATALOG NUMBER	NO. OF COND.	COND. SIZE	COND. STRAND.	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	APPROX. PERCENT SHIELD COVERAGE	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
SOLID CONDUCTORS								
02884	2	22	Solid	.015	.020	94	200V	.170
02885	3	22	Solid	.015	.020	76	200V	.178
STRANDED CONDUCTORS								
02882	2	22	7/30	.015	.020	85	200V	.175
01335	3	22	7/30	.015	.020	85	200V	.190
01337	4	22	7/30	.015	.020	85	200V	.200
01341	6	22	7/30	.015	.020	85	200V	.235
02888	2	20	10/30	.015	.020	85	200V	.195
02893	3	20	10/30	.015	.020	85	200V	.210
02769	4	20	10/30	.015	.020	85	200V	.225
02770	6	20	10/30	.015	.020	85	200V	.265
02892	2	18	16/30	.018	.020	85	200V	.230
02768	3	18	16/30	.018	.020	85	200V	.235
02894	4	18	16/30	.018	.020	85	200V	.245
02895	2	16	26/30	.018	.020	85	200V	.240
02896	3	16	26/30	.018	.020	85	200V	.245
02897	2	14	41/30	.020	.020	85	250V	.285
02898	3	14	41/30	.020	.020	85	250V	.290
02899	2	12	65/30	.020	.020	85	250V	.325
02900	3	12	65/30	.020	.020	85	250V	.330

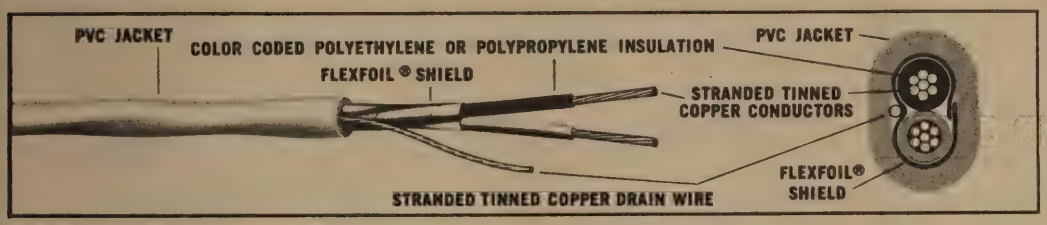
COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	Black
2	Red
3	White
4	Green
5	Yellow
6	Blue

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

AUDIO/COMMUNICATIONS



Audio Cable Mylar* /Aluminum Foil Shielded PVC Jacket

Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded polyethylene insulation, conductors cabled, wrapped with Flexfoil® mylar supported aluminum foil shield with foil facing to outside, stranded tinned copper drain wire, PVC jacket overall.

Specifications: −20°C to +60°C.

Applications: 100% shielded cable for recording studios, broadcast sound systems and electronic circuits where RF shielding is required.

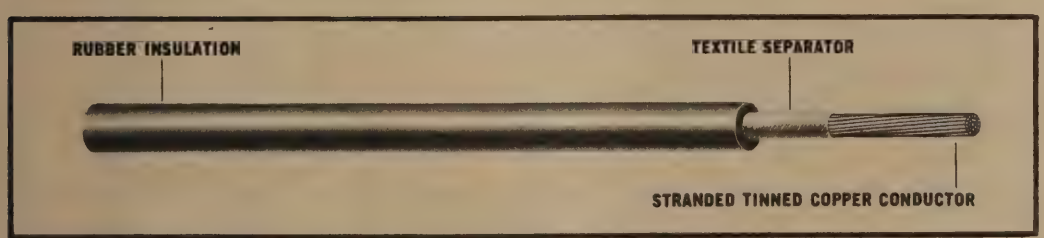
Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	Black
2	Clear
3	Red
4	Green

CATALOG NUMBER	NO. OF COND.	COND. SIZE	COND. STRAND.	SIZE OF DRAIN WIRE	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	PERCENT SHIELD COVERAGE	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
02513	2	24	7/32	24	.015	.025	100	350V	.160
02514	2 *	22	7/30	22	.015	.025	100	350V	.170
02526	3 **	22	7/30	22	.015	.025	100	350V	.175
02523	4	22	7/30	22	.015	.025	100	350V	.190
02524	2	20	10/30	20	.015	.025	100	350V	.195
02525	3	20	10/30	20	.015	.028	100	350V	.200
02534	2	18	16/30	20	.018	.028	100	450V	.222
02535	3	18	16/30	20	.018	.028	100	450V	.236
02536	2	16	26/30	18	.025	.030	100	600V	.274
02537	3	16	26/30	18	.025	.030	100	600V	.300
02538	2	14	41/30	16	.032	.035	100	750V	.340
02539	2	12	65/30	14	.037	.040	100	1000V	.400

*T.M. DuPont *Available with polypropylene insulation, solid and stranded conductors.
**Available with polypropylene insulation, stranded conductor.



Test Lead Unshielded Rubber Insulation

Stock Color: Black or red. (Other colors available on special order.)

Construction: Extra flexible stranded tinned soft annealed copper conductor, separator, color-coded rubber insulation.

Specifications: −20°C to +60°C. All breakdown voltages and suggested working voltages are AC RMS values.

Applications: Test lead wire for use in multimeters, analyzers, oscillators, and other applications requiring extra flexible insulated wire.

Put-up: 250′, 500′ and 1000′ spools.

CATALOG NUMBER	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	BREAKDOWN VOLTAGE*	SUGGESTED WORKING VOLTAGE	NOMINAL O.D. (INCHES)
01326	1	20	41/36	.040	6,000V	1,500V	.125
01319	1	20	41/36	.047	12,000V	3,000V	.140
01321	1	18	65/36	.045	20,000V	5,000V	.140
†01327	1	18	65/36	.045	20,000V	5,000V	.140
01318	1	18	65/36	.088	29,000V	10,000V	.230

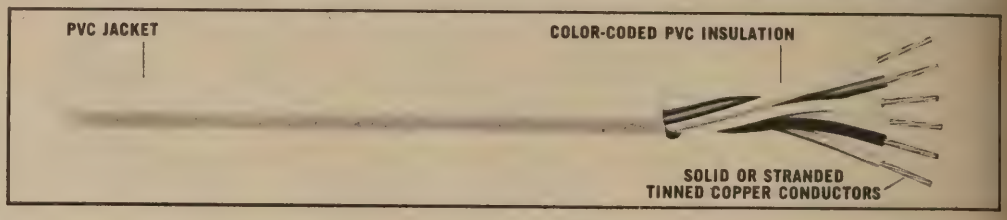
*For intermittent duty only.
†Manufactured per MIL-W-13169.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

AUDIO/COMMUNICATIONS

Audio Cable Unshielded Unpaired Multi-Conductor PVC Jacket



Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors (Cat. Nos. 02754 and 02755 are bare copper), color-coded PVC insulation, PVC jacket overall, conductors cabled.

Specifications: −20°C to +60°C.

Applications: PA systems, unbalanced intercom systems, interconnecting cables, remote control circuits, telephones, low-voltage relay control cables.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS❑

CONDUCTOR	COLOR
1	Black
2	Red
3	White
4	Green
5	Orange
6	Blue
7	Brown
8	Yellow
9	Purple
10	Gray
11	Pink
12	Tan
13	Red/Green
14	Red/Yellow
15	Red/Black
16	White/Black
17	White/Red
18	White/Green
19	White/Yellow
20	White/Blue
21	White/Brown
22	White/Orange
23	White/Gray
24	White/Violet
25	White/Black/Red
26	White/Black/Green
27	White/Black/Yellow
28	White/Black/Blue
29	White/Black/Brown
30	White/Black/Orange
31	White/Black/Slate
32	White/Black/Purple
33	White/Black/Black
34	White/Red/Black
35	White/Red/Red
36	White/Red/Green
37	White/Red/Blue
38	White/Red/Brown
39	White/Red/Purple
40	White/Green/Black
41	White/Green/Red
42	White/Green/Yellow
43	White/Green/Blue
44	White/Green/Brown
45	White/Green/Purple
46	White/Blue/Black
47	White/Blue/Red
48	White/Blue/Green
49	White/Blue/Blue
50	White/Blue/Brown
51	White/Blue/Purple
52	White/Brown/Black
53	White/Brown/Red
54	White/Brown/Green
55	White/Brown/Blue
56	White/Brown/Brown
57	White/Brown/Purple
58	White/Purple/Red
59	White/Purple/Green
60	White/Purple/Blue

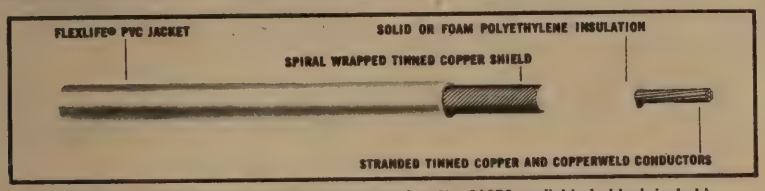
CATALOG NUMBER	NO. OF COND.	COND. SIZE	COND. STRAND.	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)	COLOR CODE
			SOLID CONDUCTORS					
04008	2	22	Solid	.010	.020	200V	.130	1, 2
04310	3	22	Solid	.010	.020	200V	.140	1, 2
04311	2	20	Solid	.015	.020	350V	.170	1, 2
02754	2	19	Solid	.015	.020	350V	.165	2, 3
02755	3	19	Solid	.015	.020	350V	.175	2-4
			STRANDED CONDUCTORS					
06348	2	22	7/30	.010	.020	200V	.140	1, 2
04062	3	22	7/30	.010	.020	200V	.150	1-3
04063	4	22	7/30	.010	.020	200V	.170	1-4
04064	5	22	7/30	.010	.020	200V	.175	1-5
04066	6	22	7/30	.010	.020	200V	.185	1-6
04088	7	22	7/30	.010	.020	200V	.190	1-7
04065	8	22	7/30	.010	.020	200V	.200	1-8
04070	9	22	7/30	.010	.020	200V	.225	1-9
04071	10	22	7/30	.010	.020	200V	.235	1-10
04067	12	22	7/30	.010	.025	200V	.265	1-12
04073	15	22	7/30	.010	.025	200V	.290	1-15
04069	18	22	7/30	.010	.030	200V	.310	1-18
04075	20	22	7/30	.010	.030	200V	.340	1-20
04076	25	22	7/30	.010	.030	200V	.360	1-25
04077	30	22	7/30	.010	.030	200V	.385	1-30
04078	40	22	7/30	.010	.030	200V	.435	1-40
04079	50	22	7/30	.010	.035	200V	.500	1-50
04087	60	22	7/30	.010	.035	200V	.530	1-60
06351	2	20	10/30	.015	.020	350V	.180	1, 2
06352	3	20	10/30	.015	.020	350V	.190	1-3
06353	4	20	10/30	.015	.020	350V	.215	1-4
02830	2	18	16/30	.018	.020	350V	.200	1-2
02831	3	18	16/30	.018	.020	350V	.210	1-3
02404	4	18	16/30	.018	.030	400V	.250	1-4
02405	2	16	26/30	.020	.025	350V	.235	1-2
02406	3	16	26/30	.020	.025	350V	.255	1-3
02407	4	16	26/30	.020	.030	600V	.295	1-4
02409	2	14	41/30	.030	.035	600V	.332	1, 3
02410	2	12	65/30	.030	.040	600V	.384	1, 3

❑First color in stripe combination is body color. Second or third colors are stripes. Example: White/Black/Red. Other striped combinations available to order.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

MICROPHONE



Microphone Cable One Conductor Spiral Shield Flexlife® Jacket

Stock Color: Silver gray jacket. (Cat. No. 01359 available in black jacket.)

Construction: Single conductor 3 strands tinned copper, 4 strands tinned copperweld, white foam polyethylene dielectric, spiral tinned copper shield, high gloss Flexlife jacket.

Specifications: −20°C to +60°C.

Applications: For use with high impedance microphones and hi-fi interconnecting cables. Flexfoam dielectric (foam polyethylene) provides as much as 35% lower capacitance than the best standard solid polyethylene dielectric microphone cables. Flexfoam cables are the most flexible plastic microphone cable available, with limpness almost equal to rubber and with better abrasion resistance.

Put-up: 100′, 250′, 500′ and 1000′ spools. (Other put-ups also available.)



CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	NOM. O.D. (INCHES)
01359	Min.	1	25	7/33	.016	.012	39	.085
01369	Lapel	1	25	7/33	.030	.020	19	.140
01389	Crystal	1	25	7/33	.050	.025	18	.190
01395	Crystal	1	25	7/33	.075	.030	11	.250

*Between conductor and shield.

Microphone Cable One Conductor Spiral Shield Flexlife® Jacket

Stock Color: Silver gray jacket.

Construction: Single conductor 3 strands tinned copper 4 strands tinned copperweld, solid polyethylene insulation, spiral tinned copper shield, high gloss Flexlife jacket.

Specifications: −20°C to +60°C.

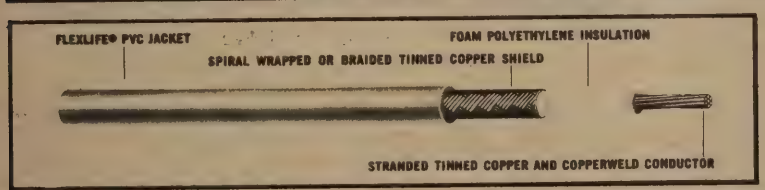
Applications: For use with high impedance microphones and hi-fi interconnecting cables. Flexlife jacket provides extreme flexibility, high abrasion resistance and outstanding appearance.

Put-up: 100′, 250′, 500′ and 1000′ spools. (Other put-ups also available.)

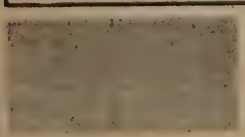


CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
01314	Crystal	1	25	7/33	.040	.020	25	5000V	.160
01366	Lapel	1	25	7/33	.030	.020	33	4000V	.125

*Between conductor and shield.



Microphone Cable One Conductor Braided Shield Flexlife® Jacket



CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	NOM. O.D. (INCHES)
01379	Lapel	1	25	7/33	.030	.020	19	.145
01399	Crystal	1	25	7/33	.050	.025	16	.200

*Between conductor and shield.

Microphone Cable Braided Shield Rubber Jacket

Stock Color: Black jacket.

Construction: Tinned copper conductors, color-coded rubber insulation, cotton wrap, filled where required, braided tinned copper shield, cotton wrap, rubber jacket.

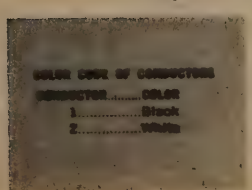
Specifications: −20°C to +60°C. Recommended operating voltage 600V.

Applications: CATALOG NUMBERS 01300, 01301, 01311: For use with high impedance microphones, broadcast and studio use, communication and audio systems.

CATALOG NUMBERS 01302, 01303: For use with low impedance microphones, studio use, control circuits, video and audio interconnecting cables, electronic power supply cables.

All cables are precision engineered to transmit clear signals, eliminate hum pick-up and provide extra limpness.

Put-up: 100′, 250′, 500′ and 1000′ spools. (Other put-ups also available.)



CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	NOM. O.D. (INCHES)
01311	1	20	26/34	.025	.030	97	.190
01300	1	20	26/34	.040	.035	60	.230
01301	1	18	41/34	.040	.035	69	.240
01302	2	20	26/34	.020	.035	68	.270
01303	2	18	41/34	.020	.035	78	.295

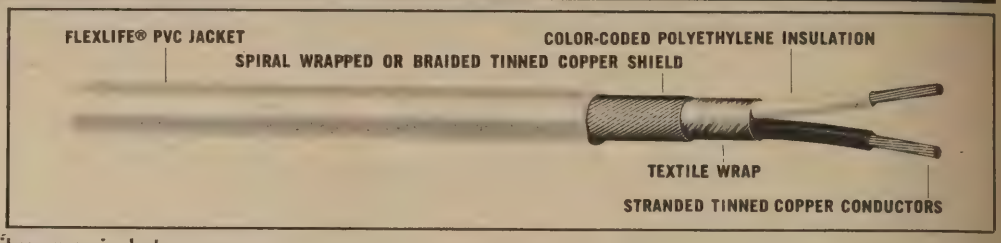
*Between one conductor and remaining (if any) conductor connected to shield.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

MICROPHONE

Microphone Cable Two Conductor Spiral Shield Flexlife® Jacket



Stock Color: Silver gray jacket.

Construction: Tinned copper conductors, color-coded polyethylene insulation, cabled with fillers, textile wrap, spiral tinned copper shield. High gloss Flexlife jacket.

Specifications: −20°C to +60°C.

Applications: For use with low impedance microphones. Flexlife jacket provides extreme flexibility, high abrasion resistance and outstanding appearance.

Put-up: 100′, 250′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	White
2	Black

CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
01323	Low Imped.	2	22	16/34	.025	.025	31	1000V	.225
01328	Min. low Imped.	2	24	10/34	.016	.030	38	1000V	.180

*Between one conductor and remaining conductor connected to shield.

Microphone Cable Two Conductor Braided Shield Flexlife® Jacket

Stock Color: Silver gray jacket.

Construction: Tinned copper conductors, color-coded polyethylene insulation, cabled with fillers, textile wrap, spiral tinned copper shield. High gloss Flexlife jacket.

Specifications: −20°C to +60°C.

Applications: For use with low impedance microphones. Flexlife jacket provides extreme flexibility, high abrasion resistance and outstanding appearance.

Put-up: 100′, 250′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	White
2	Black

CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
01322	Low Imped.	2	22	16/34	.025	.025	31	1000V	.235

*Between one conductor and remaining conductor connected to shield.

Microphone Cable Two Conductor Braided Shield Heavy-Duty Flexlife® Jacket

Stock Color: Red or black jacket.

Construction: Tinned copper conductors, color-coded polyethylene insulation, cabled with filler, textile wrap, braided tinned copper shield, high gloss Flexlife jacket.

Specifications: −20°C to +60°C.

Applications: For low impedance microphones. Heavy duty studio type designed to withstand rough usage. Bright red jacket is a visual aid to safety. Flexlife jacket provides extreme flexibility, high abrasion resistance and outstanding appearance.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	White
2	Black

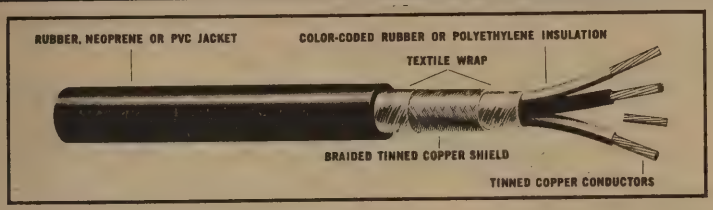
CATALOG NUMBER	TYPE	NO. OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	*NOM. CAP. MMF/FT.	SUGGESTED WORKING VOLTAGE	NOM. O.D. (INCHES)
03302	Low Imped.	2	18	41/34	.025	.030	45	1000V	.295

*Between one conductor and remaining conductor connected to shield.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

CONTROL



Control Cable Multi-Conductor Shielded Neoprene or Rubber Jacket

Stock Color: Black jacket.

Construction: Tinned copper conductors, color-coded rubber insulation, cabled, filled where required, cotton wrap, tinned copper braided shield, cotton wrap, neoprene jacket or rubber jacket.

Specifications: −20°C to +60°C. Suggested working voltage 350V.

Applications: Control circuits, video and audio interconnecting cables, broadcast and studio use. Precision engineered to prevent cross-talk and eliminate hum pick-up. Neoprene and rubber jackets are resistant to impact and abrasion and have extra limpness. For outside installations, neoprene is recommended being resistant to oil, ozone, moisture and sunlight.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS□

CONDUCTOR	COLOR
1	Black
2	White
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange
9	Gray (slate)
10	Purple
11	White/Black
12	White/Red
13	White/Green
14	White/Yellow
15	White/Blue
16	White/Brown
17	White/Purple
18	White/Gray (slate)
19	Black/Red
20	Black/Yellow

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	(INCHES) NOM. O.D.
NEOPRENE JACKET						
01202	2	18	41/34	.020	.035	.295
01203	3	18	41/34	.020	.035	.305
01204	4	18	41/34	.020	.035	.330
01206	6	18	41/34	.020	.035	.370
01208	8	18	41/34	.020	.035	.420
01210	10	18	41/34	.020	.035	.480
01212	12	18	41/34	.020	.065	.555
01215	15	18	41/34	.020	.065	.640
01220	20	18	41/34	.020	.065	.730
01602	2	16	65/34	.025	.035	.335
01603	3	16	65/34	.025	.035	.355
01604	4	16	65/34	.025	.035	.385
01606	6	16	65/34	.025	.040	.445
01608	8	16	65/34	.025	.040	.510
01610	10	16	65/34	.025	.040	.575
01612	2	14	41/30	.030	.040	.395
01613	3	14	41/30	.030	.040	.425
01614	4	14	41/30	.030	.040	.455
01616	6	14	41/30	.030	.040	.515
01622	2	12	65/30	.030	.040	.440
01623	3	12	65/30	.030	.040	.465
01624	4	12	65/30	.030	.040	.505
01632	2	10	105/30	.030	.040	.495
01633	3	10	105/30	.030	.040	.520

□First color in stripe combination is body color. Second or third colors are stripes. Example: White/Black/Red. Other solid colors and striped combinations available to order.

COLOR CODE OF CONDUCTORS□

CONDUCTOR	COLOR
1	Black
2	White
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange
9	Gray (slate)
10	Purple
11	White/Black
12	White/Red
13	White/Green
14	White/Yellow
15	White/Blue
16	White/Brown
17	White/Purple
18	White/Gray (slate)
19	Black/Red
20	Black/Yellow

Unshielded Control Cable also available.

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	NOM. O.D. (INCHES)
RUBBER JACKET						
01303	2	18	41/34	.020	.035	.295
01302	2	20	26/34	.020	.035	.270
01304	3	20	26/34	.020	.035	.285
01305	4	20	26/34	.020	.035	.305
01308	5	20	26/34	.020	.035	.330
01310	6	20	26/34	.020	.035	.345
01312	7	20	26/34	.020	.035	.360
01313	8	20	26/34	.020	.035	.385
01315	10	20	26/34	.020	.035	.440
01316	12	20	26/34	.020	.065	.525
01317	15	20	26/34	.020	.065	.595
01325	20	20	26/34	.020	.065	.660

□First color in stripe combination is body color. Second or third colors are stripes. Example: White/Black/Red. Other solid colors and striped combinations available to order.

Control Cable Multi-Conductor Shielded PVC Jacket

Stock Color: Chrome gray jacket.

Construction: Tinned copper conductors, color-coded polyethylene insulation, cabled, filled where required, rayon wrap, tinned copper braid shield, PVC jacket overall.

Specifications: −20°C to +60°C. Suggested working voltage 600V.

Applications: Low capacity cable for control circuits, video and audio interconnecting cables, broadcast and studio use. Precision engineered to prevent cross-talk and eliminate hum pick-up. Low capacitance, light weight.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS□

CONDUCTOR	COLOR
1	Black
2	White
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange
9	Gray (slate)
10	Purple
11	White/Black
12	White/Red
13	White/Green
14	White/Yellow
15	White/Blue
16	White/Brown
17	White/Purple
18	White/Gray (slate)
19	Black/Red
20	Black/Yellow

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	NOM. O.D. (INCHES)
01642	2	20	26/34	.015	.030	.245
01643	3	20	26/34	.015	.035	.250
01644	4	20	26/34	.015	.035	.260
01645	5	20	26/34	.015	.035	.275
01646	6	20	26/34	.015	.035	.300
01648	8	20	26/34	.015	.035	.330
01650	10	20	26/34	.015	.035	.375
01652	12	20	26/34	.015	.035	.380
01655	15	20	26/34	.015	.035	.410
01660	20	20	26/34	.015	.035	.455

□First color in stripe combination is body color. Second or third colors are stripes. Example: White/Black/Red. Other solid colors and striped combinations available to order.

© United Technical Publications

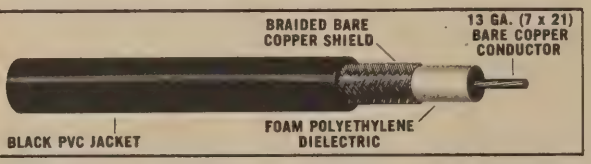
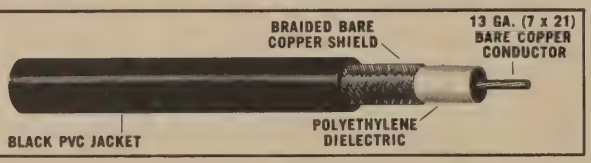
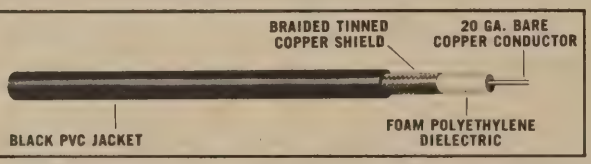
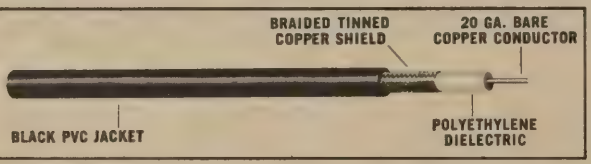
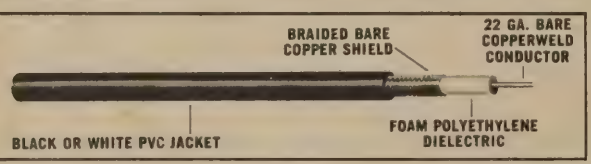
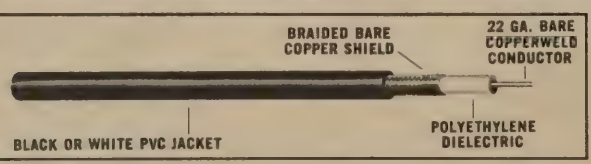
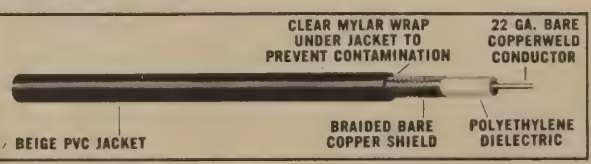
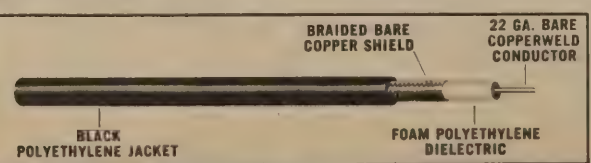
COLUMBIA ELECTRONIC CABLES

TELEVISION

RG Type No.

Full Power® TV, MATV and CB
TRANSMISSION LINE CABLES
COMMERCIAL TYPE

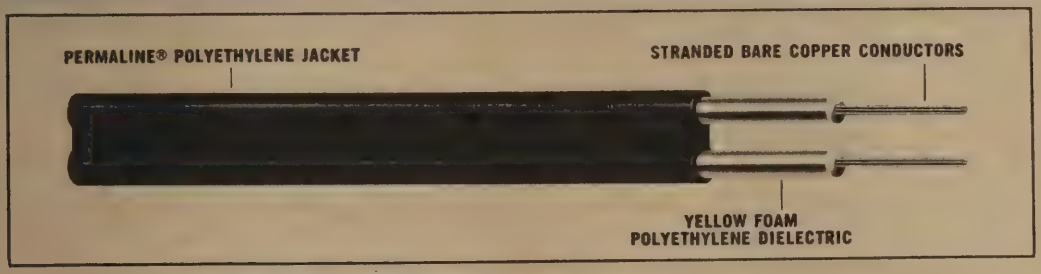
The Full Power® line of coaxial cables consists of a variety of commercial type cables suitable for many CB and television applications. Full Power® cables provide good performance at low cost.

RG Type No.	Construction	Catalog Number	Nominal O.D. (Inches)	Nom. Imp. (Ohms)	Nom. Cap. MMF/FT.	Nominal Attenuation Per 100 FT. MC	Nominal Attenuation Per 100 FT. DB
8/U Type		01109	.405	50	26	50 100 200 400	1.10 1.70 2.30 4.10
8/U Type		05013	.405	50	26	50 100 200 400	1.10 1.70 2.30 4.10
8/U Type		01113	.405	50	29.5	50 100 200 400	1.35 2.10 3.10 5.00
58/U Type		01116	.195	50	26	50 100 200 400	2.80 3.40 5.40 8.70
58/U Type		01117	.195	50	28.5	50 100 200 400	3.50 5.30 8.30 11.50
59/U Type		01112	.242	75	16.3	50 100 200 300 400	2.40 3.40 4.80 5.80 6.70
59/U Type		01110	.242	75	21	50 100 200 400 690	2.70 4.00 5.70 8.50 10.80
59/U Type		01108	.242	75	21	50 100 200 400 600	2.70 4.00 5.70 8.50 10.80
59/U Type		05135	.242	75	16.3	50 100 200 300 400	2.40 3.40 4.80 5.80 6.70

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

TELEVISION



*Durafoam® 300 Ohm 82 Channel Transmission Cable

Stock Color: Black jacket

Construction: Stranded bare copper conductors, each conductor insulated with a carefully spaced tube of yellow foam polyethylene. Outer jacket and barrier separating the conductors Permaline® high molecular weight polyethylene.

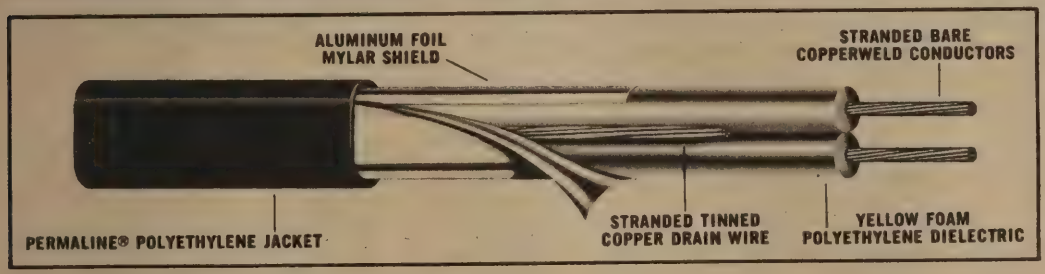
Specifications: 300 ohm cable. Resistant to moisture, salt air, chemical fumes, ultra violate rays of sunlight.

Applications: TV and FM lead in. Durafoam lowest loss, highest efficiency of any available TV-FM transmission line.

Features: Unconditionally guaranteed not to deteriorate under normal atmospheric conditions in any area for 15 years. Installs as easily as flat twin lead. Permaline jacket prevents deterioration and increased attenuation as is the case with brown polyethylene. No matching transformers or special stand-offs required.

CATALOG NUMBER	COND. SIZE	COND. STRAND.	NOM. O.D. (INCHES)	NOM. IMPED. (OHMS)	NOM. CAP. MMF/FT.	NOM. ATTEN. PER 100′ MC	NOM. ATTEN. PER 100′ DB	STD. PACK. LENGTH (FEET)	TYPE PACKAGE
05790-21	20	7/28	.150 x .410	300	4.9			1000′	Spool
05790-18	20	7/28	.150 x .410	300	4.9	100	1.04	500′	Spool
05790-65	20	7/28	.150 x .410	300	4.9	300	2.50	100′	Flat pack**
05790-76	20	7/28	.150 x .410	300	4.9	500	3.50	75′	Flat pack**
05790-64	20	7/28	.150 x .410	300	4.9	900	4.50	50′	Flat pack**

*U.S. Patent No. 3,219,752, Canadian Patent No. 736,090.



Shielded Permafoam® 82 Channel Transmission Cable

Stock Color: Black jacket.

Construction: Stranded bare copperweld (copper covered steel) conductors, each conductor insulated with a carefully spaced tube of yellow foam polyethylene, conductors laid parallel, Flexfoil® aluminum foil/polyester shield. Stranded tinned copper drain wire under shield, overall Permaline® high molecular weight polythylene jacket.

Specifications: Resistant to moisture, salt air, chemical fumes, ultra-violet rays of sunlight.

Applications: Provides superior 82 channel reception in congested areas. Flexfoil® shield eliminates ghost signals and electrical noise.

Features: Can be taped to antenna mast, run in gutters and conduits or buried directly. Unconditionally guaranteed not to deteriorate under normal atmospheric conditions in any area for 15 years. No matching transformers required.

CATALOG NUMBER	COND. SIZE	COND. STRAND. (COPPERWELD)	NOM. O.D. (INCHES)	NOM. CAP. MMF/FT.	NOM. ATTEN. PER 100′ MC	NOM. ATTEN. PER 100′ DB	STD. PKG. LENGTH (FEET)	TYPE PACKAGE
05720-41	22	7/30	.300 x .485	7.8			1000′	Reel
05720-38	22	7/30	.300 x .485	7.8	57	1.7	500′	Reel
05720-65	22	7/30	.300 x .485	7.8	85	2.1	100′	Coil*
05720-76	22	7/30	.300 x .485	7.8	200	3.4	75′	Coil*
05720-64	22	7/30	.300 x .485	7.8	500	5.7	50′	Coil*
					675	6.7		

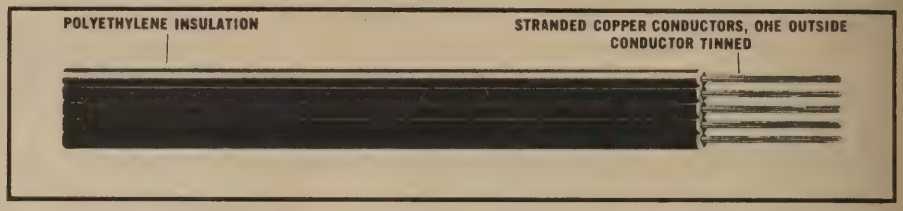
*Factory attached terminals, plus two extra terminals with two color cuff. Packaged in colorful floor display carton.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

TELEVISION

Rotor Cable Flat Polyethylene



Stock Color: Brown.

Construction: Stranded bare copper conductors, one outside conductor tinned for polarity identification, conductors parallel, polyethylene insulation.

Specifications: −40°C to +60°C. Suggested working voltage 200V.

Applications: For use with antenna rotor controls.

Put-up: 500′ and 1000′ spools. 50′, 75′ and 100′ flat packs. (Other put-ups also available.)

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOMINAL O.D. (INCHES)	INSULATION COLOR
01125	3	20	7/28	.080 x .330	Brown
01121	4	22	7/30	.080 x .335	Brown
01114	4	20	7/28	.080 x .400	Brown
01115	5	20	7/28	.080 x .500	Brown

Rotor Cable Round Permaline®



Stock Color: Black jacket.

Construction: Conductors stranded bare copper, color-coded PVC insulation, conductors cabled, high molecular weight Permaline® polyethylene jacket.

Specifications: −20°C to +60°C. Suggested working voltage 200V.

Applications: For use with antenna rotor controls. Permaline® jacket provides maximum resistance to weathering.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

CONDUCTOR	COLOR
1	Black
2	White
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange

HAMLINE

18 ga.	1	Black
	2	Red
22 ga.	1	White
	2	Green
	3	Yellow
	4	Blue
	5	Brown
	6	Orange

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	NOMINAL O.D. (INCHES)
05076	4	22	7/30	.010	.020	.175
05078	4	20	7/28	.010	.020	.180
05084	4	18	16/30	.016	.030	.245
05086	5	22	7/30	.010	.020	.175
05082	5	20	7/28	.010	.020	.190
05096	8	22	7/30	.010	.020	.205

HAMLINE: Ham Rotor Cable, Round. For use with CDR amateur radio antenna rotor.

Stock Color: Black: PVC jacket

04080	8	6-22 2-18	7/30 16/30	.012 .016	.030	.245

Stock Color: Chrome gray jacket.

Construction: Conductors stranded bare copper, color-coded PVC insulation, conductors cabled, PVC jacket overall.

Specifications: −20°C to +60°C. Suggested working voltage 200V.

Applications: For use with antenna rotor controls.

Put-up: 100′, 500′ and 1000′ spools. (Other put-ups also available.)

COLOR CODE OF CONDUCTORS

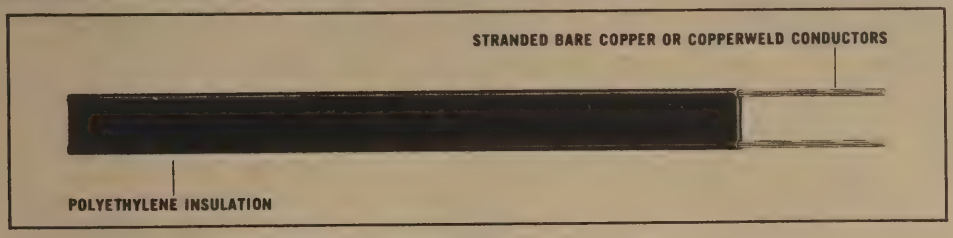
CONDUCTOR	COLOR
1	Black
2	White
3	Red
4	Green
5	Yellow
6	Blue
7	Brown
8	Orange

CATALOG NUMBER	NUMBER OF CONDUCTORS	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSULATION THICKNESS (INCHES)	NOM. JACKET THICKNESS (INCHES)	NOMINAL O.D. (INCHES)
01118	4	22	7/30	.010	.020	.175
01119	4	20	7/28	.010	.020	.180
01123	4	18	16/30	.016	.030	.245
01124	5	22	7/30	.010	.020	.185
01130	8	22	7/30	.010	.020	.220

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

TELEVISION



Flat Twin Lead 300 Ohm Polyethylene Insulated

Stock Color: See table below.

Construction: Stranded bare copper or copperweld conductors, polyethylene insulation.

Applications: TV-FM transmission line.

WIRE SIZE	CATALOG NUMBER	AWG SIZE	CONDUCTOR STRANDING	APPROX. O.D. (INCHES)	PUT-UP (FEET)	TYPE PACKAGE	STOCK COLORS
20 AWG 100 MIL	01004-21	20	7/28	.100 x .400	1000′	Spool	Brown
	01004-18	20	7/28	.100 x .400	500′	Spool	Brown
	01004-65	20	7/28	.100 x .400	100′	Flat pack*	Brown
	01004-76	20	7/28	.100 x .400	75′	Flat pack*	Brown
	01004-64	20	7/28	.100 x .400	50′	Flat pack*	Brown
20 AWG 80 MIL	01080-21	20	7/28	.080 x .400	1000′	Spool	Brown
	01080-18	20	7/28	.080 x .400	500′	Spool	Brown
	01080-65	20	7/28	.080 x .400	100′	Flat pack*	Brown or clear
	01080-76	20	7/28	.080 x .400	75′	Flat pack*	Brown or clear
	01080-64	20	7/28	.080 x .400	50′	Flat pack*	Brown or clear
20 AWG 100 MIL COPPERWELD	01006-21	20	10/30	.100 x .400	1000′	Spool	Brown
	01006-18	20	10/30	.100 x .400	500′	Spool	Brown
	01006-65	20	10/30	.100 x .400	100′	Flat pack*	Brown
	01006-76	20	10/30	.100 x .400	75′	Flat pack*	Brown
	01006-64	20	10/30	.100 x .400	50′	Flat pack*	Brown
20 AWG 80 MIL COPPERWELD	01007-21	20	10/30	.080 x .400	1000′	Spool	Brown
	01007-18	20	10/30	.080 x .400	500′	Spool	Brown
	01007-65	20	10/30	.080 x .400	100′	Flat pack*	Brown
	01007-76	20	10/30	.080 x .400	75′	Flat pack*	Brown
	01007-64	20	10/30	.080 x .400	50′	Flat pack*	Brown
20 AWG 55 MIL	01055-21	20	7/28	.055 x .385	1000′	Spool	Brown
	01055-18	20	7/28	.055 x .385	500′	Spool	Brown
	01055-65	20	7/28	.055 x .385	100′	Flat pack*	Brown
	01055-76	20	7/28	.055 x .385	75′	Flat pack*	Brown
	01055-64	20	7/28	.055 x .385	50′	Flat pack*	Brown
22 AWG 100 MIL	01005-21	22	7/30	.100 x .400	1000′	Spool	Brown
	01005-18	22	7/30	.100 x .400	500′	Spool	Brown
	01005-65	22	7/30	.100 x .400	100′	Flat pack*	Brown
	01005-76	22	7/30	.100 x .400	75′	Flat pack*	Brown
	01005-64	22	7/30	.100 x .400	50′	Flat pack*	Brown
22 AWG 80 MIL	01008-21	22	7/30	.080 x .400	1000′	Spool	Brown
	01008-18	22	7/30	.080 x .400	500′	Spool	Brown
	01008-65	22	7/30	.080 x .400	100′	Flat pack*	Brown
	01008-76	22	7/30	.080 x .400	75′	Flat pack*	Brown
	01008-64	22	7/30	.080 x .400	50′	Flat pack*	Brown
22 AWG 55 MIL	01010-21	22	7/30	.055 x .350	1000′	Spool	Brown or clear
	01010-18	22	7/30	.055 x .350	500′	Spool	Brown or clear
	01010-65	22	7/30	.055 x .350	100′	Flat pack*	Brown or clear
	01010-76	22	7/30	.055 x .350	75′	Flat pack*	Brown or clear
	01010-64	22	7/30	.055 x .350	50′	Flat pack*	Brown or clear
	01010-67	22	7/30	.055 x .350	100′	Hanked*	Brown or clear
	01010-66	22	7/30	.055 x .350	50′	Hanked*	Brown or clear
	01010-69	22	7/30	.055 x .350	100′	Skin pack*	Brown or clear
	01010-68	22	7/30	.055 x .350	50′	Skin pack*	Brown or clear
SPECIAL PROMOTIONAL FLAT LINE	01024-21	24	7/32	.040 x .350	1000′	Spool	Brown or clear
	01024-18	24	7/32	.040 x .350	500′	Spool	Brown or clear
	01024-75	24	7/32	.040 x .350	100′	Flat pack	Brown or clear
	01024-79	24	7/32	.040 x .350	75′	Flat pack	Brown or clear
	01024-74	24	7/32	.040 x .350	50′	Flat pack	Brown or clear

*Factory attached terminals.

© United Technical Publications

COLUMBIA ELECTRONIC CABLES

CORDSETS

HEAVY-DUTY VINYL EXTENSION CORDS

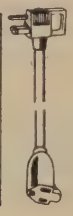
2 CONDUCTOR – UL listed

CATALOG NUMBER	CORD TYPE	LENGTH	COLOR	TYPE PACKAGE	RATING
23026	18/2 SJT	25'	Black	Sleeve	10A-125V
23051	18/2 SJT	50'	Black	Sleeve	10A-125V
23112	16/2 SJT	12'	Black	Sleeve	13A-125V
23126	16/2 SJT	25'	Black	Sleeve	13A-125V
23151	16/2 SJT	50'	Black	Sleeve	13A-125V
23101	16/2 SJT	100'	Black	Box	13A-125V



3 CONDUCTOR – UL listed – outdoor

23208	18/3 SJT	8'	Black	Sleeve	10A-125V
23216	18/3 SJT	15'	Black	Sleeve	10A-125V
23226	18/3 SJT	25'	Black	Sleeve	10A-125V
23308	16/3 SJT	8'	Black	Sleeve	13A-125V
23316	16/3 SJT	15'	Black	Sleeve	13A-125V
23326	16/3 SJT	25'	Black	Sleeve	13A-125V
23351	16/3 SJT	50'	Black	Sleeve	13A-125V
23301	16/3 SJT	100'	Black	Box	13A-125V
23325	16/3 SJT	25'	Red	Sleeve	13A-125V
23350	16/3 SJT	50'	Red	Sleeve	13A-125V
23300	16/3 SJT	100'	Red	Box	13A-125V



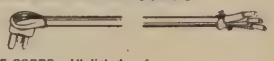
HEAVY-DUTY RUBBER EXTENSION CORDS

2 CONDUCTOR – UL listed

20272	18/2 SV	6'	Black	Bulk	10A-125V
20274	18/2 SV	9'	Black	Bulk	10A-125V
26010	18/2 SJ	10'	Black	Sleeve	10A-125V
26015	18/2 SJ	15'	Black	Sleeve	10A-125V
26025	18/2 SJ	25'	Black	Sleeve	10A-125V
26050	18/2 SJ	50'	Black	Sleeve	10A-125V
26108	16/2 SJ	8'	Gray	Sleeve	13A-125V
26110	16/2 SJ	10'	Black	Sleeve	13A-125V
26115	16/2 SJ	15'	Black	Sleeve	13A-125V
26125	16/2 SJ	25'	Black	Sleeve	13A-125V
26150	16/2 SJ	50'	Black	Sleeve	13A-125V
26100	16/2 SJ	100'	Black	Box	13A-125V



3-wire RANGE and DRYER CORDS



50 AMP RANGE CORDS – UL listed

25603	2#6, 1#8	3'	Gray	‡ Bag	50A-250V
25604	2#6, 1#8	4'	Gray	‡ Bag	50A-250V
25605	2#6, 1#8	5'	Gray	‡ Bag	50A-250V
25606	2#6, 1#8	6'	Gray	‡ Bag	50A-250V
*25600	2#6, 1#8	10'	Gray	Bulk	50A-250V



30 AMP DRYER CORDS – UL listed

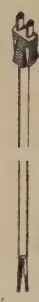
25653	3#10	3'	Gray	‡ Bag	30A-250V
25654	3#10	4'	Gray	‡ Bag	30A-250V
25655	3#10	5'	Gray	‡ Bag	30A-250V
25656	3#10	6'	Gray	‡ Bag	30A-250V
*25650	3#10	10'	Gray	Bulk	30A-250V

‡ Bulk packing available. Consult factory for price.
* Not UL listed.

2 CONDUCTOR POWER SUPPLY CORDS

UL listed

20250	18/2 SV	6'	Black	Bulk	10A-125V
20252	18/2 SV	9'	Black	Bulk	10A-125V
20254	18/2 SV	12'	Black	Bulk	10A-125V
20327	18/2 SVT	6'	Black, Gray	Bulk	10A-125V
24516	18/2 SJ	6'	Black	Bulk	10A-125V
20256	18/2 SJ	8'	Black	Bulk	10A-125V
24519	18/2 SJ	9'	Black	Bulk	10A-125V
20258	18/2 SJ	10'	Black	Bulk	10A-125V
24548	18/2 SJT	6'	Gray	Bulk	10A-125V
24549	18/2 SJT	9'	Gray	Bulk	10A-125V
24526	16/2 SJ	6'	Black	Bulk	13A-125V
20260	16/2 SJ	8'	Black	Bulk	13A-125V
24529	16/2 SJ	9'	Black	Bulk	13A-125V
20262	16/2 SJ	10'	Black	Bulk	13A-125V
24532	16/2 SJ	12'	Black	Bulk	13A-125V



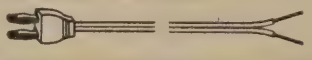
3 CONDUCTOR POWER SUPPLY CORDS

UL listed

20328	18/3 SV	6'	Black	Bulk	10A 125V
20329	18/3 SV	8'	Black	Bulk	10A-125V
20330	18/3 SVT	6'	Gray	Bulk	10A-125V
20331	18/3 SVT	8'	Gray	Bulk	10A-125V
20264	18/3 SJ	6'	Black	Bulk	10A-125V
20314	18/3 SJ	8'	Black	Bulk	10A-125V
20266	18/3 SJ	9'	Black	Bulk	10A-125V
20316	18/3 SJ	12'	Black	Bulk	10A-125V
24936	18/3 SJT	6'	Gray	Bulk	10A-125V
24939	18/3 SJT	9'	Gray	Bulk	10A-125V
24926	16/3 SJ	6'	Black	Bulk	13A-125V
20324	16/3 SJ	8'	Black	Bulk	13A-125V
24929	16/3 SJ	9'	Black	Bulk	13A-125V
24932	16/3 SJ	12'	Black	Bulk	13A-125V
24946	16/3 SJT	6'	Gray	Bulk	13A-125V
24949	16/3 SJT	9'	Gray	Bulk	13A-125V
20332	14/3 S	9'	Black	Bulk	15A-125V
20333	14/3 S	15'	Black	Bulk	15A-125V



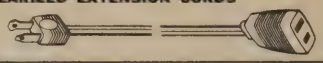
SMALL APPLIANCE LINE CORDS



UL listed

24586	18/2 SPT-1	6'	Brown	Bulk	10A-125V
24596	18/2 SPT-1	6'	White	Bulk	10A-125V
24589	18/2 SPT-1	9'	Brown	Bulk	10A-125V
24599	18/2 SPT-1	9'	White	Bulk	10A-125V

TV POLARIZED EXTENSION CORDS



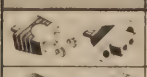
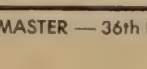
UL listed

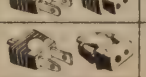
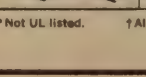
24626-60	18/2 SPT-1	6'	Gray	Cuff	10A-125V
24626-72	18/2 SPT-1	6'	Gray	View Pack®	10A-125V
24629	18/2 SPT-1	9'	Gray	Cuff	10A-125V

CHEATER CORDS

Listed by Underwriters' Laboratories, Inc.

7 Amp-125 Volt. All cords hanked.
All cords have molded caps and connectors.

	CATALOG NUMBER	LENGTH, CORD TYPE & COLOR	TYPE CAP	TYPE CONNECTOR
	*24602	6' 20/2 PLT Brown	Standard	Standard w/ears
	*20138	9' 20/2 PLT Brown	Standard	Standard w/ears
	20153	6' 18/2 SPT-1 Brown	Standard	Standard w/locating pins
	20155	6' 18/2 SPT-1 Brown	Standard	Long nose Standard C clip
	24603	6' 18/2 SPT-1 White	Standard	Standard w/ears
	24606 24606-72	6' 18/2 SPT-1 Brown Same as 24606 except View-Packed®	Standard	Standard w/ears
	24609	9' 18/2 SPT-1 Brown	Standard	Standard w/ears
	24610	6' 18/2 SPT-1 Brown	Polarized	Polarized misalignment
	24611	6' 18/2 SPT-1 Brown†	Polarized	Standard snap-in
	24612	6' 18/2 SPT-1 Brown	Std. w/pins	Standard w/ears

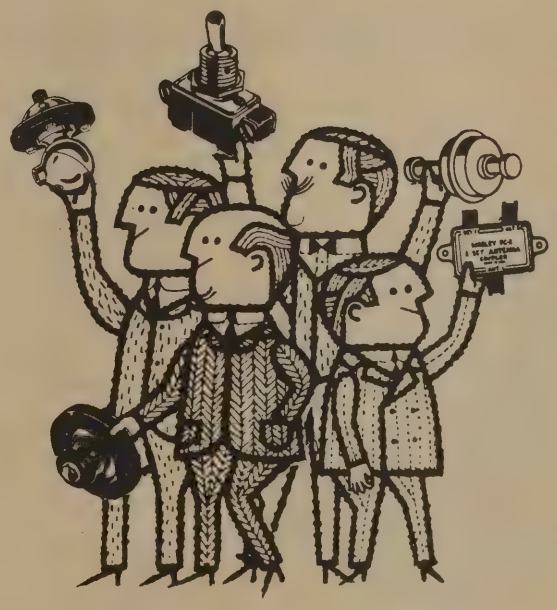
	CATALOG NUMBER	LENGTH, CORD TYPE & COLOR	TYPE CAP	TYPE CONNECTOR
	24613	6' 18/2 SPT-1 Brown	Polar. w/pins	Polarized
	24614	6' 18/2 SPT-1 Brown	Polarized	Polarized w/ears
	24616	6' 18/2 SP-1 Brown	Standard	Standard w/ears
	24619	9' 18/2 SP-1 Brown	Standard	Standard w/ears
	24620	6' 18/2 SPT-1 Brown	Polarized	Polarized C clip
	24621	6' 18/2 SPT-1 Brown	Polarized	Polarized misalignment
	24623	6' 18/2 SPT-1 Brown	Standard	Standard C clip
	24656 24656-72	6' 18/2 SPT-1 Brown Same as 24656 except View-Packed®	Polarized	Polarized snap-in
	24657 24657-72	6' 18/2 SPT-1 Red Same as 24657 except View-Packed®	Std. w/pins	Standard

* Not UL listed. † Also available in white.

© United Technical Publications

You can depend on your local distributor of electronic parts and equipment for...

- ★ Instant off-the-shelf delivery
- ★ In-depth inventories
- ★ Wide varieties
- ★ Prompt service
- ★ Technical assistance
- ★ Availability of latest products
- ★ Speedy purchasing—
  one order does the job



Call your local distributor for all your requirements

CONSOLIDATED

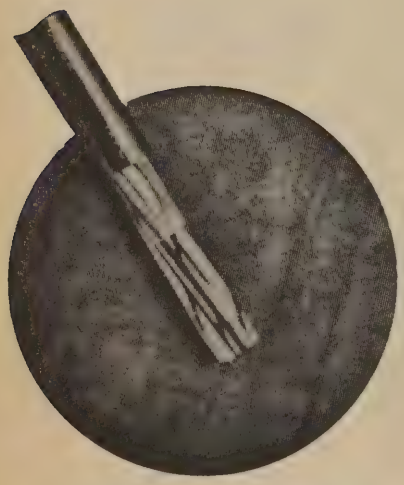
• COMPUTING SYSTEMS • RADAR • NAVIGATIONAL • MISSILES • RADIO
• NUCLEAR • COMMUNICATIONS • INSTRUMENTATION • TELEVISION

Conco-Foam
...NEW LOW LOSS FOAM POLYETHYLENE ALL CHANNEL COLOR TV CABLE.

Rome Synthinol*
...A THERMO-PLASTIC INSULATED HOOK-UP WIRE APPROVED FOR 80°, 90° & 105° C. OPERATING TEMPERATURE.

CT-B, CT-C Control Cable
...600 AND 1000 VOLT CONTROL CABLE PER IPCEA AND NEMA STANDARDS.

Consolidated Control Cables types CT-B and CT-C



Meeting IPCEA-NEMA standards for use on both AC and DC circuits, these control cables are designed to handle a wide range of applications. Lighter in weight, smaller in diameter and more flexible than conventional rubber insulated multi-conductor cables, consolidated CT Thermoplastic insulated control cables are easy to handle, store and install.

The Consolidated CT control cables are available with various types of copper, bronze or copper clad stainless shielding to provide electrostatic or electromagnetic protection. Shielding also provides added physical protection and acts as a positive deterrent against rodent or insect attack.

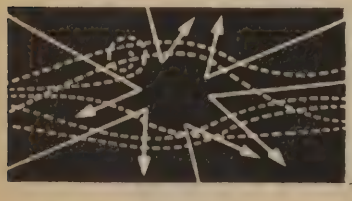
Synthinol (polyvinylchloride) is used for jacketing individual conductors as well as for an over-all jacket. Synthinol provides added resistance to heat and to chemical and corrosive attack. It also provides mechanical protection and is a flame retardant barrier for the cable insulation.

600 volt rated Type CT-B cables are primarily for use in general applications, while 1000 volt rated Type CT-C cables are more frequently used in connection with heavy magnetic trip devices, where induced over-voltages may occur.

Both CT-B and CT-C are made with bare stranded copper conductors, individually insulated and fully color-coded. These cables are suitable for all types of installations — aerial, conduit, duct, tray, direct burial — in wet or dry locations.







USES

In power generating stations and substations as well as throughout industry in both manufacturing and processing plants.

RATINGS

For AC and DC circuits. Type CT-B is rated 600 volts. Type CT-C, 1000 volts. Both are recommended for operation at 90° C. maximum continuous conductor temperature.

INSULATION

Polyethylene insulation is used on individual conductors since it has proven superior to many other dielectric materials used on solid insulated cables. This material is particularly well suited for DC circuits in moist locations where electro-osmosis maye be a problem. Along with its important outstanding electrical properties, polyethylene also resists acids, alkalies and oils. It is thus capable of standing up well under many hazardous environmental conditions.

CONSOLIDATED WIRE & ASSOCIATED CORPORATIONS

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

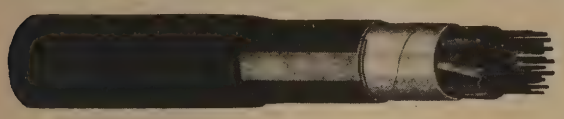
TELEMETERING & DATA SHIELDED CONTROL CABLE

STANDARD PUT-UP: CUT TO SPECIFICATION — MIN. 25 FT.

Description: Each conductor bare solid copper, high molecular weight polyethylene insulation, color coded, twisted into pairs, cabled with a non-hygroscopic binder tape .008″ aluminum shield, black polyethylene jacket overall. Operating voltage 300 volts.

Double jacketed types, (8306-8420 below) same except for additional inner black polyethylene jacket over binder, and .005″ copper shield.

Applications: Remote control of rocket recording data and test-firing control, transmission of signals which telemeter temperature, voltage, pressure, etc., control of multiple circuits, measuring devices, quality control equipment, radar antenna. For aerial, duct and conduit installations. Double jacketed types have higher dielectric strength and suited for direct burial installations.





#22 AWG — SOLID

Catalog Number	No. of Pairs	Nom. Insul. Thickness (Inches)	Nom. Jacket Thickness (Inches)	Nom. O.D. (Inches)	Approx. Lbs./M′
8006	6	.012	.060	.420	95
8012	12	.012	.060	.490	137
8018	18	.012	.060	.560	201
8025	25	.012	.060	.630	245
8050	50	.012	.060	.800	420
8100	100	.012	.060	1.120	807
8200	200	.012	.060	1.500	1,485

#19 AWG — SOLID

8016	6	.015	.060	.500	136
8112	12	.015	.060	.630	235
8118	18	.015	.060	.730	318
8125	25	.015	.060	.820	419
8150	50	.015	.060	1.120	753
8110	100	.015	.060	1.520	1,455
8220	200	.015	.060	2.090	2,657

DOUBLE JACKET — HEAVY DUTY #22 AWG — SOLID

Catalog Number	No. of Pairs	Nom. Insul. Thickness (Inches)	Nom. Jacket Thickness Inner (Inches)	Outer (Inches)	Nom.O.D. (Inches)	Approx. Lbs./M′
8306	6	.012	.047	.040	.480	150
8312	12	.012	.047	.040	.550	170
8318	18	.012	.047	.040	.620	241
8325	25	.012	.047	.040	.690	302
8350	50	.012	.047	.040	.860	478
8310	100	.012	.047	.050	1.180	886
8320	200	.012	.047	.050	1.560	1,597

#19 AWG — SOLID

8406	6	.015	.047	.040	.560	168
8412	12	.015	.047	.040	.690	290
8418	18	.015	.047	.040	.790	367
8425	25	.015	.047	.040	.880	480
8450	50	.015	.047	.040	1.180	871
8410	100	.015	.047	.050	1.580	1,568
8420	200	.015	.047	.050	2.220	2,986

UNSHIELDED STATION CONTROL CABLE

HEAVY DUTY MULTI-CONDUCTOR PLASTIC JACKET — TYPE CT-B CONTROL CABLE — 600 VOLTS

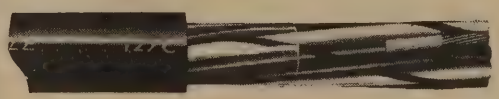
Description: Each conductor, stranded bare copper, .020″ polyethylene insulation, .010″ polyvinylchloride jacket over each conductor, color coded, cabled with fillers where necessary, moisture resistant tape, black polyvinylchloride jacket overall. 600 volt operating voltage. Approved per IPCEA-NEMA standards.

16 GAUGE — 26x30 BARE COPPER

Catalog Number	No. of Conductors	Nom. Jacket Thickness (Inches)	Nominal O.D. (Inches)
7502	2	.045	.330
7503	3	.045	.350
7505	5	.045	.410
7506	6	.045	.440
7507	7	.045	.440
7508	8	.045	.480
7510	10	.045	.580
7512	12	.045	.600
7514	14	.045	.630
7516	16	.045	.660
7519	19	.060	.690
7521	21	.060	.730
7522	22	.060	.760
7524	24	.060	.810
7526	26	.060	.820
7530	30	.060	.900
7537	37	.060	.960
7540	40	.060	1.00
7550	50	.080	1.10
7560	60	.080	1.19

14 GAUGE — 7x22 BARE COPPER

Catalog Number	No. of Conductors	Nom. Jacket Thickness (Inches)	Nominal O.D. (Inches)
7602	2 Twin	.045	*
7603	3 Rd.	.045	.419
7604	4	.045	.425
7605	5	.045	.462
7606	6	.045	.481
7607	7	.045	.502
7608	8	.060	.556
7609	9	.060	.622
7610	10	.060	.657
7612	12	.060	.696
7614	14	.060	.744
7616	16	.060	.798
7619	19	.060	.808
7624	24	.080	.947
7627	27	.080	1.002
7630	30	.080	1.110
7634	34	.080	1.118
7637	37	.080	1.124
7640	40	.080	1.290



12 GAUGE — 7x20 BARE COPPER

Catalog Number	No. of Conductors	Nom. Jacket Thickness (Inches)	Nominal O.D. (Inches)
7702	2 Twin	.045	**
7703	3 Rd.	.045	.460
7704	4	.045	.471
7705	5	.045	.523
7706	6	.045	.564
7707	7	.060	.599
7708	8	.060	.644
7709	9	.060	.690
7710	10	.060	.727
7712	12	.060	.775
7714	14	.060	.807
7715	15	.060	.832
7716	16	.060	.901
7718	18	.080	.928
7719	19	.080	.943
7720	20	.080	.966
7722	22	.080	1.01
7725	25	.080	1.09
7727	27	.080	1.129
7730	30	.080	1.168
7734	34	.080	1.201
7737	37	.080	1.257

* Flat Dimension .233″ x .366″

** Flat Dimension .252″ x .404″

10 GAUGE — 7x18 BARE COPPER

Catalog Number	No. of Conductors	Nom. Jacket Thickness (Inches)	Nominal O.D. (Inches)
7802	2	.045	.27x.45
7803	3	.045	.483
7804	4	.060	.569
7805	5	.060	.618
7806	6	.060	.640
7807	7	.060	.671
7808	8	.060	.700
7809	9	.060	.777
7810	10	.060	.830
7812	12	.080	.915
7815	15	.080	.93
7816	16	.080	.99
7820	20	.080	1.11

9 GAUGE — 19x22 BARE COPPER

Catalog Number	No. of Conductors	Nom. Jacket Thickness (Inches)	Nominal O.D. (Inches)
7902	2	.045	.29x.48
7903	3	.045	.526
7904	4	.060	.604
7905	5	.060	.659
7906	6	.060	.670
7907	7	.060	.716
7908	8	.060	.760
7909	9	.060	.831
7910	10	.060	.900
7912	12	.080	.978
7915	15	.080	.99
7916	16	.080	1.10
7920	20	.080	1.70

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO & SOUND CABLE

Standard Spool Put-up: 100 ft., 200 ft., 500 ft., 1000 ft.

Specifications: Tinned copper conductor .013". Semi rigid vinyl insulation. Mylar aluminum shield and tinned copper drain wire, each pair. Overall Gray vinyl jacket.



No.	Type	Size & Stranding	Nominal Jacket Thickness (Inches)	Nominal Diameter (Inches)
5303	3 pair	22 (Solid)	.050	.340
5306	6 pair	22 (Solid)	.057	.435
5309	9 pair	22 (Solid)	.060	.540
5311	11 pair	22 (Solid)	.060	.575
5315	15 pair	22 (Solid)	.065	.660

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO & DATA CABLE

Specifications: Tinned copper .010" polypropylene insulation. Mylar aluminum shield and tinned copper drain wire each pair. Overall gray vinyl jacket.



No.	Type	Size & Stranding	Nominal Jacket Thickness (Inches)	Nominal Diameter (Inches)
5323	3 pair	22 (7x30) overall	.030	.275
5326	6 pair	22 (7x30)	.037	.400
5329	9 pair	22 (7x30)	.040	.440
5331	11 pair	22 (7x30)	.040	.485
5335	15 pair	22 (7x30)	.045	.540
5339	19 pair	22 (7x30)	.055	.620
5347	27 pair	22 (7x30)	.070	.760

COLOR CODING FOR PAIRED INTERCOM CABLES

Identification is simple with Consolidated Intercom Cables because they are all color coded. See chart below.

1 Black paired with Red
2 Black paired with White
3 Black paired with Green
4 Black paired with Blue
5 Black paired with Yellow
6 Black paired with Brown
7 Black paired with Orange
8 Red paired with White
9 Red paired with Green
10 Red paired with Blue
11 Red paired with Yellow
12 Red paired with Brown
13 Red paired with Orange
14 Green paired with White
15 Green paired with Blue
16 Green paired with Yellow
17 Green paired with Brown
18 Green paired with Orange
19 White paired with Blue
20 White paired with Yellow
21 White paired with Brown
22 White paired with Orange
23 Blue paired with Yellow
24 Blue paired with Brown
25 Blue paired with Orange
26 Brown paired with Yellow
27 Brown paired with Orange

MULTIPLE CONDUCTOR RUBBER CABLE UNSHIELDED



Standard Spool Put-up: 25 ft., 50 ft., 100 ft., 250 ft., 500 ft., 1000 ft.

Specifications: Stranded Tinned Copper Rubber Insulation, Conductor Color Coded Twisted Fillers Wrap Black Rubber Jacket.

No.	No. of Condr.	Size & Stranding	Insulation Thickness (Inches)	Jacket Thickness (Inches)	Finished O.D. (Inches)
1732	2	20 (26x34)	.020	.035	.240
1733	3	20 (26x34)	.020	.035	.255
1734	4	20 (26x34)	.020	.035	.275
1735	5	20 (26x34)	.020	.035	.300
1736	6	20 (26x34)	.020	.035	.315
1737	7	20 (26x34)	.020	.035	.325
1738	8	20 (26x34)	.020	.035	.360

Color Code Conductors: 1 Black — 2 White — 3 Red — 4 Green — 5 Yellow — 6 Blue — 7 Brown — 8 Orange

UNSHIELDED AUDIO CABLE MULTICONDUCTOR — PLASTIC JACKET

300 VOLTS — STRANDED CONDUCTORS

Specifications: Tinned copper conductor .010" vinyl plastic insulated cabled .020" gray vinyl plastic jacket overall.



No.	No. of Condr.	Size & Stranding	Nominal Diameter (Inches)
5400	2	22(7x30)	.130
5401	3	22(7x30)	.145
5406	4	22(7x30)	.175
5411	5	22(7x30)	.180
5416	6	22(7x30)	.205
5421	7	22(7x30)	.215
5426	8	22(7x30)	.225
5431	9	22(7x30)	.245
5434	12	22(7x30)	.275
5438	15	22(7x30)	.295
5440	20	22(7x30)	.320
5442	25	22(7x30)	.350
5446	30	22(7x30)	.375
5448	40	22(7x30)	.425
5450	50	22(7x30)	.500
5460	60	22(7x30)	.530

400 VOLTS — STRANDED CONDUCTORS

Specifications: Tinned copper condr. PVC cabled. Gray outer PVC Jacket.

.018" PVC cabled.

No.	No. of Condr.	Size & Stranding	Jacket Thick-ness	Nominal Diameter (Inches)
5470	4	18(16x30)	.030	.250
5471	5	18(16x30)	.037	.286
5472	7	18(16x30)	.037	.324
5473	9	18(16x30)	.037	.379
5474	12	18(16x30)	.040	.412
5475	15	18(16x30)	.045	.440
5476	19	18(16x30)	.045	.505

600 VOLTS — STRANDED CONDUCTORS



.030" PVC cabled.

No.	No. of Condr.	Size & Stranding	Jacket Thick-ness	Nominal Diameter (Inches)
5480	4	16(19x29)	.045	.375
5481	7	16(19x29)	.045	.455
5482	12	16(19x29)	.060	.600
5483	15	16(19x29)	.060	.650
5484	19	16(19x29)	.065	.715

.045" PVC cabled.

No.	No. of Condr.	Size & Stranding	Jacket Thick-ness	Nominal Diameter (Inches)
5485	4	14(19x27)	.045	.495
5486	7	14(19x27)	.060	.630
5487	12	14(19x27)	.065	.770

COLOR CODING CHART 1 — For Catalog Numbers 5400 thru 5473.

1 Black
2 Red
3 White
4 Green
5 Orange
6 Blue
7 Brown
8 Yellow
9 Purple
10 Slate
11 Pink
12 Tan
13 Red/Green
14 Red/Yellow
15 Red/Black
16 White/Black
17 White/Red
18 White/Green
19 White/Yellow
20 White/Blue
21 White/Brown
22 White/Orange
23 White/Gray
24 White/Violet
25 White/Black/Red
26 White/Black/Green
27 White/Black/Yellow
28 White/Black/Blue
29 White/BlackBrown
30 White/Black/Orange
31 White/Black/Slate
32 White/Black/Purple
33 White/Black/Black
34 White/Red/Black
35 White/Red/Red
36 White/Red/Green
37 White/Red/Blue
38 White/Red/Brown
39 White/Red/Purple
40 White/Green/Black
41 White/Green/Red
42 White/Green/Green
43 White/Green/Blue
44 White/Green/Brown
45 White/Green/Purple
46 White/Blue/Black
47 White/Blue/Red
48 White/Blue/Green
49 White/Blue/Blue
50 White/Blue/Brown
51 White/Blue/Purple
52 White/Brown/Black
53 White/Brown/Red
54 White/Brown/Green
55 White/Brown/Blue
56 White/Brown/Brown
57 White/Brown/Purple
58 White/Purple/Red
59 White/Purple/Green
60 White/Purple/Blue

COLOR CODING CHART 2 — For Catalog Numbers 5474 thru 5487.

1 Black
2 White
3 Red
4 Green
5 Orange
6 Blue
7 White/Black
8 Red/Black
9 Green/Black
10 Orange/Black
11 Blue/Black
12 Black/White
13 Red/White
14 Green/White
15 Blue/White
16 Black/Red
17 White/Red
18 Orange/Red
19 Blue/Red

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

UNSHIELDED INTERCOM CABLE — PAIRED CONDUCTORS SOLID AND STRANDED PLASTIC JACKET

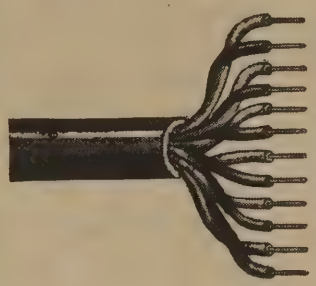
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

Specifications: Tinned copper conductor .010″ vinyl plastic insulation. Cabled .020″ gray vinyl plastic jacket overall.



SOLID

No.	Type	Size & Stranding	Nom. Dia. (Ins.)
5201	1 Pr. 2 Condr.	22 Solid	.130
5205	2 Pr. 4 Condr.	22 Solid	.190
5211	3 Pr. 6 Condr.	22 Solid	.220
5221	5 Pr. 10 Condr.	22 Solid	.250
5226	6 Pr. 12 Condr.	22 Solid	.275
5231	7 Pr. 14 Condr.	22 Solid	.280
5236	8 Pr. 16 Condr.	22 Solid	.300
5241	9 Pr. 18 Condr.	22 Solid	.320
5251	11 Pr. 22 Condr.	22 Solid	.340
5271	15 Pr. 30 Condr.	22 Solid	.400
5286	27 Pr. 54 Condr.	22 Solid	.510
5289	31 Pr. 62 Condr.	22 Solid	.555
5292	41 Pr. 82 Condr.	22 Solid	.630
5297	51 Pr. 102 Condr.	22 Solid	.735



STRANDED

No.	Type	Size & Stranding	Nom. Dia. (Ins.)
5151	1 Pr. 2 Condr.	22(7x30)	.145
5152	2 Pr. 4 Condr.	22(7x30)	.210
5153	3 Pr. 6 Condr.	22(7x30)	.230
5155	5 Pr. 10 Condr.	22(7x30)	.265
5156	6 Pr. 12 Condr.	22(7x30)	.290
5157	7 Pr. 14 Condr.	22(7x30)	.300
5158	8 Pr. 16 Condr.	22(7x30)	.320
5159	9 Pr. 18 Condr.	22(7x30)	.355
5161	11 Pr. 22 Condr.	22(7x30)	.370
5165	15 Pr. 30 Condr.	22(7x30)	.450
5167	27 Pr. 54 Condr.	22(7x30)	.570
5171	31 Pr. 62 Condr.	22(7x30)	.635
5181	41 Pr. 82 Condr.	22(7x30)	.710
5191	51 Pr. 102 Condr.	22(7x30)	.800

COLOR CODING FOR PAIRED INTERCOM CABLES

Identification is simple with Consolidated Intercom Cables because they are all color coded. See chart below.

1 Black paired with Red
2 Black paired with White
3 Black paired with Green
4 Black paired with Blue
5 Black paired with Brown
6 Black paired with Yellow
7 Black paired with Orange
8 Red paired with Green
9 Red paired with White
10 Red paired with Blue
11 Red paired with Yellow
12 Red paired with Brown
13 Red paired with Orange
14 Green paired with Blue
15 Green paired with White
16 Green paired with Brown
17 Green paired with Orange
18 Green paired with Yellow
19 White paired with Blue
20 White paired with Brown
21 White paired with Orange
22 White paired with Yellow
23 Blue paired with Brown
24 Blue paired with Orange
25 Blue paired with Yellow
26 Brown paired with Oronge
27 Brown paired with Yellow
28 Purple paired with Red
29 Purple paired with White
30 Purple paired with Green
31 Purple paired with Blue
32 Purple paired with Brown
33 Purple paired with Yellow
34 Purple paired with Orange
35 Purple paired with Slate
36 Purple paired with Black
37 Slate paired with Red
38 Slate paired with White
39 Slate paired with Green
40 Slate paired with Blue
41 Slate paired with Brown
42 Slate paired with Yellow
43 Slate paired with Orange
44 Slate paired with Black
45 White/Black paired with Red
46 White/Black paired with Green
47 White/Black paired with Blue
48 White/Black paired with Brown
49 White/Black paired with Yellow
50 White/Black paired with Orange
51 White/Black paired with Purple

TELEPHONE AND COMMUNICATION CABLE

AERIAL & DUCT INSTALLATION — MEETS REA-PE-22



Description: Each conductor bare solid copper, color coded polyethylene insulation, insulated conductors paired, pairs cabled with non-hygroscopic tape wrap, .008″ corrugated aluminum shield, black polyethylene jacket overall.

Characteristics: Average mutual capacitance — .083 microfarads/mile. Minimal cross talk.

Applications: A tough, long lasting communication cable that can withstand moisture, ultra-violet and weathering.

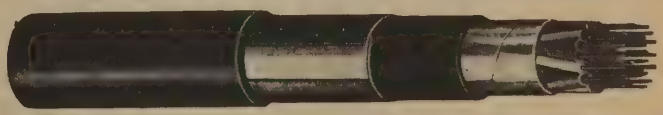
#22 AWG — SOLID

Catalog Number	No. of Pairs	Nom. Jacket Thickness (Inches)	Nom. O.D. (Inches)	Ship. Wt. Lbs. M/Ft.
6606	6	.060	.420	95
6612	12	.060	.490	137
6618	18	.060	.560	201
6625	25	.060	.630	245
6650	50	.060	.800	420
6675	75	.060	.980	596
6610	100	.070	1.120	807
6615	150	.070	1.320	1,083
6620	200	.070	1.500	1,485
6630	300	.080	1.810	2,160
6640	400	.090	2.050	2,705

#19 AWG — SOLID

6706	6	.060	.500	136
6712	12	.060	.630	235
6718	18	.060	.730	318
6725	25	.060	.820	419
6750	50	.070	1.120	753
6775	75	.070	1.320	1,070
6710	100	.080	1.520	1,455
6715	150	.080	1.790	2,051
6720	200	.090	2.090	2,657

DIRECT BURIAL INSTALLATION — MEETS REA-PE-23



Description: Each conductor bare solid copper, color coded polyethylene insulation, insulated conductors paired, pairs cabled with non-hygroscopic tape wrap, polyethylene inner jacket, .005″ corrugated copper shield, black polyethylene jacket overall.

Characteristics: Average mutual capacitance — .166 microfarads/mile. Minimal cross talk.

Applications: Impervious to moisture, abrasion resistant, suitable for direct burial.

#22 AWG — SOLID

Catalog Number	No. of Pairs	Nom. Outer Jacket Thickness (Inches)	Nom. O.D. (Inches)	Ship. Wt. Lbs. M/Ft.
6006	6	.040	.480	150
6012	12	.040	.550	170
6018	18	.040	.620	241
6025	25	.040	.690	302
6050	50	.040	.860	478
6075	75	.040	1.040	680
6100	100	.040	1.180	886
6150	150	.050	1.400	1,258
6200	200	.050	1.560	1,557
6300	300	.060	1.890	2,173
6400	400	.060	2.130	2,853

#19 AWG — SOLID

6106	6	.040	.560	168
6112	12	.040	.690	290
6118	18	.040	.790	367
6125	25	.040	.880	480
6170	50	.050	1.180	871
6175	75	.050	1.400	1,246
6110	100	.050	1.580	1,568
6250	150	.060	1.890	2,236
6220	200	.060	2.170	2,986

STANDARD PUT-UP: CUT TO SPECIFICATIONS — MIN. 25 FT. — COLOR CODE — PER IPCEA.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

SHIELDED CONTROL AND MICROPHONE CABLES

SHIELDED RUBBER JACKET

CONDUCTOR COLOR CHART: 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown; 8—Orange.

STANDARD SPOOL PUT-UP: 9 FT., 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



SHIELDED: Weatherproof rubber and Neoprene jacket for all microphone Electronic Power, Control Circuits, or weatherproof extension work. (Longer continuous lengths if desired).

No.	No. of Condr.	Size & Stranding	Special Use	Specifications	Finished O.D. (Inches)	Nominal Capacity per ft. (mmf)
1460	1	20 (26x34)	Crystal microphone	Tinned copper, yarn serve; wall of live rubber; cotton fillers and wrap; tinned copper braid shield; cotton wrap rubber jacket overall.	.240	33.
1462	2	20 (26x34)	Low impedance microphones	Same as 1460; color coded	.268	68.
1456	2	18 (41x34)	Heavy duty studio cable	Same as 1460; color coded	.295	80.
1463	3	20 (26x34)	Low impedance microphones	Same as 1460; color coded	.277	85.
1464	4	20 (26x34)	Low impedance microphones	Same as 1460; color coded	.295	95.
1465	5	20 (26x34)	Interconnecting power cable for all electronic uses	Same as 1460; color coded	.323	
1466	6	20 (26x34)	Same as 1465	Same as 1460; color coded	.349	
1467	7	20 (26x34)	Same as 1465	Same as 1460; color coded	.360	
1455	8	20 (26x34)	Same as 1465	Same as 1460; color coded	.386	

SHIELDED NEOPRENE JACKET

No.	No. of Condr.	Size & Stranding	Specifications	Finished O.D. (Inches)
1701	1	18 (41x34)	Tinned copper, yarn serve; wall of live rubber; cotton fillers and wrap; tinned copper braid shield; cotton wrap neoprene jacket overall.	.250
1702	2	18 (41x34)	Same as 1701, color coded	.305
1703	3	18 (41x34)	Same as 1701, color coded	.325
1704	4	18 (41x34)	Same as 1701, color coded	.335
1705	2	16 (65x34)	Same as 1701, color coded	.345
1706	3	16 (65x34)	Same as 1701, color coded	.365
1707	4	16 (65x34)	Same as 1701, color coded	.390
1708	6	18 (41x34)	Same as 1701, color coded	.430
1709	8	18 (41x34)	Same as 1701, color coded	.465

SHIELDED PLASTIC JACKET



No.	No. of Condr.	Size & Stranding	Special Use	Specifications	Finished O.D. (Inches)	Nominal Capacity per ft. (mmf)
1721	1	24 (7x32)	Low capacitance	Tinned copper polyethylene insulation with a close spiral tinned copper shield. Grey plastic jacket.	.132	29.
1461	1	22 (16x34)	Lapel microphone	Same as 1721	.125	36.
1457	1	22 (16x34)	Crystal, Ribbon and other high impedance microphones	Same as 1721 except heavier polyethylene insulation on conductor.	.200	25.
1458	2	22 (16x34)	Low impedance microphones	Tinned copper polyethylne insulation; black and clear. Cabled with fillers rayon braid spiral tinned copper shield. Gray vinyl plastic jacket.	.231	32.
1459	1	20 (26x34)	Lapel microphone	Tinned copper wire, with polyethylene to .087" O.D. with a closely tinned copper shielded braid, and a heavy black plastic jacket overall.	.175	40.
1722	2	20 (26x34)	Same as 1458	Same as 1458 except braided tinned copper shield.	.245	32.
1723	3	20 (26x34)	Same as 1458	Same as 1722	.250	45.
1724	4	20 (26x34)	Same as 1458	Same as 1722	.255	45.
1725	5	20 (26x34)	Same as 1458	Same as 1722	.275	45.
1726	6	20 (26x34)	Same as 1458	Same as 1722	.300	
1727	7	20 (26x34)	Same as 1458	Same as 1722	.330	
1728	8	20 (26x34)	Same as 1458	Same as 1722	.375	

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

INTERCOMMUNICATION AND SOUND SYSTEM CABLES

STANDARD SPOOL PUT-UP — 100 FT., 500 FT., 1000 FT.

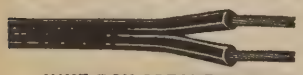
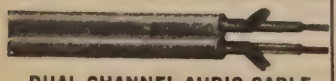
	No.	Type	Size & Stranding	Nom. Jacket Thickness (Inches)	SPECIFICATIONS AND GENERAL APPLICATIONS	Nominal Diameter (Inches)
 SHIELDED 2 AND 3 CONDUCTOR	5572	2 Condr.	22(7x30)	.025	Tinned copper conductors. .012" polyethylene insulation. Mylar aluminum shield stranded tinned copper drain wire vinyl jacket.	.170
	5573	2 Condr.	20(10-30)	.025	Same as 5572	.200
	5574	2 Condr.	18(16x30)	.030	Same as 5572	.225
	5575	2 Condr.	16(26x30)	.030	Same as 5572	.250
	5589	2 Condr.	14(41x30)	.030	Same as 5572	.320
	5576	3 Condr.	22(7x30)	.025	Same as 5572	.210
	5577	3 Condr.	20(10x30)	.025	Same as 5572	.235
	5578	3 Condr.	18(16x30)	.025	Same as 5572	.260
	5590	3 Condr.	16(26x30)	.030	Same as 5572	.290
	5591	3 Condr.	14(41x30)	.030	Same as 5572	.340
 UNSHIELDED WITH JACKET	5579	2 Condr.	22(7x30)	.025	Tinned copper conductors .015". Vinyl insulation.	.165
	5580	2 Condr.	20(10x30)	.025	Same as 5579	.190
	5581	2 Condr.	18(16x30)	.030	Same as 5579	.225
	5582	2 Condr.	16(26x30)	.030	Same as 5579	.245
	5583	2 Condr.	14(41x30)	.030	Same as 5579	.310
 UNSHIELDED WITHOUT JACKET	5584	2 Condr.	22 Solid		Tinned copper conductors .015" Vinyl insulation twisted.	.115
	5585	2 Condr.	18(16x30)		.020" insulation. Same as 5584.	.175
	5586	2 Condr.	16(26x30)		Same as 5585	.195
 MINIATURE BROADCAST AUDIO CABLE	5570	2 Condr.	22(7x30)	.020	Tinned copper .010" Polyethylene insulation Mylar aluminum shield stranded tinned copper drain wire vinyl jacket.	.140
	5588	2 Condr.	22 Solid	.020	Same as 5570	.120
 2 PAIR MINIATURE AUDIO AND SOUND CABLE	5594	2 Pair	22(7x30)	.019	Tinned copper polypropylene insulation. Each pair shielded. Mylar aluminum shield and drain wire. Color coded same as 5571.	.165
	5571	2 Pair	22(7x30)	.019	Tinned copper .009" Polyethylene insulation. 1 pair black and red with Mylar aluminum shield. 1 pair white and green. Both pairs twisted with standed tinned copper ground wire. Vinyl jacket.	.165

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

INTERCOMMUNICATION AND SOUND SYSTEM CABLES

STANDARD SPOOL PUT-UP — 10 FT., 25 FT., 50 FT., 100 FT., 500 FT. and 1000 FT.

	No.	Type	Size & Stranding	Insulation Thickness (Inches)	SPECIFICATIONS AND GENERAL APPLICATIONS	Nominal Diameter (Inches)
 STATION-TO-STATION EXTENSION WIRING SHIELDED	5501	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.110
	5506	3 Condr.	22 Solid	.015	Same as 5501—1 condr. red—1 condr. black—1 condr. blue.	.145
	5521	2 Condr.	20 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.155
 EXTENSION WIRING SHIELDED — PLASTIC JACKET	5511	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—and a spiral tinned copper shield with .020" tubed gray vinyl plastic jacket.	.170
 PAIRED CABLE — SHIELDED PLASTIC JACKET	5516	2 Pair 4 Condr.	22(7x30)	.015	Stranded tinned copper vinyl plastic insulation. 2 pair cabled (4 conductors)—1 pair black & white with braided tinned copper shield mylar tape—1 pair black & brown unshielded—both pair bunched and .020" gray vinyl plastic jacket overall.	.168x.276
 EXTENSION-SPEAKERS SHIELDED FOR LONG RUNS	5526	2 Condr.	20(10x30)	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.215
	5531	3 Condr.	20(10x30)	.015	Same as 5526—1 condr. red—1 condr. black—1 condr. blue.	.230
	5536	2 Condr.	18(16x30)	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red—1 condr. white, closely woven braided tinned copper shield.	.235
 EXTENSION-SPEAKERS SHIELDED — PLASTIC JACKET	5568	2 Condr.	22(7x30)	.015	Tinned copper vinyl plastic insulation, 2 condrs.—cabled black and red—tinned copper **spiral** wrapped shield .023" chrome vinyl plastic jacket.	.166
	5569	3 Condr.	22(7x30)	.015	Tinned copper vinyl plastic insulation, 3 condrs.—cabled black, red, white—tinned copper **spiral** shield—chrome vinyl plastic jacket.	.193
	5538	2 Condr.	18(16x30)	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red, 1 condr. white. **Spiral** tinned copper shield and .020" gray vinyl plastic jacket overall.	.225
	5543	2 Condr.	20(10x30)	.015	Same as 5538—1 condr. red—1 condr. black.	.185
	5541	2 Condr.	18(16x30)	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr red—1 condr. white, closley woven braided tinned copper shield and .020" gray vinyl plastic jacket overall.	.260
 JUKE BOX SPEAKER CABLE	5547	2 Condr.	24(7x32)	.015	Stranded 1 condr. bare copper—1 condr. tinned copper—2 condrs. parallel vinyl plastic insulation. Colors: gray, white, brown, clear.	.058x.115
 DUAL CHANNEL AUDIO CABLE For Stereo & Language Laboratories	5587	2 Condr.	24(7x32)	.018	Tinned copper conductor. **Spiral** tinned copper individual shield, .020" gray vinyl jacket.	.106x.213
 ELECTRIC GUITARS High Impedance Lapel Microphones	5551	1 Condr.	22(16x34)	.020	Stranded tinned copper polyethylene insulation closely spiral tinned. copper shield with .020" gray vinyl jacket.	.135
 INTER COMMUNICATING SOUND SYSTEM	5556	2 Condr.	19 Solid	.015	Bare copper vinyl plastic insulation, wires twisted together—1 condr. brown—1 condr. tan.	.115
	5561	3 Condr.	19 Solid	.015	Same as 5556—1 condr. brown—1 condr. tan—1 condr. gray.	.132
 INTER COMMUNICATING SOUND SYSTEM — JACKETED	5557	2 Condr.	19 Solid	.015	Same as 5556 except .025" outer gray PVC jacket.	.162
 INTER COMMUNICATING SOUND SYSTEM - WEATHER-PROOF	5566	2 Condr.	22 Solid	.015	Bare copper .015 rubber insulation with a black cotton braid weatherproof finish. Conductors coded for easy identification. Ideal for exterior or interior communication installations.	.131x.203

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

RG TYPE COAXIAL CABLES



Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets					Shields							
Number RG-/U	Catalog Number	Number RG-/U	Catalog Number	Armor O.D.	Jacket O.D.	Vinyl Jacket	Outer	Inner	Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
		5	4431		.332	Black	C	C	.185	16	65.9	28.5	3000	52.5
5B	4432				.332	Black	S	S	.185	.053S	65.9	29.5	3000	50
6A	4433				.332	Black	C	S	.185	21CW	65.9	20	2700	75
		7	4434		.370	Black	—	C	.250†	19	84	12.5	1000	97
		8	4415		.405	Black	—	C	.285	7/21	65.9	29.5	4000	52
8A	4435				.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	52
		9	4436		.420	Grey	C	S	.280	7/21S	65.9	30	4000	51
9A	4437				.420	Grey	S	S	.285	7/21S	65.9	30	4000	51
9B	4438				.425	Black	S	S	.280	7/.0296S	65.9	30.5	4000	50
10A	4439			.475	.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	50
		11	4419		.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
11A	4440				.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
12A	4441			.475	.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
		13	4442		.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
13A	4443				.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
14A	4467				.545	Grey	C	C	.370	10	65.9	29.5	5500	52
14A	4468				.545	Black	C	C	.370	.106	65.9	30	5500	52
17A	4482				.870	Black	—	C	.680	188C	65.9	29.5	11000	52
18A	4483			.945	.870	Black	—	C	.680	188C	65.9	29.5	11000	52
		21	4444		.322	Grey	S	S	.185	16N	65.9	29	2700	53
21A	4445				.332	Black	S	S	.185	.053N	65.9	30	2700	50
		22	4471		.405	Black	—	T	.285	Two 7/.0152	65.9	16	1000	95
22B	4475				.420	Black	T	T	.285	Two 7/.0152	65.9	16	1000	95
		29	4446		.184	Poly	—	T	.116	20	65.9	28.5	1900	53.5
		54A	4469		.250	Poly	—	T	.178	7/.0152	65.9	26.5	3000	58
		55	4447		.206	Poly	T	T	.116	20	65.9	28.5	1900	53.5
55A	4448				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50
55B	4484				.206	Black	T	T	.116	20S	65.9	28.5	1900	53.5
		58	4405		.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58A	4449				.195	Black	—	T	.116	19/.0071T	65.9	29.5	1900	50
58B	4474				.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58C	4450				.195	Black	—	T	.116	19/.0071T	65.9	29.5	1900	50
		59	4401		.242	Black	—	C	.146	22CW	65.9	21	2300	73
		59	4402		.242	Grey	—	C	.146	22CW	65.9	21	2300	73
59	4403				.242	White	—	C	.146	22CW	65.9	21	2300	73
59A	4451				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
59B	4470				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
		62	4452		.242	Black	—	C	.146†	22CW	84	13.5	750	93
62A	4453				.242	Black	—	C	.146†	22CW	84	13.5	750	93
62B	4472				.242	Black	—	C	.146	7x32CW	84	13.5	750	93
		63	4454		.405	Black	—	C	.285†	22CW	84	10	1000	125
63B	4455				.405	Black	—	C	.285†	22CW	84	10	1000	125
65A	4473				.405	Black	—	C	.340	32F	65	44	3000	950
		71	4456		.250	Poly	T	T or C	.146†	22CW	84	13.5	750	93
71A	4466				.245	Black	T	T or C	.146†	22CW	84	13.5	750	93
71B	4485				.250	Black	T	C	.146	22CW	84	13.5	750	93
74A	4486			.615	.545	Black	C	C	.370	10C	65.9	29.5	7000	52
79B	4487			.475	.405	Black	—	C	.285	22CW	84	10	1000	125
		83	4410		.405	Black	—	C	.240	10C	65.9	44	2000	35
		100	4412		.242	Black	—	C	.146	19/.0147C	65.9	44	2000	35
		108	4464		.235	Black	—	T	.079 ea.	Two 7/28T	68	23.5	1000	78
108A	4465				.235	Black	—	T	.079 ea.	Two .7/28T	65.9	23.5	1000	78
		111	4422	.480	.420	Gray	T	T	.285	Two 7/.152T	65.9	16	1000	95
111A	4423			.490	.420	Gray	T	T	.285	Two 7/.152T	65.9	16	1000	95
		114	4426		.405	Black	—	C	.285	.007CW	—	6.8	1000	185
114A	4427				.405	Black	—	C	.285	.007CW	—	6.8	1000	185
122	4457				.160	Black	—	T	.096	27/36T	65.9	29.5	1900	50
130	4428				.625	Black	—	T	.472	Two 7/21C	65.9	17	3000	95

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

RG TYPE COAXIAL CABLES



Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets					Shields								
Number RG-/U	Catalog Number	Number RG-/U	Catalog Number	Armor O.D.	Jacket O.D.	Vinyl Jacket	Outer	Inner	Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
131	4429			.710	.625	Black	—	T	.472	Two 7/21C	65.9	17	3000	95
133	4430				.405	Black	—	C	.285	21C	65.9	16.2	1000	95
149	4458				.405	Black	—	C		7/26T	—	—	—	75
150	4499			.470	.405	Black	—	C		7/26T	—	—	—	75
		164	4404		.870	Black	—	C	.680	.1045C	—	—	10000	75
		177	4406		.895	Black	S	S	.680	.195C	—	—	11000	50
		181	4407		.640	Black	—	C	.210	Two 7/26C	—	12	3500	125
212	4488				.332	Black	S	S	.185	.0556S	65.9	29.5	3000	50
213	4489				.405	Black	—	C	.285	7X.0296C	65.9	29.5	5000	50
214	4490				.425	Black	S	S	.285	7X.0296C	65.9	29.5	5000	50
215	4497				.475	Black	—	C	.285	7/.029C	65.9	29.5	4000	50
216	4491				.425	Black	C	C	.285	7X26TC	65.9	20.5	5000	75
217	4492				.545	Black	C	C	.370	.106C	65.9	29.5	7000	50
218	4493				.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
219	4494			.945	.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
		220	4408		1.120	Black	—	C	.910	.260C	65.9	29.5	14000	50
		221	4409	1.195	1.120	Black	—	C	.910	.260C	65.9	29.5	14000	50
222	4495				.332	Black	S	S	.185	.0556N	65.9	29.0	2700	50
223	4496				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50
		224	4411	.615	.545	Gray	C	C	.370	.106C	65.9	29.5	5500	52

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

MINIATURE COAXIAL CABLE

Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets					Shields							
Number RG-/U	Catalog Number	Number RG-/U	Catalog Number	Armor O.D.	Jacket O.D.	Vinyl Jacket	Outer	Inner	Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
		174	4459		.105	Black	—		.060†	7/.0063CW		30		50

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

FOAM POLYETHYLENE COAXIAL CABLE

		8	4477		.405	Black	—	C	.285	7/19C	80	24.5	1500	50
11	4476				.405	Black	—	C	.285	14C	80	16.5	3000	75
		58	4498		.195	Black	—	T	.116	20C	80	28.5	1900	53.5
		59	4478		.195	Black	—	C	.107	22CW	80	17	500	72
62	4479				.242	Black	—	C	.146	.023CW	80	14.5	700	93

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

FOAM POLYETHYLENE TRIAXIAL CABLE DOUBLE SHIELD DOUBLE JACKET

11	4480				.406	Black	—	C	.285	14C	80	16.5	3000	75
59	4481				.242	Black	—	C	.107	.107	80	17	500	72

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

TRIAXIAL CABLE DOUBLE SHIELD DOUBLE JACKET

RG/U Type	Catalog Number	Impedance in Ohms	Jacket Diameter	Vinyl Jacket	Shields		O.D. Dielectric	Inner Conductor	V.P. %	Cap. Mmfd./Ft.	Max. Oper. Volts-RMS
					1st	2nd					
Triaxial 58A	4463	50	.285	Black	T	T	.116	19 .0071T	65.9	28.5	1,900
Triaxial 59	4460	73	.242	Black	C	C	.146	22CW	65.9	21.0	2,300
Triaxial 11	4461	75	.460	Black	C	C	.285	7 26T	65.9	20.5	4,000
Triaxial 8	4462	52	.490	Black	C	C	.285	7 21C	65.9	29.5	4,000

† Semi-Solid Dielectric N — Nichrome C — Copper S — Silvered Copper CW — Copperweld T — Tinned Copper F — Formvar

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

TEFLON COAXIAL CABLE



Number RG/U	Catalog Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (Inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (Inch)	Nominal Capacitance (Mmfd./Ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
62C	4700	.0253 Silver Covered Copper Steel	F-3	.146	Silver Covered Copper Single Braid	V	.242	14.5	750	93
87A	4701	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V	.425	29.5	5000	50
94	4702	19/.0225 Silver Covered Copper	F-2	.292	Copper Double Braid	V	.445	29.0	7000	50
94A	4703	19/.0254 Silver Plated Copper	F-2	.370	Copper Double Braid	V	.500	27.0	7000	50
115	4704	7/.028 Silver Covered Copper	F-2	.250	Silver Coated Copper Double Braid	V	.375	29.5	5000	50
115A	4705	7/.028 Silver Covered Copper	F-2	.255	Silver Coated Copper Double Braid	V	.415	29.5	4000	50
116	4706	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V with armor	.490	29.5	5000	50
117	4707	.188 Copper	F-1	.620	Copper Single Braid	V	.730	29.0	7000	50
117A	4708	.188 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
118	4709	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.795	29.0	7000	50
118A	4710	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.780	—	7000	50
119	4711	.102 Copper	F-1	.332	Copper Double Braid	V	.465	29.0	6000	50
120	4712	.102 Copper	F-1	.332	Copper Double Braid	V with armor	.525	29.0	6000	50
126	4713	7/.0203 Karma or Equal	F-1	.185	Karma or Equal Single Braid	V	.280	29.0	3000	50
140	4714	.025 Silver Coated Copper Steel	F-1	.146	Silver Coated Copper Single Braid	V	.233	21.0	2300	75
141	4715	.0359 Silver Plated Copper Weld	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
141A	4716	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
142	4717	.0359 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50
142A	4718	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50
142B	4719	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	FEP	.195	28.5	1900	50
143	4720	.057 Silver Plated Copper Weld	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
143A	4721	.059 Silver Covered Copper Steel	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
144	4722	7/.0179 Silver Covered Copper Steel	F-1	.285	Silver Coated Copper Single Braid	V	.410	20.5	5000	75
146	4723	.007 Copper Covered Steel	F-3	.285	Copper Single Braid	V	.375	6.0	1000	190
161	4724	7/38 Silver Plated Cadmium Bronze	F-1	.057	Single Silver Copper	Extruded Black Nylon	.090	20.0	1000	70
165	4725	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V	.410	—	5000	50
166	4726	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V with armor	.460	—	5000	50
178	4727	7/.0039 Silver Plated Copper Weld	F-1	.036	Silver Plated Copper Single Braid	KEL-F	.079	27.9	1000	50
178A	4728	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Plated Copper Single Braid	KEL-F	.075	27.9	1000	50
178B	4729	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	FEP	.075	—	1000	50
179	4761	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Covered Copper Single Braid	KEL-F	.100	—	1200	75
179A	4730	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Plated Copper Single Braid	KEL-F	.105	20.0	1200	75

Continued on following page

F-1 — Solid Teflon F-2 — Taped Teflon F-3 — Air Spaced Teflon
V — High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket
VI — Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass
IIA — Low Temperature Black Polyvinylchloride Non-Contaminating
FEP — Fluorinated Ethylene Propylene Copolymar, 200°C Teflon
TFE — Tetrafluoride Ethylene Propylene Copolymar, 250°C Teflon

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

TEFLON COAXIAL CABLE



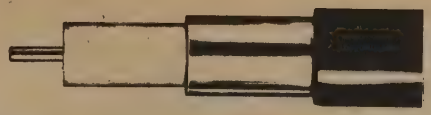
Number RG/U	Catalog Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (Inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (Inch)	Nominal Capacitance (Mmfd./Ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
179B	4731	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Covered Copper Single Braid	FEP	.105	—	1200	75
180	4732	7/.0039 Silver Plated Copper Weld	F-1	.103	Silver Plated Copper Single Braid	KEL-F	.141	15.3	1500	93
180A	4733	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Plated Copper Single Braid	KEL-F	.145	14.5	1500	95
180B	4734	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	FEP	.145	—	1500	95
187	4735	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	Teflon	.110	—	1200	75
187A	4736	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	75
188	4737	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	Teflon	.110	—	1200	50
188A	4738	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	50
195	4739	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	Teflon	.155	—	1500	95
195A	4740	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	TFE	.155	—	1500	95
196	4741	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	Teflon	.080	—	1000	50
196A	4742	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	TFE	.080	—	1000	50
209	4743	19/.037 Silver Covered Copper	F-3	.500	Silver Covered Copper Double Braid	VI	.750	—	3200	50
210	4744	.0253 Silver Covered Copper Steel	F-3	.146	Silver Covered Copper Single Braid	V	.242	14.5	750	93
211	4745	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
211A	4746	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
225	4747	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V	.430	—	5000	50
226	4748	19/.0254 Silver Covered Copper	F-2	.370	Copper Double Braid	V	.500	—	7000	50
227	4749	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V with armor	.490	—	5000	50
228	4750	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
228A	4751	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
235	4752	7/.028 Copper	F-2	.255	Silver Covered Copper Double Braid	VI	.490	—	5000	50
279	4762	19/.005 Silver Covered Copper Steel	F-1	.110	Silver Covered Copper Single Braid	V	.145	17.3	1500	75
280	4753	.1144 Copper	F-2	.327	Silver Covered Copper Double Braid	IIA	.480	27.5	4000	50
281	4754	19/.0378 Silver Covered Copper	F-2	.500	Silver Covered Copper Double Braid	VI	.750	29.5	4000	50
301	4755	7/.0203 Karma	F-1	.185	Karma Single Braid	FEP	.245	29.0	3000	50
302	4756	.025 Silver Covered Copper Steel	F-1	.146	Silver Covered Copper Single Braid	FEP	.206	21.0	2300	75
303	4757	.039 Silver Covered Copper Steel	F-1	.146	Silver Covered Copper Single Braid	FEP	.170	28.5	1900	50
304	4758	.059 Silver Covered Copper Steel	F-1	.185	Silver Covered Copper Double Braid	FEP	.280	28.5	3000	50
316	4759	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	FEP	.102	—	1200	50

F-1 — Solid Teflon F-2 — Taped Teflon F-3 — Air Spaced Teflon
V — High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket
VI — Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass
IIA — Low Temperature Black Polyvinylchloride Non-Contaminating
FEP — Fluorinated Ethylene Propylene Copolymar, 200°C Teflon
TFE — Tetrafluoride Ethylene Propylene Copolymar, 250°C Teflon

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

UNIFOAM CABLE SPECIFICATIONS



Inner Conductor | Dielectric | Outer Conductor (Sheath) | Jacket (When specified)

Consolidated Uniform CATV cable

Inner Conductor: High purity (99.9% minimum) soft, uncoated copper

Dielectric: Cellular polyethylene

Outer Conductor (sheath): High purity (99.6% minimum) seamless aluminum

Jacket (when specified): Black, high molecular weight polyethylene

Trade Size	0.412″	½″	¾″
Catalog Number, Plain	4840	4850	4875
Catalog Number, Jacketed	4845	4855	4880
Dimensions, Packaging, Weight			
Inner conductor diameter, Inches	0.078 ±.001	0.098 ±.001	0.146 ±.001
Sheath O.D. Inches	0.412 Nom.	0.500 Nom.	0.750 Nom.
Maximum, Inches	0.418	0.507	0.760
Minimum, Inches	0.406	0.493	0.740
Max.-Min. at any section, Inches	0.009 Max.	0.010 Max.	0.015 Max.
Nominal wall, Inches	0.025	0.025	0.037
Jacket (when specified) O.D. Inches	0.512 Nom.	0.600 Nom.	0.850 Nom.
Jacket thickness, Inches	0.050 Nom.	0.050 Nom.	0.050 Nom.
Standard Length, Feet	1200 ±10%	1200 ±10%	1200 ±10%
Net Weight, Lbs./M Ft. Plain	76	107	231
Net Weight, Lbs./M Ft. Jacketed	105	141	285
Reel, Flange Dia., Inches	28 or 33	33	48
Traverse, Inches	18	18	24
Mechanical Properties			
Conductor Adhesion, lbs. (Force required to extract conductor from 12″ section)	75 Min.	100 Min.	150 Min.
Max. Pulling Tension, Lbs.	155	190	420
Min. Bending Radius, Inches	4.5	5.0	7.5
Electrical Characteristics			
Capacitance, pf/ft.	16.7 ±1	16.7 ±1	16.7 ±1
Velocity of Propagation, %	81 ±3	81 ±3	81 ±3
Characteristic Impedance, Ohms	75 ±2	75 ±2	75 ±2
*Inner Conductor DC Resistance @ 68F, Ohms/M Ft.	1.71 ±0.5	1.08 ±.03	0.49 ±.02
*Outer Conductor DC Resistance @ 68F, Ohms/M Ft.	0.44 ±.02	0.36 ±.02	0.16 ±.01
Dielectric Strength, Insulation	3.5 kv	4.3 kv	5 kv
Dielectric Strength, Jacket	5 kv	5 kv	5 kv

* Conductor resistance at any temperature t (F°) may be determined by multiplying these values by the following:

Inner conductor: [1+0.00218 (t-68)]

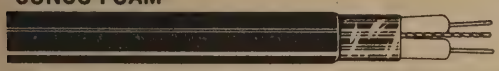
Outer conductor: [1+0.00224 (t-68)]

SWEEP TESTING — STRUCTURAL UNIFORMITY

Each length of Consolidated Unifoam CATV cable is checked for structural uniformity over the frequency range of 5-220 MHz. This includes the 88-105 MHz FM band and the 105-174 MHz band, as well as all 12 VHF TV channels. Factory acceptance standards require that each length of cable have a Structural Return Loss (SRL) at least 28 db. down at any frequency within this range. The 28 db. value is not subject to any frequency weighting factors.

SHIELDED AND UNSHIELDED "CONCO-FOAM" (Low Loss Foam Polyethylene All Channel Color TV Cable)

4535 SHIELDED "CONCO-FOAM"



Conco-Foam assures excellent VHF, UHF, Color and B/W TV reception in crowded areas where reception is critical. Mylar-aluminum shielding provides strong and clean signals, eliminating electrical noise and ghost signals. Conco-Foam can be attached to mast, installed in gutters, conduit, or underground.

AWG and STRANDING	COLOR	NOMINAL O.D.	NOMINAL VELOCITY OF PROPAGATION	NOMINAL CAPACITANCE (MMF/FT.)	NOMINAL ATTENUATION PER 100′	SPOOL PUT-UP*
22 Solid	Black	.275 x .455	76.5%	6.8	50MC/2.0 DB 100MC/2.8 DB 200MC/4.1 DB 400MC/5.9 DB 675MC/7.5 DB	**50′, 100′, **75′ 500′, 1000′

Copperweld, 2 conductors, white CONCO-FOAM insulation, mylar aluminum foil shield, stranded tin copper drain wire, outer Black polyethylene jacket.

* Spade terminals available with Catalog 4535.
** Furnished individually packed coils.

4530 "CONCO-FOAM"



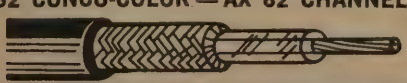
Conco-Foam assures excellent VHF, UHF, Color and B/W TV reception in uncongested and fringe regions. Will provide far greater signal than any other unshielded twin lead cable. Assures highest efficiency even when exposed to weathering and atmospheric conditions.

AWG and STRANDING	COLOR	NOMINAL O.D.	NOMINAL VELOCITY OF PROPAGATION	NOMINAL CAPACITANCE (MMF/FT.)	NOMINAL ATTENUATION PER 100′	SPOOL PUT-UP*
20 - 7 Strands	Black	.150 x .410	80.3%	4.9	100MC/1.04 DB 500MC/3.5 DB 900MC/4.5 DB	**50′, 100′ **75′ 500′, 1000′

Bare Copper, 2 conductors parallel, white CONCO-FOAM insulation, overall Black polyethylene jacket with web.

** Furnished individually packed coils.

4582 CONCO-COLOR — AX 82 CHANNEL CABLE



Conco-Color-AX is manufactured for distribution systems carrying both UHF and VHF. Cable loss is about half of ordinary RG59/U coax and less than twin lead. Ideal for homes and stores.

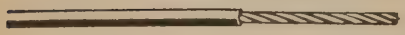
AWG and STRANDING	PRIMARY INSULATION	DIELECTRIC O.D.	SHIELD	JACKET	NOMINAL O.D.	SPOOL PUT-UP*
18 Solid Bare Copper	Foam Polyethylene	.184″	34 AWG Braid Bare Copper	Black or Gray PVC	.270″	500′, 1000′

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

MIL-W-76

TYPE MW — VINYL — 1000V — 80C



Tinned copper, vinyl insulated, medium wall. The polyvinylchloride insulation is flame and ozone resistant and is inert to most chemicals, oils, and solvents.

STRANDED CONDUCTOR

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9001	MW-C-24-(7)-U	24(7x32)	.017	.058	As Listed	As Listed.	As Listed
9002	MW-C-22-(7)-U	22(7x30)	.017	.064	As Listed	As Listed	As Listed
9003	MW-C-20-(10)-U	20(10x30)	.017	.070	As Listed	As Listed	As Listed
9004	MW-C-18-(16)-U	18(16x30)	.017	.080	As Listed	As Listed	As Listed
9005	MW-C-16-(26)-U	16(26x30)	.019	.098	As Listed	As Listed	As Listed
9006	MW-C-14-(41)-U	14(41x30)	.020	.111	As Listed	As Listed	As Listed
9007	MW-C-12-(65)-U	12(65x30)	.020	.130	As Listed	As Listed	As Listed

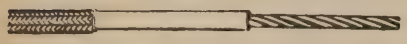
SOLID CONDUCTOR

9010	MW-C-22-(1)-U	22 (Solid)	.017	.059	As Listed	As Listed	As Listed
9011	MW-C-20-(1)-U	20 (Solid)	.017	.066	As Listed	As Listed	As Listed
9012	MW-C-18-(1)-U	18 (Solid)	.017	.074	As Listed	As Listed	As Listed
9013	MW-C-16-(1)-U	16 (Solid)	.017	.085	As Listed	As Listed	As Listed

Stock Colors*

0	Black	92	White/Red
1	Brown	93	White/Orange
2	Red	94	White/Yellow
3	Orange	95	White/Green
4	Yellow	96	White/Blue
5	Green	97	White/Violet
6	Dark Blue	98	White/Gray
7	Violet (Purple)	901	White/Black/Brown
8	Gray (Slate)	902	White/Black/Red
9	White	903	White/Black/Orange
11	Tan	904	White/Black/Yellow
12	Pink	905	White/Black/Green
13	Light Blue	906	White/Black/Blue
90	White/Black	907	White/Black/Violet
91	White/Brown	908	White/Black/Gray

TYPE MW — SHIELDED — 1000V — 80C



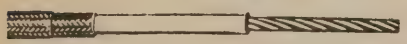
Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9014	MW-C-24-(7)-S	24(7x32)	.017	.082	As Listed	As Listed	As Listed
9015	MW-C-22-(7)-S	22(7x30)	.017	.088	As Listed	As Listed	As Listed
9016	MW-C-20-(10)-S	20(10x30)	.017	.094	As Listed	As Listed	As Listed
9017	MW-C-18-(16)-S	18(16x30)	.017	.104	As Listed	As Listed	As Listed
9018	MW-C-16-(26)-S	16(26x30)	.019	.122	As Listed	As Listed	As Listed
9019	MW-C-14-(41)-S	14(41x30)	.020	.135	0, 2, 9	0, 2, 9	0, 2, 9
9020	MW-C-12-(65)-S	12(65x30)	.020	.154	0, 2, 9	0, 2, 9	0, 2, 9

Stock Colors*

0	Black	5	Green
1	Brown	6	Dark Blue
2	Red	7	Violet (Purple)
3	Orange	8	Gray (Slate)
4	Yellow	9	White

TYPE MW — SHIELDED — NYLON JACKET — 1000V — 80C



Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield, nylon jacket.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9021	MW-C-22-(7)-SJ	22(7x30)	.017	.095	9	9	9
9022	MW-C-20-(7)-SJ	20(10x30)	.017	.101	9	9	9
9023	MW-C-18-(16)-SJ	18(16x30)	.017	.112	9	9	9
9024	MW-C-16-(19)-SJ	16(26x30)	.019	.131	9	9	9

Stock Color*

9 Vinyl insulation. White only.

TYPE MW — GLASS BRAID — 1000V — 80C



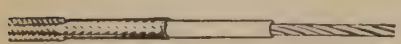
Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9025	MW-C-22(7)-B	22(7x30)	.017	.076	As Listed	As Listed	As Listed
9026	MW-C-20(10)-B	20(10x30)	.017	.084	As Listed	As Listed	As Listed
9027	MW-C-18(16)-B	18(16x30)	.017	.094	As Listed	As Listed	As Listed
9028	MW-C-16(26)-B	16(26x30)	.019	.112	As Listed	As Listed	As Listed
9029	MW-C-14(41)-B	14(41x30)	.020	.125	9,90 thru 98	9,90 thru 98	9,90 thru 98
9030	MW-C-12(65)-B	12(65x30)	.020	.144	9, 90, 92	9, 90, 92	9, 90, 92

Stock Colors*

0	Black	90	White/Black
1	Brown	91	White/Brown
2	Red	92	White/Red
3	Orange	93	White/Orange
4	Yellow	94	White/Yellow
5	Green	95	White/Green
6	Dark Blue	96	White/Blue
7	Violet (Purple)	97	White/Violet
8	Gray (Slate)	98	White/Gray
9	White		

TYPE MW — GLASS BRAID — SHIELDED — 1000V — 80C



Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9031	MW-C-22(7)-BS	22(7x30)	.017	.102	9	9	9
9032	MW-C-20(7)-BS	20(10x30)	.017	.108	9	9	9
9033	MW-C-18(16)-BS	18(16x30)	.017	.118	9	9	9
9034	MW-C-16(19)-BS	16(26x30)	.019	.136	9	9	9
9035	MW-C-14(19)-BS	14(41x30)	.020	.149	9	9	9
9036	MW-C-12(19)-BS	12(65x30)	.020	.168	9	9	9

Stock Color*

9 Vinyl insulation. White only.

* Stock Color Numbers, in Accordance to Military Type Designation and EIA Color Coding.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

MIL-W-76

TYPE MW — NYLON JACKET — 1000V — 90C



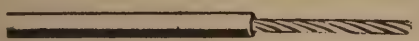
Tinned copper, polyvinylchloride insulated. Medium wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9037	MW-C-22(7)-J	22(7x30)	.017	.069	As Listed	As Listed	As Listed
9038	MW-C-20(10)-J	20(10x30)	.017	.075	As Listed	As Listed	As Listed
9039	MW-C-18(16)-J	18(16x30)	.017	.086	As Listed	As Listed	As Listed
9040	MW-C-16(26)-J	16(26x30)	.019	.106	As Listed	As Listed	As Listed
9041	MW-C-14(41)-J	14(41x30)	.020	.118	0,1,3,4,5,9	0,1,3,4,5,9	0,1,3,4,5,9
9042	MW-C-12(65)-J	12(65x30)	.020	.139	0,1,3,4,5,9	0,1,3,4,5,9	0,1,3,4,5,9

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White
90 White/Black
91 White/Brown
92 White/Red
93 White/Orange
94 White/Yellow
95 White/Green
96 White/Blue
97 White/Violet
98 White/Gray

TYPE HW — VINYL — Gauges 16-22 2500V, Gauges 6-14 600V — 80C



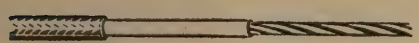
Tinned copper, polyvinylchloride insulated. Heavy wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9100	HW-C-22(7)-U	22(7x30)	.034	.098	As Listed	As Listed	As Listed
9101	HW-C-20(10)-U	20(10x30)	.034	.104	As Listed	As Listed	As Listed
9102	HW-C-18(16)-U	18(16x30)	.034	.114	As Listed	As Listed	As Listed
9103	HW-C-16(26)-U	16(26x30)	.034	.128	0, 2, 9	0, 2, 9	0, 2, 9
9104	HW-C-14(41)-U	14(41x30)	.048	.171	0, 2, 9	0, 2, 9	0, 2, 9
9105	HW-C-12(65)-U	12(65x30)	.048	.191	0, 2, 9	0, 2, 9	0, 2, 9
9106	HW-C-10(105)-U	10(105x30)	.048	.214	0, 2, 9	0, 2, 9	0, 2, 9
9107	HW-C-8(133)-U	8(133x29)	.048	.261	0, 2, 9	0, 2, 9	0, 2, 9
9108	HW-C-6(133)-U	6(133x27)	.048	.296	0, 2, 9	0, 2, 9	0, 2, 9

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White

TYPE HW — GLASS BRAID — 600V — 80C



Tinned copper, polyvinylchloride insulated. Heavy wall, lacquered glass braid.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9110	HW-C-10(105)-B	10(105x30)	.048	.235	As Listed	As Listed	As Listed
9111	HW-C-8(133)-B	8(133x29)	.048	.279	As Listed	As Listed	As Listed
9112	HW-C-6(133)-B	6(133x27)	.048	.314	As Listed	As Listed	As Listed

Stock Colors*

9 White
90 White/Black
92 White/Red

TYPE LW — VINYL — 300V — 80C



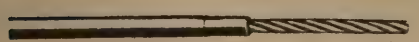
Tinned copper, polyvinylchloride insulated. Light wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9200	LW-C-30(7)-U	30(7x38)	.011	.034	0 thru 9	0 thru 9	0 thru 9
9201	LW-C-28(7)-U	28(7x36)	.011	.037	As Listed	As Listed	As Listed
9202	LW-C-26(7)-U	26(7x34)	.011	.041	As Listed	As Listed	As Listed
9203	LW-C-24(7)-U	24(7x32)	.011	.046	As Listed	As Listed	As Listed
9204	LW-C-22(7)-U	22(7x30)	.012	.054	As Listed	As Listed	As Listed
9205	LW-C-20(10)-U	20(10x30)	.012	.060	As Listed	As Listed	As Listed

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White
90 White/Black
91 White/Brown
92 White/Red
93 White/Orange
94 White/Yellow
95 White/Green
96 White/Blue
97 White/Violet
98 White/Gray

TYPE LW — NYLON JACKET — 300V — 90C



Tinned copper, polyvinylchloride insulated. Light wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9210	LW-C-30(7)-J	30(7x38)	.011	.039	0 thru 9	0 thru 9	0 thru 9
9211	LW-C-28(7)-J	28(7x36)	.011	.042	As Listed	As Listed	As Listed
9212	LW-C-26(7)-J	26(7x34)	.011	.046	As Listed	As Listed	As Listed
9213	LW-C-24(7)-J	24(7x32)	.011	.051	As Listed	As Listed	As Listed
9214	LW-C-22(7)-J	22(7x30)	.012	.059	As Listed	As Listed	As Listed
9215	LW-C-20(10)-J	20(10x30)	.012	.065	As Listed	As Listed	As Listed

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White
90 White/Black
91 White/Brown
92 White/Red
93 White/Orange
94 White/Yellow
95 White/Green
96 White/Blue
97 White/Violet
98 White/Gray

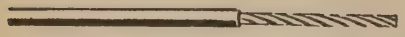
* Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

MIL-W-16878

TYPE B — VINYL — 600V — 105C



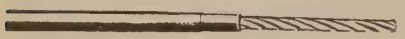
Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9300	B-32	32(7x40)	.010	.029	0 thru 9	0 thru 9	0 thru 9
9301	B-30	30(7x38)	.010	.032	0 thru 9	0 thru 9	0 thru 9
9302	B-28	28(7x36)	.010	.035	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9303	B-26	26(7x34)	.010	.039	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9304	B-24	24(19x36)	.010	.045	9,90 thru 98	9,90 thru 98	9,90 thru 98
9305	B-24	24(7x32)	.010	.044	As Listed	As Listed	As Listed
9306	B-22	22(19x34)	.010	.051	9,90 thru 98	9,90 thru 98	9,90 thru 98
9307	B-22	22(7x30)	.010	.050	As Listed	As Listed	As Listed
9308	B-20	20(19x32)	.010	.059	9,90 thru 98	9,90 thru 98	9,90 thru 98
9309	B-20	20(7x28)	.010	.058	As Listed	As Listed	As Listed
9310	B-18	18(19x30)	.010	.069	9,90 thru 98	9,90 thru 98	9,90 thru 98
9311	B-18	18(7x26)	.010	.068	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9312	B-16	16(19x29)	.010	.077	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98

Stock Colors*

0	Black	90	White/Black
2	Brown	91	White/Brown
2	Red	92	White/Red
3	Orange	93	White/Orange
4	Yellow	94	White/Yellow
5	Green	95	White/Green
6	Dark Blue	96	White/Blue
7	Violet (Purple)	97	White/Violet
8	Gray (Slate)	98	White/Gray
9	White		
11	Tan		
12	Pink		
13	Light Blue		

TYPE B — VINYL-NYLON JACKET — 600V — 115C



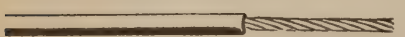
Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9313	B-32	32(7x40)	.010	.035	0 thru 9	0 thru 9	0 thru 9
9314	B-30	30(7x38)	.010	.038	0 thru 9	0 thru 9	0 thru 9
9315	B-28	28(7x36)	.010	.041	As Listed	As Listed	As Listed
9316	B-26	26(7x34)	.010	.045	As Listed	As Listed	As Listed
9317	B-24	24(19x36)	.010	.051	As Listed	As Listed	As Listed
9318	B-24	24(7x32)	.010	.050	As Listed	As Listed	As Listed
9319	B-22	22(19x34)	.010	.057	As Listed	As Listed	As Listed
9320	B-22	22(7x30)	.010	.056	As Listed	As Listed	As Listed
9321	B-20	20(19x32)	.010	.065	As Listed	As Listed	As Listed
9322	B-20	20(7x28)	.010	.064	As Listed	As Listed	As Listed
9323	B-18	18(19x30)	.010	.075	9,90 thru 98	9,90 thru 98	9,90 thru 98
9324	B-18	18(7x26)	.010	.074	As Listed	As Listed	As Listed
9325	B-16	16(19x29)	.010	.083	As Listed	As Listed	As Listed

Stock Colors*

0	Black	90	White/Black
1	Brown	91	White/Brown
2	Red	92	White/Red
3	Orange	93	White/Orange
4	Yellow	94	White/Yellow
5	Green	95	White/Green
6	Dark Blue	96	White/Blue
7	Violet (Purple)	97	White/Violet
8	Gray (Slate)	98	White/Gray
9	White		

TYPE C — VINYL — 1000V — 105C



Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9400	C-24	24(7x32)	.018	.060	9,90 thru 98	9,90 thru 98	9,90 thru 98
9401	C-22	22(7x30)	.018	.066	As Listed	As Listed	As Listed
9402	C-20	20(7x28)	.018	.074	As Listed	As Listed	As Listed
9403	C-18	18(7x26)	.018	.084	As Listed	As Listed	As Listed
9404	C-16	16(19x29)	.018	.093	9,90 thru 98	9,90 thru 98	9,90 thru 98
9405	C-14	14(19x27)	.018	.107	9,90 thru 98	9,90 thru 98	9,90 thru 98

Stock Colors*

0	Black	90	White/Black
1	Brown	91	White/Brown
2	Red	92	White/Red
3	Orange	93	White/Orange
4	Yellow	94	White/Yellow
5	Green	95	White/Green
6	Dark Blue	96	White/Blue
7	Violet (Purple)	97	White/Violet
8	Gray (Slate)	98	White/Gray
9	White		

TYPE C — VINYL-NYLON JACKET — 1000V — 115C



Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9410	C-24	24(7x32)	.018	.066	9,90 thru 98	9,90 thru 98	9,90 thru 98
9411	C-22	22(7x30)	.018	.072	As Listed	As Listed	As Listed
9412	C-20	20(7x28)	.018	.080	As Listed	As Listed	As Listed
9413	C-18	18(7x26)	.018	.091	As Listed	As Listed	As Listed
9414	C-16	16(19x29)	.018	.100	9,90 thru 98	9,90 thru 98	9,90 thru 98
9415	C-14	14(19x27)	.018	.114	9,90 thru 98	9,90 thru 98	9,90 thru 98

Stock Colors*

0	Black	90	White/Black
1	Brown	91	White/Brown
2	Red	92	White/Red
3	Orange	93	White/Orange
4	Yellow	94	White/Yellow
5	Green	95	White/Green
6	Dark Blue	96	White/Blue
7	Violet (Purple)	97	White/Violet
8	(Gray (Slate)	98	White/Gray
9	White		

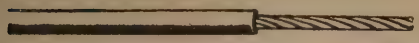
* Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

MIL-W-16878

TYPE D — VINYL — 3000V — 105C



Tinned copper, polyvinylchloride insulated.

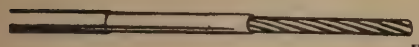
Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9500	D-24	24(7x32)	.030	.084	9,90thru98	9,90thru98	9,90thru98
9501	D-22	22(7x30)	.030	.090	As Listed	As Listed	As Listed
9502	D-20	20(7x28)	.030	.098	As Listed	As Listed	As Listed
9503	D-18	18(7x26)	.030	.108	As Listed	As Listed	As Listed
9504	D-16	16(19x29)	.030	.117	9,90thru98	9,90thru98	9,90thru98
9505	D-14	14(19x27)	.030	.131	9,90thru98	9,90thru98	9,90thru98
9506	D-12	12(19x25)	.035	.160	9,90thru98	9,90thru98	9,90thru98
9507	D-10	10(37x26)	.035	.181	9,90thru98	9,90thru98	9,90thru98
9508	D- 8	8(133x29)	.040	.245	9,90thru98	9,90thru98	9,90thru98
9509	D- 6	6(133x27	.040	.290	9,90thru98	9,90thru98	9,90thru98

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	98 White/Gray
8 Gray (Slate)	
9 White	

MIL-W-5086A

AIRCRAFT WIRE & CABLE TYPES 1 & 2 — 600V



UNSHIELDED

Catalog Number	MIL Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9700	AN-22	22(19x34)	.068	No.1	9	9	9
9701	AN-20	20(19x32)	.078	No.1	9	9	9
9702	AN-18	18(19x30)	.088	No.1	9	9	9
9703	AN-16	16(19x29)	.098	No.1	9	9	9
9704	AN-14	14(19x27)	.117	No.1	9	9	9
9705	AN-12	12(19x25)	.137	No.1	9	9	9
9706	AN-22	22(19x34)	.075	No.2	9	9	9
9707	AN-20	20(19x32)	.085	No.2	9	9	9
9708	AN-18	18(19x30)	.095	No.2	9	9	9
9709	AN-16	16(19x29)	.105	No.2	9	9	9
9710	AN-14	14(19x27)	.125	No.2	9	9	9
9711	AN-12	12(19x25)	.143	No.2	9	9	9
9713	AN-10	10(49x27)	.189	No.2	9	9	9
9714	AN-8	8(133x29)	.240	No.2	9	9	9
9715	AN-6	6(133x27)	.293	No.2	9	9	9
9716	AN-4	4(133x25)	.355	No.2	9	9	9
9717	AN-2	2(665x30)	.425	No.2	9	9	9
9718	AN-0	0(1045x30)	.525	No.2	9	9	9
9719	AN-00	00(1330x30)	.590	No.2	9	9	9

Stock Color*

White only (9)

Additional Description

MIL-W-5086A-Type I
AN-22 thru AN-12.

Stranded tinned copper, white polyvinyl-chloride clear nylon jacket insulation.

MIL-W-5086A-Type II
AN-22 thru AN-12

Stranded tinned copper, white polyvinyl-insulation, saturated glass braid, clear nylon jacket.

MIL-W-5086A-Type II
AN-10 thru AN-00

Stranded tinned copper, white polyvinyl-chloride insulation, saturated glass braid, nylon braid, nylon lacquer.

MIL-C-7078A — TYPE 1 — 600 VOLT

(MIL-W-5086A Type I Conductor Braided Tinned Copper Shield)



SHIELDED

Catalog Number	MIL Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9720	AN-22	22(19x34)	.092	No.1	9	9	9
9721	AN-20	20(19x32)	.102	No.1	9	9	9
9722	AN-18	18(19x30)	.112	No.1	9	9	9
9723	AN-16	16(19x29)	.122	No.1	9	9	9
9724	AN-14	14(19x27)	.141	No.1	9	9	9
9725	AN-12	12(19x25)	.161	No.1	9	9	9

Stock Color*

White only (9)

Additional Description

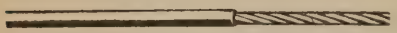
Stranded tinned copper, white polyvinyl-chloride insulation, nylon jacket, braided tinned copper shield.

* Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

MIL-W-16878-D

TYPE E — TFE TEFLON — 600V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

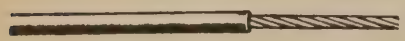
Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
				100′	500′	1000′
9600	E-32	32(7x40)	.032	As Listed	As Listed	As Listed
9601	E-30	30(7x38)	.032	As Listed	As Listed	As Listed
9602	E-28	28(7x36)	.035	As Listed	As Listed	As Listed
9603	E-26	26(19x38)	.039	As Listed	As Listed	As Listed
9604	E-26	26(7x34)	.039	As Listed	As Listed	As Listed
9605	E-24	24(19x36)	.044	As Listed	As Listed	As Listed
9606	E-24	24(7x32)	.044	As Listed	As Listed	As Listed
9607	E-22	22(19x34)	.050	As Listed	As Listed	As Listed
9608	E-22	22(7x30)	.050	As Listed	As Listed	As Listed
9609	E-20	20(19x32)	.058	As Listed	As Listed	As Listed
9610	E-20	20(7x28)	.058	As Listed	As Listed	As Listed
9611	E-18	18(19x30)	.069	As Listed	As Listed	As Listed
9612	E-18	18(7x26)	.069	As Listed	As Listed	As Listed
9613	E-16	16(19x29)	.080	As Listed	As Listed	As Listed
9614	E-14	14(19x27)	.095	As Listed	As Listed	As Listed
9615	E-12	12(19x25)	.115	As Listed	As Listed	As Listed
9616	E-10	10(37x26)	.131	As Listed	As Listed	As Listed

Stock Colors*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

TYPE EE — TFE TEFLON — 1000V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
				100′	500′	1000′
9620	EE-32	32(7x40)	.042	As Listed	As Listed	As Listed
9621	EE-30	30(7x38)	.042	As Listed	As Listed	As Listed
9622	EE-28	28(7x36)	.045	As Listed	As Listed	As Listed
9623	EE-26	26(19x38)	.049	As Listed	As Listed	As Listed
9624	EE-26	26(7x34)	.049	As Listed	As Listed	As Listed
9625	EE-24	24(19x36)	.054	As Listed	As Listed	As Listed
9626	EE-24	24(7x32)	.054	As Listed	As Listed	As Listed
9627	EE-22	22(19x34)	.060	As Listed	As Listed	As Listed
9628	EE-22	22(7x30)	.060	As Listed	As Listed	As Listed
9629	EE-20	20(19x32)	.068	As Listed	As Listed	As Listed
9630	EE-20	20(7x28)	.068	As Listed	As Listed	As Listed
9631	EE-18	18(19x30)	.079	As Listed	As Listed	As Listed
9632	EE-18	18(7x26)	.079	As Listed	As Listed	As Listed
9633	EE-16	16(19x29)	.089	As Listed	As Listed	As Listed
9634	EE-14	14(19x27)	.110	As Listed	As Listed	As Listed
9635	EE-12	12(19x25)	.129	As Listed	As Listed	As Listed
9636	EE-10	10(37x26)	.149	As Listed	As Listed	As Listed

Stock Colors*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

MIL-W-8777B — MS25471
SILICONE RUBBER AIRCRAFT WIRE

Silver plated copper, silicone rubber insulation, impregnated, lacquered glass and dacron braid overall −55°C to +150°C.

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Nominal O.D.
9901	22	19x34	.014	600	.084
9902	20	19x32	.016	600	.095
9903	18	19x30	.018	600	.110
9904	16	19x29	.022	600	.125
9905	14	19x27	.025	600	.140
9906	12	19x25	.025	600	.160
9907	10	49x27	.025	600	.195

STANDARD SPOOL PUT UP 100 FT., 500 FT., 1000 FT.
NOTE: MINIMUM PURCHASE PER ITEM 1000 FT.

MIL-W-7139B — CLASS 1
TEFLON AIRFRAME CABLE

Silver plated copper, teflon tape wrap and teflon impregnated fiiberglass braid overall −65°C to +200°C.

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Nominal O.D.
9941	22	19x34	.014	600	.087
9942	20	19x32	.014	600	.098
9943	18	19x30	.014	600	.112
9944	16	19x29	.014	600	.132
9945	14	19x27	.014	600	.147
9946	12	19x25	.015	600	.167
9947	10	49x27	.018	600	.200

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

SHIELDED TEFLON CABLES — MIL-W-16878

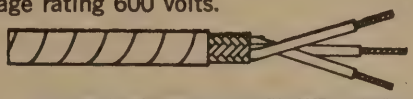
Each conductor stranded silver plated copper Type E extruded Teflon .010" insulation — 90% braided silver copper shield, also supplied with either a Teflon impregnated Fiberglass braid or Teflon fused tape overall jacket.

Temperature rating −65°C to +260°C. Voltage rating 600 volts.



NO OUTER COVERING OVER SHIELD

Catalog Number	Number of Conductors	Size & (Stranding)	Nom. O.D. (Inch)
9800	1	24(19x36)	.069
9801	2	24(19x36)	.112
9802	3	24(19x36)	.120
9803	4	24(19x36)	.132
9804	1	22(19x34)	.075
9805	2	22(19x34)	.124
9806	3	22(19x34)	.132
9807	4	22(19x34)	.146
9808	1	20(19x32)	.083
9809	2	20(19x32)	.142
9810	3	20(19x32)	.151
9811	4	20(19x32)	.168
9812	1	18(19x30)	.093
9813	2	18(19x30)	.162
9814	3	18(19x30)	.172
9815	4	18(19x30)	.192



TEFLON TAPE WRAP JACKET OVER SHIELD

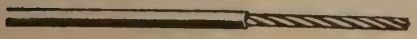
Number Catalog	Conductors Number of	(Stranding) Size &	(Inch) Nom. O.D.
9820	1	24(19x36)	.084
9821	2	24(19x36)	.128
9822	3	24(19x36)	.135
9823	4	24(19x36)	.148
9824	1	22(19x34)	.090
9825	2	22(19x34)	.140
9826	3	22(19x34)	.148
9827	4	22(19x34)	.162
9828	1	20(19x32)	.099
9829	2	20(19x32)	.158
9830	3	20(19x32)	.167
9831	4	20(19x32)	.184
9832	1	18(19x30)	.109
9833	2	18(19x30)	.178
9834	3	18(19x30)	.189
9835	4	18(19x30)	.208



TEFLON IMPREGNATED BRAID OVER SHIELD

Number Catalog	Conductors Number of	(Stranding) Size &	(Inch) Nom. O.D.
9840	1	24(19x36)	.081
9841	2	24(19x36)	.126
9842	3	24(19x36)	.133
9843	4	24(19x36)	.144
9844	1	22(19x34)	.088
9845	2	22(19x34)	.137
9846	3	22(19x34)	.144
9847	4	22(19x34)	.158
9848	1	20(19x32)	.097
9849	2	20(19x32)	.154
9850	3	20(19x32)	.163
9851	4	20(19x32)	.180
9852	1	18(19x30)	.106
9853	2	18(19x30)	.174
9854	3	18(19x30)	.185
9855	4	18(19x30)	.205

Stock Colors* Catalog Numbers 9800 thru 9855 specify color coding when ordering.
Standard spool put up Catalog Numbers 9800 thru 9855: 100 Ft., 500 Ft., 1000 Ft.
* Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.



U/L APPROVED HOOK-UP WIRE

UL — 300V — 80C

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
803	24	Solid	1/64	300	.055
801	22	Solid	1/64	300	.065
811	20	Solid	1/64	300	.071
841	18	Solid	1/64	300	.080
819	24	7 x No. 32	1/64	300	.059
821	22	7 x No. 30	1/64	300	.069
831	20	10 x No. 30	1/64	300	.078
846	18	16 x No. 30	1/64	300	.085
881	20 2/Condr.	10 x No. 30	.025	300	.170

ROME SYNTHINOL — UL TYPE HOOK-UP AND LEAD WIRES

TINNED COPPER

UL — 600V — 105C (CSA-TEW)

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
851	22	Solid	1/32	600	.097
856	20	Solid	1/32	600	.104
861	18	Solid	1/32	600	.112
866	22	7 x No. 30	1/32	600	.102
871	20	10 x No. 30	1/32	600	.110
876	18	16 x No. 30	1/32	600	.119

† "TOPCOAT" COPPER CONDUCTOR

† Stranded copper conductor passed through molten tin bath bonding individual strands together.

UL — 300V — 80C

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
823	22	7 x No. 30	1/64	300	.069
833	20	10 x No. 30	1/64	300	.078
843	18	16 x No. 30	1/64	300	.085

UL — 600V — 105C (CSA-TEW)

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
865	22	7 x No. 30	1/32	600	.102
875	20	10 x No. 30	1/32	600	.110
885	18	16 x No. 30	1/32	600	.119

‡ "HEAVY TIN" COPPER CONDUCTOR

‡ Stranded "Double" Tin Copper Conductor — Tinning sufficiently thick to allow fusing of strands during induction heating.

UL — 300V — 80C

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
827	22	7 x No. 30	1/64	300	.069
837	20	10 x No. 30	1/64	300	.078
847	18	16 x No. 30	1/64	300	.085

UL — 600V — 105C (CSA-TEW)

Catalog Number	Size AWG	Stranding	Nominal Ins. Thickness	Volts	Max. Dia. Inches
869	22	7 x No. 30	1/32	600	.102
879	20	10 x No. 30	1/32	600	.110
889	18	16 x No. 30	1/32	600	.119

Stock Colors: Black, Blue, Brown, Green, Orange, Pink, Red, Slate, White, Yellow.
Spool Put-Up: 25 Ft., 100 Ft., 500 Ft., 1,000 Ft., 5,000 Ft., 7,500 Ft., 10,000 Ft.

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

PROTECTA-METAL SPOOLS

Popular, profitable specialty wire packaged for easy selling in radio-electrical, scientific, specialty and hardware.
Wide variety of sizes and insulations.
Keeps stock in perfect order, always saleable.
Supplied on Spools as Shown and in Heavier Weights.
Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling.



MAGNET WIRE #2000

The correct wire for practically any application. Magnet wire is indispensible in the manufacture and repair of both radio and audio frequency coils, transformers, chokes, speaker field coils, short wave coils, tuners, transmitters, etc. Also widely used in the construction and repair of motors, generators, dynamos, etc.

Larger Quantities At Same Per Pound List

SPECIAL MAGNET WIRES

In addition to the standard listing shown here, we maintain an extensive stock of all other sizes in round, rectangular and square magnet wire.

VARIOUS OTHER INSULATONS

Film Technical Classification

ENAMEL — oleoresinous
FORMVAR — poly vinyl acetal
POLY THERMALEZE
SODEREZE — polyurethane
THERMALEZE — epoxide polyester
NYFORM — formvar, nylon sheath
NYLEZE — polyurethane nylon sheath
NYLON
BONDEZE
GRIPEZE
LECTRON — acrylic
ISONSEL — terephthalic polyester
ALKANVAR — terephthalic polyester
SYLKYD ENAMELED
COTTON & COMBINATIONS
SILK AND COMBINATIONS
CELANESE AND COMBINATIONS
GLASS AND COMBINATIONS
PAPER AND COMBINATIONS

	Plain Enamel			Single Formvar			Heavy Formvar			
Size	¼ Lb.	½ Lb.	1 Lb.	¼ Lb.	½ Lb.	1 Lb.	¼ Lb.	½ Lb.	1 Lb.	Size
14	$0.43	$0.72	$1.28	$0.57	$0.96	$1.73	$0.61	$1.04	$1.86	14
15	.44	.75	1.29	.58	1.02	1.76	.62	1.10	1.90	15
16	.46	.77	1.30	.62	1.05	1.78	.67	1.13	1.92	16
17	.47	.80	1.31	.63	1.08	1.79	.68	1.17	1.93	17
18	.48	.81	1.32	.65	1.10	1.80	.70	1.19	1.94	18
19	.49	.83	1.34	.68	1.14	1.84	.73	1.22	1.99	19
20	.50	.84	1.36	.69	1.15	1.86	.74	1.23	2.01	20
21	.51	.85	1.42	.70	1.16	1.93	.76	1.24	2.09	21
22	.52	.86	1.49	.71	1.18	2.05	.77	1.28	2.22	22
23	.54	.87	1.53	.72	1.20	2.10	.78	1.30	2.26	23
24	.55	.88	1.60	.73	1.21	2.22	.79	1.31	2.39	24
25	.56	.95	1.66	.77	1.31	2.28	.88	1.52	2.68	25
26	.57	.96	1.71	.78	1.32	2.38	.91	1.53	2.78	26
27	.59	.98	1.78	.82	1.37	2.48	.95	1.58	2.90	27
28	.61	1.02	1.86	.85	1.40	2.59	1.01	1.64	3.01	28
29	.62	1.06	1.89	.88	1.46	2.65	1.03	1.70	3.08	29
30	.66	1.08	1.92	.92	1.51	2.69	1.07	1.76	3.15	30
31	.71	1.11	1.99	1.01	1.55	2.79	1.23	1.88	3.40	31
32	.72	1.15	2.02	1.02	1.61	2.85	1.24	1.95	3.45	32
33	.76	1.21	2.11	1.06	1.71	2.97	1.29	2.06	3.63	33
34	.79	1.35	2.19	1.12	1.93	3.09	1.36	2.32	3.77	34
35	.84	1.47	2.44	1.21	2.08	3.47	1.47	2.43	4.24	35
36	.97	1.54	2.68	1.39	2.20	3.83	1.70	2.70	4.70	36
37	1.09	1.71	3.01	1.56	2.45	4.33	1.92	2.99	5.32	37
38	1.25	1.87	3.34	1.80	2.70	4.82	2.22	3.21	5.93	38
39	1.36	2.20	3.67	1.98	3.19	5.32	2.43	3.94	6.35	39
40	1.78	2.70	4.33	2.60	3.94	6.30	3.22	4.86	7.80	40
41	2.00	3.75	5.65	2.50	4.50	8.40	3.45	5.06	9.10	41
42	2.32	4.40	8.59	2.85	4.93	8.95	3.85	5.43	9.81	42
43	2.90	5.00	10.50	3.45	5.25	9.50	4.00	5.75	10.05	43
44	3.25	6.25	12.30	4.40	7.80	15.05	4.45	8.60	15.55	44

	Double Cotton Covered			Single Nyleze			Heavy Nyleze			
Size	¼ Lb.	½ Lb.	1 Lb.	¼ Lb.	½ Lb.	1 Lb.	¼ Lb.	½ Lb.	1 Lb.	Size
14	$0.64	$1.10	$2.08	$0.62	$1.06	$1.90	$0.67	$1.14	$2.05	14
15	.66	1.13	2.10	.64	1.12	1.93	.68	1.21	2.09	15
16	.67	1.14	2.15	.68	1.15	1.96	.74	1.24	2.11	16
17	.69	1.18	2.20	.69	1.19	1.97	.76	1.28	2.13	17
18	.70	1.24	2.24	.71	1.21	1.98	.77	1.31	2.14	18
19	.72	1.27	2.43	.75	1.25	2.02	.80	1.34	2.19	19
20	.73	1.35	2.48	.76	1.27	2.05	.81	1.35	2.21	20
21	.82	1.43	2.63	.77	1.28	2.12	.84	1.36	2.30	21
22	.86	1.48	2.73	.78	1.30	2.25	.85	1.41	2.44	22
23	.92	1.57	2.85	.79	1.32	2.32	.86	1.43	2.49	23
24	.96	1.65	3.05	.80	1.33	2.44	.87	1.44	2.63	24
25	.99	1.70	3.17	.85	1.44	2.51	.97	1.67	2.95	25
26	1.01	1.79	3.38	.86	1.45	2.62	1.00	1.68	2.96	26
27	1.14	1.90	3.59	.90	1.51	2.73	1.04	1.74	3.19	27
28	1.20	2.12	3.91	.94	1.54	2.84	1.11	1.80	3.31	28
29	1.27	2.32	4.34	.97	1.61	2.92	1.13	1.87	3.39	29
30	1.28	2.43	4.55	1.01	1.66	2.96	1.18	1.94	3.46	30
31	1.46	2.64	4.78	1.11	1.71	3.07	1.35	2.07	3.73	31
32	1.66	2.86	5.30	1.13	1.77	3.17	1.36	2.15	3.80	32
33	1.78	3.17	5.84	1.17	1.88	3.27	1.42	2.26	3.99	33
34	1.99	3.61	6.49	1.23	2.13	3.39	1.49	2.55	4.15	34
35	2.21	3.94	6.92	1.33	2.28	3.82	1.61	2.67	4.66	35
36	2.52	4.47	7.88	1.53	2.42	4.21	1.87	2.97	5.17	36
37	2.95	5.66	10.24	1.71	2.69	4.76	2.11	3.30	5.84	37
38	4.24	7.70	14.62	1.98	3.00	5.35	2.44	3.53	6.51	38
39	5.19	10.15	17.64	2.18	3.52	5.85	2.67	4.31	6.99	39
40	5.73	13.16	24.61	4.85	8.58	16.60	3.56	5.35	8.58	40

AERIAL WIRE

STANDARD PUT-UP: 50 FT., 75 FT., 100 FT., 1000 FT.

COPPER — AERIAL AND BUS BAR SOLID TINNED

No.	Stranding	Size	Breaking Strength (Pounds)	Type	Nom. Dia. (Inches)
3848	Solid	30	——	Tinned Copper	.010
3847	Solid	28	——	Tinned Copper	.013
3846	Solid	26	——	Tinned Copper	.016
3819	Solid	24	12 Lbs.	Tinned Copper	.020
3818	Solid	22	20 Lbs.	Tinned Copper	.025
3817	Solid	20	31 Lbs.	Tinned Copper	.032
3816	Solid	18	49 Lbs.	Tinned Copper	.040
3815	Solid	16	73 Lbs.	Tinned Copper	.051
3821	Solid	14	124 Lbs.	Tinned Copper	.064
3831	Solid	12	197 Lbs.	Tinned Copper	.081
3841	Solid	10	314 Lbs.	Tinned Copper	.102
3845	Solid	8	480 Lbs.	Tinned Copper	.128

RESISTANCE WIRE #2000

ON PROTECTA-METAL SPOOLS

Recommended for electrical heating appliances and other devices where the hghest quality in performance is required, whose operating temperatures do not exceed 1850°F. Particularly suited for heavy duty rheostats and controls which require compact resistance.

BARE NICKEL CHROMIUM

Size	1 Oz.	¼ Lb.	1 Lb.
14	—	$1.52	$5.56
15	—	1.56	5.65
16	—	1.58	5.73
17	—	1.63	5.80
18	—	1.67	5.87
19	—	1.71	6.02
20	$0.67	1.76	6.17
21	.71	1.85	6.49
22	.72	1.93	6.79
23	.74	2.08	7.44
24	.76	2.22	8.09
25	.82	2.37	8.74
26	.87	2.53	9.39
27	.89	2.57	9.96
28	.92	2.84	10.53
29	1.00	2.98	11.18
30	1.09	3.11	11.83
31	1.14	3.28	12.28
32	1.18	3.43	12.73
33	1.31	3.79	14.73
34	1.44	4.16	16.73
35	1.58	4.55	17.71
36	1.71	4.94	18.69
37	2.22	6.50	23.86
38	2.74	8.05	29.03
39	2.86	8.39	31.62
40	2.98	8.95	34.20

BUS BAR WIRE #2000

BARE COPPER WIRE

Size	¼ Lb.	½ Lb.	1 Lb.
14	$0.48	$0.86	$1.38
15	.50	.88	1.42
16	.51	.94	1.58
17	.52	.96	1.60
18	.54	.97	1.62
19	.55	.99	1.65
20	.56	1.01	1.69
21	.57	1.02	1.73
22	.59	1.03	1.77
23	.60	1.05	1.80
24	.61	1.08	1.82
25	.62	1.08	1.83
26	.63	1.10	1.86
27	.64	1.12	1.88
28	.65	1.14	1.95
29	.66	1.15	1.99
30	.67	1.16	2.00
31	.68	1.18	2.04
32	.70	1.19	2.08
33	.71	1.20	2.14
34	.72	1.21	2.19
35	.73	1.24	2.28
36	.74	1.27	2.37
37	.75	1.37	2.49
38	.78	1.47	2.61
39	.79	1.52	2.64
40	.81	2.53	2.68

TINNED COPPER WIRE

Size	¼ Lb.	½ Lb.	1 Lb.
14	$0.56	$0.97	$1.52
15	.61	1.05	1.63
16	.65	1.14	1.69
17	.67	1.16	1.71
18	.70	1.19	1.73
19	.72	1.21	1.76
20	.74	1.23	1.80
21	.75	1.24	1.84
22	.76	1.25	1.88
23	.77	1.26	1.91
24	.78	1.27	1.93
25	.79	1.29	1.94
26	.81	1.30	1.95
27	.82	1.32	2.10
28	.85	1.37	2.28
29	.87	1.43	2.30
30	.89	1.48	2.32
31	.92	1.54	2.37
32	.94	1.59	2.41
33	.96	1.65	2.47
34	.98	1.70	2.52
35	.99	1.74	2.61
36	1.00	1.76	2.70
37	1.01	1.81	2.82
38	1.03	1.87	2.94
39	1.04	1.92	2.97
40	1.05	1.98	3.01

Only a partial listing. Ask your local distributor for the complete CONSOLIDATED CATALOG

© United Technical Publications

TINNED COPPER SHIELDING

SHIELDING AND BONDING TYPE CABLE

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



FLAT BRAID

No.	Approx. I.D.	Size & Number of Wires	Approx. AWG	Carrying Capacity (Amperes)
1386	1/32"	16x36	24	7
1387	3/64"	24x36	23	7
1388	3/32"	48x36	19	12
1389	7/64"	72x36	18	14
1390	1/8"	96x36	18	15
1391	3/16"	120x36	15	23
1392	1/4"	168x36	14	30
1393	3/8"	288x36	11	50
1394	1/2"	386x36	10	55
1395	5/8"	528x36	10	61
1396	3/4"	832x36	7	80
1397	25/32"	832x36	7	80
1398	1"	912x36	7	84
1399	1 3/8"	336x30	7	105



TUBULAR BRAID PER QQ-B-575

1310	1/32"	24x36	22	7
1311	1/16"	48x36	19	11
1312	5/64"	72x36	18	16
1314	7/64"	96x36	16	19
1315	1/8"	120x36	15	25
1316	5/32"	240x36	12	40
1317	11/64"	168x36	14	32
1318	13/16"	192x34	11	46
1319	1/4"	384x36	10	53
1320	9/32"	120x30	9	60
1321	3/8"	384x36	10	53
1322	7/16"	240x30	6	90
1323	1/2"	528x36	9	62
1324	9/16"	480x30	3	145
1325	21/32"	768x30	1	190
1326	25/32"	864x36	7	88



OVAL COMMERCIAL BRAID

1340	1/32"	24x34	20	9
1341	1/16"	32x34	19	11
1342	7/64"	64x34	16	20
1343	1/8"	72x34	15	25
1344	11/64"	120x34	14	32
1345	3/16"	144x34	13	38
1346	1/4"	168x34	12	41
1347	3/8"	192x34	11	46
1348	1/2"	336x34	9	62
1349	5/8"	384x34	8	64
1350	11/16"	480x34	7	81
1351	25/32"	528x34	7	85

TEST PROD WIRE

STANDARD SPOOL PUT-UP: 10 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

Single conductor, extra flexible stranded tinned soft annealed copper, wrap, color coded rubber insulation.



No.	Size	Stranding	Nom. Wall Thickness	Voltage Breakdown	Nominal O.D.
1001	20	41x36	.043	10,000	.140
1002	18	65x36	.045	12,000	.140
1006	18	65x36	.088	25,000	.230

MILITARY TYPE MIL-W-13169B

1007	18	65x36	.047	12,000	.150

HIGH VOLTAGE AND ANODE LEAD CABLE

STANDARD SPOOL PUT-UP: 25 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

Flame Retardant Polyethylene Plastic Insulation for high voltage leads to cathode-ray tubes in television receivers, oscilloscopes, power supplies and other uses requiring a high-voltage cable. Special features: minimum surface leakage, corona resistance and high dielectric strength.



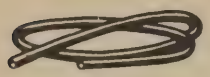
No.	Size	Description	Stranding	Inches	Working Volts	Nom. O.D.
4601	20	Extra flexible tinned copper wire; Flame retardent Polyethylene Plastic Insulation; red cellulose acetate yard braid with 2 white tracers; lacquer coating.	7x28	.035	10,000	.136
4611	20	Same as No. 4601 except heavier insulation; solid red braid.	7x28	.065	20,000	.198
4616	20	Extra flexible tinned copper flame retardant polyethylene insulation, White.	10x30	.035	10,000	.108
4621	20	Same as No. 4616 except heavier insulation, White & Red.	10x30	.065	20,000	.168
4622	18	Same as No. 4621 except .015" red PVC outer jacket.	41x34	.057	40,000	.209
4623	22	Same as No. 4622 except outer .020" PVC jacket. Colors black, red and blue.	7x30	.030	17.000	.130

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE



DAFLEX 105 PLASTIC TUBING



105°C POLYVINYLCHLORIDE (PVC) MEETS MIL-I-631D SPECS

Specifically compounded vinyl resins for superior all around performance. UL approved for 105°C, conforms to Spec MIL-I-631D Type F, Form U, Grades A and C. Class 1 and 2, Category 1. Resistant to heat, oil, water, chemical corrosion, fungi and aging. Very hi abrasion resistance. Will retain its flexibility. Suitable for covering and protecting wires and cables. Designed for electrical, electronic and aircraft applications. Non-flammable. Meets ASTM—D876, ASTM—D922.

D105 compounded with non-migratory resin type plasticizors. Retains its flexibility, permitting it to cling and protect irregular shapes. D105 snakes well under practically all conditions.

DIMENSIONAL TOLERANCES OF DAFLEX 105

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Nom. Wall	Specify Std. Put-Up Spool or Coil	ASTM Tolerance, Inches		Wall Thickness Inches
D105-24	24	808	.022"	.012"	25', 100', 1000'	.020	.027	.012 ± .002
D105-22	22	811	.027"	.012"	25', 100', 1000'	.025	.032	.012 ± .002
D105-20	20	813	.034"	.016"	25', 100', 1000'	.032	.039	.016 ± .003
D105-19	19	—	.038"	.016"	100', 1000'	.044	.036	.016 ± .003
D105-18	18	814	.042"	.016"	25', 100', 1000'	.040	.049	.016 ± .003
D105-17	17	—	.047"	.016"	100', 1000'	.054	.045	.016 ± .003
D105-16	16	815	.053"	.016"	25', 100', 1000'	.051	.061	.016 ± .003
D105-15	15	—	.059"	.016"	100', 500'	.067	.057	.016 ± .003
D105-14	14	816	.066"	.016"	25', 100', 500'	.064	.072	.016 ± .003
D105-13	13	—	.076"	.016"	100', 500'	.080	.072	.016 ± .003
D105-12	12	817	.085"	.016"	25', 100', 500'	.081	.089	.016 ± .003
D105-11	11	—	.095"	.016"	100', 500'	.101	.091	.016 ± .003
D105-10	10	825	.106"	.016"	25', 100', 500'	.102	.112	.016 ± .003
D105-9	9	—	.118"	.020"	100', 500'	.124	.114	.020 ± .003
D105-8	8	818	.135"	.020"	25', 100', 500'	.129	.141	.020 ± .003
D105-7	7	—	.148"	.020"	100', 500'	.158	.144	.020 ± .003
D105-6	6	826	.166"	.020"	25', 100', 250'	.162	.178	.020 ± .003
D105-5	5	—	.186"	.020"	100', 250'	.198	.182	.020 ± .003
D105-4	4	819	.208"	.020"	25', 100', 250'	.204	.224	.020 ± .003
D105-3	3	—	.234"	.020"	100', 250'	.249	.229	.020 ± .003
D105-2	2	820	.263"	.020"	100', 250'	.258	.278	.020 ± .003
D105-1	1	—	.295	.020"	100', 250'	.311	.289	.020 ± .003
D105-0	0	—	.330"	.020"	100', 250'	.347	.325	.020 ± .003
D105-5/16"	5/16"	821	.312"	.025"	100', 250'	.3125	.334	.025 ± .003
D105-3/8"	3/8"	822	.375"	.025"	100', 250'	.375	.399	.025 ± .003
D105-7/16"	7/16"	—	.438"	.025"	100', 250'	.462	.438	.025 ± .003
D105-1/2"	1/2"	823	.500"	.025"	100', 250'	.500	.524	.025 ± .003
D105-9/16"	9/16"	—	.562"	.030"	50', 100'	.592	.562	.030 ± .003
D105-5/8"	5/8"	824	.625"	.030"	50', 100'	.625	.655	.030 ± .005
D105-3/4"	3/4"	827	.750"	.035"	50', 100'	.750	.786	.035 ± .005
D105-7/8"	7/8"	860	.875"	.035"	50', 100'	.875	.911	.035 ± .005
D105-1"	1"	861	1.000"	.035"	50'	1.000	1.036	.035 ± .005
D105-1 1/8"	1 1/8"	—	1.125"	.040"	50'	1.125	1.161	.035 ± .005
D105-1 1/4"	1 1/4"	862	1.250"	.040"	50'	1.250	1.286	.040 ± .005
D105-1 3/8"	1 3/8"	—	1.375"	.040"	50'	1.375	1.411	.040 ± .005
D105-1 1/2"	1 1/2"	863	1.500"	.045"	50'	1.500	1.536	.045 ± .005
D105-1 3/4"	1 3/4"	863	1.750"	.055"	50'	1.812	1.750	.055 ± .008
D105-2"	2"	829	2.000"	.060"	50'	2.000	2.070	.060 ± .010
D105-2 1/4"	2 1/4"	864	2.250"	.065"	50'	2.250	2.330	.065 ± .010
D105-2 1/2"	2 1/2"	865	2.500"	.070"	50'	2.500	2.590	.070 ± .010

IN STOCK

PROPERTIES OF DAFLEX-105 TUBING

Recommended for Temperatures to
105°C (220°F)

Low Temperature Flexibility to
—30°C

Dielectric Strength — .020" Wall
800 V/MIL

Dielectric Constant
6.0

Tensile Strength — Min. (PSI)
2700

Ultimate Elongation
300%

Oil Resistance
Excellent

Fungus Resistance
Excellent

Flammability
Self-Extinguishing

Corrosion and Abrasion Resistance
Excellent

COLORS AVAILABLE FROM STOCK:
All sizes 24 thru 2½": Clear, black, white.

ALSO STOCKED—Sizes 2 thru 7: Clear, black, white, yellow.
Sizes 8 thru 14: All above plus green, red.
Sizes 15 thru 24: All above plus blue. **Additional Colors Available.**

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

DAFLEX AND DAFLON TUBING

PLASTIC - FIBERGLASS - TEFLON TUBING COMPARATIVE PROPERTIES CHART

DAFLEX AND DAFLON TUBING	D105	D74	D130	D1200	DTT500 DTT550
Maximum Operating Temperature	105°C	80°C	130°C	1200°F	Continuous Service 250°C
Maximum Low Temperature Flexibility	—20°C	—94°C	—20°C	—	—90°C
Dielectric Strength Dry-V/MIL	1000 @ .015 Wall 900 @ .030 Wall	650 @ .015 Wall 300 @ .030 Wall	4000	Determined by Space Factor	1400 @ .010 Wall 850 @ .020 Wall
Dielectric Constant	6.0	4.5	7.0	—	2.2
Flammability	Self-Extinguishing	Self Extinguishing	Self Extinguishing	Will not burn	Non-flammable
Tensile Strength (PSI)	2700-3300	2200	1500-2000 (coating material only)	—	5000 - 7500
Ultimate Elongation	300 - 400%	375 - 450%	300 - 400%	—	300 - 500%
Minimum Volume Resistance Ohm-CM	10^{13}	10^{9}	10^{7}	—	10^{17}
Fungus Resistance	Excellent	Excellent	Good	Excellent	Completely Inert
Oil Resistance	Excellent	Excellent	Excellent	Excellent	Superior
Abrasion Resistance	Excellent	Fair	Excellent	—	Fair
Chemical Corrosion Resistance	Excellent	Good	Excellent	Excellent	Completely Inert
Applicable Specs	MIL-I-631D UL E-28044 Grade A & C Type F, Form U Class 1 & 2 Category 1 ASTM-D876 ASTM-D922 MIL-T-5438	MIL-I-7444B MIL-I-22076B	MIL-I-3190B Class B, Grade B ASTM-D372 NEMA-VS-1 MIL-I-21557 MIL-T-5438 UL E-20344	NEMA VSI	MIL-T-22129C MIL-P-14078A AMS-3651B AMS-3653 AMS-3654 AMS-3655 MIL-C-17D UL E-33531
Gamma Radiation Dosage to 25% Degradation Ergs/Gram	10^{10}	10^{9}	10^{9}	—	10^{7}
Corona Resistance	Excellent	Good	Excellent		Good

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DAFLON TEFLON® SPAGHETTI TUBING

Daflon 500 and 550 tubing is extruded from Dupont Tetrafluoroethylene resin and is unmatched by any other tubing for use in applications for hi frequencies and hi temperatures. Rated for continuous operation of 250°C it retains its toughness and flexibility thruout. Has high resistance to fatigue and stresses. Will not shrink back during soldering operation. Non-flammable, flexible, it permits miniaturization of design and compactness. Lowest coefficient of friction. Inert to all fungus growth. Conforms to **MIL-I-22129C Spec.** AMS 3651B, 3653B, 3654, 3655.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73°F.	D638-52T	1500-300 Lb/Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122°F.		
1200 Lb/Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb/Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp., 6 Lb/Sq. In.	D648B-45T	250°C
Dielectric Strength, .080"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10^{15} Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	$3.6x10^{4}$ Megohms
Dielectric Constant, 60 to 10^{8} Cycles	D150-54T	2.00
Power Factor, 60 to 10^{8} Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

DAFLON THIN WALL TEFLON® TUBING (DTT-500)
MIL-I-22129C

DAFLON No.	Size	Nom. I.D.	Nom. Wall Thickness	Specify Std. Put-Up Spool or Coil
DTT500-32	32	.011"	.0085"	100', 500', 1000'
DTT500-30	30	.012"	.009"	100', 500', 1000'
DTT500-28	28	.015"	.009"	100', 500', 1000'
DTT500-26	26	.018"	.010"	100', 500', 1000'
DTT500-24	24	.022"	.010"	25', 50', 100', 500', 1000'
DTT500-22	22	.027"	.010"	25', 50', 100', 500', 1000'
DTT500-20	20	.034"	.012"	25', 50', 100', 500', 1000'
DTT500-19	19	.038"	.012"	100', 500', 1000'
DTT500-18	18	.042"	.012"	25', 50', 100', 500', 1000'
DTT500-17	17	.047"	.012"	100', 500', 1000'
DTT500-16	16	.053"	.012"	25', 50', 100', 500', 1000'
DTT500-15	15	.059"	.012"	100', 500', 1000'
DTT500-14	14	.066"	.012"	25', 50', 100', 500', 1000'
DTT500-13	13	.076"	.012"	100', 500', 1000'
DTT500-12	12	.085"	.012"	25', 50', 100', 500', 1000'
DTT500-11	11	.095"	.012"	100', 500', 1000'
DTT500-10	10	.106"	.012"	25', 50', 100', 500', 1000'
DTT500-9	9	.118"	.015"	100', 500', 1000'*
DTT500-⅛	⅛	.125"	.015"	25', 50', 100', 500', 1000'
DTT500-8	8	.133"	.015"	25', 50', 100', 500', 1000'*
DTT500-7	7	.148"	.015"	100', 500', 1000'*
DTT500-6	6	.166"	.015"	25', 50', 100', 500', 1000'*
DTT500-5	5	.186"	.015"	100', 500', 1000'*
DTT500-4	4	.208"	.015"	25', 50', 100', 500', 1000'*
DTT500-3	3	.234"	.015"	100', 500', 1000'*
DTT500-¼	¼	.250"	.015"	25', 50', 100', 500', 1000'
DTT500-2	2	.263"	.015"	25', 50', 100', 500', 1000'*
DTT500-1	1	.294"	.015"	100', 500', 1000'*
DTT500-5/16	5/16	.312"	.015"	25', 50', 100', 500', 1000'
DTT500-0	0	.330"	.015"	25', 50', 100', 500', 1000'*
DTT500-⅜	⅜	.390"	.020"	50', 100'*
DTT500-7/16	7/16	.453"	.020"	50', 100'*
DTT500-½	½	.515"	.025"	25', 50', 100'*
DTT500-9/16	9/16	.583"	.025"	25', 50', 100'*
DTT500-⅝	⅝	.640"	.030"	25', 50', 100'*
DTT500-¾	¾	.765"	.030"	25', 50', 100'*
DTT500-⅞	⅞	.895"	.030"	25', 50', 100'*
DTT500-1"	1"	1.025"	.030"	25', 50', 100'*
DTT500-1⅛"	1⅛"	1.150"	.030"	25', 50', 100'*
DTT500-1¼"	1¼"	1.275"	.030"	25', 50', 100'*

*Random Lengths in Coils.

STOCK COLORS AVAILABLE:
Natural, Red, Black, Yellow, Blue, Brown, Green, Orange, Gray, Violet, White.
If No Color Is Specified, Natural Will Be Supplied

SMALL PIECE CUTTING AVAILABLE TO ORDER

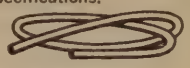
STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. **DTT500-⅜** thru 1¼" available in Natural. Additional Colors, Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

•

Tracer Colors Available



•

We Invite Your Inquiries For Your Special Requirements

•

WIRE — CABLE — TUBING DIVISION

PROPERTIES OF DAFLON 500 & 550 TEFLON TUBING

Continuous Service to	250°C
Low Temperature Flexibility	—90°C
Color Stability	
Dielectric Constant	2.0
Dielectric Strength	500 to 1000 V/MIL
Fungus, Oil, Chemical Corrosion	Completely Inert

DAFLON STANDARD WALL TEFLON® TUBING
(DTT-550) MIL-I-22129C Spec.

FOR USE WHERE GREATER MECHANICAL STRENGTH IS INDICATED

DAFLON No.	Nom. Size	Nom. I.D.	Nom. Wall Thickness	Spool or Coil Std. Put-Up
DTT550-24	24	.022"	.012"	100'
DTT550-22	22	.027"	.012"	100'
DTT550-20	20	.034"	.016"	100'
DTT550-19	19	.038"	.016"	100'
DTT550-18	18	.042"	.016"	100'
DTT550-17	17	.047"	.016"	100'
DTT550-16	16	.053"	.016"	100'
DTT550-15	15	.059"	.016"	100'
DTT550-14	14	.066"	.016"	100'
DTT550-13	13	.076"	.016"	100'
DTT550-12	12	.085"	.016"	100'
DTT550-11	11	.095"	.016"	100'
DTT550-10	10	.106"	.016"	100'
DTT550-9	9	.118"	.020"	100'*
DTT550-⅛	⅛	.125"	.020"	100'
DTT550-8	8	.133"	.020"	100'*
DTT550-7	7	.148"	.020"	100'*
DTT550-6	6	.166"	.020"	100'*
DTT550-5	5	.186"	.020"	100'*
DTT550-4	4	.208"	.020"	100'*
DTT550-3	3	.234"	.020"	100'*
DTT550-¼	¼	.250"	.020"	100'
DTT550-2	2	.263"	.020"	100'*
DTT550-1	1	.294"	.020"	100'*
DTT550-5/16	5/16	.312"	.025"	100'
DTT550-0	0	.330"	.020"	100'*

STOCK COLORS: Natural
Available All Other Colors.

*Random Lengths in Coils.
Made from Hi Molecular Weight Virgin "TEFLON." TFE-Dupont.

DAFLEX VINYL COATED FIBERGLASS TUBING 130°C
MEETS MIL-I-3190B SPECS (ASTM, NEMA GRADE B-B-1)



DAFLEX 130, Class B, Grade B-1 is recommended for continuous temperatures up to 130°C. Constructed to provide a tough, flexible, heat resistant tubing. Made from an inorganic fiberglass base sleeving with heat resistant coating, extremely flexible tough plastic insulation. Will not support combustion. Meets MIL-I-3190B, NEMA VSI ASTM D372. MIL-1-21557.

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil*
D130-24	24	889	.022"	100', 1000'
D130-22	22	890	.027"	100', 1000'
D130-20	20	891	.034"	25', 100', 1000'
D130-19	19	—	.038"	100', 1000'
D130-18	18	893	.042"	25', 100', 1000'
D130-17	17	—	.047"	100', 1000'
D130-16	16	894	.053"	25', 100', 1000'
D130-15	15	—	.059"	100', 1000'
D130-14	14	895	.066"	25', 100', 500'
D130-13	13	—	.076"	100', 500'
D130-12	12	800	.085"	25', 100', 500'
D130-11	11	—	.095"	100', 500'
D130-10	10	807	.106"	25', 100', 500'
D130-9	9	—	.118"	100', 500'
D130-8	8	801	.133"	25', 100', 500'

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil
D130-7	7	—	.148"	100', 250'
D130-6	6	802	.166"	100', 250'
D130-5	5	—	.186"	100', 250'
D130-4	4	805	.208"	100', 250'
D130-3	3	—	.234"	100', 250'
D130-2	2	806	.263"	100', 250'
D130-1	1	—	.294"	100' 250'
D130-0	0	803	.330"	100' 250'
D130-3/8"	3/8"	804	.375"	100' 250'
D130-7/16"	7/16"	—	.438"	100' 250'
D130-½"	½"	899	.500"	100' 250'
D130-5/8"	5/8"	896	.625"	100' 250'
D130-¾"	¾"	—	.750"	100' 250'
D130-⅞"	⅞"	—	.875"	100' 250'
D130-1"	1"	—	1.018"	100' 250'

The above Cat. No.'s also available in 250' put-up.

All the Above Tubing Can Be Ordered Cut to Your Specifications

Your Inquiries Invited

COLORS AVAILABLE FROM STOCK

#24 thru #15: Black, Red, Green, Yellow, Brown, Blue
#14 thru #2: Black, Red, Green, Yellow
#1 thru ½": Black, Yellow
#5/8" thru 1": Black

DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

24	.022	.020-.027
22	.027	.025-.032
20	.034	.032-.039
19	.038	.044-.036
18	.042	.040-.049
17	.047	.054-.045
16	.053	.051-.061
15	.059	.067-.057
14	.066	.064-.072
13	.076	.080-.072
12	.085	.081-.089
11	.095	.101-.091
10	.106	.102-.112
9	.118	.124-.114
8	.133	.129-.141
7	.148	.158-.144
6	.166	.162-.178
5	.186	.198-.182
4	.208	.204-.224
3	.234	.249-.229
2	.263	.258-.278
1	.294	.311-.289
0	.330	.347-.325
3/8	.375	.399-.375
7/16	.4375	.462-.438
½	.500	.500-.524
5/8	.625	.625-.655
¾	.750	.786-.750
⅞	.875	.911-.078
1"	1.000	1.036-1.000



PROPERTIES OF DAFLEX 130 VINYL COATED FIBERGLASS

Recommended for Temperatures to 130°C

Ins. Resistance
Max. Low Temperature Flexibility —20°C
Over 1,000,000 Megs.
Dielectric Strength 4000 V/MIL
Dielectric Constant 7.0
Oil Resistance — Excellent
Tensile Strength — Min. (PSI) 1500
Ultimate Elongation 350%
Non-Flammable
Will not support Combustion, Abrasion, Oil, Chemical Corrosion Resistance Excellent
Fungus Resistance Good
Gamma Radiation Dosage to 25% 10^{9}
Degradation ERGS/GRAM
Color Stability even on Prolonged Baking at Elevated Temperatures

Hot Air Gun
FOR DAFLEX SHRINKABLE TUBING



DABURN No.

HG1—For SH265, SH275, SH290 & SH160 Series
HG2—For SH400 & SH621 Series

A flameless heat source; light in weight; portable and/or permanent mounting.

An oven, hot liquids, radiant heat, open flame or soldering iron may also be used for all types of shrinkable tubing with excellent results.

See accessories on page 27.

© United Technical Publications

DABURN

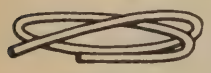
DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

LOW TEMPERATURE TUBING

DAFLEX 74 EXTRUDED PLASTIC TUBING

LOW TEMPERATURE PER MIL-SPEC MIL-I-7444B MIL-I-22076B TO −94°C



Low temperature applications at sub-zero. Meets Mil spec. Fungus resistant. 750 V/Mil dielectric strength. Tensile strength 2200 ps. Elongation — 360%

DAFLEX No.	Size	Nom. I.D.	Nom. Wall
D74-24	24	.022″	.012″
D74-22	22	.027″	.012″
D74-20	20	.034″	.016″
D74-19	19	.038″	.016″
D74-18	18	.042″	.016″
D74-17	17	.047″	.016″
D74-16	16	.053″	.016″
D74-15	15	.059″	.016″
D74-14	14	.066″	.016″
D74-13	13	.076″	.016″
D74-12	12	.085″	.016″
D74-11	11	.095″	.016″
D74-10	10	.106″	.016″
D74-9	9	.118″	.020″
D74-8	8	.133″	.020″
D74-7	7	.148″	.020″
D74-6	6	.166″	.020″
D74-5	5	.186″	.020″
D74-4	4	.208″	.020″
D74-3	3	.234″	.020″
D74-2	2	.263″	.020″
D74-1	1	.294″	.020″
D74-0	0	.330″	.020″
D74-5/16	5/16	.312″	.025″
D74-3/8	3/8	.375″	.025″
D74-7/16	7/16	.438″	.025″
D74-1/2	1/2	.500″	.025″
D74-9/16	9/16	.562″	.030″
D74-5/8	5/8	.625″	.030″
D74-3/4	3/4	.750″	.035″
D74-7/8	7/8	.875″	.035″
D74-1″	1″	1.000″	.035″
D74-1 1/4″	1 1/4″	1.250″	.040″
D74-1 3/8″	1 3/8″	1.375″	.040″
D74-1 1/2″	1 1/2″	1.500″	.045″
D74-1 3/4″	1 3/4″	1.750″	.055″
D74-2″	2″	2.000″	.060″
D74-2 1/4″	2 1/4″	2.250″	.065″
D74-2 1/2″	2 1/2″	2.500″	.070″

STANDARD COLOR: CLEAR (NATURAL) ADDITIONAL COLORS AVAILABLE TO ORDER.
STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

FIBERGLASS SLEEVING

DAFLEX 1200–FOR HIGH TEMPERATURE APPLICATIONS TO 1200°F

FLEXIBLE FIBERGLASS SLEEVING



Extremely flexible class H, it is non-flammable and treated for removal of all organic matter. Glass braid is fray resistant. Will provide maximum mechanical strength. Tightly braided. Applicable specs—Nema VSI. Dielectric strength determined by space factor.

DAFLEX No.	Size	Nom. I.D.
D1200-24	24	.022″
D1200-22	22	.027″
D1200-20	20	.034″
D1200-19	19	.038″
D1200-18	18	.042″
D1200-17	17	.047″
D1200-16	16	.053″
D1200-15	15	.059″
D1200-14	14	.066″
D1200-13	13	.076″
D1200-12	12	.085″
D1200-11	11	.095″
D1200-10	10	.106″
D1200-9	9	.118″
D1200-8	8	.133″
D1200-7	7	.148″
D1200-6	6	.166″
D1200-5	5	.186″
D1200-4	4	.208″
D1200-3	3	.234″
D1200-2	2	.263″
D1200-1	1	.294″
D1200-0	0	.330″
D1200-3/8″	3/8″	.387″
D1200-7/16″	7/16″	.450″
D1200-1/2″	1/2″	.512″
D1200-5/8″	5/8″	.640″
D1200-3/4″	3/4″	.768″
D1200-7/8″	7/8″	.893″
D1200-1″	1″	1.018″

STANDARD COLOR: NATURAL. ADDITIONAL COLORS AVAILABLE TO ORDER.
STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

ALL THE ABOVE CAN BE CUT AND MARKED TO YOUR SPECIFICATIONS.

DAFLEX AND DAFLON SHRINKABLE TUBING COMPARATIVE PROPERTIES CHART

DAFLEX AND DAFLON HEAT SHRINKABLE TUBING	Shrinkable Irradiated Polyolefin SH-275	Shrinkable Semi-Rigid Polyolefin SH-290	Shrinkable Vinyl (PVC) In Colors SH-265	Shrinkable Teflon* FEP SH-400	Shrinkable Teflon* TFE SH-621	Shrinkable Neoprene* SH-160
Continuous Operating Temperature	135°C 275°F	135°C 275°F	105°C 220°F	200°C 400°F	250°C 480°F	212°F
Shrinkage Temperature	120°C 250°F	120°C 250°F	95°C 200°F	300°F	327°C 621°F	160°F
Shrinkage Ratio Minimum	2:1 (50%)	2:1 (50%)	2:1 (50%)	1¼:1	1½:1	3:1 (66⅔%)
Longitudinal Change	5%	5%	10%	10 - 20%	10 - 20%	50%
Tensile Strength, PSI Minimum	2400	2600	2000	3000	3000	1500
Ultimate Elongation %	400	400	200	200	200	400
Low Temperature Flexibility	−55°C −67°F	−55°C −67°F	−10°C +14°F	−67°C −85°F	−67°C −85°F	−55°C −67°F
Specific Gravity (ASTM D792)	1.30 Color Tubing 1.0 Clear Tubing	1.26 Color 1.0 Clear	1.40	2.16	2.20	1.40
V/MIL. Minimum Dielectric Strength (ASTM D149)	500	500	700	500	500	400
Water Absorption Maximum (MIL-I-23053)	.1%	.1%	1%	.01%	.01%	1.0%
Fungus Resistance (MIL-I-7444)	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Corrosion (MIL-I-23053)	Non-corrosive	Non-corrosive	2.0% Max. Per MIL-I-631	Non-corrosive	Non-corrosive	Good
Flammability (MIL-I-23053)	Self-Ext.†	Self-Ext.†	Self-Ext.	Non-flammable	Non-flammable	Self-Ext.
Resistance to Soldering Iron	Good	Good	Poor	Excellent	Excellent	Poor
Applicable Specs	MIL-I-23053B MIL-I-7444B ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 ASTM-14-53T ASTM-150-54T MIL. STD. 104 L-P 406 UL E-39100	MIL-I-2353B MIL-I-7444B ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 MIL. STD. 104 UL E-39100	MIL-I-20353B MIL-I-631 ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 MIL. STD. 104 UL E-28044	SH-400	MIL-I-20353B MIL-I-22129C MIL-I-7444B ASTM-D-638 ASTM-D-149 ASTM-D-792 ASTM-D-150 MIL. Std. 104 L-P 406	MIL-I-23053B
Temperature Limits	−67 to +275°F	−67 to +275°F	−25 to +221°F	−275 to +400°F	−275 to +500°F	−67 to 212°F

* Dupont. † Clear tubing is not flame retardant.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

HEAT SHRINKABLE TUBING

SHRINKABLE IRRADIATED POLYOLEFIN TUBING

This series is designed for maximum mechanical strength at stress or points of connection. It is strong and abrasion resistant and is supplied in expanded sizes. It insulates, jackets, splices, encapsulates, weatherproofs components, connectors, cables and irregular shaped objects. When exposed to heat (300°F) the tubing shrinks 50% in diameter, 5% longitudinal contraction. Controlled shrinkage to exact requirement takes place. Meets or exceeds MIL-I-23053B/5 Class 1 and 2. Available with UL approval. AMS 3636B 3637A.



Cat. Nos. Indicate EXPANDED Size. Shrinkage Ratio: 2:1 (50%)

DAFLEX SH-275 All Purpose	DAFLEX SH-290 Semi-Rigid	Equiv. I.D. AWG	Before Shrinkage As Supplied Expand. I.D.	Recovered I.D.	Recovered Nom. Wall*	Standard Package
SH-275-1/16"	SH-290-1/16"	22-20	.063"	.031"	.016"	100', 250'
SH-275-3/32"	SH-290-3/32"	18-16	.093"	.046"	.020"	100', 250'
SH-275-1/8"	SH-290-1/8"	14	.125"	.062"	.020"	100', 250'
SH-275-3/16"	SH-290-3/16"	12-10	.187"	.093"	.020"	100', 250'
SH-275-1/4"	SH-290-1/4"	8	.250"	.125"	.025"	100', 250'
SH-275-5/16"	SH-290-5/16"	6	.312"	.156"	.025"	100', 250'
SH-275-3/8"	SH-290-3/8"	4	.375"	.187"	.025"	100', 250'
SH-275-1/2"	SH-290-1/2"	2	.500"	.250"	.025"	100'
SH-275-3/4"	SH-290-3/4"	3/8	.750"	.375"	.030"	100'
SH-275-1"	SH-290-1"	1/2	1.000"	.500"	.035"	100'
SH275-1 1/2"	SH290-1 1/2"	3/4"	1.500"	.750"	.040"	12'** ,24'**
SH275-2"	SH290-2"	1"	2.000"	1.000"	.045"	12'**,24'**
SH275-3"	SH290-3"	1 1/2"	3.000"	1.500"	.050"	12'**,24'**
SH275-4"	SH290-4"	2"	4.000"	2.000"	.055"	12'**,24'**

STOCK COLORS: Black, White, Red, Clear. Additional colors available. Although processed by hi-energy radiation the **Daflex SH-275** and **SH-290** shrinkable tubings **do not** at any time become radioactive or possess any residual radioactivity. *Wall thickness will be less if recovery is restricted. **4' lengths. SHRINKABLE POLYOLEFIN END CAP AVAILABLE.

SPECIFICATIONS—All Tests Made on Tubing in Recovered Dimension

Continuous Operating Temp: 135°C	Shrinkage Ratio: 2:1 (50%)
Longitudinal Change: 5% Max.	Dielectric Strength: 500 V/MIL Min.
Tensile Strength: 1500 PSI Min.	Dielectric Constant: 2.87 Max.
Ultimate Elongation: 200% Min.	Corrosive Resistance: Non-Corrosive
Special Gravity: 1.29 Max.	Resistance to Soldering Iron: Excellent
Low Temp. Flexibility (—54°C): No Cracking	Fuel, Oil, Solvent, Acid, Alkali, Hydraulic Fluid Resistance: Excellent

DABURN SHRINKABLE POLYVINYLCHLORIDE ALL PURPOSE

Shrinkage Ratio: 2:1 (50%)

Flexible, shrinks 50% on heat application, less than 10% longitudinal contraction. Suitable for insulating components and cables in varying shapes and diameters. Has a higher resistance to oils than low density polyethylene. Conforms to MIL-I-631D, Type F, Form U, Grade A and C, Class 1 and 2, Cat. 1. Controlled shrinkage on application of heat to predetermined size takes place at temperatures below 200°F (one minute or less). Meets or exceeds MIL-I-23053B/2 Class 2.

OPERATING TEMPERATURE: —20° to +105°C.



CAT. NOS. INDICATE EXPANDED SIZE

DAFLEX SH-265	Equiv. I.D. AWG	Before Shrinking As Supplied Expanded I.D.	Max. Recovered I.D.	Recovered Nom. Wall†	Standard Package
SH-265-1/16"	22-20	.063"	.031"	.020"	100', 250'
SH-265-3/32"	18-16	.093"	.046"	.025"	100', 250'
SH-265-1/8"	14	.125"	.062"	.025"	100', 250'
SH-265-3/16"	12-10	.187"	.093"	.025"	100', 250'
SH-265-1/4"	8	.250"	.125"	.025"	100', 250'
SH-265-5/16"	6	.312"	.156"	.025"	100', 250'
SH-265-3/8"	4	.375"	.187"	.025"	100', 250'
SH-265-1/2"	2	.500"	.250"	.025"	25', 100'
SH-265-3/4"		.750"	.375"	.025"	25', 100'
SH-265-1"		1.000"	.500"	.030"	25', 50'
SH-265-1 1/2"		1.500"	.750"	.035"	25', 50'
SH-265-2"		2.000"	1.000"	.040"	25', 50'

COLORS: Black, White, Clear, Red. Additional Colors Available.

PACK ASSORTMENTS

DAFLEX Cat. No.	Lengths Per Pack	Tubing Size
SH-275-PA1	30	1/16" thru 3/16"
SH-275-PA2	16	1/4" thru 3/4"
SH-275-PA3	10	1"

COLORS: Black, White, Clear, Red. Each pack contains an assortment of 6" lengths in mixed sizes and colors (specify).

HEAT SHRINKABLE TEFLON‡ TUBING

DAFLON SH-400 (FEP)

Made with Modified TEFLON‡ FEP will shrink over inserted objects upon exposure to moderate heat. Heretofore, many joints, parts, components, devices could not be protected because of hi temperature required for shrinkage. FEP TEFLON‡, which has a continuous service temperature of 400°F., will shrink at 300°F. Supplied in natural (transparent) color. Complete shrinkage at 350°F. Now, many heat sensitive products can use the permanent protection of TEFLON.* Will not burn or support flame, long lengths available. Will not split, melt, or cold flow. Extruded. Meets MIL-I-23053/11.

DABURN No.	Size	I.D.	Min. Exp. I.D.	Recovered Max. I.D.	Recovered Wall Thickness
SH-400-24	24	.023"	.031"	.027"	.008"
SH-400-22	22	.028"	.036"	.032"	.008"
SH-400-20	20	.034"	.045"	.039"	.008"
SH-400-18	18	.042"	.060"	.049"	.008"
SH-400-16	16	.053"	.075"	.061"	.009"
SH-400-14	14	.066"	.092"	.072"	.009"
SH-400-12	12	.085"	.115"	.089"	.009"
SH-400-10	10	.108"	.141"	.114"	.010"
SH-400-9	9	.118"	.158"	.124"	.010"
SH-400-8	8	.136"	.180"	.143"	.010"
SH-400-7	7	.148"	.197"	.158"	.011"
SH-400-6	6	.170"	.225"	.180"	.011"
SH-400-5	5	.186"	.248"	.198"	.011"
SH-400-4	4	.214"	.290"	.226"	.011"
SH-400-3	3	.234"	.310"	.249"	.011"
SH-400-2	2	.268"	.365"	.280"	.012"
SH-400-1	1	.294"	.400"	.311"	.012"
SH-400-0	0	.338"	.440"	.349"	.012"
SH-400-3/8	3/8"	.375"	.500"	.383"	.015"
SH-400-7/16	7/16"	.437"	.580"	.448"	.020"
SH-400-1/2	1/2"	.500"	.666"	.510"	.020"
SH-400-5/8	5/8"	.625"	.830"	.637"	.025"
SH-400-3/4	3/4"	.750"	1.000"	.764"	.030"
SH-400-7/8	7/8"	.875"	1.170"	.891"	.035"
SH-400-1	1"	1.000"	1.330"	1.020"	.035"

STANDARD PACKAGE: 100 Ft. ‡ DUPONT

DAFLON SHRINK SERIES SH-621

TFE TUBING MIL-I-23053/12

Made of modified TEFLON‡ polytetrafluorethylene will shrink when heated to 621°F. Suitable where hi temp protection is required. Extruded. Will not support combustion, dielectric strength (20 Mil Wall) 850 V/M, low temp. brittle point —66°F, superior chemical resistance.

DAFLON No.	Nominal Tubing Size	Minimum Expanded ID	Recovered Dimensions Maximum ID (1)	Recovered Dimensions Wall Thickness (2)
SH-621-26	26	.046"	.022"	.009"
SH-621-24	24*	.050"	.027"	.010"
SH-621-22	22*	.055"	.032"	.010"
SH-621-20	20*	.060"	.039"	.012"
SH-621-19	19	.065"	.043"	.012"
SH-621-18	18*	.076"	.049"	.012"
SH-621-17	17	.085"	.054"	.012"
SH-621-16	16*	.093"	.061"	.012"
SH-621-15	15	.110"	.067"	.012"
SH-621-14	14*	.120"	.072"	.012"
SH-621-13	13	.140"	.080"	.012"
SH-621-12	12*	.150"	.089"	.012"
SH-621-11	11	.170"	.101"	.012"
SH-621-10	10*	.191"	.112"	.012"
SH-621-9	9	.205"	.124"	.015"
SH-621-8	8*	.240"	.141"	.015"
SH-621-7	7	.270"	.158"	.015"
SH-621-6	6*	.302"	.178"	.015"
SH-621-5	5	.320"	.198"	.015"
SH-621-4	4*	.370"	.224"	.015"
SH-621-3	3	.390"	.249"	.015"
SH-621-2	2*	.430"	.278"	.015"
SH-621-1	1	.450"	.311"	.015"
SH-621-0	0*	.470"	.347"	.015"
SH-621-3/8	3/8"*	.560"	.399"	.020"
SH-621-7/16	7/16"*	.655"	.462"	.020"
SH-621-1/2	1/2"*	.750"	.524"	.020"

STANDARD PACKAGE: 100 Feet. Additional Sizes and Colors to Order.

STANDARD PUT-UP: 36" Straight Lengths — One Foot Minimums.

WALL TOLERANCES: 26 thru 22 ± .002; 20 thru 10 ± .003; 9 thru 0 ± .004.

(*) Stock Sizes.

Daburn No. HG1 — Heat Gun for **SH-265, SH-275, SH-290, SH-160 Series.** **Daburn No. HG2** — Heat Gun for **SH-400** and **SH-621 Series** **PAGE 2, 27.**

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TUBULAR BRAID PER MIL SPEC QQ-B-575

Tinned copper shielded braid mf'd completely round per Mil Spec QQ-B-575. Maintains its round configuration. Shielding coverage is 95% or more. Used in military applications where maximum shielding is required against electrostatic interference. Useful against mechanical abrasion and stresses for cables — as grounding cable.

DABURN No.	Nom. Inside Diam. When Rounded	Construction Total No. of Wires	Carriers	AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2350-1/32	1/32"	24	24	#36	#22	640	7.0 amps.
2350-1/16	1/16"	48	24	#36	#19	1,290	11.0 amps.
2350-5/64	5/64"	72	24	#36	#17	1,900	18.0 amps.
2350-7/64	7/64"	96	24	#36	#16	2,500	22.0 amps.
2350-1/8	1/8"	120	24	#36	#15	3,260	28.0 amps.
2350-5/32	5/32"	240	24	#36	#12	6,200	39.0 amps.
2350-11/64	11/64"	168	24	#36	#14	4,500	32.0 amps.
2350-3/16	3/16"	192	24	#36	#13	5,100	35.0 amps.
2350-13/64	13/64"	312	24	#36	#11	8,200	46.0 amps.
2350-1/4	1/4"	384	24	#36	#10	10,400	53.0 amps.
2350-9/32	9/32"	120	24	#30	# 9	12,060	60.0 amps.
2350-3/8	3/8"	384	48	#36	#10	10,400	53.0 amps.
2350-7/16	7/16"	240	24	#30	# 6	24,120	90.0 amps.
2350-1/2	1/2"	528	48	#36	# 9	13,200	70.0 amps.
2350-9/16	9/16"	528	48	#36	# 9	13,200	70.0 amps.
2351-9/16	9/16"	480	48	#30	# 3	48,240	145.0 amps.
2350-21/32	21/32"	768	48	#30	# 1	77,180	190.0 amps.
2350-11/16	11/16"	720	48	#36	# 7	19,000	82.0 amps.
2350-25/32	25/32"	864	48	#36	# 7	21,750	85.0 amps.
2350-13/16	13/16"	864	48	#36	# 7	21,750	85.0 amps.
2350-7/8†	7/8"	336	48	#30	# 5	33,700	100.0 amps.
2350-1†	1"	384	48	#30	# 4	38,600	120.0 amps.
2350-1 1/8†	1 1/8"	432	48	#30	# 4	43,330	130.0 amps.
2350-1 1/4†	1 1/4"	480	48	#30	# 3	48,150	145.0 amps.
2350-1 3/8†	1 3/8"	528	48	#30	# 3	53,000	150.0 amps.
2350-1 1/2†	1 1/2"	576	48	#30	# 2	57,775	165.0 amps.

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 250 Ft.
Larger Spools Available — Advise.

*Values based on copper in free air at 65°F and intended as a guide only.

†These sizes are mfg. to standards of QQ-B-575 although they are not listed in the specification.

Additional constructions and variations made to order. Also available in **silver plated copper,** bare copper, stainless steel, and nickel plated copper.

TINNED COPPER SHIELDING — FLAT BRAID



Soft annealed tinned copper woven braid, rolled flat at time of manufacture. It is extremely flexible. Used as battery grounding, bonding strap for aircraft, vehicles, marine equipment. Eliminates ignition interference and moving parts. Slides over wire and cables.

DABURN No.	Size and No. of Wires	I.D. Flat	O.D. Flat	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2355-1/32	12 x 2 x 36	1/32"	3/64"	24	400	6.0
2355-3/64	12 x 2 x 36	3/64"	1/16"	22	600	7.0
2355-1/16	16 x 3 x 36	1/16"	3/64"	20	1,200	11.0
2355-1/8	24 x 5 x 36	1/8"	5/32"	18	1,800	16.0
2355-3/16	24 x 5 x 36	3/16"	7/32"	15	3,000	25.0
2355-1/4	24 x 7 x 36	1/4"	9/32"	14	4,200	32.0
2355-3/8	48 x 4 x 36	3/8"	13/32"	12	7,200	46.0
2355-1/2	48 x 7 x 36	1/2"	19/32"	10	9,600	53.0
2355-5/8	48 x 8 x 36	5/8"	23/32"	10	9,600	53.0
2355-3/4	48 x 11 x 36	3/4"	13/16"	7	20,800	85.0
2355-25/32	48 x 19 x 36	25/32"	27/32"	7	20,800	85.0
2355-1	48 x 19 x 36	1"	1 1/16"	7	20,800	85.0
2355-1 3/8	48 x 19 x 36	1 3/8"	1 7/16"	7	33,700	85.0
2355-1 1/2	48 x 19 x 36	1 1/2"	1 9/16"	3	53,064	150.0
2355-1 3/4	48 x 27 x 30	1 3/4"	1 7/8"	00	125,425	280.0
2355-2	48 x 32 x 30	2"	2 1/4"	000	154,368	310.0
2355-2 1/4	48 x 35 x 30	2 1/4"	2 1/2"	000	168,840	320.0
2355-2 1/2	48 x 45 x 30	2 1/2"	2 3/4"	000	192,000	340.0
2355-3	48 x 64 x 30	3"	3 1/4"	0000	225,000	390.0

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 500 Ft., 1000 Ft.

ADDITIONAL CONSTRUCTION AND VARIATIONS MADE TO ORDER.

OVAL COMMERCIAL BRAID AVAILABLE TO ORDER

NEW

DAPRENE™ HEAT SHRINKABLE NEOPRENE* TUBING

This unique tubing meets or exceeds MIL-T-23053B specs. Shrinks down to under 33% of its supplied inside diameter. Upon exposure to heat of 160°F — will remain elastomeric — with no cracks (longitudinal shrinkage 50%). Will protect components, solder joints, terminals, fittings, harnessing and jacketing of wires, medical equipment, etc. Resistant to abrasion, flame, chemicals. Suitable electrical and mechanical properties. Has continuous range of −67° to +212°F. Tubing is self extinguishing when flame is removed. Variety of intermediate recovered sizes. Available expanded sizes: 1/2", 1", 1 1/2", 2". **COLOR:** Black. Tubing must be stored below 100°F.



PROPERTIES:

ELECTRICAL
Dielectric Strength: V/M, 400 Min.
Volume Resistivity: OHM/CM, 1 x 10^{14} Min.

CHEMICAL
Solvent Resistance: Excellent
Corrosion: Good.
Water Absorption: 1.0 Max.
Flammability: Self-Extinguishing in 15 Seconds

PHYSICAL
Elongation: 400% Min.
Temperature Range: −67° to +212°F
Tensile Strength: 1500 PSI Min.
Dielectric Strength: 360 V/M Min.
Heat Resistance: 212°F for 96 Hours — No cracking.
Specific Gravity: 1.40 Max.

HARDNESS
Shore A Durometer: 85 ±5.

HEAT SHOCK
302°F for 4 Hours — No cracking, flowing or dripping.

DAPRENE™ SH160 HEAT SHRINKABLE NEOPRENE* TUBING COLOR: BLACK

DABURN No.	Size	Before Shrinking As Supplied Expanded I.D.	RECOVERED DIMENSIONS (After Heating) I.D. Maximum	Wall Thickness
SH160-1/2"	1/2"	.500"	.165"	.035" ±.010"
SH160-1"	1"	1.00"	.330"	.048" ±.010"
SH160-1 1/2"	1 1/2"	1.500"	.495"	.057" ±.010"
SH160-2"	2"	2.00"	.660"	.070" ±.010"

STD. PKGE.: 100 ft. (random lengths — 10 ft. minimum). * Neoprene—Dupont.

© United Technical Publications

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TINNED COPPER WIRE

Pure Electrolytic, Copper, annealed, tinned for quick soldering—Solid Soft Drawn
MIL—W—3861 Type S, ASTM—B—33 Specifications, QQ—W—343 Type S

DABURN No.	Size AWG	Area Circ. Mils	O.D.	DABURN No.	Size AWG	Area Circ. Mils	O.D.
2360/4	4	41,704	.204″	2360/18	18	1,624	.040″
2360/6	6	26,250	.162″	2360/20	20	1,022	.033″
2360/8	8	16,510	.129″	2360/22	22	624.4	.025″
2360/10	10	10,380	.103″	2360/24	24	404.0	.020″
2360/12	12	6,530	.082″	2360/26	26	254.1	.016″
2360/14	14	4,107	.065″	2360/28	28	159.8	.013″
2360/16	16	2,583	.051″	2360/30	30	100.5	.010″

STANDARD PUT-UP: 100 Ft., 1000 Ft. See Magnet Wire Section For Additional Sizes

BARE COPPER WIRE (Soft Drawn)

QQ—W—341A SPECIFICATIONS
SOLID

DABURN No.	Size AWG	Area Circular Mils	O.D.
2375/8	8	16,510	.1285″
2375/10	10	10,380	.102″
2375/12	12	6,530	.081″
2375/14	14	4,107	.064″
2375/16	16	2,583	.051″

STANDARD PUT-UP: 100 Ft., 1000 Ft.

SOLID FORMVAR COPPER WIRE

DABURN No.	Size AWG	O.D.
2380/10	10	.103″
2380/12	12	.083″
2380/14	14	.066″

STANDARD PUT-UP: 100 Ft., 150 Ft., 200 Ft., 1000 Ft.

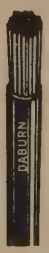
DABURN COPPERWELD WIRE

Bare Copper Welded to Core. 40% Conductivity. Hard Drawn; will not stretch. Used for hi tensile strength.

DABURN No.	Size AWG	Nom. O.D.	DABURN No.	Size AWG	Nom. O.D.
2386/20	20	.033″	2386/12	12	.080″
2386/18	18	.040″	2386/10	10	.102″
2386/16	16	.050″	2386/8	8	.129″
2386/14	14	.064″	2386/6	6	.162″

STANDARD PUT-UP: 500 Ft., 1000 Ft.

BUS BAR WIRE (Hard Drawn)



QQ—W—343 Type S

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

MIL—W—3861 Types S, ASTM—B—33, ASTM—B—246—51 Specifications

DABURN No.	Nom. Circ. Mil Area	Size	Nom. O.D.
2362/10	10,380	10	.103″
2362/12	6,530	12	.082″
2362/14	4,107	14	.065″
2362/16	2,583	16	.051″
2362/18	1,642	18	.040″
2362/20	1,022	20	.033″
2362/22	624	22	.025″

STANDARD PUT-UP: 100 Per Package in two foot lengths.

SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

DABURN No.	Size AWG	Strand	Breaking Strength	O.D.
2364/4	4	7/12	3670 lbs.	.240″
2364/6	6	7/14	2140 lbs.	.190″
2364/8	8	7/16	1600 lbs.	.150″
2364/10	10	7/18	1000 lbs.	.122″
2364/12	12	7/20	650 lbs.	.100″
2364/14	14	7/22	420 lbs.	.075″

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.
2364/10 and 2364/6 meets MIL-W-13074, 2364/12 meets MIL-W-13276 Specs.

COPPERWELD ANTENNA WIRE



Used where high tensile strength is required as for short wave and transmitting aerials. Has low R.F. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities. 40% conductivity.

DABURN No.	Size AWG	Tensile Strength	O.D.
2382/10	10	1130 lbs.	.103″
2382/12	12	720 lbs.	.082″
2382/14	14	400 lbs.	.065″

STANDARD PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft., 2500 Ft.

STRANDED BARE COPPER WIRE

DABURN No.	Size AWG	Strand	O.D.
2366/12	12	7/20	.100″
2366/14	14	7/22	.075″
2366/16	16	7/24	.060″
2366/18	18	7/26	.050″
2366/19	19	7/27	.041″

PUT-UP: 100 Ft., 1000 Ft. Spool.

DABURN MAGNET WIRE — Per MIL-W-583C Spec.

DESCRIPTION: Plain Enamel — Single conductor round bare copper covered with a continuous insulating film of enamel. 105°C, Type T per MIL-W-583C. Additional insulations available.

DESCRIPTION: Heavy Formvar: — Single conductor round baked copper, baked film insulation from varnish base on a vinyl acetal resin. 105°C. Type T2 per MIL-W-583C. Additional insulations available.

DESCRIPTION: Single conductor soft drawn annealed copper tinned per Spec MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33.

PLAIN ENAMEL (PE)

DABURN No.	Size	Nom. O.D.
DPE-10	10	.1037″
DPE-12	12	.0825″
DPE-14	14	.0657″
DPE-16	16	.0522″
DPE-18	18	.0416″
DPE-20	20	.0332″
DPE-22	22	.0266″
DPE-24	24	.0212″
DPE-26	26	.0169″
DPE-28	28	.0135″
DPE-30	30	.0108″
DPE-32	32	.0087″
DPE-34	34	.0069″
DPE-36	36	.0055″
DPE-38	38	.0044″
DPE-40	40	.0034″
DPE-42	42	.0028″
DPE-44	44	.0023″

HEAVY FORMVAR (HF)

DABURN No.	Size	Nom. O.D.
DHF-10	10	.1056″
DHF-12	12	.0842″
DHF-14	14	.0673″
DHF-16	16	.0539″
DHF-18	18	.0432″
DHF-20	20	.0346″
DHF-22	22	.0277″
DHF-24	24	.0224″
DHF-26	26	.0180″
DHF-28	28	.0144″
DHF-30	30	.0116″
DHF-32	32	.0095″
DHF-34	34	.0075″
DHF-36	36	.0060″
DHF-38	38	.0049″
DHF-40	40	.0038″
DHF-42	42	.0032″
DHF-44	44	.0026″

TINNED COPPER (TC)

DABURN No.	Size	Nom. O.D.
DTC-10	10	.103″
DTC-12	12	.082″
DTC-14	14	.065″
DTC-16	16	.051″
DTC-18	18	.040″
DTC-20	20	.033″
DTC-22	22	.025″
DTC-24	24	.020″
DTC-26	26	.016″
DTC-28	28	.013″
DTC-30	30	.010″
DTC-32	32	.008″
DTC-34	34	.006″
DTC-36	36	.005″
DTC-38	38	.004″
DTC-40	40	.003″

STANDARD PUT-UP: ¼ lb., ½ lb., 1 lb., 5 lbs., 10 lbs. **SIZES:** 34, 36. Largest Put-up 5 lbs

SIZES: 38, 40, 42, 44. Largest Put-up 1 lb.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

PER MIL-W-76B PLASTIC HOOK-UP WIRE

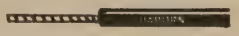
300 VOLTS — TYPE LW (Light Wall)

SPEC. MIL-W-76B

CONDUCTOR COLOR CODE PER MIL-W-76B SPEC.							
0-Black	1-Brown	2-Red	3-Orange	4-Yellow	5-Green	6-Blue	7-Violet	8-Gray	9-White

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation. Nom. Wall .010".

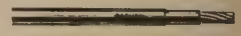
TEMPERATURE RATING: —40°C to +80°C.



TYPE LW — UNCOVERED VINYL

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2585/30	30	LW-C 30(7)U	7/38	.033"
2585/28	28	LW-C 28(7)U	7/36	.035"
2585/26	26	LW-C 26(7)U	7/34	.040"
2585/24	24	LW-C 24(7)U	7/32	.044"
2585/22	22	LW-C 22(7)U	7/30	.050"
2585/20	20	LW-C 20(7)U	7/28	.060"

TEMPERATURE RATING: —40°C to +90°C.
Nominal Nylon Jacket Thickness, .002".



TYPE LW — NYLON JACKET

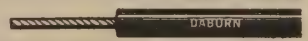
DABURN Cat. No.	AWG Size	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2590/30	30	LW-C 30(7)J	7/38	.036"
2590/28	28	LW-C 28(7)J	7/36	.039"
2590/26	26	LW-C 26(7)J	7/34	.042"
2590/24	24	LW-C 24(7)J	7/32	.047"
2590/22	22	LW-C 22(7)J	7/30	.053"
2590/20	20	LW-C 20(7)J	7/28	.065"

1000 VOLTS — TYPE MW (Medium Wall) — Fungus Proof

SPEC. MIL-W-76B

DESCRIPTION: One conductor tinned copper with thermoplastic insulation.

TEMP. RATING: —40°C to +80°C.



TEMPERATURE RATING: —40°C to +90°C.

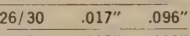


TYPE MW — UNCOVERED VINYL STRANDED

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2555/24	1000'	24	MW-C 24(7)U	7/32	.015"	.059"
*2555/22	1000'	22	MW-C 22(7)U	7/30	.017"	.065"
*2555/20	1000'	20	MW-C 20(10)U	10/30	.017"	.074"
*2555/18	1000'	18	MW-C 18(16)U	16/30	.017"	.085"
2555/16	1000'	16	MW-C 16(26)U	26/30	.017"	.096"
2555/14	1000'	14	MW-C 14(41)U	41/30	.017"	.110"
2555/12	1000'	12	MW-C 12(65)U	65/30	.017"	.130"

*Single and Double Tracers Available.

SOLID



2560/24	1000'	24	MW-C 24(1)U	1	.015"	.056"
2560/22	1000'	22	MW-C 22(1)U	1	.017"	.060"
2560/20	1000'	20	MW-C 20(1)U	1	.017"	.066"
2560/18	1000'	18	MW-C 18(1)U	1	.017"	.074"

TYPE MW — NYLON JACKET STRANDED

DABURN Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2565/24	24	MW-C 24(16)J	16/36	.015"	.068"
2565/22	22	MW-C 22(7)J	7/30	.017"	.075"
2565/20	20	MW-C 20(10)J	10/30	.017"	.087"
2565/18	18	MW-C 18(16)J	16/30	.017"	.100"
2565/16	16	MW-C 16(26)J	26/30	.017"	.122"
2565/14	14	MW-C 14(41)J	41/30	.017"	.122"
2565/12	12	MW-C 12(65)J	65/30	.017"	.140"
2565/10	10	MW-C 10(105)J	105/30	.045"	.240"

STD. PUT-UP 2555 & 2560 SERIES: 100 Ft., 500 Ft., 1000 Ft.
STD. PUT-UP 2565 SERIES: 100 Ft.-1000 Ft.

NYLON JACKET THICKNESS: #24 .002; 22, 20, 18 .003; 16, 14 .004; 12 .005; 10 .007.

Stock Colors, Type MW: White, Orange, Purple, Black, Yellow, Gray, Brown, Green, Red, Blue, Tan, Pink, Lt. Blue, Lt. Green.
Spiral tracer combinations available to order.

GLASS BRAID PER SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.



GLASS BRAID — TYPE HW (Heavy Wall)

TEMPERATURE RATING: —40°C to +80°. **NOM WALL: .045"**

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2575/10	100'-1000'	10	HW-C 10(105)B	105/30	.237"
2575/8	100'-1000'	8	HW-C 8(133)B	133/29	.293"
2575/6	100'-1000'	6	HW-C 6(133)B	133/27	.340"

STOCK COLORS: White, Black.
Additional colors available to order.
ALSO multi-conductors can be formed to order twisted, shielded, with or without plastic jacket overall.

GLASS BRAID — 1000 VOLTS — TYPE MW (Medium Wall)

TEMPERATURE RATING: —40°C to +80°C. **NOM. WALL: .017"**

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2570/22	100'-1000'	22	MW-C 22(7)B	7/30	.079"
2570/20	100'-1000'	20	MW-C 20(10)B	10/30	.084"
2570/18	100'-1000'	18	MW-C 18(16)B	16/30	.100"
2570/16	100'-1000'	16	MW-C 16(26)B	26/30	.116"
2570/14	100'-1000'	14	MW-C 14(41)B	41/30	.129"
2570/12	100'-1000'	12	MW-C 12(65)B	65/30	.149"

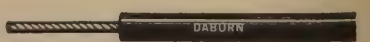
STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray.
Tracer colors available to order.

2500 VOLTS (Fungus Proof) — TYPE HW (Heavy Wall)

SPEC MIL-W-76B

600 VOLTS: Sizes 14 through 6 — (Supersedes Jan-C-76 Type SRHV).
TEMP. RATING: —40°C to 80°C. NOM. WALL SIZE: 22 through 16 .033: Size 14 through 6 .045

DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger walls of primary thermoplastic insulation to take 2500 V RMS.



DABURN No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. O.D.
2580/22	22	HW-C 22(7)U	7/30	.092"
2580/20	20	HW-C 20(10)U	10/30	.100"
2580/18	18	HW-C 18(16)U	16/30	.112"
2580/16	16	HW-C 16(26)U	26/30	.126"
2580/14	14	HW-C 14(41)U	41/30	.170"

No. DABURN	AWG Size	Type Designation Mil-W-76B	Strand Conductor	O.D. Nom.
2580/12	12	HW-C 12(65)U	65/30	.186"
2580/10	10	HW-C 10(105)U	105/30	.210"
2580/8	8	HW-C 8(133)U	133/29	.260"
2580/6	6	HW-C 6(133)U	133/27	.305"

STD. PUT-UP: 100-1000 Ft.

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, Additional sizes, colors available to order.

© United Technical Publications

DABURN

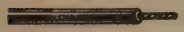
DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

PLASTIC HOOK-UP WIRE

TYPE B — HIGH TEMPERATURE VINYL 600 VOLT — PER MIL-W-16878D

DESCRIPTION: One conductor stranded tinned copper, with −55°C to +105°C rated high temperature thermoplastic, light wall insulation.



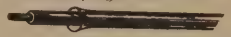
TYPE B — UNCOVERED VINYL

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2500/32	B-32	32	7/40	.028″
2500/30	B-30	30	7/38	.030″
2500/28	B-28	28	7/36	.033″
2500/26	B-26	26	7/34	.037″
2500/24	B-24	24	7/32	.043″
2501/24	B-24	24	19/36	.043″
2500/22	B-22	22	7/30	.048″
2501/22	B-22	22	19/34	.048″
2500/20	B-20	20	7/28	.057″
2501/20	B-20	20	19/32	.057″
2500/18	B-18	18	7/26	.067″
2501/18	B-18	18	19/30	.067″
2500/16	B-16	16	19/29	.077″
2500/14	B-14	14	19/27	.091″

Available with Braided Shield Overall.

STD. PUT-UP: 100 Ft., 1000 Ft. Prebonded tinned copper conductor avail. to order.

TYPE B — NYLON JACKET



DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2510/32	B-32	32	7/40	.032″
2510/30	B-30	30	7/38	.036″
2510/28	B-28	28	7/36	.039″
2510/26	B-26	26	7/34	.042″
2510/24	B-24	24	7/32	.047″
2511/24	B-24	24	19/36	.047″
2510/22	B-22	22	7/30	.053″
2511/22	B-22	22	19/34	.053″
2510/20	B-20	20	7/28	.065″
2511/20	B-20	20	19/32	.065″
2510/18	B-18	18	7/26	.075″
2511/18	B-18	18	19/30	.075″
2510/16	B-16	16	19/29	.085″
2510/14	B-14	14	19/27	.099″

STD. PUT-UP: 100 Ft., 1000 Ft. **NYLON JACKET THICKNESS:** 32-20 .002, 18-16 .003

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green, Gray, Purple, White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet.

TYPE C — HIGH TEMPERATURE VINYL 1000 VOLT

SPECIFICATION MIL-W-16878D

DESCRIPTION: One conductor similar to Type B — Heavier wall Hi-Temp. Thermoplastic insulation. Nom. wall .016″.

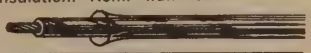


TYPE C — UNCOVERED VINYL

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Minimum Strand	Nom. O.D.
2515/24	C-24	24	7/32	.058″
2515/22	C-22	22	7/30	.064″
2515/20	C-20	20	7/28	.072″
2515/18	C-18	18	7/26	.082″
2515/16	C-16	16	19/29	.091″
2515/14	C-14	14	19/27	.105″
2515/12	C-12	12	19/25	.135″

STD. PUT-UP: 100 Ft.-1000 Ft. Available with Braided Shield Overall.

TYPE C — NYLON JACKET



DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2520/24	C-24	24	7/32	.061″
2520/22	C-22	22	7/30	.070″
2520/20	C-20	20	7/28	.079″
2520/18	C-18	18	7/26	.090″
2520/16	C-16	16	19/29	.099″
2520/14	C-14	14	19/27	.114″
2520/12	C-12	12	19/25	.135″

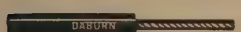
STD. PUT-UP: 100 Ft., 1000 Ft. **NYLON JACKET THICKNESS:** 24 .002, 22-18, .003, 16-14 .004

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green, Gray, Purple. Also available in tracer colors.

TYPE D — HIGH TEMPERATURE VINYL 3000 VOLT

SPECIFICATION MIL-W-16878D

DESCRIPTION: One conductor stranded tinned copper similar to Type C — Heavier wall Hi-Temp. thermoplastic insulation. Nom. wall: 24 thru 14 .032″, 12 thru 6 .040″, 4 thru 2 .045″.



TYPE D — UNCOVERED VINYL

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525/24	D-24	24	7/32	.084″
2525/22	D-22	22	7/30	.089″
2525/20	D-20	20	10/30	.097″
2525/18	D-18	18	16/30	.107″
2525/16	D-16	16	26/30	.116″
2525/14	D-14	14	41/30	.130″
2525/12	D-12	12	65/30	.163″
2525/10	D-10	10	105/30	.182″
2525/8	D- 8	8	133/29	.247″
2525/6	D- 6	6	133/27	.291″
2525/4	D- 4	4	133/25	.355″
2525/2	D- 2	2	665/30	.425″

STD. PUT-UP: 100 Ft.-1000 Ft.

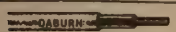
TYPE D — NYLON JACKET



DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525N/24	D-24	24	7/32	.090″
2525N/22	D-22	22	7/30	.096″
2525N/20	D-20	20	10/30	.104″
2525N/18	D-18	18	16/30	.114″
2525N/16	D-16	16	26/30	.125″
2525N/14	D-14	14	41/30	.139″
2525N/12	D-12	12	65/30	.168″
2525N/10	D-10	10	105/30	.197″
2525N/8	D- 8	8	133/29	.265″
2525N/6	D- 6	6	133/27	.310″

STD. PUT-UP: 100 Ft., 1000 Ft. Nylon Jacket; Clear Polymide.

ALL THE ABOVE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.



AIRCRAFT PLASTIC HOOK-UP WIRE

SPECIFICATIONS MIL-W-5086A and MIL-C-7078A (105°C Rating)

DESCRIPTION: Type 1 MIL-W-5086A — one conductor stranded tinned copper with plastic insulation nylon jacket overall. **Type 2 Mil-W-5086A** — one conductor stranded tinned copper, plastic insulation, nylon lacquered glass braid. Color: White. Additional colors available to order.

MIL-W-5086A UNSHIELDED (Supersedes) AN-J-C-48A) — 600 V RATING

DABURN Cat. No.	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2601/22	AN-22	No. 1	19/34	.070″
2601/20	AN-20	No. 1	19/32	.080″
2601/18	AN-18	No. 1	19/30	.090″
2601/16	AN-16	No. 1	19/29	.100″
2601/14	AN-14	No. 1	19/27	.120″
2601/12	AN-12	No. 1	19/25	.140″
2602/22	AN-22	No. 2	19/34	.068″
2602/20	AN-20	No. 2	19/32	.078″
2602/18	AN-18	No. 2	19/30	.088″
2602/16	AN-16	No. 2	19/29	.098″

DABURN Cat. No.	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2602/14	AN-14	No. 2	19/27	.117″
2602/12	AN-12	No. 2	19/25	.137″
2602/10	AN-10	No. 2	37/26	.189″
2602/8	AN-8	No. 2	133/29	.240″
2602/6	AN-6	No. 2	133/27	.297″
2602/4	AN-4	No. 2	133/25	.355″
2602/2	AN-2	No. 2	665/30	.412″
2602/0	AN-0	No. 2	1045/30	.518″
2602/00	AN-00	No. 2	1330/30	.588″

STANDARD PUT-UP: 100 Ft., 1000 Ft.

MIL-C-7078A SHIELDED (Supersedes AN-C-168) 600 V RATING

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield. Additional types to order.

DABURN Cat. No.	Size AWG	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2605/22	22	AN-22	No. 1	19/34	.100″
2605/20	20	AN-20	No. 1	19/32	.110″
2605/18	18	AN-18	No. 1	19/30	.124″

DABURN Cat. No.	Size AWG	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2605/16	16	AN-16	No. 1	19/29	.139″
2605/14	14	AN-14	No. 1	19/27	.158″
2605/12	12	AN-12	No. 1	19/25	.177″

STANDARD PUT-UP: 100 Ft., 1000 Ft. ALL WIRE ON THIS PAGE CAN BE CUT AND STRIPPED TO YOUR SPECIFICATION.

© United Technical Publications

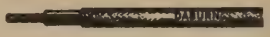
DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

SHIELDED PLASTIC HOOK-UP WIRE

1000 VOLT — TYPE MW (Medium Wall) SHIELDED — SPEC. MIL-W-76B
TEMPERATURE RATING −40°C TO +80°C



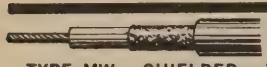
DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and tinned copper shielded braid overall.

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Nom. O.D.
2592/24	24	MW-C24(7)S	7/32	.015″	.074″
2593	24	MW-C24(16)S	16/36	.015″	.075″
2592/22	22	MW-C22(7)S	7/30	.017″	.084″
2592/20	20	MW-C20(10)S	10/30	.017″	.094″
2592/18	18	MW-C18(16)S	16/30	.017″	.106″
2592/16	16	MW-C16(26)S	26/30	.017″	.121″
2592/14	14	MW-C14(41)S	41/30	.017″	.137″
2592/12	12	MW-C12(65)S	65/30	.017″	.155″

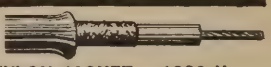
STOCK COLORS: (Underneath Shield): White — Additional colors to order.

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

Also multiconductors can be formed to order twisted shielded, with or without plastic Jacket overall.



SHIELDED PLASTIC HOOK-UP WIRE



TYPE MW — SHIELDED — VINYL JACKET — 1000 V SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, PVC (polyvinylchloride) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.

TEMPERATURE RATING: −40°C to +90°C.

DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2597/24	24	MW-C24(7)SJ	7/32	.015″	.095″
2597/22	22	MW-C22(7)SJ	7/30	.017″	.105″
2597/20	20	MW-C20(7)SJ	7/28	.017″	.112″
2597/18	18	MW-C18(19)SJ	19/30	.017″	.120″
2597/16	16	MW-C16(19)SJ	19/29	.017″	.133″
2597/14	14	MW-C14(19)SJ	19/27	.017″	.148″
2597/12	12	MW-C12(19)SJ	19/25	.017″	.170″

Additional colors available to order.

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

TYPE MW — SHIELDED — NYLON JACKET — 1000 V SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, clear nylon (polymide) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.

TEMPERATURE RATING: −40°C to +90°C.

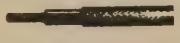
DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2595/24	24	MW-C24(7)SJ	7/32	.015″	.091″
2595/22	22	MW-C22(7)SJ	7/30	.017″	.100″
2595/20	20	MW-C20(7)SJ	7/28	.017″	.105″
2595/18	18	MW-C18(19)SJ	19/30	.017″	.115″
2595/16	16	MW-C16(19)SJ	19/29	.017″	.125″
2595/14	14	MW-C14(19)SJ	19/29	.017″	.138″
2595/12	12	MW-C12(19)SJ	19/25	.017″	.160″

Additional colors available to order.

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

MIL-W-16878D — SHIELDED PLASTIC HOOK-UP WIRE

1000 VOLTS — TYPE C — SHIELDED SPEC. MIL-W-16878D

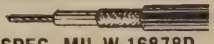


DESCRIPTION: Stranded tinned copper, .016″ wall white polyvinylchloride insulation, braided tinned copper shield overall temp. rating −55°C to +105°C 1000 volts.

DABURN Cat. No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2530/24	24	7/32	.016″	.075″
2530/22	22	7/30	.016″	.085″
2530/20	20	7/28	.016″	.095″
2530/18	18	7/26	.016″	.105″
2530/16	16	19/26	.016″	.115″
2530/14	14	19/27	.016″	.140″
2530/12	12	19/25	.016″	.152″

STD. PUT-UP: 1000 Ft. Additional Colors Available.

1000 VOLTS — TYPE C SHIELDED WITH VINYL JACKET — SPEC. MIL-W-16878D



DESCRIPTION: Stranded tinned copper, .016″ wall white with polyvinylchloride insulation braided tinned copper shield with polyvinylchloride jacket overall. Resistant to acids, oils, alkalies, flame, fungus, solvents, moisture.

TEMPERATURE RATING: −55°C to +105°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2535/24	24	7/32	.016″	.094″
2535/22	22	7/30	.016″	.104″
2535/20	20	7/28	.016″	.112″
2535/18	18	7/26	.016″	.120″
2535/16	16	19/29	.016″	.133″
2535/14	14	19/27	.016″	.150″
2535/12	12	19/25	.016″	.165″

STD. PUT-UP: 1000 Ft. Additional Colors Available.

1000 VOLTS — TYPE C SHIELDED NYLON JACKET SPEC. MIL-W-16878D



DESCRIPTION Stranded tinned copper .016″ wall polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket overall. Nylon nominal jacket thickness .005″.

TEMPERATURE RATING: −55°C to +115°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2533/24	24	7/32	.016″	.090″
2533/22	22	7/30	.016″	.096″
2533/20	20	7/28	.016″	.105″
2533/18	18	7/26	.016″	.115″
2533/16	16	19/29	.016″	.125″
2533/14	14	19/27	.016″	.145″
2533/12	12	19/25	.016″	.157″

STD. PUT-UP: 1000 Ft. Additional Colors Available.

MULTI-CONDUCTOR CABLE TYPE B NYLON SHIELDED-PLASTIC JACKET PER MIL-W-16878D — 600 V



DESCRIPTION: One or more conductors stranded tinned copper, PVC insulation, color coded, clear nylon (polyamide) jacket, cabled conductors, 90% coverage braided tinned copper, white polyvinylchloride jacket overall.

TEMPERATURE RATING: −55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, flame, fungus, oil, moisture, solvents.

DABURN Cat. No.	No. of Cond.	Size	Strand	Nom. Wall	Nom. Nylon Wall	Nom. Overall Jacket	Nom. O.D.
2540	1	26	7/34	.010″	.003″	.010″	.087″
2540/2	2	26	7/34	.010″	.003″	.014″	.138″
2540/3	3	26	7/34	.010″	.003″	.014″	.142″
2540/4	4	26	7/34	.010″	.003″	.016″	.162″
2541	1	24	19/36	.010″	.003″	.010″	.092″
2541/2	2	24	19/36	.010″	.003″	.016″	.152″
2541/3	3	24	19/36	.010″	.003″	.016″	.161″
2541/4	4	24	19/36	.010″	.003″	.017″	.162″
2542	1	22	19/34	.010″	.003″	.010″	.100″
2542/2	2	22	19/34	.010″	.003″	.016″	.168″
2542/3	3	22	19/34	.010″	.003″	.017″	.178″
2542/4	4	22	19/34	.010″	.003″	.019″	.174″
2543	1	20	19/32	.010″	.003″	.010″	.106″
2543/2	2	20	19/32	.010″	.003″	0.19″	.186″
2543/3	3	20	19/32	.010″	.003″	.019″	.196″
2543/4	4	20	19/32	.010″	.003″	.021″	.193″
2544	1	18	19/30	.010″	.003″	.012″	.120″
2544/2	2	18	19/30	.010″	.003″	.021″	.210″
2544/3	3	18	19/30	.010″	.003″	.022″	.227″
2544/4	4	18	19/30	.010″	.003″	.023″	.218″
2545	1	16	19/29	.010″	.003″	.016″	.137″
2545/2	2	16	19/29	.010″	.003″	.023″	.236″
2545/3	3	16	19/29	.010″	.003″	.023″	.240″
2545/4	4	16	19/29	.010″	.003″	.025″	.275″

STD. PUT-UP: 500 Ft., 1000 Ft. **CONDUCTOR COLOR CODE:** 1-White, 2-Black, 3-Red, 4-Green. Additional sizes, conductors, variations, available to order.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

MINIATURIZATION WIRE & CABLE • STEREO PHONO CABLE • PLASTIC SPEAKER CABLE • CONTROL & INSTRUMENTATION CABLE

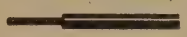
MINIATURIZATION HOOK-UP WIRE AND CABLE Conforms to MIL-W-16878D Spec.

UNSHIELDED — ONE CONDUCTOR 105°C — 600V RATING

Used as lead computers, transistor circuits, instruments — where fine sizes are required with high temperature conditions. One conductor stranded tinned copper, 105°C vinyl resin overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2670/32	1	32	7/40	.010″	.029″
2670/30	1	30	7/38	.010″	.030″
2670/28	1	28	7/36	.010″	.035″
2670/26	1	26	10/36	.010″	.038″
2670/24	1	24	16/36	.015″	.055″

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange and Purple.
STD. PUT-UP: 500 Ft., 1000 Ft.



DESCRIPTION
One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation overall.

SHIELDED HOOK-UP WIRE
SUB-MINIATURE • SUPER FLEXIBLE • 600V RATING

One conductor stranded tinned copper, 105°C vinyl resin, shielded overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2682	1	30	7/38	.010″	.052″
2684	1	28	7/36	.010″	.057″
2686	1	26	10/36	.010″	.060″
2688	1	24	16/36	.010″	.073″

STOCK COLOR: White (Under Shield).
STD. PUT-UP: 500 Ft., 1000 Ft.



DESCRIPTION
One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation and tinned copper shielded braid overall.

SUB-MINIATURE MULTI-CONDUCTOR CABLE



NOT SHIELDED • FLEXIBLE
Tinned Copper Conductors — Conforms to MIL-W-16878D Spec
Suggested Operating Temperature: −55°C to +105°C



TWISTED — NO OUTER JACKET — 600V RATING

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2672	2	30	7/38	.010″	.058″
2672/3	3	30	7/38	.010″	.064″
2672/4	4	30	7/38	.010″	.072″

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

TWISTED — CLEAR VINYL JACKET OVERALL — 600V RATING

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2674	2	28	7/36	.010″	.079″
2674/3	3	28	7/36	.010″	.086″
2674/4	4	28	7/36	.010″	.095″

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

SHIELDED SUB-MINIATURE MULTI-CONDUCTOR CABLE



Tinned Copper Conductors — Conforms to MIL-W-16878D Spec
Suggested Operating Temperature: −55°C to +105°C



TWISTED — SHIELDED — NO OUTER JACKET

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2676	2	24	16/36	.015″	.114″
2676/3	3	24	16/36	.015″	.123″
2676/4	4	24	16/36	.015″	.144″

1,000V Rating
COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

TWISTER — SHIELDED — CLEAR VINYL JACKET OVERALL

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2678	2	28	7/36	.010″	.105″
2678/3	3	28	7/36	.010″	.115″
2678/4	4	28	7/36	.010″	.120″

600V Rating
COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

NOTE: Multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

NEW — MINIATURIZED SHIELDED CONTROL AND INSTRUMENTATION CABLE

PER MIL-W 16878D — TYPE B — 600 VOLT



DESCRIPTION: Each conductor stranded tinned copper, .010″ wall high temperature PVC, cabled with a mylar tape wrap, braided tinned copper shield for 90% coverage overall, covered with gray PVC jacket.

Rated: −55°C to +105°C, 600 volt.

Resists acid, alkalis, flame, moisture, oil, solvents, fungus. Used as interconnecting cable for electronic equipment; control and instrumentation cable, telemetry and remote control with sensitive recording instruments.

Daburn No.	Conductor No.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2550	2	B-28	7/36	.010″	.010″	.120″
2550/3	3	B-28	7/36	.010″	.012″	.130″
2550/4	4	B-28	7/36	.010″	.012″	.140″
2550/6	6	B-28	7/36	.010″	.015″	.170″
2550/8	8	B-28	7/36	.010″	.015″	.175″
2550/10	10	B-28	7/36	.010″	.018″	.210″
2550/12	12	B-28	7/36	.010″	.018″	.215″
2550/15	15	B-28	7/36	.010″	.020″	.230″
2550/20	20	B-28	7/36	.010″	.022″	.260″

STD. PUT-UP: 500 Ft., 1000 Ft.
Additional sizes and constructions to order.

COLOR CODE:

1—White	6—Lt. Blue	11—Blue/Blk	16—Black/Red
2—Black	7—Wh/Black	12—Black/Wh	17—White/Red
3—Red	8—Red/Black	13—Red/White	18—Orange/Red
4—Green	9—Green/Blk	14—Green/Wh	19—Blue/Red
5—Orange	10—Orange/Blk	15—Blue/White	20—Red/Green

Additional miniature and subminiature, shielded and unshielded wires and cable constructions are available to order. We invite your requests.

HI-FI STEREO

Interconnecting Cable — Phono Wire



Extremely flexible. Designed for low hum and noise pickup. Special PVC formulation −40°C to +80°C operation.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
TWISTED — UNSHIELDED					200V Rating
2741	1	32	7/40	.010″	.028″
2742	2	32	7/40	.010″	.047″
2743	3	32	7/40	.010″	.053″
2744	4	32	7/40	.010″	.061″
TWISTED — SHIELDED					
2745	1	32	7/40	.010″	.040″
2746	2	32	7/40	.010″	.067″
2747	3	32	7/40	.010″	.072″
2748	4	32	7/40	.010″	.080″
2751#	2	32	7/40	.010″	.080″

STD. PUT-UP: 500 Ft., 1000 Ft. #2751 Individually Shielded.
CONDUCTOR COLOR CODE: 1—White, 2—Red, 3—Black, 4—Green.

NEW — PLASTIC SPEAKER CABLE

CLEAR AND COLORED INSULATION



DESCRIPTION: Conductors are parallel, stranded bare copper, color coded and clear polyvinylchloride insulation. Conductors separate quickly when split apart. Suitable for hi-fi speaker cable, miniature juke-box speaker connection, rear auto speaker extension cable. Clear insulation blends with any interior.

TEMPERATURE RATING: −20°C to +60°C. **OPER. VOLTAGE:** 300V

Daburn No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.	Stock Colors
2754	2*	24	7/32	.016″	.057″x.120″	Brn.,Blk.,Wh., Gray, Tan
2755	2*	24	7/32	.016″	.057″x.120″	Clear
2756	2	20	10/30	.016″	.085″x.175″	Brn.,Blk.,Wh., Gray, Tan
2757	2	20	10/30	.016″	.085″x.175″	Clear
2758	2	18	41/34	.032″	.115″x.215″	Brn.,Blk.,Wh., Gray, Tan
2759	2	18	41/34	.032″	.115″x.215″	Clear

* 1 conductor tinned, 1 bare.
STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

TINNED COPPER SHIELDED PHONO WIRE

Suitable where small diameter, limpness and extremely flexibility is necessary as for phono pickups, stereo, etc.



OPERATING TEMPERATURE: −20°C to +60°C.

DABURN No.	Size	Strand	Overall Insul Wall	Nom. O.D.
				300V Rating
2737	24	16/36	.010″	.075″
2738	22	7/30	.010″	.080″
COTTON BRAID OVER-SHIELD				
2739	24	16/36	.010″	.095″

STD. PUT-UP: 100 Ft., 500 Ft.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TEFLON* WIRE
TYPE E — 600 VOLTS



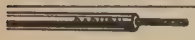
SPEC. MIL-W-16878D

High Temperature Rating −90°C to +250°C

Single conductor, stranded silver plated copper, .010" TFE Teflon® insulation. Acid, alkalis, oil, flame, moisture, fungus, solvent resistant.

DABURN Extruded Cat. No.	DABURN Wrapped Cat. No.	Size MIL Type Designation	Strand	Max. Dia. Over Insul.
2401	—	E-32	7/40	.033"
2402	—	E-30	7/38	.036"
2403	2415/28	E-28	7/36	.039"
2404	2415/26	E-26	7/34	.043"
2405	2415/24	E-24	19/36	.048"
2405-7	—	E-24	7/32	.048"
2406	2415/22	E-22	19/34	.054"
2406-7	—	E-22	7/30	.054"
2407	2415/20	E-20	19/32	.062"
2407-7	—	E-20	7/28	.062"
2408	2415/18	E-18	19/30	.074"
2409	2415/16	E-16	19/29	.079"
2409/14	—	E-14	19/27	.097"
2409/12	—	E-12	19/25	.120"
2409/10	—	E-10	37/26	.139"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. **Solid conductors available.**
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White, White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet.
UL approved Teflon hook-up wire available.
Additional special custom construction available to order.



TEFLON* WIRE

MIL-W-16878D — TYPE EE
Extruded (1000 Volts) MIL-W-16878D

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with .016 TFE extruded TEFLON* insulation.
TEMPERATURE RATING: −90°C to +260°C, 1000 volts.

DABURN Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
2428/24	EE-24	24	19/36	.055"
2428/22	EE-22	22	19/34	.062"
2428/20	EE-20	20	19/32	.070"
2428/18	EE-18	18	19/30	.080"
2428/16	EE-16	16	19/29	.089"
2428/14	EE-14	14	19/27	.106"
2428/12	EE-12	12	19/25	.124"
2428/10	EE-10	10	37/26	.145"
2428/8 (wrapped)	EE-8	8	133/29	.210"

STANDARD SPOOL PUT-UP: 250 Ft., 500 Ft., 1000 Ft. Solid conductors available.
STOCK COLORS: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow, 6—Blue, 7—Brown, 8—Orange, 9—Gray (Slate), 10—Violet (Purple).

SUBMINIATURE TEFLON* HOOK-UP WIRE

PER MIL-W-16878D — TYPE ET — 250 VOLTS, 200°C



Thin miniature hook-up wire is suitable in miniature slip ring assemblies, as interconnecting wire between wafers in microminiature electronic circuitry, instrument wire, medical wire, subminiature thermo-couple lead wire, strain gauge wire, etc. Provides lighter weight, greater flexibility and hi temperature resistance. Size Nos. 32 thru 20 conform to MIL-W-16878D type ET 250 volts, 200°C. Silver plated copper conductor.

DABURN Cat. No.	Mil Type	AWG Size	Min. Strand	Nom. O.D.
2427/36	—	36	7/44	.018"
2427/34	—	34	7/42	.020"
2427/32	ET-32	32	7/40	.021"
2427/30	ET-30	30	7/38	.024"
2427/28	ET-28	28	7/36	.027"
2427/26	ET-26	26	7/34	.031"
2427/24	ET-24	24	7/32	.036"
2427/22	ET-22	22	7/30	.042"
2427/20	ET-20	20	7/28	.049"

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.

TEFLON* TFE AIRFRAME LEAD WIRE MIL-W-7139B

CLASS 1: 600V Silver Coated Copper Conductor for −65°C to +200°C Operation.
CLASS 2: 600V Nickel Coated Copper Conductor for +260°C Operation.

DABURN Cat. No. Class 1	DABURN Cat. No. Class 2	Size AWG	Strand	Nom. O.D.
2426-22	2425-22	22	19/34	.085"
2426-20	2425-20	20	19/32	.095"
2426-18	2425-18	18	19/30	.110"
2426-16	2425-16	16	19/29	.130"
2426-14	2425-14	14	19/27	.143"
2426-12	2425-12	12	19/25	.163"

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.
STANDARD COLOR: Class: 1 — White/Blue Tracer; Class 2 — White/Orange Tracer.
ADDITIONAL SIZES AVAILABLE.

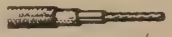
*TEFLON—Dupont

INSTRUMENTATION CABLES

TEFLON* CABLES — Shielded and Unshielded
TO MIL-W-16878D

DESCRIPTION: One or more conductors, each conductor silver plated concentrically stranded copper wire, Type E Extruded TFE .010" insulation. When shielded, braided silver plated copper shield over conductor(s), 90% shield coverage. When covered, either a TEFLON* impregnated fiberglass braid or a .010" TEFLON* fused, double reversed tape jacket overall. Fungus, solvent, moisture, flame; acid, alkali and oil resistant Multiconductors are twisted.
TEMPERATURE RATING: −65°C to +260°C. **VOLTAGE RATING:** 600 Volts

TEFLON* IMPREGNATED BRAID OVER SHIELD



Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2444	1	26	7/34	.075"
2444/2	2	26	7/34	.119"
2445	1	24	19/36	.081"
2445/2	2	24	19/36	.126"
2445/3	3	24	19/36	.133"
2445/4	4	24	19/36	.144"
2445/5	5	24	19/36	.156"
2446	1	22	19/34	.088"
2446/2	2	22	19/34	.137"
2446/3	3	22	19/34	.144"
2446/4	4	22	19/34	.158"
2446/5	5	22	19/34	.172"
2447	1	20	19/32	.093"
2447/2	2	20	19/32	.154"
2447/3	3	20	19/32	.163"
2447/4	4	20	19/32	.180"
2447/5	5	20	19/32	.195"
2448	1	18	19/30	.097"
2448/2	2	18	19/30	.162"
2448/3	3	18	19/30	.172"
2448/4	4	18	19/30	.192"
2448/5	5	18	19/30	.207"
2449	1	16	19/29	.117"
2449/2	2	16	19/29	.196"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

TEFLON* TAPE WRAP JACKET OVER SHIELD



Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2454	1	26	7/34	.078"
2454/2	2	26	7/34	.125"
2455	1	24	19/36	.084"
2455/2	2	24	19/36	.128"
2455/3	3	24	19/36	.135"
2455/4	4	24	19/36	.148"
2455/5	5	24	19/36	.162"
2456	1	22	19/34	.090"
2456/2	2	22	19/34	.140"
2456/3	3	22	19/34	.148"
2456/4	4	22	19/34	.162"
2456/5	5	22	19/34	.183"
2457	1	20	19/32	.099"
2457/2	2	20	19/32	.158"
2457/3	3	20	19/32	.167"
2457/4	4	20	19/32	.184"
2457/5	5	20	19/32	.204"
2458	1	18	19/30	.109"
2458/2	2	18	19/30	.178"
2458/3	3	18	19/30	.189"
2458/4	4	18	19/30	.208"
2458/5	5	18	19/30	.230"
2459	1	16	19/29	.130"
2459/2	2	16	19/29	.230"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

SHIELDED BRAID OVERALL



Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2434	1	26	7/34	.066"
2434/2	2	26	7/34	.104"
2435	1	24	19/36	.068"
2435/2	2	24	19/36	.112"
2435/3	3	24	19/36	.120"
2435/4	4	24	19/36	.132"
2435/5	5	24	19/36	.140"
2436	1	22	19/34	.075"
2436/2	2	22	19/34	.124"
2436/3	3	22	19/34	.132"
2436/4	4	22	19/34	.146"
2436/5	5	22	19/34	.154"
2437	1	20	19/32	.082"
2437/2	2	20	19/32	.142"
2437/3	3	20	19/32	.151"
2437/4	4	20	19/32	.168"
2437/5	5	20	19/32	.180"
2438	1	18	19/30	.093"
2438/2	2	18	19/30	.162"
2438/3	3	18	19/30	.172"
2438/4	4	18	19/30	.191"
2438/5	5	18	19/30	.210"
2439	1	16	19/29	.103"
2439/2	2	16	19/29	.184"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

NO SHIELD—TEFLON* IMPREGNATED FIBERGLASS OVERALL



Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2464	1	26	7/34	.040"
2464/2	2	26	7/34	.080"
2465	1	24	19/36	.044"
2465/2	2	24	19/36	.088"
2465/3	3	24	19/36	.096"
2465/4	4	24	19/36	.108"
2465/5	5	24	19/36	.116"
2466	1	22	19/34	.051"
2466/2	2	22	19/34	.100"
2466/3	3	22	19/34	.108"
2466/4	4	22	19/34	.122"
2466/5	5	22	19/34	.131"
2467	1	20	19/32	.058"
2467/2	2	20	19/32	.118"
2467/3	3	20	19/32	.127"
2467/4	4	20	19/32	.144"
2467/5	5	20	19/32	.156"
2468	1	18	19/30	.069"
2468/2	2	18	19/30	.138"
2468/3	3	18	19/30	.148"
2468/4	4	18	19/30	.167"
2468/5	5	18	19/30	.186"
2469	1	16	19/29	.086"
2469/2	2	16	19/29	.172"

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.
Special cable constructions and colors available.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

KINKLESS TEST LEAD WIRE • UL & CSA HOOK-UP WIRE • TYPE F & FF PER MIL-W-16878D • SILICONE RUBBER LEAD WIRE • HIGH VOLTAGE CABLE • SHIELDED HOOK-UP WIRE

RUBBER KINKLESS TEST LEAD WIRE



Suitable as Test Lead Wire in analyzers, instruments, oscillators, meters, etc. Wherever extra flexibility and limpness is necessary. Single conductor, extra flexible stranded soft tinned copper, separator, wall color coded rubber, smooth wax finish.

OPERATING TEMPERATURE: −20°C to +60°C. Colors: Red, black

DABURN No.	Size	Strand	Nom. Insul. Wall	Sugg. Voltage	O.D. Nom.
2715	20	41/36	3/64″	3,000V	.137″
2716	18	65/36	3/64″	5,000V	.145″
*2718	18	65/36	3/64″	5,000V	.145″
2717	18	65/36	3/64″	10,000V	.210″

* Types WS-16/U Black, WS17/U Red Per MIL-W-13169.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

PLASTIC KINKLESS TEST LEAD WIRE



Soft formulation vinyl maximum flexibility. Temperature stability from −80°C to +115°C. Exceed requirements for MIL-I-3930A Type JP (PVC). Suitable for test leads, etc. Resistant to gasoline and oil. Excellent abrasion Resistance.

DESCRIPTION: One conductor tinned copper stranded, special formulation vinyl insulation — smooth surface.

OPERATING TEMPERATURE: −80°C to +115°C, 5000V rating.

COLORS: Black, Red, Yellow, Green, White, Blue.

DABURN No.	Size	Strand	Ins.	Nom. O.D.
2722/22	22	26/36	.032″	.100″
2722/20	20	26/34	.032″	.104″
2722/18	18	65/36	.032″	.112″
2722/16	16	65/34	.032″	.129″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

UL PLASTIC HOOK-UP WIRE

300 VOLT UL APPROVED — 80°C

STYLE 1007, CSA TR-64



DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2628/24	24	7/32	.016″	.057″
2628/22	22	7/30	.016″	.065″
2628/20	20	10/30	.016″	.070″
2628/18	18	16/30	.016″	.080″
2628/16	16	26/30	.016″	.095″

COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

SEMI-RIGID BUSINESS MACHINE WIRE — U.L.

300 VOLT 80°C — STYLE 1061

Stranded tinned copper, color coded semi-rigid polyvinlchloride insulation. Has Temperature Rating of −10°C to +80°C, 300 volts in electronic computers or business machines only.



DESCRIPTION: One Conductor stranded tinned copper, semi-rigid PVC.

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2660/26	26	7/34	.009″	.039″
2660/24	24	7/32	.009″	.041″
2660/22	22	7/30	.009″	.048″
2660/20	20	7/28	.009″	.056″
2660/18	18	7/26	.009″	.072″

STD. PUT-UP: 500 Ft., 1000 Ft. Available with Solid Conductor.

600 VOLT UL APPROVED — 105°C (CSA 600V — 90°C)

STYLE 1015, CSA TR-32

Resistant to acids, alkalis, oil, flame, fungus and moisture. Temperature Rating: −10°C to +105°C.



DESCRIPTION: One conductor stranded annealed copper tinned, plastic insulation.

Kynar Wire Wrap to UL specifications available to order.

STRANDED

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2630	22	7/30	.032″	.095″
2631	20	10/30	.032″	.102″
2632	18	16/30	.032″	.112″
2633	16	26/30	.032″	.126″
2633/14	14	41/30	.032″	.142″
SOLID				
2635/22	22	1	.032″	.095″
2635/20	20	1	.032″	.102″

COLORS: Black, Red, Green, Yellow, Blue, White, Orange, Gray, Purple.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

MIL-W-16878D — TYPES F & FF



TYPE F — 600V • TYPE FF — 1000V
Single conductor, stranded tinned copper. Extruded silicone rubber overall. Temp. to 200°C.

DABURN No.	MIL Type Designation	Size AWG	Strand	Nom. O.D.
2620/28	F-28	28	7/36	.046″
2622/28	FF-28	28	7/36	.078″
2620/26	F-26	26	7/34	.050″
2622/26	FF-26	26	7/34	.082″
2620/24	F-24	24	19/36	.055″
2622/24	FF-24	24	19/36	.087″
2620/22	F-22	22	19/34	.062″
2622/22	FF 22	22	19/34	.094″
2620/20	F-20	20	19/32	.070″
2622/20	FF-20	20	19/32	.102″
2620/18	F-18	18	19/30	.080″
2622/18	FF-18	18	19/30	.112″
2620/16	F-16	16	19/29	.088″
2622/16	FF-16	16	19/29	.120″
2620/14	F-14	14	19/27	.118″
2622/14	FF-14	14	19/27	.165″
2620/12	F-12	12	19/25	.137″
2622/12	FF-12	12	19/25	.184″
2622/10	FF-10	10	37/26	.205″
2622/8	FF-8	8	133/29	.290″
2622/6	FF-6	6	133/27	.333″
2622/4	FF-4	4	133/25	.390″

COLOR: White. Additional colors, sizes and types to order, thru size 4/0

STD. PUT-UP: 500 Ft., 1000 Ft.

SILICONE RUBBER LEAD WIRE

600 VOLT — 200°C

FLEXIBILITY FROM −104°C TO +400°F

Suitable for high-heat and hi-frequency applications. Resistant to acids, alkali, oil. Retains physical properties under extremes. Low power factor, low dielectric constant. Tinned copper, stranded, silicone rubber insulation, glass braid, lacquered. Color: White. Additional Colors Available.



DESCRIPTION: One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered.

STOCK COLOR: White.

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2625/22	22	7/30	1/32″	.105″
2625/20	20	10/30	1/32″	.121″
2625/18	18	16/30	1/32″	.128″
2625/16	16	26/30	1/32″	.144″
2625/14	14	41/30	1/32″	.165″
2625/12	12	65/30	1/32″	.185″
2625/10	10	65/28	3/64″	.240″
2625/8	8	84/27	1/16″	.320″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

HI-VOLTAGE CABLE

One conductor, stranded copper tinned, rulan — flame retardant — polyethylene insulation, braided tinned copper overall when shielded. Used as hi-voltage leads in electronic equipment to minimize RF radiation in equipment.



DESCRIPTION: One conductor, stranded copper tinned, rulan (flame retarding type) polyethylene insulation. Available white/red tracer. Temp. Rating: 105°C.

Shielded: Same as above with tinned copper braided shield overall. Special construction available to order.

UNSHIELDED

Daburn No.	Size AWG	Strand	Nom. Ins. Wall	Voltage Breakdown AC	DC	Nom. O.D.
2641	22	7/30	.047″	5,000	10,000	.124″
2642	20	10/30	.047″	5,000	10,000	.125″
2643	20	10/30	.068″	10,000	20,000	.168″
2644	18	16/30	.047″	5,000	10,000	.134″
2645	18	16/30	.068″	10,000	20,000	.178″
2648	18	16/30	.095″	16,000	40,000	.235″
2649	18	16/30	.124″	26,000	60,000	.280″
SHIELDED						
2652	20	10/30	.095″	16,000	40,000	.252″
2655	18	16/30	.095″	16,000	40,000	.255″
2656	16	26/30	.095″	16,000	40,000	.276″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

SHIELDED HOOK-UP WIRE

One conductor, tinned copper stranded, polyvinylchloride insulation, lacquered glass braid, overall tinned copper shielded braid.



OPERATING TEMPERATURE: −20°C to +60°C. 600V Rating

DABURN No.	Size	Strand	Nom. Wall	Nom. O.D.
2727/22	22	7/30	.016″	.095″
2727/20	20	10/30	.016″	.105″
2727/18	18	16/30	.016″	.125″
2727/16	16	26/30	.016″	.135″
2727/14	14	41/30	.016″	.155″
2727/12	12	65/30	.016″	.175″
2727/10	10	105/30	.025″	.200″

STD. PUT-UP: 1000 Ft.

© United Technical Publications

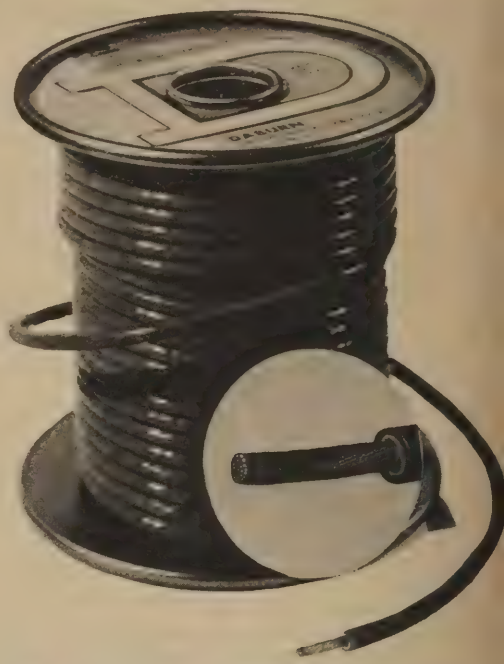
DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW CRT HI-VOLT CORONA RESISTANT TEFLON* CABLE©

Voltage Rating at Sea Level • Voltage Rating at 80,000 feet, approximately 1/3 lower
• Minimum life expectancy: 10,000 hours.

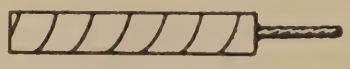


SMALL SIZE:
You do not need bulky, thick, insulation jacketing as used with silicone rubber and polyethylene insulations to get your hi-voltage requirements. Wire used is MIL-SPEC QQ-W-343 and MIL-W-16878D. Insulation used conforms to and surpasses MIL-SPEC-W-16878D

AVOID CORONA PROBLEMS:
Corona resistant Teflon construction is specifically designed to retard and prevent corona penetration. Temperature variations from −60° to +300°C have no life effect on the corona resistant Teflon. In addition, there is no stress or crack failure under severe, adverse conditions including mechanical strain, moisture, corona or chemical conditions.

DESCRIPTION:
Single Conductor, Stranded Silver Plated Copper, Corona Resistant Teflon* Insulation.

TEMPERATURE RATING:
−90°C to +250°C.



VOLTAGE RATING:
Based on insulation thickness.

AVAILABLE COLORS:
White, Black, Red, Green, Yellow, Lt. Blue, Brown, Orange, Gray, Violet. (Also available in tracer colors)

PUT-UP: 250′, 500′, 1000′

*DUPONT

ADDITIONAL SIZES AND VOLTAGES AVAILABLE

DABURN No.	AWG Size	Strand	Voltage Rating AC	Voltage Rating DC	Nom. O.D.
CRT-12-2	12	19/25	2500	10,000	.142″
CRT-12-2.5	12	19/25	3750	12,500	.152″
CRT-12-3	12	19/25	4500	15,000	.162″
CRT-12-3.5	12	19/25	5300	17,500	.172″
CRT-12-4	12	19/25	6000	20,000	.182″
CRT-12-5	12	19/25	7500	25,000	.202″
CRT-12-6.5	12	19/25	10,000	32,500	.232″
CRT-12-8	12	19/25	12,000	40,000	.262″
CRT-12-10	12	19/25	15,000	50,000	.302″
CRT-14-2	14	19/27	2500	10,000	.124″
CRT-14-2.5	14	19/27	3750	12,500	.134″
CRT-14-3	14	19/27	4500	15,000	.144″
CRT-14-3.5	14	19/27	5300	17,500	.154″
CRT-14-4	14	19/27	6000	20,000	.164″
CRT-14-5	14	19/27	7500	25,000	.184″
CRT-14-6.5	14	19/27	10,000	32,500	.214″
CRT-14-8	14	19/27	12,000	40,000	.244″
CRT-14-10	14	19/27	15,000	50,000	.284″
CRT-16-2	16	19/29	2500	10,000	.109″
CRT-16-2.5	16	19/29	3750	12,500	.119″
CRT-16-3	16	19/29	4500	15,000	.129″
CRT-16-3.5	16	19/29	5300	17,500	.139″
CRT-16-4	16	19/29	6000	20,000	.149″
CRT-16-5	16	19/29	7500	25,000	.169″
CRT-16-6.5	16	19/29	10,000	32,500	.199″
CRT-16-8	16	19/29	12,000	40,000	.229″
CRT-16-10	16	19/29	15,000	50,000	.269″
CRT-18-2	18	19/30	2500	10,000	.102″
CRT-18-2.5	18	19/30	3750	12,500	.112″
CRT-18-3	18	19/30	4500	15,000	.122″
CRT-18-3.5	18	19/30	5300	17,500	.132″
CRT-18-4	18	19/30	6000	20,000	.142″
CRT-18-5	18	19/30	7500	25,000	.162″
CRT-18-6.5	18	19/30	10,000	32,500	.192″
CRT-18-8	18	19/30	12,000	40,000	.222″
CRT-18-10	18	19/30	15,000	50,000	.272″
CRT-20-2	20	19/32	2500	10,000	.092″
CRT-20-2.5	20	19/32	3750	12,500	.102″
CRT-20-3	20	19/32	4500	15,000	.112″
CRT-20-3.5	20	19/32	5300	17,500	.122″
CRT-20-4	20	19/32	6000	20,000	.132″
CRT-20-5	20	19/32	7500	25,000	.152″
CRT-20-6.5	20	19/32	10,000	32,500	.192″
CRT-20-8	20	19/32	12,000	40,000	.212″
CRT-20-10	20	19/32	15,000	50,000	.252″
CRT-22-2	22	19/34	2500	10,000	.084″
CRT-22-2.5	22	19/34	3750	12,500	.094″
CRT-22-3	22	19/34	4500	15,000	.104″
CRT-22-3.5	22	19/34	5300	17,500	.114″
CRT-22-4	22	19/34	6000	20,000	.124″
CRT-22-5	22	19/34	7500	25,000	.144″
CRT-22-6.5	22	19/34	10,000	32,500	.174″
CRT-22-8	22	19/34	12,000	40,000	.204″
CRT-22-10	22	19/34	15,000	50,000	.244″
CRT-24-2	24	19/36	2500	10,000	.077″
CRT-24-2.5	24	19/36	2750	12,500	.087″
CRT-24-3	24	19/36	4500	15,000	.097″
CRT-24-3.5	24	19/36	5300	17,500	.107″
CRT-24-4	24	19/36	6000	20,000	.117″
CRT-24-5	24	19/36	7500	25,000	.137″
CRT-24-6.5	24	19/36	10,000	32,500	.167″
CRT-24-8	24	19/36	12,000	40,000	.197″
CRT-24-10	24	19/36	15,000	50,000	.237″
CRT-26-2	26	7/34	2500	10,000	.071″
CRT-26-2.5	26	7/34	3750	12,500	.081″
CRT-26-3	26	7/34	4500	15,000	.091″
CRT-26-3.5	26	7/34	5300	17,500	.101″
CRT-26-4	26	7/34	6000	20,000	.111″
CRT-26-5	26	7/34	7500	25,000	.131″
CRT-26-6.5	26	7/34	10,000	32,500	.161″
CRT-26-8	26	7/34	12,000	40,000	.191″
CRT-26-10	26	7/34	15,000	50,000	.231″
CRT-28-2	28	7/36	2500	10,000	.067″
CRT-28-2.5	28	7/36	3750	12,500	.077″
CRT-28-3	28	7/36	4500	15,000	.087″
CRT-28-3.5	28	7/36	5300	17,500	.097″
CRT-28-4	28	7/36	6000	20,000	.117″
CRT-28-5	28	7/36	7500	25,000	.127″
CRT-28-6.5	28	7/36	10,000	32,500	.157″
CRT-28-8	28	7/36	12,000	40,000	.187″
CRT-28-10	28	7/36	15,000	50,000	.227″

© Copyright Daburn 1968

© United Technical Publications

DABURN

DABURN electronics & cable corp.

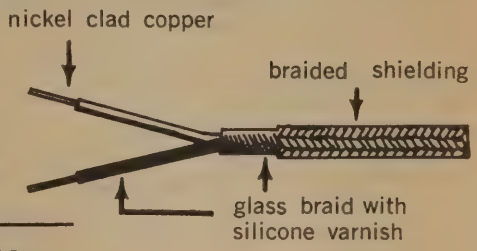
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW DABURN HIGH TEMPERATURE LEAD WIRE

Small Diameters and High Temperature performance make an outstanding combination for these unique constructions. Basic wire conforms to MIL-W-3861 spec. shielding per MIL-N-46026A. 600V RMS.

800°F TEMPERATURE RATING

High temperature aircraft and missile lead wire for operation between 500°F and 800°F. Nickel clad copper conductors with glass braided fiber insulation impregnated with silicone varnish. Multiconductor and shielded construction will be manufactured to customer's specifications.

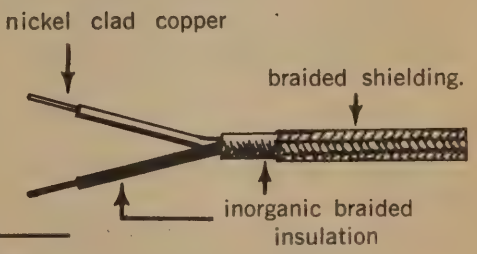


DABURN Cat. No.	Size	Strand	CMA	Nom. O.D.
2497/18	18	19/.010″	1900	.085″
2497/20	20	19/.008″	1216	.075″
2497/22	22	19/.0063″	755	.070″

STD. PUT-UP: 500 Ft., 1000 Ft.

1500°F TEMPERATURE RATING

High temperature radiation resistant aircraft and missile lead wire for operation between 800°F and 1500°F. Nickel clad copper conductors with inorganic braided insulation. Useful up to 1500°F providing moisture resistance is not required. Multiconductor and shielded construction can be made to customer's specifications.

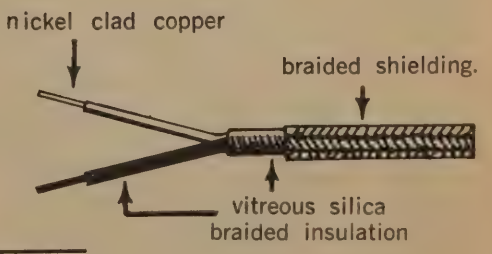


DABURN Cat. No.	Size	Strand	CMA	Nom. O.D.
2498/18	18	19/.010″	1900	.085″
2498/20	20	19/.008″	1216	.075″
2498/22	22	19/.0063″	755	.070″

STD. PUT-UP: 500 Ft., 1000 Ft.

2000°F TEMPERATURE RATING

High temperature radiation resistant aircraft and missile lead wire for operation between 1500°F and 2000°F. Nickel clad copper conductors with vitreous silica braided insulation and a braided shielding. Useful up to 2000°F providing no initial moisture resistance or abrasion resistance is required. Multiconductor construction can be made to customer's specifications.



DABURN Cat. No.	Size	Strand	CMA	Nom. Insulation Thickness	Braid Ni. Shield	Nom. O.D.
2499/18	18	19/.010″	1900	.025″	16-5-36	.122″
2499/20	20	19/.008″	1216	.025″	24-3-36	.112″
2499/22	22	19/.0063″	755	.027″	24-3-36	.108″

STD. PUT-UP: 500 Ft., 1000 Ft.

© United Technical Publications

DABURN

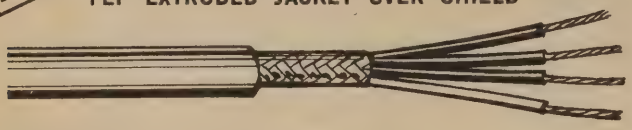
DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW

FEP TEFLON* CABLE

FEP EXTRUDED JACKET OVER SHIELD



DESCRIPTION: Each conductor silver plated stranded copper wire, Type E extruded TFE .010″ insulation. Color coded, cabled, braided silver plated copper shield — 90% coverage, FEP white teflon jacket overall.

TEMPERATURE RATING: −65°C to +200°C. **VOLTAGE RATING:** 600 V.

DABURN No.	Conds.	AWG Size	Strand	Nom. O.D.
2480	1	24	19/36	.085″
2480/2	2	24	19/36	.130″
2480/3	3	24	19/36	.135″
2480/4	4	24	19/36	.148″
2481	1	22	19/34	.091″
2481/2	2	22	19/34	.150″
2481/3	3	22	19/34	.158″
2481/4	4	22	19/34	.172″
2482	1	20	19/32	.100″
2482/2	2	20	19/32	.168″
2482/3	3	20	19/32	.178″
2482/4	4	20	19/32	.193″
2483	1	18	19/30	.110″
2483/2	2	18	19/30	.188″
2483/3	3	18	19/30	.207″
2483/4	4	18	19/30	.222″
2484	1	16	19/29	.123″
2484/2	2	16	19/29	.220″

CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green *Dupont

STD. PUT-UP: 500 Ft., 1000 Ft.

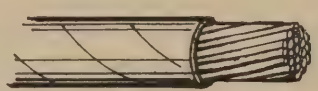
NEW

H FILM KAPTON* WIRE

DALITE™

HIGH TEMPERATURE HOOK-UP AND AIRFRAME WIRE 200°C CONTINUOUS TEMPERATURE RATING (a)

INSULATED WITH DUPONT KAPTON* POLYMIDE FILM WITH TEFLON* — FEP HEAT SEALED COATING CONFORMS TO MIL-W-81381.



CHARACTERISTICS: Dalite™ insulated wire provides high temperature stability, low temperature flexibility, high radiation resistance, resistance to cold flow, impervious to most chemicals, high dielectric strength, low dielectric constant, smaller diameters and lighter weight than any other comparable wire used for continuous operation up to 200°C. This hook-up wire meets the test requirements of MIL-W-16878 for 300 V, 600 V and 1000 V with **smaller wall thicknesses, weight and dimensions.**

(a) Temperature based on lowest temperature rating of materials in the insulation — FEP 200°C. Will pass 96 hour heat age tests at 290°C per MIL-W-16878.

DESCRIPTION: Single conductor, silver plated annealed copper conductors, Type H* Polymide film with Teflon* FEP coating tape wrapped overall.

DABURN No.	Type Designation	Size AWG	Strand	Voltage Rating (rms)	Nom. Wall	Nom. O.D.	Weight Per 1000′ (lbs.)
2490/30	HF 30	30	7/38	600	.0045″	.021″	0.52
2495/30	HHF 30	30	7/38	1000	.006″	.024″	0.57
2490/28	HF 28	28	7/36	600	.0045″	.024″	0.75
2495/28	HHF 28	28	7/36	1000	.006″	.027″	0.83
2490/26	HF 26	26	7/34	600	.0045″	.028″	1.11
2495/26	HHF 26	26	7/34	1000	.006″	.031″	1.21
2490/24	HF 24	24	19/36	600	.0045″	.034″	1.78
2495/24	HHF 24	24	19/36	1000	.006″	.037″	1.90
2490/22	HF 22	22	19/34	600	.0045″	.041″	2.71
2495/22	HHF 22	22	19/34	1000	.006″	.044″	2.86
2490/20	HF 20	20	19/32	600	.0045″	.049″	4.18
2495/20	HHF 20	20	19/32	1000	.006″	.052″	4.35
2490/18	HF 18	18	19/30	600	.0045″	.059″	6.46
2495/18	HHF 18	18	19/30	1000	.006″	.062″	6.67
2490/16	HF 16	16	19/29	600	.0045″	.066″	8.16
2495/16	HHF 16	16	19/29	1000	.006″	.069″	8.39

STD. COLOR: Natural Gold. Striping and solid colors available. Variations of conductor material—to special order.

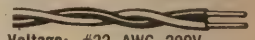
STD. PUT-UP: 1000 Ft.

*DUPONT *KAPTON - DUPONT

UNSHIELDED AUDIO CABLE

SOLID AND STRANDED CONDUCTORS (2 & 3)

FOR INDOOR USE — NO OUTER JACKET



Tinned copper, vinyl plastic insulation, color coded, conductors twisted.

Operating Temp.: −20°C to +60°C. **Operating Voltage:** #22 AWG 200V, #20 AWG 350V, #18 AWG 400V, #16, #14 AWG 600V.

DABURN No.	Cond.	Size	Strand	Insul. Wall	Nom. O.D.
3004	2	22 Solid	1	.016″	.100″
3004/3	3	22 Solid	1	.016″	.115″
3005	2	20 Solid	1	.016″	.120″
3005/3	3	20 Solid	1	.016″	.140″
3006	2	18 Solid	1	.016″	.145″
3006/3	3	18 Solid	1	.016″	.155″
3007	2	16 Solid	1	.016″	.175″
3007/3	3	16 Solid	1	.016″	.190″
3011	2	22 Stranded	7/30	.016″	.125″
3011/3	3	22 Stranded	7/30	.016″	.140″
3012	2	20 Stranded	10/30	.016″	.145″
3012/3	3	20 Stranded	10/30	.016″	.160″
3013	2	18 Stranded	16/30	.016″	.165″
3013/3	3	18 Stranded	16/30	.016″	.180″
3014	2	16 Stranded	26/30	.016″	.190″
3014/3	3	16 Stranded	26/30	.016″	.210″
3015	2	14 Stranded	41/30	.016″	.220″
3015/3	3	14 Stranded	41/30	.016″	.240″
3016	2	12 Stranded	65/30	.020″	.250″
3016/3	3	12 Stranded	65/30	.020″	.275″

CONDUCTOR COLOR CODE: 1—Brown, 2—Tan, 3—Gray.

STD. PUT-UP: 1000 Ft.

PLASTIC JACKET OVERALL

FOR OUTDOOR USE



Tinned copper, vinyl plastic insulation, color coded, twisted, plastic jacket overall.

Operating Temp.: −20°C to +60°C.

Operating Voltage: #22 AWG 200V, #20 AWG 350V, #18 AWG 400V, #16, #14 AWG 600V.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Jacket	Nom. O.D.
3020	2	22	1	.010″	.020″	.125″
3020/3	3	22	1	.010″	.020″	.130″
3020/4	4	22	1	.010″	.020″	.150″
3021	2	20	1	.016″	.020″	.170″
3021/3	3	20	1	.016″	.020″	.180″
3021/4	4	20	1	.016″	.020″	.200″
3022	2	18	1	.016″	.020″	.185″
3022/3	3	18	1	.016″	.020″	.190″
3022/4	4	18	1	.016″	.020″	.220″
3022/5	5	18	1	.016″	.020″	.235″
3022/6	6	18	1	.016″	.020″	.265″
3027	2	22	7/30	.010″	.020″	.130″
3027/3	3	22	7/30	.010″	.020″	.140″
3027/4	4	22	7/30	.010″	.020″	.165″
3028	2	20	10/30	.016″	.020″	.175″
3028/3	3	20	10/30	.016″	.020″	.185″
3028/4	4	20	10/30	.016″	.020″	.195″
3029	2	18	16/30	.016″	.020″	.195″
3029/3	3	18	16/30	.016″	.020″	.205″
3029/4	4	18	16/30	.016″	.020″	.235″
3029/6	6	18	16/30	.016″	.020″	.290″
3030	2	16	26/30	.016″	.020″	.220″
3030/3	3	16	26/30	.016″	.020″	.245″
3030/4	4	16	26/30	.016″	.020″	.270″
3031	2	14	41/30	.016″	.020″	.260″
3031/3	3	14	41/30	.016″	.020″	.280″

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Orange. 6—Blue.

STD. PUT-UP: 1000 Ft.

SPECIAL CONSTRUCTION AVAILABLE

PLASTIC INTER-COM CABLE

Station to station wiring to eliminate cross-talk. Each conductor tinned copper stranded, color coded PVC, T.C. braid, shield where indicated, paired, grey polyvinylchloride jacket overall.



2935 — Suitable for unbalanced systems.

2935/4 — Suitable for balanced systems.

2935/5 — Suitable for coin operated phonographs.

OPERATING VOLTAGE: 350 Volts.

OPERATING TEMPERATURE: −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	No. Cond. Shield	Nom. Wall	Nom. Jacket	O.D.
2935	3	22	7/30	1	.016″	.020″	.200″
2935/4	4	22	7/30	2	.016″	.020″	.180″x.285″
2935/5	5	22	7/30	3	.016″	.020″	.200″x.300″

CONDUCTOR COLOR CODE: **STD. PUT-UP:** 500 Ft., 1000 Ft.

2935 — White — shielded; Black, Red — unshielded.

2935/4 — Black, White — Shielded; Black, Red — unshielded.

2935/5 — Black, White, Red — shielded; Black, Red — unshielded.

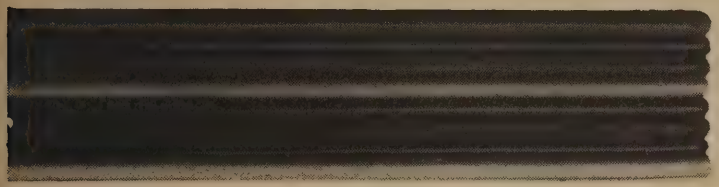
© United Technical Publications

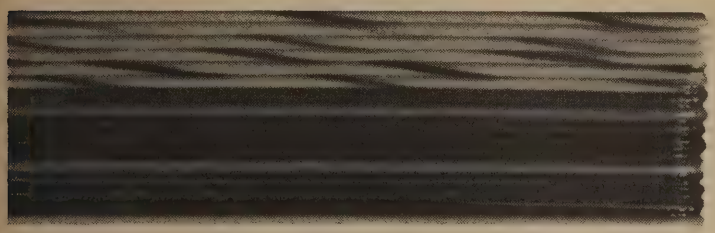
DABURN

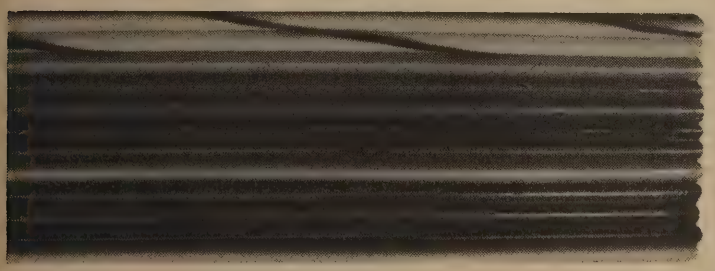
DABURN electronics & cable corp.

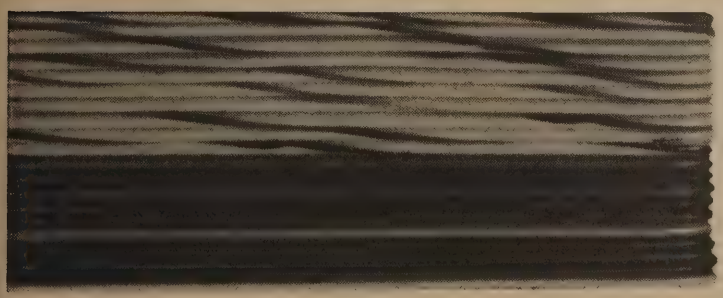
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW FLAT RIBBON CABLE, TYPES B & C PER MIL-W-16878D













MULTI-CONDUCTOR — POLYVINYLCHLORIDE INSULATION CONDUCTORS
Per MIL-W-16878D — TYPE B — 600 V

DESCRIPTION: Each conductor stranded tinned copper .010" polyvinylchloride insulation bonded to form flat ribbon cable.

Rated: −55°C to +105°C. Voltage Rating: 600 volts. Resists acid, alkalis, flame, moisture, oil, solvents, fungus. Conductors are color coded and separate easily for clean terminations. Saves space, time on circuit and interconnecting assemblies, wiring harnesses, sliding drawers and drop assemblies.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1804/4	4	24	7/32	.010"	.043" x .172"
1804/8	8	24	7/32	.010"	.043" x .344"
1804/12	12	24	7/32	.010"	.043" x .516"
1804/16	16	24	7/32	.010"	.043" x .688"
1804/20	20	24	7/32	.010"	.043" x .860"

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: Same as noted below for C-22 Series.



FLAT RIBBON CABLE
MULTI-CONDUCTOR — POLYVINYLCHLORIDE INSULATION CONDUCTORS
Per MIL-W-16878D TYPE C

VOLTAGE RATING: 1000 VOLTS

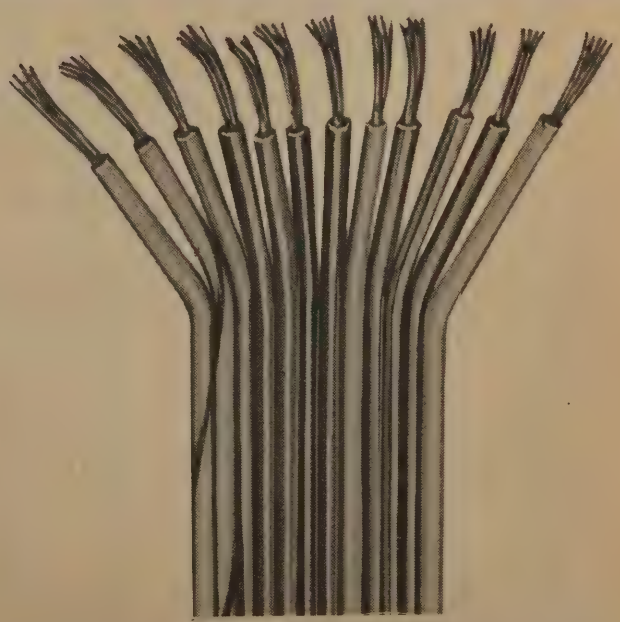
DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1822/4	4	22	7/30	.016"	.065" x .260"
1822/8	8	22	7/30	.016"	.065" x .520"
1822/12	12	22	7/30	.016"	.065" x .780"
1822/16	16	22	7/30	.016"	.065" x 1.040"
1822/20	20	22	7/30	.016"	.065" x 1.300"

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE:

1—White	6—Lt. Blue	11—Wh/Black	16—Wh/Brown
2—Black	7—Brown	12—Wh/Red	17—Wh/Orange
3—Red	8—Orange	13—Wh/Green	18—Wh/Gray
4—Green	9—Gray	14—Wh/Yellow	19—Wh/Violet
5—Yellow	10—Violet	15—Wh/Blue	20—Wh/Blk/Red

ADDITIONAL SIZES & TYPES AVAILABLE TO ORDER



© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

HEAVY DUTY TWISTED PAIRS INTERCOM CABLES — (Stranded)

NEW

Where larger conductors are indicated, we suggest these No. 18 gauge cables. Rugged yet flexible — abrasion resistant. Gray vinyl jacket overall.
Standard intercom color coding for paired cables applies **300V.**



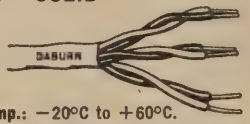
DABURN No.	Pairs	Cond.	Size	Nom. O.D.
3003/3	3	6	18-16/30	.365″
3003/6	6	12	18-16/30	.560″
3003/9	9	18	18-16/30	.650″
3003/15	15	30	18-16/30	.875″

STD. PUT-UP: 500 Ft., 1000 Ft.

PLASTIC INTERCOMMUNICATION CABLES

TWISTED PAIRS — SOLID

Each Cond. #22 **Solid** Tinned Copper, .010″ wall (Operating Temp. −20°C to +60°C). Vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable for outdoor installations.
Operating Voltage: 200 Volts. **Operating Temp.:** −20°C to +60°C.



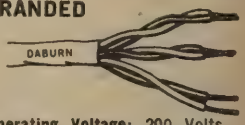
DABURN No.	Pairs	Cond.	Size	Nom. Jacket	Nom. O.D.
3000	1	2	22 Solid	.020″	.130″
3000/2	2	4	22 Solid	.020″	.205″
3000/3	3	6	22 Solid	.020″	.215″
3000/6	6	12	22 Solid	.020″	.275″
3000/9	9	18	22 Solid	.020″	.310″
3000/11	11	22	22 Solid	.020″	.340″
3000/13	13	26	22 Solid	.025″	.385″
3000/15	15	30	22 Solid	.025″	.390″
3000/16	16	32	22 Solid	.025″	.415″
3000/27	27	54	22 Solid	.035″	.505″
3000/31	31	62	22 Solid	.035″	.555″
3000/41	41	82	22 Solid	.035″	.630″
3000/51	51	102	22 Solid	.045″	.735″
3000/76	76	152	22 Solid	.070″	.970″
3000/101	101	202	22 Solid	.080″	1.140″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. Other pairs available to order.

PLASTIC INTERCOMMUNICATION CABLES

TWISTED PAIRS — STRANDED

Each Cond. #22 7/30 Tinned Copper, .010″ wall vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable outdoor installations.
Operating Temperature: −20°C to +60°C. **Operating Voltage:** 200 Volts.



DABURN No.	Pairs	Cond.	Size	Strand	Nom. O.D.
3002	1	2	22	7/30	.145″
3002/2	2	4	22	7/30	.210″
3002/3	3	6	22	7/30	.225″
3002/4	4	8	22	7/30	.235″
3002/5	5	10	22	7/30	.245″
3002/6	6	12	22	7/30	.290″
3002/9	9	18	22	7/30	.350″
3002/11	11	22	22	7/30	.365″
3002/15	15	30	22	7/30	.455″
3002/19	19	38	22	7/30	.480″
3002/23	23	46	22	7/30	.530″
3002/27	27	54	22	7/30	.570″
3002/31	31	62	22	7/30	.635″
3002/41	41	82	22	7/30	.710″
3002/51	51	102	22	7/30	.800″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

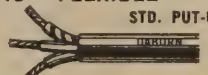
CONDUCTOR COLOR CODE CHART FOR PAIRED INTERCOM CABLES

PAIR NO.	COLOR COMBINATION
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow
28	Purple paired with Red
29	Purple paired with White
30	Purple paired with Green
31	Purple paired with Blue
32	Purple paired with Brown
33	Purple paired with Yellow
34	Purple paired with Orange
35	Purple paired with Slate
36	Purple paired with Black
37	Slate paired with Red
38	Slate paired with White
39	Slate paired with Green
40	Slate paired with Blue
41	Slate paired with Brown
42	Slate paired with Yellow
43	Slate paired with Orange
44	Slate paired with Black
45	White/Black paired w. Red
46	White/Black paired w. Green
47	White/Black paired w. Blue
48	White/Black paired w. Brown
49	White/Black paired w. Yellow
50	White/Black paired w. Orange
51	White/Black paired w. Purple

MULTI-CONDUCTOR — PLASTIC JACKET

UNSHIELDED AUDIO — FLEXIBLE

Each Cond. #22 7/30 Tinned Copper, stranded, .010″ wall plastic insulation, color coded, twisted, gray vinyl jacket overall. Suitable for signal, P.A. systems, computer cable—for outdoor use.
STD. PUT-UP: 500 Ft.
Operating Voltage: 200 Volts. **Operating Temperatures:** −20°C to +60°C.



DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
3054/2	2	22	7/30	.010″	.020″	.140″
3054/3	3	22	7/30	.010″	.020″	.145″
3054/4	4	22	7/30	.010″	.020″	.170″
3054/5	5	22	7/30	.010″	.020″	.175″
3054/6	6	22	7/30	.010″	.020″	.185″
3054/7	7	22	7/30	.010″	.020″	.190″
3054/8	8	22	7/30	.010″	.020″	.200″
3054/9	9	22	7/30	.010″	.020″	.225″
3054/10	10	22	7/30	.010″	.020″	.235″
3054/12	12	22	7/30	.010″	.020″	.255″
3054/15	15	22	7/30	.010″	.020″	.280″
3054/20	20	22	7/30	.010″	.020″	.310″
3054/25	25	22	7/30	.010″	.020″	.340″
3054/30	30	22	7/30	.010″	.020″	.365″
3054/40	40	22	7/30	.010″	.025″	.425″
3054/50	50	22	7/30	.010″	.035″	.500″
3054/60	60	22	7/30	.010″	.035″	.530″

STD. PUT-UP: From 2 thru 7 cond. 500 ft.; from 8 thru 30 cond. 250 ft.

MULTI-CONDUCTOR COLOR CODE CHART

CONDUCTOR COLOR CODE:

1 — Black	21 — White/Brown	41 — White/Green/Red
2 — Red	22 — White/Orange	42 — White/Green/Green
3 — White	23 — White/Gray	43 — White/Green/Blue
4 — Green	24 — White/Violet	44 — White/Green/Brown
5 — Orange	25 — White/Black/Red	45 — White/Green/Purple
6 — Blue	26 — White/Black/Green	46 — White/Blue/Black
7 — Brown	27 — White/Black/Yellow	47 — White/Blue/Red
8 — Yellow	28 — White/Black/Blue	48 — White/Blue/Green
9 — Violet	29 — White/Black/Brown	49 — White/Blue/Blue
10 — Slate	30 — White/Black/Orange	50 — White/Blue/Brown
11 — Pink	31 — White/Black/Slate	51 — White/Blue/Purple
12 — Tan	32 — White/Black/Purple	52 — White/Brown/Black
13 — Red/Green	33 — White/Black/Black	53 — White/Brown/Red
14 — Red/Yellow	34 — White/Red/Black	54 — White/Brown/Green
15 — Red/Black	35 — White/Red/Red	55 — White/Brown/Blue
16 — White/Black	36 — White/Red/Green	56 — White/Brown/Brown
17 — White/Red	37 — White/Red/Blue	57 — White/Brown/Purple
18 — White/Green	38 — White/Red/Brown	58 — White/Purple/Red
19 — White/Yellow	39 — White/Red/Purple	59 — White/Purple/Green
20 — White/Blue	40 — White/Green/Black	60 — White/Purple/Blue

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

PORTABLE CORD, CONTROL CABLES — MIL-C-3432C SERVICE CORD

RUBBER, NEOPRENE & PLASTIC PORTABLE CORD
UL APPROVED — 300 AND 600 VOLT

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved. Neoprene and plastic construction recommended for equipment exposed to oil, acids, outdoor use, direct burial, etc.

SUGGESTED OPERATING TEMPERATURE: —20°C to +60°C.

Each conductor, copper conductor, paper separtor, color coded, rubber insulation, filler, (where necessary) separator, tough rubber or neoprene jacket, black.



UL TYPE	VOLT RATING
SV, SVO, SVTO	300V
SJ, SJO, SJTO	300V
S, SO, STO	600V

RUBBER Daburn No.	RUBBER UL Type	NEOPRENE Daburn No.	NEOPRENE UL Type	PLASTIC Daburn No.	PLASTIC UL Type	Conds. No.	Size	Amp. Rating	Nom. O.D.
2860	SV	2890	SVO	2870	SVTO	2	18	7	.250″
2860/3	SV	2890/3	SVO	2870/3	SVTO	3	18	7	.265″
2861	SJ	2891	SJO	2871	SJTO	2	18	7	.300″
2861/3	SJ	2891/3	SJO	2871/3	SJTO	3	18	7	.330″
2861/4	SJ	2891/4	SJO	2871/4	SJTO	4	18	6	.360″
2862	SJ	2892	SJO	2872	SJTO	2	16	10	.325″
2862/3	SJ	2892/3	SJO	2872/3	SJTO	3	16	10	.365″
2862/4	SJ	2892/4	SJO	2872/4	SJTO	4	16	8	.395″
2863	S	2893	SO	2873	STO	2	18	7	.390″
2863/3	S	2893/3	SO	2873/3	STO	3	18	7	.405″
2863/4	S	2893/4	SO	2873/4	STO	4	18	6	.435″
2864	S	2894	SO	2874	STO	2	16	10	.410″
2864/3	S	2894/3	SO	2874/3	STO	3	16	10	.430″
2864/4	S	2894/4	SO	2874/4	STO	4	16	8	.485″
2865	S	2895	SO	2875	STO	2	14	15	.540″
2865/3	S	2895/3	SO	2875/3	STO	3	14	15	.560″
2865/4	S	2895/4	SO	2875/4	STO	4	14	12	.605″
2866	S	2896	SO	2876	STO	2	12	20	.600″
2866/3	S	2896/3	SO	2876/3	STO	3	12	20	.635″
2866/4	S	2896/4	SO	2876/4	STO	4	12	16	.665″
2867	S	2897	SO	2877	STO	2	10	25	.640″
2867/3	S	2897/3	SO	2877/3	STO	3	10	25	.690″
2867/4	S	2897/4	SO	2877/4	STO	4	10	20	.745″
2868	—	2898	—	—	—	2	8†	35	.700″
2868/3	—	2898/3	—	—	—	3	8†	35	.750″
2868/4	—	2898/4	—	—	—	4	8†	28	.820″
2869	—	2899	—	—	—	2	6†	45	.820″
2869/3	—	2899/3	—	—	—	3	6†	45	.885″
2869/4	—	2899/4	—	—	—	4	6†	36	.975″

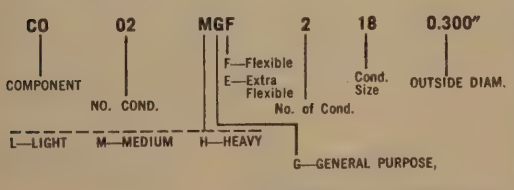
Additional conductors and sizes available † Not listed by UL.

CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Green, 4-Red.

STD. PUT-UP: 250 Ft.

COMPONENT CABLE TYPE SPECIFICATIONS

TYPICAL EXAMPLE:



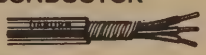
SPEC MIL-C-3432C SERVICE CORD



DABURN Cat. No.	MIL Type	Spec. Design.	Conds.	Size	Spec. No.	Nom. O.D.
2812	CO-02	MGF	2	18	MIL-C-3432C	.300″
2813	CO-02	HGF	2	18	MIL-C-3432C	.380″
2814	CO-02	LGF	2	18	MIL-C-3432C	.250″
2815	CO-02	HGF	2	16	MIL-C-3432C	.405″
2816	CO-02	MGF	2	16	MIL-C-3432C	.338″
2817	CO-02	MGF	2	14	MIL-C-3432C	.400″
2818	CO-02	HGF	2	14	MIL-C-3432C	.535″
2819	CO-03	MGF	3	18	MIL-C-3432C	.340″
2820	CO-03	MGF	3	16	MIL-C-3432C	.375″
2821	CO-03	HOE	3	12	MIL-C-3432C	.635″

Additional Numbers Available From Stock — Your Inquiries Invited

CONTROL CABLE
HEAVY DUTY MULTI-CONDUCTOR
PORTABLE TYPE SO
NEOPRENE JACKETED — 600 VOLT



DESCRIPTION: Stranded bare copper each conductor, rubber insulation color coded, filler where necessary, wrap over conductors, flexible heavy duty black Neoprene jacket overall.

Recommended for outside installation, this heavy duty control cable resists oil, ozone, sunlight, moisture, impact and abrasion. Suitable for remote control automatic equipment, telemetering, signal transmission.

No. 18 AWG-SO CONTROL CABLE

DABURN Cat. No.	Cond.	Size AWG	Strand	Nom. O.D.
3300/5	5	18	16/30	.495″
3300/6	6	18	16/30	.525″
3300/7	7	18	16/30	.525″
3300/8	8	18	16/30	.565″
3300/10	10	18	16/30	.635″
3300/12	12	18	16/30	.665″
3300/14	14	18	16/30	.715″
3300/16	16	18	16/30	.745″
3300/18	18	18	16/30	.775″
3300/20	20	18	16/30	.815″
3300/22	22	18	16/30	.875″
3300/24	24	18	16/30	.895″
3300/26	26	18	16/30	.915″
3300/30	30	18	16/30	.945″
3300/36	36	18	16/30	1.060″
3300/40	40	18	16/30	1.085″

No. 16 AWG-SO CONTROL CABLE

3305/5	5	16	26/30	.525″
3305/6	6	16	26/30	.560″
3305/7	7	16	26/30	.560″
3305/8	8	16	26/30	.605″
3305/10	10	16	26/30	.710″
3305/12	12	16	26/30	.745″
3305/14	14	16	26/30	.760″
3305/16	16	16	26/30	.800″
3305/18	18	16	26/30	.840″
3305/20	20	16	26/30	.890″
3305/22	22	16	26/30	.930″
3305/24	24	16	26/30	1.02″
3305/26	26	16	26/30	1.03″
3305/30	30	16	26/30	1.05″
3305/36	36	16	26/30	1.12″
3305/40	40	16	26/30	1.18″

No. 14 AWG-SO CONTROL CABLE

3310/5	5	14	41/30	.685″
3310/6	6	14	41/30	.745″
3310/7	7	14	41/30	.800″
3310/8	8	14	41/30	.860″
3310/10	10	14	41/30	.875″
3310/12	12	14	41/30	.945″
3310/14	14	14	41/30	1.000″
3310/16	16	14	41/30	1.075″
3310/18	18	14	41/30	1.115″
3310/20	20	14	41/30	1.155″

No. 12 AWG-SO CONTROL CABLE

3315/5	5	12	65/30	.760″
3315/6	6	12	65/30	.810″
3315/7	7	12	65/30	.860″
3315/8	8	12	65/30	.945″
3315/10	10	12	65/30	1.000″
3315/12	12	12	65/30	1.100″
3315/14	14	12	65/30	1.120″
3315/16	16	12	65/30	1.150″
3315/18	18	12	65/30	1.30″
3315/20	20	12	65/30	1.33″

STD. PUT-UP: Cut to Specific Lengths — Min. 100 Ft.

The Color Code for Neoprene Jacket Control Cables Conforms to IPCEA Standards.

CONTROL CABLE (unshielded)
MULTI-CONDUCTOR RUBBER JACKETED — GENERAL PURPOSE

SUGGESTED OPERATING TEMPERATURE: —20°C to +60°C.

Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speaker, interconnecting cable for all electronic uses.

Each conductor, extra flexible stranded tinned copper, insulated with a .022″ wall, special low capacity rubber, color coded, conductors twisted, filler (where necessary), cotton wrap with tough weatherproof black rubber jacket overall.



DABURN Cat. No.	Cond.	Size	Strand	Nom. O.D.
2802	2	20	26/34	.240″
2803	3	20	26/34	.255″
2804	4	20	26/34	.275″
2805	5	20	26/34	.300″
2806	6	20	26/34	.315″
2807	7	20	26/34	.325″
2808	8	20	26/34	.360″
2808/10	10	20	26/34	.410″
2808/12	12	20	26/34	.435″

For longer lengths and alternate Put-Ups — Specify

STD. PUT-UP: 100 Ft., 250 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Purple, 10-Slate, 11-Wh/Blk (Braid), 12-Wh/Red (Braid).

Shielded Neoprene & Rubber control cable available

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

SHIELDED AUDIO CABLE • COAXIAL CABLE • HEAVY DUTY MICROPHONE CABLE • CONTROL, SOUND & TRANSMISSION CABLES • 7MM CABLE

AUDIO CABLE — SHIELDED 2 CONDUCTOR SHIELDED

NO OUTER JACKET

Each conductor copper tinned, plastic insulation, color coded, twisted, tinned copper shield. Suitable for sound systems, industrial paging systems, broadcast-audio cable, rack panel wiring, etc.
OPERATING TEMPERATURE: —20°C to +60°C.



DABURN Cat. No.	Conds.	Size AWG.	Strand	Nom. Wall	Nom. O.D.	Nom. Operating Voltage
2902/30	2	30	7/38	.010″	.085″	200V
2902/28	2	28	7/36	.010″	.090″	200V
2902/26	2	26	7/34	.010″	.095″	200V
2902/24	2	24	16/36	.017″	.120″	350V
2902/22	2	22	7/30	.017″	.140″	350V
2902/20	2	20	10/30	.017″	.155″	350V
2902/18	2	18	16/30	.017″	.170″	350V
2902/16	2	16	26/30	.020″	.210″	450V
2902/14	2	14	41/30	.020″	.225″	450V
2902/12	2	12	65/30	.025″	.295″	600V
2902/10	2	10	105/30	.025″	.375″	600V

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—Black, 2—Red.

RG/U COAXIAL CABLE

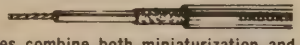
DESCRIPTION: One conductor, polyethylene insulation, copper braid shield, plastic jacket overall.

DABURN No.	Spool	Type	Nom. Imp.	Size	Nom. MMFD/ Ft.	Strand	O.D.
1925	500′	RG-8/U	52	13	29.5	7/21 Bare	.405″
1926	500′	RG-9/U	51	13	30.0	7/21 S	.420″
1927	500′	RG-11/U	75	18	20.5	7/26 Tinned	.405″
1928	1000′	RG-58A/U	50	20	29.0	19/.0068 Tinned	.195″
1929	1000′	RG-58/U	53.5	20	28.5	Solid	.195″
1930	1000′	RG-59/U	73	22	21.0	Solid C.W.	.242″
1931	1000′	RG-62/U	93	22	13.5	Solid	.242″

Additional RG numbers available conforming to MIL-C-17B Specs.

DABURN COAXIAL CABLES WITH HIGH TEMPERATURE TEFLON* CORE DIELECTRIC

Meets MIL-C-17C



These Teflon* Core Dielectric Co-Axial Cables combine both miniaturization and hi-temperature qualities. The Teflon Jackets are weatherproof, resistant to fuels and are extremely flexible. Shield: Silver Covered Copper.

DABURN No.	Military Number RG/U Type	Ohms	Cap. MMFT/ Ft.	Inner Conductor	O.D. Inches	Max. Oper. Volts RMS	Nom. Atten. DB/100′ 400 Mc	RG/U Type
D187A/U	187A/U	75	19.5	7/28 Silvered Copperweld	.110	1200	16.0	187A/U
D188/U	188/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188/U
D188A/U	188A/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188A/U
D195/U	195/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195/U
D195A/U	195A/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195A/U
D196/U	196/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196/U
D196A/U	196A/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196A/U

STD. PUT-UP: 500 Ft., 1000 Ft. *TEFLON—DUPONT
JKT MTL.: TFE Teflon.

7MM HIGH TENSION CABLE

#2730 — unshielded one conductor, insulation, cotton braid highly lacquered.
#2731 — same construction as above plus a closely woven tinned copper shielded braid overall.

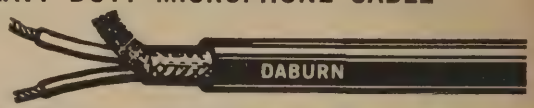


DABURN No.	Size	Strand	Insul.	O.D.
2730	16	19/29	3/32″	.275″
*2731 (Shielded)	16	19/29	3/32″	.295″

STD. PUT-UP: 100 Ft., 500 Ft. *10 amps at 25KV
Suitable for auto and aircraft ignition systems where grounding is indicated.

HEAVY DUTY MICROPHONE CABLE

NEW

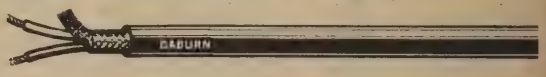


Studio type heavy duty plastic, shielded microphone cable. The hi-gloss, abrasion resistant jacket will withstand rough usage.
DESCRIPTION: 2 conductor #18 AWG stranded tinned copper, fillers where necessary. Braided tinned copper shield and black jacket overall.
OPERATING TEMPERATURE: —20°C to +60°C.

DABURN No.	Conds.	Size	Strand	Nom. Cap.	Nom. O.D.
2779	2	18	41/34	75 MMF	.293″

STD. PUT-UP: 250′, 500′, 1000′. Red jacket to order.
COLOR CODE: 1-White, 2-Black.

MULTI-CONDUCTOR MICROPHONE AND CONTROL CABLE — PLASTIC



Each conductor tinned copper, polyethylene insulation — color coded.
Multi-conductors cabled with fillers, textile wrapped, tinned copper braided shield, gray polyvinyl jacket overall.
OPERATING TEMPERATURE: —20°C to +60°C, 600 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Cap.	Nom. Oper. Voltage	Nom. O.D.
2782	2	22	16/34	31 MMF	1000 V	.231″
2782/20	2	20	26/34	45 MMF	600 V	.240″
2782/24*	2	24	10/34	38 MMF	1000 V	.190″

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2783	3	20	26/34	.014″	.030″	.250″
2784	4	20	26/34	.014″	.035″	.260″
2785	5	20	26/34	.014″	.035″	.275″
2786	6	20	26/34	.014″	.035″	.300″
2786/8	8	20	26/34	.014″	.035″	.330″
2786/10	10	20	26/34	.014″	.035″	.375″
2786/12	12	20	26/34	.014″	.035″	.380″
2786/15	15	20	26/34	.014″	.035″	.410″
2786/20	20	20	26/34	.014″	.035″	.455″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft. *Spiral Tinned Copper Shield.
CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange, 9-Purple, 10-Slate, 11-White/Black, 12-White/Red, 13-White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Purple, 18-White/Slate, 19-Black/Red, 20-Black/Yellow.

NEW

DABURN SHIELDED SOUND CABLE

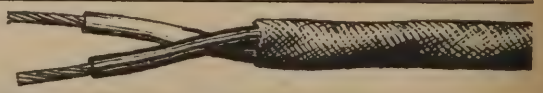


Suitable for balanced systems, small O.D., less bulk.
DESCRIPTION: Four conductor #22 stranded tinned copper, color coded polypropylene insulation, aluminum mylar foil shield and stranded T.C. drain wire over one pair. Chrome vinyl jacket overall.
OPERATING TEMPERATURE: —20°C to 80°C.

DABURN No.	Cond.	Size	Strand	No. Cond. Shielded	Nom. Wall	Nom. Jacket	Nom. O.D.
2936/4	4	22	7/30	2	.009	.020	.167

STD. PUT-UP: 500′, 1000′.
COLOR CODE: 1-Red, 2-Black, 3-Green, 4-White.

NEW



DABURN OUTDOOR TRANSMISSION CABLE

Suitable for outdoor use.
DESCRIPTION: Two conductor #18 AWG stranded, tinned copper, plastic insulation, cotton braid with a special rugged weather proof finish.
OPERATING TEMPERATURE: —20°C to +80°C.

DABURN Cat. No.	Cond.	Size	Stranding	Nom. Wall	Nom. O.D.
2996	2	18	16/30	.032	.245

COLOR CODE: 1-Black, 2-White. **PUT-UP:** 500′, 1000′.

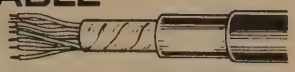
© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TELEPHONE CABLE



(Meets REA-PE-22)

EXCHANGE AREA — COMMUNICATION CABLE AERIAL, DUCT AND CONDUIT INSTALLATION

DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape wrap, corrugated aluminum shield, .008" thick and black polyethylene jacket overall.

Minimal cross talk .083 microfarads/mile — average mutual capacitance, 1 KC. This is a tough, long lasting cable — withstands weathering, ultra-violet and is abrasion resistant.

#22 AWG — SOLID CONDUCTORS

DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3510/3	3	.060"	.320"	60
3510/6	6	.060"	.390"	100
3510/12	12	.060"	.475"	145
3510/18	18	.060"	.540"	180
3510/25	25	.060"	.605"	226
3510/50	50	.060"	.775"	412
3510/75	75	.060"	.920"	576
3510/100	100	.070"	1.050"	706
3510/150	150	.070"	1.270"	1095
3510/200	200	.070"	1.455"	1382
3510/300	300	.080"	1.750"	1978
3510/400	400	.090"	1.970"	2600
3510/600	600	.100"	2.365"	3900
#19 AWG — SOLID CONDUCTORS				
3515/6	6	.060"	.490"	145
3515/12	12	.060"	.660"	231
3515/18	18	.060"	.710"	310
3515/25	25	.060"	.790"	391
3515/50	50	.070"	1.060"	716
3515/75	75	.070"	1.290"	1105
3515/100	100	.080"	1.490"	1380
3515/150	150	.080"	1.750"	2045
3515/200	200	.090"	1.990"	2630
3515/300	300	.100"	2.370"	3900

STD. PUT-UP: 100 Ft. and over. **CONDUCTOR COLOR CODE:** Per IPCEA. Cut to specification.

TELEPHONE CABLE

DIRECT BURIAL INSTALLATION

(Meets REA-PE-23)



DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape-wrap, inner jacket of polyethylene, corrugated .005" copper shield, overall black polyethylene jacket.

Minimal cross talk .083 microfarads/mile — average mutual capacitance 1 KC. Suitable for direct burial. Tough, impervious to moisture and abrasion resistant.

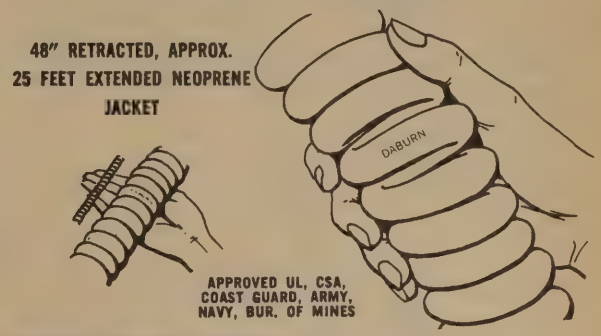
#22 AWG — SOLID CONDUCTORS

DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
3525/3	3	.040"	.380"	95
3525/6	6	.040"	.455"	145
3525/12	12	.040"	.535"	195
3525/18	18	.040"	.610"	251
3525/25	25	.040"	.675"	305
3525/50	50	.040"	.860"	507
3525/75	75	.040"	.985"	681
3525/100	100	.040"	1.115"	847
3525/150	150	.050"	1.350"	1240
3525/200	200	.050"	1.505"	1557
3525/300	300	.060"	1.810"	2173
3525/400	400	.060"	2.025"	2853
#19 AWG — SOLID CONDUCTORS				
3530/3	3	.040"	.455"	119
3530/6	6	.040"	.500"	206
3530/12	12	.040"	.550"	305
3530/18	18	.040"	.675"	406
3530/25	25	.040"	.770"	519
3530/50	50	.050"	.860"	867
3530/75	75	.050"	1.115"	1250
3530/100	100	.050"	1.350"	1575
3530/150	150	.060"	1.505"	2265
3530/200	200	.060"	1.810"	2900
3530/300	300	.060"	2.025"	4042

STD. PUT-UP: 100 Ft. and over. **CONDUCTOR COLOR CODE:** Per IPCEA. Cut to specification.

RETRACTILE

SUPA HEAVY DUTY POWER CORDS



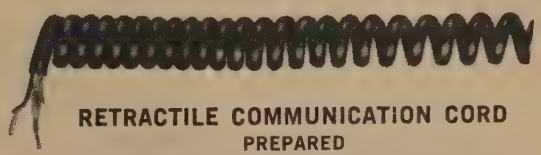
SUGGESTED OPERATING TEMPERATURE: −20°C to +60°C.

Suitable for maintenance of industrial automation equip., refrigerated trucks, mass production, cherry pickers, magnetic cranes, standby power distribution. Wherever a tougher requirement is indicated.

Retracted length 48" — extends to 25 ft.

Std. Pkg. 6

DABURN Cat. No.	No. Cond.	Size	Stranding	Nom. Jacket Thickness	Nom. Cord O.D.
961	3	14	41/30	7/64"	.620"
961/4	4	14	41/30	7/64"	.660"
962	3	12	65/30	8/64"	.715"
962/4	4	12	65/30	8/64"	.770"



RETRACTILE COMMUNICATION CORD PREPARED

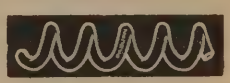
Retracted length 12" — extended length 6 feet.

Same as our regular communication cord but each end is prepared, stripped and tinned as indicated.

Daburn No.	No. Cond.	Size & Strand	Coil O.D.	Cord O.D.	PREPARED
966	3	#23-21/36	13/16"	.220"	1 END: L'gth 1½". Conductor stripped and tinned. Other end: Total L'gth 1½" jacket removed.
967	4	#23-21/36	15/16"	.250"	1 END: Total length 1". Conductors stripped and tinned. Other end: Total lgth 1½" jacket removed.
968	5	#23-21/36	1-1/16"	.285"	1 END: Total l'gth 4⅛". Conductors stripped and tinned. Other end: Total l'gth 4⅛" conds. stripped and tinned.

Std. Pkg. 10

DABURN MINIATURE RETRACTILE COMMUNICATION CORDS



2 Feet Retracted — 10 Ft. Extended

Miniature size. Suitable for compact equipment. Black plastic jacket overall. Operating Temperature: −20°C to +60°C

Std. Pkg. 10

DABURN No.	Conds.	Size	Strand	Coil O.D.	Cond. O.D.
975/28	2	28	19/40 T.C.	½"	.135"
977/28	4	28	19/40 T.C.	½"	.150"

RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description. 12" coil — stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Colors: Red, Black. Coil O.D. ¾". Working Voltage: 1000V, 4 Amps.



DABURN No.	Lg'th.	Size	Strand	Coil O.D.	Cord O.D.
984 A	12"	20	41/36	¾"	.165"
984	24"	20	41/36	¾"	.165"

12" Extends Approx. 6 Ft.
24" Extends Approx. 12 Ft.

Specify Color, Red or Black
Std. Pkg. 6

© United Technical Publications

DABURN

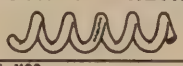
DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

Long Lasting Service — useful wherever cords must change length or position. Extend to approximately six times its retracted length. Returns to its original shape or length when released. Eliminates tangling, twisting or knots. Cords are UL and CSA approved.

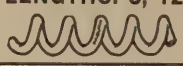
RETRACTILE COILED CORDS

POWER CORDS — RETRACTED LENGTHS: 1, 2, 3 & 4 FT. • EXTENDED LENGTHS: 6, 12, 18 & 25 FT.



UL APPROVED — NEOPRENE JACKETED CORD

Operating Temperature: −20°C to +60°C



DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.* Length	3 Ft. Length	2 Ft. Length	1 Ft. Length	No. Conds.	Size	Strand	UL‡ and CSA Type	Amps	Volt Rating	Coil Nom. O.D.	Cord Nom. O.D.
986-4	986-3	986-2	986-1	2	18	41/34	SVO	7	300	7/8"	.250"
986/3-4	986/3-3	986/3-2	986/3-1	3	18	41/34	SVO	7	300	1"	.275"
987-4	—	—	—	2	18	41/34	SVT	7	300	7/8"	.250"
989-4	989-3	989-2	989-1	2	18	41/34	SJO	7	300	1 3/16"	.310"
989/3-4	989/3-3	989/3-2	989/3-1	3	18	41/34	SJO	7	300	1 3/8"	.330"
989/4-4	989/4-3	989/4-2	989/4-1	4	18	41/34	SJO	5.6	300	1 7/16"	.360"
989/5-4	—	989/5-2	—	5	18	41/34	—	5.6	300	1 3/4"	.440"
989/7-4	—	989/7-2	—	7	18	41/34	—	5.6	300	1 7/8"	.500"
990-4	—	—	—	2	18	41/34	SJT	7	300	1 3/16"	.310"
991-4	991-3	991-2	991-1	2	16	65/34	SJO	10	300	1 3/8"	.330"
991/3-4	991/3-3	991/3-2	991/3-1	3	16	65/34	SJO	10	300	1 7/16"	.365"
991/4-4	991/4-3	991/4-2	—	4	16	65/34	SJO	8	300	1 5/8"	.395"
991/5-4	—	991/5-2	—	5	16	65/34	SO	8	600	2"	.540"
991/6-4	—	991/6-2	—	6	16	65/34	—	8	600	2 1/8"	.550"
991/7-4	—	991/7-2		7	6/16 1/14	#16-65/34 #14-41/30	— —	#16-8 #14-12	600	2 1/4"	.600"
993-4	993-3	993-2	—	2	14	41/30	SO	15	600	2"	.535"
993/3-4	993/3-3	993/3-2	—	3	14	41/30	SO	15	600	2 1/8"	.560"
993/4-4	993/4-3	993/4-2	—	4	14	41/30	SO	12	600	2 1/4"	.605"
994-4	994-3	994-2	—	2	12	65/30	SO	20	600	2 1/4"	.605"
994/3-4	994/3-3	994/3-2	—	3	12	65/30	SO	20	600	2 3/8"	.635"
994/4-4	994/4-3	994/4-2	—	4	12	65/30	SO	16	600	2 1/2"	.665"
994/6-4	—	994/6-2		6	2/12 4/18	#12-65/30 #18-41/34	— —	#12-17 #18-6	600	2 1/4"	.605"
994/7-4	—	994/7-2	—	7	12	65/30	—	16	600	2 5/8"	.775"

‡ Wherever UL type is shown, approved by CSA Testing Laboratories.
* Preferred Put-up.

Std. Pkg. 5

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Green, 4-Red, 5-Blue, 6-Brown, 7-Yellow.

UL APPROVED RETRACTILE POWER CORD SETS

18" Retracted — Approx. 9 Ft. Extended — 300V — UL Approved



For portable use. Mobile and office equipment. Neoprene jacketed cord sets with molded male plug on one end.

OPERATING VOLTAGE 300 VOLTS

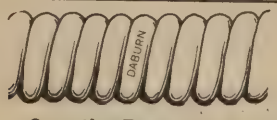
DABURN Cat. No.	Conds.	AWG Size	Strand	Type UL	Coil O.D.	Cord O.D.
980	2	18	41/34	SVO	7/8"	.250"
980/3	3	18	41/34	SVO	1"	.275"
981	2	18	41/34	SJO	1 3/16"	.310"
981/3	3	18	41/34	SJO	1 3/8"	.330"
982	2	16	65/34	SJO	1 3/8"	.330"
982/3	3	16	65/34	SJO	1 7/16"	.365"

CONDUCTOR COLOR CODE: 1-Black. 2-White. 3-Green.

Std. Pkg. 10

RETRACTILE COMMUNICATION COIL CORDS

RETRACTED LENGTHS 2, 3 & 4 FT. — EXTENDED LENGTHS 12, 18 & 25 FT.



Multi-conductors stranded extra flexible #23 AWG 21/36 tinned soft copper for long flex life, Neoprene or "Danyon" plastic jacketed cable for long life. 120 volt working, current carrying capacity 1 ampere. Nom. cond. resist. .022 ohms per linear foot., .185 ohms per retracted foot.

For communication equip. such as ham operations, telephone car carriers, radio equip., head sets, etc.

Operating Temperature: −20°C to +60°C

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.*	3 Ft.†	2 Ft.†	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.
975-4	975-3	975-2	2	23	21/36	3/4"	.200"
976-4	976-3	976-2	3	23	21/36	13/16"	.210"
977-4	977-3	977-2	4	23	21/36	7/8"	.240"
978-4	978-3	978-2	5	23	21/36	1"	.285"
978/6-4	978/6-3	978/6-2	6	23	21/36	1 1/8"	.305"
978/7-4	978/7-3	978/7-2	7	23	21/36	1 1/4"	.320"

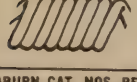
SPECIAL CONSTRUCTION AVAILABLE TO ORDER

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.*	3 Ft.†	2 Ft.†	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.
978/8-4	978/8-3	978/8-2	8	23	21/36	1 3/32"	.360"
978/10-4	978/10-3	978/10-2	10	23	21/36	1 3/32"	.380"
978/12-4	—	978/12-2	12	23	21/36	1 3/32"	.410"
978/15-4	—	978/15-2	15	23	21/36	1 3/32"	.470"
978/37-4	—	978/37-2	37	23	21/36	2 1/2"	.680"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White / Black Tracer, 10-White / Red Tracer, 11-White / Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White / Orange Tracer. * Preferred Put-Up. †Stocked in Danyon. Std. Pkg. 5

SHIELDED RETRACTILE COMMUNICATION CORDS

RETRACTED LENGTHS 1, 2 & 4 FT.—EXTENDED LENGTHS 6, 12 & 25 FT.



Single and multi-cond. Shielded mike cables Neoprene or "Danyon" plastic jacketed shielded conductors are individually shielded. Shield can be pigtailed for soldering. Safe — Reliable.

OPERATING TEMPERATURE: −20°C TO +60°C

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft. L'gth.*	2 Ft. L'gth.†	1 Ft. L'gth.†	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.	Volt Rating	CAPACITANCE MMF Lin. Ft.	CAPACITANCE MMF Retr. Ft.
995-4	995-2	995-1	1	24 Shielded	41/40	5/8"	.160"	75	56	440
996-4	996-2	996-1	2	1-23 1-24 Shielded	21/36 41/40	7/8"	.210"	#23-120 #24-75	56	450
997-4	997-2	997-1	3	2-23 1-24 Shielded	21/36 41/40	7/8"	.240"	#23-120 #24-75	56	450
999-4†	999-2	999-1	2	2-24 Shielded	41/40	7/8"	.210"	75	56	450
998-4	998-2	998-1	4	2-23 2-24 Shielded	21/36 41/40	1"	.270"	#23-120 #24-75	56	460

* Preferred Put-Up † Stocked in Danyon **Conductors are Color Coded.** **Std. Pkg. 10**

SPECIAL CONSTRUCTIONS AVAILABLE TO ORDER

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

AUDIO, DATA SHIELDED, MICROPHONE & CONTROL CABLES

AUDIO & DATA SHIELDED CABLE
INDIVIDUALLY ALUMINUM MYLAR FOIL SHIELDED PAIRS



DESCRIPTION: Each conductor **stranded,** copper tinned, hi density polyethylene insulation, color coded, conductors — twisted pairs. #22 **stranded** tinned copper wire. Aluminum foil mylar shield over each pair and copper tinned drain wire. Overall chrome grey PVC jacket. Nom. cap. between conds. of a pair, 25 PF/FT. Capacitance of a single conductor to shield, 45 PF/FT.

Sugg. Working Voltage: 300V.

DABURN Cat. No.	No. of Pairs	No. of Conds.	Cond. Strand	Nom. Wall	Nom. Jkt.	Nom. O.D.
2932/3	3	6	7/30	.010″	.025″	.235″
2932/6	6	12	7/30	.010″	.030″	.320″
2932/9	9	18	7/30	.010″	.035″	.370″
2932/11	11	22	7/30	.010″	.040″	.415″
2932/15	15	30	7/30	.010″	.040″	.485″
2932/19	19	38	7/30	.010″	.050″	.530″
2932/27	27	54	7/30	.010″	.055″	.645″

STD. PUT-UP: 500 Ft., 1000 Ft. **Construction variations to order.**

AUDIO & DATA SHIELDED CABLE
ALUMINUM MYLAR FOIL SHIELD
INDIVIDUALLY SHIELDED MULTIPLE PAIR



This construction reduces the bulk in required cables. Multipaired #22 **solid** tinned copper, vinyl insulated .013″, cabled in pairs. Aluminum foil mylar shield over each pair and drain wire, overall grey vinyl jacket. Nom. Cap. between Conds. 40 MMF/Ft. Nom. Cap. between 1 Cond. and others connected to shield — 77 MMF/Ft.

DABURN Cat. No.	Pairs	Conds.	Nom. Jacket	Nom. O.D.
2930/3	3	6	.030″	.252″
2930/6	6	12	.037″	.345″
2930/9	9	18	.040″	.410″
2930/11	11	22	.040″	.458″
2930/15	15	30	.045″	.510″
2930/19	19	38	.055″	.630″
2930/27	27	54	.070″	.770″

STD. PUT UP: 500 Ft., 1000 Ft. **Construction Variations Available to Order.**



ALUMINUM MYLAR FOIL SHIELD PLASTIC JACKETED CABLE

Extremely light in weight, provides 100% shield coverage — small diameters. Each cond. tinned copper, stranded color coded polyethylene insulation, twisted, drain wire, aluminum mylar foil shield, gray polyvinylchloride jacket overall. Drain wire provides quick and easy grounding.

OPERATING TEMPERATURE: −20°C to +60°C. **OPERATING VOLTAGE:** 400 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2960	2	22	7/30	.015″	.020″	.160″
2960/3	3	22	7/30	.015″	.020″	.185″
2960/4	4	22	7/30	.015″	.020″	.205″
2961	2	20	10/30	.015″	.020″	.185″
2961/3	3	20	10/30	.015″	.020″	.205″
2961/4	4	20	10/30	.015″	.020″	.225″
2962	2	18	16/30	.017″	.020″	.220″
2962/3	3	18	16/30	.017″	.020″	.235″
2962/4	4	18	16/30	.017″	.020″	.255″
2963	2	16	26/30	.017″	.020″	.255″
2963/3	3	16	26/30	.017″	.020″	.275″
2964	2	14	41/30	.017″	.020″	.295″
2964/3	3	14	41/30	.017″	.020″	.305″

STD. PUT-UP: 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.

SHIELDED CABLE
PLASTIC JACKETED BRAIDED COPPER SHIELD



Suitable for P.A. and sound systems, installation in schools, hospitals and institutions, transmitters, electronic circuits, etc. Construction allows ease of pigtailing. Shield provides additional strength for cable. Each conductor tinned copper, PVC insulation, color coded, twisted, braided T-C shield, gray PVC jacket overall. Suitable for outdoor installations.

OPERATING TEMPERATURE: −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Operating Voltage	Nom. O.D.
2970	2	22	7/30	.017″	.020″	350V	.175″
2970/3	3	22	7/30	.017″	.020″	350V	.195″
2971	2	20	10/30	.017″	.020″	350V	.195″
2971/3	3	20	10/30	.017″	.020″	350V	.215″
2972	2	18	16/30	.017″	.020″	350V	.235″
2972/3	3	18	16/30	.017″	.020″	350V	.245″
2974	2	16	26/30	.017″	.020″	350V	.255″
2974/3	3	16	26/30	.017″	.020″	350V	.260″
2975	2	14	41/30	.020″	.020″	450V	.290″
2975/3	3	14	41/30	.020″	.020″	450V	.295″
2976	2	12	65/30	.020″	.020″	450V	.235″
2976/3	3	12	65/30	.020″	.020″	450V	.340″

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White.

STD. PUT-UP: 500 Ft., 1000 Ft.

CONSTRUCTION VARIATION TO ORDER

SHIELDED PLASTIC MICROPHONE CABLE



Will withstand abuse and is resistant to oil, moisture, aging. Have low capacitance, Hi insulation resistance and low attenuation. Will not strain or mark.

2772 — For hi impedance microphone
2773 — For crystal, ribbon, etc. mikes. All are suitable for hi-fi interconnecting cables.
2774 — For hi impedance lapel mikes.

OPERATING TEMPERATURE: −20°C to +60°C.

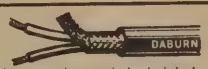
SHIELDED MICROPHONE CABLE ONE CONDUCTOR

Uses tinned copper spiral shield — for ease in soldering — extremely flexible-plastic.

DABURN Cat. No.	Cond.	Size	Strand	Shield	Nom. Cap./Ft. MMF	Sugg. Work Voltage	Nom. O.D.
2770	1	25	7/33	Spiral	23	3000	.159″
2771	1	25	7/33	Spiral	33	1000	.120″
2772	1	20	26/34	Braid	36	4000	.175″
2773	1	25	7/33*	Braid	34	3500	.144″
2774	1	25	7/33*	Braid	23	5000	.190″

* 3 strand tinned copper, 4 strand tinned copperweld.

MULTICONDUCTOR MICROPHONE CABLE



Each conductor tinned copper, polyethylene insulation — color coded, twisted with fillers, textile wrap, tinned copper braid shield, gray vinyl jacket overall.

OPERATING TEMPERATURE: −20°C to +60°C, †Spiral T.C. Shield

DABURN Cat. No.	Cond.	Size	Strand	Nom. Cap./Ft.	Sugg. Work. Voltage	Nom. O.D.
2782	2	22	16/34	31 MMF	1000	.231″
2782/20	2	20	26/34	45 MMF	600	.240″
2782/24†	2	24	10/34	38 MMF	1000	.190″

SHIELDED ULTRA LOW CAPACITY MICROPHONE CABLE
Plastic Jacket — Cellular Foam Polyethylene Insulation
BRAIDED SHIELD

DESCRIPTION: Constructed with white foam polyethylene insulation, braided tinned copper shield, chrome gray vinyl jacket. The low loss foam polyethylene construction has lower capacitance and attenuation than standard polyethylene mike cables as much as 50%. This increases the effective length of cable as much as 50% without signal loss.



OPERATING TEMPERATURE −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Cap./Ft.	Nom. Jacket	Nom. O.D.
2690	1	26	7/34*	30MMF	.020″	.114″
2691	1	24	10/34	20MMF	.030″	.180″
2692	1	24	10/34	15MMF	.030″	.220″
2693	2	22	16/34	11MMF	.030″	.295″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1—White, 2—Black.

* 3 strands tinned copper, 4 strands tinned copperweld.

PLASTIC JACKETED AUDIO AND MULTICONDUCTOR CABLE
SPIRAL WRAPPED COPPER SHIELD



Suitable for P.A. and sound systems, schools, hospitals, institutions, recording studios, paging and call systems. Each conductor copper tinned, plastic insulation, color coded, twisted, spiral wrapped tinned, copper shield, gray plastic jacket. Temp.: −20 to +60°C. Simplifies pigtailing. Provides almost 100% shielding coverage.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Insul.	Nom. Jacket	Sugg. Working Voltage	Nom. O.D.
2949	2	22	1	.017″	.020″	350V	.170″
2950	2	22	7/30	.017″	.020″	350V	.170″
2950/1	1	22	7/30	.017″	.020″	350V	.115″
2950/3	3	22	7/30	.017″	.020″	350V	.190″
2950/4	4	22	7/30	.017″	.020″	350V	.200″
2950/6	6	22	7/30	.017″	.020″	350V	.235″
2952	2	20	10/30	.017″	.020″	350V	.190″
2952/1	1	20	10/30	.017″	.020″	350V	.129″
2952/3	3	20	10/30	.017″	.020″	350V	.205″
2952/4	4	20	10/30	.017″	.020″	350V	.222″
2952/6	6	20	10/30	.017″	.020″	350V	.260″
2953	2	18	16/30	.017″	.020″	350V	.230″
2953/1	1	18	16/30	.017″	.020″	350V	.133″
2953/3	3	18	16/30	.017″	.020″	350V	.230″
2953/4	4	18	16/30	.017″	.020″	350V	.245″
2954	2	16	26/30	.017″	.020″	350V	.235″
2954/4	4	16	26/30	.017″	.020″	350V	.255″
2954/3	3	16	26/30	.017″	.020″	350V	.245″
2955	2	14	41/30	.020″	.025″	450V	.285″
2955/3	3	14	41/30	.020″	.025″	450V	.292″
2955/4	4	14	41/30	.020″	.025″	450V	.310″
2956	2	12	65/30	.020″	.025″	450V	.325″
2956/3	3	12	65/30	.020″	.025″	450V	.335″

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.

CONSTRUCTION VARIATION TO ORDER

© United Technical Publications

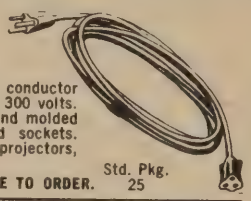
DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

POWER CORDS • SERVICE CORDS • TV POWER CORD
ANTENNA ROTOR • SPEAKER CABLE • LAMP CORD • TEST LEADS

POWER CORD SETS
UL and CSA approved



Manufactured for lasting service these 2 and 3 conductor quality black rubber cords are flexible. Rated at 300 volts. One end has molded plastic male plug, other end molded female plug. Will fit conventional plugs and sockets.
Useful for business and data machines, projectors, vacuum cleaners, appliances, etc.

Std. Pkg. 25

CUSTOM CONSTRUCTION OF POWER CORDS MADE TO ORDER.

Cat. No.	Size & Conds.	Cord Length Ft.	UL Type	Strand	Amp Rating	Nom. O.D.
9-201	2/18	6	SV	41/34	7	.245″
9-202	2/18	9	SV	41/34	7	.245″
9-203	2/18	10	SJ	16/30	7	.300″
9-204	2/18	25	SJ	16/30	7	.300″
9-206	2/16	10	SJ	26/30	10	.325″
9-207	2/16	25	SJ	26/30	10	.325″
9-208	2/16	50	SJ	26/30	10	.325″
9-211	3/18	10	SJ	16/30	7	.330″
9-212	3/18	25	SJ	16/30	7	.330″
9-213	3/18	50	SJ	16/30	7	.330″
9-215	3/16	15	SJ	26/30	10	.365″
9-216	3/16	25	SJ	26/30	10	.365″
9-217	3/16	50	SJ	26/30	10	.365″

SERVICE CORD — HEAVY DUTY
UL and CSA approved



Suitable for replacement on machinery, tools, refrigerators, electronic devices

DESCRIPTION: Two and three conductors, stranded bare copper, serve, rubber insulation, filler, wrap, tough black rubber jacket overall. Molded plug one end, free end stripped and tinned — Hanked.

VOLTAGE RATING: 300V

DABURN No.	Cord L'gth.Ft.	Cond.	Size	Strand	Type	Amp Rating	Cord O.D.
1980	8	2	16	65/34	SJ	10	.325″
1980/3	8	3	16	65/34	SJ	10	.355″
1982/3	8	3	18	41/34	SJ	7	.330″
1984	9	2	18	41/34	SV	7	.245″
1984/3	9	3	18	41/34	SV	7	.265″

Std Pkg. 25

UL APPROVED — SERVICE LINE CORD



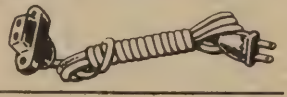
300V rating

Use as an all purpose power supply cord for small appliances, lamps, radios, etc.

DESCRIPTION: Two conductors parallel SP-1 (POSJ) with molded-on male plug, double brass blades, conductor end stripped and tinned — Hanked. Available in black and brown. Also available SPT-1.

DABURN No.	Length	Cond.	Size	Strand	Nom. O.D.	Std. Pkg.
1987	6	2	18	41/34	130″ x .235″	50
1988	7½	2	18	41/34	130″ x .235″	50

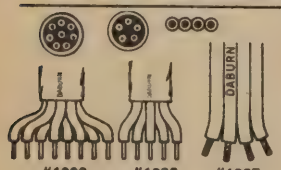
UL APPROVED — TV POWER SUPPLY CORD



Replacement of damaged or worn out TV cord.

DESCRIPTION: Six foot, 2 cond #18 SP-1 (POSJ) brown cord with molded male plug and TV molded connector on other end. Also available SPT-1.

DABURN No.		Std. Pkg.
9-45	Television Power Supply Cord — 6 feet	25



#1909 #1908 #1907

ANTENNA CONTROL ROTOR CABLE

#1907 — 4 cond. flat parallel polyethylene plastic insulation — one outer conductor tinned, balance bare copper.
#1908 — 5 cond. twisted, color coded, vinyl plastic jacket overall.
#1909 — 8 cond. twisted, color coded vinyl plastic jacket overall.

DABURN No.	Cond.	Size	Strand	Nom. O.D.
1907	4	20	7/28	.072″ x .390″
1908	5	20	7/28	.180″
1909	8	22	7/30	.205″

CONDUCTOR COLOR CHART FOR DABURN NO. 1908, 1909
1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange.
STD. PUT-UP: 500 Ft., 1000 Ft.

PLASTIC SPEAKER CABLE
CLEAR AND COLORED INSULATION



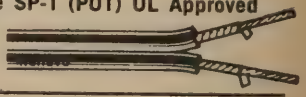
DESCRIPTION: Conductors are parallel, stranded bare copper, color coded and clear polyvinylchloride insulation. Conductors separate quickly when split apart. Suitable for hi-fi speaker cable, miniature juke-box speaker connection, rear auto speaker extension cable. Clear insulation blends with any interior.

TEMPERATURE RATING: −20°C to +60°C. **OPER. VOLTAGE:** 300V

Daburn No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.	Stock Colors
2754	2*	24	7/32	.016″	.057″x.120″	Brn.,Blk.,Wh., Gray, Tan
2755	2*	24	7/32	.016″	.057″x.120″	Clear
2756	2	20	10/30	.016″	.085″x.175″	Brn.,Blk.,Wh., Gray, Tan
2757	2	20	10/30	.016″	.085″x.175″	Clear
2758	2	18	41/34	.032″	.115″x.215″	Brn.,Blk.,Wh., Gray, Tan
2759	2	18	41/34	.032″	.115″x.215″	Clear

* 1 conductor tinned, 1 bare.
STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

LAMP CORD
Types SP-1 (POSJ-64) — Type SP-1 (POT) UL Approved

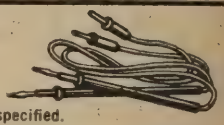


An all purpose approved cord both SP-1 (rubber) and SPT-1 (Plastic) for lamps, radios and small instruments and appliances. 300V rating.

DABURN No.	Cond.	Size	Strand	Insul.	Type	UL Type	Nom. O.D.
1990	2	18	41/34	Rubber	SP-1	POSJ	.130″x.235″
1991	2	18	41/34	Plastic	SPT-1	POT	.130″x.225″
1993	2	18	41/34	Pl. Clear	SPT-1	POT	.115″x.215″
1994	2	16	65/34	Pl. Brown	SPT-2	POT	.160″x.300″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
COLORS: (Rubber) Brown, Black, White; (Plastic) Brown. Black. Ivory.

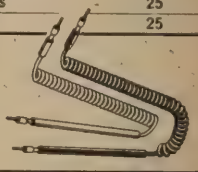
TEST LEADS
NEEDLEPOINT AND SOLDERLESS OVERALL LENGTH 50″



Black and red kinkless test lead wire, handles as specified.

DABURN No.	Description	Standard Package
17-308	Pencil Type Bakelite, 6″ Handles	10
17-360	Deluxe Solderless Prod, 5″ Handles	25
17-361	Deluxe Needlepoint Prod, 5″ Handles	25
17-320	Needlepoint Prods, 4″ Handles	25
17-322	Solderless Prods, 4″ Handles	25

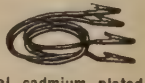
RETRACTILE KINKLESS WIRE RETRACTED LENGTH OF WIRE 9″. EXTENDS TO 6 FT. NON-TANGLING.



Black and red wire.

DABURN No.	Description	Standard Package
17-364	Solderless Phone Tip, Retractile Wire, Solderless Prod	10

ALLIGATOR CLIP TEST LEADS



Black and red kinkless test lead wire with steel cadmium plated clips at each end.

DABURN No.	Wire Length	Standard Package
17-275	12″	12
17-276	24″	12
17-277	36″	12
17-278	48″	12

INSULATED ALLIGATOR CLIPS

Black and red kinkless test lead wire with steel, cadmium plated clips; vinyl plastic boot.

DABURN No.	Wire Length	Standard Package
17-280	12″	12
17-281	24″	12
17-282	36″	12
17-283	48″	12

Additional test leads available.

© United Technical Publications

DABURN

DABURN electronics & cable corp.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

ELECTRONIC LACING CORDS AND TAPES, CABLE CLAMPS & CLIPS

LACING CORD-TAPE TO MEET MIL-T-713C TYPE P* AND MIL-T-43435 COMP. P-TYPE S

NYLON FLAT BRAIDED LACING TAPE

Nylon fiber flat braided impregnated with MW microcrystalline fungicidal wax. Stays flat. Designed to create a wider contact to distribute the stress. Flexible. Won't slip when knotted. Resistant to fungus, flame, abrasion, acids, MIL-T-43435 (new) supersedes MIL-T-713 (old).

Daburn No.	Color	(New) Size	(Old) Class	Nom. Width	Nom. Thickness	Tensile Strength	Standard Put-Up Tubes
2035	Natural White	1	—	.200"	.014"	150 lbs.	500 yd.
2035B	Black	1	—	.200"	.014"	150 lbs.	500 yd.
2036	Natural White	2	1	.120"	.014"	80 lbs.	500 yd.
2036B	Black	2	1	.120"	.014"	80 lbs.	500 yd.
2037	Natural White	3	2*	.090"	.014"	50 lbs.	500 yd.
2037B	Black	3	2*	.090"	.014"	50 lbs.	500 yd.
2038	Natural White	4	3	.065"	.010"	30 lbs.	500 yd.
2038B	Black	4	3	.065"	.010"	30 lbs.	500 yd.
2039	Natural White	5	4	.046"	.010"	15 lbs.	500 yd.
2039B	Black	5	4	.046"	.010"	15 lbs.	500 yd.

DACRON FLAT BRAIDED LACING TAPE

Dacron fiber flat braided impregnated with non-slip fungicidal finish. Will not cut or damage insulation. Stays flat. Has all characteristics of nylon with elongation, better resistance to acids.

DABURN No.	Color	Nom. Width	Thickness Nom.	Strength Tensile	Standard Put-Up Tubes
2041	Natural White	.120"	.014"	80	500 yd.
2041B	Black	.120"	.014"	80	500 yd.
2042	Natural White	.090"	.014"	48	500 yd.
2042B	Black	.090"	.014"	48	500 yd.
2043	Natural White	.060"	.010"	35	500 yd.
2043B	Black	.060"	.010"	35	500 yd.
2044	Natural White	.046"	.010"	25	500 yd.
2044B	Black	.046"	.010"	25	500 yd.

TEFLON* FIBERGLASS FLAT BRAIDED LACING TAPE

Teflon coated fiberglass flat braided lacing tape bonded for high temp. operations (550°F). Stays flat — for strength, stability. Teflon finish increases strength and abrasion resistant surface. Will not cut or damage insulation.

DABURN No.	Color	Nom. Width	Thickness Nom.	lbs. Test	Standard Put-Up Tubes
2045	White	.170"	.025"	150	500 yd.
2046	White	.120"	.020"	90	500 yd.
2047	White	.080"	.020"	70	500 yd.

TEFLON* FLAT BRAIDED LACING TAPE
for high temperature operations (550°F)

DABURN No.	Color	Nom. Width	Nom. Thickness	Test lbs.	Standard Put-Up Tubes
2048	Brown	.100"	.016"	35	500 yd.
2049	Brown	.075"	.010"	15	500 yd.



ROUND TWISTED NYLON LACING CORD

Manufactured to meet MIL-T-713A Type P specification, Composition P, Classes 3, 2, 1. Wax finish — compounded with fungicide to resist mildew. Easy to tie.

PUT-UP ON 1 LB. TUBES

DABURN No.	Color	Class	Tensile Strength	Nom. Diam.	Yds. Per Tube
2070	Natural	1	70 lbs.	.039"	600
2070B	Black	1	70 lbs.	.039"	600
2071	Natural	2	48 lbs.	.029"	800
2071B	Black	2	48 lbs.	.029"	800
2072	Natural	3	32 lbs.	.025"	1140
2072B	Black	3	32 lbs.	.025"	1140
2072/1	Natural	4	20 lbs.	.020"	2400
2072/1B	Black	4	20 lbs.	.020"	2400

ROUND TWISTED LINEN LACING CORD

Manufactured from pure flax treated with microcrystalline wax compounded with fungicide to resist mildew. Classes 1, 2, 3 meet MIL-T-713C Type N specifications.

4 OZ. TUBE DABURN No.	Yds.	8 OZ. TUBE DABURN No.	Yds.	1 LB. TUBES DABURN No. Nat.	DABURN No. Blk.	Yds.	Class	Ply	Diam.	Lb. Test
2073	210	2074	425	2075	2075B	850	—	4	.036"	22
2076	150	2077	300	2078	2078B	600	3	6	.044"	33
2082	115	2083	235	2084	2084B	470	2	8	.051"	50
2079	100	2080	200	2081	2081B	400	—	9	.054"	56
2085	75	2086	150	2087	2087B	300	1	12	.063"	72

NYLON CABLE CLAMPS



MADE OF DU PONT "ZYTEL" 101 NYLON RESIN

Meets MIL-P-26093A and MIL-P-17091A Amend. 2

Light and tough these nylon cable clamps are used as a clamp, strain relief, clip hanger, fastener or strap. Smooth non-abrasive surfaces, rounded edges will not cause shorts or grounds in cable. Insoluble in solvents, gasoline, oils, hydraulic fluids, alcohol, acids, alkalies. Temperature range −60°F to +300°F. Does not support combustion. Inside matte finish. Prevents slippage and is self aligning. Snaps on cable. Meets MIL-P-20693A specs. fungus resistant.

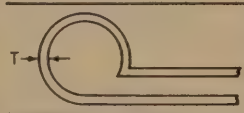
DABURN No.	To Fit Size	D	E	W	T	L	X
625	1/8"	.125	.316	3/8	.050	.177	.227
626	3/16"	.187	.378	3/8	.050	.177	.277
627	1/4"	.250	.409	3/8	.050	.177	.227
628	5/16"	.312	.441	3/8	.050	.177	.277
629	3/8"	.375	.471	3/8	.050	.177	.277
630	7/16"	.437	.519	3/8	.050	.177	.277
631	1/2"	.500	.550	3/8	.050	.177	.277
631A	9/16"	.563	.625	1/2	.060	.177	.227
632	5/8"	.625	.634	1/2	.060	.177	.227
632A	11/16"	.687	.752	1/2	.060	.177	.227
633	3/4"	.750	.718	1/2	.060	.177	.227
634	7/8"	.875	.760	1/2	.060	.177	.227
635	1"	1.000	.802	1/2	.060	.177	.227
636	1 1/8"	1.125	.968	1/2	.062	.204	.250
637	1 1/4"	1.250	1.156	1/2	.062	.204	.250
638	1 1/2"	1.500	1.188	5/8	.070	.204	.250

Std. Pkg. 100, 500, 1000. Also available in Teflon

ETHYL CELLULOSE CABLE CLAMPS

Ethocel recommended for general use. Combines light weight and chemical resistance with excellent shock resisting properties in temp. range from −40°F to +185°F. Approved 7-21-44 Army-Navy Aeronautical AN-742. Also made to meet MIL STD. 242A (Ships). Suitable indoor-outdoor. Std. Pkg. 100, 1000.

DABURN No.	To Fit Size	D	E	W	T	L	X
615	1/8"	.125	.325	1/2	.060	.204	3/32
615A	3/16"	.188	.390	1/2	.060	.204	3/32
615B	1/4"	.250	.421	1/2	.060	.204	3/32
615C	5/16"	.313	.457	1/2	.060	.204	3/32
615D	3/8"	.375	.483	1/2	.060	.204	3/32
615E	7/16"	.438	.531	1/2	.060	.204	3/32
616	1/2"	.500	.562	1/2	.060	.204	3/32
616A	9/16"	.563	.625	1/2	.060	.204	3/32
616B	5/8"	.625	.610	1/2	.060	.204	3/32
616C	11/16"	.688	.666	1/2	.060	.204	3/32
616D	3/4"	.750	.766	1/2	.060	.204	3/32
616E	7/8"	.875	.813	1/2	.060	.204	3/32
617	1"	1.000	.906	1/2	.060	.204	3/32
617A	1 1/8"	1.125	.969	1/2	.060	.204	3/32
617B	1 1/4"	1.250	1.156	1/2	.060	.204	3/32
617C	1 1/2"	1.5	1.0625	5/8	.070	.204	3/32
617D	2"	2.0	1.313	5/8	.070	.204	3/32
617E	2 1/2"	2.5	1.563	5/8	.070	.204	3/32



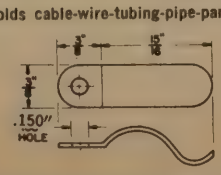
DABURN ALUMINUM CABLE CLAMPS

Made of hard drawn aluminum, light weight. Useful when mounting resonant lines, elements for beams, etc. Strong, durable, rust-proof.

DABURN No.	To Fit Size	Width	Length	Thickness	Clearance Hole For	Std. Pkg.
651A	1/8"	1/2"	13/16"	.050"	8	100
651	1/4"	1/2"	7/8"	.050"	8	100
652	5/16"	1/2"	15/16"	.050"	8	100
653	3/8"	1/2"	1"	.050"	8	100
654	1/2"	1/2"	1 1/8"	.050"	8	100
654A	5/8"	1/2"	1 1/4"	.050"	8	50
655	3/4"	3/4"	1 5/16"	.090"	10	50
657	7/8"	3/4"	1 5/8"	.090"	10	50
656	1"	3/4"	1 3/4"	.090"	10	50
656A	1 1/8"	3/4"	1 7/8"	.090"	10	50
656B	1 1/4"	3/4"	2"	.090"	10	50

NYLON TENSION CLIPS

Holds cable-wire-tubing-pipe-panels-many and varied uses. Made of nylon, they are insulating, non-corrosive and weather resistant. Easily fastened, easily removed. Strong and elastic.



DABURN Cat. No.	STD. PKG.
641	100, 1000

Natural Color

© United Technical Publications

ELECTROVERT INC.

SLIP-ON "Z" MARKERS



Cable Markers permanently identify wire or groups of wires for instant recognition. Installed in seconds. Feature flexible "accordian" pleat for easy installation and sturdy gripping on wires. Durable P.V.C. material. Comply with J.I.C.; MIL-E-5400B (ASG), MIL-E-4158A (USAF); etc. White with black marking. Specify Letter (A-Z) or Numeral (0-9) when ordering.

Packages of 50

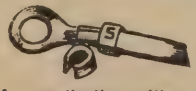
Cat. No.	Wire/Cable Range (Inch)	Std. Pkg.	Net Price Per Pkg. of 50 1 - 49
Z22P	.045 - .065	50	$ .60
Z20P	.066 - .085	50	.60
Z18P	.086 - .115	50	.60
Z16P	.110 - .135	50	.60
Z14P	.130 - .160	50	.60
Z12P	.150 - .175	50	.60
Z10P	.170 - .195	50	.61
Z9P	.190 - .215	50	.62
Z8P	.210 - .250	50	.70
Z7P	.245 - .295	50	.74
Z6P	.290 - .360	50	1.00
Z4-1P	.355 - .460	50	1.15

Reels of 500

Cat. No.	Wire/Cable Range (Inch)	Std. Pkg.	Net Price Per Reel of 500 1 - 9
Z22R	.045 - .065	500	$4.20
Z20R	.066 - .085	500	4.20
Z18R	.086 - .115	500	4.20
Z16R	.110 - .135	500	4.20
Z14R	.130 - .160	500	4.20
Z12R	.150 - .175	500	4.20
Z10R	.170 - .195	500	4.35
Z9R	.190 - .215	500	4.35
Z8R	.210 - .250	500	5.05
Z7R	.245 - .295	500	5.60
Z6R	.290 - .360	500	6.55
Z14-1R	.355 - .460	500	7.40

Marking combinations of multiple figures/letters/symbols available on order. Colored markers available on order.

CLIP-ON "C" MARKERS



Designed for application either before or after terminal connection has been made. May be removed for re-coding without breaking terminal connection. Rigid PVC material. For single wire or cable. Same size fits a given range cable dia. Specify Letter (A - Z) or Numeral (0 - 9) when ordering.

Cat. No.	Wire/Cable Range (Inch)	Std. Pkg.	Net Price Per Pkg. of 50 1 - 99
C2PL	.080 - .100	50	$ .82
C3PL	.100 - .118	50	.82
C4PL	.118 - .138	50	.84
C5PL	.138 - .156	50	.86
C6PL	.156 - .187	50	.90
C7PL	.187 - .218	50	1.03
C8PL	.218 - .250	50	1.12
C9PL	.250 - .280	50	1.19
C10PL	.280 - .315	50	1.98
C11PL	.315 - .350	50	2.06
C12PL	.350 - .400	50	2.21
C13PL	.400 - .460	50	2.35
C14PL	.460 - .510	50	2.54
C15PL	.510 - .570	50	2.87

For colored markers minimum quantity 500 of any one color, size and marking at a 35% overcharge.

ELECTRO-TY® CABLE TIE



Meets all requirements of MIL-S-23190, MS 17821 and MS 18034. Each size is infinitely adjustable within its given range. Self-locking head insures quick, permanent application and high tensile strength. Hand or tool applied. Molded of virgin nylon.

Cat. No.	Bundle Range (In.)	Description	Std. Pkg.	Net Price Per 100 100-400	500-900
EL-AC	1/16-1	Miniature	100	$2.50	$2.25
EL-BC	1/16-1 13/16	Intermediate	100	4.25	3.90
EL-CC	1/16-4 3/16	Standard	100	10.00	9.00
EL-DC	3/16-4	Heavy-duty	100	14.60	12.00

Cat. No.	Bundle Range (In.)	Description	Std. Pkg.	Net Price Per 1000 1000-9000
EL-AM	1/16 - 1	Miniature	1000	$16.00
EL-BM	1/16 - 1 13/16	Intermediate	1000	25.60
EL-CM	1/16 - 4 3/16	Standard	1000	54.50
EL-DM	3/16 - 4	Heavy-duty	500	86.00

Ultra violet resistant for outdoor use and black at 10% overcharge.
For colors other than black, ask for quotation.

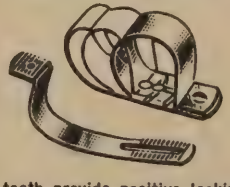
CABLE TIE MOUNTING BASE

Available in two sizes for use with all cable ties designed to military spec; accommodates any size harness. Ideal for tight space applications. Secured with one screw. Mounting base is positioned parallel to cable run so that it will not extend beyond harness diameter.

Cat. No.	Used with Cable Tie Cat. No.	Net Price per 100* 100-499	500-999	Net Price per 1000† 1000-24,999
TC-A	EL-A	$3.00	$2.40	$19.35
TC-M	EL-B, EL-C, EL-D	6.90	5.45	44.10

*Std. Pkg. of 100 † Bulk Pkg. of 1000

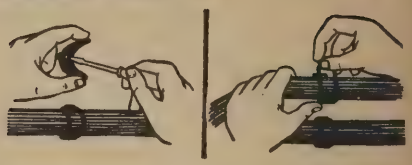
ADJUSTABLE P-CLIPS



Ratchet teeth provide positive locking action. Each size adjustable within given range. Virgin nylon, light weight, abrasion resistance. Tentile strength: 11,000 psi. Melting point 482 - 500°F self extinguishing. Endurance limit: 3000 psi; no failures to 2,000,000 cycles.

Cat. No.	Bundle Range (Inch)	Screw Clear.	Net Price per 100 100-999	Net Price per 1000 1000-2499
AP-0	1/8 - 3/16	No. 4	$2.75	$24.70
AP-1	3/16 - 1/4	No. 4	2.85	25.70
AP-2	1/4 - 3/8	No. 6	3.00	27.00
AP-3	3/8 - 5/16	No. 6	3.65	32.80
AP-4	5/16 - 7/8	No. 6	4.75	38.50
AP-5	7/8 - 1 3/16	No. 10	6.25	50.60
AP-6	1 3/16 - 1 1/2	No. 10	7.75	62.80
AP-7	1 1/2 - 1 3/4	No. 10	10.75	77.40
AP-8	1 3/4 - 2	No. 10	11.15	80.10

CRADLE CLIP



On the spot wiring changes without replacement or tools. Binders and cradles are nylon; clips are neoprene. Will withstand vibration without damage to wire insulation. Color: black.

RECOMMENDED COMBINATIONS

Diameter of Cable Form	Supported Wiring		Unsupported Wiring	
	Cradle	Clip	Binder	Clip
1/8" - 5/16"	CO+NO			
1/4" - 5/8"	C1	N1	B1	N1
1/2" - 1 1/16"	C1	N3	B1	N5
1 1/16" - 1 5/16"	C2	N3	B12	N3
1 5/16" - 1 1/16"	C2	N5	B12	N5
1" - 1 1/4"	C3	N3	B2	N3
1 1/4" - 1 1/2"	C3	N5	B2	N5
1 1/2" - 2"	C3	N7	B2	N7
Over 2"	Use combination of above sizes			

Cat. No.	Bundle Range (Inch)	Description	Net Price per 100 100-999	Net Price per 1000 1000-4999
CO/NO	1/8 - 5/16	Cradle*	$9.72	$88.35
CO		Cradle	5.60	51.30
C1	1/4 - 1 1/16	Cradle	6.65	60.50
C2	1 1/16 - 1 1/16	Cradle	7.85	71.60
C3	1 - 2	Cradle	8.35	75.90
C1-M	1/4 - 1 1/16	Cradle†	15.20	138.00
C2-M	1 1/16 - 1 1/16	Cradle†	24.80	225.75
C3-M	1 - 2	Cradle†	25.70	232.90
B1	1/4 - 1 1/16	Binder	5.50	50.35
B12	1 1/16 - 1 1/16	Binder	6.55	59.60
B2	1 - 2	Binder	7.80	70.80
NO		Clip	3.52	31.35
N1		Clip	3.65	32.50
N3		Clip	4.90	44.50
N5		Clip	7.00	63.00
N7		Clip	8.60	78.30

* Miniature cradle supplied with Type NO captive clip.
† Has molded-in cadmium-plated, chromate-treated nut take 6-32 thd. stud.

COAXIAL & TELEPHONE CABLE CLIPS



Fast cable installation without drilling or screwing. Push-fit on wire or cable for simple installation. Nails fixed in clips for easy attachment. Standard Colors: black, neutral and gray.

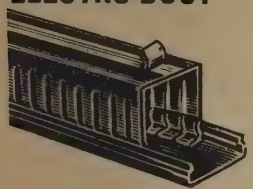
Cat. No.	Wire/ Cable Dia. (Inch)	Nail Dia.	Std. Pkg.	Net Price per 100 100-999	Net Price per 1000 1000-4999
H-2	.100	.040	100	$1.50	$ 9.60
H-3	.140	.060	100	1.80	11.50
H-4*	.160	.060	100	1.90	12.20
H-5*	.200	.060	100	2.10	13.40
H-6	.240	.080	100	2.25	14.40
H-7	.275	.080	100	2.45	15.70
H-8	.310	.080	100	3.00	19.20
H-9	.350	.080	100	3.15	20.20
H-10	.400	.080	100	3.36	21.50
H-11	.430	.080	100	3.43	21.90
H-12	.240 dual	.080	100	3.50	22.40

Standard colors black, natural and gray.
* H-4 & H-5 not available in black.

Net
© United Technical Publications

ELECTROVERT INC.

ELECTRO-DUCT®



High-impact vinyl duct won't peel, chip or crack. Withstands temp. of approx. 150°F. Temporary adhesive mounting permits drilling and lining up mounting holes easily. CSA approved. Includes channel and cover. Standard length: 6 feet.

Cat. No.*	Nominal W x H (Inches)	Approx. Shpg. Wt. lb./100′	Std. Pkg. (ft.)	Net Price per Ft. Under 200ft.	200ft-999ft.
1010A-G	1 x 1	21	96	$ .64	$ .51
1020A-G	1 x 2	32	90	.85	.67
1030A-G	1 x 3	40	60	1.04	.83
2010A-G†	2 x 1			.90	.72
2020A-G	2 x 2	47	54	.98	.78
2030A-G	2 x 3	55	36	1.21	.95
3010A-G	3 x 1	40	60	1.13	.89
3020A-G†	3 x 2			1.20	.95
3030A-G	3 x 3	71	24	1.52	1.21
3040A-G†	3 x 4			1.99	1.61
4030A-G†	4 x 3			1.87	1.50
4040A-G†	4 x 4			2.21	1.76

* Catalog numbers shown are for gray. Also available in white. When ordering white change suffix letter "G" of catalog to "W". Prices are same.

† Approximate weight and standard package to be announced.

PLASTIC SPEED FASTENER

For mounting wiring duct to panel. Designed for 3/16" dia. mounting hole. Simply push-fits for secure mounting.

Cat. No.	Net Price per 100 100-999	1000-2499
QR-316	$1.65	$1.50

SPIROBAND



Spiral wrapping for flexible harnesses and cables. Permits lead-offs or additions of wire at any point. Handles easily without special tools or skills. Available in a variety of material, including nylon and Teflon for high-temperature applications (nylon to 250°F, Teflon to 500°F). Available in colors; write for prices.

Cat. No.	Bundle Range (Inch)	Std.* Pkg. (ft.)	Net Price per 100 Feet 100-999
Natural Polyethylene			
SP1/8CP	1/16 - 1/2	100	$3.10
SP1/4CP	3/16 - 2	100	5.15
SP3/8CP	5/16 - 3	50	7.80
SP1/2CP	3/8 - 4	25	14.20
Ultraviolet Resistant (Black) Polyethylene			
SP1/8UV	1/16 - 1/2	100	$3.20
SP1/4UV	3/16 - 2	100	5.25
SP3/8UV	5/16 - 3	50	8.15
SP1/2UV	3/8 - 4	25	15.00
Fire Retardant (Rulan) Polyethylene			
SP1/8FR	1/16 - 1/2	100	$4.30
SP1/4FR	3/16 - 2	100	9.55
SP3/8FR	5/16 - 3	50	14.25
SP1/2FR	3/8 - 4	25	28.60
Nylon			
SP1/8NN	1/16 - 1/2	100	$9.95
SP1/4NN	3/16 - 2	100	17.95
SP3/8NN	5/16 - 3	50	52.10
SP1/2NN	3/8 - 4	25	54.75
Teflon (DuPont TFE Fluorocarbon Resin)			
SP1/8TF	1/16 - 1/2	25	$110.00
SP1/4TF	3/16 - 2	25	135.00
SP3/8TF	5/16 - 3	25	257.10
SP1/2TF	3/8 - 4	25	370.00

* Also available on reels of 500 ft. for 1/8 and 1/4, and 250 ft. for 3/8 and 1/2 in Polyethylene only.

POLYETHYLENE GROMMET STRIP



Advantage of one strip only application to round, square, rectangular, and oval holes. Comes in 6 sizes. For all gauges, from 20 gauge to 1/4" thick. Easily applied. No special tools required.

Cat. No.	Max./Min. Range (Inch)	Std. Pkg. (ft.)	Net Price per 100 Feet 100-999
Natural Polyethylene			
GS-2 CP	.020 - .039	100	$4.40
GS-2A CP	.040 - .062	100	4.79
GS-3 CP	.063 - .099	100	5.12
GS-4 CP	.100 - .144	100	5.89
GS-5 CP	.145 - .187	100	10.29
GS-6 CP	.187 - .250	50	14.85

STRAPPING AND STUDS



Plastic cable strapping with securing studs. Made of high grade PVC. Insures the rapid securing of bundles of wires or cables; suitable for all types of cable or any form diameter. Ideal for economically securing or grouping unsupported wires.

Cat. No.	Width	Net/Roll 100 ft. 100-2499	Net/Roll 500 ft. 500-2499	Net/Roll 1000 ft. 1000-4999
AV-5	5/16"	$3.45	$15.55	$28.00
AV-8	1/2"	5.65	26.60	47.90

No. AVS Studs — For strapping. Net per 1000 $6.00.

TERMINAL BLOCKS & STRIPS

STAFFEL® MODULAR TERMINAL BLOCKS

- Captive Metal Parts and Screws Totally Enclosed
- Snap Easily into Mounting Rails for Fast Assembly



Pressure clamp connections with silver plated copper or brass current bar for excellent conductivity. All metal parts are totally enclosed in the insulating body, providing circuit protection as well as personal safety.

Cat. No.	Description	Net Price per 100 100-999
1283	Terminal Block (Pressure Clamps)	$29.76
1179	End Plate	8.90
2115	Test Terminal w/Knife blade contact	60.70
2113	End Plate	4.10
1912	Fuse Terminal	115.06
1913	End Plate	11.55

Accessories

1228	Assembly Rail 6′6″ (price each)	$3.00
2061	Holding Clamp	9.55
1823	Markers (slip on)	.85
1905	Markers (snap on)	3.45

MICRO TERMINALS



1281 1173 1623

Specially designed for miniaturized equipment or areas where it is necessary to conserve space. Are modular in design and essentially similar to standard sizes described above.

Cat. No.	Description	Net Price per 100 100-999
1281	Terminal Block (Pressure Clamp)	$23.57
1282	End Plate	6.70
1173	Terminal Block (1 solder lug)	28.77
1174	End Plate	6.70
1623	Terminal Block (2 solder lugs)	20.88
1282	End Plate	6.70

Accessories

1175	Assembly Rail 6′x6″ (price each)	$1.65
1177	Holding Clamp	5.80
1823	Markers (slip-on)	.85
1905	Markers (clip-on)	3.45

TERMINAL STRIPS

2412



Compact 12 pole terminal strips for low voltage applications. Rated 12 amps, 110 volts. Accommodate 24 to 12 A.W.G. wire.

Cat. No.	Description	Net Price per 100 100-999
2412	Screw/screw	$106.45
2413	Screw and horizontal solder lug	105.99
2414	Screw and vertical solder lug	100.57
2456	Marking tag, unmarked	8.55
2001	Studs for holding tags	.75

FLEXIBLE TERMINAL STRIP



The flexible nature of the terminal strips allow conformation to curved and uneven surfaces. Pressure clamp connectors. Rated 20 amps at 300 Volts. 12 poles. Conductors up to A.W.G. #12. Strips may be cut with a sharp knife.

Cat. No.	Description	Net Price per 100 100-999
1949	12 Pole PVC Strip (w/Pressure Clamps)	$105.99
1950	Marking Strip	14.70

ESSEX electronic wire & cable

RG COAXIAL CABLE

Military Number RG/U	ESSEX CAT. No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
8	21-004	.405	I	—	C	.285P	7/21C	65.9	29.5	5000	52	105	N, C, HN, UHF
8A	21-290	.405	IIa	—	C	.285P	7/21C	65.9	29.5	5000	52	105	
9B	21-332	.420	IIa	S	S	280P	7/21C	65.9	30	5000	50	127	N, C, HN, UHF
11	21.007	.405	I	—	C	.285P	7/26TC	65.9	20.5	5000	75	92	N, C, HN, UHF
55B	21-802	.206	IIIa	TC	TC	.116P	20S	65.9	28.5	1900	53.5	34	TNC, BNC, BN, C, UHF
58	21-024	.195	I	—	TC	.116P	20C	65.9	28.5	1900	53.5	27	
58A	21-199	.195	I	—	TC	.116P	19/.0071 TC	65.9	30	1900	50	27	TNC, BNC, BN, C, UHF, N PLUG-IN
58C	21-316	.195	IIa	—	TC	.116P	19/.0071 TC	65.9	30	1900	50	27	
59	21-025	.242	I	—	C	.146P	22CW	65.9	21.5	2300	73	37	TNC, BNC, BN,
59B	21-794	.242	IIa	—	C	.146P	.023CW	65.9	21	2300	75	35	C, UHF, N PLUG-IN
62	21-026	.242	I	—	C	.146SSP	22CW	84	13.5	750	93	36	TNC, BNC, BN,
62B	21-771	.242	IIa	—	C	.146SSP	7/32CW	84	13.5	750	93	30	C, UHF, N PLUG-IN
71B	21-804	.250 Max.	IIIa	TC	C	.146SSP	22CW	85	13.5	750	93	43	TNC, BNC, BN, C, UHF, N PLUG-IN
108A	21-327	.235	IIa	—	TC	.079 (each P)	Two 7/28TC	68	23.5	1000	78	29	TWIN
213	21-779	.405	IIa	—	C	.285	7/.0296C	65.9	29.5	5000	50	103	N, C, HN, UHF
223	21-788	.216	IIa	S	S	.116P	.035S	65.9	29.5	1900	50	36	TNC, BNC, BN C, UHF, N
225	421-135	.430	V	S	S	.285T	7/.0312S	69.5	29.5	5000	50	174	N, C, HN, UHF

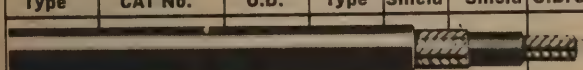
Note: C—Copper; S—Silvered Copper; CW—Copperweld; TC—Tinned Copper; P—Polyethylene; T—Teflon; TT—Teflon Tape; SCW—Silvered Copperweld; SST—Semi-Solid Teflon; SSP—Semi-Solid Polyethylene. CCP—Conductive Coated Polyethylene.

© United Technical Publications

ESSEX electronic wire & cable

TRIAXIAL CABLES

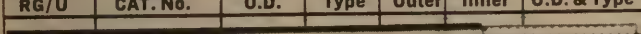
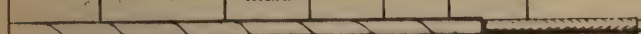
ESSEX Triaxial Cables are especially desgigned to satisfy the need for a high degree of shielding in a flexible transmission line. This is achieved by adding a high coverage braid over the cable jacket and then applying a second or outer jacket. This type of construction provides more effective action than two adjacent braids. Aside from applications requiring maximum attenuation of radiated signals or minimum pickup of external interference, this cable can also be used to carry two separate signals.

RG/U Type	ESSEX CAT No.	Jacket O.D.	Outer Jacket Type	Inner Jacket O.D & Type Shield	Inner Jacket O.D & Type Shield	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
													
58A	21-204*	.285	I	TC .195	ITC	.116P	19/.0071 TC	65.9	29.5	1900	50	60	TRIAX

RG SUBMINIATURE CABLE

ESSEX line of subminiature coaxial cables were created for use in any miniaturized electronic application where high temperature and extreme flexibility is a consideration. This Teflon dielectric subminiature cable is able to withstand continuous operating temperatures up to 250°C. Teflon jacket is weatherproof, chemically inert, insoluble in liquids and gases — provides the greatest flexibility and lowest attenuation. ESSEX subminiature cables have been laboratory tested at −55°C and retained all its flexible properties.

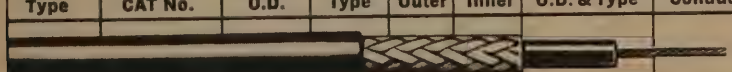
The polyethylene dielectric miniature coaxial cable is intended for use in any miniaturized electronic applications where extremely high temperature is not a consideration.

Military Number RG/U	ESSEX CAT. No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
													
174	21-598	.100	I	—	TC	.060P	7/34CW	65.9	30.0	1500	50	7.5	——
													
178B	421-094	.075 Max.	IX	—	S	.034T	7/38SCW	69.5	28.5	1000	50	6	——
													
179B	421-096	.105 Max.	IX	—	S	.063T	7/38SCW	69.5	19.5	1200	75	11	——
													
180B	421-098	.145 Max.	IX	—	S	.102T	7/38SCW	69.5	15.0	1500	95	20	——
													
187A	421-079	.110 Max.	VII	—	S	.060T	7/38SCW	69.5	19.5	1200	75	11.3	——
													
188A	421-077	.110 Max.	VII	—	S	.060T	7/.0067 SCW	69.5	29.0	1200	50	11.1	——
													
195A	421-075	.155 Max.	VII	—	S	.102T	7/38SCW	69.5	15.0	1500	95	21.1	——
													
196A	421-073	.080 Max.	VII	—	S	.034T	7/38SCW	69.5	28.5	1000	50	5.9	——

Note: C—Copper; S—Silvered Copper; CW—Copperweld; TC—Tinned Copper; P—Polyethylene; T—Teflon; TT—Teflon Tape; SCW—Silvered Copperweld; SST—Semi-Solid Teflon; SSP—Semi-Solid Polyethylene. CCP—Conductive Coated Polyethylene.

LOW NOISE CABLES

ESSEX Low Noise Cable fulfills the need for cable which will remain electrically neutral under conditions of shock and vibration. The spurious signals generated by flexing or distorting a standard cable may well be of a higher level than the useful signal being transmitted along the cable. The reduction of inherent noise is achieved on these cables by the application of a semi-conductive coating over the dielectric.

RG/U Type	ESSEX CAT No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
													
59	21-541	.242	I	C	—	.146CCP	7/32TC	65.9	21.5	2300	73	35	BNC, BN, C, UHF

Note: C—Copper; S—Silvered Copper; CW—Copperweld; TC—Tinned Copper; P—Polyethylene; T—Teflon; TT—Teflon Tape; SCW—Silvered Copperweld; SST—Semi-Solid Teflon; SSP—Semi-Solid Polyethylene. CCP—Conductive Coated Polyethylene.

© United Technical Publications

ESSEX electronic wire & cable

SUBMINAX® CABLE

RG/U Type	ESSEX CAT No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
187	421-106	.110 Max.	IX	—	S	.060T	7/38SCW	69.5	19.5	1200	75	11	——
188	421-105	.110 Max.	IX	—	S	.060T	7/.0067 SCW	69.5	29.0	1200	50	11.5	——
196	421-109	.080 Max.	IX	—	S	.034T	7/38SCW	69.5	28.5	1000	50	5.65	——
—	21-597	.150	I	—	TC	.100P	7/.0056 CW	65.9	20	2500	75	15	——

HIGH VOLTAGE CABLE AND WIRE

ESSEX High Voltage Cable and Wire is designed to satisfy a multitude of high voltage applications — where flexibility and temperature extremes may be a factor. High voltage wire operates up to 50,000 volts D.C. — coaxial cables up to 35,000 volts D.C. These cables and wires retain their flexible characteristics at temperature ranges of −55°C to +80°C.

Let us put our manufacturing experience at your disposal to solve your high voltage coaxial cable and wire problems.

Military Number RG/U	ESSEX CAT. No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Dielectric Strength
—	14-047-02	.120	Red	Vinyl	—	.080 P	7/30TC	—	—	——	—	7.75	10,000V A.C. 50,000V D.C.
—	14-047-10	.120	Black	Vinyl	—	.080 P	7/30TC	—	—	——	—	7.75	10,000V A.C. 50,000V D.C.

METAL JACKETED COAXIAL CABLE

ESSEX Aljak and Cujak Cables have a number of outstanding characteristics for a wide variety of applications. Their electrical advantages over the standard RG Type coaxial cable are lower attenuation and minimum signal radiation or pick-up. Mechanically, they have the advantage of light weight in the Aljak version as well as small size and complete weather-proofing in both versions.

RG/U Type	ESSEX CAT. No.	Outer Conductor	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
87A	421-608	.325Al	—	—	—	.285 T	7/.0312S	69.5	29.5	5000	50	103	——
141 or 142	421-668	.141S	—	—	—	.116 T	19SCW	69.5	29.5	1900	50	36	——

BC/U 100% SHIELDED CABLE

ESSEX Bc/u Bonded Cable is a high reliability, low loss, 100% shielded, flexible, lightweight cable from applications where efficiency and performance are a factor.

The aluminum shield is bonded to the polyethylene jacket to produce a tough cable that can take bending and flexing. Meets or exceeds all requirements of MIL-C-17.

BC/U Type	ESSEX CAT No.	Jacket O.D.	Jacket Type	Shields	Dielectric O.D. & Type	Center Conductor	V.P. %	Nom. a. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	ATTENUATION (db/100 ft.) Nom. 400MHz	ATTENUATION (db/100 ft.) Nom. 1GHz
6	621-010	.247	P	BA	.185FP	18C	80	17	1500	75	28	4.1	8.5
59	21-1050	.242	P	BA	.146P	22CW	65.9	21	2500	75	25	5.3	10.2

ESSEX REDUCED WEIGHT CABLES

ESSEX has taken two popular RG cables and redesigned them to minimize weight. These new cables meet or exceed all requirements of MIL-C-17.

RG/U Type	ESSEX CAT. No.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
58	21-958	.195	I	—	C	.116P	20C	65.9	28.5	1900	53.5	25	TNC, BNC, BNC, UHF, N
59	21-959	.242	I	—	C	.146P	22CW	65.9	21	2500	73	33	BNC, TNC, UHF, N

© United Technical Publications

CIC-UAC MANHATTAN

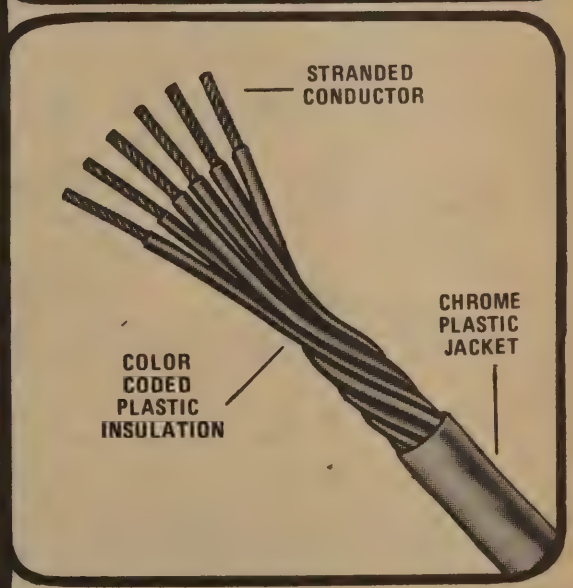
Unshielded Audio Cable

MULTI-CONDUCTOR CABLE—PLASTIC JACKET

APPLICATIONS: Unbalanced intercom and sound systems, interconnecting cables, remote circuit control, telephones and low voltage control cable.

NO. of COND.	NOM. JKT. (In.)	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. (In.)	NOM. O.D. (In.)	PART NO.
No. 22 - 7/30 TC - .010" INSULATION - 200 VOLTS							
2	.020	.135	M3302	19	.025	.320	M3319
3	.020	.145	M3303	25	.025	.350	M3325
4	.020	.170	M3304	30	.030	.385	M3330
5	.020	.175	M3305	35	.030	.415	M3335
6	.020	.185	M3306	40	.035	.445	M3340
8	.020	.200	M3308	45	.035	.475	M3345
10	.020	.235	M3310	50	.040	.510	M3350
12	.020	.255	M3312	60	.040	.550	M3360
15	.020	.280	M3315				
No. 20 - 10/30 TC - .016" INSULATION - 300 VOLTS							
2	.020	.180	M3402	10	.025	.330	M3410
3	.020	.190	M3403	12	.025	.345	M3412
4	.020	.215	M3404	15	.025	.380	M3415
6	.020	.250	M3406	19	.025	.400	M3419
8	.020	.270	M3408				
No. 18 - 16/30 TC - .016" INSULATION - 300 VOLTS							
2	.020	.200	M3502	8	.025	.315	M3508
3	.020	.210	M3503	10	.025	.370	M3510
4	.020	.240	M3504	12	.025	.385	M3512
6	.020	.290	M3506				
No. 16 - 26/30 TC - .020" INSULATION - 400 VOLTS							
2	.020	.240	M3572	6	.025	.350	M3576
3	.020	.265	M3573	8	.025	.380	M3578
4	.020	.290	M3574				
No. 14 - 41/30 TC - .020" INSULATION - 400 VOLTS							
2	.025	.280	M3582	4	.025	.330	M3584
3	.025	.300	M3583	6	.030	.410	M3586

CONDUCTOR: Stranded tinned copper
INSULATION: Color coded PVC (see chart)
CABLING: Conductors twisted
JACKET: CHROME GRAY PVC
VOLTAGE RATING: No. 22 - 200 Volts RMS
No. 20 & No. 18
300 Volts RMS
No. 16 & No. 14
400 Volts RMS
STANDARD PUT-UP: Cut to requirements



COLOR CODE OF CONDUCTORS

1-Black	16-White/Black	31-White/Black/Slate	46-White/Blue/Black
2-Red	17-White/Red	32-White/Black/Purple	47-White/Blue/Red
3-White	18-White/Green	33-White/Black/Black	48-White/Blue/Green
4-Green	19-White/Yellow	34-White/Red/Black	49-White/Blue/Blue
5-Orange	20-White/Blue	35-White/Red/Red	50-White/Blue/Brown
6-Blue	21-White/Brown	36-White/Red/Green	51-White/Blue/Purple
7-Brown	22-White/Orange	37-White/Red/Blue	52-White/Brown/Black
8-Yellow	23-White/Gray	38-White/Red/Brown	53-White/Brown/Red
9-Purple	24-White/Violet	39-White/Red/Purple	54-White/Brown/Green
10-Slate	25-White/Black/Red	40-White/Green/Black	55-White/Brown/Blue
11-Pink	26-White/Black/Green	41-White/Green/Red	56-White/Brown/Blue
12-Tan	27-White/Black/Yellow	42-White/Green/Green	57-White/Brown/Purple
13-Red/Green	28-White/Black/Blue	43-White/Green/Blue	58-White/Purple/Red
14-Red/Yellow	29-White/Black/Brown	44-White/Green/Brown	59-White/Purple/Green
15-Red/Black	30-White/Black/Orange	45-White/Green/Purple	60-White/Purple/Blue

© United Technical Publications

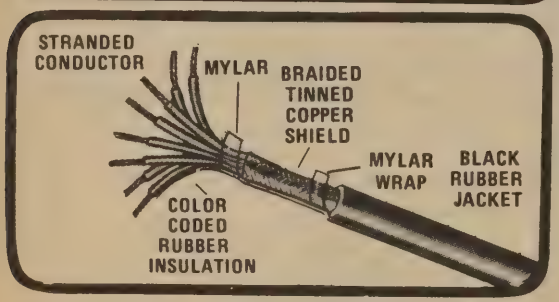
MANHATTAN

CIC-R

Rubber Jacketed Control Cable Shielded and Unshielded

APPLICATIONS: Flexible inside control cable for instruments, automatic equipment, relaying devices, control circuits, microphones, audio, and broadcast studio use.

CONDUCTOR: No. 20-26/34 tinned copper
INSULATION: .020" Color coded rubber
CABLING: Conductor cabled with fillers when necessary, mylar wrap.
SHIELD: Braided tinned copper, mylar wrap over shield.
JACKET: 035" BLACK HEAVY DUTY RUBBER
SUGGESTED WORKING VOLTAGE: 600 Volts RMS
STANDARD PUT-UP: 500 ft. and 1000 ft.



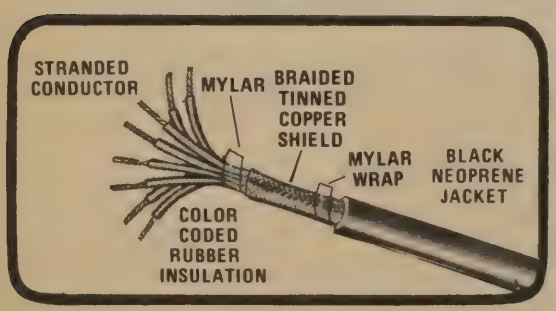
SHIELDED			UNSHIELDED		
NO. of CONDUCTORS	NOM. O.D. (In.)	PART NO.	NO. of CONDUCTORS	NOM. O.D. (In.)	PART NO.
2	.260	M1022	2	.230	M1002
3	.270	M1023	3	.240	M1003
4	.290	M1024	4	.260	M1004
6	.335	M1026	6	.310	M1006
8	.360	M1028	8	.330	M1008
10	.400	M1030	10	.370	M1010
12	.415	M1032	12	.390	M1012
15	.540	M1035	COLOR CODE OF CONDUCTORS (SEE BELOW)		
20	.600	M1040			

CIC-N

Heavy Duty Shielded Neoprene Jacketed Control Cable

APPLICATIONS: Neoprene recommended for outside installation shielded power supply, instrumentation, low impedance application, and audio and broadcast outside use.

CONDUCTOR: Flexible stranded tinned copper.
INSULATION: Color coded rubber.
CABLING: Conductors cabled with fillers when necessary, mylar wrap.
SHIELD: Braided tinned copper, mylar wrap.
JACKET: .040" BLACK RUGGED NEOPRENE
SUGGESTED WORKING VOLTAGE: 600 Volts RMS
STANDARD PUT-UP: Cut to requirements.



No. 18 - 41/34 - .022" INS.			No. 14 - 41/30 - .032" INS.		
NO. of CONDUCTORS	NOM. O.D. (In.)	PART NO.	NO. of CONDUCTORS	NOM. O.D. (In.)	PART NO.
2	.295	M1042	2	.395	M1062
3	.310	M1043	3	.415	M1063
4	.335	M1044	4	.455	M1064
6	.390	M1046	6	.510	*M1066
8	.415	M1048	8	.600	*M1068
10	.440	*M1049	No. 12 - 65/30 - .032" INS.		
12	.450	*M1050			
15	.570	*M1051	2	.440	M1072
20	.650	*M1051/20	3	.465	M1073
No. 16 - 65/34 - .025" INS.			4	.510	*M1074
			6	.620	*M1076
2	.330	M1052	No. 10 - 105/30 - .032" INS.		
3	.350	M1053			
4	.380	M1054	2	.500	*M1082
6	.450	*M1056	3	.540	*M1083
8	.500	*M1058	4	.600	*M1084

*NEW ITEM

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

CIC-V MANHATTAN

Vinyl Jacketed Shielded Control Cable

APPLICATIONS: Small diameter shielded instrumentation cable for sensing, recording, and monitoring devices, telemetering and high signal isolation. Low capacitance provides low energy loss in video and audio applications.

No. 24 - 10/34TC - .012" INSULATION

NO. of COND.	NOM. JKT. THK. (in.)	NOM. O.D. (in.)	PART NO.
2	.020	.160	M1102
3	.020	.165	M1103
4	.020	.180	M1104
5	.020	.195	M1105
6	.020	.210	M1106

No. 22 - 16/34TC - .012" INSULATION

NO. of COND.	NOM. JKT. THK. (in.)	NOM. O.D. (in.)	PART NO.
2	.020	.170	M1112
3	.020	.180	M1113
4	.020	.195	M1114
5	.020	.210	M1115
6	.020	.225	M1116
8	.025	.260	M1118

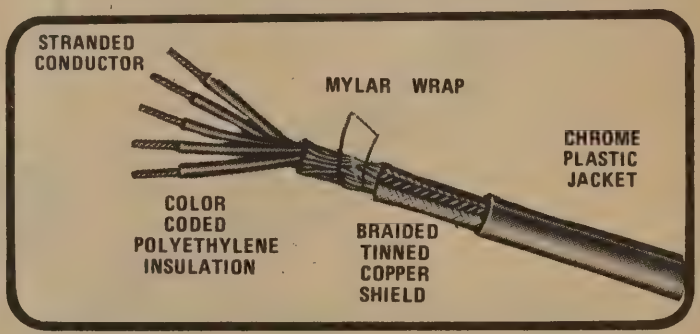
No. 20 - 26/34TC - .014" INSULATION

NO. of COND.	NOM. JKT. THK. (in.)	NOM. O.D. (in.)	PART NO.
2	.025	.205	M1122
3	.030	.225	M1123
4	.030	.240	M1124
5	.030	.260	M1125
6	.030	.280	M1126
8	.035	.310	M1128
10	.035	.345	M1130
12	.035	.360	M1132

COLOR CODE OF CONDUCTORS

1-Black	7-Brown
2-White	8-Orange
3-Red	9-Slate
4-Green	10-Purple
5-Yellow	11-White/Black
6-Blue	12-White/Red

CONDUCTOR: Flexible stranded tinned copper
INSULATION: Color coded low density polyethylene insulation.
CABLING: Conductors cabled with fillers when necessary, mylar wrap.
SHIELD: Braided tinned copper shield
JACKET: SMOOTH CHROME PLASTIC (Vinyl)
SUGGESTED WORKING VOLTAGE: 600 Volts RMS
STANDARD PUT-UP: Cut to requirements



No. 18 - 41/34 TC - .016" INSULATION

NO. of COND.	NOM. JKT. THK. (in.)	NOM. O.D. (in)	PART NO.
2	.030	.245	M1142
3	.030	.255	M1143
4	.030	.275	M1144
6	.035	.335	M1146

No. 16 - 65/34 TC - .020" INSULATION

NO. of COND.	NOM. JKT. THK. (in.)	NOM. O.D. (in.)	PART NO.
2	.035	.295	M1162
3	.035	.310	M1163
4	.035	.335	M1164

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

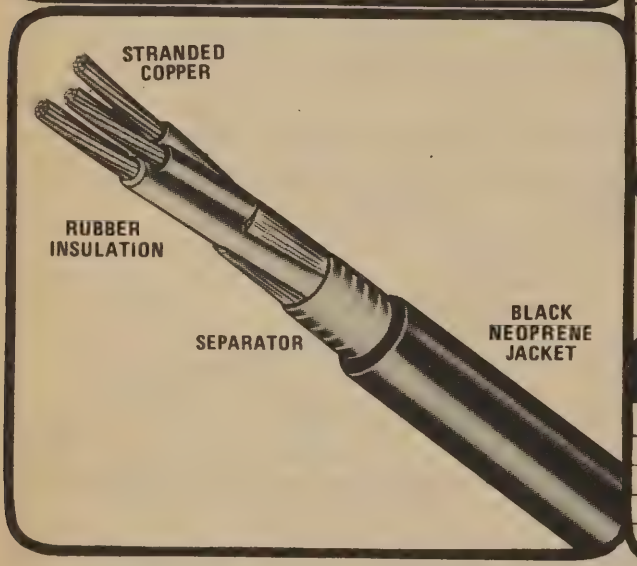
MANHATTAN

CIC-MSO

Neoprene Jacketed Control Cable 600 Volts

APPLICATIONS: Designed for heavy duty use in relay control, power and signal transmission, lighting, motor and turbine control, telemetering, switching control of automatic electronic and electrical equipment, substation operations, traffic control and fire alarm control. Neoprene has exceptional flexibility, mechanical strength and suited for either indoor or outdoor installation.

CONDUCTOR: Stranded bare copper-minimum strands*
INSULATION: Color coded rubber per National Electric Code standards
CABLING: Cabled with fillers when necessary, separator over conductors
JACKET: RUGGED BLACK NEOPRENE
VOLTAGE TEMPERATURE RATING: 600 Volts - 60°C
STANDARD PUT-UP: Cut to requirements.



No. 16 - 26/30 BARE COPPER* - 1/32" INSULATION

NO. of COND.	NOM. JKT. THK. (In.)	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. THK.	NOM. O.D. (In.)	PART NO.
2	.060	.405	M2042	14	.090	.775	M2054
3	.060	.430	M2043	16	.090	.825	M2056
4	.060	.485	M2044	20	.090	.900	M2060
5	.075	.525	M2045	24	.105	1.015	M2064
6	.075	.565	M2046	26	.105	1.020	M2066
7	.075	.605	M2047	30	.105	1.070	M2070
8	.075	.645	M2048	37	.105	1.160	M2077
9	.090	.720	M2049	40	.105	1.235	M2080
10	.090	.725	M2050	50	.120	1.350	M2090
12	.090	.740	M2052	60	.120	1.470	M2100

No. 14 - 41/30 BARE COPPER - 3/64" INSULATION

NO. of COND.	NOM. JKT. THK.	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. THK.	NOM. O.D. (In.)	PART NO.
2	.075	.530	M2102	7	.090	.795	M2107
3	.075	.560	M2103	8	.090	.845	M2108
4	.075	.605	M2104	9	.090	.905	M2109
5	.090	.685	M2105	10	.090	.910	M2110
6	.090	.740	M2106	12	.090	.930	M2112

NO. 18 - 16/30 BARE COPPER* - 1/32" INSULATION

NO. of COND.	NOM. JKT. THK. (In.)	NOM. O.D. (In.)	PART NO.
2	.060	.390	M2002
3	.060	.405	M2003
4	.060	.435	M2004
5	.075	.500	M2005
6	.075	.525	M2006
7	.075	.565	M2007
8	.075	.600	M2008
9	.075	.640	M2009
10	.075	.650	M2010
12	.075	.660	M2012
14	.090	.715	M2014
16	.090	.760	M2016
20	.090	.835	M2020

No. 12 - 65/30 BARE COPPER - 3/64" INSULATION

2	.090	.605	M2142	10	.105	1.020	M2150
3	.090	.635	M2143	12	.105	1.045	M2152
4	.090	.665	M2144	14	.105	1.100	M2154
5	.090	.730	M2145	16	.105	1.155	M2156
6	.090	.800	M2146	20	.105	1.285	M2160
7	.090	.860	M2147	26	.120	1.445	M2166
8	.090	.915	M2148	30	.120	1.525	M2170
9	.105	1.015	M2149				

No. 10 - 105/30 BARE COPPER - 3/64" INSULATION

2	.090	.640	M2182	6	.105	.880	M2186
3	.090	.690	M2183	7	.105	.980	M2187
4	.090	.745	M2184	8	.105	1.050	M2188
5	.090	.815	M2185	10	.105	1.125	M2190

A wide selection of multi-conductor rubber & neoprene jacketed control cable made to MIL-C-3432 available from stock. Contact our offices on individual requirements.

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

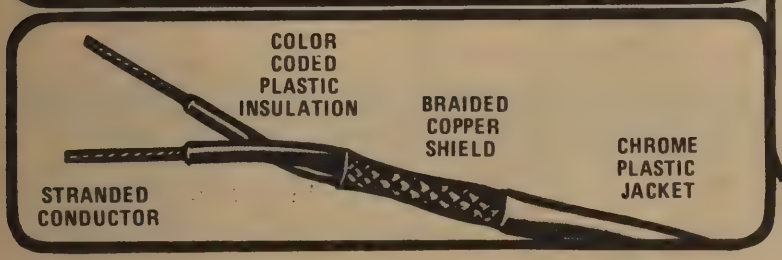
CIC-SAC MANHATTAN

Shielded Audio Cable

BRAIDED COPPER SHIELD - PLASTIC JACKET

APPLICATIONS: Audio and sound systems where severe flexing requires added tensile strength.

CONDUCTOR: Stranded tinned copper
INSULATION: .016" color coded PVC
CABLING: Conductors twisted
SHIELD: Braided copper shield
JACKET: .020" CHROME GRAY PVC
VOLTAGE RATING: 300 Volts RMS
STANDARD PUT-UP: 1000' Reel



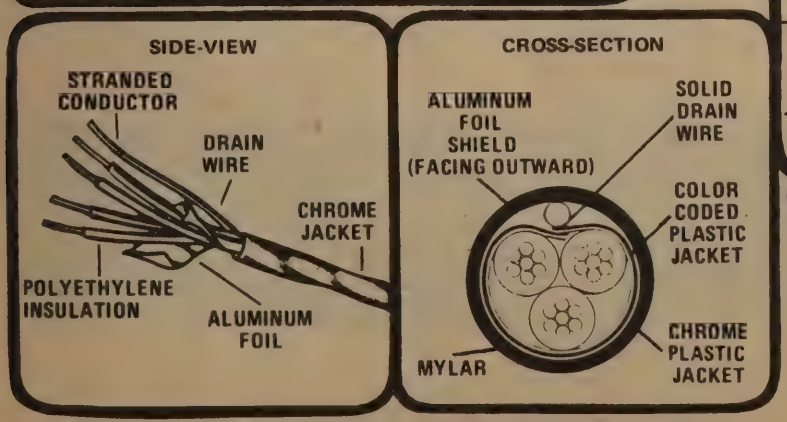
CONDUCTOR SIZE	CONDUCTOR STRAND	NO. of COND.	NOM O.D. (Inch)	PART NO.
22	7/30	2	.185	M3202
		3	.200	M3203
		4	210	M3204
20	10/30	2	.200	M3206
		3	.220	M3207
		4	.230	M3208
18	16/30	2	.220	M3212
		3	.230	M3213
16	26/30	2	.250	M3216
		3	.260	M3217

COLOR CODE OF CONDUCTORS:
1-Black 2-Red 3-White 4-Green

MYLAR BONDED ALUMINUM FOIL SHIELD - PLASTIC JACKET

APPLICATIONS: A light weight, low cost, small diameter shielded audio and sound systems cable easily terminated with drain wire. Foil shield provides 100% coverage at audio and radio frequencies.

CONDUCTOR: Stranded tinned copper
INSULATION: .016" color coded low density polyethylene
CABLING: Conductors twisted
SHIELD: Mylar bonded aluminum foil shield 100% coverage, wrapped with aluminum foil facing outward, drain wire between foil and jacket for maximum grounding contact.
JACKET: .020" CHROME GRAY PVC
VOLTAGE RATING: 400 Volts RMS
STANDARD PUT-UP: 1000' Reel



CONDUCTOR SIZE	CONDUCTOR STRAND	NO. of COND.	NOM O.D. (Inch)	PART NO.
24	7/32	2	.170	M3222
		3	.180	M3223
		4	.185	M3224
22	7/30	2	.180	M3226
		3	.195	M3227
		4	.200	M3228
20	10/30	2	.190	M3232
		3	.205	M3233
		4	.210	M3234
18	16/30	2	.215	M3242
		3	.225	M3243
		4	.240	M3244
16	26/30	2	.240	M3247
		3	.250	M3248

COLOR CODE OF CONDUCTORS:
1-Black 2-Red 3-White 4-Green

© United Technical Publications

MANHATTAN

CIC-PT

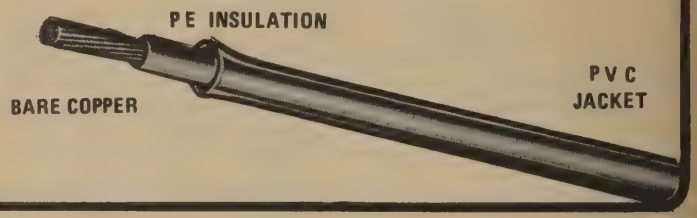
Control Cable-600Volts-90°C

GENERAL PURPOSE—PLASTIC JACKET IPCEA

APPLICATIONS: Small diameter control cable used in process control equipment, remote sub-station operations, signalling and indicating devices, measurement and recording equipment, telemetering and switchgear operating.

CONDUCTOR: Flexible stranded copper
INSULATION: Polyethylene insulation with PVC jacket over primary insulation, color code IPCEA
CABLING: Conductors cabled with fillers when necessary, mylar tape over core
JACKET:- BLACK PVC PLASTIC
VOLTAGE RATING: 600 Volts
TEMPERATURE RATING: 90°C
SPECIFICATION: IPCEA-NEMA S 61-402
STANDARD PUT-UP: Cut to requirements.

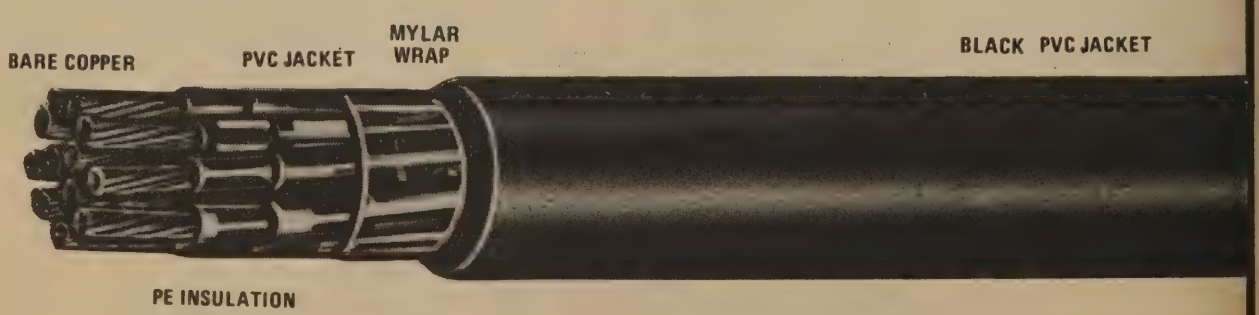
INDIVIDUAL CONDUCTOR



No. 16 - 26/30 BARE COPPER - .015" PE - .010" PVC

NO. of COND.	NOM. JKT. THK. (INCH)	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (In.)	PART NO.
2	.045"	NOTE 1	M2242	19	.060	.690	M2259
3	.045"	.350	M2243	20	.060	.730	M2260
4	.045"	.380	M2244	21	.060	.740	M2261
5	.045"	.410	M2245	22	.060	.760	M2262
6	.045"	.440	M2246	24	.060	.810	M2264
7	.045"	.450	M2247	26	.060	.820	M2266
8	.045"	.480	M2248	27	.060	.840	M2267
9	.045"	.510	M2249	30	.080	.900	M2270
10	.060"	.580	M2250	34	.080	.940	M2274
11	.060"	.590	M2251	37	.080	.960	M2277
12	.060"	.600	M2252	40	.080	1.000	M2280
14	.060"	.630	M2254	45	.080	1.050	M2285
15	.060"	.640	M2255	50	.080	1.110	M2290
16	.060"	.660	M2256	55	.080	1.150	M2295
				60	.080	1.190	M2300

NOTE 1 Flat dimension .200" x .310"
NOTE 2 Flat dimension .230" x .370"
NOTE 3 Flat dimension .250" x .400"
NOTE 4 Flat dimension .280" x .450"
NOTE 5 Flat dimension .290" x .480"



MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

CIC-PT

MANHATTAN

Control Cable-600 Volts-90°C

GENERAL PURPOSE - PLASTIC JACKET IPCEA

No. 14 - STRANDED BARE COPPER - .020" PE - .010" PVC

NO. of COND.	NOM.JKT.THK. (Inch)	NOM. O.D. (Inch)	PART NO.	NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (Inch)	PART NO.
2	.045	NOTE 2	M2302	16	.060	.760	M2316
3	.045	.380	M2303	18	.060	.800	M2318
4	.045	.420	M2304	19	.060	.810	M2319
5	.045	.460	M2305	20	.080	.880	M2320
6	.045	.500	M2306	24	.080	.975	M2324
7	.045	.510	M2307	26	.080	1.015	M2326
8	.060	.570	M2308	27	.080	1.036	M2327
9	.060	.610	M2309	30	.080	1.070	M2330
10	.060	.665	M2310	34	.080	1.150	M2334
11	.060	.685	M2311	37	.080	1.160	M2337
12	.060	.690	M2312				
14	.060	.720	M2314				

No. 12 - STRANDED BARE COPPER - .020" PE - .010" PVC

2	.045	NOTE 3	M2372	19	.080	.940	M2389
3	.045	.425	M2373	20	.080	.985	M2390
4	.045	.465	M2374	21	.080	1.030	M2391
5	.045	.510	M2375	22	.080	1.040	M2392
6	.060	.585	M2376	24	.080	1.090	M2394
7	.060	.590	M2377	25	.080	1.130	M2395
8	.060	.635	M2378	26	.080	1.135	M2396
9	.060	.680	M2379	27	.080	1.150	M2397
10	.060	.740	M2380	30	.080	1.190	M2400
12	.060	.765	M2382	34	.080	1.285	M2404
14	.060	.805	M2384	37	.080	1.290	M2407
15	.080	.890	M2385	40	.080	1.335	M2410
16	.080	.900	M2386	50	.080	1.455	M2420
18	.080	.935	M2388	60	.080	1.545	M2430

No. 10 - STRANDED BARE COPPER .020" PE - .010"PVC

2	.045	NOTE 4	M2432
3	.045	.490	M2433
4	.060	.570	M2434
5	.060	.620	M2435
6	.060	.685	M2436
7	.060	.685	M2437
8	.060	.730	M2438
9	.060	.790	M2439
10	.080	.900	M2440
12	.080	.930	M2442
14	.080	.980	M2444
19	.080	1.090	M2449
24	.080	1.270	M2454
26	.080	1.275	M2456
30	.080	1.340	M2460
37	.080	1.450	M2467

No. 9 - 19/22 BARE COPPER .020" PE - .010" PVC

2	.045	NOTE 5	M2482
3	.045	.520	M2483
4	.060	.600	M2484
5	.060	.650	M2485
6	.060	.710	M2486
7	.060	.715	M2487
8	.060	.770	M2488
10	.060	.950	M2490
15	.080	1.060	M2495

NOTE 1 Flat dimension .200" x 310"
NOTE 2 Flat dimension .230" x 370"
NOTE 3 Flat dimension .250" x 400"
NOTE 4 Flat dimension .280" x 450"
NOTE 5 Flat dimension .290" x 480"

All dimensions are nominal and subject to manufacturing tolerances.

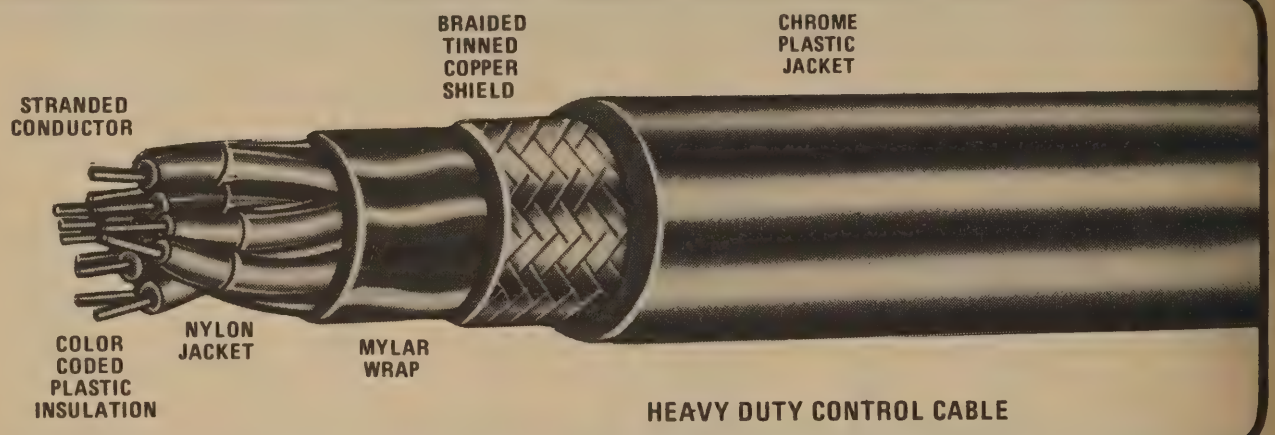
MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

MANHATTAN CIC-MCC

Multi-Conductor Control Cable

SHIELDED—PLASTIC JACKET PER MIL-W-16878D



HEAVY DUTY CONTROL CABLE

MINIATURE SHIELDED CONTROL CABLE - 600 VOLTS
No. 28 - 7/36 TINNED COPPER - .010" 105ºC INSULATION - TYPE B

NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (In.)	PART NO.
4	.013	.135	M1604	14	.021	.215	M1614
5	.014	.140	M1605	16	.022	.225	M1616
6	.015	.150	M1606	19	.024	.245	M1619
8	.017	.170	M1608	27	.028	.280	M1627
10	.018	.185	M1610	37	.031	.325	M1637
12	.020	.200	M1612				

GENERAL PURPOSE SHIELDED CONTROL CABLE - 600 VOLTS
No. 22 - 19/34 TINNED COPPER - .010" 105ºC INS. - NYLON JKT - TYPE B/NYLON

NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (In.)	PART NO.	NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (In.)	PART NO.
4	.019	.190	M1644	14	.030	.330	M1654
5	.021	.210	M1645	16	.031	.350	M1656
6	.022	.230	M1646	19	.035	.380	M1659
8	.025	.255	M1648	27	.040	.445	M1667
10	.026	.280	M1650	37	.047	.515	M1677
12	.028	.305	M1652	48	.053	.590	M1687

HEAVY DUTY-SHIELDED CONTROL CABLE - 1000 VOLTS
No. 18 - 19/30 TINNED COPPER - .016" 105ºC INS. - NYLON JKT - TYPE C/NYLON

4	.029	.300	M1704	16	.049	.535	M1716
5	.030	.310	M1705	19	.052	.580	M1719
6	.032	.340	M1706	27	.061	.680	M1727
8	.036	.390	M1708	37	.070	.790	M1737
10	.040	.430	M1710	48	.080	.900	M1748
12	.043	.460	M1712	60	.090	1.010	M1760
14	.046	.500	M1714				

No. 16 - 19/29 TINNED COPPER - .016" 105ºC - NYLON JKT - TYPE C/NYLON

4	.031	.325	M1764	12	.047	.510	M1772
5	.033	.345	M1765	16	.053	.590	M1776
6	.035	.370	M1766	19	.057	.630	M1779
8	.040	.425	M1768	27	.067	.760	M1787
10	.043	.470	M1770				

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

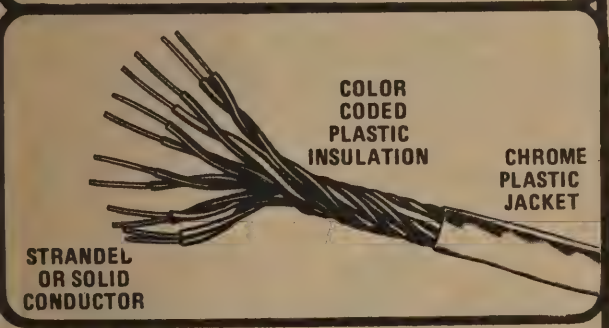
CIC-PIC MANHATTAN

Paired Intercom Cable

UNSHIELDED MULTIPLE PAIRS - PLASTIC JACKET

APPLICATIONS: Multiple speaker and sound cable, balanced intercom systems providing a quiet circuit free from cross talk telephones, hospital call systems, signal and alarm systems.

CONDUCTOR: Solid or stranded tinned copper
INSULATION: Color coded PVC
PAIRED: Conductors paired with short lay for balance and easy identification
CABLING: Pairs cabled with open binder when necessary
JACKET: FREE STRIPING CHROME GRAY PVC
VOLTAGE RATING: No. 22 gauge - 200 Volts RMS
No. 18 gauge - 400 Volts RMS
STANDARD PUT-UP: Cut to requirements



COLOR CODE OF CONDUCTOR PAIRS

PAIR NO.	COLOR COMBINATION	PAIR NO.	COLOR COMBINATION
1	Black prd. w/Red	27	Brown prd. w/Yellow
2	Black prd. w/White	28	Purple prd. w/Red
3	Black prd. w/Green	29	Purple prd. w/White
4	Black prd. w/Blue	30	Purple prd. w/Green
5	Black prd. w/Brown	31	Purple prd. w/Blue
6	Black prd. w/Yellow	32	Purple prd. w/Brown
7	Black prd. w/Orange	33	Purple prd. w/Yellow
8	Red prd. w/Green	34	Purple prd. w/Orange
9	Red prd. w/White	35	Purple prd. w/Slate
10	Red prd. w/Blue	36	Purple prd. w/Black
11	Red prd. w/Yellow	37	Slate prd. w/Red
12	Red prd. w/Brown	38	Slate prd. w/White
13	Red prd. w/Orange	39	Slate prd. w/Green
14	Green prd. w/Blue	40	Slate prd. w/Blue
15	Green prd. w/White	41	Slate prd. w/Brown
16	Green prd. w/Brown	42	Slate prd. w/Yellow
17	Green prd. w/Orange	43	Slate prd. w/Orange
18	Green prd. w/Yellow	44	Slate prd. w/Black
19	White prd. w/Blue	45	White/Black prd. w/Red
20	White prd. w/Brown	46	White/Black prd. w/Green
21	White prd. w/Orange	47	White/Black prd. w/Blue
22	White prd. w/Yellow	48	White/Black prd. w/Brown
23	Blue prd. w/Brown	49	White/Black prd. w/Yellow
24	Blue prd. w/Orange	50	White/Black prd. w/Orange
25	Blue prd. w/Yellow	51	White/Black prd. w/Purple
26	Brown prd. w/Orange		

No. 22 SOLID TINNED COPPER .010" INSULATION

NO. of PAIRS	NO. of COND.	NOM. JKT. THK. (inch)	NOM. O.D. (Inch)	PART NO.
1	2	.020	.135	M3001
2	4	.020	.190	M3002
3	6	.020	.210	M3003
4	8	.020	.230	M3004
6	12	.020	.275	M3006
9	18	.020	.320	M3009
11	22	.020	.345	M3011
13	26	.025	.380	M3013
15	30	.025	.400	M3015
19	38	.030	.430	M3019
23	46	.030	.480	M3023
27	54	.035	.520	M3027

No. 22 - 7/30 TINNED COPPER - .010" INSULATION

1	2	.020	.145	M3031
2	4	.020	.210	M3032
3	6	.020	.225	M3033
4	8	.020	.240	M3034
6	12	.020	.300	M3036
9	18	.020	.360	M3039
11	22	.020	.370	M3041
13	26	.025	.410	M3043
15	30	.025	.440	M3045
19	38	.030	.460	M3049
23	46	.030	.530	M3053
27	54	.035	.560	M3057
31	62	.040	.595	M3061
37	74	.040	.630	M3067
41	82	.045	.675	M3071
51	102	.050	.750	M3075

No. 18 - 16/30 TINNED COPPER - .016" INSULATION

1	2	.020	.200	M3081
3	6	.025	.330	M3083
6	12	.035	.470	M3086
9	18	.040	.560	M3089
15	30	.050	.700	M3095

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

MANHATTAN

CIC-SPC

Shielded Paired Communication Cable

MULTIPLE PAIRS INDIVIDUALLY SHIELDED - PLASTIC JACKET

APPLICATIONS: Multiple speaker and sound systems requiring circuit isolation, shielded audio, instrumentation and data cables.

NO. of PAIRS	NO. of COND.	NOM. JKT. THK. (Inch)	NOM. O.D. (Inch)	NO.
No. 22 - 7/30 TINNED COPPER - .010" PE INSULATION				
3	6	.020	.245	M3103
6	12	.025	.330	M3106
9	18	.030	.400	M3109
11	22	.035	.460	M3111
15	30	.040	.515	M3115
19	38	.045	.560	M3119
23	46	.045	.610	M3123
27	54	.050	.700	M3127
31	62	.050	.740	M3131
No. 18 - 16/30 TINNED COPPER - .016" PE INSULATION				
3	6	.030	.360	M3173
6	12	.040	.510	M3176
9	18	.050	.620	M3179
11	22	.055	.680	M3181
15	30	.060	.790	M3185

CONDUCTOR: Stranded tinned copper

INSULATION: Color coded high molecular weight polyethylene

PAIRED: Conductor paired with short lay for balance, free from cross talk, drain wire twisted together

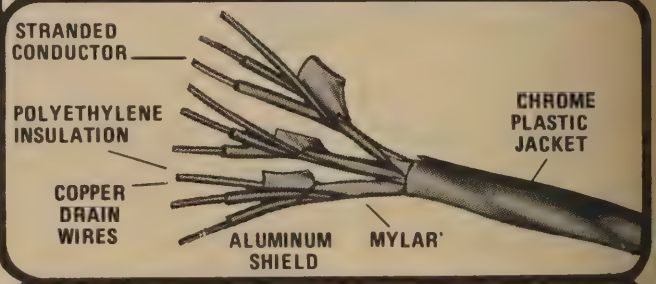
SHIELD: Each pair shielded with aluminum foil, bonded mylar wrap over pair with individual drain in contact with aluminum foil. 100% coverage

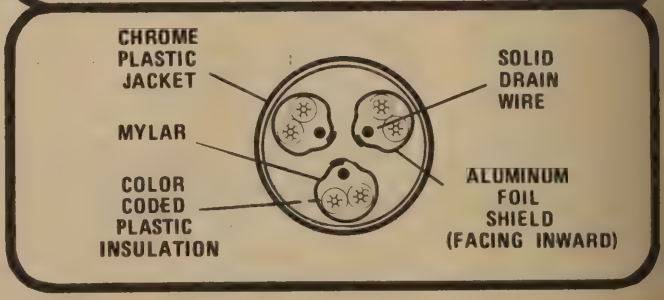
CABLING: Shielded pairs cabled on planetary cabler to eliminate conductor strain and distortion, mylar tape wrap over core

JACKET: SMOOTH CHROME GRAY PVC PLASTIC

VOLTAGE RATING NO. 22 GAUGE - 300 Volts RMS
NO. 18 GAUGE - 600 Volts RMS

STANDARD PUT-UP: Cut to requirements





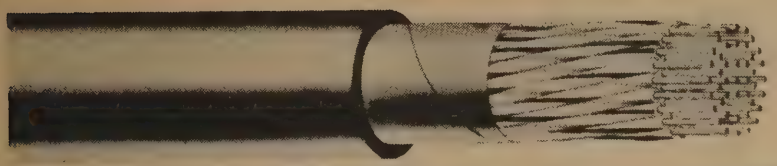
COLOR CODE OF PAIRS

1-Black/Red	17-Green/Orange
2-Black/White	18-Green/Yellow
3-Black/Green	19-White/Blue
4-Black/Blue	20-White/Brown
5-Black/Brown	21-White/Orange
6-Black/Yellow	22-White/Yellow
7-Black/Orange	23-Blue/Brown
8-Red/Green	24-Blue/Orange
9-Red/White	25-Blue/Yellow
10-Red/Blue	26-Brown/Orange
11-Red/Yellow	27-Brown/Yellow
12-Red/Brown	28-Purple/Red
13-Red/Orange	29-Purple/White
14-Green/Blue	30-Purple/Green
15-Green/White	31-Purple/Blue
16-Green/Brown	

MANHATTAN ELECTRIC CABLE CORPORATION ELECTRONIC DIVISION

© United Technical Publications

NATIONAL WIRE & CABLE CORPORATION



MULTIPLE CONDUCTOR CONTROL CABLES

IN STOCK
MIL-SPEC
U.L. LISTED

National Wire & Cable Corporation manufactures a complete line of multiple conductor control cable. Conductors are stranded tinned copper with 1/64" wall of vinyl primary insulation for use up to 105°C per MIL-W-16878 Type C.* Insulated for 1000 volts working voltage. Color coded using 10 standard colors plus stripes on white per MIL-STD-681.

All conductors are planetary cabled and contra-helically laid for optimum flexibility, with a Mylar tape serve over cable bundle. Shielded cables have a tinned copper braid overall, of 85-90% coverage per MIL-C-7078, and braid angles below 40 for easy pushback.

The outer jacket is black abrasion-resistant 105°C vinyl meeting MIL-I-631 Class F. All materials are self-extinguishing and fungus resistant. All cables are U. L. LISTED STYLE 2343; rated 80°C. (Higher temp. ratings apply to any non-U.L. service.) Specify polyurethane sheath for extreme rough usage or low-temp. service.

STANDARD PUTUPS: 100 ft, 500 ft or 1000 ft. No-deposit reels.

* Insulated wires also meet U.L. style 1007 and CSA type TR-64.
† Denotes U.L. Style 2344.

TECHNICAL DATA (all cables)

Insulation Breakdown Voltage: Greater than 8000 volts AC RMS, 60 cps.

Capacitance: Nominal capacitance from a wire to all else in the cable ranges from 40 to 65 mmfd per ft., @ 1000 cps; dependent on gauge and position.

Insulation Leakage Res.: 200. megohms/1000 ft. min. at 500 VDC from any conductor to all else in cable.

Sheath Leakage Res.: 10. megohms/1000 ft. min. at 500 VDC from overall shield through sheath to outside world.

Usable Temp. Range: Suitable for continuous use from +105°C to −55°C.

Cold Bending Capability: All cables are suitable for flexing to a circle diam. of approx. 6 cable diameters from +105°C to −20°C; Recommended flex diameter should be greater than 20 cable diam. for flexing at −40°C., or for continuous flexing service to −55°C, specify polyurethane sheath, in lieu of vinyl sheath.

MULTI-CONDUCTOR STOCK CABLES

Conductor sizes 22, 20, 18, 16, 14 & 12 gauge. 22 AWG is 7 strand. All others 19 strand.

UNSHIELDED

PART NO.	NO. COND.	COND. AWG	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 J	7	22	.060	.315	40 Lbs.
NW-1222J	12	22	.060	.385	70 Lbs.
NW-1922J	19	22	.060	.440	110 Lbs.
NW-2722J	27	22	.060	.510	160 Lbs.
NW-3722J	37	22	.060	.565	200 Lbs.
NW-4822J	48	22	.060	.635	245 Lbs.
NW-6022J	60	22	.060	.695	300 Lbs.
NW-7222J	72	22	.060	.755	360 Lbs.
NW-8822J	88	22	.060	.820	425 Lbs.
NW-10222J	102	22	.080	.920†	485 Lbs.
NW-720 J	7	20	.060	.340	50 Lbs.
NW-1220J	12	20	.060	.420	105 Lbs.
NW-1920J	19	20	.060	.485	160 Lbs.
NW-2720J	27	20	.060	.565	210 Lbs.
NW-3720J	37	20	.060	.630	280 Lbs.
NW-4820J	48	20	.060	.710	360 Lbs.
NW-6020J	60	20	.060	.775	435 Lbs.
NW-7220J	72	20	.080	.885†	485 Lbs.
NW-8820J	88	20	.080	.960†	580 Lbs.
NW-10220J	102	20	.080	1.030†	670 Lbs.
NW-718 J	7	18	.060	.370	75 Lbs.
NW-1218J	12	18	.060	.460	135 Lbs.
NW-1918J	19	18	.060	.535	225 Lbs.
NW-2718J	27	18	.060	.625	300 Lbs.
NW-3718J	37	18	.060	.700	390 Lbs.
NW-4818J	48	18	.060	.790	510 Lbs.
NW-6018J	60	18	.080	.905†	600 Lbs.
NW-7218J	72	18	.080	.985†	720 Lbs.
NW-716 J	7	16	.060	.395	95 Lbs.
NW-1216J	12	16	.060	.495	155 Lbs.
NW-1916J	19	16	.060	.575	230 Lbs.
NW-2716J	27	16	.060	.615	320 Lbs.
NW-3716J	37	16	.060	.755	430 Lbs.
NW-4816J	48	16	.080	.895†	625 Lbs.
NW-6016J	60	16	.080	.975†	750 Lbs.
NW-714 J	7	14	.060	.435	150 Lbs.
NW-1214J	12	14	.060	.555	240 Lbs.
NW-1914J	19	14	.060	.645	370 Lbs.
NW-2714J	27	14	.060	.760	515 Lbs.
NW-512 J	5	12	.060	.460	175 Lbs.
NW-712 J	7	12	.060	.500	225 Lbs.
NW-1212J	12	12	.060	.680	375 Lbs.
NW-1912J	19	12	.060	.745	560 Lbs.

OVERALL SHIELDED

PART NO.	NO. COND	COND AWG	T.C. SHIELD	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 SJ	7	22	No. 36	.060	.340	55 Lbs.
NW-1222SJ	12	22	No. 34	.060	.410	90 Lbs.
NW-1922SJ	19	22	No. 34	.060	.465	145 Lbs.
NW-2722SJ	27	22	No. 34	.060	.535	200 Lbs.
NW-3722SJ	37	22	No. 34	.060	.590	245 Lbs.
NW-4822SJ	48	22	No. 34	.060	.660	300 Lbs.
NW-6022SJ	60	22	No. 34	.060	.720	355 Lbs.
NW-7222SJ	72	22	No. 34	.060	.780	425 Lbs.
NW-8822SJ	88	22	No. 34	.080	.895†	500 Lbs.
NW-10222SJ	102	22	No. 34	.080	.945†	560 Lbs.
NW-720 SJ	7	20	No. 34	.060	.365	68 Lbs.
NW-1220SJ	12	20	No. 34	.060	.445	125 Lbs.
NW-1920SJ	19	20	No. 34	.060	.510	195 Lbs.
NW-2720SJ	27	20	No. 34	.060	.590	250 Lbs.
NW-3720SJ	37	20	No. 34	.060	.655	325 Lbs.
NW-4820SJ	48	20	No. 34	.060	.735	415 Lbs.
NW-6020SJ	60	20	No. 34	.060	.800	500 Lbs.
NW-7220SJ	72	20	No. 34	.080	.910†	555 Lbs.
NW-8820SJ	88	20	No. 34	.080	1.035†	660 Lbs.
NW-10220SJ	102	20	No. 34	.080	1.055†	750 Lbs.
NW-718 SJ	7	18	No. 34	.060	.395	95 Lbs.
NW-1218SJ	12	18	No. 34	.060	.485	170 Lbs.
NW-1918SJ	19	18	No. 34	.060	.560	265 Lbs.
NW-2718SJ	27	18	No. 34	.060	.650	350 Lbs.
NW-3718SJ	37	18	No. 34	.060	.725	445 Lbs.
NW-4818SJ	48	18	No. 34	.060	.815	575 Lbs.
NW-6018SJ	60	18	No. 34	.080	.930†	680 Lbs.
NW-7218SJ	72	18	No. 34	.080	1.010†	820 Lbs.
NW-716 SJ	7	16	No. 34	.060	.420	125 Lbs.
NW-1216SJ	12	16	No. 34	.060	.520	195 Lbs.
NW-1916SJ	19	16	No. 34	.060	.600	275 Lbs.
NW-2716SJ	27	16	No. 34	.060	.640	375 Lbs.
NW-3716SJ	37	16	No. 34	.060	.780	500 Lbs.
NW-4816SJ	48	16	No. 34	.080	.920†	700 Lbs.
NW-6016SJ	60	16	No. 34	.080	1.000†	830 Lbs.
NW-714 SJ	7	14	No. 34	.060	.465	180 Lbs.
NW-1214SJ	12	14	No. 34	.060	.580	280 Lbs.
NW-1914SJ	19	14	No. 34	.060	.670	420 Lbs.
NW-2714SJ	27	14	No. 34	.060	.785	575 Lbs.
NW-512 SJ	5	12	No. 34	.060	.485	210 Lbs.
NW-712 SJ	7	12	No. 34	.060	.525	265 Lbs.
NW-1212SJ	12	12	No. 34	.060	.705	430 Lbs.
NW-1912SJ	19	12	No. 34	.060	.770	625 Lbs.

© United Technical Publications

NATIONAL WIRE & CABLE CORPORATION

MULTIPLE PAIR SIGNAL & CONTROL CABLES

IN STOCK MIL-SPEC

U.L. LISTED

Identical to National's NW-Series Cables except offered as twisted pairs.

National Wire & Cable Corporation manufactures a complete line of multiple pair control cables. Conductors are of tinned copper strand with 1/64" vinyl primary insulation for use up to 105°C per MIL-W-16878D Type C. Insulated for **1000** volts working voltage. Conductors are color coded using 10 standard basic colors, plus spiral tracers on white per table below.

All pairs are planetary cabled and contra-helically laid with a Mylar tape serve over the cable bundle. The overall jacket is a 105°C black vinyl plastic per MIL-I-631; or may be Neoprene to MIL-R-6855 Class 2 Grade 60 specification. (Neoprene at added cost).

SHIELDED CABLES

National Multiple Conductor SHIELDED CABLES are to the same specifications as above with addition of tinned copper braided shield over cable complex with 85-90% coverage to MIL-C-7078A. STANDARD PUT-UPS: 500 ft. and 1000 ft. No-deposit reels.

TECHNICAL DATA (all cables)

Insulation Breakdown Voltage: Greater than 8,000 volts AC RMS, 60 cps.

Capacitance: Nominal capacitance wire to wire for a pair ranges from 27. to 40. mmfd/ft. Capacitance from both wires tied together measured to all else in common ranges from 35. to 60. mmfd/ft. dependent on gauge and position. Overall shield has negligible effect on W-W capacitance.

Insulation Leakage Res.: 200. megohms/1000 ft. min. at 500 VDC from any conductor to all else in cable.

Sheath Leakage Res.: 10. megohms/1000 ft. min. at 500 VDC from overall shield through sheath to outside world.

Usable Temp. Range: Suitable for continuous use from +105°C to −55°C.

Cold Bending Capability: All cables are suitable for flexing to a circle diam. of approx. 6 cable diameters from +105°C to −20°C; Recommended flex diameter should be greater than 20 cable diam. for flexing at −40°C., or for continuous flexing service to −55°C, specify our neoprene sheath, in lieu of plastic sheath.

MULTIPLE PAIR STOCK CABLES

UNSHIELDED OVERALL

PART NO.	NO. OF PAIRS	COND. GA.	JKT. THICK	O.D.	WEIGHT
NWP-722 J	7	22	.045	.470	90 Lbs.
NWP-1222J	12	22	.050	.600	150 Lbs.
NWP-1922J	19	22	.050	.700	200 Lbs.
NWP-2722J	27	22	.055	.830	280 Lbs.
NWP-3722J	37	22	.060	.960	370 Lbs.
NWP-4822J	48	22	.060	1.080	470 Lbs.
NWP-6022J	60	22	.060	1.200	560 Lbs.
NWP-720 J	7	20	.050	.520	120 Lbs.
NWP-1220J	12	20	.050	.660	200 Lbs.
NWP-1920J	19	20	.050	.800	290 Lbs.
NWP-2720J	27	20	.060	.960	420 Lbs.
NWP-3720J	37	20	.060	1.100	500 Lbs.
NWP-4820J	48	20	.060	1.240	620 Lbs.
NWP-6020J	60	20	.060	1.380	750 Lbs.
NWP-718 J	7	18	.050	.580	150 Lbs.
NWP-1218J	12	18	.050	.740	290 Lbs.
NWP-1918J	19	18	.060	.920	400 Lbs.
NWP-2718J	27	18	.060	1.080	560 Lbs.
NWP-3718J	37	18	.060	1.240	750 Lbs.
NWP-4818J	48	18	.060	1.400	900 Lbs.
NWP-716 J	7	16	.050	.640	180 Lbs.
NWP-1216J	12	16	.060	.840	300 Lbs.
NWP-1916J	19	16	.060	1.020	430 Lbs.
NWP-2716J	27	16	.060	1.200	720 Lbs.
NWP-3716J	37	16	.060	1.380	1000 Lbs.

MULTIPLE PAIR STOCK CABLES

OVERALL SHIELDED

PART NO.	NO. OF PAIRS	COND. GA.	JKT. THICK	O.D.	WEIGHT
NWP-722 SJ	7	22	.045	.495	135 Lbs.
NWP-1222SJ	12	22	.050	.630	206 Lbs.
NWP-1922SJ	19	22	.050	.730	260 Lbs.
NWP-2722SJ	27	22	.055	.860	358 Lbs.
NWP-3722SJ	37	22	.060	.990	460 Lbs.
NWP-4822SJ	48	22	.060	1.110	570 Lbs.
NWP-6022SJ	60	22	.060	1.230	675 Lbs.
NWP-720 SJ	7	20	.050	.550	170 Lbs.
NWP-1220SJ	12	20	.050	.690	260 Lbs.
NWP-1920SJ	19	20	.050	.830	355 Lbs.
NWP-2720SJ	27	20	.060	.990	510 Lbs.
NWP-3720SJ	37	20	.060	1.130	603 Lbs.
NWP-4820SJ	48	20	.060	1.270	735 Lbs.
NWP-6020SJ	60	20	.060	1.410	880 Lbs.
NWP-718 SJ	7	18	.050	.610	205 Lbs.
NWP-1218SJ	12	18	.050	.770	360 Lbs.
NWP-1918SJ	19	18	.060	.950	487 Lbs.
NWP-2718SJ	27	18	.060	1.110	660 Lbs.
NWP-3718SJ	37	18	.060	1.270	865 Lbs.
NWP-4818SJ	48	18	.060	1.430	1030 Lbs.
NWP-716 SJ	7	16	.050	.670	240 Lbs.
NWP-1216SJ	12	16	.060	.870	377 Lbs.
NWP-1916SJ	19	16	.060	1.050	520 Lbs.
NWP-2716SJ	27	16	.060	1.230	830 Lbs.
NWP-3716SJ	37	16	.060	1.410	1330 Lbs.

COLOR CODING USED ON TWISTED PAIRS

PR #	PAIR COLORS	PR #	PAIR COLORS	PR #	PAIR COLORS	PR #	PAIR COLORS	PR #	PAIR COLORS	PR #	PAIR COLORS
1.	WHITE WITH BLACK	11.	BLACK WITH RED	21.	BROWN WITH GREEN	31.	ORANGE WITH YELLOW	41.	GREEN WITH VIOLET	51	WHT/BLK WITH GREEN
2.	WHITE WITH BROWN	12.	BLACK WITH ORANGE	22.	BROWN WITH BLUE	32.	ORANGE WITH GREEN	42.	GREEN WITH GRAY	52.	WHT/BLK WITH BLUE
3.	WHITE WITH RED	13.	BLACK WITH YELLOW	23.	BROWN WITH VIOLET	33.	ORANGE WITH BLUE	43.	BLUE WITH VIOLET	53	WHT/BLK WITH VIOLET
4.	WHITE WITH ORANGE	14.	BLACK WITH GREEN	24.	BROWN WITH GRAY	34.	ORANGE WITH VIOLET	44.	BLUE WITH GREY	54.	WHT/BLK WITH GRAY
5.	WHITE WITH YELLOW	15.	BLACK WITH BLUE	25.	RED WITH ORANGE	35.	ORANGE WITH GRAY	45.	VIOLET WITH GRAY	55.	WHT/BRN WITH BLACK
6.	WHITE WITH GREEN	16.	BLACK WITH VIOLET	26.	RED WITH YELLOW	36.	YELLOW WITH GREEN	46.	WHT/BLK WITH BLACK	56.	WHT/BRN WITH BROWN
7.	WHITE WITH BLUE	17.	BLACK WITH GRAY	27.	RED WITH GREEN	37.	YELLOW WITH BLUE	47.	WHT/BLK WITH BROWN	57.	WHT/BRN WITH RED
8.	WHITE WITH VIOLET	18.	BROWN WITH RED	28.	RED WITH BLUE	38.	YELLOW WITH VIOLET	48.	WHT/BLK WITH RED	58.	WHT/BRN WITH ORANGE
9.	WHITE WITH GRAY	19.	BROWN WITH ORANGE	29.	RED WITH VIOLET	39.	YELLOW WITH GRAY	49.	WHT/BLK WITH ORANGE	59.	WHT/BRN WITH YELLOW
10.	BLACK WITH BROWN	20.	BROWN WITH YELLOW	30.	RED WITH GRAY	40.	GREEN WITH BLUE	50.	WHT/BLK WITH YELLOW	60.	WHT/BRN WITH GREEN

COMPLETE WIRE AND CABLE INVENTORY ALWAYS AVAILABLE FOR IMMEDIATE SHIPMENT

National Wire and Cable Corporation maintains one of the largest and most complete stocks of electronic and aircraft wire and cable in the nation. (TOTAL FOOTAGE OF FLOOR STOCK EXCEEDS 100 MILLION FEET.)

Your immediate source for "MIL" "UL" AND "CSA" WIRES, COAXIAL CABLES AND ALL TYPES OF SLEEVING.

Special Color Coded, shielded and jacketed combinations of hookup wire and multi-conductor cables can be made to your specifications and delivered promptly without delay.

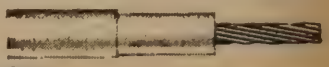
IN STOCK

MIL-W-76B, (MW, HW, LW); MIL-W-16878D (B, BN, C, CN, D, DN); (E, EE, K, KK); MIL-W-5086A MS-25190, U.L. STYLES: 1007, 1010, 1015, 1061, 2343. CSA TYPES: TR-32, TR-64. DIGITAL TRANSMISSION CABLE.

Special Shielded Data and Instrumentation Cables and Control Cables.







FOR COMPLETE INFORMATION AND PRICES, PHONE, WRITE OR WIRE NATIONAL WIRE & CABLE CORP.

© United Technical Publications

NATIONAL WIRE & CABLE CORPORATION



IN STOCK
U.L. APPROVED COMPUTER GRADE

MINIATURE SIGNAL & CONTROL CABLES

National Wire & Cable Corp. manufactures a complete line of MINIATURE low voltage signal and control cable. Available as cabled pairs or cabled singles, with optional overall shield. Conductors are stranded tinned copper with .010" wall of vinyl primary insulation for use up to 105°C. per MIL-W-16878 Type B. Insulated for **600 volts** working voltage. (Also meets U.L. AWM Type 1061; 300 volt, 80°C.) All are coded using 10 standard colors plus stripes on white per MIL-STD-681.

All conductors are planetary cabled and contra-helically laid for optimum flexibility, with a Mylar tape barrier under shields. Shielded cables have a tinned copper braid overall, of 85–90% coverage per MIL-C-7078; and braid angles below 40° for easy pushback.

The outer jacket is black abrasion-resistant 105°C. vinyl meeting MIL-I-631 Type F. All materials are self-extinguishing and fungus resistant. All items are U.L. APPROVED STYLE 2343 COMPUTER CABLE; rated 80°C. (Higher temp. ratings apply for any non-U.L. service.)

Standard Putups: 500 & 1000 ft. No-deposit reels.

† Denotes U.L. Style 2344.

TECHNICAL DATA (all cables)

Insulation Breakdown Voltage: Greater than 5000 volts AC RMS, 60 cps.

Capacitance: Nominal capacitance from a wire to all else in a cable ranges from 45. to 70. pf/ft at 1. kc, depending on gauge and position.

Insulation Leakage: 200. megohms/1000 ft. min. @ 500. VDC from any conductor to all else in cable.

Sheath Leakage: 10. megohms/1000 ft. min. @ 500 VDC from shield or conductor group through sheath to ground.

Temperature Range: Suitable for continuous use from −40°C. to +105°C. (U.L. Service limited to +80°C.)

Bending Characteristics: All cables are suitable for flexing to a circle diameter of 6. cable diameters from +105°C. to −20°C. Recommended flex diameter should be greater than 20 cable diameters for flexing at −40°C.

Impedance: (24. AWG pairs) Balanced: 87. ohms ±5%
Unbalanced: 52. ohms ±5%

MULTI-CONDUCTOR STOCK CABLED SINGLES

Cond: 22, 24 are 7 strand; 20 AWG is 19 strand

UNSHIELDED CABLES

PART NO.	NO. COND.	COND. AWG	COND. O.D.	JKT. WALL	CABLE O.D.	WEIGHT LB/M'
NX-524 J	5	24	.045	.062	.220	32 Lbs.
NX-724 J	7	24	.045	.062	.250	40 Lbs.
NX-1224J	12	24	.045	.062	.300	53 Lbs.
NX-1524J	15	24	.045	.062	.330	65 Lbs.
NX-1924J	19	24	.045	.062	.340	73 Lbs.
NX-2724J	27	24	.045	.062	.390	85 Lbs.
NX-3724J	37	24	.045	.062	.420	120 Lbs.
NX-4824J	48	24	.045	.062	.470	142 Lbs.
NX-6024J	60	24	.045	.062	.510	170 Lbs.
NX-522 J	5	22	.050	.062	.200	40 Lbs.
NX-722 J	7	22	.050	.062	.270	48 Lbs.
NX-1222J	12	22	.050	.062	.330	72 Lbs.
NX-1522J	15	22	.050	.062	.350	85 Lbs.
NX-1922J	19	22	.050	.062	.370	96 Lbs.
NX-2722J	27	22	.050	.062	.430	130 Lbs.
NX-3722J	37	22	.050	.062	.480	163 Lbs.
NX-4822J	48	22	.050	.062	.530	210 Lbs.
NX-6022J	60	22	.050	.062	.570	255 Lbs.
NX-520 J	5	20	.057	.062	.275	49 Lbs.
NX-720 J	7	20	.057	.062	.290	59 Lbs.
NX-1220J	12	20	.057	.062	.360	90 Lbs.
NX-1520J	15	20	.057	.062	.390	110 Lbs.
NX-1920J	19	20	.057	.062	.410	128 Lbs.
NX-2720J	27	20	.057	.062	.490	166 Lbs.
NX-3720J	37	20	.057	.062	.520	220 Lbs.
NX-4820J	48	20	.057	.062	.580	275 Lbs.
NX-6020J	60	20	.057	.062	.640	335 Lbs.

OVERALL SHIELDED CABLES

PART NO.	NO. COND.	COND. AWG	COND. O.D.	JKT. WALL	SHLD. AWG	CABLE O.D.	WEIGHT LB/M'
NX-524 SJ	5	24	.045	.062	36	.245	44 Lbs.
NX-724 SJ	7	24	.045	.062	36	.275	55 Lbs.
NX-1224SJ	12	24	.045	.062	36	.325	68 Lbs.
NX-1524SJ	15	24	.045	.062	36	.350	80 Lbs.
NX-1924SJ	19	24	.045	.062	36	.365	88 Lbs.
NX-2724SJ	27	24	.045	.062	36	.415	102 Lbs.
NX-3724SJ	37	24	.045	.062	36	.445	140 Lbs.
NX-4824SJ	48	24	.045	.062	36	.495	172 Lbs.
NX-6024SJ	60	24	.045	.062	36	.535	205 Lbs.
NX-522 SJ	5	22	.050	.062	36	.285	50 Lbs.
NX-722 SJ	7	22	.050	.062	36	.295	58 Lbs.
NX-1222SJ	12	22	.050	.062	36	.355	87 Lbs.
NX-1522SJ	15	22	.050	.062	36	.380	101 Lbs.
NX-1922SJ	19	22	.050	.062	36	.395	111 Lbs.
NX-2722SJ	27	22	.050	.062	36	.455	150 Lbs.
NX-3722SJ	37	22	.050	.062	34	.510	193 Lbs.
NX-4822SJ	48	22	.050	.062	34	.560	245 Lbs.
NX-6022SJ	60	22	.050	.062	34	.600	295 Lbs.
NX-520 SJ	5	20	.057	.062	36	.300	59 Lbs.
NX-720 SJ	7	20	.057	.062	36	.315	69 Lbs.
NX-1220SJ	12	20	.057	.062	36	.385	105 Lbs.
NX-1520SJ	15	20	.057	.062	36	.415	137 Lbs.
NX-1920SJ	19	20	.057	.062	36	.435	158 Lbs.
NX-2720SJ	27	20	.057	.062	36	.515	196 Lbs.
NX-3720SJ	37	20	.057	.062	34	.550	255 Lbs.
NX-4820SJ	48	20	.057	.062	34	.610	320 Lbs.
NX-6020SJ	60	20	.057	.062	34	.670	385 Lbs.

MULTI-CONDUCTOR STOCK CABLED PAIRS*

UNSHIELDED CABLES

PART NO.	NO. PAIRS	COND. AWG	COND. O.D.	JKT. WALL	CABLE O.D.	WEIGHT LB/M'
NXP-524 J	5	24	.045	.062	.330	52 Lbs.
NXP-724 J	7	24	.045	.062	.350	60 Lbs.
NXP-1224J	12	24	.045	.062	.435	90 Lbs.
NXP-1524J	15	24	.045	.062	.485	110 Lbs.
NXP-1924J	19	24	.045	.062	.505	126 Lbs.
NXP-2724J	27	24	.045	.062	.590	167 Lbs.
NXP-3724J	37	24	.045	.062	.660	216 Lbs.
NXP-4824J	48	24	.045	.062	.745	270 Lbs.
NXP-6024J	60	24	.045	.062	.815	325 Lbs.
NXP-522 J	5	22	.050	.062	.365	56 Lbs.
NXP-722 J	7	22	.050	.062	.390	82 Lbs.
NXP-1222J	12	22	.050	.062	.470	120 Lbs.
NXP-1522J	15	22	.050	.062	.545	145 Lbs.
NXP-1922J	19	22	.050	.062	.550	170 Lbs.
NXP-2722J	27	22	.050	.062	.670	230 Lbs.
NXP-3722J	37	22	.050	.062	.750	300 Lbs.
NXP-4822J*	48	22	.050	.080	† .850	375 Lbs.
NXP-6022J*	60	22	.050	.080	† .930	460 Lbs.
NXP-520 J	5	20	.057	.062	.395	82 Lbs.
NXP-720 J	7	20	.057	.062	.440	108 Lbs.
NXP-1220J	12	20	.057	.062	.540	163 Lbs.
NXP-1520J	15	20	.057	.062	.600	196 Lbs.
NXP-1920J	19	20	.057	.062	.630	235 Lbs.
NXP-2720J	27	20	.057	.062	.745	320 Lbs.
NXP-3720J	37	20	.057	.062	.820	420 Lbs.
NXP-4820J*	48	20	.057	.080	† .950	530 Lbs.
NXP-6020J*	60	20	.057	.080	†1.040	650 Lbs.

OVERALL SHIELDED CABLES

PART NO.	NO. PAIRS	COND. AWG	COND. O.D.	JKT. WALL	T.C. SHIELD	CABLE O.D.	WEIGHT LB/M'
NXP-524 SJ	5	24	.045	.062	No. 36	.355	67 Lbs.
NXP-724 SJ	7	24	.045	.062	No. 36	.375	75 Lbs.
NXP-1224SJ	12	24	.045	.062	No. 36	.460	115 Lbs.
NXP-1524SJ	15	24	.045	.062	No. 36	.510	140 Lbs.
NXP-1924SJ	19	24	.045	.062	No. 36	.530	161 Lbs.
NXP-2724SJ	27	24	.045	.062	No. 34	.620	211 Lbs.
NXP-3724SJ	37	24	.045	.062	No. 34	.690	266 Lbs.
NXP-4824SJ	48	24	.045	.062	No. 34	.775	330 Lbs.
NXP-6024SJ*	60	24	.045	.062	No. 34	.845	390 Lbs.
NXP-522 SJ	5	22	.050	.062	No. 36	.390	77 Lbs.
NXP-722 SJ	7	22	.050	.062	No. 36	.415	100 Lbs.
NXP-1222SJ	12	22	.050	.062	No. 36	.495	150 Lbs.
NXP-1522SJ	15	22	.050	.062	No. 34	.575	185 Lbs.
NXP-1922SJ	19	22	.050	.062	No. 34	.580	210 Lbs.
NXP-2722SJ	27	22	.050	.062	No. 34	.600	280 Lbs.
NXP-3722SJ	37	22	.050	.062	No. 34	.780	357 Lbs.
NXP-4822SJ*	48	22	.050	.080	No. 34	†.880	445 Lbs.
NXP-6022SJ*	60	22	.050	.080	No. 34	†.960	535 Lbs.
NXP-520 SJ	5	20	.057	.062	No. 36	.420	102 Lbs.
NXP-720 SJ	7	20	.057	.062	No. 36	.465	123 Lbs.
NXP-1220SJ	12	20	.057	.062	No. 34	.570	203 Lbs.
NXP-1520SJ	15	20	.057	.062	No. 34	.630	241 Lbs.
NXP-1920SJ	19	20	.057	.062	No. 34	.660	280 Lbs.
NXP-2720SJ	27	20	.057	.062	No. 34	.775	380 Lbs.
NXP-3720SJ*	37	20	.057	.080	No. 34	† .850	490 Lbs.
NXP-4820SJ*	48	20	.057	.080	No. 34	† .980	605 Lbs.
NXP-6020SJ*	60	20	.057	.080	No. 34	†1.070	735 Lbs.

*Pair Color Code is the same as National NWP-Series Cable Coding.

NATIONAL WIRE & CABLE CORPORATION



MILITARY & U.L. GRADE RFI SHIELDED PAIR CABLES

MEETS U.L. STYLE 2343 OR 2344 FOR COMPUTER USE.

SHIELDED PAIR CABLES

SIGNAL & CONTROL CABLES

National Wire & Cable Corp., manufactures a complete line of flexible multi-pair cables in which each pair is individually twisted, shielded and plastic-jacketed.

Provides a minimum of crosstalk between signal channels, plus complete isolation between shields. Excellent for analog signals. All jackets moisture-proof. Suitable for use in duct, conduit, aerial or burial installations.

Conductors are stranded tinned copper with .010" vinyl primary insulation, plus .004" nylon insulation over the vinyl per MIL-W-16878 Type B. Insulation for 600 volts working rating at 105°C. Color coded: White and black (all conductors are 19 strand.)

Shielding is tinned copper braid with 90% minimum coverage per MIL-C-7078, and shield angle below 40 degrees for easy push-back.

Jackets over shields are extruded 105°C white polyvinyl chloride plastic per MIL-I-631, Class F; Color coded with stripes per MIL-STD-681, starting with 9.

All pairs are planetary cabled and contra-helically laid with a mylar tape serve over the cable bundle. The overall sheath is abrasion-resistant black 105°C vinyl thermoplastic per MIL-I-631, Class F.

Optional overall shielding of cabled bundle is 90% minimum coverage of tinned copper braid applied per MIL-C-7078 over the tape serve under sheath.

STANDARD PUT-UPS: 500 & 1000 FT. ON NO-DEPOSIT REELS.

TECHNICAL DATA

Insulation Breakdown Voltage: Greater than 5000 volts RMS, 60 hz.

Capacitance: (mmfd/ft.)

AWG	Wire-Wire	Wire-Shield
22	37	64
20	44	77
16	55	96

Insulation Leakage Resistance: 200 Megohms/1000 ft. min. at 500 VDC from any conductor to all else in cable.

Sheath Leakage Resistance: 10 Megohms/1000 ft. min. at 500 VDC from overall shield through sheath to saline bath at 25°C.

Usable Temperature Range: Suitable for continuous use from +105°C to −55°C when stationary. Flexing service: +105°C to −25°C.

Cold Bending Capability: All cables are suitable for bending to a circle diameter of 8 cable diameters from +105°C to −20°C. Recommended flex diameter should be greater than 20 cable diameters at −40°C.

Crosstalk: Common-mode, adjacent pairs: Worst case, −50 db @ 1 mhz; falling to −100 db below 100 khz. (Ref. MIL-C-23437 for test method.) For 100 ft. test length.

STANDARD CONSTRUCTIONS

WITHOUT OVERALL SHIELD

Part No.	No. Pairs	Cond. AWG	Jacket Thick.	Cable O.D.	Weight Per M'
NTP-722J	7	22	.062	.625	260 Lbs.
NTP-1222J	12	22	.070	.820	435 Lbs.
NTP-1922J	19	22	.080	.980	660 Lbs.
NTP-2722J	27	22	.080	1.115	910 Lbs.
NTP-3722J	37	22	.085	1.130	1,200 Lbs.
NTP-4822J	48	22	.090	1.520	1,570 Lbs.
NTP-720J	7	20	.070	.685	300 Lbs.
NTP-1220J	12	20	.080	.890	500 Lbs.
NTP-1920J	19	20	.080	1.065	755 Lbs.
NTP-2720J	27	20	.085	1.270	1,055 Lbs.
NTP-3720J	37	20	.090	1.445	1,400 Lbs.
NTP-716J	7	16	.075	.845	430 Lbs.
NTP-1216J	12	16	.080	1.105	700 Lbs.
NTP-1916J	19	16	.085	1.325	1,075 Lbs.

WITH OVERALL SHIELD

Part No.	No. Pairs	Cond. AWG	Jacket Thick.	Cable O.D.	Weight Per M'
NTP-722SJ	7	22	.062	.650	310 Lbs.
NTP-1222SJ	12	22	.070	.845	500 Lbs.
NTP-1922SJ	19	22	.075	1.005	700 Lbs.
NTP-2722SJ	27	22	.080	1.120	1,000 Lbs.
NTP-3722SJ	37	22	.085	1.355	1,290 Lbs.
NTP-4822SJ	48	22	.090	1.545	1,700 Lbs.
NTP-720SJ	7	20	.070	.710	355 Lbs.
NTP-1220SJ	12	20	.080	.920	570 Lbs.
NTP-1920SJ	19	20	.080	1.090	840 Lbs.
NTP-2720SJ	27	20	.085	1.295	1,155 Lbs.
NTP-3720SJ	37	20	.090	1.470	1,500 Lbs.
NTP-716SJ	7	16	.080	.870	500 Lbs.
NTP-1216SJ	12	16	.080	1.130	795 Lbs.
NTP-1916SJ	19	16	.085	1.350	1,185 Lbs.



MIL-SPEC FOR ROUGH USAGE & EXTREME ENVIRONMENTS

TEFLON®-INSULATED CABLES

SIGNAL & CONTROL CABLES

National Wire & Cable Corp., manfactures a standard line of TEFLON®-INSULATED multi-conductor signal and control cables designed for extreme environments and rough usage.

Construction is widely used in aerospace and industrial applications requiring a near-ultimate in cable physical and electrical performance plus high reliability.

Conductors are stranded silver-plated copper, insulated with .010" of extruded TFE Teflon®; rated at 600 volts working from −65°C to +260°C per MIL-W-16878 Type E. Conductors are color coded using 10 standard colors plus spiral stripes on white per MIL-STD-681. (All conductors are 19 strand.)

All conductors are planetary cabled and contra-helically laid for optimum flexibility, with a Mylar tape wrap over the cabled bundle. The outer sheath is abrasion-resistant black Neoprene per MIL-S-6855, Class 2, Grade 60.

Optional overall shield is a 90% coverage tinned copper braid over the tape wrap per MIL-C-7078.

STANDARD PUT-UPS: 250 FT. LENGTHS ON NO-DEPOSIT REELS.

® Trademark, E. I. Dupont Co.

TECHNICAL DATA

Insulation Breakdown Voltage: Greater than 4000 volts RMS, 60 hz.

Capacitance: Nominal capacitance from a wire to all else in cable ranges from 25 to 45 mmfd/ft. dependent on gauge and position in cable bundle.

Insulation Leakage Resistance: 5000 Megohms per 1000 ft.; minimum from any wire to all else in cable.

Sheath Leakage Resistance: 20 Megohms/ft. minimum; from shield through sheath to saline bath after 24 hr. at 25°C.

Usable Temperature Range: Suitable for continuous use from −55°C to +75°C in flexing service or stored.

Cold Bending Capability: All cables are suitable for bending to a circle diameter as small as 4 times their diameter from −55°C to +75°C. Continuous flexing to less than 6 times diameter is not recommended below −40°C.

General Performance: All materials are self-extinguishing after exposure to flame. Non-nutrient to fungus. Highly resistant to ozone, oils, mild acids and bases, high humidity.

STANDARD CONSTRUCTIONS

Part No.	No. Cond.	Cond. AWG	Jacket Thick.	Cable O.D.	Weight Per M'
NZ-720J	7	20	.062	.300	70 Lbs.
NZ-1220J	12	20	.062	.365	100 Lbs.
NZ-1920J	19	20	.078	.445	145 Lbs.
NZ-2720J	27	20	.078	.505	210 Lbs.
NZ-3720J	37	20	.093	.590	260 Lbs.
NZ-4820J	48	20	.093	.650	330 Lbs.
NZ-6020J	60	20	.093	.705	400 Lbs.
NZ-716J	7	16	.062	.355	95 Lbs.
NZ-1216J	12	16	.078	.470	160 Lbs.
NZ-1916J	19	16	.078	.540	235 Lbs.
NZ-2716J	27	16	.093	.655	325 Lbs.
NZ-3716J	37	16	.093	.720	435 Lbs.
NZ-4816J	48	16	.093	.805	545 Lbs.

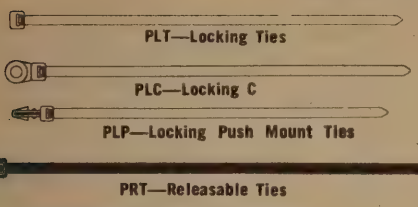
Part No.	No. Cond.	Cond. AWG	Jacket Thick.	Cable O.D.	Weight Per M'
NZ-720SJ	7	20	.062	.325	80 Lbs.
NZ-1220SJ	12	20	.062	.400	115 Lbs.
NZ-1920SJ	19	20	.078	.470	165 Lbs.
NZ-2720SJ	27	20	.078	.535	240 Lbs.
NZ-3720SJ	37	20	.093	.616	300 Lbs.
NZ-4820SJ	48	20	.093	.675	370 Lbs.
NZ-6020SJ	60	20	.093	.730	450 Lbs.
NZ-716SJ	7	16	.062	.380	110 Lbs.
NZ-1216SJ	12	16	.078	.495	190 Lbs.
NZ-1916SJ	19	16	.078	.565	270 Lbs.
NZ-2716SJ	27	16	.093	.680	370 Lbs.
NZ-3716SJ	37	16	.093	.745	485 Lbs.
NZ-4816SJ	48	16	.093	.830	605 Lbs.

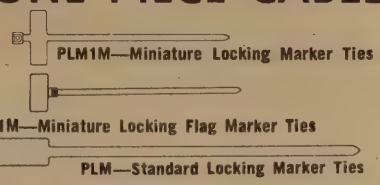
Net

© United Technical Publications

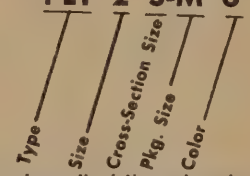
PANDUIT® wiring components

PAN-TY® ONE PIECE CABLE TIES





**** Part Number System:**



For clamps the letter and number after cross-section designate hole size. Example: -S6 is #6 screw.

STANDARD PACKAGING*

**Part Number	Max. Bundle Dia.	Approx. Shpg. Wt. Lbs./1000	Price Per 100 Base Price 100-400	Price Per 100 500
PLT1M-C	3/4"	1	$2.88	$2.30
PLT1.5M-C	1 1/4"	1.2	3.05	2.44
PLT1.5I-C	1 1/4"	1.2	3.13	2.50
PLT2I-C	2"	2.5	4.12	3.30
PLT3I-C	3"	3.8	7.25	5.80
PLT4I-C	4"	4.7	9.35	7.48
PLT2S-C	1 3/4"	2.9	4.00	3.20
PLT3S-C	3"	4.2	8.50	6.80
PLT4S-C	4"	5.3	9.25	7.40
PLT4H-C	4"	12	13.13	10.50
PLT8H-L	8"	24	30.00	24.00
PLC1M-S4-C	3/4"	1.2	4.75	3.80
PLC1.5I-S8-C	1 1/4"	2.2	5.38	4.30
PLC2S-S6-C	1 3/4"	3.8	6.13	4.90
PLC2S-S10-C	1 3/4"	3.8	5.13	4.10
PLC4H-S25-L	4"	13.5	19.38	15.50
PLM1M-C	3/4"	1.2	6.13	4.90
PLF1M-C	3/4"	1.2	6.13	4.90
PLM2S-C	1 3/4"	3.2	9.00	7.20
PLM4S-C	4"	6	15.00	12.00
PLP1.5I-C	1 1/4"	1.6	5.20	4.16
PLP2S-C	1 3/4"	3.4	6.50	5.20
†PRT2S-C20	2"	2.5	4.50	3.60

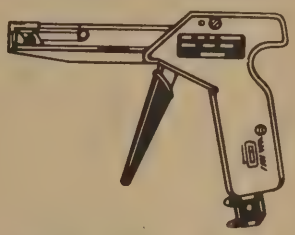
BULK PACKAGING*

These items available in bulk packaging quantities only as designated.

**Part Number	Price Per M (1000) 1M-24.5M	25M-49.5M	50M-99.5M	100M
PLT1M-M	$13.20	$12.60	$11.99	$11.55
PLT1.5M-M	17.44	16.64	15.85	14.49
PLT1.5I-M	18.02	17.20	16.39	15.02
PLT2I-M	21.71	20.73	19.74	18.11
PLT3I-M	43.56	41.58	39.60	36.30
PLT4I-M	48.51	46.30	44.10	—
PLT2S-M	22.18	21.17	20.16	18.48
PLT3S-M	46.20	44.10	42.00	—
PLT4S-M	50.82	48.51	46.20	—
PLT4H-D	80.30	76.40	72.77	—
PLT8H-D	171.10	163.30	155.50	—
PLC1M-S4-M	29.50	28.30	27.10	—
PLC1.5I-S8-M	35.00	31.00	29.80	—
PLC2S-S6-M	40.00	36.00	34.00	—
PLC2S-S10-M	31.00	29.50	27.90	—
PLC4H-S25-D	125.00	113.00	106.00	—
PLM1M-M	40.00	36.00	34.00	—
PLF1M-M	40.00	36.00	34.00	—
PLM2S-D	50.00	47.50	45.00	—
PLM4S-D	93.00	86.00	81.00	—
PLP1.5I-M	31.10	29.40	28.00	—
PLP2S-M	40.00	36.00	34.00	—
†PRT2S-M20	26.40	25.20	24.00	22.00

*Packaging quantities indicated by letter suffix in par no. L = 50; C = 100; D = 500; M = 1000.
†PRT2S Standard color is -20 Pigmented Black. Other colors — 10% additional price.
Total quantity per item, shipment and order determines price. Order by Number of Pieces Required.
Colors: Standard Color — Natural Nylon White. Other Colors — 10% additional price.

Hand Operated Installation Tools



GS2B — Manual $25.00 ea. net. Installs Miniature, Intermediate and Standard Cable Ties. Uniform tensioning and cutoff.

GS4H — Manual $50.00 ea. net. Heavy Duty — Installs Standard and Heavy Cable Ties. Uniform tensioning and cutoff.

PANDUCT® PLASTIC WIRING DUCT



Type E — Open Slot

PANDUCT® PLASTIC WIRING DUCT

PANDUCT® PLASTIC WIRING DUCT—CHANNEL ONLY

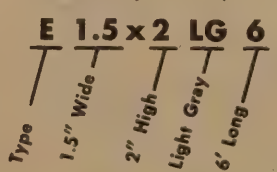
Nominal Width x Height (Inches)	Approx. Shpg. Wt. Per 100'	Price/Foot Under 200 ft.	200 to 1999 ft.	2000 to 4999 ft.
.5x.5	11 lbs.	$0.49	$0.38	$0.35
.5x.62	12 lbs.	.51	.41	.38
.5x1	16 lbs.	.55	.44	.42
.5x1.25	16 lbs.	.63	.50	.45
.5x1.75	16 lbs.	.66	.53	.50
.75x.75	14 lbs.	.54	.43	.41
.75x1	16 lbs.	.55	.44	.42
.75x1.5	19 lbs.	.66	.52	.49
.75x2	23 lbs	.80	.64	.59
1x1	16 lbs.	.55	.45	.42
1x1.5	18 lbs.	.73	.60	.55
1x2	21 lbs.	.78	.62	.58
1x3	31 lbs.	.99	.80	.73
1.5x1.5	20 lbs.	.78	.63	.57
1.5x2	20 lbs.	.85	.68	.62
1.5x3	30 lbs.	1.07	.86	.79
1.5x4	40 lbs.	1.37	1.10	1.01
2x1	18 lbs.	.77	.62	.55
2x2	23 lbs.	.86	.69	.63
2x3	36 lbs.	1.11	.88	.81
2x4	48 lbs.	1.42	1.14	1.05
2.5x3	41 lbs.	1.18	.94	.87
3x1	20 lbs.	.93	.73	.69
3x2	33 lbs.	1.01	.80	.73
3x3	43 lbs.	1.21	.96	.88
3x4	53 lbs.	1.49	1.20	1.10
4x1.5	33 lbs.	1.06	.85	.79
4x2	38 lbs.	1.08	.87	.80
4x3	48 lbs.	1.29	1.04	.95
4x4	58 lbs.	1.60	1.28	1.18

CORRESPONDING PANDUCT® COVER ONLY

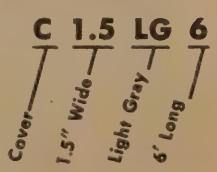
Nominal Width (Inches)	Approx. Shpg. Wt./100'	Price/Foot Under 200 ft.	200 to 1999 ft.	2000 to 4999 ft.
.5	4 lbs.	$0.11	$0.09	$0.08
.75	6 lbs.	.12	.10	.09
1	9 lbs.	.16	.12	.11
1.5	10 lbs.	.18	.15	.14
2	12 lbs.	.23	.18	.16
2.5	14 lbs.	.27	.23	.19
3	17 lbs.	.32	.26	.24
4	22 lbs.	.41	.32	.29

PART NUMBER SYSTEM

Channel Only — Example



Cover Only — Example



Color Code: Dark Gray (DG); Light Gray (LG); White (WH).

Order by Total No. of Ft. Req'd. (must be multiple of length per part). Standard Mounting Holes: No Charge — Supplied Only if Specified — See Duct Catalog for Dimensions.
NOTE: Standard Length: 6 ft. Standard Color: Light Gray. White and Dark Gray available. NOTE: Type "S" has solid walls and no wire slots or openings.
NOTE: Total length of all sizes of duct and cover, ordered for shipment at one time to one location, determines price columns.

Delivery: F.O.B. Our plant. Minimum Billing: $25.00 net, each customer-designated shipment. Terms: Cash Discount 2%, 10 net 30. FREIGHT ALLOWED via PANDUIT routing on domestic shipments of $300.00 or more net billing. All prices subject to change without notice.

PANDUIT CORP.

Saxton PRODUCTS, INC.

AUDIO CABLES

ALUMINUM FOIL — 100% SHIELDING



Tinned copper, vinyl insulation, aluminum polypropylene foil, tinned copper drain wire, chrome vinyl jacket.

Saxton No.	Conductors No.	AWG	Strands	Wall Thick	Nom. OD	Suggested Working Voltage
1291	2	22	7 x 30	.012	.165	350
1292	3	22	7 x 30	.012	.173	350
1293	2	20	10 x 30	.016	.195	350
1294	3	20	10 x 30	.016	.204	350
1295	2	18	16 x 30	.016	.213	450
1296	3	18	16 x 30	.016	.223	450
1297	2	16	19 x 29	.018	.241	600
1298	3	16	19 x 29	.018	.258	600

1291, 1292 have 24 AWG Drain; 1293, 1294 have 22 AWG Drain; 1295, 1296 have 20 AWG Drain; 1297, 1298 have 18 AWG Drain.

Color Code: 1 - Black, 2 - Red, 3 - White.

BRAID SHIELD — UNJACKETED

TINNED COPPER, VINYL INSULATION, BRAIDED TINNED COPPER SHIELD



Saxton No.	Conductors No.	AWG	Strands	Wall Thick	Nom. OD	Suggested Working Voltage
1445	2	22	Solid	.012	.120	350
1450	2	20	10 x 30	.016	.146	350
1451	2	18	16 x 30	.016	.180	450
1451/R*	2	18	16 x 30	.016	.180	450
1452	2	16	19 x 29	.018	.206	450

1451R — 2 CONDUCTOR SHIELDED WITH 20 AWG SOLID TINNED COPPER RUNNER

* Meets New York City Board of Education Specification.

SPIRAL WRAP SHIELD — JACKETED

TINNED COPPER, VINYL INSULATION, SPIRAL WRAP TINNED COPPER SHIELD, CHROME VINYL JACKET



Saxton No.	Conductors No.	AWG	Strands	Wall Thick	Nom. OD	Suggested Working Voltage
1400	1	22	7 x 30	.012	.105	350
1401	2	22	7 x 30	.012	.150	350
1403	2	20	10 x 30	.016	.200	350
1404	3	20	10 x 30	.016	.209	350
1406	2	18	16 x 30	.016	.218	450
1407	2	16	19 x 29	.018	.246	450

Color Code: 1 - Black, 2 - Red, 3 - White.

TWISTED PAIRS AND TRIPLETS

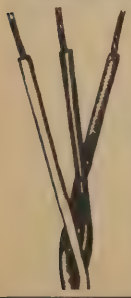
SOLID TINNED COPPER, VINYL INSULATION, CABLED



Saxton No.	Conductors No.	AWG	Strands	Wall Thick	Suggested Working Voltage
1318	2	22	Solid	.012	350
1320	2	20	Solid	.016	350
1321	3	20	Solid	.016	350
1322	2	18	Solid	.018	450

Color Code: 1 - Black, 2 - Red, 3 - White.

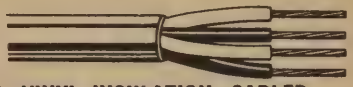
TINNED COPPER, VINYL INSULATION, CABLED



Saxton No.	Conductors No.	AWG	Strands	Wall Thick	Suggested Working Voltage
1326	2	22	7 x 30	.012	350
1327	3	22	7 x 30	.012	350
1328	2	20	10 x 30	.012	350
1329	3	20	10 x 30	.012	350
1330	2	18	16 x 30	.012	450
1331	3	18	16 x 30	.012	450
1332	2	16	19 x 29	.012	600

Color Code: 1 - Black, 2 - Red, 3 - White.

MULTICONDUCTOR CABLES — NOT PAIRED



TINNED COPPER, VINYL INSULATION, CABLED, CHROME VINYL JACKET

Saxton No.	Conductors No.	AWG	Strands	Ins. Thick	Nom. OD	Suggested Working Voltage
1370	2	22	7 x 30	.012	.155	200
1371	3	22	7 x 30	.012	.160	200
1372	4	22	7 x 30	.012	.165	200
1373	5	22	7 x 30	.012	.187	200
1374	6	22	7 x 30	.012	.215	200
1375	7	22	7 x 30	.012	.218	200
1376	8	22	7 x 30	.012	.220	200
1378	10	22	7 x 30	.012	.260	200
1379	12	22	7 x 30	.012	.270	200
3144	15	22	7 x 30	.012	.320	200
3145	20	22	7 x 30	.012	.345	200
3146	25	22	7 x 30	.012	.370	200
3147	30	22	7 x 30	.012	.405	200



TINNED COPPER, VINYL INSULATION, CABLED, CHROME VINYL JACKET

Saxton No.	Conductors No.	AWG	Strands	Ins. Thick	Nom. OD	Suggested Working Voltage
1334	2	22	Solid	.012	.150	200
1335	3	22	Solid	.012	.155	200
1336	4	22	Solid	.012	.160	200
1337	5	22	Solid	.012	.175	200
1338	6	22	Solid	.012	.200	200
1340	8	22	Solid	.012	.205	200
1342	10	22	Solid	.012	.230	200
1343	12	22	Solid	.012	.250	200
1345	2	20	Solid	.016	.178	350
1346	3	20	Solid	.016	.187	350
1381	2	20	10 x 30	.016	.190	350
1382	3	20	10 x 30	.016	.199	350
1383	4	20	10 x 30	.016	.225	350
1384	5	20	10 x 30	.016	.235	350
1385	6	20	10 x 30	.016	.270	350

TINNED COPPER, VINYL INSULATION, CABLED, CHROME VINYL JACKET

1357	2	18	Solid	.016	.194	450
1358	3	18	Solid	.016	.203	450
1359	4	18	Solid	.016	.220	450
1393	2	18	16 x 30	.016	.208	450
1394	3	18	16 x 30	.016	.218	450
1395	4	18	16 x 30	.016	.258	450
1396	5	18	16 x 30	.016	.268	450
1397	6	18	16 x 30	.016	.288	450

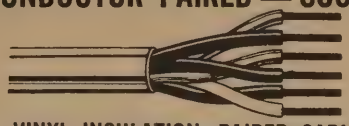
TINNED COPPER, VINYL INSULATION, CABLED CHROME VINYL JACKET

1800	2	16	19 x 29	.018	.236	600
1801	3	16	19 x 29	.018	.253	600
1802	4	16	19 x 29	.018	.282	600

© United Technical Publications

Saxton PRODUCTS, INC.

MULTICONDUCTOR PAIRED — SOUND CABLES

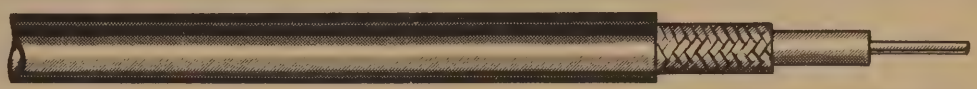


TINNED COPPER, VINYL INSULATION, PAIRED CABLED. CHROME VINYL JACKET

Saxton No.	Conductors No. Pairs	AWG	Strands	Ins. Thick	Nom. OD	Suggested Working Voltage
1412	2	22	Solid	.012	.185	200
1413	3	22	Solid	.012	.220	200
1414	6	22	Solid	.012	.235	200
1415	7	22	Solid	.012	.295	200
1416	9	22	Solid	.012	.355	200
1417	11	22	Solid	.012	.385	200
1418	13	22	Solid	.012	.410	200
1419	15	22	Solid	.012	.455	200
1421	27	22	Solid	.012	.520	200

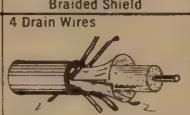
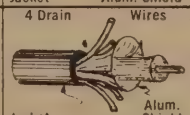
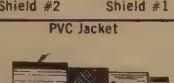
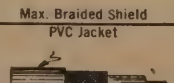
Saxton No.	Conductors No. Pairs	AWG	Strands	Ins. Thick	Nom. OD	Suggested Working Voltage
1426	2	22	7 x 30	.012	.197	200
1427	3	22	7 x 30	.012	.250	200
1428	4	22	7 x 30	.012	.255	200
1429	5	22	7 x 30	.012	.285	200
1430	6	22	7 x 30	.012	.320	200
1431	9	22	7 x 30	.012	.380	200
1432	11	22	7 x 30	.012	.425	200
1433	15	22	7 x 30	.012	.480	200
1434	27	22	7 x 30	.012	.575	200

COAXIAL CABLE
POLYETHEYLENE DIELECTRICS



Saxton No.	RG/U	Center Cond. AWG-Matl.	Dielectric	No. Type/Shield	Jkt. Matl.	Nom. OD	Nom. Imp.	Nom. Cap.	Nominal Loss Characteristics Frequency in MHz db/100'			
									100	200	400	1000
1582	8 Type	7 (.0285) BC	PE	1 BC Com.	PVC	.405	52	29.5	2.4	3.7	5.0	9.5
8282	8	7 (.0285) BC	PE	1 BC Max.	PVC	.405	52	29.5	2.2	3.2	4.6	9.0
1583	8 Type	7 (.0285) BC	Foam	1 BC Com.	PVC	.405	50	29.5	2.1	3.1	4.4	8.8
8283	8 Type	7 (.0285) BC	Foam	1 BC Max.	PVC	.405	50	29.5	2.1	3.0	4.2	8.5
1585	11	7 (.0159) BC	PE	1 BC	PVC	.405	75	20.6	2.2	3.2	4.6	9.0
1586	11 Type	14 Solid BC	Foam	1 BC	PVC	.405	75	20.6	2.0	3.0	4.2	8.6

SPECIFICATIONS & SWEEP TEST DATA RG59/U TYPE & ALUMINAX CABLES

Cat. No.	Type	Illustration	Inner Cond.	Dielectric	Shield Type	Jacket Type	Nom. OD	Nom. Imped. Ohms	Cap. MMF/Ft.	Nom. Vel. Prop.	Nominal Attenuation/100 Ft. MHz	Nominal Attenuation/100 Ft. db Loss
1592	RG 59/U Regular	 PVC Jacket / Braided Shield	22 Solid BCW*	Poly	BC Braid	PVC	.242	73	21.0	66%	54-60 82-88 174-180 210-216	2.8 3.6 6.2 6.8
1594	RG 59/U Regular Foam	 PVC Jacket / Braided Shield	22 Solid BCW*	Unicel Foam	BC Braid	PVC	.242	75	16.3	78%	54-60 82-88 174-180 210-216 470 890	2.4 3.2 4.5 4.8 7.3 16.0
1598	All Channel RG 6/U Type	 PVC Jacket / Braided Shield	22 Solid BCW*	Unicel Foam	BC Braid	PVC	.28	72	17.0	78%	54-60 82-88 174-180 210-216 470 890	1.9 2.2 2.9 3.3 4.0 6.7
1599	Aluminax 75	 4 Drain Wires / Jacket / Alum. Shield	22 Solid BCW*	Unicel Foam	1 100% Aluminum Foil Shield	PVC	.237	75	16.5	78%	54-60 82-88 174-180 210-216 470 890	2.3 3.1 3.4 3.7 4.6 9.0
		100% Sweep Tested										
1601	Aluminax 82 Channel RG 6/U Type	 4 Drain Wires / Jacket / Alum. Shield	18 Solid Bare Copper	Unicel Foam	1 100% Aluminum Foil Shield	PVC	.242	75	17.3	78%	54-60 82-88 174-180 210-216 470 890	1.7 2.0 2.7 3.0 3.7 6.5
		100% Sweep Tested										
1602	Aluminax Double Shielded 82 Channel RG 6/U Type	 Jacket / 4 Drain Wires / Shield #2 / Shield #1	18 Solid Bare Copper	Unicel Foam	2 100% Aluminum Foil Shields	PVC	.248	75	17.3	78%	54-60 82-88 174-180 210-216 470 890	1.6 1.8 2.6 2.8 3.4 6.3
		100% Sweep Tested										
8292	RG 59/U Regular Max. Coverage	 PVC Jacket / Max. Braided Shield	22 Solid BCW*	Poly	1 Max. Coverage BC Braid	PVC	.242	73	21.0	66%	54-60 82-88 174-180 210-216 470 890	2.5 3.5 5.2 5.8 9.0 22.5
		100% Sweep Tested										
8294	RG 59/U Foam Max. Coverage	 PVC Jacket / Max. Braided Shield	22 Solid BCW*	Unicel Foam	1 Max. Coverage BC Braid	PVC	.242	75	16.3	78%	54-60 82-88 174-180 210-216 470 890	2.4 3.1 4.0 4.3 5.0 9.5
		100% Sweep Tested										

© United Technical Publications

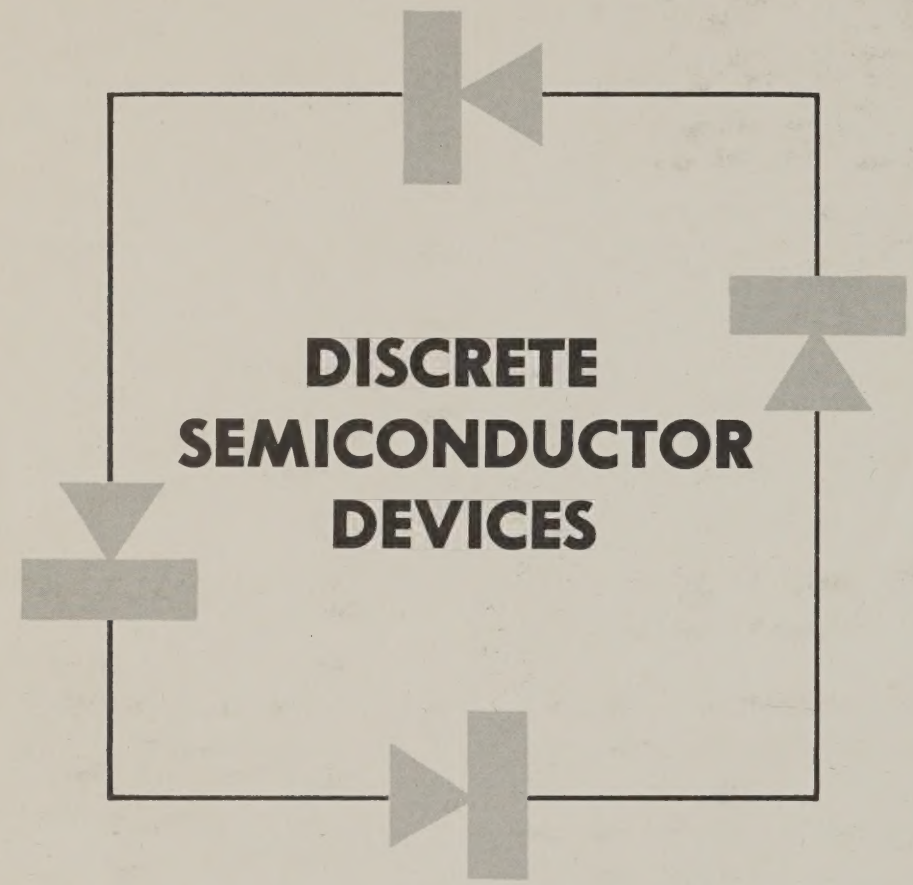
NOTES

NOTES

NOTES

NEW!

1972 JEDEC DIRECTORY



■ More than 12,000 types of semiconductors: transistors, diodes, zeners, Darlingtons, FET's, phototransistors, rectifiers, SCR's, tetrodes, unijunctions, and light-sensitive devices . . . JAN and MIL Types.

■ Cross-references JEDEC type numbers to leading manufacturers.

See Yellow Section preceding Section 4800—following page 960



PRICES

Prices in this MASTER should not be considered as final. They were submitted for publication before the government price freeze of August 14th, 1971, and may not reflect any possible roll-backs or increases which are effective when this MASTER is distributed. Inquire about latest prices and delivery.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

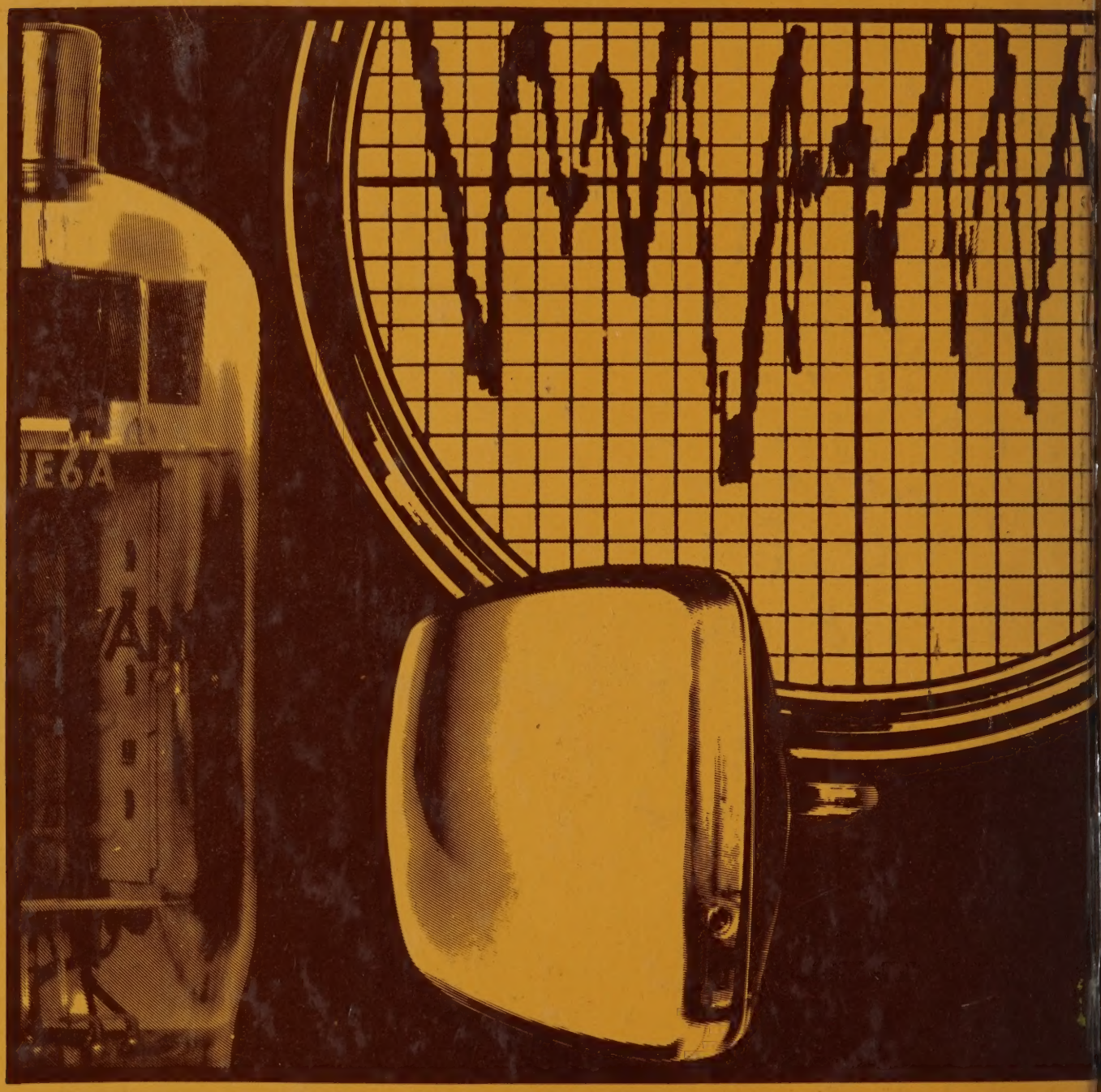
ORDERING

It is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

WE FEATURE THE FINEST



SYLVANIA
ELECTRONIC COMPONENTS

Lima Radio Parts Co., Inc.
(419) 228-1220